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Bureau of Land Management

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**BLM Utah 2025 Fourth Quarter Competitive Oil and Gas Lease Sale Environmental
Assessment
DOI-BLM-UT-0000-2025-00003-EA
Uintah County, Utah**



Utah State Office
440 West 200 South, Suite 500
Salt Lake City, Utah 84101

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Table 1. Acronyms

ACHP	Advisory Council on Historic Preservation
AIRFA	American Indian Religious Freedom Act
AMR	Air Monitoring Report
AO	Authorized Officer
AOI	Area of Influence
APD	Application for Permit to Drill
APE	Area of Potential Effects
ARMPA	Approve Resource Management Plan Amendment
bbl	barrel(s)
Bcf	Billion Cubic Feet
BLM	Bureau of Land Management
BSU	Biologically Significant Unit
CAA	Clean Air Act
CAP	Criteria Air Pollutants
CFR	Code of Federal Regulations
CH ₄	methane
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
COA	condition of approval
CSU	Controlled Surface Use
EA	Environmental Assessment
EIA	U.S. Energy Information Administration
EIS	Environmental Impact Statement
EOI	Expression of Interest
EPA	U.S. Environmental Protection Agency
EPCA	Energy Policy and Conservation Act
ESA	Endangered Species Act
EUR	Estimated Ultimate Recovery
FLPMA	Federal Land Policy and Management Act of 1976
FOOGLRA	Federal Onshore Oil and Gas Leasing Reform Act
GHG	Greenhouse Gas
GHMA	General Habitat Management Area
GIS	Geographic information system
GRSG	Greater Sage-grouse
HAP	Hazardous air pollutant

HUD	Hydrologic unit code
IDT	Interdisciplinary team
IPCC	Intergovernmental Panel on Climate Change
IRA	Inflation Reduction Act
mcf	Thousand cubic feet
MLA	Mineral Leasing Act of 1920
Mt	Megatonnes
N ₂ O	Nitrous oxide
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act of 1966
NO ₂	Nitrogen dioxide
NO _x	Nitrogen oxide(s)
NORM	Naturally occurring radioactive material
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSO	No surface occupancy
O ₃	Ozone
OHV	Off highway vehicle
PFYC	Potential Fossil Yield Classification
PHMA	Priority Habitat Management Area
PLPCO	Utah Public Lands Policy Coordinating Office
PM _{2.5}	Particulate matter equal to or less than 2.5 microns in diameter
PM ₁₀	Particulate matter equal to or less than 10 microns in diameter
ppb	Parts per billion
ppm	Parts per million
PRPA	Paleontological Resources Preservation Act
PSD	Prevention of significant degradation
RFD	Reasonably foreseeable development
RMP	Resource management plan
ROD	Record of Decision
ROW	Right of way
SE	Socioeconomics
SHPO	State Historic Preservation Office
TMDL	Total Maximum Daily Load
UTLA	Utah Trust Lands Administration
SME	Surface Management Entity

SQM	Sky Quality Meter
SO ₂	Sulfur dioxide
SOP	Standard Operating Procedures
STEO	Short-term energy outlook
T&E	Threatened and Endangered
THPO	Tribal Historic Preservation Office
UDOGM	Utah Division of Oil, Gas, and Mining
UDWR	Utah Division of Wildlife Resources
UDWRi	Utah Division of Water Rights
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VFO	Vernal Field Office
VOC	Volatile organic compound
VRM	Visual Resource Management

CHAPTER 1.INTRODUCTION

1.1. BACKGROUND

This Environmental Assessment (EA) documents the Bureau of Land Management's (BLM) review of the anticipated environmental impacts of leasing 46 lease parcels (totaling 68,263.38 acres) in Uintah County on public lands managed by the BLM's Vernal (VFO) Field Office which have been nominated for auction in the BLM Utah Fourth Quarter 2025 Competitive Oil and Gas Lease Sale (Lease Sale). Maps of the nominated lease parcels are contained in Appendix A.

Table 2 Surface Ownership

Parcel	Surface Management Entity (SME)	Acres BLM/Private	Total Acres
1602	BLM/Private	240/280	520
1603	BLM	1,640	1,640
1617	BLM	1,280	1,280
1618	BLM	1,920.4	1,920.4
1620	BLM	2,481.08	2,481.08
1622	BLM/Private	1,021.14/66.52	1087.66
1625	BLM	1,920	1,920
1626	BLM	1,920.88	1,920.88
1627	BLM	1,336.9	1,336.9
1630	BLM	1,717.66	1,717.66
1634	BLM	478.32	478.32
1636	BLM	2320	2320
1638	BLM	277.12	277.12
1640	BLM	2,160	2,160
1641	BLM	574.17	574.17
1643	BLM	1,320	1,320
1644	BLM	1,320	1,320
1645	BLM	960	960
1650	BLM	1,278.4	1,278.4
1655	BLM/Private	480/320	800
1656	BLM	1,280	1,280
1657	BLM/Private	880/240	1,120
1658	BLM	320	320
1660	BLM	639.52	639.52
7723	BLM	1,864.75	1,864.75
7727	BLM	1,920	1,920
7728	BLM	2,040.66	2,040.66
7731	BLM	1,920.8	1,920.8
7733	BLM/Private	642.11/62.42	704.53

Parcel	Surface Management Entity (SME)	Acres BLM/Private	Total Acres
7734	BLM	1,920	1,920
7735	BLM	2,560	2,560
7738	BLM/Private	2,237.83/57.99	2,295.82
7739	BLM	639.88	639.88
7740	BLM	2560	2560
7746	BLM	1,690.4	1,690.4
7753	BLM	1,280	1,280
7757	BLM	2,120	2,120
7758	BLM	2,560	2,560
7759	BLM	1,280	1,280
7760	BLM	1,600	1,600
7762	BLM	2,480	2,480
7763	BLM	320	320
7764	BLM	2,113.23	2,113.23
7765	BLM	1,921.2	1,921.2
7768	BLM	1,480	1,480
7771	BLM	320	320
	Total Acres:	67,236.45/1,026.93	68,263.38
	Grand Total:	68,263.38	

1.2. PURPOSE AND NEED

The BLM's purpose in preparing the EA is to respond to Expressions of Interest (EOIs) to lease federal oil and gas resources through a competitive leasing process. The need for the action is established by the BLM's responsibility under the Mineral Leasing Act of 1920 (MLA), as amended, to make mineral resources, such as oil and gas, available for development and as part of the BLM's multiple-use and sustained-yield mandate under the Federal Land Policy and Management Act of 1976 (FLPMA).

1.3. DECISION TO BE MADE

The BLM Authorized Officer (AO) will decide whether to offer for lease any or all of the nominated lease parcels with or without constraints, in the form of lease stipulations, as provided for in the approved land use plan. If the decision is to offer federal minerals for lease, and to subsequently issue a lease if a successful bid is received, standard terms and conditions under Section 6 of the BLM Lease Form (Form 3100-11, Offer to Lease and Lease for Oil and Gas), herein referred to as "standard terms and conditions," would apply as well as any additional terms and conditions as necessary. The BLM AO also has the authority to defer parcels based on the analysis of potential effects presented in this EA. The Decision Record will identify whether the BLM decided to offer for lease any of the nominated lease parcels and the rationale for the decision.

1.4. BLM LAND USE PLAN CONFORMANCE

The Proposed Action complies with the Vernal Field Office Resource Management Plan (Vernal RMP), October 2008, as amended (BLM, 2008; 2015). The nominated lease parcels are in areas that are open to leasing under the Vernal RMP (decisions MIN-10, MIN-11, MIN-12). The Vernal RMP Appendix K provides surface stipulations applicable to all surface-disturbing activities. Stipulations attached to the nominated lease parcels are identified and summarized in Appendix B of this EA.

The Proposed Action also complies with the Record of Decision and Utah Approved Resource Management Plan Amendments (ARMPA) for the Great Basin Region Including the Greater Sage-Grouse Sub-Region of Idaho and Southwestern Montana, Nevada and Northeastern California, Oregon, and Utah (BLM, USFS, 2015). More specifically, the Proposed Action complies with the following decision in the ARMPA:

- General Habitat Management Area (GHMA)—Open to fluid mineral leasing, subject to existing planning decisions, which include closed to fluid minerals leasing, no surface occupancy (NSO), controlled surface use (CSU), and timing limitation (TL) stipulations and open to leasing, subject to standard stipulations.

1.5. RELATIONSHIP TO STATUTES, REGULATIONS, POLICIES, AND OTHER PLANS

Purchasers of oil and gas lease parcels are required to comply with all applicable federal, state, and local laws and regulations, including obtaining all necessary permits prior to any lease development activities. A listing of relevant statutes, regulations, and policies is provided in Table 3. Other plans are discussed in Section 1.5.1.

Table 3 Relationship to Statutes, Regulations, and Policies

RELEVANT STATUTE, REGULATION, OR POLICY	RELATIONSHIP TO THE PROPOSED ACTION
Executive Order 14156 (January 20, 2025)	On January 20, 2025, President Trump declared a national energy emergency due to the “United States’ insufficient energy production, transportation, refining, and generation [which] constitutes an unusual and extraordinary threat to our Nation’s economy, national security, and foreign policy.” Executive Order 14156 – Declaring a National Energy Emergency. BLM Oil and Gas Leasing responds to this order.
Executive Order 14154 (Jan. 20, 2025)/Secretary’s Order 3418 (Feb. 3, 2025)	EO 14154 and the subsequent SO 3418 are intended “...to encourage energy exploration and production on Federal lands and waters, including on the Outer Continental Shelf, in order to meet the needs of our citizens and solidify the United States as a global energy leader long into the future;” BLM Oil and Gas Leasing responds to these orders.
Endangered Species Act of 1973, as amended (ESA)	The ESA requires all federal departments and agencies to consult with the U.S. Fish and Wildlife Service on all actions authorized, funded, or carried out by the agency to ensure that the action will not likely jeopardize the continued existence of any threatened and endangered species or adversely modify critical habitat. See the text of stipulation HQ-TES-1 in Appendix B.20. Description of Lease Stipulations and for details.

RELEVANT STATUTE, REGULATION, OR POLICY	RELATIONSHIP TO THE PROPOSED ACTION
Federal Land Policy and Management Act of 1976, as amended (FLPMA)	FLPMA established guidelines to provide for the management, protection, development, and enhancement of public lands (Pub. L. No. 94-579). Section 103 of FLPMA defines public lands as any lands and interest in lands owned by the United States. For split-estate lands where the mineral estate is an interest owned by the United States, the BLM has limited authority over use of the surface by the surface owner; however, the BLM is required to disclose potential effects connected to the authorization to lease and develop federal mineral estate and to declare how federal mineral estate is managed in the RMP, including identification of all appropriate lease stipulations (43 CFR 3101.13, 43 CFR 1601.0-7(b) and H-1624-1). Section 302 requires the BLM to “manage the public lands under principles of multiple use and sustained yield...” FLPMA dictates manner and means the BLM should use to implement the Mineral Leasing Act of 1920.
Federal Onshore Oil and Gas Leasing Reform Act of 1987, as amended (FOOGLRA)	The FOOGLRA states that lease sales shall be held for each state where eligible lands are available at least quarterly and more frequently if the Secretary of the Interior determines such sales are necessary.
Mineral Leasing Act of 1920, as amended (MLA)	The MLA establishes that deposits of oil and gas owned by the United States are subject to disposition in the form and manner provided by the MLA under the rules and regulations prescribed by the Secretary of the Interior, where consistent with FLPMA, the National Environmental Policy Act of 1969, as amended (NEPA; Pub. L. No. 91-90, 42 United States Code [U.S.C.] Section 4321 et seq.), and other applicable laws, regulations, and policies.
National Historic Preservation Act of 1966, amended (NHPA)	<p>Leasing is considered an undertaking pursuant to 54 U.S.C. Section 300101 et seq., commonly known as the NHPA, as amended, and 54 U.S.C. Section 306108, commonly known as Section 106 of the NHPA (Section 106). Section 106 requires all federal agencies to take into account the effects on historic properties from a federal undertaking. As a part of Section 106, federal agencies consult with the State Historic Preservation Office (SHPO) on all undertakings authorized, funded, or carried out by the agency. Agencies may follow a phased approach to Section 106 compliance. At the leasing level, BLM conducts an existing records review and consultation with SHPO, Native American Tribes, consulting parties, and public-driven identification of historic properties. Class III cultural resource surveys are an important part of identification at the lease-development level. See the text of stipulation HQ-CR-1 in Appendix B.2 for details.</p> <p>All nominated lease parcels within the VFO for this Lease Sale lie within the exterior boundary¹ of the reservation of the Ute Indian Tribe of the Uintah & Ouray Reservation (Ute Indian Tribe). The Ute Indian Tribe entered into an agreement with the National Park Service and the U.S. Department of the Interior to establish a Tribal Historic Preservation Office (THPO) on September 22, 2021, and thereby assumed the functions of a SHPO overseeing Section 106 responsibilities and undertakings that lie within the exterior boundary of their reservation. Per 36 CFR 800.2(c)(2)(i)(A), an agency consults with the THPO “in lieu of the SHPO regarding undertakings occurring on or affecting historic properties on tribal lands.”</p>

¹ The term “exterior boundary” of a reservation refers to the initial boundary established by the first applicable treaty between the United States government and the affected Tribe(s). The originally established exterior boundary for a reservation may be larger than the present-day boundaries. The United States restructured land status and ownership of Tribal lands through various mechanisms such as the Dawes Act (1887), which reduced reservation lands for many Tribes, including the Ute Indian Tribe. Land within a current “exterior boundary” of a reservation may not be administered by Tribes or held in trust for them; many are owned either by private parties or other federal and state agencies.

RELEVANT STATUTE, REGULATION, OR POLICY	RELATIONSHIP TO THE PROPOSED ACTION
Clean Air Act of 1963, as amended (CAA)	<p>The CAA [42 U.S.C. § 1857 et seq.], as amended and recodified [42 U.S.C. § 7401 et seq.] is the primary Federal legislation and provides the framework for protecting and enhancing the quality of the Nation’s air resources to promote the public health and welfare and the productive capacity of its population (Section 101(b)(1) of the Act). Provisions of the CAA that are relevant to the development of lease parcels are listed below:</p> <ul style="list-style-type: none"> • National Ambient Air Quality Standards (NAAQS) • Attainment and Non-Attainment Area Designations • New Source Review Permitting • New Source Performance Standards (NSPS) • National Emission Standards for Hazardous Air Pollutants (NESHAP) • General Conformity Rule <p>The CAA’s General Conformity Rule mandates that Federal agencies evaluate reasonably foreseeable emissions that result from its actions in a nonattainment area to determine if they conform with the applicable regulatory agency implementation plans (40 CFR 93.153). The rule considers air pollution emissions associated with Federal actions, and that “no department, agency or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve any activity which does not conform to an applicable implementation plan (40 CFR 93.150).” In short, general conformity refers to the process of evaluating plans, programs, and projects to determine and demonstrate they meet the requirements of the CAA and an applicable implementation plan, and do not prevent achievement of state or federal air quality standards.</p>
Clean Water Act of 1972, as amended (CWA)	<p>The CWA (33 U.S.C. § 1251 et seq.) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was significantly reorganized and expanded in 1972. The “Clean Water Act” became the Act’s common name with amendments in 1972 along with amendments in 1977. Considerations of the most recent definition of “Waters of the United States” along with interpretations, policy, and guidance as provided by the EPA and other jurisdictional federal agencies are followed as applicable.</p>
43 CFR Part 3100 and 43 CFR Subpart 3120	<p>The regulations at 43 CFR Part 3100 govern onshore oil and gas leasing, development, and production of federal minerals. The regulations at 43 CFR Subpart 3120 govern competitive oil and gas lease sales.</p> <p>The BLM recently updated these oil and gas leasing regulations to implement provisions of the Inflation Reduction Act of 2022 (IRA) pertaining to royalty rates, rentals, and minimum bids; update the bonding requirements for leasing, development, and production; and revise some operating requirements.</p>
IM 2025-028 Oil and Gas Leasing – Land Use Planning and Lease Parcel Reviews	<p>This Instruction Memorandum (IM) set out the BLM’s policy for onshore oil and gas lease sales to ensure they are held in accordance with the Mineral Lease Act and other applicable laws. This policy addresses land use planning, lease parcel review, lease sales, and lease issuance.</p>

1.5.1 Other Plans

There are two non-federal resource management planning documents that have a relationship to the Proposed Action. Each of these is identified and discussed below. The Proposed Action directly aligns with these plans because it contemplates making available for competitive leasing nominated oil and gas lease parcels.

- State of Utah Resource Management Plan (State of Utah, 2023). The State RMP defines the State’s policies, goals, and objectives for the management of natural resources on public lands. With respect to energy production (including petroleum and natural gas), the State RMP indicates that “Utah’s general policy on energy production is that it supports all forms of energy. Utah is an ‘all-of-the-above’ state and believes there is room in its energy portfolio for all forms of energy.”
- Uintah County Resource Management Plan (Uintah County, 2022). The Uintah County RMP was updated on October 31, 2022. The objectives from chapter six “Energy” include:
 - “Support balanced and responsible natural-resource development that benefits the public and generates revenues for public service providers to help pay for public infrastructure improvements needed to achieve economic diversity.”
 - “Expedite the processing, granting, and streamlining of mineral and energy leases and applications to drill, extract, and otherwise develop all existing energy and mineral resources located within the Uintah Basin Energy Zone, including oil, natural gas, oil shale, oil sands, gilsonite, phosphate, gold, uranium, copper, solar, and wind resources.”

1.6. INTERNAL SCOPING

Beginning on April 3, 2025, the BLM interdisciplinary team (IDT) conducted internal scoping to identify issues, potential alternatives, and data needs by reviewing the leasing actions within the context of the applicable land use plans under the NEPA framework. Weekly meetings were held with IDT members during the parcel review process. The IDT met from June 2 to June 6, 2025, to work cooperatively to draft the initial EA. In addition, other resource-specific meetings with resource specialists were held to aid in refining issues related to the nominated lease parcels.

1.7. EXTERNAL SCOPING

The BLM held a public scoping period from April 15, 2025, until May 16, 2025. BLM received 14 comment submittals via ePlanning during the scoping period. Comment submittals contained comments on the following topics:

- Objections to oil and gas leasing in general
- Potential damage to Lands with Wilderness Characteristics
- Potential harm to vegetation, wildlife and special status species
- Concern for declining air quality and contributions to water shortages
- Contribution to climate change
- General support for resource extraction

The preliminary Lease Sale EA will be made available for a public comment period from July 8 to August 8, 2025. All comments received will be reviewed and analyzed. Substantive comments will be responded to in Appendix C.

1.8. ISSUES

Through internal and external scoping, the following issues were identified for detailed analysis in this EA:

- What quantities and types of air pollutants would be produced from potential development of the nominated lease parcels? How would air pollutant emissions affect air quality and air quality related values?
- How would potential development of the nominated lease parcels contribute to greenhouse gas (GHG) emissions and climate change?
- How would potential development of the nominated lease parcels affect greater sage-grouse and its habitat in the East Bench/Book Cliffs portion of the Uintah population area?
- How would potential development of the nominated lease parcels affect potential and occupied habitat for clay reed-mustard?
- How would potential development of the nominated lease parcels affect potential and occupied habitat for shrubby reed-mustard?
- How would potential development of the nominated lease parcels affect potential and occupied habitat for Graham's penstemon?
- How would potential development of the nominated lease parcels affect potential and occupied habitat for White River penstemon?
- How would potential development of the nominated lease parcels affect conservation areas established for Graham's and White River penstemon?

An additional 23 issues were identified, considered, and analyzed in brief (AIB) during review of the Proposed Action. These issues, and rationale for why they were not analyzed in detail, are presented in Section 3.5.

Table 4 lists resources or concerns that were considered but determined to not warrant further analysis in this EA.

Table 4 Resources Not Analyzed in this EA

RESOURCE OR CONCERN	RATIONALE FOR NOT ANALYZING IN EA
Prime and Unique Farmlands	There are no Prime and Unique Farmlands, as defined by 7 CFR 657.5, found within the project analysis area.

RESOURCE OR CONCERN	RATIONALE FOR NOT ANALYZING IN EA
Wild Horses and Burros	The nominated lease parcels do not intersect with any designated herd management areas (HMAs) for wild horses or burros. The nearest Herd Area is the Hill Creek Herd Area, which is approximately 3.5 miles west of nominated lease parcel 7671. Herd Areas are not actively managed for Wild Horses and Burros, therefore, analysis of potential effects is not warranted.
Lands, Access, and Realty	Potential development of the nominated lease parcels would be subject to existing land rights and interests (e.g., easements and water rights). Any potential land use conflicts would be resolved through other processes, such as administrative or legal proceedings, independent from this NEPA review.
Fuels and Fire Management	The potential for ignition of wildland fire from activities associated with potential development of the nominated lease parcels would be minimized to the extent practicable through adherence to all applicable federal, state, and local fire safety requirements. No specific concerns or conflicts were identified through internal scoping relating to the effects of potential development following leasing on fuels and fire management.
Travel and Transportation Management	All of the nominated lease parcels are within VFO Travel Management Areas (TMA). Roads constructed as part of well completion would not be open to public use and would not be added to the public access network; therefore, no change to the applicable travel management plans would be required. Use of the existing travel and transportation network within the BLM parcels would not be substantially changed by the Proposed Action.
Areas of Critical Environmental Concern (ACEC)	The Lower Green River ACEC is over 7 miles and topographically screened from the nearest lease parcel. The Nine Mile Canyon ACEC is 16.5 miles to the west. The Pariette Wetlands ACEC is 23 miles west of the nearest lease parcel. Potential indirect impacts from oil and gas lease development would not occur at these distances.
National & State Parks	Arches National Park is the nearest national park at over 50 miles to the south. Steinaker State Park is over 40 miles north of the nearest parcel. Potential indirect impacts from oil and gas lease development would not occur at these distances.
National Scenic and Historic Trails (NSHT)	The Old Spanish National Historic Trail is over 35 miles to the southeast and topographically screened by the Book Cliffs from the proposed lease parcels. Potential indirect impacts from oil and gas lease development would not occur.
National Wildlife Refuges (NWR)	The Ouray NWR is 17 miles north and topographically screened from the nearest lease parcel. Potential indirect impacts from oil and gas lease development would not occur.
National Conservation Areas (NCA)	The John Wesley Powell NCA is 46 miles north of the nearest lease parcel and topographically screened by mountains. Potential indirect impacts from oil and gas lease development would not occur at this distance.
National Monuments (NM)	Dinosaur NM is 37 miles north of the nearest lease parcel. Potential indirect impacts from oil and gas lease development would not occur at this distance.
Wilderness	The Desolation Canyon Wilderness is 20 miles southwest from the nearest lease parcel. Potential indirect impacts from oil and gas lease development would not occur at this distance.

RESOURCE OR CONCERN	RATIONALE FOR NOT ANALYZING IN EA
Wild and Scenic Rivers (WSR)	Suitable wild and scenic sections of the Green River are over 7 miles west and northwest of the nearest parcel. Eligible wild and scenic segments of the White River are over 5 miles away to the northeast. The eligible scenic portion of Bitter Creek is over 6 miles to the southeast, and the eligible recreational section of Evacuation Creek is over 14 miles to the east. All river segments are topographically screened from proposed parcels. Potential indirect impacts from oil and gas lease development would not occur.

1.9. PUBLIC PROTEST PERIOD

In compliance with 43 CFR 3120.42, the Notice of a Competitive Lease Sale (NCLS) will be made available for a 30-day protest period. If the BLM receives timely protests, it will resolve all protests prior to the sale related to those protests.

CHAPTER 2. DESCRIPTION OF ALTERNATIVES

2.1. INTRODUCTION

The VFO lease parcels are in southeastern Uintah County, stretching along both sides of Willow Creek and extending to Hill Creek on the West and Bitter Creek on the East. The parcels range from Township 11S on the north to 13S on the south. The maps of the nominated lease parcels are found in Appendix A

This EA addresses four alternatives in detail: Section 2.2 Alternative A – Proposed Action Alternative A – Proposed Action, Section 2.3 Alternative B – Greater sage-grouse Avoidance Alternative, Alternative B – Greater sage-grouse Avoidance Alternative, Section 2.4 Alternative C – Reed Mustards and Sensitive Penstemon species Avoidance Alternative, and Section 2.5 Alternative D – No Action Alternative.

2.2. ALTERNATIVE A – PROPOSED ACTION

Under the Proposed Action, the BLM would offer for competitive leasing federal oil and gas resources associated with the 46 nominated lease parcels (Appendix A). Surface management, the legal land description of the nominated lease parcels (totaling 68,263.38 acres), lease stipulations and notices attached to the parcels are included in Appendix B.

An issued lease may be held for ten years, after which the lease expires unless oil or gas is being produced in paying quantities (43 CFR 3107.31).² The drilling of wells on leased parcels is not permitted until the leaseholder submits, and the BLM approves (subsequent to additional site-specific environmental review documentation), a complete Application for Permit to Drill (APD) package (Form 3160-3) following the requirements specified under Onshore Oil and Gas Orders listed in 43 CFR Subpart 3162.³ The BLM has authority, according to the standard terms and conditions of the leases, to attach conditions of approval (COAs) to an APD that reduce or avoid impacts to BLM-managed public lands, resources, and/or resource values.

Under 43 CFR 3101.12, “Such reasonable measures may include, but are not limited to, relocation or modification to siting or design of facilities, timing of operations, specification of interim and final reclamation measures, and specification of rates of development and production in the public interest. At a minimum, modifications that are consistent with lease rights include, but are not limited to, requiring relocation of proposed operations by up to 800 meters and prohibiting new surface disturbing operations for a period of up to 90 days in any lease year.”

2.3. ALTERNATIVE B – GREATER SAGE-GROUSE AVOIDANCE ALTERNATIVE

Under this alternative, seven of the 46 parcels (parcels 1630, 1636, 1638, 1656, 7757, 7765, and 7768; 11,103.00 acres), would be offered for competitive leasing. Thirty-nine nominated lease parcels (1602, 1603, 1617, 1618, 1620, 1622, 1625, 1626, 1627, 1634, 1640, 1641, 1643, 1644, 1645, 1650, 1655, 1657, 1658, 1660, 7723, 7727, 7728, 7733, 7731, 7734, 7735, 7738, 7739, 7740, 7746, 7753, 7758, 7759, 7760, 7762, 7763, 7764, and 7771; 57,021.67 acres) would not be offered because all or portions of these

² The regulations, however, recognize an exception to this rule for a lease that is within an operating Unit and the Unit is held by production of wells on other leases within the Unit. 43 CFR 3107.31.

³ Additional Information regarding the BLM’s oil and gas management program can be accessed online at: <https://www.blm.gov/programs/energy-and-minerals/oil-and-gas/>.

parcels contain GRSG GHMA. These 39 parcels would not be included in this Lease Sale but could be considered in a future sale.

2.4. ALTERNATIVE C – REED MUSTARDS AND SENSITIVE PENSTEMON SPECIES AVOIDANCE ALTERNATIVE

Under this alternative, twenty-three of the 46 parcels (parcels 1602, 1618, 1625, 1630, 1634, 1636, 1641, 1643, 1644, 1645, 1650, 1657, 1660, 7723, 7735, 7739, 7758, 7759, 7760, 7762, 7763, 7764, and 7765; 33,427.53 acres), would be offered for competitive leasing. Twenty-three nominated lease parcels (1603, 1617, 1620, 1622, 1626, 1627, 1638, 1640, 1655, 1656, 1658, 7727, 7728, 7731, 7733, 7734, 7738, 7740, 7746, 7753, 7757, 7768, and 7771; 34,836 acres) would not be offered because these parcels intersect known locations for clay-reed mustard, shrubby-reed mustard, Graham's penstemon, or White River penstemon. These twenty-three parcels would not be included in this Lease Sale but could be considered in a future sale.

2.5. ALTERNATIVE D – NO ACTION ALTERNATIVE

Under the No Action Alternative, the BLM would not offer any of the nominated lease parcels for competitive leasing in this Lease Sale. However, the nominated lease parcels could be considered for inclusion in one or more future competitive oil and gas lease sales.

2.6. ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

The BLM considered three action alternatives in addition to Alternatives A and B but eliminated these alternatives from detailed analysis. These alternatives, along with rationale for their dismissal from detailed analysis, are discussed below.

2.6.1. No New Greenhouse Gas Emissions Alternative

Under this alternative, the BLM would defer all lease parcels so that no new greenhouse gas emissions would occur. This alternative was dismissed from detailed analysis because it is the same as the No Action Alternative (Alternative C), which is already analyzed.

2.6.2. Low Preference Parcel Avoidance Alternative

This alternative would involve offering for competitive leasing only high-potential lands for oil and gas development that have limited multiple-use conflicts, if any. The alternative would defer offering parcels that either pose potential resource conflicts or have only moderate or low potential for oil and gas development. Resource conflicts identified for the nominated parcels have been addressed in this EA. The lease stipulations and notices presented in chapter 3 provide adequate protections for the resources from potential conflicts, therefore this alternative is not needed. Additionally, removal of parcels from lease consideration would not contribute to the fulfillment of EO 14154, Unleashing American Energy.

Regulations (see 43 CFR § 3120.32) describe the parcel preference review process based on specific criteria. The regulation does not prohibit leasing parcels of lower preference even if no parcels meet any or all criteria for a high preference lease parcel. See Appendix D. Leasing Preference Rating for Nominated Lease Parcels.

2.6.3. LWC Avoidance Alternative

Under this alternative, the BLM would defer offering parcels 1636, 1655, and 7758 which are within the Lower Bitter Creek lands with wilderness characteristics (LWC) inventory unit found to have wilderness characteristics. LWC inventory findings are only a resource determination and are not officially a special land use allocation or designation. The identified lease parcels are in LWC units that the BLM has chosen to manage for multiple use without prioritizing protection of wilderness characteristics in the applicable VFO RMP. The reasonably foreseeable development scenario (RFD) for these 3 leases is a total of 54 acres of surface disturbance. The portion of the LWC unit overlapping or adjacent to the lease parcels is in rugged, broken terrain with good topographic and vegetative screening. Furthermore, all three lease parcels have NSO stipulations for fragile soils/slopes greater than 40%, CSU stipulations for fragile soils/slopes between 21-40%, and numerous additional stipulations and notices for sensitive wildlife. The BLM dismissed this alternative from detailed analysis because the VFO is not managing the lands for their wilderness characteristics, while terrain screening and applicable lease stipulations/notices will minimize potential impacts to LWC units.

CHAPTER 3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL EFFECTS

3.1. INTRODUCTION

This chapter contains the effects analysis related to resource issues. Section 3.2 describes the analysis assumptions for the potential development of the nominated lease parcels. Section 3.3 presents the relevant past, present and reasonably foreseeable actions. Section 3.4 describes the effects of the No Action Alternative for all issues. Section 3.5 presents the issues that are analyzed in brief. Section 3.6 presents the issues that are analyzed in detail.

Lease stipulations and notices are referred to throughout the analysis in Sections 3.5 and 3.6 in terms of their protective influence on resources that may be impacted by potential development of the nominated lease parcels. Lease stipulations “are conditions of lease issuance which provide protection for other resources values or land uses by establishing authority for substantial delay or site changes or the denial of operations within the terms of the lease contract” (BLM, 1990). Lease stipulations are enforceable terms of the lease contract and supersede any inconsistent provisions of the standard lease form. Lease notices (also referred to as Information Notices in BLM Handbook H-1624) provide “notice of existing requirements and may be attached to a lease by the AO at the time of lease issuance to convey certain operational, procedural, or administrative requirements relative to lease management within the terms and conditions of the standard lease form” (BLM, 1990). Lease notices may not serve as the basis for denial of lease operations. However, they offer resource protections because they result in information gathering and the identification of resource values and land uses that the BLM, based on its authority under section 6 of the lease form, can require protection for within the constraints enumerated in the lease form (e.g., terms and conditions that would be attached at the APD stage) (also see Section 2.2 for a discussion of the standard terms and conditions).

3.2. ANALYSIS ASSUMPTIONS

While issuance of a lease would not directly authorize any oil and gas development or production, future oil and gas development and production is a reasonable outcome of a granted lease right. There are currently no development proposals for the nominated lease parcels because they have not been leased, therefore BLM does not have parcel specific information related to oil and gas development. For the purpose of this analysis, Section 3.2.1 outlines the methods for estimating number of wells, acres of surface disturbance, and potential production volumes associated with the potential development of the 46 nominated lease parcels.

It is unknown when, where, or to what extent subsequent well sites, roads, and associated infrastructure would be proposed in the event the BLM decides to lease the nominated lease parcels. Potential development of the nominated lease parcels could include the following phases (Appendix E provides a summary of the phases of oil and gas development):

- Well Development,
 - Vegetation and soil removal
 - Construction of Pads, roads and pipelines
- Drilling
 - Mud/cuttings
 - Well completion
 - Hydraulic Fracturing
- Production and Operation
 - Production
 - Sale of Product
 - Hauling of produced fluids such as oil or produced water
 - Inspections
 - Compression to move gas through pipeline systems
 - Well monitoring for the life of the well
 - Workover operations
- Well Reclamation.
 - Plugging and abandonment
 - Reclamation of the Pad, roads, pipelines

3.2.1. Methods Used for Estimating Number of Oil and Gas Wells, Surface Disturbance, and Production Volumes

Vernal Field Office Reasonably Foreseeable Development

The Vernal Resource Management Plan included a Reasonably Foreseeable Development Scenario (RFD) for oil and gas development in the Mineral Potential Report Appendix A. The 2015 Greater Sage Grouse RMP Amendment's Final Environmental Impact Statement Appendix R included a second RFD. The RFDs are based on historic data but also considered projected economic trends and advances in technology. As a planning and analysis tool, the RFDs predict new development as well as continued production from existing fields for the anticipated life of the field. The BLM recognizes that there will be a greater degree of predictive uncertainty associated with estimates of new discoveries. The BLM prepared the RFDs in compliance with Washington Office Instruction Memorandum 2004-89, (October 28, 2008). A summary of the RFDs is included below:

- All 46 parcels are within the Vernal RMP's East Tavaputs RFD area. This RFD identified the area to have moderate to high potential for development with 75 oil wells, 350 gas wells and 50 coal bed methane wells projected.

To estimate the Lease Sale parcel-specific foreseeable development for the purposes of NEPA analysis, the BLM also considered more recent data from BLM experience, existing well production, new permitting, geologic studies, and economic studies and projections. Based on the more recent data, the estimated number of wells per parcel was calculated as one well per every 160 acres. Acreages of surface disturbance were calculated by using 1.5 acres/well (1 acre for the pad and 0.5 for the associated road) for

horizontally drilled wells The BLM gathered the more recent information from BLM experts, industry professionals, the Energy Policy and Conservation Act (EPCA) Oil and Gas Inventory Report, the Utah Division of Oil, Gas, and Mining, and the Utah Geological Survey. Table 5 shows the assumptions used to estimate future development.

Table 5: Assumptions of Well Bores and Acreages to Develop a Parcel: VFO

Parcel	Total Parcel Acreage	Number of Well Bores to Develop the Parcel†	Anticipated mode of Drilling	Surface Disturbance Acreage*
1602	520	3	Horizontal	5
1603	1,640	10	Horizontal	15
1617	1,280	8	Horizontal	12
1618	1,920.4	12	Horizontal	18
1620	2,481.08	16	Horizontal	23
1622	1087.66	7	Horizontal	10
1625	1,920	12	Horizontal	18
1626	1,920.88	12	Horizontal	18
1627	1,336.9	8	Horizontal	13
1630	1,717.66	11	Horizontal	16
1634	478.32	3	Horizontal	4
1636	2320	15	Horizontal	22
1638	277.12	2	Horizontal	3
1640	2,160	14	Horizontal	20
1641	574.17	4	Horizontal	5
1643	1,320	8	Horizontal	12
1644	1,320	8	Horizontal	12
1645	960	6	Horizontal	9
1650	1,278.4	8	Horizontal	12
1655	800	5	Horizontal	8
1656	1,280	8	Horizontal	12
1657	1,120	7	Horizontal	11
1658	320	2	Horizontal	3
1660	639.52	4	Horizontal	6
7723	1,864.75	12	Horizontal	17
7727	1,920	12	Horizontal	18
7728	2,040.66	13	Horizontal	19
7731	1,920.8	12	Horizontal	18
7733	704.53	4	Horizontal	7
7734	1,920	12	Horizontal	18
7735	2,560	16	Horizontal	24
7738	2,295.82	14	Horizontal	22
7739	639.88	4	Horizontal	6
7740	2560	16	Horizontal	24
7746	1,690.4	11	Horizontal	16
7753	1,280	8	Horizontal	12
7757	2,120	13	Horizontal	20

Parcel	Total Parcel Acreage	Number of Well Bores to Develop the Parcel†	Anticipated mode of Drilling	Surface Disturbance Acreage*
7758	2,560	16	Horizontal	24
7759	1,280	8	Horizontal	12
7760	1,600	10	Horizontal	15
7762	2,480	16	Horizontal	23
7763	320	2	Horizontal	3
7764	2,113.23	13	Horizontal	20
7765	1,921.2	12	Horizontal	18
7768	1,480	9	Horizontal	14
7771	320	2	Horizontal	3
Total	68,263.38	428		640

† In cases where the methods used for estimating the number of wells per nominated lease parcel resulted in a fractional value of number of wells per nominated lease parcel, the fractional value was rounded to the nearest whole number to represent a rational outcome of the number of potential wells that could be drilled and developed on the nominated lease parcel, as well as to provide meaningful inputs to the oil, gas, and produced water production projections.

* All acreages contained in the EA analysis were calculated using geographic information system (GIS) data sets for resources and the parcels, which may differ slightly from the acreages contained in legal description in . Difference in total acres between the parcels and acres analyzed in the EA can vary slightly due to geoprocessing operations where slivers of area are created when two or more data sets intersect. Any inaccuracies are negligible and do not change the overall impact analysis conclusions presented in this EA.

For the purpose of this analysis, it is assumed the Proposed Action would result in 428 horizontal well bores on the 46 parcels in the VFO. Total surface disturbance is estimated to be 640 acres, but the disturbance may occur off-parcel in the case of horizontal development. Table 6 shows production estimates for each well.

Table 6: Production Estimates Per Well: VFO

Well Type	Gas (mcf)	Oil (bbls)	Produced Water (post-drilling bbls)	Water required to drill (bbls)
Horizontal Gas	6,000,000	175,000	420,000	150,000-500,000

Note: bbl = barrels; mcf = thousand cubic feet.

3.3. RELEVANT PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIONS

This section outlines past, present, and reasonably foreseeable future actions and environmental trends in the vicinity of the nominated lease parcels that have a relationship to potential resource effects associated with the alternatives. This section appears prior to the impacts analysis because it is intended to provide broad context for those analyses and the activities occurring and trends influencing the environment in the area.

The parcels are located within four Hydrologic Unit Code (HUC) 10 watersheds that are nested within two HUC6 subbasins. HUC10s provide an effective means of defining reasonably foreseeable future actions areas because they encompass areas of similar environmental conditions (Table 7).

Table 7 HUC10 watersheds encompassing proposed parcels

HUC10 Number	Subbasin Name	Watershed Name	Acres	Parcels
1406000603	Lower Green	Hill Creek	12,343	1603,1617,1626,1630,1634, 1660,7728,7731,7734,7753,7757
1406000604	Lower Green	Agency Draw – Willow Creek	27,165	1602,1603,1617,1620,1622,1625, 1627,1630,1638,1640,1641,1644, 1656,1658,7723,7727,7728,7733,7734 7728,7733,7734,7738,7740,7746,7753, 7757, 7765,7768,7771
1405000711	White-Yampa	Cottonwood Wash – White River	20,674	1618,1620,1625,1641,1643,1644,1650 1655,1657,7735,7738,7739,7740,7758, 7759,7760,7762,7763,7764
1405000709	White-Yampa	Bitter Creek	7,898	1636,1645,1650,1655,1657,7758,7762

As of June 6, 2025, there are 3,774 drilled or drilling oil and gas or service wells, 1,412 plugged and abandoned well locations that may be at various levels of reclamation, and 60 proposed well locations within these four HUC 10 watersheds, as shown in Table 8.

Table 8: Existing Well and APD Status by Watershed

HUC 10 Number	Proposed Locations ¹	Plugged and abandoned	Drilled or Drilling Locations ²
1405000709	1	123	93
1405000711	45	992	3095
1406000603	-	81	94
1406000604	14	216	492
Grand Total	60	1412	3774

¹ Includes New and approved APDs

² Includes Active and Inactive Service wells, producing wells, spudded or actively drilling wells, temporarily abandoned wells, shut-in wells, and drilling operation suspended wells

In recent decades, the influences on the landscape in the vicinity of the nominated lease parcels include the following:

Oil and gas development and reclamation:

- These watersheds overlap the 2008 VFO RMP's Monument Butte-Red Wash, East Tavaputs Plateau (BLM, 2008), and Richfield Area 4 Reasonably Foreseeable Development (BLM, 2008) areas which predicted 1,799 oil wells and 3,100 gas wells (Monument Butte-Red Wash); 75 oil well, 350 gas wells, and 50 coal-bed methane wells (East Tavaputs Plateau); and 360 oil and gas wells (Richfield Area 4) drilled over 15 years (BLM, 2008).

- Other minerals – within the HUC 10 watersheds that encompass the parcels, as of April 8, 2025, there are 24 authorized mineral material case records covering 13,543 acres, 40 pending and interim mineral material case records covering 16,874 acres, and 183 closed mineral material case records covering 114,705 acres (Table 9).

Table 9: Mineral Material Case Records by Watershed

HUC10 Number	Subbasin Name	Watershed Name	Parcel	Cases
1406000604	Lower Green	Agency Draw – Willow Creek	1625	UTU76093, Common Use Area-ALL, Authorized (all sections)
1406000604	Lower Green	Agency Draw – Willow Creek	1627	UTU76093, Common Use Area-ALL, Authorized (sections 29-30)
1406000603	Lower Green	Hill Creek	1634	UTU76162, Mineral Materials Negotiated-ALL, Interim (all sections)
1405000709	White-Yampa	Bitter Creek	1636	UTU88919, Mineral Materials Negotiated-ALL, Interim (section 11)
1406000603	Lower Green	Hill Creek	1660	UTU76162, Mineral Materials Negotiated-ALL, Interim (all sections)
1406000604	Lower Green	Agency Draw – Willow Creek	7727	UTU88153, Mineral Materials Negotiated, Interim (section 17 & 20) UTU76177, Mineral Materials Negotiated, Interim (section 17)
1406000604	Lower Green	Agency Draw – Willow Creek	7738	UTU76093, Common Use Area-ALL, Authorized (sections 19 & 20)
1406000604	Lower Green	Agency Draw – Willow Creek	7740	UTU76093, Common Use Area-ALL, Authorized (section 26)
1406000604	Lower Green	Agency Draw – Willow Creek	7746	UTU76093, Common Use Area-ALL, Authorized (all sections) and UTU91561, Free Use Permit-Government Subdivision-ALL, Pending (section 34)
1406000604	Lower Green	Agency Draw – Willow Creek	7753	UTU76180, Mineral Materials Negotiated-ALL, Interim (section 34) UTU88152, Mineral Materials Negotiated-ALL, Interim (section 34) UTU88974, Mineral Materials Negotiated-ALL, Interim (section 34)
1406000604	Lower Green	Agency Draw – Willow Creek	7765	UTU796093, Common Use Area-ALL, Authorized (sections 1 & 12) UTU89327, Mineral Materials Negotiated-ALL, Pending (section 1 & 12)

- Livestock grazing: Within the encompassing HUC 10 watersheds there are 31 allotments. Nominated lease parcels fall within 10 of these allotments. AIB-6 contains a more detailed analysis on the 10 allotments that contain lease parcels.
- The Vernal field office has several lop and scatter projects within and adjacent to the offered lease parcels. Lop and scatter is the process of hand cutting Juniper trees with a chainsaw and leaving the cut material onsite in order to reduce the risk of wildfires. Parcels 1618, 1620, 1625, 7740, 7758 and 7759 have this type of project proposed for future action. There are no current lop and scatter projects within the footprint of the lease parcels. Outside of the lease parcels and within the HUC 10 area are several more lop and scatter projects currently being done and proposed in the future.
- A watershed restoration plan for the Willow Creek Subbasin was recently finalized (Anabran Solutions, 2025). This plan covers the Willow and Hill Creek HUC 10s. These watersheds provide important habitat for the warm water desert fishes as well as cutthroat trout in the headwaters. Riverscapes through the watershed are considered degraded when compared to historic condition. This plan provides an assessment of riverscape conditions and 10-year restoration plan for the watershed.

Current ongoing global climate change is caused, in large part, by the atmospheric buildup of GHGs, which may persist for decades or even centuries. The buildup of GHGs such as carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and fluorinated gases since the Industrial Revolution (1760-1840) has substantially increased atmospheric concentrations of these compounds compared to background levels. Several types of activities contribute to the phenomenon of climate change, including emissions of GHGs from fossil fuels used as a primary energy source, large wildfires, changes to the natural carbon cycle, and changes to radiative forces and reflectivity (albedo). Between 1850 and 2019, cumulative anthropogenic CO₂ emissions emitted to the atmosphere were approximately 2,400 ± 240 Gigatonnes of CO₂ (GtCO₂). About 43% of these emissions have remained in the atmosphere, while the rest was removed from the atmosphere and stored in natural terrestrial ecosystems (plants and soils – 29%) and in the oceans (28%).

Multi-model climate projections under a high emissions scenario (SSP5-8.5) indicate that Utah could warm as much as 4 °C above current levels by 2074. Under a lower emissions scenario (SSP2-4.5), warming is projected to increase about 3 °C relative to the 1981-2010 mean (Alder & Hostetler, 2013). Increases in average temperatures would be accompanied by increases in heat wave intensity and decreases in cold wave intensity. Under these conditions, precipitation would more likely fall as rain instead of snow, reducing water storage in the snowpack.

Uintah County, where the nominated lease parcels are located, has been experiencing intermittent drought conditions for at least the past 24 years. All land within the project area is currently in Moderate to Exceptional long-term drought conditions. (BLM, 2025) Droughts such as those experienced in Uintah County are a natural part of Utah's climate. However, these droughts are expected to become more intense with climate change. Higher temperatures will amplify the effects of naturally occurring dry spells by increasing the rate of loss of soil moisture. Additionally, higher spring temperature can cause early melting of the snowpack, decreasing water availability during the already dry summer months. The projected increase in the intensity of naturally occurring droughts will increase the occurrence and severity of wildfires.

Further discussion about climate change science and predicted impacts can be found in the 2023 *BLM Specialist Report on Annual Greenhouse Gas Emissions and Climate Trends* (BLM, 2024) (Annual GHG

Report). An emissions discussion detailing a quantitative analysis of GHGs related to the potential develop of the lease parcels can be found in Section 3.6.2.

3.4. NO ACTION ALTERNATIVE IMPACTS FOR ALL ISSUES

Under the No Action Alternative, the BLM would not offer for lease the 46 nominated lease parcels and the existing conditions and trends related to each issue would continue. Potential impacts associated with potential development of the nominated lease parcels would not occur under this alternative, current land and resource uses would continue, and the federal mineral acreage would remain open to future oil and gas leasing unless land use plan amendments are completed to close these areas to leasing. No natural gas or crude oil from the nominated lease parcels would be produced, and no royalties would accrue to federal or state treasuries. Selection of the No Action Alternative would forgo new oil and gas development opportunities on approximately 68,263.38 acres of federal minerals in the VFO. Reducing total oil and gas development opportunities in the area is likely to incrementally reduce local and regional employment and revenue opportunities related to the oil and gas and service support industries over time. This is because the oil and gas sector of the economy relies on both ongoing operational activities (development of existing leases) and new development opportunities (acquisition and development of new leases) to continue to provide local and regional jobs and revenue on a sustained basis. In the 5.5 million-acres within the boundary of the VFO, there are approximately 1.9 million acres of federal mineral estate that are open to oil and gas leasing. Of these lands open to leasing, 1,168,221 acres are already leased (which represents 62% of the federal mineral estate open to oil and gas leasing) across 1274 total leases.

3.5. ISSUES ANALYZED IN BRIEF (AIB)

Following internal and external scoping, 23 issues were identified, considered, and eliminated from detailed analysis by members of the IDT in review of the Proposed Action. Each of these issues is outlined below with a concise discussion regarding the degree of the impact in the context of the affected area for each issue. Stipulations HQ-TES-1 (compliance with the ESA), HQ-CR-1 (compliance with the NHPA), and Lease Notice HQ-MLA-1 (compliance with the MLA), as well as standard terms and conditions as described in the lease form, would apply to all nominated lease parcels.

For the purposes of this analysis, short-term effects are those that cease after well construction and completion (30–60 days) or cease after interim reclamation (2–5 years). Long-term effects are considered to be those associated with operation and production activities over the life of the well (for example, noise) or that otherwise extend beyond the short-term time period (for example, surface disturbance subject to final reclamation). As such, some long-term effects would cease immediately upon the end of operations, whereas other long-term effects would remain until successful landscape reclamation and remediation is accomplished. Note that the time frame for successful reclamation would vary by vegetation type and other factors such as the amount and timing of annual precipitation (see AIB-18 for more information). No long-term effects are expected to persist after successful final reclamation.

AIB-1 Cultural Resources

How would potential development of the nominated lease parcels affect cultural resources?

The BLM conducted a literature review for the nominated lease parcels using survey and site information from BLM Utah's cultural resources database (CURES), Utah Division of State History Sego database, J. Willard Marriott Library of the University of Utah online archaeological record collection (UDAM), and VFO to identify currently known sites within the lease parcels. These data sources contain information on all the recorded cultural resource sites and cultural resource surveys conducted within and adjacent to the

nominated lease parcels. See Chapter 4 for the NHPA Section 106 process that is used to help inform, but is separate from, the NEPA analysis of impacts to cultural resources.

To broadly summarize the results of the records review, within the 46 lease parcels 412 cultural resource surveys have been completed. From these previously conducted cultural resource surveys, parcels 1645, 7760, 7762, and 7763 have received 100% survey coverage. Within the 46 lease parcels, one hundred eighty-seven archaeological sites have been documented, of which 30 are eligible and two are unevaluated for the NRHP. Three hundred thirty-eight archaeological sites have been documented within 0.5 mile of the proposed lease parcels, of which 45 are eligible and two are unevaluated for the NRHP.

BLM Archaeologists at the VFO and Utah State Office reviewed this data against the Lease Sale parcel locations and their respective applicable stipulations and lease notices to determine if oil and gas development could occur without incurring significant impacts to cultural resources. This review included an analysis of potential adverse effects to historic properties, per 36 CFR 800.5.

The Cultural Resource Stipulation (HQ-CR-1), as required by BLM Competitive Leases Handbook H-3120-1, applies to all parcels on BLM-managed lands. The stipulation reads as follows:

This lease may be found to contain historic properties and/or resources protected under the National Historic Preservation Act, American Indian Religious Freedom Act, Native American Graves Protection and Repatriation Act, E.O. 13007, or other statutes and executive orders. The BLM would not approve any ground disturbing activities that may affect any such properties or resources until it completes its obligations 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.

Based on the currently known cultural resources within the 46 parcels, current cultural resource survey coverage within the parcels, and the previous oil and gas development history of the area, the BLM anticipates encountering similar site types and density across all the parcels should future development necessitate additional cultural resource survey and identification. Site types within the parcels predominantly include historic temporary camp sites, historic roads, historic cairns, historic corrals, and historic artifact scatters. Additionally, based on the individual size of the parcels, the application of the cultural resources protection stipulation, and the existing disturbance from previous development within each parcel, the BLM anticipates that potential development can occur within the parcels without adverse impacts to cultural resources and without an adverse effect to historic properties. As a result, further detailed analysis of this issues is not required at this time. The NHPA Section 106 review process is ongoing (see Chapter 4) and will conclude before BLM makes a final decision for the Lease Sale.

For future oil and gas developments related to this Lease Sale, the BLM would not approve any ground disturbing activities until it completes its obligations to consider cultural resources and historic properties under the NEPA, the NHPA, and other authorities specific to those future developments. This includes the Native American Graves Protection and Repatriation Act (NAGPRA), which may require the development of a Plan of Action for potential inadvertent discoveries, as defined by 43 CFR Subtitle A § 10.2. New analysis of impacts to cultural resources and potential adverse effects to historic properties would be conducted during the review stage of any future site-specific development plans through new NEPA and NHPA Section 106 review processes. Future site-specific inventory and analysis may identify and document currently unknown and unrecorded cultural resources.

Stipulations:

- HQ-CR-1 Cultural Resource Protection: All Parcels

AIB-2 Dark Night Skies

How would potential development of the nominated lease parcels impact the quality of night skies on public lands?

Dark night skies contribute to the remote experience that many people seek when they visit remote public lands. Light pollution diminishes the aesthetic and values of the night sky by making it difficult to see fainter stars or other faint celestial objects (BLM, 2023). Optimal night skies are free of scattered light or skyglow, which is generated by anthropogenic light from development, transportation, or industrial operations. The scattering of artificial light in the atmosphere increases night sky luminance and erodes the visual appearance of stars and planets.

The Bortle Dark-Sky Scale is a nine-level numeric scale that measures the night sky and star brightness (naked-eye and stellar limiting magnitude) of a particular location. It quantifies the observability of celestial objects (significant naturally occurring physical entities, associations or structures which current science has demonstrated to exist in outer space) and the interference caused by artificial light pollution and skyglow (wide scale illumination of the sky or parts of the sky at night). The most common cause of skyglow is man-made lights that give off light pollution. John E. Bortle created the scale and published it in the February 2001 edition of *Sky & Telescope* magazine to help amateur astronomers compare the darkness of observing sites. The scale ranges from class 1, the darkest skies available on Earth, through class 9, inner-city skies (Bortle, 2001).

Bortle scale classes are correlated with a sky quality meter (SQM) rating that is derived from an instrument used to measure the luminance of the night sky. It is used, typically by amateur astronomers, to quantify the skyglow aspect of light pollution and uses units of "magnitudes per square arcsecond" favored by astronomers. Scientists, in the process of creating the SQM, devised a scale: between the numbers of 16.00-22.00. At the lowest number—16.00—the sky is the brightest. Customarily, this class would transpire in urbanized areas. Meanwhile, a number of 22.00 represents the least luminance—in other words, the least light pollution and the very darkest night sky. Typically, this reading would generally materialize in remote, uninhabited areas. SQM values for any point on Earth can be determined from <http://www.lightpollutionmap.info>. This global map of artificial night sky radiance is produced by the Light Pollution Science and Technology Institute (ISTIL) using both satellite imagery and SQM readings, as described in the paper "The New World Atlas of Artificial Night Sky Brightness".

The proposed lease parcels lie in a very remote area with no nearby human settlements or light pollution sources to affect night skies. Vernal is 40 miles north of the nearest parcel, Roosevelt is 35 miles northwest, Price is over 50 miles west, and Grand Junction is over 50 miles to the southeast. Based on the 2023 data from <http://www.lightpollutionmap.info>, all proposed lease parcels occur in Bortle Class 1 skies with SQM values between 21.8-22.0, the highest quality of dark night skies possible. Bortle Class 1 areas are described as Excellent Night Sky sites where portions of the Milky Way cast obvious shadows, many constellations are difficult to distinguish within the heavy background of visible stars, sources of zodiacal light, airglow, and globular clusters are readily visible to the naked eye, and both Jupiter and Venus are bright enough to affect night adaptation (Bortle, 2001).

Potential impacts to night skies associated with development of the leases would include flaring and temporary lighting during nighttime construction activities. Light pollution impacts would include lighting at facilities as well as oil and gas developments as needed for safety and security that would contribute to sky glow and adversely affect night skies. Impacts on night skies would last for the duration of the leases, if developed, and would begin during construction and would last through operations,

maintenance, and decommissioning until the reclamation process is completed. These effects would be temporary and transient in nature and would vary based on conditions such as cloud cover, weather (precipitation events), and wind speed or direction. For example, most artificial lighting would occur during the drilling, construction, and potential flaring of a well within the first 60-90 days. Lighting from the other phases of development and production would occur from vehicle traffic or safety lighting. While production impacts would be minimal and temporary, they would also be considered long-term as the lighting impacts would remain in effect for more than 2 years.

Further detailed analysis of the potential impacts to night skies would be analyzed as appropriate when oil and gas development plans and APDs are submitted. Impacts related to light pollution of night skies would be mitigated and minimized through development of a lighting plan at the APD stage, including the planning principles and the identification of BMPs, as detailed in *Night Sky and Dark Environments: Best Management Practices for Artificial Light at Night on BLM-Managed Lands* (BLM 2023).

Specific BMPs include having a lighting plan prepared by a qualified lighting designer, selecting luminaires certified to minimize light pollution, identifying light-sensitive receptors, conducting a baseline study of existing light pollution and night sky conditions, and establishing a lighting and light pollution monitoring program. Additionally, mitigation measures for impacts to night skies associated with oil and gas development such as flaring would include using enclosed flare systems for gas flaring and similar operations to shield light, noise, and heat release. This would result in no visible flame protruding above the structures and could include shaded or directional lighting on structures and shrouded gas flare stacks. The application of BMPs and design features would mitigate, limit, and prevent impacts on night skies associated with future development of any of the leases.

AIB-3 Fluid Minerals

How would potential development of the nominated lease parcels impact mineral resources and energy production?

Oil and gas exploration could lead to an increased understanding of the geologic setting, as subsurface data obtained through lease operations may become public record. This information promotes an understanding of mineral resources as well as geologic interpretation. While conflicts could arise between oil and gas operations and other mineral operations, these could generally be mitigated under 43 CFR 3101.12 and under standard lease terms (Sec. 6) where siting and design of facilities may be adjusted to protect other resources.

Depending on the success of oil and gas well drilling, natural gas and/or oil would be extracted and delivered to market. The estimated future potential development is documented in section 3.2.1. Production of oil or gas would result in the irretrievable loss of these resources (i.e., they would no longer be available for future development). The 2008 Vernal RMP committed these resources for oil and gas leasing. The future estimated production under each alternative is listed in Table 10 as well as the percentage it makes up of the total production from Federal lands and all lands in Utah. There are approximately 1.9 million acres of federal mineral estate that are open to oil and gas leasing across the VFO Planning Area. 1,168,221 acres are already leased (62% of the federal mineral estate open to oil and gas leasing) across 1,274 total leases (as of April 2025). The nominated lease parcels would lease an additional 68,263.38 acres of Federal mineral estate (3.6% more). The Proposed Action would not exceed the level of activity predicted in the RFDs.

Table 10 Production by Alternative (Alternative D would be zero production)

Alternative	Estimated Total Gas Production (mcf)	Estimated Total Oil Production (bbls)
Alternative A	2,568,000,000	74,900,000
Alternative B	420,000,000	12,250,000
Alternative C	1,260,000,000	36,750,000

Any oil and gas development can be managed to avoid or work within the potential development of other mineral resources. Mining claims and Mineral Materials permits were checked on June 5, 2025. No active placer claims, or Mineral Material sites were found within the nominated lease parcels.

The majority of flow back water (water originally injected from the surface) from hydraulic fracturing in Utah is recycled and used in future hydraulic fracturing completions. Therefore, the underground injection of hydraulic fracturing flow back in Utah is very limited and presents little potential for inducing seismic activity. In fact, there has been no reported induced seismicity in Utah attributable to water injected into Class II water disposal wells. Oil and gas wells produce a great amount of wastewater (water originating from the producing formation.) Most of this water has high salt brine content and must be disposed of in an environmentally safe manner. In Utah, a majority (95%) of this produced water is pumped into Class II injection wells. In certain parts of the country, water injection has caused some induced seismicity in the form of small earthquakes. Two major factors play a role in induced seismicity from water injection. First, the amount of water being injected. Secondly, the local geology of the water injection site. In Utah, the volumes are lower than those states experiencing induced seismicity. Also, the geology is different than those states experiencing induced seismicity. The injection zones are stratigraphically thousands of feet above the basement rock that may contain large unknown faults. Therefore, at this time it appears that induced seismicity from water injection is not a problem in the oil fields of Utah. (UDOGM, 2018).

There are currently no other mineral materials conflicts within the parcels, these leases have already been allocated in the Vernal RMP and Alternatives A, B, and C would result in an increase in the amount of fluid minerals available for extraction, therefore this issue does not require additional analysis.

AIB-4 Human Health and Safety

How would potential development of the nominated lease parcels contribute risks to human health and safety concerns?

Within Uintah County, which encompasses the VFO nominated parcels, there are currently 7,802 existing active well bores of all well types across all land jurisdictions (UDOGM, 2024). This level of development has resulted in the following public health and safety-related risks: occasional fire starts; spills of hazardous materials, hydrocarbons, produced water, or hydraulic fracturing fluid (see Appendix E) and corresponding potential contamination of air, soil, or water; exposure to naturally occurring radioactive material (NORM) in drill cuttings or produced water (see Appendix E); traffic congestion and collisions from commercial vehicles and heavy use, especially along Highway 40; infrequent industrial accidents; presence of hydrogen sulfide (H₂S); or increased levels of fugitive dust (PM₁₀ and PM_{2.5}), other criteria air pollutants (CAPs), volatile organic compounds (VOCs), and hazardous air pollutants (HAPs).

See the air quality analysis in Section 3.6.1 (Air Quality) for projected levels of CAPs and HAPs, their effects on air quality, and the air quality notices and stipulations that may impact human health and safety.

HAPs are known or suspected to cause cancer or other serious health effects, such as compromises to immune and reproductive systems, birth defects, developmental disorders, or adverse environmental effects resulting from either chronic (long-term) and/or acute (short-term) exposure, and/or adverse environmental effects. Breathing ground-level ozone (O₃) can trigger a variety of health problems, including coughing and sore or scratchy throat; difficulty breathing deeply and vigorously and pain when taking deep breaths; inflammation and damage to the airways; increased susceptibility to lung infections; aggravation of lung diseases such as asthma, emphysema, and chronic bronchitis; and an increase in the frequency of asthma attacks. Some of these effects have been found even in healthy people, but effects are more serious in people with lung diseases such as asthma. Particulate matter, also known as particle pollution or PM, is a complex mixture of extremely small particles and liquid droplets. Smaller particles (PM_{2.5} or smaller) are associated with more negative health effects, including respiratory and cardiovascular problems, because they can become more deeply embedded in the lungs and may even get into the bloodstream.

The following sources provide additional information on air pollution health effects from the six criteria air pollutants and HAPs:

- Ozone (EPA, 2023a)
- Particulates (EPA, 2023b)
- Nitrogen dioxide (EPA, 2023c)
- Carbon monoxide (EPA, 2023d)
- Lead (EPA, 2023)
- Sulfur dioxide (EPA, 2023f)
- Hazardous air pollutants (HAP) (EPA, 2023g)

The air quality analysis in Section 3.6.1 estimates the risk of cancer from Hazardous Air Pollutants (HAPs) and the risk of other health impacts based on exposure to Criteria Air Pollutants (CAPs). In addition to HAP and CAP levels, economic or social indicators can also influence the general health risks of a population, such as poverty status, educational attainment, or language proficiency. Headwaters Economics data for populations at risk (i.e., more likely to experience adverse health outcomes due to demographic or socioeconomic factors) show that most of the indicators for populations at risk are lower for Utah compared with the nation as a whole (Headwaters Economics, 2025). Compared with Utah, several of the indicators for populations at risk in the combined counties in the VFO planning area (Daggett, Duchesne, and Uintah Counties) are similar to state levels. However, certain indicators are noticeably higher in the combined counties than those of Utah as a whole: these include indicators such as percent of population without a high school diploma, percent of population in “deep poverty” (earning less than half of the federal poverty level), percent of families below poverty, percent of households receiving food stamps, percent of housing that are mobile homes, and percent of population without health insurance (Headwaters Economics, 2025).

Human health risk assessments cannot be performed until project-specific details are known so that frequency, timing, and levels of contact with potential stressors may be identified (EPA, 2023h). However, each of the reasonably foreseeable environmental trends and planned actions have been, or will be, subject to relevant rules and regulations regarding public health and safety. Ongoing and potential development would continue to present aggregate risks to human health as detailed above. When wells reach the end of their useful life and are properly plugged and reclaimed, they would no longer contribute to health and safety effects; however, depending on the level and duration of individual's exposure during well operation, some of the public health effects from air pollution may endure beyond the life of the wells (e.g., chronic respiratory problems such as asthma).

Potential development on the nominated lease parcels within Uintah County is estimated to be 428 new wells. This is a 5.5% increase to the 7,802 existing active wells in the county. There are no residences within 500 feet of any of the proposed lease parcels. There is one house 1.6 miles south of parcel 7723. All other settlements are more than 16 miles north of the project area. When authorizing development, federal and state laws, regulations, and policy are applied to reduce effects or respond to incidents. These include the following:

- Federal, state, county, and municipal fire managers shall coordinate fire response and mitigation.
- Developers who install and operate oil and gas wells, facilities, and pipelines are responsible for complying with the applicable laws and regulations governing hazardous materials and for following all hazardous spill response plans and stipulations. The Utah Division of Oil, Gas and Mining requires similar spill response measures after release of hydrocarbons, produced water, or hydraulic fracturing fluids.
- All well pads, vehicles, and other workplaces must comply with worker safety laws as stipulated by the Occupational Safety and Health Administration (OSHA).
- Vehicular traffic and pipelines are regulated according to safety laws as stipulated by the Department of Transportation.

43 CFR 3176 provides the requirements and standards for conducting oil and gas operations in an environment known to or expected to contain H₂S. Compliance with this Order will protect public health and safety and those personnel essential to maintaining control of the well.

Hazardous materials are not known to exist on any lease parcel. Hazardous materials associated with oil and gas operations, if not handled properly, have the potential to be spilled at the lease/drill site and would be handled during that stage of development. Such materials could include methanol, diesel fuel, unrefined petroleum, produced water, and acid. Spills during operation would be contained, reported, and cleaned up by the operator as written in the Spill Prevention, Control, and Countermeasure (SPCC) rule for wells.

See AIB-21 for further information regarding potential surface and groundwater effects and relevant regulations, stipulations, and lease notices offering protections to groundwater and surface water quality. While there are no water quality specific notices or stipulations, the buffers on surface occupancy in riparian areas and floodplains, UT-S-123 as well as those associated with sensitive soils and steep slopes, UT-S-96, UT-S-99, and UT-S-100 would result in protection of water quality by minimizing sediment inputs and other water quality contaminants. Risks from hazardous or solid wastes would be mitigated by BMPs, SOPs, and site-specific COAs. No Lease Stipulations or Notices would be required directly for Human Health and Safety.

AIB-5 Invasive Species (Noxious Weeds)

How would potential development of the nominated lease parcels affect the introduction and/or spread of invasive species and noxious weeds?

There are currently various populations of noxious weeds in the larger overall area of the lease parcels within the VFO. Noxious and invasive weeds present in the general area are primarily associated with existing areas of development and disturbance. These species are present along roads, ditches, well locations, and other disturbance areas near the parcels. Some of the known noxious species occurring in these areas are Canada thistle (*Cirsium arvense*), Houndstongue (*Cynoglossum officinale*), and Hoary Cress (*Cardaria draba*). Other non-desired species in this area are Russian thistle, Halogeton, and cheatgrass. The extent of infestation and persistence of weeds would be dependent on monitoring and treatment in accordance with the site-specific implementation level actions.

Anticipated total surface disturbance for the Proposed Action is approximately 640 acres collectively across all nominated lease parcels within the VFO. The proposed surface disturbance would remove native herbaceous and woody shrub vegetation, primarily from the desert shrub community. Some surface disturbance would be temporary in overall nature (areas used for initial staging would be provisionally reclaimed during the working life of the well), taking potentially a minimum of two to three growing seasons to establish vegetation once reclamation begins. Removal of topsoil and native vegetation would result in a localized loss of individual plants and spatial niche for invasive and noxious weed species to proliferate. New ground disturbance that exposes underlying soils creates the ideal seed bed for invasive and non-native weeds species to germinate. Uncleaned construction equipment and vehicles entering the project area are potential vectors for introducing invasive weeds not currently present.

Reasonably foreseeable effects to the resources, when added to effects from other actions in and near the project area and the local watersheds, would include short-term and long-term effects from removal of existing herbaceous and shrubland vegetation that creates niches for invasive species. This removal is expected to increase with the current level of oil and gas development, and the recent filing pattern of Applications for Permits to Drill and right-of-way applications within the VFO in previous years. Industry practices that minimize weed transport from construction equipment such as power washing and appropriate staging (avoiding weed infestation areas) and proper spraying (both timing and herbicide selection) may lessen the density of new weed colonization within the construction area and aid in reclamation efforts. Additionally, LN-52 – Noxious Weeds, is attached to all parcels in the sale (See Appendix B for more information). Seed mixes that maximize management of weed emergence are important for returning the site's sustainability and production.

Prior to any potential development of the lease parcel, the lessee or applicant would be required to contact BLM before any seeding and weed management activities occur to document the activities and coordinate potential site visits by the BLM. Weed management would be in adherence to the local field office invasive species management plan and/or integrated pest management plan. The well pads, roads, access corridors and any other long-term exposed surface would be treated through either chemical or mechanical means to control weeds. It is mandatory that a Pesticide Use Permit be obtained for applying herbicides on public lands managed by BLM.

Lease Notices:

- LN-52 – Noxious Weeds: All Parcels

AIB-6 Lands with Wilderness Characteristics

How would potential development of the nominated lease parcels affect lands with wilderness characteristics (LWC) or BLM Natural Areas?

BLM Manual 6310 defines LWCs as areas that have been inventoried and determined to possess 5,000 acres or more of public lands with apparent naturalness that provide outstanding opportunities for solitude and/or primitive, unconfined recreation. LWCs may also possess supplemental values of ecological, geological, or other features of scientific, educational, scenic, or historical value. An LWC determination is not a land use allocation per se and does not convey any special protective status unless an RMP decision has specifically established that a particular LWC unit will be managed to protect and preserve its wilderness characteristics. BLM Natural Areas are a planning designation for LWC units that have been through the RMP process where BLM has made an affirmative decision to manage for wilderness characteristics with management prescriptions that may vary based on environmental factors and multiple use considerations.

Proposed lease parcels 1636, 1655, and 7758 are partially within the Lower Bitter Creek LWC unit, which encompasses 11,417 acres that BLM chose to manage for multiple use and not specifically prioritize protection of wilderness characteristics in the applicable VFO 2008 RMP. A total of 3,295 acres, or 29% percent of the LWC unit, are overlapped by the 3 proposed leases. The White River Natural Area is over 6.5 miles northeast of the nearest lease parcel; no impacts to the Natural Area from potential lease development are expected to occur at this distance.

The issuance of leases allows for mineral exploration and development activities to occur. Such mineral development in leased areas intersecting LWCs could cause indirect or direct impacts to wilderness characteristics, such as size, naturalness, solitude, and recreational opportunities in LWC areas. The presence of new oil and gas infrastructure on relatively undisturbed public lands would change the character of such areas. Depending on topography, vegetation removal, grading, and the development of well pads could reduce the apparent naturalness and scenic qualities in LWC areas and reduce the quality of solitude or primitive recreational experiences. Additionally, mineral exploration and development would result in the construction or improvement of access roads, increased traffic, use of heavy machinery, and presence of workers on the landscape, all of which may produce increased levels of noise, alter the viewshed, depreciate apparent naturalness, and reduce opportunities for solitude and primitive recreation. The use of hazardous materials in mineral development sites could also harm vegetation, water resources, and wildlife in LWCs, further altering the naturalness of such lands.

The degree of the intensity of such impacts to wilderness characteristics would be influenced by the location of surface-disturbing activities, existing vehicle access to the lease, the size of the drill pad area and any associated temporary or permanent disturbance, surrounding landforms and topography, vegetation type, season of development, and reclamation processes and their duration. Areas with more terrain variation and elevation differences will offer more topographic screening of the sights and sounds of lease development. Flatter, more open areas will allow sights and sounds to be more noticeable at a greater distance from the well pad or access road. Likewise, larger vegetation, such as trees and large shrubs can help to visually screen or absorb the sounds of development more effectively.

The areas around lease parcels 1636, 1655, and 7758 possess a high degree of topographic screening due to ridges, washes, and generally broken terrain. Potential impacts from mineral activities such as visual or audible disturbances or increased vehicle traffic would be temporary and localized to the construction area and access routes, occurring during the construction, drilling, and interim reclamation phase (30-60 days). Following this period of intense activity, removal of equipment and interim reclamation of the well

pad would be expected to mitigate most impacts to wilderness characteristics, with the exception of apparent naturalness, within the vicinity of new developments.

Based on the reasonably foreseeable development scenario (RFD), BLM predicts a total of 36 potential wells and 54 acres of potential surface disturbance within these 3 leases, which represents 0.47% of the overall LWC unit acreage. The figure below shows the acreage and percentage of the Lower Bitter Creek LWC unit that is affected by each potential lease parcel listed above.

Table 11 Lease Parcel Overlap with Lower Bitter Creek LWC Unit (11,417 acres)

Parcel No.	LWC overlap in acres	Percent of LWC unit overlapped by parcel	Projected Wells	Projected Surface Disturbance in Acres	Percentage of LWC acreage disturbed
1636	1190	10.4%	15	22	0.19%
1655	128	1.1%	5	8	0.07%
7758	1977	17.3%	16	24	0.21%

Proposed lease parcels 1636, 1655, and 7758 have NSO stipulations for fragile soils/slopes greater than 40%, CSU stipulations for fragile soils/slopes between 21-40%, and numerous additional stipulations and notices for sensitive wildlife. Due to topography, application of these leasing stipulations is expected to reduce the potential for surface disturbance within the LWC unit. Furthermore, the location of these lease parcels and existing road access is along the western boundary of the LWC unit; the parcels do not extend to the eastern boundary of the unit. So, any new potential surface disturbance associated with lease development will not bisect the LWC unit and potentially reduce its overall size below the required 5,000 acre threshold. Due to these mitigating factors, potential impacts to wilderness characteristics within the overlapping portion of the Lower Bitter Creek LWC unit from the proposed action are expected to be low, resulting in a minimal potential loss of LWC acreage.

Lease Stipulations:

- UT-S-96 NSO – Fragile Soils/Slopes Greater than 40%: Parcels 1636, 1655, and 7758
- UT-S-99 CSU – Fragile Soils/Slopes: Parcels 1636, 1655, and 7758
- UT-S-100 CSU – Fragile Soils/Slopes (21%-40%): Parcels 1636, 1655, and 7758
- UT-S-123 NSO – Riparian, Floodplains, and Public Water Reserves: Parcels 1636, 1655, and 7758

AIB-7 Livestock Grazing

How would surface disturbance associated with potential development of the nominated lease parcels affect livestock grazing?

The parcels are located within 10 allotments in the VFO (Table). Table 12 identifies the allotment, kind of livestock and total AUMs by permit. Table 13 identifies which parcels are located within each

allotment and the percent disturbance of the total acres of the allotment vs the acres of disturbance identified in table 5.

Table 12 Vernal Field Office allotment grazing information

Allotment name	Number of authorization(s)	Kind of Livestock	Season of Use	Total BLM AUMs Permitted and Suspended
Big Pack Mountain	-	-	-	-
Brewer	1	Cattle	11/01-4/30	120 permitted 80 suspended
Horse Point	1	Cattle	11/16 – 4/30	380 permitted 46 suspended
Oil Shale	1	Sheep	11/15 – 4/15	1137 permitted 0 suspended
Olsen AMP	1	Sheep	11/01 – 6/15	9268 permitted 1425 suspended
Sand Wash	1	Sheep	12/01 – 5/05	1112 permitted 326 suspended
Santil Sibello	1	Cattle	11/01 – 2/28	96 permitted 16 suspended
Sunday School Canyon	1	Cattle	11/01 – 4/30	2843 permitted 551 suspended
Thorne-Ute-Broome	1	Cattle	11/01 – 2/28	248 permitted 44 suspended
Ute	-	-	-	-

Table 13 Grazing allotment by parcel(s).

Allotment	Parcel number with surface disturbance acres	Estimated surface disturbance acres	Total parcel acres by allotment	Total allotment acres	Percent of disturbance of total allotment acres	Percent of grazing allotment overlapped by total parcel acreage
Big Pack Mountain	1617, 1640, 7728, 7731, 7734, 7757	107	3,849	14,627	0.73%	26.3
Brewer	1620, 1622, 1625, 1627, 7733, 7738	93	2,730	2,806	3.31%	97.3
Horse Point	7723, 7727	35	1,562	38,015	0.09%	4.1
Oil shale*	1603, 1617, 1626, 1627, 1630, 1634, 1658, 1660, 7723, 7727, 7728, 7731, 7733, 7734, 7746, 7753, 7757, 7771	235	12,555	41,341	0.57%	30.4
Olsen Amp	1625, 1636, 1645, 1650, 1655, 1657, 7723, 7735, 7739, 7740, 7746, 7758,	273	19,654	133,987	0.20%	14.7

Allotment	Parcel number with surface disturbance acres	Estimated surface disturbance acres	Total parcel acres by allotment	Total allotment acres	Percent of disturbance of total allotment acres	Percent of grazing allotment overlapped by total parcel acreage
	7760, 7762, 7763, 7764, 7765					
Sand Wash	1618, 1620, 1622, 1625, 1627, 1641, 1643, 1644, 7733, 7735, 7738, 7739, 7740, 7746, 7759, 7764	246	13,032	74,352	0.33%	17.5
Santio Sibello	1627, 1658, 7723, 7733, 7738, 7746, 7771	81	2,149	2,217	3.65%	96.9
Sunday School Canyon	1602, 1638, 1655, 1656, 1657, 7723, 7758, 7765, 7768	112	6,424	51,553	0.22%	12.5
Thorne-Ute-Broome	1620, 1622, 1640, 1641, 1644, 7728	77	3,272	5,440	1.42%	60.1
Ute	1603, 1630	31	2,423	7,681	0.40%	31.5

*Oil Shale allotment contains a large amount of private land acreage.

Should development be proposed within lease parcels, additional, site specific NEPA analysis would be completed to assess the potential impacts to livestock grazing within the project area when an APD is submitted.

Under the Proposed Action for the Lease Sale, livestock grazing would continue. However, should oil and gas development occur on the lease, loss of forage and possible reductions of permitted AUMs could occur in affected allotments due to soil and vegetation disturbance and development activity. Livestock movement patterns could be altered and access to range improvements could be hindered by new roads, well pads, and human presence and activity. Increased traffic may lead to an increase in vehicle-livestock collisions, and increased livestock mortality. Potential impacts to specific allotments, pastures, and range improvements would be analyzed with additional site-specific NEPA review at the APD stage. Any mitigation measures and design features protecting range improvements would be identified at the development stage. This issue is not analyzed further because no specific concerns were identified during the internal and external scoping period. The estimated area of surface disturbance is noted in Table 13 Grazing allotment by parcel(s). compared to the total BLM allotment acres suggest that during the APD analysis the loss of AUMs (if any) may be minimal.

Reasonably foreseeable effects to livestock grazing, when added to effects from other past or foreseeable future lease sales within the allotments, would include short-term and long-term effects from removal of existing herbaceous and shrubland vegetation that incrementally decreases available forage until the life of the well has expired. Any reclamation could be decades later. This incremental loss of forage is expected to increase with the past, current and potential future level of oil and gas development,

AIB-8 Migratory Birds

How would potential development of the nominated lease parcels affect migratory birds in Bird Conservation Region (BCR) 16?

Bird habitat on the lease parcels ranges from Colorado Plateau Mixed Low Sagebrush, Shrubland Inter-Mountain Basins Big Sagebrush, Shrubland Colorado Plateau Pinyon-Juniper to Woodland Inter-Mountain Basins Mixed Salt Desert Scrub. Potential development could direct loss of habitat and noise and activity disturbance from the building of roads and pad development. Habitat fragmentation could also occur by structures and roads occupying habitat. The BLM uses Integrated Bird Monitoring in Bird Conservation Regions (IMBCR). The BLM works with the Bird Conservatory of the Rockies which conducts the surveys in BCR 16, where all 46 parcels are located. The collected data can be used for analysis at the Conservation Region all the way down to the Field Office level. The BLM has conducted surveys every year since 2017. There are two survey locations near the parcels (UT-BCR-VE6 and UT-BCR R12), and there is a survey grid located in between many of the parcels in Uintah County (UT-BCR VE2). The BLM also uses the Raptor Inventory Nest Survey protocol to locate and monitor raptor nests.

The Migratory Bird Treaty Act (MBTA) protects migratory birds by not allowing take, which includes not harming them or their nests. The BLM Instructional Memorandum No. 2008-050 requires the BLM to address the potential effects of ground-disturbing activities on migratory bird populations and their habitat and implement best management practices to avoid or minimize the possibility of impacts. These include the BLM conducting surveys for nests, applying timing limitations during nesting seasons, and conducting monitoring post-project implementation. Migratory birds are analyzed in brief because they may be likely impacts to birds at the project level, however, there will not be a population level impact to the Bird Conservation Region because the Conservation Region is very large and covers portions of several states. Bird Conservation Region maps are available online. The BLM would include the Lease Notices UT-LN-44 for Raptors on all parcels which gives notice that appropriate seasonal and spatial buffers shall be placed on all known raptor nests and Lease Notice UT-LN-45 for Migratory Birds which gives notice that surveys for nesting migratory birds may be required during migratory bird breeding season whenever surface disturbances and/or occupancy is proposed.

Lease Notices:

- UT-LN-44 - Raptors: All Parcels
- UT-LN-45 – Migratory Birds: All Parcels

AIB-9 Native American Concerns

How would potential development of the nominated lease parcels affect Native American Concerns?

As discussed in further detail in Section 4.2, the BLM provided project information and an invitation to consult on resources of concern to 14 potentially affected Tribes on April 16, 2025. To-date, no Tribes have requested government-to-government consultation for this Lease Sale or identified any specific areas or resources of concern. Data available to the BLM does not indicate any documented Traditional Cultural Properties or Sacred Sites located within or proximal to the nominated lease parcels; however, resources and locations of concern to Native American Tribes may be present. Further information regarding the potential for additional resources of concern for Tribes may be obtained through on-going

outreach, coordination, or consultation. Additional opportunities to engage with Tribes regarding areas or resources of concern remain available throughout the leasing process and in subsequent NEPA and NHPA reviews that would be required if the nominated parcels are leased and development is proposed. This issue is not analyzed further because no specific areas or resources of concern have been identified by Tribes.

AIB-10 Paleontological Resources

How would potential development of the nominated lease parcels affect known or unknown paleontological resources?

Paleontological resources are defined by the Paleontological Resources Preservation Act of 2009 (PRPA) as the fossilized remains, traces, or imprints of organisms preserved in or on the earth's crust that are of paleontological interest and that provide information about the history of life on earth (16 United States Code [U.S.C.] 470aaa[1][c]). The PRPA and the DOI regulations (43 CFR § 49.1(a) and 49.30(b)) implementing PRPA direct the BLM to “preserve, manage, and protect paleontological resources” on Federal land using scientific principles and expertise. The Potential Fossil Yield Classification (PFYC) system is a tool used to assess resource impacts and mitigation needs by providing estimates of the potential for paleontological resources within a geologic unit (BLM PIM 2022-009) which allows the 5.5-million-acre BLM VFO to predict the likelihood of encountering paleontological resources. The PFYC system is based on numeric classes of 1–5 and unknown (U). A geologic unit identified as PFYC 1 has very low likelihood of containing paleontological resources, whereas a geological unit identified as PFYC 5 is a geologic unit that has a very high likelihood to contain and predictably produce scientifically significant paleontological resources. Within areas identified as PFYC 4, paleontological resource management concerns are moderate to high, as the probability of affecting scientifically significant paleontological resources is generally high. A class U assignment indicates that there is not enough information available for a formal class assignment. Until additional information is available, and a provisional or formal assignment made, these units should be considered to have paleontological potential. Within areas identified as PFYC 2 or 3, paleontological resource management concern is generally low to moderate because the likelihood of encountering scientifically significant fossils is relatively low to moderate. Areas of moderate to very high and unknown PFYC class (3-5, U) should be assessed prior to authorizing land use action (BLM PIM 2022-009).

Based on a review of 1:100,000 scale published geological maps, the 46 nominated parcels are primarily in areas of mapped geologic units with a PFYC 4 or 5 designations and a limited amount of PFYC 2 and 3 (Table 14). These geological units include the Green River and Unita Formations, as well as stream alluvium, mixed alluvium, colluvium, eolian, and alluvial-fan deposits. The Potential Fossil Yield Classification (PFYC) system is used to assess resource effects and mitigation needs by providing estimates of the potential for paleontological resources within a geologic unit (BLM PIM 2022-009). The geologic units within the 46 nominated lease parcels range in PFYC from 2-5 with the majority (92%) of the acreage classified as PFYC 4 or 5, <1% as PFYC 3, and 8% as PFYC 2 (Table). Areas of moderate to very high PFYC class (3-5) should be assessed prior to authorizing land use action (BLM PIM 2022-009).

Although systematic paleontological resource surveys have not been conducted for the entirety of the nominated lease parcels, according to confidential paleontological locality data managed by the Utah Geological Survey (UGS), approximately 7,500 localities within the Unita Basin occur within the Uinta or Green River Formation. These geological units cover over 2.8 million total acres within the Uinta Basin and are known to contain a diverse assemblage of vertebrates including mammals, turtles, crocodilians, lizards, fish, invertebrates, plant body and trace fossils (Grande, 1984) (Murphey, et al., 2017). Based on the UGS managed data, there are eight known paleontological localities within the

nominated lease parcels. Additionally, the nominated lease parcels have exposures of geologic units with paleontological potential.

Table 14 Summary Geologic Units and PFYC Designations of the Nominated Lease Parcels

Mapped Geologic Unit	PFYC Class	Parcel number: acres of PFYC class (percent of total parcel acreage)	Total Acres of Geologic Unit
Stream alluvium, mixed alluvium and eolian deposits, and mixed alluvium and colluvium	Class 2	1603: 21 (1%), 1617: 3 (<1%), 1618: 343 (18%), 1620: 263 (11%), 1622: 118 (11%), 1625: 66 (3%), 1626: 311 (16%), 1627: 145 (11%), 1630: 65 (4%), 1634: 57 (12%), 1636: 115 (5%), 1640: 67 (3%), 1641: 20 (3%), 1643: 41 (3%), 1644: 117 (9%), 1650: 456 (36%), 1655: 105 (13%), 1658: 94 (30%), 1660: 14 (2%), 7723: 176 (9%), 7728: 275 (14%), 7731: 100 (5%), 7733: 171 (24%), 7734: 42 (2%), 7738: 129 (6%), 7740: 137 (5%), 7746: 99 (6%), 7753: 225 (18%), 7757: 1083 (51%), 7758: 37 (1%), 7759: 241 (19%), 7762: 130 (5%), 7765: 92 (5%), 7768: 33 (2%), 7771: 21 (7%)	5,413
Alluvial fan deposits	Class 3	7768: 8 (1%)	8
Uinta Formation, Members A and B	Class 5	1603: 4 (<1%), 1617: 528 (41%), 1618: 1482 (77%), 1620: 2095 (85%), 1622: 154 (14%), 1625: 1017 (53%), 1636: 2156 (93%), 1640: 6 (<1%), 1641: 268 (47%), 1643: 1279 (97%), 1644: 640 (49%), 1645: 960 (100%), 1650: 824 (64%), 1655: 693 (87%), 1657: 1122 (100%), 7728: 774 (38%), 7731: 892 (47%), 7734: 638 (33%), 7735: 2559 (100%), 7738: 680 (30%), 7739: 640 (100%), 7740: 1887 (74%), 7753: 20 (2%), 7757: 382 (18%), 7758: 2514 (98%), 7759: 950 (74%), 7760: 1604 (100%), 7762: 2353 (95%), 7763: 320 (100%), 7764: 2111 (100%)	31,153
Green River Formation, sandstone and limestone facies and Parachute Creek and Douglas Creek Members	Class 4	1602: 520 (100%), 1603: 1600 (98%), 1617: 743 (58%), 1618: 95 (5%), 1620: 119 (5%), 1622: 813 (75%), 1625: 834 (44%), 1626: 1599 (84%), 1627: 1190 (89%), 1630: 1647 (96%), 1634: 423 (88%), 1636: 48 (2%), 1638: 276 (100%), 1640: 2064 (97%), 1641: 286 (50%), 1644: 558 (42%), 1655: 2 (<1%), 1656: 1284 (100%), 1658: 222 (70%), 1660: 624 (98%), 7723: 1688 (91%), 7727: 1916 (100%), 7728: 982 (48%), 7731: 924 (48%), 7733: 529 (76%), 7734: 1226 (64%), 7738: 1484 (65%), 7740: 535 (21%), 7746: 1588 (94%), 7753: 1025 (81%), 7757: 641 (30%), 7758: 7 (<1%), 7759: 89 (7%), 7765: 1832 (95%), 7768: 1441 (97%), 7771: 297 (93%)	31,551

Notes All acreages contained in the EA analysis were calculated using geographic information system (GIS) data sets for resources and the parcels, which may differ slightly from the acreages contained in the legal descriptions. Difference in total acres between the parcels and acres analyzed in the EA can vary slightly due to geoprocessing operations where slivers of area are created when two or more data sets intersect. Any inaccuracies are negligible and do not change the overall impact analysis conclusions presented in this EA. There are no geologic units designated as PFYC 1 or U within the nominated parcels.

Table 15 Acreage within the 46 Nominated Lease Parcels by Potential Fossil Yield Classification

Parcel	2	3	4	5	Total
1602	0	0	520	0	520
1603	21	0	1,600	4	1,625
1617	3	0	743	528	1,274
1618	343	0	95	1,482	1,920

Parcel	2	3	4	5	Total
1620	263	0	119	2,095	2,477
1622	93	25	813	154	1,085
1625	66	0	834	1,017	1,917
1626	311	0	1,599	0	1,910
1627	143	2	1,190	0	1,335
1630	65	0	1,647	0	1,712
1634	57	0	423	0	480
1636	115	0	48	2,156	2,319
1638	0	0	276	0	276
1640	16	51	2,064	6	2,137
1641	1	18	286	268	573
1643	41	0	0	1,279	1,320
1644	95	22	558	640	1,315
1645	0	0	0	960	960
1650	456	0	0	824	1,280
1655	105	0	2	693	800
1656	0	0	1,284	0	1,284
1657	0	0	0	1,122	1,122
1658	94	0	222	0	316
1660	14	0	624	0	638
7723	176	0	1,688	0	1,864
7727	0	0	1,916	0	1,916
7728	275	0	982	774	2,031
7731	100	0	924	892	1,916
7733	141	30	529	0	700
7734	42	0	1,226	638	1,906
7735	0	0	0	2,559	2,559
7738	105	25	1,484	680	2,294
7739	0	0	0	640	640
7740	137	0	535	1,887	2,559
7746	99	0	1,588	0	1,687
7753	225	0	1,025	20	1,270
7757	1,083	0	641	382	2,106
7758	37	0	7	2,514	2,558
7759	241	0	89	950	1,280
7760	0	0	0	1,604	1,604
7762	130	0	0	2,353	2,483
7763	0	0	0	320	320
7764	0	0	0	2,111	2,111
7765	92	0	1,832	0	1,924

Parcel	2	3	4	5	Total
7768	41	0	1,441	0	1,482
7771	21	0	297	0	318
Total	5,247 (8%)	173 (0%)	31,151 (46%)	31,552 (46%)	68,123

Notes: All acreages contained in the EA analysis were calculated using geographic information system (GIS) data sets for resources and the parcels, which may differ slightly from the acreages contained in legal description here and. Difference in total acres between the parcels and acres analyzed in the EA can vary slightly due to geoprocessing operations where slivers of area are created when two or more data sets intersect. Any inaccuracies are negligible and do not change the overall impact analysis conclusions presented in this EA. There are no geologic units designated as PFYC 1 or U within the nominated parcels.

Potential development of all nominated lease parcels would result in up to 640 acres of surface disturbance all of which could occur within areas of low to high or unknown potential for paleontological resources. Effects could result in the immediate physical loss of fossils and their contextual data. Ground disturbance could also subject fossils to long-term damage or destruction from erosion and create improved access to the public and increased visibility, potentially resulting in unauthorized collection or vandalism. Ground disturbance can also reveal scientifically significant fossils that would otherwise remain buried and unavailable for scientific study. Such fossils can be collected properly and curated into the museum collection of a qualified repository, making them available for scientific study and education.

Under the action alternatives, Alternative B would have 54,610 fewer acres of PFYC 3, 4, or 5, 3,892 fewer acres of PFYC 2, six fewer paleontological localities, and 549 fewer acres of potential ground disturbance than Alternative A. While, Alternative C would have 24,049 fewer acres of PFYC 3, 4, or 5, 2,555 fewer acres of PFYC 2, three fewer paleontological localities, and 252 fewer acres of potential ground disturbance than Alternative A.

Effects to paleontological resources would be mitigated under all action alternatives, and future development of the nominated lease parcels would be analyzed further through separate NEPA processes, as directed by regulations and current policy including FLPMA. For these 46 nominated lease parcels in particular, the BLM applied Lease Notice UT-LN-72 (High Potential Paleontological Resources) which states that there is high potential for paleontological resources and specifies that surveys will be required and modifications to the Surface Use Plan of Operations may be required in order to protect paleontological resources from surface disturbing activities in accordance with Section 6 of the lease terms and 43 CFR 3101.12. In addition, monitoring may be required during surface disturbing activities to identify and avoid destruction of currently unknown paleontological resources. Thus, for all 46 nominated parcels, if an APD is filed, specific clearances would be conducted and incorporated into that future NEPA and APD approval process at the development stage. Additional mitigation measures such as BMPs, standard operating procedures (SOPs), and site-specific mitigation may be applied at the APD stage as COAs. These would include, for example, if during operations within the nominated lease parcels paleontological resources are discovered they would be protected pursuant to the standard discovery requirements, where the lessee must cease any operations that would result in the destruction of such specimens and contact the BLM Authorized Officer. Scientifically significant paleontological resources that may be discovered through surveys or monitoring would be collected by a qualified paleontologist and curated at an appropriate repository (43 CFR Part 49). Additionally, the BLM applied stipulations to many of the nominated parcels that would limit or eliminate surface disturbance in particular areas including UT-S-123 for Riparian, Floodplains, and Public Water Reserves, UT-S-96, UT-S-99, UT-S-100 for Fragile Soils/Slopes, (see Appendix B.1) and these would also provide protection for geologic exposures along drainages and on slopes that may have paleontological potential. With consideration of these protections, potential effects on paleontological resources of scientific interest would be avoided or mitigated.

The relevant past, present, and reasonably foreseeable future actions scenario described in Section 3.3 provides a quantitative overview of acres influenced by these actions. The risk of impacts on paleontological resources from past, present, and reasonably foreseeable actions would depend on the locations of disturbance relative to PFYC class. When the potential development of these lease parcels is combined with these other actions, the combined effects to paleontological resources are anticipated to be minimal due to the requirements for resource assessments and mitigation combined with the low percent of total acreage that could be impacted by ground disturbing activities or increases in human use of areas.

Lease Notices:

- UT-LN-72 High Potential Paleontological Resources: All Parcels

Lease Stipulations:

- None

AIB-11 Recreation

How would potential development of the nominated lease parcels affect recreation opportunities and activities?

Recreational opportunities and activities within the nominated lease parcels consist mainly of dispersed types of recreation such as operation of Off Highway Vehicles (OHVs), camping, equestrian riding, hunting, target shooting, and wildlife viewing. There are no designated Special Recreation Management Areas or developed recreation sites located within or adjacent to the parcels.

Per the Surface Operating Standards and Guideline for Oil and Gas Exploration and Development - The Gold Book (BLM, 2007), temporary or longer-term impacts from the Proposed Action, such as road upgrades, increased vehicle traffic, construction, noise, dust, and/or surface disturbances, would be localized and would not substantially impact recreational access and dispersed recreation opportunities within the parcels as alternative travel routes and other public lands would still be available for dispersed recreational opportunities in the vicinity. There are no standard lease stipulations related to recreation within the lease parcels because they are not impacting any designated recreation sites and are not within any special recreation management areas.

AIB-12 Riparian, Wetland, Floodplain, and Aquatic Species

How would potential development of the nominated lease parcels affect riparian areas, wetlands, floodplains, and aquatic species?

The BLM reviewed the lease parcels for proximity to riparian areas, wetlands, and floodplains. Through resource knowledge and/or GIS analysis of the National Wetlands Inventory (NWI) layer, the BLM identified intermittent drainages with potential associated riparian areas within all lease parcels. The BLM identified emergent or riverine wetlands as identified by the NWI in parcels 1602, 1627, 1638, 1640, 1643, 1644, 1650, 1655, 1657, 1658, 7723, 7733, 7738, 7740, 7746, 7757, 7760. Riparian wetland habitats with designated 100-year floodplains occur in parcels 1618, 1620, 1626, 1627, 1634, 1636, 1640, 1644, 1645, 1650, 1655, 1657, 1658, 1660, 7723, 7733, 7735, 7738, 7739, 7746, 7757, 7759, 7760, 7762, 7763, 7764, 7765, 7771. Floodplains (as defined in EO 11988) are associated with perennial lentic and lotic systems as well as intermittent/ephemeral streams which are present on all parcels.

There are multiple species of fish and riparian dependent species that rely on the streams and riparian areas within the area of the lease parcels. Sensitive and threatened and endangered species are addressed separately in AIB-16 and AIB-17. The potential development of lease parcels would result in water usage of between 150,000 – 500,000 bbls. At this stage, the source of water, amount of water that will be recycled, and impacts of this use on sensitive species are not known and will be addressed by site specific NEPA at the APD stage. New water withdrawals within the watershed that result in decreased stream flow could impact aquatic and riparian habitat as discussed further in AIB-20 Water Resources. Lease notices and stipulations that require consultation for the threatened and endangered fish of the Colorado River (T&E-03) and those that limit surface disturbing activities in floodplain, riparian, or wetland areas will minimize impacts to these species and habitats. The notices and stipulations identified below notify the lessee of the presence of these habitats and provide resource protections that will also protect these species from impacts.

The BLM Lease Notice UT-LN-128 would notify potential lessees that water resources might be present on all parcels and inform potential lessees of the requirements of EO 11988: UT- Federal Flood Risk Management Standard.

Protective measures for riparian and wetland areas and floodplains would include a NSO stipulation within active flood plains, wetlands, public water reserves, or 100 meters of riparian areas (UT-S-123, UT-LN-53), avoidance of disruptive activity within 100-year floodplains (UT-LN-128), or a combination of all of these. The BLM may apply BMPs, SOPs, and site-specific mitigation at the APD stage as COAs.

Applying these protective measures (stipulations and lease notices) at the time of leasing would inform the lessee of the resource. These stipulations and notices provide protective measures of distance buffers and NSO in these habitats which will reduce the potential impacts to these habitats and the species that depend on them. The BLM needs no further analysis at this stage; however, the BLM may apply additional mitigation measures and buffers at the APD stage, as necessary to protect these areas. The BLM would conduct additional site-specific NEPA analysis at that time.

Lease Notices:

- UT-LN-53 Riparian Areas: All Parcels
- UT-LN-128 Floodplain Management: All Parcels

Lease Stipulations:

- UT-S-123 No Surface Occupancy – Riparian, Floodplains, And Public Water Reserves: All Parcels

AIB-13 Soils

How would potential development of the nominated lease parcels affect sensitive soils?

Soil movement disrupts the existing structure of the soil horizons to the depth of disturbance. Soil forming processes are halted, and compaction of underlying horizons and loss or degradation of soil microbes may occur. These issues are compounded when fragile soils are present. Fragile soils are soil types that are easily damaged by use or disturbance and/or are those that are difficult to reclaim to pre-disturbance condition. Additionally, fragile soils may include those that have components that can be characterized as susceptible to compaction or other mechanical damage and/or are highly erodible when disturbed. Surface disturbance of fragile and/or occurring on increased slope profiles has the potential to

affect soil stability and may lead to accelerated soil erosion and potential sedimentation to proximal water bodies during saturated and runoff conditions within the soil profile.

Soils can be rated based on their susceptibility to degradation. Fragile soils are those that are most vulnerable to degradation. In other words, they can be easily degraded and have a low resistance to degradation processes. They tend to be highly susceptible to erosion and can have a low capacity to recover after degradation has occurred (low resilience). The soil surveys that cover all the parcels are UT 653 (Uintah and Ouray Reservation) and UT047 (Uintah Area, parts of Daggett, Grand, and Uintah counties) which compromise this analysis area. These soil surveys do not have fragile soils as a rating, meaning that fragile soils may exist but were not identified with attribute information in the soil survey. Therefore, the web soil survey erosion hazard for road and trail are used as a surrogate for fragile soils for the purpose of this section to identify projected soil disturbances and soils that would be created through development of potential roads and wells pads. Ratings for the soils are presented in the Table 16 below. The hazard is described as "slight," "moderate," or "severe." A rating of "slight" indicates that little or no erosion is likely; "moderate" indicates that some erosion is likely, that the roads or trails may require occasional maintenance, and that simple erosion-control measures are needed; and "severe" indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed. Protective measures for soil resources would be implemented at the APD stage to minimize erosion, soil loss, and disturbance to soils in the lease areas. The stipulations and lease notices have been applied to specific parcels are presented below by avoiding sloped areas with higher potential for erosion and soil loss from disturbed areas. Other site-specific erosion control measures to protect soils, minimize runoff, and soil loss will be applied at the APD stage.

Additionally, soils mapped as "Prime Soils of Statewide Significance" have been reviewed and parcels with these soils have UT Lease Notice 121 applied. These soil units are to be avoided with no surface occupancy until cleared by United States Department of Agriculture, Natural Resources Conservation Service (NRCS), as described in Public Law 97-98.

Table 16: Soil Map Unit Description

Summary by Map Unit — Uintah and Ouray Indian Reservation, Utah (UT653)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
NOTPUB	Not Public Information	Not rated	30.6	0.00%
Subtotals for Soil Survey Area			30.6	0.00%
Summary by Map Unit — Uintah Area, Utah - Parts of Daggett, Grand and Uintah Counties (UT047)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
12	Badland-Rock outcrop complex, 1 to 100 percent slopes	Severe	5,241.70	7.70%
29	Bullpen parachannery loam, 2 to 25 percent slopes	Moderate	277.6	0.40%
31	Bullpen-Mikim complex, 2 to 25 percent slopes	Moderate	1,211.70	1.80%
34	Cadrina-Cadrina, cool-Badland complex, 25 to 50 percent slopes	Severe	5,733.80	8.40%
35	Cadrina extremely flaggy loam, 4 to 25 percent slopes	Moderate	7,600.70	11.20%
39	Cadrina-Rock outcrop complex, 25 to 50 percent slopes	Severe	5,251.20	7.70%
40	Cadrina-Walknolls association, 4 to 25 percent slopes	Moderate	1,394.90	2.00%
42	Casmos-Cadrina-Badland complex, 4 to 25 percent slopes	Severe	101.3	0.10%
78	Gilston sandy loam, 2 to 8 percent slopes	Moderate	3,314.40	4.90%
81	Gompers very channery silt loam, 4 to 25 percent slopes	Moderate	61.3	0.10%
82	Gompers very channery silt loam, 25 to 50 percent slopes	Severe	434.8	0.60%
84	Gompers-Pherson association, 4 to 25 percent slopes	Moderate	439.7	0.60%
113	Ioka gravelly loam, 0 to 3 percent slopes	Slight	113.4	0.20%
126	Lanver-Walknolls association, 2 to 25 percent slopes	Moderate	4,905.60	7.20%
138	Mikim silt loam, 2 to 4 percent slopes	Moderate	58.9	0.10%
139	Mikim silt loam, sodic, 1 to 4 percent slopes	Moderate	10.7	0.00%
179	Pherson-Hickerson complex, 1 to 8 percent slopes	Moderate	1,749.50	2.60%
193	Rock outcrop	Not rated	129.8	0.20%
228	Tabyago-Cedarknoll association, 2 to 8 percent slopes	Moderate	362.9	0.50%
242	Turzo loam, 0 to 4 percent slopes	Slight	583.9	0.90%
243	Turzo-Umbo complex, 0 to 2 percent slopes	Slight	66.4	0.10%
256	Walknolls extremely channery sandy loam, 4 to 25 percent slopes	Moderate	10,023.00	14.70%
257	Walknolls extremely channery sandy loam-Gilston association, 2 to 50 percent slopes	Severe	7,708.40	11.30%
259	Walknolls-Badland-Rock outcrop complex, 25 to 50 percent slopes	Severe	36.8	0.10%
263	Walknolls-Mikim association, 2 to 50 percent slopes	Severe	2,050.90	3.00%
264	Walknolls-Rock outcrop complex, 2 to 50 percent slopes	Severe	2,781.10	4.10%
265	Walknolls-Rock outcrop complex, 50 to 70 percent slopes	Not rated	732.3	1.10%
266	Walknolls-Uendal association, 2 to 25 percent slopes	Moderate	5,623.00	8.30%
270	Whitesage-Cedarknoll complex, 3 to 8 percent slopes	Moderate	103.8	0.20%
MbA	Breezy-Bunkwater-Hickerson complex, 1 to 6 percent slopes	Slight	17.4	0.00%
Subtotals for Soil Survey Area			68,120.80	100.00%
Totals for Area of Interest			68,154.10	100
Summary by Rating Value				
Rating	Acres in AOI	Percent of AOI		
Moderate	37,137.70	54.50%		
Severe	29,339.90	43.00%		
Slight	781	1.10%		
Null or Not Rated	892.7	1.30%		
Totals for Area of Interest	68,154.10	100.00%		

Lease Notices:

- UT-LN-121-NSO – PL 97-98 – Prime Soils of Statewide Significance: Parcels 1622, 1640, 1641, 1644, and 7728

Lease Stipulations:

- UT-S-96 NSO – Fragile Soils/Slopes Greater Than 40%- All Parcels
- UT-S-99 CSU – Fragile Soils/Slopes - All Parcels
- UT-S-100 CSU– Fragile Soils/Slopes (21%-40%)- All Parcels

AIB-14 Socioeconomics

How would potential development of the nominated lease parcels affect social and economic conditions?

The study area includes Uintah County in the State of Utah, which encompasses 2,866,117 acres. Because socioeconomic (SE) data are typically available at the county level, county boundaries are used to define the SE study area. Data were obtained from the U.S. Department of Labor, the Bureau of Labor Statistics, local area unemployment statistics, the U.S. Department of Commerce, and the Census Bureau, as compiled by the Headwaters Economics Socioeconomic Profiles Tool developed for the BLM (Headwaters Economics, 2025).

Of the total study area, 1,669,664 acres – 58.3 percent of the total – are federally owned lands, and 1,341,633 of those acres are managed by BLM. 214,349 acres within the study area are privately owned, 27,314 are Tribal lands, and 716,275 are owned by state, county, city, or other non-federal agencies. The total population in the study area was 37,141 in 2022, representing an increase of 14.5 percent from 2010 to 2022. The largest contributor to this change in total population was natural change. The number of employed workers in the study area in 2022 was 19,510. In 2022, the average annual unemployment rate was 3.6 percent. In 2022, 87 percent of workers aged 16 and over within the study area worked in their county of residence. Per capita income in the study area in 2022 was \$37,958.

In 2022, the total number of people living in poverty, as defined by the U.S. Census Bureau, was 11.6 percent of the population. Out of all persons living within the study area in 2022, 7,205, or 20 percent, self-identified as being a member of a minority group. Of those, 2,209, or 6.1 percent of the total population, self-identified as American Indians. The total number of housing units was 13,689 of which 84.4 percent were occupied and 1.8 percent were seasonal, recreational, or occasionally occupied properties. Of those living within the study area aged 25 or older, 18 percent had earned a bachelor's degree or higher in 2022. In 2022, there were approximately 5,127 total jobs in non-services industries in the study area. In the same year there were approximately 11,158 jobs in services related industries, and there were approximately 3,225 jobs in the government sector. This total includes federal, state, county, and local government jobs. In 2022, the industries employing the largest numbers of employees in the study area were: government (primarily state, county, and local government); retail trade, and mining (including fossil fuels).

Within the study area, the average annual wage for all reported jobs was \$48,166 in 2022. The highest paying industries, on average, were mining, financial activities, and construction. Non-labor income—which includes dividends, interest payments, rent, age-related transfer payments, hardship-related payments, and other transfer payments—can be important in local economies. Where non-labor income is a relatively high percentage of all income, it is likely that there are a higher number of retirees and/or families receiving assistance, in comparison to other regions. In 2022, total non-labor income within the study area represented 39 per cent of all income. The highest category of non-labor income was dividends, interest, and rent, at 16.2 per cent of total county income. In fiscal year 2024 the Department of Interior, through the Payments In Lieu of Taxes (PILT) program, paid the county \$3,864,373. (DOI, 2024)

The only direct impact of issuing new oil and gas leases on quantifiable market socioeconomic values within the analysis area would be generation of revenue from the lease sale, as the State of Utah retains approximately 49 percent of the proceeds. Should all or some of the leases prove productive, such production would generate additional revenues from royalties. Revenues generated by royalties on production totaled \$187.05 million in the county study area for calendar year 2024. (ONRR, 2025). Subsequent oil and gas exploration, development and production could affect the local economy in terms

of additional jobs, income and tax revenues. Subsequent oil and gas exploration and development activities could include road and drill pad construction, which could be contracted to local contractors. Wells would typically be drilled over a period of time and not at the same time. Local businesses may realize increased revenue from the purchase of supplies, meals, rooms, etc. Local trucking and delivery companies may also benefit economically by transporting supplies, building materials and oil products.

Oil production from federal lands is subject to a 16.67 percent royalty payment to the federal government. Approximately 49 percent of that amount is provided to the state government, which then provides a portion to the county. Fiscal impacts could result from bonus bids (the amount paid at time of auction), annual rent fees (for 10 years regardless of activity on a leased parcel), and royalties (if and when production occurs). These may provide income to the county government for schools and other expenditures. The Proposed Action would not be expected to induce substantial growth or concentration of population, displace many people, cause a substantial reduction in employment, reduce wage and salary earnings, cause a substantial net increase in county expenditures, or create a substantial demand for public services. With a reduction in output from the oil and gas sector, converse effects would be expected to occur. Increased activity in oil and gas development and operations could have an impact on the demand for community services as well as having some effect on available housing and demand for goods and services within the affected county.

Under the Proposed Action, BLM would offer 46 parcels for lease, totaling 68,263 acres. In the 5.5 million-acres within the boundary of the VFO, there are approximately 1.9 million acres of federal mineral estate that are open to oil and gas leasing. Of these acres, 1,168,221 acres are already leased (62% of the federal mineral estate open to oil and gas leasing) across 1274 total leases. Total natural resources and mining employment in Uintah County totaled 2,155 employees in September 2024 (ONRR, 2025). Given the number of employees relative to the acreage currently under lease, impacts even if the 46 parcels were eventually developed, would be very minor relative to the current level of activity in the county.

Expansion of the oil and gas industry may be perceived as having a negative effect on quality-of-life considerations for people who value undeveloped landscapes, opportunities for isolation, and activities such as wildlife viewing, other forms of recreation, or rangeland management. The total landscape-level surface disturbance associated with reasonably foreseeable environmental trends and planned actions would include activities that generate increased human activity, traffic, noise, dust, odor, light pollution, and visual effects. These activities have the potential to affect quality of life of any existing nearby residences or facilities, depending on the intensity of development activities and proximity of structures to a given parcel. While the majority of these impacts to any significantly proximal residences or facilities would be short term and cease during operations (e.g., increased human activity, traffic, noise, dust, and odor during drilling and completion phases), residences may continue to experience long-term visual or other impacts that have potential to affect quality of life if they are located in areas in which oil and gas development is not currently nearby or visible.

AIB-15 Soundscapes

How would noise associated with potential development of the nominated lease parcels affect the local soundscape?

The EPA has identified a 24-hour exposure level of 70 A-weighted decibels (dBA) as the level of environmental noise to prevent any measurable hearing loss over a person's lifetime. Likewise, levels of 55 decibels outdoors and 45 decibels indoors are identified as preventing activity interference and annoyance. The levels are not single event, or "peak" levels. Instead, they represent averages of acoustic energy over periods of time such as 8 hours or 24 hours, and over long periods of time such as years. The

55 dBA threshold is generally recognized as a level below which no public health or safety risks to the general population would be anticipated to occur.

In rural areas, ambient sound levels are typically 30 to 40 dBA (EPA, 1974). As a basis for comparison, the sound level of a normal conversation between two people standing 5 feet apart is 60 dBA. Highway traffic noise typically ranges from 70 to 80 dBA at a distance of 50 feet from the highway (USDOT, 2003). Typical noise levels associated with oil and gas activity are presented in Table 17.

Table 17 Noise Levels Associated with Oil and Gas Activity

Noise Source	Sound Level at 50 Feet (dBA)
Well drilling	83
Pump jack operation	82
Produced water injection facilities	71
Gas compressor facilities	89

Source: (BLM, 2003)

Note: Sound levels are based on highest measured sound levels and are normalized to a distance of 50 feet from the source.

It is estimated that noise levels could be approximately 83 dBA during the drilling phase. The Inverse Square Law, which states that noise decreases by 6 dBA with every doubling of distance from the source, is often used to estimate noise impacts from a specific source. As such, if the noise level is 83 dBA at 50 feet from drilling operations, then the noise level would be 77 dBA at 100 feet and 71 dBA at 200 feet. At approximately 1250 feet (0.24 miles) from the drilling, sound levels will drop below the EPA threshold of 55 dBA. However, the actual noise levels experienced by the receptor will depend on the distance between the receptor and the equipment, vegetation (e.g. trees), meteorological conditions (e.g. wind speed and directions, temperature, humidity), the type of equipment used, etc., so sound levels could vary slightly.

A review of other noise sources within a quarter mile of the lease parcels shows that common noise sources within this rural area are expected to be from livestock, oil and gas development activities, vehicular traffic, and wildlife. The town of Ouray, Utah, is the closest sensitive receptor to the geographic boundary of the proposed parcels, with Parcel 7757 being 16.2 miles to the south of the town center. Minor US Highways (Seep Ridge Road, Agency Draw Road, Willow Creek Road, and Buck Canyon Road) exist that intersect the lease parcels, but BLM has not identified points of interest along these highways that would be negatively impacted by noise. The BLM expects potential development of the nominated lease parcels to generate noise above ambient levels for the area during drilling and completion of the well. Noise impacts during these phases of development would be short-term. As discussed, development, drilling, including spudding and completion, is estimated to take 30-60 days.

One can also use the deviation from natural background sound levels to identify reductions in listening area and alerting distance for wildlife. Reduction in listening area quantifies the loss of hearing ability to animals resulting from an increase in ambient noise level. Under natural ambient conditions, a sound is audible within a certain area around an animal. If the ambient level is increased due to a noise event, the

area in which the sound is audible decreases. Table 18 shows the relationship between increased sound level and listening area reduction. Wildlife are impacted by their failure to hear natural sounds that would have been audible in the absence of artificial noise (e.g., a mouse misses the footfall of a coyote). Reductions in listening area and alerting distance capture these types of impacts.

Table 18 Reduction in Listening Area Due to Increase from Background Sound Levels

<u>Increase from Background</u>	<u>3 dBA</u>	<u>6 dBA</u>	<u>10 dBA</u>	<u>20 dBA</u>
<u>Reduction in Listening Area</u>	<u>50%</u>	<u>75%</u>	<u>90%</u>	<u>99%</u>
<u>Reduction in Alerting Distance</u>	<u>30%</u>	<u>50%</u>	<u>70%</u>	<u>90%</u>

Source: (NPS, 2010)

Overall, increases to the ambient sound levels where parcels are located would occur from well construction and well production operations. In addition, during final abandonment of the well and reclamation, there would be temporarily increased noise levels associated with operation of earth-moving construction equipment. Oil and gas development has been ongoing in the Uinta Basin for decades, therefore the potential development of lease parcels in the Uinta Basin will not substantially change the soundscape in this region.

AIB-16 Threatened, Endangered, and Proposed Species

How would potential development of the nominated lease parcels affect federally listed and proposed species or their habitats?

Aquatic Animal Species

There are four federally listed fish in the Upper Colorado River Drainage Basin (Colorado pikeminnow [*Ptychocheilus lucius*], razorback sucker [*Xyrauchen texanus*], bonytail [*Gila elegans*], and humpback chub [*Gila cypha*]). There is no overlap between the nominated lease parcels and designated critical habitat for any of these species. While there are no recent records documenting these species in the parcels that overlap Willow or Hill Creek, there are records of bonytail and Colorado pikeminnow from the lower reaches of Willow Creek near the Green River from 2022 (Anabran Solutions, 2025) so there is potential they could move upstream and occur in parcels 1640, 1644, 7733, 7738, 1627, 7746, 7723, or 7757. If fish are using Willow Creek, they would be at risk of impacts from surface-disturbing activities that affect sediment supply, alter the hydrology, or impact water quality or quantity and which could indirectly impact the fish and their habitat. A spill of hydrocarbons could result in direct impacts to the species. Lease notice UT-LN-128 and stipulations UT-S-123 that are applied to protect riparian and wetland habitat would also provide protection to any T&E fish that may be present.

All parcels are within the Upper Colorado Basin Watershed. The FWS considers water depletions from any portion of the Upper Colorado River drainage basin above Lake Powell to be detrimental to the critical habitat of the four resident listed fish species of the Upper Colorado River Basin, and therefore the BLM must evaluate effects using the criteria described in the Upper Colorado River Endangered Fish Recovery Program. The potential development of lease parcels would result in water usage of between 150,000 – 500,000 bbls. At this stage, the source of water, amount of water that will be recycled, and impacts of this use on sensitive species are not known and will be addressed by site specific NEPA at the

APD stage. At this leasing stage, it would be too speculative for the BLM to identify the potential source and status of permitted water sources used in the lease development. However, to account for the potential that water from a non-historic source within the Upper Colorado River drainage is used during the extraction process, the BLM includes lease stipulations and applies lease notices to the parcels within the Basin. Lease notice T&E-03 informs potential lessees that all development activities will be subject to the Threatened and Endangered Species Act, which includes habitat monitoring, managing water production to ensure riparian habitat quality, directional drilling where possible, conducting watershed analysis for leases, not drilling in 100-year floodplains, and utilizing technologies such as closed-loop drilling. These requirements would provide sufficient protections such that more detailed analysis is not warranted.

Lease Notices:

- T&E-03 Threatened and Endangered Fish of the Colorado Basin: All Parcels

Lease Stipulations:

- HQ-TES-1 Threatened and Endangered Species Act: All Parcels

Terrestrial Vertebrate Species

Mexican spotted owl (*Strix occidentalis lucida*)

Parcels 1603, 1617, 1620, 1622, 1625, 1626, 1627, 1630, 1634, 1636, 1638, 6140, 1641, 1643, 1644, 1645, 1650, 1655, 1656, 1657, 1658, 1660, 7723, 7727, 7728, 7731, 7733, 7734, 7735, 7738, 7739, 7740, 7746, 7753, 7757, 7758, 7759, 7760, 7762, 7763, 7764, 7765, 7768, and 7771 intersect the USFWS AOI for the Mexican spotted owl and fall partially within the 1997 Willey-Spotskey Mexican Spotted Owl Habitat Model. Willey & Spotskey).

The modeled habitat within 0.5 mile of Parcels 1603, 1626, 1634, 1655, 1658, 1660, 7728, 7731, 7735, 7753, and 7771 are not canyon walls and do not provide suitable canyon habitat. Therefore, there is no suitable habitat for Mexican Spotted Owl in the vicinity of these parcels.

The modeled habitat within 0.5 mile of Parcels 1643, 7739, 7763, and 7764 are associated with cliff lined drainages. However, the drainages are greater than a kilometer from rim to rim and thus not the Rocky-canyon Habitat as defined in the Final Recovery Plan (USFWS, 2012) . Therefore, there is no suitable habitat for Mexican Spotted Owl in the vicinity of these parcels.

The BLM and USFWS biologists have previously evaluated habitat within and adjacent to Parcels 1617, 1620, 1622, 1625, 1627, 1638, 1640, 1641, 1644, 1645, 1656, 1657, 7733, 7734, 7738, 7740, 7746, 7758, 7759, 7760, and 7762 (between 2005 and 2011), and these parcels were determined to be unsuitable to poor habitat. Consequently, these parcels do not provide suitable breeding habitat for Mexican Spotted Owl.

The modeled habitat Willey & Spotskey) that intersects Parcels 1630, 1636, 7765, and 7768 are not suitable habitat. However, they are located within 0.5 mile of potential canyon habitat that has not been evaluated for habitat suitability (Parcels 1630 and 1636) or evaluated and found to be fair habitat quality (7727, 7762, and 7768). These areas could be indirectly impacted by potential future development of the parcel, particularly due to increased noise.

Parcel 7723 encompasses the majority of two adjacent units (2-058 and 2-064) evaluated by the BLM and USFWS as providing fair habitat for Mexican Spotted Owl. Using the disturbance assumptions in Section

3.2 and assuming random placement of disturbance relative to evaluated Mexican spotted owl habitat, development of the nominated lease parcels would directly impact 2.8 acres of fair habitat for Mexican spotted owl. This represents 0.9% of habitat evaluated as fair to excellent within the Middle Willow Creek Group and less than 0.1% of the habitat evaluated as fair to excellent within the Vernal Field Office.

To date, the BLM has not identified any resident Mexican spotted owls in the vicinity of these parcels. The implementation of the Lease Notice T&E-06-Mexican Spotted Owl, which includes habitat assessments, surveys, timing restrictions, and monitoring would further reduce impacts to potential habitat for the species. Therefore, a detailed analysis of the impacts to the Mexican spotted owl is not warranted.

Lease Notices:

- T&E-06 – Mexican Spotted Owl: Parcels 1630, 1636, 7723, 7727, 7765, and 7768

Lease Stipulations:

- HQ-TES-1 Threatened and Endangered Species Act: All Parcels

Western yellow-billed cuckoo (*Coccyzus americanus*)

Parcels 1603, 1617, 1618, 1620, 1622, 1625, 1626, 1627, 1630, 1634, 1636, 1640, 1641, 1643, 1644, 1645, 1656, 1658, 1660, 7723, 7727, 7728, 7731, 7733, 7734, 7735, 7738, 7740, 7746, 7753, 7757, 7758, 7759, 7762, 7765, 7768, and 7771 intersect the AOI for the western yellow-billed cuckoo. Of those, all but parcels 7765 and 7768 are more than a half mile from riparian forest of any size.

Parcels 1656, 7723, 7765 and 7768 are within a half mile of small stands of potential riparian forest. These stands are smaller than the size specification believed necessary to support breeding (12-acre patches of multi-layered vegetation that is at least 100 meters by 100 meters somewhere in the patch (USFWS, 2015). Therefore, impacts to yellow-billed cuckoos would not be expected to occur currently. Lease notice T&E-31 is attached to these four parcels as a precaution should future habitat management encourage the expansion of riparian forest habitat.

Given the lack of currently suitable breeding habitat for the yellow-billed cuckoo within a half mile of the parcels and considering that the implementation of the lease notice on the nominated parcels would further reduce the potential impacts to unidentified populations into the foreseeable future at the lease development stage, detailed analysis on the impacts to the yellow-billed cuckoo is not warranted.

Lease Notices:

- T&E-31: Yellow-billed cuckoo: Parcel 1656, 7723, 7765 and 7768

Lease Stipulations:

- HQ-TES-1 Threatened and Endangered Species Act: All Parcels

Insect Species**Monarch butterfly (*Danaus plexippus*)**

All nominated parcels have the potential to support the monarch butterfly during a portion of its migration. However, not all areas provide the same habitat value. NatureServe has modeled suitable habitat for the western monarch for both the spring and fall migrations to identify regions of global and local importance to the species (McIntyre, Ceasar, & Young, 2024).

Twenty-three parcels intersect areas designated as either of global or local importance. Within these parcels, there are 3,977 acres identified as being of global importance and 1,766 acres of local importance (as areas may be of global or local importance in both the spring and fall migration the values in Table 19 and Table 20 are not a simple sum).

Table 19: Acres of suitable habitat of global and local importance for the western monarch during the spring migration

Parcel	Acres of Global Importance During Spring Migration in Parcel	Acres of Global Importance During Spring Migration Disturbed in Parcel	Acres of Local Importance During Spring Migration in Parcel	Acres of Local Importance During Spring Migration Disturbed in Parcel	Total Acres of Global and Local Importance During Spring Migration in Parcel	Total Acres of Global and Local Importance During Spring Migration Disturbed in Parcel
1622	0.2	0.0	6.4	0.1	6.6	0.1
1625	2.7	0.0	0.0	0.0	2.7	0.0
1627	137.1	1.3	9.1	0.1	146.1	1.4
1630	14.8	0.1	2.6	0.0	17.3	0.2
1640	30.3	0.3	0.0	0.0	30.3	0.3
1641	8.5	0.1	0.5	0.0	9.0	0.1
1644	23.1	0.2	0.0	0.0	23.1	0.2
7723	40.1	0.4	3.0	0.0	43.1	0.4
7728	8.3	0.1	0.0	0.0	8.3	0.1
7733	17.9	0.2	0.0	0.0	17.9	0.2
7738	143.5	1.4	0.0	0.0	143.5	1.4
7746	30.4	0.3	0.9	0.0	31.2	0.3
7765	1.1	0.0	0.0	0.0	1.1	0.0
Grand Total	457.9	4.4	22.4	0.2	480.3	4.6

Table 20: Acres of suitable habitat of global and local importance for the western monarch during the fall migration

Parcel	Acres of Global Importance During Fall Migration in Parcel	Acres of Global Importance During Fall Migration Disturbed in Parcel	Acres of Local Importance During Fall Migration in Parcel	Acres of Local Importance During Fall Migration Disturbed in Parcel	Total Acres of Global and Local Importance During Fall Migration in Parcel	Total Acres of Global and Local Importance During Fall Migration Disturbed in Parcel
1617	21.5	0.3	23.3	0.3	44.8	0.6
1622	265.9	2.4	11.4	0.1	277.3	2.5
1626	108.9	1.0	331.4	3.1	440.2	4.1
1627	256.8	2.5	345.0	3.4	601.8	5.9
1630	0.0	0.0	2.6	0.0	2.6	0.0
1634	0.0	0.0	74.8	0.6	74.8	0.6
1640	397.2	3.7	208.3	1.9	605.5	5.6
1641	22.7	0.2	0.1	0.0	22.8	0.2
1644	222.5	2.0	0.0	0.0	222.5	2.0
1656	80.3	0.8	0.0	0.0	80.3	0.8
1658	151.7	1.4	0.0	0.0	151.7	1.4
1660	0.0	0.0	14.1	0.1	14.1	0.1
7723	362.3	3.3	0.0	0.0	362.3	3.3
7728	257.0	2.4	0.0	0.0	257.0	2.4
7731	281.4	2.6	133.6	1.3	415.1	3.9
7733	452.1	4.5	129.7	1.3	581.8	5.8
7734	49.1	0.5	131.6	1.2	180.7	1.7
7738	560.2	5.4	367.7	3.5	927.8	8.9
7746	131.9	1.2	17.4	0.2	149.3	1.4
7757	124.7	1.2	10.7	0.1	135.4	1.3
7765	101.0	0.9	0.0	0.0	101.0	0.9
7768	7.7	0.1	0.0	0.0	7.7	0.1
Grand Total	3,854.7	36.4	1,801.6	17.2	5,656.3	53.6

Using the disturbance assumptions outlined in Section 3.2 and assuming random placement of disturbance relative to the modeled areas, there would be an estimated 4.4 acres of disturbance to habitat of global importance and 0.2 acres of disturbance to habitat of local importance during the spring migration (Table 19) and estimated 36.4 acres of disturbance to habitat of global importance and 17.2 acres of disturbance to habitat of local importance during the fall migration (Table 20). This represents less than 0.1% of either the habitat of global importance or the combined habitat of global and local importance during the spring migration within the watersheds encompassing the parcels. Similarly, this represents 0.1% of either the habitat of global importance or the combined habitat of global and local importance during the fall migration within the watersheds encompassing the parcels.

Given the low expected disturbance relative to the available habitat at the local, regional, and global levels, and considering the implementation of the attached lease notice, a detailed analysis of the impacts on the monarch butterfly is not warranted.

Lease Notices:

- UT-LN-156 – Pollinators and Pollinator Habitat: All Parcels

Lease Stipulations:

- HQ-TES-1 Threatened and Endangered Species Act: All Parcels

Suckley's cuckoo bumble bee (*Bombus suckleyi*)

The current USFWS AOI for Suckley's bumblebee covers all of the State of Utah due to the uncertainty with the potential range for the species. Suckley's bumblebee is a member of the subgenus *Psithyrus*, which are kleptoparasitic that usurps the colony of a host bumblebee species to raise their offspring. Western bumblebee (*Bombus occidentalis*) is the primary host for Suckley's bumblebee. An occupancy model for western bumblebee has been developed (Graves, et al., 2020). Using post-hoc EPA Level III Ecoregion specific thresholds (0.21 for the Colorado Plateaus and the hydrological units in adjacent mountain ecoregions that flow into the Colorado Plateau), it is possible to identify areas of potential habitat for western bumblebee and by association Suckley's bumblebee. Using these thresholds, there is no suitable habitat for either species within any parcel.

Additionally, the implementation of the attached lease notice will further reduce potential impacts on pollinator species and a detailed analysis of the impacts on the Suckley's bumblebee is not warranted.

Lease Notices:

- UT-LN-156 – Pollinators and Pollinator Habitat: All Parcels

Lease Stipulations:

- HQ-TES-1 Threatened and Endangered Species Act: All Parcels

Plant Species

Within the nominated lease parcels, potential habitat of three federally listed plant species were identified: Ute ladies'-tresses (*Spiranthes diluvialis*) discussed in this section and clay reed-mustard (*Hesperidanthus argillaceae*) and shrubby reed-mustard (*Hesperidanthus suffrutescens*) discussed in Issues Analyzed in Detail (Sections 3.6.4 and 3.6.5)

Ute ladies'-tresses (*Spiranthes diluvialis*)

Parcels 1602, 1618, 1620, 1625, 1636, 1643, 1644, 1645, 1650, 1655, 1657, 1658, 7733, 7734, 7735, 7738, 7739, 7740, 7758, 7759, 7760, 7762, 7763, and 7764 intersect the USFWS AOI for Ute ladies'-tresses. The AOI was developed based on a habitat model created by the USFWS. However, the threshold used for classifying habitat is very low (i.e., quite conservative), leading to a significant overestimation of the potential habitat area.

By employing a detrended Modified Soil Adjusted Vegetation Index surface—calculated from the four-band National Agricultural Imagery Program data—it becomes possible to identify areas that qualify as statistical outliers (those exceeding 2 standard deviations) after excluding areas of open water. This approach helps to remove areas that are clearly unsuitable as habitat (including shrublands). Nevertheless, it still overestimates potential habitat because it includes not only perennial wetlands, which are suitable for Ute ladies'-tresses, but also non-suitable habitat regions of higher vegetative productivity, including moister pinyon-juniper woodlands and Gambel's oak woodlands.

This remote sensing-based habitat evaluation concludes that only Parcels 1602, 1655, 1657, 1658, and 7738 may contain potential habitat for the species. There are approximately 9.7 acres that could provide suitable habitat. Based on the disturbance assumptions outlined in Section 3.2 and assuming a random distribution of disturbance relative to the modeled areas, the estimated disturbance to potential habitat would be less than 0.02 acres.

Given the minimal expected disturbance relative to the available habitat at local, regional, and global scales, along with the implementation of the attached lease notice and stipulation, a detailed analysis of the impacts on Ute ladies'-tresses is unnecessary.

Lease Notices:

- T&E-22: Ute ladies'-tresses (*Spiranthes diluvialis*): Parcels 1602, 1655, 1657, 1658, and 7738

Lease Stipulations:

- HQ-TES-1 Threatened and Endangered Species Act: All Parcels

AIB-17 Utah BLM Sensitive Species

How would potential development of the nominated lease parcels affect BLM sensitive species or their habitats?

BLM sensitive species have been identified as those species that require additional conservation to prevent decline of populations to the point where they may be considered for listing under the Endangered Species Act. The BLM has several lease stipulations and lease notices that protect sensitive species statewide. As detailed below, certain leased parcels have been identified as having occurrence, or potential occurrence, of several species of plants or animals that may require modification of surface use plans at the APD stage to avoid disruptive or harmful activities.

The potential development of leased parcels would result in a direct disturbance to 640 acres of habitat from the construction of well pads and associated roads. These developments also create habitat fragmentation by intersecting and occupying habitat. Noise and other human disturbances will occur during all phases of development and production as well as reclamation but will be reduced after the original construction phase. Traffic on roads to construct, maintain and service the facilities may cause possible direct mortalities from collisions with wildlife individuals, and noise and human activity in the area will cause disturbance continually.

The potential development of lease parcels would result in water usage of between 150,000 – 500,000 bbls. At this stage, the source of water, amount of water that will be recycled, and impacts of this use on sensitive species are not known and will be addressed by site specific NEPA at the APD stage. New water withdrawals within the watershed that result in decreased stream flow could impact aquatic and riparian habitat dependent species as discussed further in AIB-20 Water Resources (Groundwater and Surface

water). Lease notices and stipulations that require consultation for the threatened and endangered fish of the Colorado River (T&E-03) and those that limit surface disturbing activities in floodplain, riparian, or wetland areas will minimize impacts to these species and habitats.

Habitat in this area consists of Colorado Plateau Mixed Low Sagebrush, Shrubland Inter-Mountain Basins Big Sagebrush, Shrubland Colorado Plateau Pinyon-Juniper to Woodland Inter-Mountain Basins Mixed Salt Desert Scrub. BLM Sensitive Species were analyzed in brief because of the notices and stipulation attached. The notices let the lessee/producer know the species may be present and what may be required by the site-specific NEPA at the APD stage. The stipulations require action on the identified species.

Animal Species

Table 21 identifies the sensitive animal species and their habitat with potential to occur on the leased parcels.

Table 21: BLM Sensitive Animal Species by Nominated Parcel

Common Name	Scientific Name	Status	Background and documentation for Species/potential habitat occurrence in parcels	Lease Parcel ID	Lease Stipulation and/or Notice
Birds¹					
Burrowing owl	<i>Athene cunicularia</i>	SPC	Inhabits desert, semi-desert shrubland, grasslands, and agricultural areas. Nesting habitat primarily consists of flat, dry, and relatively open terrain; short vegetation, and abandoned mammal burrows for nesting and shelter. In northeastern Utah, Burrowing Owls nest in desert/grassland habitats and are found in close association with prairie dog colonies. Per GIS review of USGS GAP data, potential Burrowing owl habitat exists in all parcels.	All Parcels	UT-S-261 Vernal Timing Limitation-Raptor Buffers UT-LN-44 Statewide Raptors UT-LN-45 Statewide Migratory Bird UT-LN-49 Utah Sensitive Species
Ferruginous hawk	<i>Buteo regalis</i>	SS	Inhabits mainly lowland open desert terrain characterized by barren cliffs and bluffs, pinyon-juniper woodlands, sagebrush, rabbitbrush, and cold desert shrub. Nesting habitat includes promontory points and rocky outcrops. Per GIS review of USGS GAP data, potential Ferruginous hawk habitat exists in all parcels.	All Parcels	UT-S-261 Vernal Timing Limitation-Raptor Buffers UT-LN-44 Statewide Raptors UT-LN-49 Utah Sensitive Species UT-LN-45 Migratory Bird
Golden eagle	<i>Aquila chrysaetos</i>	SS	Per GIS review of USGS GAP data potential Golden eagle habitat occurs in the listed parcels. Golden eagles inhabit a wide range of habitats. In Utah, the bird is often found in cliff and high desert scrub habitats. Nests in cliffs or trees at a height of 10-100 or more feet. Suitable foraging habitat occurs in the lease parcels listed. Per	All Parcels	UT-S-261 Vernal Timing Limitation-Raptor Buffers UT-LN-44 Statewide Raptors UT-LN-45 Utah Sensitive Species

Common Name	Scientific Name	Status	Background and documentation for Species/potential habitat occurrence in parcels	Lease Parcel ID	Lease Stipulation and/or Notice
			GIS review potential habitat occurs in all parcels.		
Short-eared owl	<i>Asio flammeus</i>	SS	Per GIS review of USGS GAP data, potential Short-eared owl habitat occurs in the listed parcels. Short-eared Owls inhabit open-country primarily grasslands, marshes, tundra, and other areas with low vegetation. Nesting on the ground in the shelter of grass mounds or tufts.	All Parcels	UT-S-261 Vernal Timing Limitation-Raptor Buffers UT-LN-49: Utah Sensitive Species (Statewide) UT-LN-45 Statewide Migratory Birds UT-LN-44 Statewide Raptors
Mammals					
Big free-tailed bat	<i>Nyctinomops macrotis</i>	SPC	Per GIS review of USGS GAP data, big free-tailed bat habitat is present in all parcels. Big free-tailed bats are found primarily in rocky and woodland habitats, where roosting occurs in caves, mines, old buildings, and rock crevices. They eat insects, primarily moths.	All Parcels	UT-LN-49 Utah Sensitive Species
Fringed Myotis	<i>Myotis thysanodes</i>	SPC	Per GIS review of USGS GAP data, fringed myotis habitat is present in all parcels. Fringed myotis are found primarily in desert, grassland, and woodland habitats, and roost in caves, mines, rock crevices, buildings, and other protected sites. The species is managed under the Bat Conservation Plan. They are insectivorous, with beetles a common prey item.	All Parcels	UT-LN-49 Utah Sensitive Species
Spotted Bat	<i>Euderma maculatum</i>	SPC	Per GIS review of USGS GAP data, spotted bat habitat is present in all parcels. Spotted bats may be found in a variety of habitats, ranging from deserts to forested mountains; they roost and hibernate in caves and rock crevices. Spotted bats eat insects, primarily moths, which are usually captured in flight.	All Parcels	UT-LN-49 Utah Sensitive Species
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	SPC	Per GIS review of USGS GAP data, Townsend's big-eared bat habitat is present in all parcels. Townsend's big-eared bat can occur in many types of habitat, but the species is often found near forested areas. Caves, mines, and buildings are used for day roosting and winter hibernation. Townsend's big-eared bats eat flying insects,	All Parcels	UT-LN-49 Utah Sensitive Species

Common Name	Scientific Name	Status	Background and documentation for Species/potential habitat occurrence in parcels	Lease Parcel ID	Lease Stipulation and/or Notice
			particularly moths, and individuals are often seen foraging near trees.		
White-tailed prairie dog	<i>Cynomys leucurus</i>	SPC	Suitable habitat occurs within all lease parcels. Per GIS review of BLM, UDWR, and white-tailed prairie dog (WTPD) modeled habitat data, all parcels contain delineated WTPD colonies or high probability of WTPD presence. The species mainly occurs in the eastern part of the state, including the Uintah Basin and the northern portion of the Colorado Plateau. White-tailed prairie dog colonies help provide habitat for burrowing owls and other wildlife species.	All Parcels	UT-S-218: Controlled Surface Use-White Tailed Prairie Dog UT-LN-25: White Tailed and Gunnison Prairie Dog UT-LN-49 Utah Sensitive Species
Amphibians					
Northern leopard frog	<i>Lithobates pipiens</i>	SGCN	Northern leopard may occur on any parcels with streams, riparian, or wetland habitat.	All parcels	UT-LN-49 Utah Sensitive Species
Fishes					
Bluehead Sucker	<i>Catostomus discobolus</i>	SS, CA	Native desert fish occupy many tributaries of the upper Colorado River system. Parcels overlap Willow, Hill, and Bitter creek drainages that are potential habitat areas within stream and the associated 100-year floodplain. Bluehead suckers have an unknown status in the watersheds. The forementioned creeks connect to the Green and White River which have healthy populations of blueheads sucker.	7757, 1640, 7733, 1626, 1658, 7771, 1660, 7759, 1644, 7739, 1620, 1622, 7735, 7738, 1627, 7746, 7765, 7723, 1645, 7760, 7762, 7763, 1650, 7764, 1636, 1657, 1655 1634	UT-LN-49 Utah Sensitive Species
Flannelmouth sucker	<i>Catostomus latipinnis</i>	SS, CA	Native desert fish occupy many tributaries of the upper Colorado River system. Parcels overlap Willow, Hill, and Bitter creek drainages that are potential habitat areas within stream and the associated 100-year floodplain. Flannelmouth suckers have an unknown status in the watersheds. The forementioned creeks connect to the Green and White River which have healthy populations of flannelmouth sucker.	7757, 1640, 7733, 1626, 1658, 7771, 1660, 7759, 1644, 7739, 1620, 1622, 7735, 7738, 1627, 7746, 7765, 7723, 1645, 7760, 7762, 7763, 1650, 7764, 1636, 1657, 1655	UT-LN-49 Utah Sensitive Species
Roundtail chub	<i>Gila robusta</i>	SS, CA	Native desert fish occupy many tributaries of the upper Colorado River system. Parcels overlap Willow, Hill, and Bitter creek drainages that are potential habitat areas within stream and the associated 100-year floodplain. Roundtail chub have an unknown status in the watersheds. The	7757, 1640, 7733, 1626, 1658, 7771, 1660, 7759, 1644, 7739, 1620, 1622, 7735, 7738, 1627, 7746, 7765, 7723, 1645, 7760, 7762,	UT-LN-49 Utah Sensitive Species

Common Name	Scientific Name	Status	Background and documentation for Species/potential habitat occurrence in parcels	Lease Parcel ID	Lease Stipulation and/or Notice
			forementioned creeks connect to the Green and White River which have healthy populations of roundtail chub.	7763, 1650, 7764, 1636, 1657, 1655	
Reptiles					
Smooth Greensnake	<i>Opheodrys vernalis</i>	SGCN	Suitable habitat is present within one lease parcel. The species is associated with riparian and wetland habitats.	1640, 1644, 7728, 1622, 7733, 7738, 1658, 1627, 7746, 7723, 7765, 1656, 7768, 1634, 1660, 1636	UT-LN-49
Insects					
Western bumblebee	<i>Bombus occidentalis</i>	SS	See Suckley's cuckoo bumble bee (<i>Bombus suckleyi</i>) above for discussion.	NA	UT-LN-49 Utah Sensitive Species

¹ Greater sage-grouse (*Centrocercus urophasianus*) is analyzed in Section 3.6.3

For fish and species that utilize riparian areas, stipulation UT-S-123 and notice UT-LN-53 and UT-LN-128 added to all parcels for riparian and wetland habitat or floodplains will also provide protection to these species.

Lease Notices:

- UT-LN-25: White Tailed and Gunnison Prairie Dog: All Parcels
- UT-LN-44 Statewide Raptors: All Parcels
- UT-LN-45 Statewide Migratory Bird: All Parcels
- UT-LN-49 Utah Sensitive Species: All Parcels

Lease Stipulations:

- UT-S-261 TL- Raptor Buffers: All Parcels
- UT-S-218: CSU-White Tailed Prairie Dog: All Parcels

Plant Species

Within the nominated lease parcels, populations of three BLM-sensitive plant species were identified: Barneby's catseye (*Oreocarya barnebyi*) discussed in this section and Graham's penstemon (*Penstemon grahamii*) and White River penstemon (*Penstemon albifluvis*) discussed in Issues Analyzed in Detail (Sections 3.6.6., 3.6.7, and 3.6.8)

Based on a desktop review, two additional sensitive species were identified as potentially having habitat within the nominated lease parcels (see Table 22).

The desktop review involved intersecting the General Soil Map of the United States (STATSGO2) soil units NRCS, 2014) with known plant locations. To ensure all potential habitats were identified, additional STATSGO2 soil units that share soil components with the intersected soil units were also included. Finally, for species that are closely associated with specific geological formations, areas identified using STATSGO2 were refined to those that intersect with the required geological formations.

This identified area can be considered the outer potential bounds of the species' range. However, a comprehensive assessment of suitable habitat—that is, habitats containing the necessary biotic and abiotic

components to support the species—has not yet been completed for the majority of BLM-sensitive plant species.

Table 22: Sensitive Plant Species with Potential to Occur within Nominated Lease Parcels but Not Present

COMMON NAME	SCIENTIFIC NAME	BACKGROUND AND DOCUMENTATION FOR SPECIES/POTENTIAL HABITAT OCCURRENCE IN PARCELS
Unterman's daisy	<i>Erigeron untermannii</i>	Parcels 1617, 1620, 1622, 1625, 1626, 1627, 1630, 1634, 1640, 1641, 1644, 1658, 1660, 7723, 7728, 7731, 7733, 7734, 7738, 7740, 7746, 7753, 7757, and 7771 intersect STATSGO2 soils associated with Unterman's daisy and are found on the Green River Formation. No populations have been identified within the identified parcels.
Sterile yucca	<i>Yucca sterilis</i>	All parcels within Uinta Basin have the potential to support sterile yucca. No populations have been identified within the parcels

Given the lack of known populations for the above listed species and considering the implementation of the attached lease notices and Section 6 of the standard terms and conditions of the lease, a detailed analysis of these species is not warranted

Lease Notices:

- UT-LN-49: Utah Sensitive Species: All Parcels
- UT-LN-51: Special Status Plants Not Federally Listed: All Parcels

Barneby's cryptantha (*Oreocarya barnebyi*)

Parcels 1627, 1636, 1644, 1655, 1657, 7723, 7738, 7740, and 7757 have known population of Barneby's catseye. Additionally, parcels 1602, 1603, 1617, 1618, 1620, 1622, 1625, 1626, 1630, 1634, 1638, 1640, 1641, 1643, 1645, 1650, 1656, 1658, 1660, 7727, 7731, 7733, 7734, 7735, 7738, 7739, 7746, 7753, 7758, 7759, 7760, 7762, 7763, 7764, 7765, 7768, and 7771 intersect STATSGO2 soils associated with Barneby's catseye and are found on the Green River Formation.

Using a 2-kilometer separation distance to delineate subpopulations, across the range of the species there are 39 subpopulations with 1,034 acres of habitat within 300-feet of a known locations.

Within the project area, eight subpopulations are within 300-feet of a nominated parcel with a total of 136 acres of occupied habitat (Table 23).

Table 23: Acres of occupied Barneby's catseye habitat by subpopulation intersecting nominated parcels

Parcel	A	B	C	D	E	F	G	H	Global Grand Total
1627	15.2	6.5							21.7
1636					2.0				2.0
1644								6.5	6.5
1655				24.9					24.9
1657					1.2				1.2
7723						6.5			6.5
7738	46.9								46.9

Parcel	A	B	C	D	E	F	G	H	Global Grand Total
7740			6.5						6.5
7757							19.4		19.4
Grand Total ¹	63.9	6.5	33.8	251.6	6.5	6.5	19.4	6.5	1,033.8

¹ Includes acres of occupied habitat within subpopulation outside of nominated parcels

Table 24: Estimated disturbance to occupied Barneby's catseye habitat

Parcel	A	B	C	D	E	F	G	H	Global Grand Total
1627	0.1	0.1							0.2
1636					0.0				0.0
1644								0.1	0.1
1655				0.2					0.2
1657					0.0				0.0
7723						0.1			0.1
7738	0.4								0.4
7740			0.1						0.1
7757							0.2		0.2
Grand Total	0.6	0.1	0.1	0.2	0.0	0.1	0.2	0.1	1.3

Using the reasonably foreseeable disturbance assumptions in Section 3.2, 152 acres of disturbance would occur within the nominated parcels that intersect occupied Barneby's catseye habitat. Assuming random placement of disturbance within the area, 1.3 acres of occupied Barneby's catseye habitat would be directly impacted by the development, representing between 0.1 and 0.9% of occupied habitat of the intersecting subpopulations and 0.13% of the occupied habitat across the range of the species. Given the requirements to perform surveys and avoid individuals where feasible, it is expected that impacts to occupied habitat at the lease development stage would be less than those presented.

Given the low expected disturbance relative to the available habitat and considering the implementation of the attached lease notices and Section 6 of the standard terms and conditions of the lease, a detailed analysis of the impacts on Barneby's catseye is not warranted.

Lease Notices:

- UT-LN-49: Utah Sensitive Species: All Parcels
- UT-LN-51: Special Status Plants Not Federally Listed: All Parcels

AIB-18 Vegetation Communities

How would potential development of the nominated lease parcels affect terrestrial vegetation communities and the animals that use them as habitat?

Potential development of the nominated lease parcels could result in new surface disturbances and the potential loss of vegetation over approximately 640 acres of the total 68,263 acres, based on the RFDs described in Section 3.2. Any activities that involve surface disturbances or direct impacts to resources would need to be authorized as lease operations requiring additional site specific NEPA analyses during the APD stage. Reclamation provisions and procedures, including re-vegetation with an appropriate seed mix based on ecological site, elevation, and topography, would be included in the APD analysis.

Terrestrial upland vegetation within the nominated lease parcels is dominated by globally and regionally common native vegetation communities including Great Basin & Intermountain Tall Sagebrush

Shrubland & Steppe, Great Basin & Intermountain Dwarf Sagebrush Shrubland & Steppe, Great Basin Saltbush Scrub, and Intermountain Basin Cliff Scree & Badland Sparse Vegetation. Estimates of native vegetation types (National Vegetation Classification Macro-Groups) represented within the parcels are presented in Table (LANDFIRE, 2016).

Table 25: National Vegetation Classification (NVC) Macro-Group Acres¹ within Parcels

	Total Acres in Parcels	Estimated Total Disturbance
Great Basin & Intermountain Tall Sagebrush Shrubland & Steppe	19864	186
Great Basin & Intermountain Dwarf Sagebrush Shrubland & Steppe	15884	148
Great Basin Saltbush Scrub	15106	142
Intermountain Basins Cliff Scree & Badland Sparse Vegetation	8832	83
Southern Rocky Mountain Two-needle Pinyon - One-seed Juniper Woodland	4137	39
Great Basin & Intermountain Dry Shrubland & Grassland	1633	15
Western North American Cool Semi-Desert Ruderal Scrub & Grassland	738	7
Intermountain Singleleaf Pinyon - Utah Juniper - Western Juniper Woodland	708	7
Western North American Temperate Cliff Scree & Rock Vegetation	597	6
Southern Rocky Mountain Montane Shrubland	253	2
Permanent Pasture & Grass Hay Field	203	2
Interior West Ruderal Flooded & Swamp Forest	103	1
Western North American Ruderal Grassland & Shrubland	22	0
Southwest Riparian Forest	19	0
Open Water	13	0
Warm & Cool Desert Alkali-Saline Wetland	12	0
Rocky Mountain & Vancouverian Subalpine-High Montane Mesic Meadow	8	0
Southern Rocky Mountain Lower Montane Forest	8	0
Close Grain Crop	6	0
Arid West Interior Freshwater Emergent Marsh	3	0
Western North American Montane-Subalpine Wet Shrubland & Wet Meadow	3	0
Quarries-Strip Mines-Gravel Pits-Energy Development	1	0
Western North American Ruderal Wet Shrubland Meadow & Marsh	1	0

¹Landfire Products are developed from remote sensed data and the classification is best suited for large-scale planning and data should be considered as representative of the habitat present but not exact.

The potential impacts to various vegetation communities are highly dependent on the siting of facilities during the APD stage. Based on the analysis assumptions in Section 3.2, the median percentage of disturbance to vegetation communities at the watershed level would be less than 0.1% assuming random disturbance distribution.

Animal community composition is correlated with the composition and structure of vegetation communities. Therefore, impacts associated with future development are expected to align with trends observed in vegetation communities. Various wildlife species inhabit the impacted vegetation communities, including rodents (e.g., mice, voles, kangaroo rats), jackrabbits, foxes, coyotes, and reptiles such as snakes and lizards. A wide variety of insect species from numerous orders, including pollinators, are also present in this ecotype. All wildlife species play roles in various food webs as either predators or

prey, and direct habitat loss could decrease the prey base for raptors, which rely on rabbits, mice, and prairie dogs. Additionally, a decline in insect diversity and abundance may reduce the prey base for bats and lead to a decrease in pollinators for plant communities. Additional information on Wildlife is discussed in AIB-22.

The potential impacts of future development on the nominated lease parcels' vegetation and associated animal communities will occur within the broader context of relevant past, present, and reasonably foreseeable future actions (see Section 3.3) This includes energy and mineral development and the conversion of native vegetation communities to agricultural or rural development. Other factors include grazing across all land ownership types, existing transmission powerlines, existing interstate transmission pipelines, paved and unpaved roads, and community trends related to global climate change.

AIB-19 Visual Resources

How would potential development of the nominated lease parcels affect the visual landscape?

Lease parcel 1602, 1603, 1617, 1620, 1622, 1625, 1626, 1627, 1630, 1634, 1636, 1638, 1640, 1641, 1644, 1656, 1658, 1660, 7723, 7727, 7728, 7731, 7733, 7734, 7738, 7746, 7753, 7757, 7765, 7768, 7771, are located within Visual Resource Management (VRM) Class 3. Lease parcel 1643, 1645, 1650, 1655, 1657, 7739, 7760, 7762, 7763 are located within VRM Class 4. Lease parcels 1618, 7735, 7740, 7759 & 7764 are within VRM Class 3&4. Management goals and objectives for VRM Class 3 allow for a moderate degree of change or visual contrast with the landscape. Management activities may attract the attention of the casual observer but should not dominate the view of the casual observer. The management objective for VRM class 4 is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. Management activities may dominate the view and may be the major focus of viewer attention. However, in all VRM Classes, the impact of these activities should be minimized through careful siting, minimal disturbance, and repeating the basic elements of form, line, color, and texture within the existing setting (BLM 2024).

These lease parcels are located within an area that has variations in the topographic relief and landform, line, texture, and color. The majority of the parcels have minor linear disturbances such as roads. For these reasons, potential changes or visible contrast with the form, line, texture, and color of the characteristic landscape are likely to be low for these lease parcels and would meet the prescribed objectives for VRM management. VRM resources will also be analyzed at the APD stage.

The majority of the lease parcels are within a no surface occupancy/timing limit/controlled surface use area (UT-S-157) which would restrict the construction of facilities and infrastructure that would impact the visual resources. For these reasons, potential changes or visible contrast with the form, line, texture, and color of the characteristic landscape are likely to be low with the RFD for lease parcels and would meet the prescribed objectives of the VRM Classes in which they reside. Site-specific mitigation practices may be required to minimize visual impacts, such as properly chosen paint color and low-profile equipment that allows long term facilities to blend in with the natural landscape. However, these would be decided at the time an APD is approved.

Lease Stipulations:

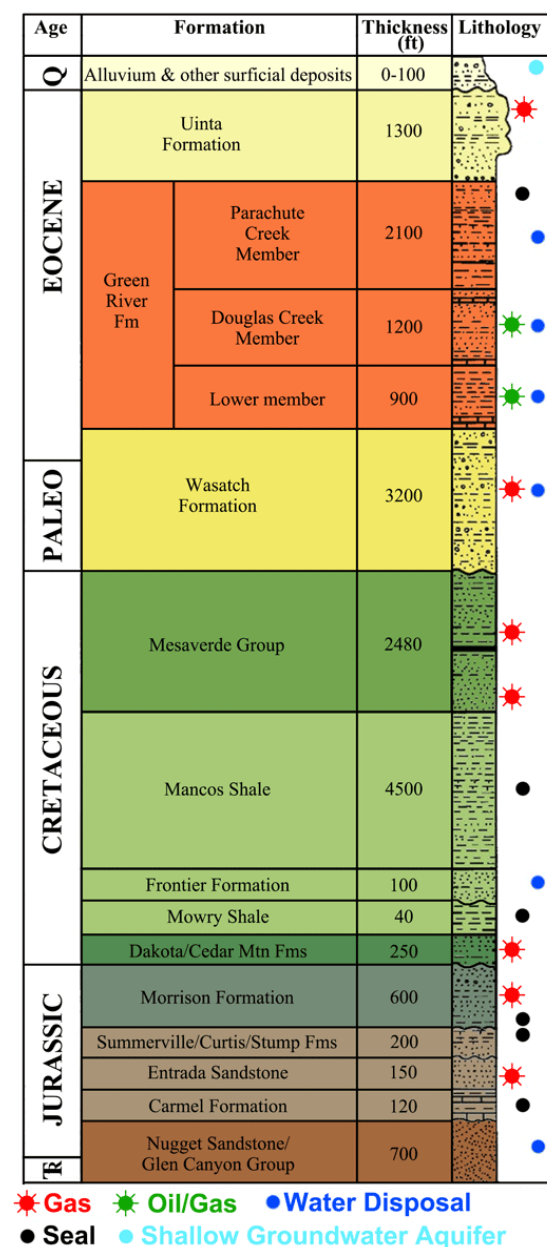
- UT-S-157 – NSO/CSU/TL – Visual Resources: All Parcels

AIB-20 Water Resources (Groundwater and Surface water)

How would potential development of the nominated lease parcels affect groundwater and surface water quality and quantity?

Surface/Groundwater Quantity/Needs

Water is necessary during the drilling, completion, production, and reclamation phases of development to varying degrees. Sources obtained from aquifers and surface water could result in the drawing down of the water table and reduction of available water resources for wildlife, vegetation, springs, streams, or public consumption. High volume long-term water withdrawal could potentially affect local groundwater levels, flow directions, and aquifer water communication rates. Sustained drawdown could also dewater existing nearby wells if there is sufficient connectivity and potentially create changes in quality and quantity of the remaining groundwater.



The amount of water used during drilling depends on the rock formation, the operator, whether the well is vertical or horizontal, and the number of portions (or stages) of the well that are fractured. Water is considered a by-product during the production phase and is termed produced water. The quantity and quality of water used, produced, and disposed of, or re-used, varies enormously depending on local geology, financial constraints, and regulations, (American Geosciences Institute, 2018). Figure 1 (USGS, 2019) shows the stratigraphic column from the surface down through the Upper Triassic-Lower Jurassic-age Nugget Sandstone in the Uintah area that depicts geologic units and aquifers where oil, gas, and where water is produced and re-injected (disposed) into. In addition to local water use estimates presented in this document, the U.S. Geological Survey (USGS) estimates that water use per well can range from 1.5 million gallons to about 16 million gallons throughout the be productive life of the well (USGS, 2023); however, much of this water is often recycled from other nearby operations depending on local conditions as described above.

Another regional water demand is from extensive drilling for gas in tight sandstones in the eastern part of the basin (e.g., pending enhanced oil recovery (EOR) programs), called waterflooding recovery (injecting oil-bearing sandstone reservoirs with water to push remaining oil towards producing wells to increase recovery), creates a need for water. Waterflooding

Figure 1 : Stratigraphic column Utah Geological Survey, 2018. Modified from Hintze and Kowallis (2009), Geologic History of Utah.

projects use 18 percent of the total produced water, but this accounts for only 50 percent of the need, so the shortage is made up with freshwater supplies. Thus, excess compatible produced water from gas wells could increasingly be transported to oil fields undergoing enhanced oil recovery. Finally, about 60 percent of the produced water in the Uintah Basin is injected via wells into porous rock at a sufficient depth as to not cause contamination of shallow freshwater aquifers (Utah Geological Survey, 2018) (Figure 2 stratigraphic column below).

Locally the water use for drilling, completion and production phases of development has been estimated for the VFO parcels with the amounts (bbls water) presented in Tables 6 in Section 3.2.1. The amounts of depletion from these sources are based on several factors such as re-injection, re-use, disposal, evaporation, or circulation based on types of open or closed loop drilling systems. Depletion amounts are subject to the Colorado River Endangered fish recovery program fees and rules. The Utah Division of Water Rights manages the water rights necessary for each phase for Uintah Basin area 49. The BLM presents and analyzes water sources for protection of beneficial uses of other water users, overall aquifer sources, and well interference at the APD stage for site-specific impacts.

The Utah Geological Survey produced a Survey Note regarding water use and production within the Uintah Basin, where the VFO parcels are located (Volume 50, No 2). The study contains an evaluation of the thickness, structure, porosity, permeability, water quality, and temperature of all aquifer/reservoir units in the basin from the Eocene-age Green River Formation through the Jurassic-age Glen Canyon Group. Large volumes of produced saline water are typically disposed of by several techniques as shown in Figure 2.

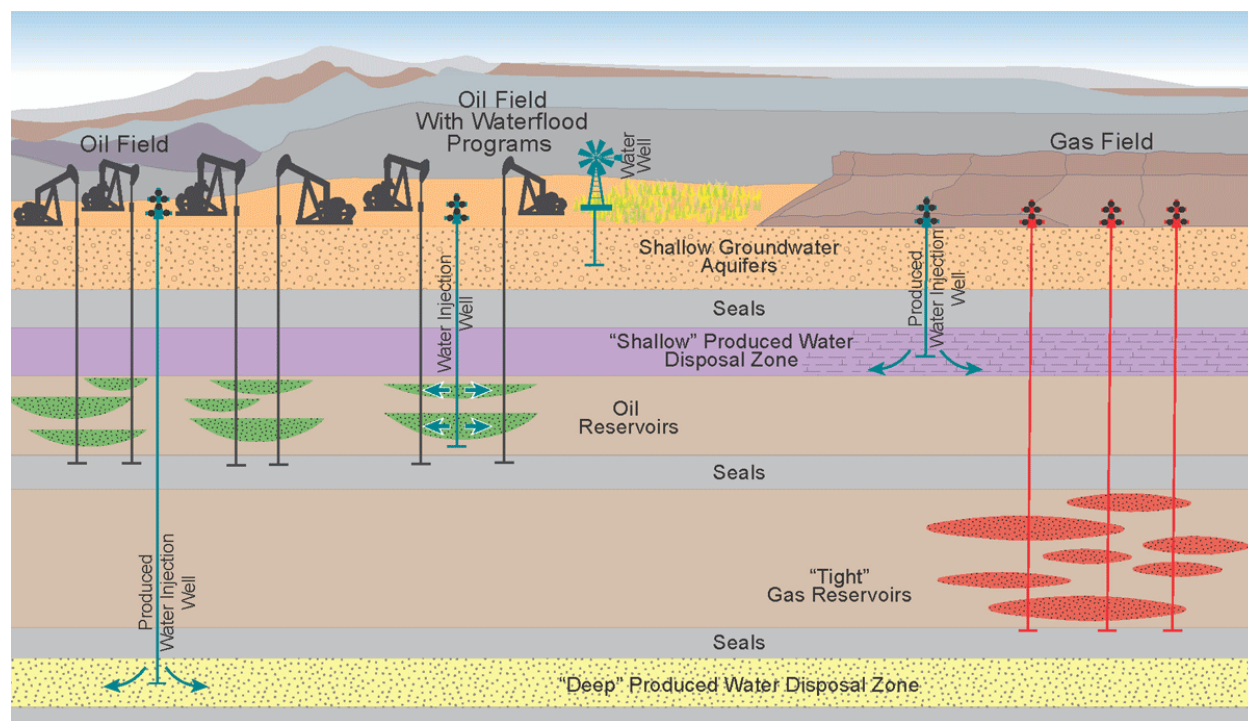


Figure 2 2 Utah Geologic Survey, 2018. Schematic diagram showing oil and gas wells and hypothetical zones to dispose of the produced water.

The source, volume of water, and transportation methods involved are identified in the surface use plan at the APD stage per 43 CFR Subpart 3171. 43 CFR Subpart 3171 requires the submission of a drilling plan

and surface use management plan where the source and transportation of project water are identified. The site-specific SOPs, BMPs, COAs, and lease stipulations attached to each parcel would minimize impacts from the Proposed Action to groundwater resources because surface disturbing activities would occur outside of areas where surface water is present (which influences groundwater), refer to UT-S-123 in Appendix B for further details. Potential site-specific impacts relating to future authorizations would be reviewed and analyzed when an APD is received.

Assuming all the wells would be developed under the lease sale RFD, based on an average of 3 million gallons per well completion job, total water needs is estimated to be approximately 9 acre-feet per well. The overall depletion amount would be based on percentages of water re-used or reinjected at various stages of development.

Groundwater Quality

The BLM has reviewed the lease parcels for proximity of Sole Source Aquifers or Public Drinking Water Source Protection Zones as designated and delineated by the U.S. Environmental Protection Agency (EPA) and State of Utah Division of Drinking Water. Lease parcels that have been identified to fall within these protection zones have a lease notice and or stipulation attached. Refer to UT-LN-56 in Appendix B for further details. No parcels within this Lease Sale are within delineated groundwater source protection zones or sole source aquifers. The BLM also reviewed the parcels for potential water right conflicts for potential water quality degradation or quantity impairment. Per State of Utah Anti-Degradation policy (UAC R317-2-3) water quality must continue to be acceptable to meet the beneficial uses of the water right under all conditions.

BLM Utah reviews for groundwater quality protection for oil and gas leasing, exploration and development are outlined in Instruction Memorandum (IM) No. UT 2010-055: Protection of Ground Water Associated with Oil and Gas Leasing, Exploration and Development- Utah BLM. The purpose of this IM is to clarify the process for the protection or isolation of usable ground water zones (< 10,000 mg/L as defined in 43 CFR 3172) associated with oil and gas exploration and development activities. The downhole intervals of formations containing usable water would be fully cased and cemented to prevent comingling of water. Well casings would be pressure tested to ensure long-term integrity throughout the life of the well. The appropriate selection of casing materials and cementing schedule is required and reviewed by the BLM, for the prevention of intermixing or water quality degradation of identified usable water formations. Prior to approving an APD, the BLM would conduct hydrologic and engineering reviews on all proposed down-hole activities, including hydraulic fracturing (if proposed) to ensure that usable water zones will be protected or isolated by the casing and cementing plan. All appropriate regulatory and mitigation measures would be included in any approved APD, and all potential impacts would be identified and addressed during the site-specific NEPA process.

Surface Water Quantity

Surface water demands from similar activities within the basin require water for the use of drilling, development and also dust suppression along routes which are typically obtained from municipal sources or through a temporary change application on valid existing water rights. Surface water sources typically include rivers, streams, or canals that are in proximity to potential development areas. The VFO parcels are within the Upper Colorado River Basin encompassing the Hill Creek, Willow Creek, Lower Bitter Creek, and White River/Tributaries HUC 10 watersheds. Since 2000, the Colorado River Basin (Basin) has been experiencing a historic, extended drought that has impacted regional water supply and other resources, such as hydropower, recreation, and ecologic services.

The Utah Division of Water Rights (UDWRi) is the regulatory agency responsible for the approval of water rights and water right applications to support sustainable yield for each basin to protect existing water beneficial uses. Current water policy for area 49 SE Uintah Basin, “Surface waters are considered to be fully appropriated, except for isolated springs. New diversions and consumptive uses in these sources must be accomplished by change applications filed on owned or acquired rights.”

Water sources used for drilling, production, and reclamation would be from state permitted sources with valid water rights. Specific sources are not identified at the leasing stage. Water supply necessary for drilling, production and reclamation would likely originate from local sources and cause additional demand and depletion from effected water basins. Valid permits and supporting water rights for these activities, if necessary, that involve these beneficial uses are verified and analyzed for potential impacts prior to approval at the APD stage.

Surface Water Quality

The BLM has reviewed the lease parcels for proximity to surface waters. All the VFO parcels are within the Zone 4 surface drinking water area, which is an area upstream from a public water supply intake to the extent of the watershed boundary above the Green River Intake per Utah Division of Drinking Water Source Protection rules. The site-specific SOPs, BMPs, COAs, and lease stipulations attached to each parcel would minimize impacts from the Proposed Action to surface water resources because surface disturbing activities would occur outside of riparian and wetland areas where surface water is present, refer to UT-LN-56 in Appendix B for further details. Other development activity with potential impact on surface water such as stream crossings and culvert installations would be designed per BLM standards with existing SOPs and BMPs to minimize amounts of erosion, sedimentation, and stormwater runoff to the maximum extent possible. Surface water resources would not be impacted to the degree that requires detailed analysis in the EA.

The VFO nominated lease parcels are located in Hill Creek, Willow Creek, Bitter Creek Lower, and White River DEQ water quality assessment units.

Beneficial Uses Sub Classifications for each watershed assessment unit are as follows:

Hill Creek= **2B,3A,4** Willow Creek= **3A,4** Bitter Creek Lower= **2B,3A,4** White River= **2B,3B,4**.

Table 26- Utah Department of Water Quality Beneficial Use Classification Surface Waters

Beneficial Use Sub Classification (UAC R317-2-6)	Use Definition
1	Drinking Water
2A	Primary Contact Recreation (swimming, rafting, kayaking)
2B	Infrequent Primary Contact Recreation (such as wading, hunting, fishing)
3A	Cold Water Fishery/Cold Water Aquatic Life
3B	Warm Water Fishery/Warm Water Aquatic Life
4	Agriculture/Irrigation

Information provided in the 2024 DEQ 305b Water Quality assessment report for the condition of each watershed determinations supporting the beneficial uses defined above are as follows.

Hill Creek= Category **3** Willow Creek= Category **5** (impaired Boron, TDS), Bitter Creek Lower= Category **5** (Temp, Boron, DO, TDS, Se) White River= Category **1**

Table 27 Surface Water Assessment Rating/Category per 305b Water Quality Report

EPA Assessment Category	Assessment Category Description
1	Supporting all beneficial uses
2	No Evidence of Impairment.
3	Insufficient Data and/or Information
4A	TMDL Approved
4B	Pollution Control
4C	Non-Pollutant Impairment
5	Not Supporting

Surface water and associated flow data is limited in the analysis area within these sub watersheds and not present within the parcels with the exception of ephemeral flow following storm events. The site-specific SOPs, BMPs, COAs, and lease stipulations attached to each parcel would minimize impacts from the Proposed Action to surface water resources because surface disturbing activities would occur outside of riparian and wetland areas where surface water is present. Surface water resources would not be impacted to the degree that requires detailed analysis in the EA and would continue to support designated uses.

While there are no specific BLM Utah water quality specific notices or stipulations, the buffers on surface occupancy in riparian areas and floodplains, UT-LN-53 and UT-LN-128 as well as those associated with sensitive soils and steep slopes, UT-S-96, UT-S-99, and UT-S-100 will result in protection of surface water quality by minimizing sediment inputs and other water quality contaminants within the parcels. Slight increases in surface runoff volume from disturbed areas such as any required new roads, pads, and other disturbed would likely occur.

Drinking water source protection zones for surface water sources used by Public Water Systems in Utah. Zones have been delineated in accordance with Utah Administrative Code (UAC) Rule R309-605.

UT-LN-56 Drinking Water Source Protection Zone will be applied to all the VFO parcels due to them being located in Zone 4 above the Town of Green River water intake which is defined as is defined as the remainder of the area of the watershed (up to the state line, if applicable) contributing to the source that does not fall within the boundaries of zones 1 through 3. The Utah Division of Water Quality requires a construction storm water permit if the development activities (industrial or construction) result in a discharge of a reportable quantity release or that contribute pollutants to a violation of a water quality standard. All activities that may contribute to degradation of water quality is subject to State of Utah water quality anti-degradation laws and reviews. No impacts to drinking water sources would occur.

Lease Notices:

- UT-LN-56 Drinking Water Source Protection Zones- All parcels
- UT-LN-128 Floodplains- Applicable to floodplain areas within all parcels.

Lease Stipulations:

- UT-S-123-NSO Riparian, Floodplains, and Public Water Reserves: All parcels

AIB-21 Wilderness Study Areas (WSA)

How would potential development of the nominated lease parcels affect lands Wilderness Study Areas?

Wilderness Study Areas (WSA) are public lands inventoried by BLM under the authority of FLPMA and found to have the characteristics of wilderness enumerated by Congress in Section 2 (c) of the Wilderness Act of 1964: "A wilderness...(1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value." The BLM's management policy is to continue resource uses on lands designated as WSAs in a manner that maintains the area's suitability for preservation as wilderness. The BLM's policy will protect the wilderness characteristics of all WSAs in the same or better condition than they were on October 21, 1976 (or for Section 202 WSAs not reported to Congress, the date the WSA was designated), until Congress determines whether or not they should be designated as wilderness per the Wilderness Act of 1964. BLM manages WSA with what is termed the "non-impairment standard" which states that permissible uses or facilities within the WSA must be temporary and create no new surface disturbance (BLM, Manual 6330 – Management of Wilderness Study Areas, 2012).

The issuance of leases allows for mineral exploration and development activities to occur. Such mineral development in leased areas immediately adjacent to WSAs could cause indirect impacts to wilderness characteristics, such as naturalness, solitude, and primitive recreational opportunities. Mineral exploration and development may result in construction or improvement of access roads, increased traffic, use of heavy machinery, and presence of workers on the landscape close to the WSA boundary, all of which may produce increased levels of noise and dust, introduce invasive weeds, and alter viewsheds, thereby reducing naturalness and outstanding opportunities for solitude.

The degree of the intensity of such impacts to wilderness characteristics would be influenced by the location of surface-disturbing activities, existing vehicle access to the lease, the size of the drill pad area, surrounding landforms and topography, vegetation type, season of development, and reclamation processes and their duration. Areas with more terrain variation and elevation differences will offer more topographic screening of the sights and sounds of lease development. Flatter, more open areas will allow sights and sounds to be more noticeable at a greater distance from the well pad or access road. Likewise, larger vegetation, such as trees and large shrubs can help to visually screen or absorb the sounds of development more effectively.

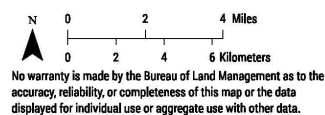
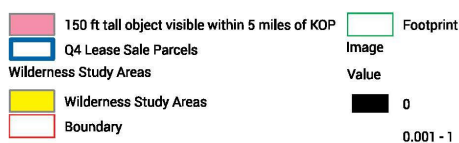
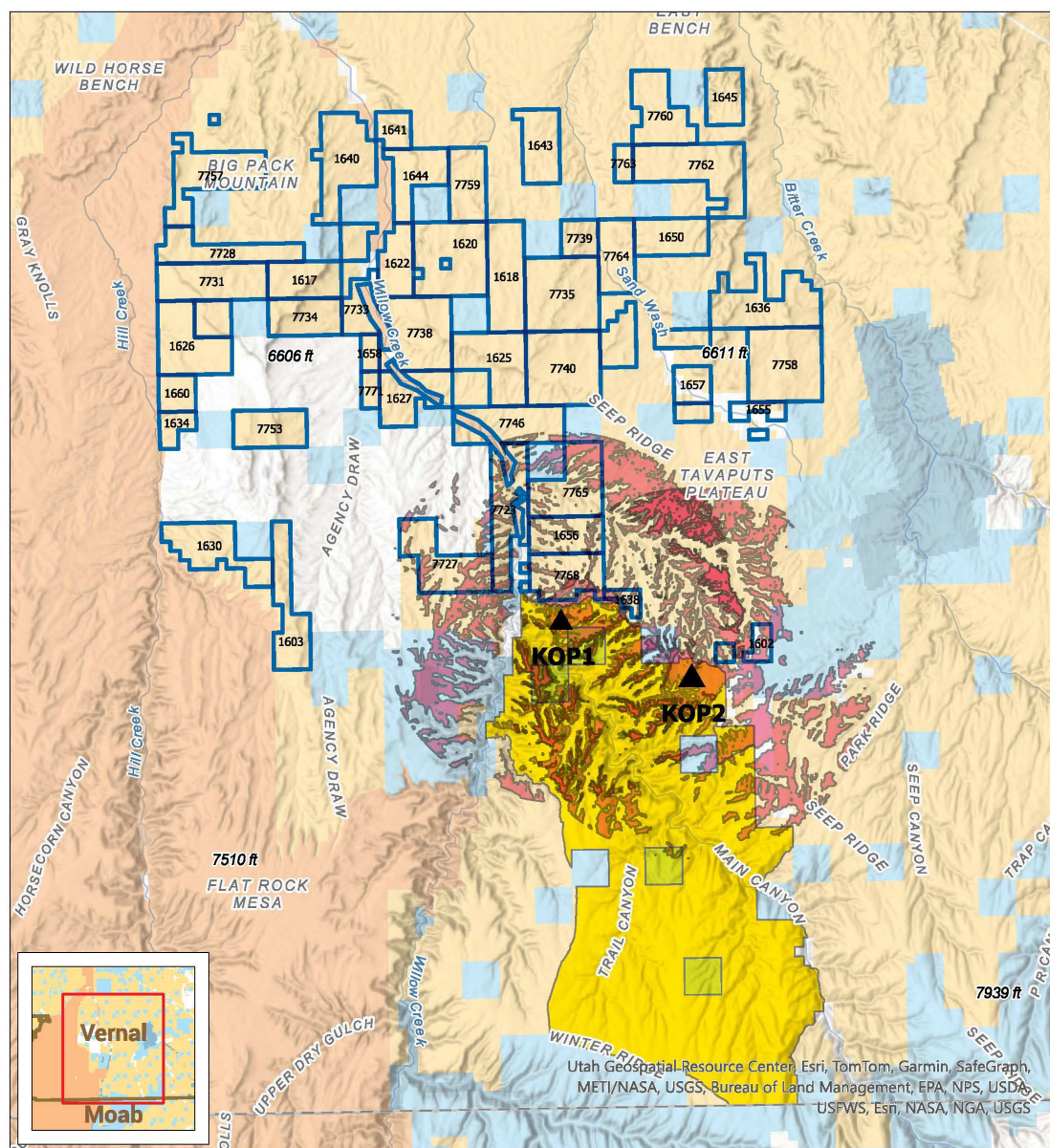
Lease parcels 1602, 1638, 7723, and 7768 lie within one mile of the Winter Ridge WSA consisting of 42,839 acres south of the Winter Canyon Road. The environment within the Winter Ridge WSA consists of an undulating landscape of washes and tree-covered ridges that branch out in many different directions. Aerial imagery and GIS data show regular and persistent changes in vegetation, slope, and aspect within the WSA. This terrain creates a high degree of screening within a short distance in any direction due to topography and vegetation.

A viewshed analysis from the Winter Ridge WSA was completed utilizing two key observation posts (KOP) located on the tallest elevation points within 2 miles of the northern boundary of the WSA. The analysis parameters were for an object 150 feet tall within 5 miles of each KOP with a 6 ft tall viewer. The analysis did not go beyond 5 miles because objects at this distance or greater are in the background and tend to quickly become indistinct and unnoticeable to the unaided, human eye. Figure 3 shows that the tallest object associated with lease development, such as a 150-foot-tall drill rig, may be visible from

either KOP if situated in dispersed areas of higher elevation within lease parcels 1602, 1638, 1656, 7727, 7746, 7765, and 7768. After the initial, temporary drilling phase of development, smaller objects such as vehicles, storage tanks, and machinery are expected to be much less visible, if at all, from within the Winter Ridge WSA. Additional viewshed analysis determined that the farther south the viewer travels within the WSA, the more objects to the north drop below the visible horizon.



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Potential impacts from mineral activities such as visual or audible disturbances or increased vehicle traffic would be temporary and localized to construction areas and access routes outside of the WSA, occurring during the construction, drilling, and interim reclamation phase (30-60 days). Following this period of

intense activity, removal of equipment, along with interim reclamation of the well pad, the developed sites are expected to be much less noticeable, if at all, from within the WSA. Parcels 1602, 1638, 1656, 7727, 7746, 7765, and 7768 also have CSU stipulations for fragile slopes or slopes between 21% and 40% and NSO stipulations for slopes greater than 40% (for stipulation information, see Appendix B). CSU and NSO stipulations would impose restrictions on development activity, thereby reducing the magnitude or intensity of impacts but may not eliminate all impacts entirely. Due to the presence of good topographic screening and CSU/NSO stipulations, potential indirect impacts to wilderness characteristics, such as outstanding solitude, are expected to be minimal, temporary, and only noticeable from points of highest elevation near the northern boundary of the Winter Ridge WSA. Potential indirect impacts from the proposed leases would not violate the non-impairment standard since they would be temporary and cause no new surface disturbances within the WSA.

Lease Stipulations:

- UT-S-96 No Surface Occupancy – Fragile Soils/Slopes Greater than 40%: Parcels 1602, 1638, 1656, 7727, 7746, 7765, and 7768
- UT-S-99 Controlled Surface Use – Fragile Soils/Slopes: Parcels 1602, 1638, 1656, 7727, 7746, 7765, and 7768
- UT-S-100 Controlled Surface Use – Fragile Soils/Slopes (21%-40%): Parcels 1602, 1638, 1656, 7727, 7746, 7765, and 7768

AIB-22 Wildlife: Big Game

How would potential development of nominated lease parcels impact big game habitat?

The nominated parcels are all in a large block, characterized by a diverse range of vegetation types including Colorado Plateau Mixed Low Sagebrush, Shrubland Inter-Mountain Basins Big Sagebrush, Shrubland Colorado Plateau Pinyon-Juniper to Woodland Inter-Mountain Basins Mixed Salt Desert Scrub. This variety of vegetation creates ideal winter range habitat for big game species. The Book Cliffs area supports numerous species of big game and is recognized as a prime destination for wildlife viewing and hunting.

The Utah Division of Wildlife Resources (UDWR) classifies habitats based on season of use and assigns importance values of “substantial” and “crucial”. All of the nominated parcels have crucial and substantial winter range for mule deer, year-long habitat for bison, crucial year-long habitat for Rocky Mountain bighorn sheep, year-long substantial habitat for pronghorn and winter substantial habitat for elk.

Unrestricted energy production is likely to have adverse effects on big game species, including loss of habitat from construction of roads and production facilities including usable habitat near roads, habitat fragmentation, increased noise and disturbance from human activities, and possible collisions causing direct mortality. Winter is a particularly sensitive period for big game as they are more susceptible to energy loss, so reduced winter habitat may increase mortality. UT-S-230, attached to all lease parcels, stipulates that no surface disturbing activities in deer and elk crucial winter range may occur from December 1-April 30. UT-S-231 is also attached to all lease parcels and stipulates that no more than 10% of crucial deer winter range may be subject to surface disturbance and remain un-reclaimed at any given time.

These impacts are analyzed in brief and the stipulations [UT-S-230 Crucial Deer and Elk Winter Range, UT-S-231 Crucial Deer Winter Habitat] that are applied are sufficient to protect big game species according to BLM and/or State data. Impacts that may harm individual animals and their populations

would be localized to the immediately disturbed locations, but they are unlikely to have larger, herd management unit level impacts.

Lease Stipulations:

- UT-S-230: TL – Crucial Deer and Elk Winter Range: All Parcels
- UT-S-231: TL – Crucial Deer Winter Habitat: All Parcels

AIB-23 Woodland and Forest Resources

How would potential development of the nominated lease parcels affect woodland and forest vegetation resources?

Forest and woodland vegetation types occur on 37 of the nominated lease parcels. See AIB-18 for a breakdown of vegetation types across the nominated lease parcels. These vegetation communities provide important ecological functions including erosion control, landscape connectivity, and thermal and security cover for big game species. These areas are not actively managed for commercial forestry at present.

Based on National Vegetation Classification data (Table 25), approximately 4,853 acres of woodland and forest are present in the nominated parcels. Assuming development is randomly distributed across all vegetation types (total lease parcel acres = 68,263 acres), about 7.1% of the land surface is woodland or forest ($4,853 \div 68,263 = 0.0711$). Applying this proportion to the estimated 640 acres of surface disturbance, approximately 46 acres would fall within woodland or forest ($0.0711 \times 640 = 45.5$ acres, rounded). This would impact roughly 0.95% of the total woodland and forest acreage across all lease parcels ($46 \div 4,853 = 0.00948$). Although the analysis assumes random distribution of disturbance, woodland and forest areas generally coincide with steep, erosion-prone terrain that is subject to NSO or CSU stipulations. As a result, the actual likelihood of surface disturbance occurring in these areas is likely lower than their proportional acreage would suggest.

Such disturbance may fragment woodland patches, reduce canopy integrity, and introduce edge effects that affect habitat structure. Construction-related impacts would be most concentrated within the first 30-60 days of development. Longer-term effects would persist through the life of production but are expected to be minimized through interim reclamation. Final site reclamation would aim to restore native vegetation and minimize permanent loss, though recovery of woodland structure may take decades in low-precipitation zones.

Stipulations that limit surface disturbance on steep slopes (UT-S-96, UT-S-99, UT-S-100) or in sensitive wildlife habitat (UT-S-231) provide indirect protection to woodland structure and continuity. All future development proposals would require site-specific NEPA review and an approved reclamation plan at the APD stage, where additional constraints and design features could be applied to reduce localized vegetation loss. Because forest and woodland vegetation in the lease parcels is not subject to active management prescriptions, and because surface-disturbing activities would be limited in scale, duration, and subject to site-specific mitigation, impacts are expected to be localized and minor. Accordingly, no detailed analysis is required.

3.6. ISSUES ANALYZED IN DETAIL

Consistent with 43 CFR § 3120.32, § 3120.41, the BLM identified site-specific resource concerns and lease stipulations for proposed parcels through a preliminary review process conducted prior to a public scoping period. The following resources/issues are analyzed in detail in this EA using input from internal and external scoping. Issues were retained for detailed analysis if that analysis is necessary to make a

reasoned choice between alternatives; to determine significance; if there is disagreement about the best way to use a resource; or if there is conflict between resource impacts or uses.

3.6.1. Issue 1: Air Quality

What quantities and types of air pollutants would be produced from potential development of the nominated lease parcels? How would air pollutant emissions affect air quality and air quality related values?

Air quality is determined by the quantity and chemistry of atmospheric pollutants in consideration of meteorological factors (i.e., weather patterns) and topography, both of which influence the dispersion and concentration of those pollutants. The presence of air pollutants is due to several different and widespread sources of emissions. The impact analysis area for air quality is the airshed in which the lease parcels are located, including Uintah County. The BLM identified this spatial scope of analysis based on the regional nature of air pollution and to facilitate analysis using the best available air quality data, which are generally provided at the county level. For the purposes of this analysis, the BLM considers short-term effects to air quality are those that cease after well construction and completion (30–60 days); long-term effects are considered those associated with well operations and production and would cease after operations/production are concluded (typically 20-30 years).

Affected Environment

The BLM Utah 2024 Air Monitoring Report (AMR) (BLM, 2024) discusses past, present, and foreseeable emissions and air quality data for Utah. The BLM incorporates by reference information from the AMR to help describe the air quality affected environment in the impact analysis area. The EPA has primary responsibility for regulating air quality, including six nationally regulated criteria air pollutants (CAPs): carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM₁₀ & PM_{2.5}), sulfur dioxide (SO₂) and lead. Volatile organic compounds (VOCs) are also regulated by the EPA as sunlight causes it to react with NO₂ to form O₃. The National Emissions Inventory (NEI) (EPA, 2024) is a comprehensive and detailed estimate of air emissions of criteria pollutants, criteria precursors, and hazardous air pollutants. The NEI is released every three years based primarily upon data provided by state, local, and tribal air agencies for sources in their jurisdictions and is supplemented by data developed by the US EPA. The most recent reporting year for the NEI is 2020. County emissions inventories relevant to the analysis area are listed in Table 28. Total emissions include both natural (e.g., wildfires and biogenic) and anthropogenic (e.g., fuel combustion, mobile) sources.

Table 28: Existing Criteria Air Pollutant Emissions in the Airshed in Tons Per Year (TPY)

County	Source	CO	NO _x **	PM ₁₀	PM _{2.5}	SO ₂	VOC
Uintah County	Anthropogenic*	10,773.1	7,932.5	5,977.8	1,234.1	135.1	47,429.0
	Total	13,636.0	8,644.4	6,000.1	1,253.1	137.1	58,108.2

Source: The National Emissions Inventory.

* Anthropogenic emissions are considered all emissions omitting wildfires and biogenic sources.

** nitrogen oxide(s)

The EPA has established National Ambient Air Quality Standards (NAAQS) for CAPs (EPA, 2024). The NAAQS are protective of human health and the environment. Compliance with the NAAQS is typically demonstrated through monitoring of ground-level concentrations of atmospheric air pollutants. The EPA

designates areas where pollutant concentrations are below the NAAQS as attainment or unclassifiable. Locations where monitored pollutant concentrations are higher than the NAAQS are designated nonattainment, and the EPA considers this air quality as unhealthy. Air pollutant concentrations are reported using design values. A design value is a statistic that describes the air quality status of a given location relative to the level of the NAAQS. Design values are used to designate and classify nonattainment areas, as well as to assess progress towards meeting the NAAQS. Design values that are representative for the airsheds of interest, the BLM has incorporated and listed in Table 29. Based on design values, the EPA has designated portions of Duchesne and Uintah Counties below 6,250 ft. elevation (i.e., Uinta Basin) as nonattainment for O₃. The EPA has classified the Uinta Basin as “moderate” nonattainment area for the 2015 ozone standard. Ozone values have trended down in recent years, but the region is still prone to high ground-level ozone concentrations during winters with considerable snowfall.

The BLM assumes that counties without reported design values for a particular pollutant have air pollutant concentrations below the NAAQS and good air quality since air monitoring is usually needed only when concentrations exceed 80% of the NAAQS (40 CFR 58.14 management (1)).

Table 29: 2021-2023 Criteria Air Pollutant Design Values

Pollutant	County	Averaging Time	Concentration ¹	NAAQS	Percent of NAAQS
O ₃	Uintah	8-hour	0.076 ppm	0.070 ppm	108.6%
NO ₂	Uintah	Annual	5 ppb	53 ppb	9.4%
NO ₂	Uintah	1-hour	31 ppb	100 ppb	31.0%
PM _{2.5}	Uintah	Annual	6.3 µg/m ³	9 µg/m ³	70.0%
PM _{2.5}	Uintah	24-hour	22 µg/m ³	35 µg/m ³	62.9%

Source: The National Emissions Inventory.

¹Concentrations in parts per million (ppm), parts per billion (ppb), microgram per cubic meter (µg/m³).

Hazardous air pollutants (HAPs), also known as toxic air pollutants, are known, or suspected, to cause cancer or other serious health effects, or adverse environmental effects. Emissions of HAPs are included as part of the NEI. HAPs emitted by the oil and gas industry include benzene, toluene, ethyl benzene, mixed xylenes, formaldehyde, normal-hexane, acetaldehyde, and methanol. Statewide, these individual pollutants make up 95% of the HAPs emitted from oil and gas production. The total HAPs emissions for the State of Utah and Uintah County are listed in Table .

Table 30 Hazardous Air Pollutant Emissions (TPY)

Area	Total Emissions (TPY)	Vegetation and Soils (TPY)	Wildfire (TPY)	Prescribed Fire (TPY)	Oil and Gas Production (TPY)
Uintah County	4,814.43	2,410.69	16.35	10.05	2,199.96
State of Utah	83,710.82	39,695.91	26,178.41	798.10	3,496.35

Source: The National Emissions Inventory.

The EPA Air Toxics Screening Assessment is used to evaluate impacts from existing HAP emissions in Utah (EPA, 2023). Air Toxics Screening Assessment results for counties relevant to the analysis area are reported in Table 31. The total cancer risk is within the acceptable range of risk published by the EPA of 100 in 1 million as discussed in the National Contingency Plan, 40 CFR § 300.430 also see (EPA, 1999). Hazard index values less than one indicate it is unlikely that air toxics would cause adverse noncancer health effects over a lifetime of exposure. Potential development on the lease parcels would contribute to HAP emissions and associated carcinogenic and noncancer risks.

Table 31 Total Cancer Risk and Noncancer Respiratory Hazard from Existing HAP Emissions (2019 Reporting Year)

County	Total Cancer Risk/Million	Background Cancer Risk/Million	Oil & Gas Cancer Risk/Million	Total Respiratory Hazard Index
Uintah	12.75	2.63	1.32	0.13
State of Utah	17.80	2.65	0.06	0.23

Source: EPA's Air Toxics Screening Assessment.

The Clean Air Act (CAA) Prevention of Significant Deterioration (PSD) requirements give more stringent air quality and visibility protection to national parks and wilderness areas that are designated as Class I areas, but a PSD designation does not prevent emission increases. The five national parks in Utah are Federally designated Class I areas, and the rest of the state is designated as Class II. Federal land managers are responsible for defining specific Air Quality Related Values (AQRVs), including visual air quality (haze), and acid (nitrogen and sulfur) deposition, for an area and for establishing the criteria to determine an adverse impact on the AQRVs. Each of the parcels in this Lease Sale are located within PSD Class II areas. Visibility trends based on air monitoring data from four Utah monitoring sites for the clearest, haziest, and most impaired categories is incorporated by reference from the AMR (see Figures 2 through 5 of the AMR). The marked improvement on the most impaired days at Utah Class I areas demonstrates progress toward Regional Haze Rule goals. The National Park Service monitors and evaluates deposition to determine which parks are most at risk from air pollution and where conditions are declining or improving. Nitrogen deposition conditions in Utah National Parks are fair to poor with no

trend for improving or worsening conditions, while sulfur deposition conditions are good with trend data unavailable for most locations (see Table 22 of the AMR).

Reasonably Foreseeable Future Actions

The BLM incorporates by reference the projected changes to air quality and AQRVs that are evaluated in the BLM's Regional Air Quality Model (Ramboll, 2023). This modeling study provides a reference for potential changes to the affected environment occurring from existing and foreseeable emissions producing activities, including development of oil and gas leases, coal mining, and other cumulative emissions sources in the region.

Emissions Trends

Past and present actions that have affected and would likely continue to affect air quality in the analysis area include surface disturbance resulting from oil and gas development and associated infrastructure, geophysical exploration, ranching and livestock grazing, range improvements, recreation (including OHV use), authorization of ROWs for utilities and other uses, and road development. These types of actions and activities can reduce air quality through emissions of CAPs (including fugitive dust), and HAPs, as well as contribute to deposition impacts and to a reduction in visibility. Emissions from these activities are included in the inventory contained in Table 32. In the future, emissions from vehicle exhaust, and from residential and commercial activities would likely increase as population and tourist visitation increases in the area.

Estimates of future criteria and hazardous emissions are made in the BLM Regional Air Quality Model (Ramboll, 2023). Emissions estimates are based on the EPA2016v2 modeling platform the Western Regional Air Partnership Oil and Gas Working Group emission inventory, and BLM reasonably foreseeable development estimates for oil, gas, and coal production. Sources included coal mining, coal combustion, oil and gas development, other anthropogenic sources (mobile and non-point), and natural emissions (open land fires, biogenic). The effects of these emissions are evaluated in the modeled air quality projections section below. Emissions in the oil and gas sector are provided in Table 32. Oil and gas sector emissions roughly parallel oil and gas production. Development and production estimates associated with these emissions projections for oil, gas, and coal are listed in the AMR (see Appendix D of the AMR). Current federal oil and gas development and production in Utah is below that which was modeled in the BLM Regional Air Quality Model by 10.5 million bbl/yr of oil, 34 billion cf/yr of gas, 98 new spuds per year, and 3,819 total producing wells. Potential development on the lease parcels would not cause existing development to exceed those that were projected in the BLM Regional Air Quality model. The modeled air quality projections fully capture past and present oil and gas development, including potential development on the lease parcels.

Table 32 Modeled Circa 2032 (New Plus Existing Wells) Oil and Gas Emissions in Utah by Mineral Owner

State	Air Pollutant Emissions (TPY)						
	NO _x	VOC	CO	SO ₂	PM _{2.5}	PM ₁₀	HAPs
<i>Federal (excluding Tribal)</i>							
UT	10,113	117,584	9,540	288	489	489	7,227
<i>Non-Federal</i>							
UT	5,449	26,535	5,670	185	267	267	1,985
<i>Tribal</i>							
UT	3,763	30,953	3,651	156	189	189	1,673
<i>Total</i>							
UT	19,325	175,071	18,861	629	944	944	10,885

Modeled Air Quality Projections

Results from the BLM Regional Air Modeling Study show that there are no projected exceedances of the NAAQS for NO₂, SO₂, and CO. Source apportionment analysis shows that exceedances of the PM_{2.5} and PM₁₀ standards are due to wildfires, and there are no exceedances due to anthropogenic emissions. Modeled concentrations of O₃ throughout Utah, including Uintah county, are in the 55-65 ppb range, which is also below the NAAQS. The existing federal oil and gas sources in the BLM Green River District (Carbon, Daggett, Duchesne, Emery, and Uintah counties) contribute up to 3.7 ppb of O₃, while the new federal oil and gas sources in the Green River District contribute up to 2.5 ppb to the O₃ concentrations.

The BLM used the Regional Model Study modeling platform to evaluate the cumulative health effects of specific HAPs originating from oil and gas production (Ramboll, 2023). A photochemical model is used to estimate the cumulative ambient air concentrations of six HAPs (benzene, toluene, ethylbenzene, xylenes, n-hexane, and formaldehyde) resulting from emissions from federal and non-federal oil and gas sources. These six HAPs were selected by BLM for study as they are subject to emissions standards (New Source Performance Standards [NSPS] and National Emissions Standards for Hazardous Air Pollutants [NESHAPs]) regulated for the oil and gas sectors. Cancerous and non-cancerous risk factor results from the HAPs modeling are provided in the AMR (see Tables 29 and 30 of the AMR) and are incorporated by reference here. The health-based inhalation thresholds used in the BLM HAPs modeling study are the

same as those used in EPA's AirToxScreen EPA, 2022). Total human cancer risk from oil and gas production in Uintah County 29.8 in a million, which is below EPA's 100 in 1 million cumulative thresholds. Chronic noncancer health effects from oil and gas production are also below levels of concern.

Air Quality Related Values

Regional Haze modeling (WRAP/WAQS, 2021) was performed by the EPA and Western Region Air Partnership states to evaluate if reasonable progress is being made toward natural visibility conditions to be achieved by the year 2064. The model uses source apportionment to isolate the contributions of U.S. anthropogenic emissions, along with other sources (e.g., international anthropogenic emissions, fires, and natural sources), to visibility extinction at monitoring sites representing Class I areas in the western U.S. This allows for the estimation of the changes in visibility impairment due to U.S. anthropogenic emissions at Class I areas over time and whether they are trending toward no impairment due to U.S. anthropogenic emissions by 2064. The modeling study shows that the current trendline would reach the no impairment goal before 2064.

The BLM Regional Model Study also evaluated deposition of nitrogen and sulfur. The critical load for deposition is 5 kg/ha/yr, and projected deposition rates for both nitrogen and sulfur are below the critical load value. Aggregate annual nitrogen deposition over the Utah analysis area varies between 0.6 and 4.5 kg N/ha. Deposition values are less than 4 kg N/ha throughout most of Utah, with exceptions of two grid cells in Salt Lake County showing impacts between 4 and 4.5 kg N/ha. Aggregate annual sulfur deposition over Utah varies between 0.01 and 1.1 kg S/ha within Utah, with the maximum deposition occurring near the Carbon-Emery County border.

Environmental Effects

There are four general phases of post-lease development that would generate air pollutant emissions: 1) well development (well site construction, well drilling, and well completion), 2) well production operations (extraction, separation, gathering), 3) mid-stream (refining, processing, storage, and transport/distribution), and 3) end-use (combustion or other uses) of the fuels produced. While well development and production operations emissions (phases 1 and 2) occur on-lease and the BLM has program authority over these activities, mid-stream and end-use emissions (phases 3 and 4) typically occur off-lease where the BLM has no program authority. During well development, there could be emissions from earth-moving equipment, vehicle traffic, drilling, and completion activities. NO₂, SO₂, and CO would be emitted from vehicle tailpipes. Fugitive dust concentrations would increase with additional vehicle traffic on unpaved roads and from wind erosion in areas of soil disturbance. Drill rig and fracturing engine operations would result mainly in NO₂ and CO emissions, with lesser amounts of SO₂. These temporary emissions would be short-term during the drilling and completion phases, which is expected to last between 30 to 60 days. During well production and operations there could be continuous emissions from separators, condensate storage tanks, flares or combustors, and daily tailpipe and fugitive dust emissions from operations traffic. During the operational phase of a well, NO₂, CO, VOC, and HAP emissions would result from the long-term use of storage tanks, pumps, separators, and other equipment. Additionally, dust (PM₁₀ and PM_{2.5}) would be produced due to wind erosion on well pads and roads, and by vehicles servicing the wellsite infrastructure. Single well emission estimates for well development and production operations are based on typical development and production operations scenarios identified for each field office in the AMR (BLM, 2024). The single well emissions and assumptions for analysis from this Lease Sale are input into the BLM Lease Sale Emissions Tool to provide the maximum year and average year emissions over the anticipated production life of lease parcels (approximately 30 years).

Actual development of individual lease parcels may result in higher or lower emissions for various reasons including differences with geologic formations, proximity to existing support infrastructure,

differences in pace of development, different development methods and control technology used by a lessee, and other reasons. A lessee has 10 years to produce in paying quantities on a lease. If production is not established within the 10-year timeframe, the lease would be terminated with no development or emissions occurring. Emissions of CAPs would also occur outside the impact analysis area from transport, processing, distribution, and end-use. These emissions fall outside the BLM's authority to permit or control and are regulated by other state, local, and federal agencies.

At the leasing stage it is not possible to accurately estimate potential air quality impacts by modeling due to the variation in emission control technologies as well as construction, drilling, and production technologies applicable to oil versus gas production and utilized by various operators. Should development on the parcels be proposed, and prior to authorizing specific proposed projects on the subject leases, emission inventories would need to be developed. Nearfield air quality dispersion modeling, which may also be required at that time, includes direct and cumulative impact analysis for demonstrating compliance with the NAAQS, plus analysis of impacts to AQRVs (i.e., deposition, visibility), particularly as they might affect nearby Class I areas (some National Parks and Wilderness areas) and Class II areas of interest.

Studies have demonstrated that oil and gas activity is a primary contributor to wintertime O₃ NAAQS exceedances in the Uinta Basin (Mansfield, 2021). While emissions from an individual well or well pad are too small to have a substantial impact on O₃ concentrations, they contribute with emissions from other regional oil and gas operations to produce an aggregate O₃ impact. These impacts are discussed in the air quality affected environment (Reasonably Foreseeable Future Actions) section. Impacts to AQRVs from existing oil and gas wells and future lease development is projected to be minimal, see air quality affected environment (Reasonably Foreseeable Future Actions) section.

The CAA general conformity rule (40 CFR 93 Subpart B) provides Federal agencies a method for determining if the emissions in a nonattainment area, from an action under consideration, will delay an area from attaining the NAAQS. This is done by showing that emissions are either de minimis or conform to a State or Federal Implementation Plan. Some parcels the BLM is offering in this Lease Sale are located partially or fully within the Uinta Basin O₃ nonattainment area and thus require a general conformity applicability assessment. Appendix F documents the applicability assessment, and it demonstrates that the emissions associated with this Lease Sale are not reasonably foreseeable as defined by the CAA and general conformity is not applicable to this leasing action. Another conformity applicability assessment will be needed at the permitting stage when information is available (location with respect to nonattainment area, non-permitted emissions sources, control technology, emissions offsets, new implementation plans, etc.) to create an emissions inventory based on actual plans for development.

The BLM does not anticipate substantial air resource impacts from leasing as this proposal is an administrative action. Lease development has the potential to contribute to the O₃ problem in the Uinta Basin. Emission estimates associated with each alternative are provided below and would be part of the air quality analysis provided in the reasonably foreseeable future actions section. At the permitting stage, a precise emissions inventory will be developed and analyzed to ensure emissions are below de minimis levels or conform to state or Federal implementation plans that are in effect at the time. As identified in notice UT-LN-102, additional analysis or mitigation may be required when parcels are developed to ensure no adverse impacts occur.

Impacts of the Proposed Action (Alternative A)

Table 33 lists the estimated maximum and average emissions years for Alternative A. More details on the emissions estimates are provided in Appendix G.

Table 33 Estimated Annual Emissions Estimates from Well Development and Production Operations of the Lease Parcels for Alternative A (TPY)

Year	PM ₁₀	PM _{2.5}	VOC	NO _x	CO	SO ₂	HAPs
Max Emissions	409.4	183.6	5,265.7	2,067.2	2,689.5	0.470	445.880
Average Emissions	271.6	126.8	4,013.0	1,246.7	1,930.5	0.157	340.095
Max Year Percent of Uintah County Anthropogenic	6.8%	14.9%	11.1%	26.1%	25.0%	0.3%	20.2%

Impacts of the Greater-Sage Grouse Avoidance Alternative (Alternative B)

The BLM performed an identical analysis as Alternative A for the greater sage-grouse avoidance alternative. The BLM calculated CAP and HAP emissions for all parcels included in Alternative B. Emissions for every pollutant are less in Alternative B than Alternative A. Table 34 lists the estimated maximum and average emissions years for Alternative B. More details on the emissions estimates are provided in Appendix G.

Table 34 Estimated Annual Emissions Estimates from Well Development and Production Operations of the Lease Parcels for Alternative B (TPY)

Year	PM ₁₀	PM _{2.5}	VOC	NO _x	CO	SO ₂	HAPs
Max Emissions	66.8	30.0	861.0	336.4	439.2	0.076	72.910
Average Emissions	44.4	20.7	656.3	203.9	315.7	0.026	55.623
Max Year Percent of Uintah County Anthropogenic	1.1%	2.4%	1.8%	4.2%	4.1%	0.1%	3.3%

Impacts of the Reed Mustards and Sensitive Penstemon Species Avoidance Alternative (Alternative C)

The BLM performed an identical analysis as Alternative A for the Reed Mustards and Sensitive Penstemon Species avoidance alternative. The BLM calculated CAP and HAP emissions for all parcels included in Alternative C. Emissions for every pollutant are less in Alternative C than Alternative A. Table 35 lists the estimated maximum and average emissions years for Alternative C. More details on the emissions estimates are provided in Appendix G.

Table 35 Estimated Annual Emissions Estimates from Well Development and Production Operations of the Lease Parcels for Alternative C (TPY)

Year	PM ₁₀	PM _{2.5}	VOC	NO _x	CO	SO ₂	HAPs
Max Emissions	189.5	85.0	2,436.1	957.3	1,244.6	0.218	206.280
Average Emissions	125.7	58.6	1,856.5	576.7	893.1	0.072	157.334

Max Year Percent of Uintah County Anthropogenic	3.2%	6.9%	5.1%	12.1%	11.6%	0.2%	9.3%
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Impacts of the No Action Alternative (Alternative D)

Under the No Action Alternative, the BLM would not offer any of the nominated parcels in this Lease Sale. However, in the absence of a Land Use Plan Amendment closing the lands to leasing, they could be considered for inclusion in future lease sales. No new emissions associated with new Federal oil and gas development for the subject lease parcels would occur under the No Action Alternative in the foreseeable future. Other activities authorized within the project area would continue to occur, such as previously authorized and sold oil and gas leases.

3.6.2. Issue 2: Greenhouse Gas and Climate Change

How would potential development of the nominated lease parcels contribute to greenhouse gas (GHG) emissions and climate change?

Future development of lease parcels under consideration could lead to emissions of carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O); the three most common greenhouse gases associated with oil and gas development. These GHG emissions would be emitted from activities occurring on the leased parcels and from the consumption of any fluid minerals produced. However, the BLM cannot reasonably determine at the leasing stage whether, when, and in what manner a lease would be explored or developed. The uncertainty that exists at the time the BLM offers a lease for sale includes crucial factors that would affect actual GHG emissions and associated impacts, including but not limited to the future feasibility of developing the lease, well density, geological conditions, development type (vertical, directional, or horizontal), hydrocarbon characteristics, specific equipment used during construction, drilling, and production, abandonment operations, product transportation, and potential regulatory changes over the 10-year primary lease term. Actual development on a lease is likely to vary from what is analyzed in this EA and will be evaluated through a site-specific NEPA analysis when an operator submits an APD or plan of development to the BLM.

For the purposes of this analysis, the BLM has evaluated the potential climate change impacts of the proposed leasing action by estimating and analyzing the projected potential GHG emissions from oil and gas development on the parcels. Projected emissions estimates are based on past actual oil and gas development analyses and any available information from existing development within the State.

Further discussion of climate science, as well as the reasonably foreseeable and cumulative GHG emissions associated with BLM's oil and gas leasing actions and methodologies, are included in the 2023 *BLM Specialist Report on Annual Greenhouse Gas Emissions and Climate Trends* (BLM, 2024) (Annual GHG Report). This report presents the estimated emissions of greenhouse gases attributable to development and consumption of fossil fuels produced on lands and mineral estate managed by the BLM. The Annual GHG Report is incorporated by reference as an integral part of this analysis and is available at [https://www.blm.gov/content/ghg/.Affected Environment](https://www.blm.gov/content/ghg/.Affected%20Environment)

The Earth's climate system is very complex as there are many factors that can influence global atmospheric conditions. In general, cumulative GHG concentrations can influence the global climate by increasing the amount of solar energy retained by land, water bodies, and the atmosphere, and have long atmospheric lifetimes, which allows them to become well mixed GHGs influence the global climate by increasing the amount of solar energy retained by land, water bodies, and the atmosphere. GHGs can have

long atmospheric lifetimes, which allows them to become well mixed and uniformly distributed over the entirety of the Earth's surface no matter their point of origin. A discussion of past, current, and projected future climate change impacts is described in Chapters 4, 8, and 9 of the Annual GHG Report. These chapters describe currently observed climate impacts globally, nationally, and in each State, and present a range of projected impact scenarios depending on future cumulative GHG emission levels.

The incremental contribution to cumulative global GHGs from a single proposed land management action cannot be accurately translated into its potential effect on global climate change or any localized effects in the area specific to the action. Currently, global climate models are unable to forecast local or regional effects on resources resulting from a specific subset of emissions. However, there are general projections regarding potential impacts on natural resources and plant and animal species that may be attributed to climate change resulting from the accumulation of GHG emissions over time. In this EA, the BLM uses GHG emissions as a proxy for impacts and provides context with other proxies such as GHG equivalents.

For the purposes of this EA, the projected emissions from the proposed leasing action can be compared to modeled emissions that have been shown to have definitive or quantifiable contribution to cumulative GHG levels. Table 36 shows the total estimated GHG emissions from fossil fuels at the global, national, and state scales over the last six years. Emissions are shown in megatonnes (Mt) per year of carbon dioxide equivalent (CO₂e). Chapter 3 of the Annual GHG Report contains additional information on GHGs and an explanation of CO₂e. State and national energy-related CO₂ emissions include emissions from fossil fuel use across all sectors (residential, commercial, industrial, transportation, and electricity generation) and are released at the location where the fossil fuels are consumed.

Additional information on current state, national, and global GHG emissions as well as the methodology and parameters for estimating emissions from BLM fossil fuel authorizations and cumulative GHG emissions is included in the Annual GHG Report (see Chapters 5, 6, and 7).

Table 36 Global and U.S. Fossil Fuel GHG Emissions 2015 - 2021 (Mt CO₂/yr)

Scale	2018	2019	2020	2021	2022
Global	37,832.0	37,825.0	35,944.0	38,082.0	38,522.0
U.S.	4,989.8	4,855.9	4,344.9	4,639.1	4,699.4
Utah	60.0	60.4	56.7	61.3	NA

Source: Annual GHG Report, Chap. 5, Table 5-1 (Global and U.S.) and Table 5-2 (State).

Mt (megatonne) = 1 million metric tons

NA = Not Available

The analysis of GHGs contained in this EA includes estimated emissions from the lease as described above. An assessment of GHG emissions from other BLM fossil fuel authorizations, including coal leasing and oil and gas leasing and development, is included in the Annual GHG Report in Chapter 7. The Annual GHG Report includes estimates of reasonably foreseeable GHG emissions related to BLM lease sales anticipated during the fiscal year, as well as the best estimate of emissions from ongoing production, and development of parcels sold in previous lease sales. It is, therefore, an estimate of cumulative GHG emissions from the BLM fossil fuel leasing program based on actual production and statistical trends as they are presently known.

The methodologies used in Annual GHG Report provide estimates of foreseeable short-term and projected long-term GHG emissions from activities across the BLM's oil and gas program. The foreseeable short-term methodology includes a trends analysis of (1) leased federal lands that are held-by-

production ⁴(2) approved applications for permit to drill (APDs), and (3) leased lands from competitive lease sales projected to occur over the next annual reporting cycle (12 months). The data is used to provide a 30-year life of lease projection of potential emissions from all Federal oil and gas activities and potential lease actions over the next 12 months. The projected long-term methodology uses oil and gas production forecasts from the Energy Information Administration (EIA) to estimate GHG emissions out to 2050 that could occur from past, present, and future development of Federal fluid minerals. For both methodologies, the emissions are calculated using life-cycle-assessment data and emission factors. These analyses are the basis for projecting GHG emissions from lease parcels that are likely to go into production during the analysis period of the Annual GHG Report and represent both a hard look at GHG emissions from oil and gas leasing and the best available estimate of reasonably foreseeable cumulative emissions related to any one lease sale or set of quarterly lease sales that could occur annually across the entire federal onshore mineral estate.

Table 37 presents the summation of the 30-year life-of-project emissions estimates for both the short and long-term as previously described for each state where federal mineral actions have been authorized. The differences between the short- and long-term emissions estimates can be thought of as an approximation of additional leasing that could occur on federal lands and does not take into consideration additional policies, technological advancements in production or end-use efficiency standards, or an accelerated economy-wide transition away from fossil fuel derived energy production.

A detailed explanation of the short-term and long-term emissions estimate methodologies are provided in sections 6.6 and 6.7 of the Annual GHG Report.

Table 37 GHG Emissions from Past, Present, and Reasonably Foreseeable Federal Onshore Lease Development (Megatonnes CO₂e)

State	Existing Wells (Report Year)	Existing Wells (Projected)	Approved APDs	New Leasing	Short-Term Foreseeable Totals	Long-Term Projected Totals
AL	0.57	8.52	0.00	0.18	8.70	16.62
AK	1.27	18.90	20.82	43.96	83.67	36.10
AZ	0.00	0.00	0.00	0.00	0.00	0.00
AR	0.60	9.52	0.24	0.24	9.99	17.56
CA	5.10	70.48	4.75	2.17	77.41	140.49
CO	44.72	387.63	16.46	16.29	420.39	1,293.28
ID	0.00	0.00	0.00	0.29	0.30	0.00
IL	0.01	0.10	0.00	0.02	0.12	0.21
IN	0.00	0.00	0.00	0.02	0.02	0.00
KS	0.23	3.43	0.00	0.22	3.65	6.70
KY	0.01	0.07	0.00	0.03	0.10	0.22
LA	5.20	64.56	31.84	14.98	111.38	151.44
MD	0.00	0.00	0.00	0.00	0.00	0.00

⁴ [held-by-production](#) - A provision in an oil or natural gas property lease that allows the lessee to continue drilling activities on the property as long as it is economically producing a minimum amount of oil or gas. The held-by-production provision thereby extends the lessee's right to operate the property beyond the initial lease term.

MI	0.06	1.17	0.00	0.29	1.46	1.74
MS	0.11	1.50	0.38	0.38	2.25	3.06
MT	2.02	20.63	1.53	5.41	27.57	56.36
NE	0.01	0.21	0.00	0.03	0.24	0.39
NV	0.13	0.99	0.03	0.10	1.12	3.53
NM	399.96	2,844.84	729.98	113.24	3,688.06	11,218.30
NY	0.00	0.01	0.00	0.00	0.01	0.01
ND	33.50	280.74	29.58	6.63	316.95	933.79
OH	0.24	2.29	0.00	2.65	4.94	7.04
OK	1.34	13.21	1.42	1.18	15.81	38.41
OR	0.00	0.00	0.00	0.12	0.12	0.00
PA	0.00	0.05	0.00	0.67	0.72	0.11
SD	0.10	1.61	0.11	0.11	1.82	2.70
TN	0.00	0.00	0.00	0.00	0.00	0.00
TX	3.20	35.25	15.07	1.31	51.62	93.23
UT	12.93	161.65	14.42	29.97	206.04	369.79
VA	0.01	0.13	0.00	0.03	0.16	0.25
WV	0.00	0.06	0.00	0.59	0.64	0.12
WY	100.22	892.55	100.35	253.66	1,246.56	2,872.25
Total Onshore Federal	612	4,820	967	495	6,282	17,264

Source: BLM Annual GHG Report, Section 7

As detailed in the 2024 Annual GHG Report, which the BLM has incorporated by reference, the BLM also looked at other tools to inform its analysis, including the [Model for the Assessment of Greenhouse Gas Induced Climate Change \(MAGICC\)](#) (see Section 9.3 of the Annual GHG Report). BLM conducted MAGICC runs evaluating potential contributions to global climate and related values for two cumulative GHG projection scenarios. These two scenarios were chosen because they reflect the lower total global projected GHG emissions and will therefore reflect the greatest emissions contribution by the BLM relative to global emissions levels resulting in a conservative contribution analysis. The MAGICC model results show that regardless of the global climate projection scenario and the pathway that federal fossil fuels emissions follow, federal BLM minerals emissions are predicted to have minimal impacts to future global climate through the end of the century. Because the projected federal mineral CO₂ emissions constitute a larger portion of the global levels in the most optimistic scenario, the modeled impacts are generally higher than those of the “middle of the road” scenario. The maximum BLM fossil fuel (oil, gas and coal) contribution to global temperature increases under these two scenarios is 0.015 C and 0.013 C, respectively.

Recent short-term energy outlook reports (STEO) published by the EIA (<https://www.eia.gov/outlooks/steo/data>) (EIA, 2025) predict that the world’s oil and gas supply and consumption will increase over the next 18-24 months. The STEO projections are useful for providing context for the cumulative discussion as the global forecast models used for the STEO are not dependent on whether the BLM issues onshore leases but are based on foreseeable short-term global supply and

demand and include oil and gas development /operations on existing U.S. onshore leases. Recent STEOs includes the following projections for the next two years:

- U.S. liquid fuels consumption is projected to increase to 20.50 million barrels per day (b/d) in 2025 up from 20.31 million b/d in 2024 and decrease slightly in 2026 to 20.44 million b/d
- U.S. crude oil production is expected to average 13.4 million b/d in 2025 and rise to 13.5 million b/d in 2026.
- Global liquid fuels consumption is expected to grow from 103.7 million barrels per day in 2025 and increase to 104.6 million barrels per day in 2026.
- U.S. LNG exports are expected to increase to 15 billion cubic feet/day in 2025 and 16Bcf/d in 2026.
- U.S. Coal production is expected to total 506 million short tons (MMst) in 2025, relatively unchanged from 2024 production levels.
- Renewable energy generation is expected to increase to 25% of U.S electricity generation in 2025 and further increase to 27% in 2026.

Recent events, both domestically and internationally, have resulted in abrupt changes to the global oil and gas supply. EIA studies and recent U.S. analyses (associated with weather impacts, etc.) regarding short-term domestic supply disruptions and shortages or sudden increases in demand demonstrate that reducing domestic supply (in the near-term under the current supply and demand scenario) will likely lead to the import of more oil and natural gas from other countries, including countries with lower environmental and emission control standards than the United States (EIA, 2023). Recent global supply disruptions have also led to multiple releases from the U.S. Strategic Petroleum Reserve in order to meet consumer demand and curb price surges.

The EIA 2023 Annual Energy Outlook (<https://www.eia.gov/outlooks/aeo/>) projects energy consumption increases through 2050 as population and economic growth outweighs efficiency gains. As a result, U.S. production of natural gas and petroleum and liquids will rise amid growing demand for exports and industrial uses. U.S. natural gas production increases by 15% from 2022 to 2050. However, renewable energy will be the fastest-growing U.S. energy source through 2050. As electricity generation shifts to using more renewable sources, domestic natural gas consumption for electricity generation is expected to decrease by 2050 relative to 2022. As a result, energy-related CO₂ emissions are expected to fall 25% to 38% below 2005 level, depending on economic growth factors. Further discussion of past, present and projected global and state GHG emissions can be found in Chapter 5 of the Annual GHG Report.

Carbon budgets are an estimate of the amount of additional GHGs that could be emitted into the atmosphere over time to reach carbon neutrality while still limiting global temperatures to no more than 1.5°C or 2°C above preindustrial levels (see section 9.1 of the Annual GHG Report (BLM, 2024). At present, no national or Federal agency carbon budgets have been established, primarily due to the lack of consensus on how to allocate the global budget to each nation, and as such the global budgets that limit warming to 1.5 °C or 2.0 °C are not useful for BLM decision making, particularly at the leasing stage, as it is unclear what portion of the budget applies to emissions occurring in the United States.

Stakeholders and members of the public have requested that the BLM consider comparing the estimated Federal oil and gas emissions in the context of global carbon budgets. In the interest of public disclosure, Table

9-1 in the Annual GHG Report provides an estimate of the potential emissions associated with Federal fossil fuel authorizations in relation to IPCC carbon budgets. Total Federal fossil fuel authorizations including coal, natural gas and oil represents approximately 1.95 % of the remaining global carbon budget of 275 GtCO₂ needed to limit global warming to 1.5 C.

Environmental Effects

While the leasing action does not directly result in development that would generate GHG emissions, emissions from future potential development of the leased parcels can be estimated for the purposes of this analysis. There are four general phases of post-lease development processes that would generate GHG emissions: 1) well development (well site construction, well drilling, and well completion), 2) well production operations (extraction, separation, gathering), 3) mid-stream (refining, processing, storage, and transport/distribution), and 4) end-use (combustion or other uses) of the fuels produced. While well development and production operation emissions (phases 1 and 2) occur on-lease and the BLM has authority over these activities, mid-stream and end-use emissions (phases 3 and 4) typically occur off-lease where the BLM has little to no authority.

Emissions inventories at the leasing stage are imprecise due to uncertainties including the type of mineral development (oil, gas, or both), scale, and duration of potential development, types of equipment (drill rig engine tier rating, horsepower, fuel type), and the mitigation measures that a future operator may propose in their development plan. Due to these uncertainties, the BLM applies several assumptions to estimate emissions at the leasing stage. The number of estimated well numbers per parcel are based on State data for past lease development combined with per-well drilling, development, and operating emissions data from representative wells in the area. The amount of oil or gas that may be produced if the offered parcels are developed is unknown. For purposes of estimating production and end-use emissions, potential wells are assumed to produce oil and gas in similar amounts as existing nearby wells. While the BLM has no authority to direct or regulate the end-use of the products, for this analysis, the BLM assumes all produced oil or gas will be combusted (such as for domestic heating or energy production). The BLM acknowledges that there may be additional sources of GHG emissions along the distribution, storage, and processing chains (commonly referred to as midstream operations) associated with production from the lease parcels. These sources may include emissions of methane (a more potent GHG than CO₂ in the short term) from pipeline and equipment leaks, storage, and maintenance activities. These sources of emissions are highly speculative at the leasing stage, therefore, the BLM has chosen to assume that mid-stream emissions associated with lease parcels for this analysis would be similar to the national level emissions identified by the Department of Energy's National Energy Technology Laboratory (NETL, 2009) (NETL, 2019). Section 6.5 of the Annual GHG Report includes a more detailed discussion of the methodology for estimating midstream emissions.

The emission estimates calculated for this analysis were generated using the assumptions previously described above in the BLM Lease Sale Emissions Tool and lease development analysis. Emissions are presented for each of the four phases of post-lease development processes described above.

- Well development emissions occur over a short period and may include emissions from heavy equipment and vehicle exhaust, drill rig engines, completion equipment, pipe venting, and well treatments such as hydraulic fracturing.
- Well production operations, mid-stream, and end-use emissions occur over the entire production life of a well, which is assumed to be 30 years for this analysis based on the productive life of a typical oil/gas field.
- Production operation emissions may result from storage tank breathing and flashing, truck loading, pump engines, heaters and dehydrators, pneumatic instruments or controls, flaring, fugitives, and vehicle exhaust.
- Mid-stream emissions occur from the transport, refining, processing, storage, transmission, and distribution of produced oil and gas. Mid-stream emissions are estimated by multiplying the estimated ultimate recovery (EUR) of produced oil and gas with emissions factors from NETL

life cycle analysis of U.S. oil and natural gas. Additional information on emission factors can be found in the Annual GHG Report (Chapter 6, Table 6-8 and 6-10).

- For the purposes of this analysis, end-use emissions are calculated assuming all produced oil and gas is combusted for energy use. End-use emissions are estimated by multiplying the EUR of produced oil and gas with emissions factors for combustion established by the EPA (Tables C-1 and C-2 to Subpart C of 40 CFR § 98). Additional information on emission factors and EUR factors can be found in the Annual GHG Report (Chapter 6).

Emission controls (e.g., vapor recovery devices, no-bleed pneumatics, leak detection and repair, etc.) can substantially limit the amount of GHGs emitted to the atmosphere, while offsets (e.g., sequestration, low carbon energy substitution, plugging abandoned or uneconomical wells, etc.) can remove GHGs from the atmosphere or reduce emissions in other areas. Chapter 10 of the Annual GHG Report provides a more detailed discussion of GHG mitigation strategies.

The EPA is the Federal agency charged with regulation of air pollutants and establishing standards for protection of human health and the environment. The EPA has issued regulations that will reduce GHG emissions from any development related to the proposed leasing action. These regulations include the New Source Performance Standard for Crude Oil and Natural Gas Facilities (40 CFR 60, OOOOa), Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After December 6, 2022 (40 CFR 60, OOOOb) and Waste Emissions Charge for Petroleum and Natural Gas Systems (40 CFR 99). These regulations impose emission limits, equipment design standards, and monitoring requirements on oil and gas facilities and a waste emissions charge on methane emissions that exceed 25,000 metric tonnes of CO₂e for applicable petroleum and natural gas facilities currently required to report under the Greenhouse Gas Reporting Rule. In December of 2023, the EPA released a separate rule under the Clean Air Act (CAA) to reduce methane and other harmful air pollutants from new and existing oil and gas operations nationwide, which includes the Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced after December 6, 2022, 40 C.F.R. § 60, Subpart OOOOb; and Emissions Guidelines for Greenhouse Gas Emissions from Existing Crude Oil and Natural Gas Facilities, Subpart OOOOc. These regulations impose emission limits, equipment design standards, and monitoring requirements on oil and gas facilities and a waste emissions charge on CH₄ emissions that exceed 25,000 metric tonnes of CO₂e for applicable petroleum and natural gas facilities currently required to report under the GHG Reporting Rule. A detailed discussion of existing regulations and Executive Orders that apply to BLM management of federal lands as well as current Federal and state regulations that apply to oil and gas development and production can be found in Chapter 2 of the Annual GHG Report. Section 2.5 of the Annual GHG Report, Executive Orders (EOs), has not been incorporated by reference as the EOs discussed therein have been rescinded as of January 20, 2025.

The EPA recently finalized a FIP that covers existing, new, and modified oil and gas emissions sources for the Uintah and Ouray Reservation and surrounding Indian Country. The purpose of the FIP is threefold: (1) improve air quality in the Uinta Basin by controlling sources that contribute to O₃ formation, (2) make Indian Country air permitting regulations consistent with State of Utah regulations in other parts of the Uinta Basin, and (3) provide streamlined O&G (oil and gas) authorizations while ensuring emissions reductions. Details concerning the FIP are incorporated by reference in the AMR (BLM, 2024) and include emissions control devices (e.g., combustors, closed loop systems), leak detection and repair, and equipment maintenance.

The majority of GHG emissions resulting from federal fossil fuel authorizations occur outside of the BLM's authority and control. These emissions are referred to as indirect emissions and generally occur off-lease during the transport, distribution, refining, and end-use of the produced federal minerals. The BLM's regulatory authority is limited to those activities authorized under the terms of the lease, which

primarily occur in the “upstream” portions of natural gas and petroleum systems (i.e., the well-development and well-production phases). This decision authority is applicable when development is proposed on public lands and the BLM assesses the specific location, design and plan of development. In carrying out its responsibilities under NEPA, the BLM has developed Best Management Practices (BMPs) designed to reduce emissions from field production and operations. BMPs may include limiting emissions from stationary combustion sources, mobile combustion sources, fugitive sources, and process emissions that may occur during development of the lease parcel. Analysis and approval of future development may include the application of BMPs within BLM’s authority, included as Conditions of Approval, to reduce or mitigate GHG emissions. Additional measures proposed at the project development stage may be incorporated as applicant-committed measures by the project proponent or added to necessary air quality permits. Additional information on mitigation strategies, including emissions controls and offset options, are provided in Chapter 10 of the Annual GHG Report.

Impacts of the Proposed Action (Alternative A)

Table 38 shows the estimated maximum year and average year GHG emissions over the life of the lease for both 100-yr and 20-yr global warming potentials (GWP). Section 3.4 of the Annual GHG Report provides a detailed explanation of GWP.

Table 38 Estimated Direct and Indirect Emissions from Lease Parcels on an Annual and Life of Lease Basis (tonnes) for Alternative A

	CO ₂	CH ₄	N ₂ O	CO ₂ e (100-yr)	CO ₂ e (20-yr)
Max Year	18,186,600	34,349.30	83.975	19,233,134	21,043,342
Average Year	5,832,518	11,296.95	24.369	6,175,820	6,771,169
Life of Lease	227,468,204	440,580.93	950.381	240,859,970	264,075,585

Source: BLM Lease Sale Emissions Tool

Table 39 lists the estimated direct (well development and production operations) and indirect (mid-stream and end-use) GHG emissions in metric tonnes (t) for the subject leases over the average 30-year production life of the lease. In summary, potential GHG emissions from the Proposed Action could result in GHG emissions of 240,856,970 t CO₂e over the life of the lease. More emissions detail is provided in Appendix G.

Table 39 Estimated Life of Lease Emissions from Well Development, Well Production Operations, Mid-stream, and End-use (tonnes) for Alternative A

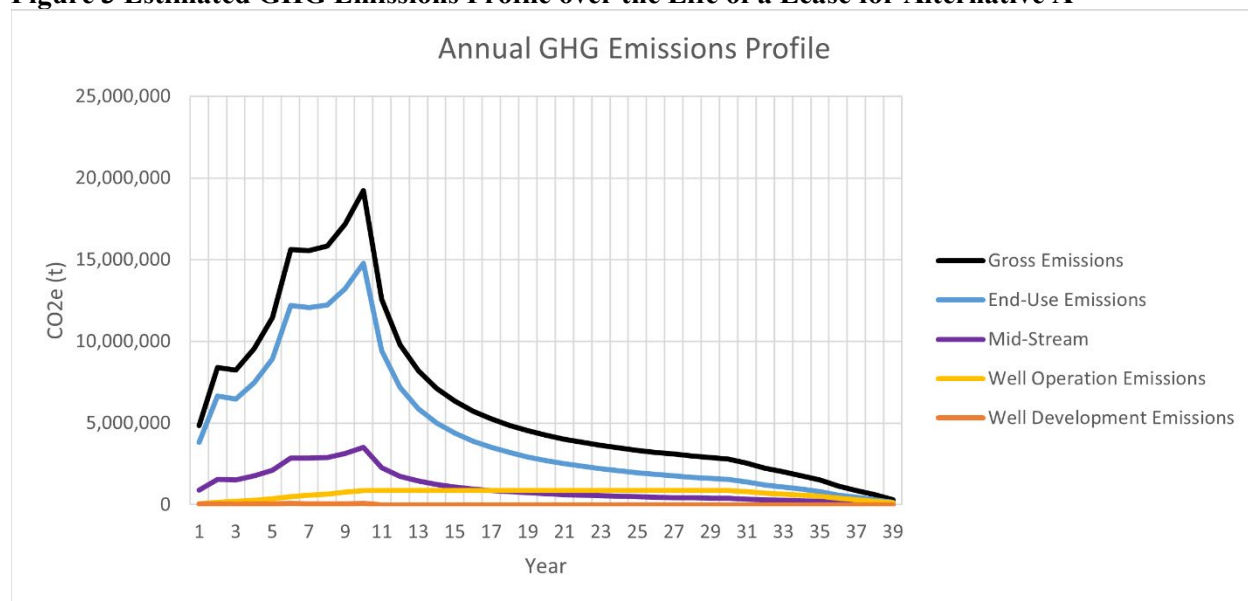
Activity	CO ₂	CH ₄	N ₂ O	CO ₂ e (100-yr)	CO ₂ e (20-yr)
Well Development	573,494	115.56	4.280	578,106	584,196
Well Production Operations	24,966,995	44,811.60	0.000	26,302,380	28,663,952
Mid-Stream	29,767,590	391,716.64	422.152	41,555,994	62,199,461
End-Use	172,160,125	3,937.13	523.949	172,420,489	172,627,976
Total (Life of Lease)	227,468,204	440,580.93	950.381	240,856,970	264,075,585

Source: BLM Lease Sale Emissions Tool

GHG emissions vary annually over the production life of a well due to declining production rates over time. Figure shows the estimated GHG emissions profile over the production life of a typical lease including the four phases of lease development processes: well development, well production operations,

mid-stream, end-use, and gross (total of well development, well production, mid-stream, and end-use) emissions.

Figure 3 Estimated GHG Emissions Profile over the Life of a Lease for Alternative A



Source: BLM Lease Sale Emissions Tool

To put the estimated GHG emissions for this lease sale in a relatable context, potential emissions that could result from development of the lease parcels for this sale can be compared to other common activities that generate GHG emissions. The EPA GHG equivalency calculator (EPA, 2022) can be used to express the potential average year GHG emissions on a scale relatable to everyday life (<https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>). For instance, the projected average annual GHG emissions from potential development of the subject lease are equivalent to 1,440,543 gasoline-fueled passenger vehicles driven for one year, the emissions from 1,287,014 homes' electricity use for one year, or offset by the carbon sequestration of 6,194,712 acres of forest land.

Table 40 compares the estimated annual lease sale emissions to existing Federal fossil fuel (oil, gas, and coal) emissions, State, and U.S. total GHG emissions.

Table 40 Comparison of Lease Sale Emissions to Other Sources (Megatonnes)

Reference	Mt CO ₂ e ¹ (Per Year)
Lease Sale Emissions (Maximum Year)	19.233*
UT Onshore Federal (Oil & Gas)²	12.93
U.S. Onshore Federal (Oil & Gas)²	611.55

U.S. Federal-All (Oil & Gas)²	1,462.29
U.S. Federal Onshore (Oil, Gas and Coal)²	1,046.33
UT Total (all sectors)³	61.3
U.S. Total	7,260.36

1 – Mt (megatonne) = 1 million metric tons. Estimates are based on 100-GWP values.

2 – Federal values come from the BLM Specialist Report on Annual Greenhouse Gas Emissions. Tables ES-1 and ES-2 and Figure ES-1. U.S Federal-All includes offshore and onshore oil and gas production.

3 - Total state emissions from all sectors is found in Table 5-2 of the BLM Specialist Report on Annual GHG Emissions

* - The lease value is not directly comparable to emissions at other scales due to different methodologies used to calculate each value. Utah and U.S. emissions are calculated using actual production data from existing wells (vertical, directional, and horizontal) while the lease sale emissions are based on production from the assumptions for analysis. VFO petroleum engineers analyzed two horizontal wells for the values listed in Table 6 but estimated production might be as low as 10% of the analyzed value based on lateral length in Federal minerals.

Impacts of the Greater-Sage Grouse Avoidance Alternative (Alternative B)

The emissions for this alternative are presented in Table 41 and are calculated using the same methodology as described for the Proposed Action emissions. Potential GHG emissions from the Greater-Sage Grouse Avoidance Alternative could result in GHG emissions of 39,392,495 t CO₂e over the life of the lease. More emissions detail is provided in Appendix G. Projected annual emissions can be compared to existing Federal fossil fuel (oil, gas, and coal) emissions, State, and U.S. total GHG emissions in Table 41. The projected average annual GHG emissions from expected development following the proposed lease sale are equivalent to 235,603 gasoline-fueled passenger vehicles driven for one year, the emissions from 210,493 homes' electricity use for one year, or offset by the carbon sequestration of 1,013,154 acres of forest land.

Table 41 Estimated Life of Lease Emissions from Well Development, Well Production Operations, Mid-stream, and End-use (tonnes) for Alternative B

Activity	CO₂	CH₄	N₂O	CO₂e (100-yr)	CO₂e (20-yr)
Well Development	93,796	18.90	0.700	94,550	95,546
Well Production Operations	4,083,387	7,329.00	0.000	4,301,791	4,688,030
Mid-Stream	4,868,531	64,065.81	69.044	6,796,541	10,172,809
End-Use	28,157,030	643.92	85.693	28,199,613	28,233,547
Total (Life of Lease)	37,202,744	72,057.63	155.436	39,392,495	43,189,932

Source: BLM Lease Sale Emissions Tool

Impacts of the Reed Mustards and Sensitive Penstemon Species Avoidance Alternative (Alternative C)

The emissions for this alternative are presented in Table 42 and are calculated using the same methodology as described for the Proposed Action emissions. Potential GHG emissions from the Reed

Mustards and Sensitive Penstemon Species Avoidance Alternative could result in GHG emissions of 145,752,232 t CO₂e over the life of the lease. More emissions detail is provided in Appendix G. Projected annual emissions can be compared to existing Federal fossil fuel (oil, gas, and coal) emissions, State, and U.S. total GHG emissions in Table 42. The projected average annual GHG emissions from expected development following the proposed lease sale are equivalent to 666,419 gasoline-fueled passenger vehicles driven for one year, the emissions from 595,394 homes' electricity use for one year, or offset by the carbon sequestration of 2,865,778 acres of forest land.

Table 42 Estimated Life of Lease Emissions from Well Development, Well Production Operations, Mid-stream, and End-use (tonnes) for Alternative C

Activity	CO ₂	CH ₄	N ₂ O	CO ₂ e (100-yr)	CO ₂ e (20-yr)
Well Development	265,308	53.46	1.980	267,442	270,259
Well Production Operations	11,550,152	20,730.60	0.000	12,167,924	13,260,426
Mid-Stream	13,770,988	181,214.71	195.295	19,224,502	28,774,517
End-Use	79,644,170	1,821.38	242.388	79,764,619	79,860,606
Total (Life of Lease)	105,230,618	203,820.15	439.662	111,424,486	122,165,808

Source: BLM Lease Sale Emissions Tool

Impacts of the No Action Alternative (Alternative D)

Under the No Action Alternative, the BLM would not offer any of the nominated parcels in the lease sale. However, in the absence of a Land Use Plan Amendment closing the lands to leasing, they could be considered for inclusion in future lease sales. Although no new GHG emissions would result under the No Action Alternative, the national and global demand for energy is not expected to differ regardless of BLM decision-making.

The BLM does not have a model to estimate energy market substitutions at a spatial resolution needed for this onshore production scenario. Reductions in oil and natural gas produced from Federal leases may be partially offset by non-Federal production (state and private) in the United States (in which case the indirect GHG emissions would be similar), or overseas, in which case the GHG emissions would likely be higher, to the extent environmental protection requirements for production are less vigorous, and the produced energy would need to be physically transported into the United States. There may also be substitution of other energy resources to meet energy demand. These substitution patterns will be different for oil and gas because oil is primarily used for transportation, while natural gas is primarily used for electricity production and manufacturing, and to a lesser degree by residential and commercial users (AEO, 2023). Coal and renewable energy sources are stronger substitutes for natural gas in electricity generation. The effect of substitution between different fuel sources on indirect GHG emissions depends on the replacement energy source. For example, coal is a relatively more carbon intense fuel than natural gas and hydroelectricity is the least carbon intense energy source (see Table 10-3 of the Annual GHG ReportBLM, 2024). In the transportation sector, alternatives to oil are likely to be less carbon intensive.

Finally, substitution across energy sources or oil and gas production from other locations may not fully meet the energy needs that would otherwise have been realized through production from these leases. Price effects may lower the market equilibrium quantity demanded for some fuel sources. This would lead to a reduction in indirect GHG emissions. These three effects are likely to occur in some combination under the no action alternative, but the relative contribution of each is unknown. Regardless, GHG emissions under the no action alternative are not expected to be zero.

3.6.3. Issue 3: Greater Sage-grouse

How would potential development of the nominated lease parcels affect greater sage-grouse and its habitat in the East Bench/Book Cliffs portion of the Uintah population area?

Greater sage-grouse (GRSG) is a BLM-UT sensitive species (managed under BLM Manual 6840). The BLM must ensure that actions authorized, funded, or carried out do not contribute to the need to list any of these species under the Endangered Species Act (ESA). Thirty-nine of the parcels nominated and available are within the GRSG General Habitat Management Area (GHMA) in the East Bench/Book Cliffs portion of the Uintah Population Area. The larger Uintah Population Area comprises approximately 1,558,300 total surface acres (557,400 total BLM surface acres). The scope for the analysis area for GRSG is contained within the East Bench/Book Cliffs GHMA that is intersected by the thirty-nine (39) lease parcels, which is a subset of the GHMA and the Priority Habitat Management Area (PHMA) in the larger Uintah Population Area and totals approximately 34,929 total surface acres of GHMA. The scope for analysis was chosen based on the GHMA and PHMA areas identified in the 2015 GRSG ARMPA (BLM 2015), which states, within the Uintah Population Area, there are seven areas with separate habitat and distinct populations. The analysis area for GRSG is contained within the East Bench/Book Cliffs portion of the Uintah Biologically Significant Unit (BSU).

Affected Environment

GRSG and their habitat have been a critical issue for the BLM and partner agencies across the west. GRSG currently occupy about one-half of their historic range (Schroeder, 2004). On October 2, 2015, the U.S. Fish and Wildlife Service (USFWS) published its finding that listing of the GRSG under the Endangered Species Act of 1973 was not warranted. The finding was based in part on the conservation strategies through range-wide planning efforts which led the USFWS to conclude that “the primary threats to greater sage-grouse have been ameliorated by conservation efforts implemented by Federal, State, and private landowners.” (Federal Register, 2015).

The GHMA comprises primarily Wyoming big sagebrush with some black sagebrush in the lower elevations; greasewood, tamarisk, and cultivated alfalfa in riparian areas; and pinyon-juniper woodlands with small pockets of mountain sagebrush areas in the upper elevations. The East Bench/Book Cliffs portion overlapping the thirty-nine parcels is characterized by predominantly pinyon pinyon-juniper habitat. Dry, lower-elevation areas are dominated by even-aged sagebrush stands with low abundance but diverse forb understory vegetation. Cheatgrass and Halogeton are common, particularly in areas where there has been disturbance. The nearest occupied lek is more than 21.46 miles west of the nearest parcel (parcel 1634). The status of other leks are unknown on tribal lands within the area. Past and current gas development exists predominately in the northern portion of the area. Aside from gas interest in the northern area, there is interest in oil shale deposits in the southern portion of the area.

Nine parcels (1627, 1641, 1643, 1644, 1645, 1658, 1660, 7763, and 7771) are wholly contained within GHMA while the remaining parcels (1602, 1603, 1617, 1618, 1620, 1622, 1625, 1626, 1634, 1640, 1650, 1655, 1657, 7723, 7727, 7728, 7731, 7733, 7734, 7735, 7738, 7739, 7740, 7746, 7753, 7758, 7759, 7760, 7762, and 7764) are only partially contained within GHMA. The primary habitat values based on modeled seasonal habitats includes some nesting but mostly winter and summer habitat. GRSG may use GHMA within the proposed lease parcel in support of various seasonal needs throughout the year, based on field observation and historical data. Refer to Table 43 for acres of GHMA, seasonal habitat values, and proximity of parcels to leks.

Table 43 Acres of GHMA, Seasonal Habitat Values and Leks associated with the Lease Parcels

Parcel#	Population Area	Parcel Size (Acres)	Amount of Parcel in GHMA % (Acres)	Distance to Nearest Occupied Lek (Miles)	Sage-Grouse Seasonal Habitat Values (Acres) in GHMA Per Parcel		
					Nesting	Winter	Summer
1602	Uintah	520.36	57.98	34.57	0	301.71	268.81
1603	Uintah	1625.37	0.86	22.70	0	13.97	0.87
1617	Uintah	1274.20	47.19	25.93	0	576.57	527.02
1618	Uintah	1919.00	0.05	30.83	0.66	0.92	0.92
1620	Uintah	2477.38	8.96	29.42	17.16	220.94	211.03
1622	Uintah	1085.05	99.99	28.56	198.01	1085.04	1083.61
1625	Uintah	1916.60	32.24	29.53	224.38	618.00	616.38
1626	Uintah	1909.86	90.93	22.34	0	1733.83	1648.09
1627	Uintah	1334.85	100.00	27.16	1.62	1295.70	1123.76
1634	Uintah	639.40	93.69	21.46	0	479.46	440.31
1640	Uintah	2137.43	94.47	28.02	325.74	2004.33	1947.34
1641	Uintah	572.95	100	30.71	244.75	572.95	572.95
1643	Uintah	1320.39	100	33.45	1308.32	1320.39	1320.39
1644	Uintah	1315.57	100	29.90	118.76	1315.57	1315.57
1645	Uintah	959.90	100	36.41	0	959.90	485.85
1650	Uintah	1279.99	94.08	35.27	0	1200.39	211.19
1655	Uintah	800.16	90.37	34.73	0	723.07	572.25
1657	Uintah	1122.00	61.11	34.84	0	685.66	475.93
1658	Uintah	315.77	100	27.26	0	315.77	315.23
1660	Uintah	638.66	100	21.88	0	638.53	605.49
7723	Uintah	1863.51	40.56	28.88	2.95	755.47	741.68
7727	Uintah	1916.48	80.57	26.62	0	1544.15	350.55
7728	Uintah	2031.16	25.53	23.95	190.01	518.62	518.62
7731	Uintah	1915.90	3.96	23.38	0	75.96	52.71
7733	Uintah	699.87	99.99	27.23	6.07	698.79	697.53
7734	Uintah	1905.90	57.57	23.71	0	1020.54	591.26
7735	Uintah	2558.95	43.14	31.76	7.39	1103.91	1103.91
7738	Uintah	2292.81	79.74	27.71	0	1813.12	1764.28
7739	Uintah	639.55	63.37	33.46	20.95	405.30	405.30
7740	Uintah	2559.90	55.88	31.07	13.66	1430.57	1428.77
7746	Uintah	1687.89	87.86	28.86	386.11	1482.97	1482.13
7753	Uintah	1270.46	38.99	23.28	0	471.76	0.04
7758	Uintah	2557.49	1.05	36.79	0	26.77	0.12
7759	Uintah	1280.56	79.91	31.22	997.39	1023.33	1023.33

Parcel#	Population Area	Parcel Size (Acres)	Amount of Parcel in GHMA % (Acres)	Distance to Nearest Occupied Lek (Miles)	Sage-Grouse Seasonal Habitat Values (Acres) in GHMA Per Parcel		
					Nesting	Winter	Summer
7760	Uintah	1604.28	99.99	35.79	6.11	1604.27	1587.56
7762	Uintah	2482.82	85.50	36.10	0	2117.01	1143.63
7763	Uintah	320.10	100	35.65	23.63	320.11	320.11
7764	Uintah	2111.03	91.24	33.28	0.63	1926.02	1856.40
7771	Uintah	318.29	100	26.87	0	257.35	137.14

Anthropogenic disturbances in the area both within and within close proximity to the parcels are moderate to high due to existing infrastructure for oil and gas. Parcels 1622, 1626, 1627, 1634, 1655, 1657, 1658, 1660, 7723, 7733, 7734, 7735, 7738, 7740, 7746, and 7771 are relatively intact with low existing infrastructure for oil and gas. Parcels 1655, 1657, 7735, 7740, and 7764 have a variety of habitat improvement projects that have been implemented to restore various components of the sagebrush community within the GHMA, primarily lop and scatter treatments on pinyon pine and juniper. Other land uses include grazing, agriculture, dispersed recreation, and hunting. The primary disturbance is oil and gas development, and other disturbances are fairly limited within the analysis area.

Prioritization Review

In accordance with the 2015 GRSG ARMPA and BLM policy, the BLM reviewed the priority of leasing parcels within GRSG habitat and prior oil and gas leasing and development. The BLM completed an in-depth review of all parcels within GHMA (Refer to Appendix H).

For GRSG prioritization considerations, the BLM determined that twenty-three (23) parcels (1602, 1603, 1617, 1618, 1620, 1625, 1640, 1641, 1643, 1644, 1645, 1650, 7727, 7728, 7731, 7739, 7753, 7758, 7759, 7760, 7762, 7763, and 7764) were determined to have a higher priority for leasing because they are generally where fewer biological component(s) are present, and more than one fluid mineral component is also present. See Appendix H.

For Parcels 1622, 1626, 1627, 1634, 1655, 1657, 1658, 1660, 7723, 7733, 7734, 7735, 7738, 7740, 7746, and 7771, the BLM determined that these parcels have a lower priority for leasing because they have a few biological components present and fewer fluid mineral components. Parcels 1655, 1657, 7735, 7740, and 7764 are within habitats where sagebrush restoration projects have been implemented to improve the sage-grouse habitat through pinyon pine and juniper lop and scatter treatments. To protect these investments and the integrity of restored habitats for sage-grouse, the BLM would rate these at a lower priority for leasing from the larger group of parcels listed above.

All proposed parcels within this Lease Sale are eligible for leasing with the applicable Management Actions, stipulations, and notices in conformance with the ARMPA. Application of stipulations have been confirmed by the Utah State Office Leasing Team.

This prioritization process helped to inform which proposed parcels should be carried forward and be analyzed in the NEPA document and was prepared in connection with the leasing decision for this Lease Sale. In the Decision Record, the Authorized Officer will determine whether all, some, or none of the

proposed parcels, will be offered during the Lease Sale based on this prioritization analysis and any other appropriate factors.

Please see a complete discussion of the recommended parcel prioritization documentation in Appendix H of this document and refer to maps in Appendix A. No parcels were identified for deferral.

Environmental Effects

Alternative A - Impacts of the Proposed Action

Under the Proposed Action, the potential parcels were reviewed, and the appropriate leasing stipulations were identified based on the RMP decisions. The management for fluid mineral leasing within the 2015 GRSG ARMPA identifies all, or parts of the parcels as follows:

Parcels 1602, 1603, 1617, 1618, 1620, 1622, 1625, 1626, 1627, 1634, 1640, 1641, 1643, 1644, 1645, 1650, 1655, 1657, 1658, 1660, 7723, 7727, 7728, 7731, 7733, 7734, 7735, 7738, 7739, 7740, 7746, 7753, 7758, 7759, 7760, 7762, 7763, 7764 and 7771

Lease Notices:

- UT-LN-131: Greater Sage-Grouse – Net Conservation Gain
- UT-LN-132: Greater Sage-Grouse – Required Design Features
- UT-LN-133: Greater Sage-Grouse - Buffer

Under the Proposed Action, 46 parcels would be offered for sale of which 39 are within GHMA. Collectively, approximately 51.8% of the total lease parcel acreage is within GHMA. Any potential effects to GRSG from the sale of lease parcels would occur at such time that any issued leases are developed and not at the leasing stage itself. If leased, drilling of wells on a lease would not be permitted until the BLM approves an APD. Any APD received would be subject to site-specific NEPA review. Leasing under the Proposed Action could result in direct and indirect impacts to greater sage-grouse and their habitat within GHMA on BLM-managed lands. Refer to maps in Appendix H (Prioritization) for further detail. The Proposed Action would offer 34,929 acres of GHMA for oil and gas leasing. It is reasonably foreseeable that the leased minerals would be developed.

The ROD prepared for the 2015 ARMPA (DOI-BLM-UT-9100-2013-EIS) implemented greater sage-grouse management goals and objectives, including amending leasing categories for managing the mineral estate. The Proposed Action is in conformance with the minerals decisions of the Utah Greater Sage Grouse (ROD/RMP) (BLM 2015). Leasing actions are specifically provided for in those planning decisions (Management Actions for Minerals Resources). Because the lease parcels are within GHMA, the parcels would be offered with lease notices. Fluid mineral stipulations under the 2015 ARMPA (Exceptions, Modifications, and Waiver Criteria, Appendix G) are specific to management in PHMA.

Based on the RFDs described in Section 3.2.1, it is expected that well pad, road construction, and associated production and maintenance operations could occur on lease parcels, which could lead to direct and indirect impacts to greater sage-grouse and their habitat within GHMA. Within GHMA, based on the RMP RFDs in Section 3.2.1 Table 5, a total of 358 horizontal well bores and 535 acres of disturbance (roughly 0.9% of the total parcel acreage that overlap with GHMA) are anticipated. The effects of oil and gas development and its related infrastructure on GRSG have been thoroughly addressed in land use plan amendments. Impacts from oil and gas development based on the RFDs would increase the number of

pads or wells developed and would be most pronounced in winter and summer habitat within the GHMA. Influences of oil and gas development on GRSG can include direct mortality from impact with infrastructure or vehicles, short term impacts associated with direct habitat loss and behavioral avoidance, and long-term impacts on grouse behavior and demographics. Oil and gas development can contribute to declines in lek persistence and male attendance, yearling and adult hen survival, and nest initiation rates miles from the source of disturbance. Oil and gas wells elicit strong avoidance response in yearling age classes, nesting/brooding hens, and wintering birds (GRSG FEIS, 2015).

The BLM has the authority under standard terms and conditions to attach COAs at the site-specific level to minimize significant adverse effects on resource values at the time operations are proposed. Examples of potential mitigation measures include design modifications to avoid or minimize effects to sensitive habitats; limiting the number of well pads under simultaneous construction; seasonal restrictions; limiting the number of proposed roads; reclaiming old and/or unnecessary roads; minimizing truck traffic; noise-buffering measures; pre-development surveys; or use of special construction techniques to minimize surface disturbance to sensitive areas within GHMA.

Alternative B – Impacts of the Greater Sage-Grouse Habitat Avoidance Alternative

For GRSG, Alternative B would be essentially the same as a No Action Alternative with respect to impacts to GRSG and its habitat. The BLM would not offer the parcels for lease that fall within GHMA; therefore, no new foreseeable oil and gas development would occur on the subject parcels or off-parcel on adjacent BLM lands within GHMA. As discussed under the Proposed Action, impacts from development of nearby leases could still occur, resulting in impacts to GRSG in PHMA. Those impacts would just not be increased by BLM action under this lease sale. Seven non-sage-grouse parcels (parcels 1630, 1636, 1638, 1656, 7757, 7765, and 7768) would be offered which would not result in direct or indirect effects to GRSG or their habitat.

Alternative C- Impacts of the Reed Mustard and Sensitive Penstemon Species Avoidance Alternative

For GRSG, Alternative C would be essentially the same as the Proposed Alternative with respect to impacts to GRSG and its habitat. However, instead of 39 parcels being leased in GHMA, the BLM would only lease 26 parcels that fall within GHMA: parcels 1602, 1603, 1617, 1618, 1620, 1622, 1625, 1626, 1627, 1634, 1641, 1643, 1644, 1645, 1650, 1657, 1660, 7723. Alternative C would offer 23,662.3 acres of GHMA for oil and gas leasing. It is reasonably foreseeable that the leased minerals would be developed. Based on the RFDs described in Section 3.2.1, it is expected that well pad, road construction, and associated production and maintenance operations could occur on lease parcels, which could lead to direct and indirect impacts to greater sage-grouse and their habitat within GHMA. Within GHMA, based on the RMP RFDs in Section 3.2.1 Table 5, a total 220 acres of disturbance (roughly 0.9% of the total parcel acreage that overlap with GHMA) are anticipated.

As discussed under the Proposed Action, impacts from development of nearby leases could still occur, resulting in impacts to GRSG in GHMA. Those impacts would just not be increased by BLM action under this lease sale. Under this alternative. Three non-sage-grouse parcels (1638, 1656, and 7765) would still be offered which would not result in direct or indirect effects to GRSG or their habitat.

Alternative D- No Action Alternative

Under the No Action Alternative, the BLM would not offer any of the nominated parcels (46 parcels) in this Lease Sale. However, in the absence of a Land Use Plan Amendment closing lands to leasing, they could be considered for inclusion in future lease sales. No new impacts to GHMA associated with new Federal oil and gas development for the subject leases would occur under the No Action Alternative in the foreseeable future

Mitigation Measures and Residual Effects

There are no mitigation measures for GRSG in addition to the stipulations and notices already applied to the lease parcels.

General Setting

The Proposed Action would incrementally add to the overall leased acres in the Uintah populations in GHMA. Future development of one or more of these parcels would contribute to the aggregate impact of habitat fragmentation and disturbance to vegetative communities within GRSG GHMA. In the GHMA that overlaps with the parcels in East Bench and Book Cliffs, there are approximately 185,323 acres of GHMA. Of this, approximately 89,371 acres (48.2%) is currently under Federal lease. The addition of the proposed leases and associated acreages would create additional rights if sold. Impacts beyond those analyzed in the Greater Sage-grouse ARMPA FEIS (BLM 2015) are not expected. The RFDs described potential for multiple wells and acreages of disturbance for each parcel as described in Section 3.2.1. Due to the uncertainties from a lease development standpoint, it is difficult to predict exactly what impacts may occur. However, impacts from development, such as the anticipated noise, permanent and temporary facilities, and traffic, would be similar to those discussed in the Vernal Field Office RMP (BLM, 2008) and the 2015 ARPMA (BLM, 2015). Cumulative impacts would further be examined at the APD level with consideration of site-specific location information and along with development of COAs to reduce the impacts to greater sage-grouse GHMA as needed.

The No Action alternative would not result in impacts associated with this Lease Sale. Past and present actions that have affected and would likely continue to affect GRSG and GHMA in the analysis area include surface disturbance resulting from ongoing oil and gas development and associated infrastructure, geophysical exploration, ranching and livestock grazing, range improvements, recreation (including OHV use), authorization of ROWs for utilities and other uses, and road development. Impacts associated with Alternative B would be similar to the No Action Alternative.

3.6.4. Issue 4: Clay Reed-Mustard (*Hesperidanthus argillaceae*)

How would potential development of the nominated lease parcels affect potential and occupied habitat for clay -reed mustard?

Affected Environment

Clay reed-mustard (*Hesperidanthus* [*Schoenocrambe*] *argillaceae*) is a federally threatened perennial member of the mustard family endemic to the zone of contact between the Green River and Uinta Formations in northeastern Utah. Additional information on the species is available in the Utah Reed-Mustards Recovery Plan (USFWS, 1994) and the most recent 5-year review (USFWS, 2019).

The USFWS Utah Ecological Services Office defines occupied habitat for federally listed plant species in Utah as all areas currently or historically known to support the species and a 300-foot avoidance buffer to avoid the existing seedbank and indirect effects from dust or to pollinators. This document follows that definition and treats all habitat within 300-feet of recorded individuals as occupied habitat.

Using a 2-kilometer separation distance to delineate subpopulations, across the range of the species there are fourteen subpopulations with 835 acres of occupied habitat.

Habitat modeling for the species (Albeke, 2012) identified 28,195 acres of habitat across the range of the species.

Within the project area, three subpopulations intersect occupied habitat. One subpopulation is a small subpopulation on the west side of Big Pack Mountain (for this document referred to as Subpopulation A) that has 6.5 acres of occupied habitat. The second population consists of the clusters of individuals found on the east flank of Big Pack Mountain (referred to as Big Pack Mountain), that has 133 acres of occupied habitat. The third population is the subpopulation found on the east side of Willow Creek (Broom Canyon) with 58 acres of occupied habitat.

Environmental Affects

Impacts of the Proposed Action (Alternative A)

Under Alternative A, twelve of the nominated parcels (1617, 1620, 1622, 1640, 1641, 1644, 7728, 7731, 7733, 7734, 7738, and 7757) intersect modeled suitable habitat for the species, two of the nominated parcels (1641 and 7728) intersect the 300-foot buffer portion of occupied habitat, and one of the nominated parcels (1640) intersects known locations for clay reed-mustard.

Occupied Habitat

Acres of occupied habitat is presented in Table 44.

Table 44: Clay reed-mustard occupied habitat (300 feet around known location) acreage

Subpopulation	Total Acres of Occupied Habitat	Acres of Occupied Habitat in Parcel 1640	Acres of Occupied Habitat in Parcel 1641	Acres of Occupied Habitat in Parcel 7728
A	6.5	0.0	0.0	0.5
Broom Canyon	57.8	0.0	2.6	0.0
Big Pack Mountain	133.3	30.9	0.0	0.0
Global Grand Total ¹	800.9	30.9	2.6	0.5

¹ Includes acres of occupied habitat within subpopulation outside of nominated parcels

Using the reasonably foreseeable disturbance assumptions in Section 3.2, 22 acres of disturbance would occur within parcel 1640, 5 acres of disturbance would occur within parcel 1641, and 19 acres of disturbance would occur within parcel 7671. Assuming random placement of disturbance within the area,

0.3 acres of occupied habitat in parcel 1640, less than 0.1 acres of occupied habitat in parcel 1641, and less than 0.1 acres of occupied habitat in parcel 7728 would be directly impacted by the development (less than 0.1% of the occupied habitat in the subpopulations intersecting the lease parcels). Given the requirements of lease notice T&E-20 to perform surveys and avoid individuals by 300-feet where feasible combined with the BLM's authority to relocate facilities by up to 800 meters under the standard lease terms and conditions, it is expected that impacts to occupied habitat at the lease development stage would be much less than those presented, with the likeliest outcome being no loss of occupied habitat.

Modeled Suitable Habitat

Acres of modeled suitable habitat found is presented in Table 45.

Table 45: Modeled Clay-Reed Mustard Suitable Habitat

Parcel	Acres Suitable Habitat
1617	228.0
1620	259.8
1622	229.2
1640	335.5
1641	281.5
1644	273.9
7728	32.0
7731	60.3
7733	1.9
7734	219.7
7738	187.3
7757	190.7
Grand Total	2,299.8

Using the reasonably foreseeable disturbance assumptions in Section 3.2, 186 acres of disturbance would occur within parcels that intersect modeled suitable habitat for clay-reed mustard. Assuming random placement of disturbance within the area, 21.2 acres of modeled suitable habitat would be directly impacted by the development. This represents 1% of the suitable habitat within the parcels and less than 0.1% of the suitable habitat across the range of the species.

Lease Notices:

- T&E-20 – Clay reed-mustard (*Schoenocrambe argillaceae*): Parcels 1617, 1620, 1622, 1626, 1640, 1641, 1644, 7728, 7731, 7733, 7734, 7738, 7757
- T&E-05 – Listed Plant Species: All Parcels

Impacts of the Greater-Sage Grouse Avoidance Alternative (Alternative B)

Under Alternative B, one nominated parcel (7757) intersects modeled suitable habitat for the species. No nominated parcels are located within 300 feet of known locations.

Modeled Suitable Habitat

Table 46: Modeled Clay-Reed Mustard Suitable Habitat

Parcel	Acres Suitable Habitat
7757	190.7
Grand Total	190.7

Using the reasonably foreseeable disturbance assumptions in Section 3.2, 20 acres of disturbance would occur within the parcel that intersect modeled suitable habitat for clay-reed mustard. Assuming random placement of disturbance within the area, 1.8 acres of modeled suitable habitat would be directly impacted by the development. This represents less than 0.1% of the suitable habitat within the parcel or across the range of the species.

Lease Notices:

- T&E-20 – Clay reed-mustard (*Schoenocrambe argillaceae*): Parcel 7757
- T&E-05 – Listed Plant Species: All Parcels

Impacts of the Reed Mustards and Sensitive Penstemon Species Avoidance Alternative (Alternative C)

Under Alternative C, two of the nominated parcels (1641 and 1644) intersect modeled suitable habitat for the species, one of the nominated parcels (1641) is located within 300 feet of known locations and no parcels intersect known locations for clay reed-mustard.

Occupied Habitat

Acres of occupied habitat, defined here as areas within 300 feet of a plant, is presented in Table 47.

Table 47: Clay reed-mustard occupied habitat (300 feet around known location) acreage

Subpopulation	Total Acres of Occupied Habitat	Acres of Occupied Habitat in Parcel 1641	Percent of Total Occupied Habitat in Parcel 1641
Broom Canyon	57.8	2.6	4.5%
Global Grand Total¹	800.9	2.6	0.3%

¹ Includes acres of occupied habitat within subpopulation outside of nominated parcels

Using the reasonably foreseeable disturbance assumptions in Section 3.2, 5 acres of disturbance would occur within parcel 1641. Assuming random placement of disturbance within the area less than 0.1 acres of occupied habitat in parcel 1641 would be directly impacted by the development (less than 0.1% of the occupied habitat in the subpopulations intersecting the lease parcels). However, the edge of the occupied habitat is less than 300 feet (100 meters) from the edge of the lease, impacts to the subpopulation would be entirely avoided by following the requirements of lease notice T&E-20 to perform surveys and avoid individuals by 300-feet where feasible combined with the BLM's authority to relocate facilities by up to 800 meters under the lease terms and conditions.

Modeled Suitable Habitat

Acres of modeled suitable habitat found is presented in Table 48.

Table 48: Modeled Clay-Reed Mustard Suitable Habitat

Parcel	Acres Suitable Habitat
1641	281.5
1644	273.9
Grand Total	555.4

Using the reasonably foreseeable disturbance assumptions in Section 3.2, 17 acres of disturbance would occur within parcels that intersect modeled suitable habitat for clay-reed mustard. Assuming random placement of disturbance within the area, 4.9 acres of modeled suitable habitat would be directly impacted by the development. This represents 0.9% of the suitable habitat within the parcels and less than 0.1% of the suitable habitat across the range of the species.

Lease Notices:

- T&E-20 – Clay reed-mustard (*Schoenocrambe argillaceae*): Parcels 1641, 1644
- T&E-05 – Listed Plant Species: All Parcels

Impacts of the No Action Alternative (Alternative D)

Under the No Action Alternative, the BLM would not offer any of the nominated parcels in this Lease Sale. However, in the absence of a Land Use Plan Amendment closing lands to leasing, they could be considered for inclusion in future lease sales. No new impacts to clay-reed mustard occupied or suitable habitat associated with new Federal oil and gas development for the subject leases would occur under the No Action Alternative in the foreseeable future. Existing activities are expected to continue. The current setting is described below for the occupied habitat and modeled suitable habitat across the range of the species.

Occupied Habitat

Within occupied clay-reed mustard habitat, there is one fluid mineral pad constructed, supporting zero wells (the well pad was constructed but the wells never drilled prior to expiration of the permits). There are 364 acres of occupied habitat that currently has the federal fluid minerals leased. The Vernal Field Office route inventory identified 0.3 miles of linear routes occupied habitat.

Modeled Suitable Habitat

Within modeled suitable habitat for clay-reed mustard, there are 36 well pads supporting 44 active, abandoned, or proposed fluid mineral wells. There are 13,914 acres of modeled suitable habitat that currently has the federal fluid minerals leased. The Vernal Field Office route inventory identified 16.5 miles of linear routes within modeled suitable habitat for clay-reed mustard within the Vernal Field Office.

3.6.5. Issue 5: Shrubby Reed-Mustard (*Hesperidanthus suffrutescens*)

How would potential development of the nominated lease parcels affect potential and occupied habitat for shrubby-reed mustard?

Affected Environment

Shrubby reed-mustard (*Hesperidanthus* [*Schoenocrambe*] *suffrutescens*) is a federally endangered perennial member of the mustard family endemic to white shale layers of the upper member of the Green River formation in northeastern Utah. Additional information on the species is available in the Utah Reed-Mustards Recovery Plan (USFWS, 1994) and the most recent 5-year review (USFWS, 2019).

The USFWS Utah Ecological Services Office defines occupied habitat for federally listed plant species in Utah as all areas currently or historically known to support the species and a 300-foot avoidance buffer to avoid the existing seedbank and indirect effects from dust or to pollinators. This document follows that definition and treats all habitat within 300-feet of recorded individuals as occupied habitat.

Using a 2-kilometer separation distance to delineate subpopulations, across the range of the species there are ten subpopulations with 2,117 acres of occupied habitat.

Habitat modeling for the species (Albeke, 2012) identified 82,498 acres of habitat across the range of the species.

Within the project area, occupied habitat for four subpopulations intersect a nominated parcel. The first subpopulation is on the northwest side of Big Pack Mountain (referred to as Big Pack Mountain) that has 873 acres of occupied habitat, the second is on the southwest side of Big Pack Mountain (referred to as Johnson Draw) that has 643 acres of occupied habitat, the third is at the south end of Little Pack Mountain (referred to as Agency Draw) that has 96 acres of occupied habitat, and the fourth is on the east side of Big Pack Mountain (referred to as Thorn Ranch) that has 40 acres of occupied habitat.

Environmental Effects**Impacts of the Proposed Action (Alternative A)**

Under Alternative A, 22 of the nominated parcels (1603, 1617, 1620, 1622, 1626, 1627, 1630, 1634, 1640, 1641, 1644, 1658, 1660, 7727, 7728, 7731, 7733, 7734, 7738, 7753, 7757, and 7771) intersect modeled suitable habitat for the species and eight of the nominated parcels (1603, 1626, 1640, 7728, 7731, 7734, 7753, and 7757) intersects known locations for shrubby reed-mustard.

Occupied Habitat

Acres of occupied habitat, is presented in Table 49.

Table 49: Shrubby reed-mustard occupied habitat (300 feet around known location) acreage

Subpopulation	Big Pack Mountain	Johnson Draw	Agency Draw	Thorn Ranch	Global Grand Total
Acres of Occupied Habitat in Parcel 1603			53.7		53.7

Subpopulation	Big Pack Mountain	Johnson Draw	Agency Draw	Thorn Ranch	Global Grand Total
Acres of Occupied Habitat in Parcel 1626		180.3			180.3
Acres of Occupied Habitat in Parcel 1640				39.9	39.9
Acres of Occupied Habitat in Parcel 7728		0.1			0.1
Acres of Occupied Habitat in Parcel 7731		65.9			65.9
Acres of Occupied Habitat in Parcel 7734		52.8			52.8
Acres of Occupied Habitat in Parcel 7753		208.2			208.2
Acres of Occupied Habitat in Parcel 7757	430.1				430.1
Total Acres of Occupied Habitat ¹	873.4	642.9	96.0	39.9	2117.2

¹ Includes acres of occupied habitat within subpopulation outside of nominated parcels

Using the reasonably foreseeable disturbance assumptions in Section 3.2, 140 acres of disturbance would occur within the nominated parcels that intersect occupied shrubby reed-mustard habitat. Assuming random placement of disturbance within the area, 9.7 acres of occupied shrubby-reed mustard habitat would be directly impacted by the development, representing 0.5% of the occupied habitat in the Big Pack subpopulation, 0.7% of the occupied habitat in the Johnson Draw Subpopulation, 0.5% of the occupied habitat in the Agency Draw Subpopulation, 0.9% of the occupied habitat in the Thorn Ranch Subpopulation, and 0.5% of the occupied habitat across the range of the species. Given the requirements of lease notice T&E-21 to perform surveys and avoid individuals by 300-feet where feasible combined with the BLM's authority to relocate facilities by up to 800 meters under the standard lease terms and conditions, it is expected that impacts to occupied habitat at the lease development stage would be much less than those presented. However, given the distribution of the populations, topographic constraints, and locations of existing infrastructure (including existing collector roads) it is likely that 100% avoidance of occupied habitat will not be possible, particularly within parcels 7753 and 7757.

Modeled Suitable Habitat

Acres of modeled suitable habitat found is presented in Table 50.

Table 50: Modeled Shrubby-Reed Mustard Suitable Habitat

Parcel	Acres
1603	519.1
1617	733.3
1620	198.2
1622	776.9
1626	1418.5
1627	2.8
1630	324.5
1634	176.6
1640	1393.4
1641	281.0
1644	658.1
1658	192.6
1660	264.4
7727	28.5
7728	1003.9
7731	1142.8
7733	692.3
7734	1215.4
7738	233.1
7753	1051.9
7757	1508.1
7771	134.4
Grand Total	13,949.9

Using the reasonably foreseeable disturbance assumptions in Section 3.2, 294 acres of disturbance would occur within parcels that intersect modeled suitable habitat for shrubby-reed mustard. Assuming random placement of disturbance within the area, 76.1 acres of modeled suitable habitat would be directly impacted by the development. This represents 0.5% of the suitable habitat within the parcels and less than 0.1% of the suitable habitat across the range of the species.

Lease Notices:

- T&E-21 – Shrubby reed-mustard (*Schoenocrambe suffrutescens*): Parcels 1603, 1617, 1620, 1622, 1626, 1627, 1630, 1634, 1640, 1641, 1644, 1658, 1660, 7727, 7728, 7731, 7733, 7734, 7738, 7753, 7757, 7771
- T&E-05 – Listed Plant Species: All Parcels

Impacts of the Greater-Sage Grouse Avoidance Alternative (Alternative B)

Under Alternative B, one nominated parcel (7757) intersects known locations for shrubby-reed mustard and two nominated parcels (1630, 7757) intersects modeled suitable habitat for the species.

Occupied Habitat

Acres of occupied habitat, defined here as areas within 300 feet of a plant, is presented in Table 51.

Table 51: Shrubby reed-mustard occupied habitat (300 feet around known location) acreage

Subpopulation	Big Pack Mountain	Global Grand Total
Acres of Occupied Habitat in Parcel 7757	430.1	430.1
Total Acres of Occupied Habitat ¹	873.4	2,117.2

¹ Includes acres of occupied habitat within subpopulation outside of nominated parcels

Using the reasonably foreseeable disturbance assumptions in Section 3.2, 20 acres of disturbance would occur within the nominated parcels that intersect occupied shrubby reed-mustard habitat. Assuming random placement of disturbance within the area, 4.1 acres of occupied shrubby-reed mustard habitat would be directly impacted by the development, representing 0.5% of the occupied habitat in the Big Pack subpopulation and less than 0.1% of the occupied habitat across the range of the species. Given the requirements of lease notice T&E-21 to perform surveys and avoid individuals by 300-feet where feasible combined with the BLM's authority to relocate facilities by up to 800 meters under the standard lease terms and conditions, it is expected that impacts to occupied habitat at the lease development stage would be much less than those presented. However, given the distribution of the populations, topographic constraints, and locations of existing infrastructure (including existing collector roads) it is likely that 100% avoidance of occupied habitat will not be possible.

Modeled Suitable Habitat

Table 52: Modeled Shrubby-Reed Mustard Suitable Habitat

Parcel	Acres
1630	324.5
7757	1,508.1
Grand Total	1,832.6

Using the reasonably foreseeable disturbance assumptions in Section 3.2, 36 acres of disturbance would occur within the parcel that intersect modeled suitable habitat for shrubby-reed mustard. Assuming random placement of disturbance within the area, 7.1 acres of modeled suitable habitat would be directly impacted by the development. This represents less than 0.1% of the suitable habitat within the parcel or across the range of the species.

Lease Notices:

- T&E-21 – Shrubby reed-mustard (*Schoenocrambe suffrutescens*): Parcels 1630, 7757
- T&E-05 – Listed Plant Species: All Parcels

Impacts of the Reed Mustards and Sensitive Penstemon Species Avoidance Alternative (Alternative C)

Under Alternative C, five of the nominated parcels (1630, 1634, 1641, 1644, and 1660) intersect modeled suitable habitat for the species and no nominated parcels are located within 300-feet of known locations.

Modeled Suitable Habitat

Acres of modeled suitable habitat found is presented in Table 53.

Table 53: Modeled Shrubby-Reed Mustard Suitable Habitat

Parcel	Acres
1630	324.5
1634	176.6
1641	281.0
1644	658.1
1660	264.4
Grand Total	1,704.6

Using the reasonably foreseeable disturbance assumptions in Section 3.2, 43 acres of disturbance would occur within parcels that intersect modeled suitable habitat for shrubby-reed mustard. Assuming random placement of disturbance within the area, 10.3 acres of modeled suitable habitat would be directly impacted by the development. This represents 1% of the suitable habitat within the parcels and less than 0.1% of the suitable habitat across the range of the species.

Lease Notices:

- T&E-21 – Shrubby reed-mustard (*Schoenocrambe suffrutescens*): Parcels 1630, 1634, 1641, 1644, and 1660
- T&E-05 – Listed Plant Species: All Parcels

Impacts of the No Action Alternative (Alternative D)

Under the No Action Alternative, the BLM would not offer any of the nominated parcels in this Lease Sale. However, in the absence of a Land Use Plan Amendment closing lands to leasing, they could be considered for inclusion in future lease sales. No new impacts to shrubby-reed mustard occupied or suitable habitat associated with new Federal oil and gas development for the subject leases would occur under the No Action Alternative in the foreseeable future. Existing activities are expected to continue. The current setting is described below for the occupied habitat and modeled suitable habitat across the range of the species

Occupied Habitat

Within occupied shrubby-reed mustard habitat, there is one fluid mineral pad constructed, supporting one well. There are 488 acres of occupied habitat that currently has the federal fluid minerals leased. The Vernal Field Office route inventory identified 0.3 miles of linear routes within habitat.

Modeled Suitable Habitat

Within modeled suitable habitat for shrubby-reed mustard, there are 100 well pads supporting 103 active, abandoned, or proposed fluid mineral wells. There are 9,623 acres of modeled suitable habitat that currently has the federal fluid minerals leased. The Vernal Field Office route inventory identified 99 miles of linear routes within modeled suitable habitat for shrubby-reed mustard within the Vernal Field Office.

3.6.6. Issue 6: Graham's Penstemon (*Penstemon grahamii*)

How would potential development of the nominated lease parcels affect potential and occupied habitat for Graham's penstemon?

Affected Environment

Graham's penstemon (*Penstemon grahamii*) is a BLM sensitive perennial member of the plantain family endemic to the Green River formation in northeastern Utah and adjacent Rio Blanco County, Colorado. Additional information on the species is available in the Conservation Agreement and Strategy (Penstemon Conservation Team, 2014) and the Biological Status Report (USFWS, 2021).

The USFWS Utah Ecological Services Office defines occupied habitat for federally listed plant species in Utah as all areas currently or historically known to support the species and a 300-foot avoidance buffer to avoid the existing seedbank and indirect effects from dust or to pollinators. This document adopts that definition for Graham's penstemon and treats all habitat within 300-feet of recorded individuals as occupied habitat.

Using a 2-kilometer separation distance to delineate subpopulations, across the range of the species there are twenty-eight subpopulations with 10,141 acres of occupied habitat.

Habitat modeling for the species (BLM unpublished) identified 105,253 acres of habitat across the range of the species.

Within the project area, seven subpopulations (found within the Seep Ridge population) have occupied habitat that intersects a nominated parcel. One is a small subpopulation to the east of Willow Creek in Section 8 of Township 12 S Range 21 E (Subpopulation A), the second is a small subpopulation to the west of Willow Creek in Sections 18 and 19 of Township 13 S Range 21 E (Subpopulation B), the third is a small subpopulation on the east side of Big Pack Mountain in Section 14 of Township 12 S Range 20 E (Subpopulation C), the fourth is a small subpopulation to the west of Willow Creek in Section 33 of Township 12 S Range 21 E and Sections 4 and 9 of Township 13 S Range 21 E (Subpopulation D), the fifth is a very small subpopulation to the east of Big Pack Mountain in Section 1 of Township 12 S Range 20 E (Subpopulation E), the sixth is the main Buck Canyon subpopulation (Buck Canyon), the seventh is the Sunday School Canyon subpopulation (Sunday School).

Environmental Affects**Impacts of the Proposed Action (Alternative A)**

Under Alternative A, forty-two of the nominated parcels (1602, 1603, 1617, 1618, 1620, 1622, 1625, 1626, 1627, 1630, 1634, 1636, 1638, 1640, 1641, 1643, 1644, 1645, 1650, 1655, 1656, 1657, 1660, 7723, 7727, 7728, 7731, 7734, 7735, 7738, 7739, 7740, 7746, 7753, 7757, 7758, 7759, 7760, 7762, 7764, 7765, and 7768) intersect modeled suitable habitat for the species and eleven of the nominated parcels (1617, 1620, 1655, 1656, 7727, 7728, 7734, 7740, 7746, 7765, 7768) intersect known locations for Graham's penstemon.

Occupied Habitat

Acres of occupied habitat is presented in Table 54.

Table 54: Graham's penstemon occupied habitat (300 feet around known location) acreage

Parcel	A	B	C	D	E	Buck Canyon	Sunday School Canyon	Global Grand Total
1617			19.6					19.6
1620	19.4							19.4
1655						24.8		24.8
1656							21.1	21.1
7727		16.3						16.3
7728					6.5			6.5
7734			15.3					15.3
7740						90.2		90.2
7746				10.2		24.4		34.6
7765						167.6		167.6
7768							57.9	57.9
Grand Total ¹	19.4	32.7	34.9	34.0	6.5	2,781.7	127.7	10,140.5

¹ Includes acres of occupied habitat within subpopulation outside of nominated parcels

Using the reasonably foreseeable disturbance assumptions in Section 3.2, 182 acres of disturbance would occur within the nominated parcels that intersect occupied habitat.

Table 55: Estimated acres of disturbance within Graham's penstemon occupied habitat subpopulations

Parcel	A	B	C	D	E	Buck Canyon	Sunday School Canyon	Global Grand Total
1617			0.2					0.2
1620	0.2							0.2
1655						0.2		0.2
1656							0.2	0.2
7727		0.2						0.2
7728					0.1			0.1
7734			0.1					0.1
7740						0.8		0.8
7746				0.1		0.2		0.3

Parcel	A	B	C	D	E	Buck Canyon	Sunday School Canyon	Global Grand Total
7765						1.6		1.6
7768							0.5	0.5
Grand Total	0.2	0.2	0.3	0.1	0.1	2.9	0.7	4.5

Assuming random placement of disturbance within the area, 4.5 acres would be directly impacted by the development representing between 0.1 and 0.9% of the occupied habitat in each subpopulation and less than 0.1% of the total occupied habitat for the species (Table 54 & Table 55). Given the requirements of lease notice UT-LN-90 to perform surveys and avoid individuals by 300-feet where feasible combined with the BLM's authority to relocate facilities by up to 800 meters under the standard lease terms and conditions, it is expected that impacts to occupied habitat at the lease development stage would be much less than those presented. However, given the distribution of the populations, topographic constraints, and locations of existing infrastructure (including existing collector roads) it is likely that 100% avoidance of occupied habitat will not be possible.

Modeled Suitable Habitat

Acres of modeled suitable habitat found is presented in Table 56.

Table 56: Modeled Graham's penstemon Suitable Habitat

Parcel	Acres Suitable Habitat
1602	2.5
1603	103.8
1617	69.8
1618	18.1
1620	402.5
1622	30.8
1625	470.1
1626	1.9
1627	0.7
1630	70.2
1634	53.6
1636	30.0
1638	159.7
1640	6.6
1641	49.8
1643	4.2
1644	118.9
1645	67.5

Parcel	Acres Suitable Habitat
1650	2.0
1655	67.3
1656	564.7
1657	44.3
1660	30.2
7723	683.6
7727	13.0
7728	87.3
7731	66.9
7734	187.2
7735	3.0
7738	397.6
7739	8.6
7740	655.8
7746	904.7
7753	0.8
7757	59.7
7758	22.8
7759	27.7
7760	0.1
7762	22.5
7764	45.6
7765	1,351.9
7768	1,123.2
Grand Total	8,031.2

Using the reasonably foreseeable disturbance assumptions in Section 3.2, 624 acres of disturbance would occur within parcels that intersect modeled suitable habitat for Graham's penstemon. Assuming random placement of disturbance within the area, 33.7 acres of modeled suitable habitat would be directly impacted by the development. This represents 0.4% of the suitable habitat within the parcels and less than 0.1% of the suitable habitat across the range of the species. No significant impact is expected due to the small amount of disturbance to suitable habitat.

Lease Notices:

- UT-LN-90 – Graham's beardtongue (*Penstemon grahamii*): Parcels 1602, 1603, 1617, 1618, 1620, 1622, 1625, 1626, 1627, 1630, 1634, 1636, 1638, 1640, 1641, 1643, 1644, 1645, 1650, 1655, 1656, 1657, 1660, 7723, 7727, 7728, 7731, 7733, 7734, 7735, 7738, 7739, 7740, 7746, 7753, 7757, 7758, 7759, 7760, 7762, 7763, 7764, 7765, 7768
- UT-LN-49 – Utah Sensitive Species: All Parcels
- UT-LN-51 – Special Status Plants: Not Federally Listed: All Parcels

Impacts of the Greater-Sage Grouse Avoidance Alternative (Alternative B)

Under Alternative B, seven of the nominated parcels (1630, 1636, 1638, 1656, 7757, 7765, and 7768) intersect modeled suitable habitat for the species and three of the nominated parcels (1656, 7765, 7768) intersects known locations for Graham's penstemon.

Occupied Habitat

Acres of occupied habitat, defined here as areas within 300 feet of a plant, is presented in Table 57.

Table 57: Graham's penstemon occupied habitat (300 feet around known location) acreage

Parcel	Buck Canyon	Sunday School Canyon	Global Grand Total
1656		21.1	21.1
7765	167.6		167.6
7768		57.9	57.9
Grand Total ¹	2,781.7	127.7	10,140.5

¹ Includes acres of occupied habitat within subpopulation outside of nominated parcels

Using the reasonably foreseeable disturbance assumptions in Section 3.2, 44 acres of disturbance would occur within the nominated parcels that are within 300-feet of known locations.

Table 58: Estimated acres of disturbance within Graham's penstemon occupied habitat subpopulations

Parcel	Buck Canyon	Sunday School Canyon	Global Grand Total
1656		0.2	0.2
7765	1.6		1.6
7768		0.5	0.5
Grand Total	1.6	0.7	2.3

Assuming random placement of disturbance within the area, 4.5 acres would be directly impacted by the development representing between 0.1 and 0.9% of the occupied habitat in each subpopulation and less than 0.1% of the total occupied habitat for the species (Table 57 & Table 58). Given the requirements of lease notice UT-LN-90 to perform surveys and avoid individuals by 300-feet where feasible combined with the BLM's authority to relocate facilities by up to 800 meters under the standard lease terms and conditions, it is expected that impacts to occupied habitat at the lease development stage would be much less than those presented. However, given the distribution of the populations, topographic constraints, and locations of existing infrastructure (including existing collector roads) it is likely that 100% avoidance of occupied habitat will not be possible.

Modeled Suitable Habitat

Acres of modeled suitable habitat found is presented in Table 59.

Table 59: Modeled Graham's penstemon Suitable Habitat

Parcel	Acres Suitable Habitat
1630	70.2
1636	30.0
1638	159.7
1656	564.7
7757	59.7
7765	1,351.9
7768	1,123.2
Grand Total	3,359.3

Using the reasonably foreseeable disturbance assumptions in Section 3.2, 105 acres of disturbance would occur within parcels that intersect modeled suitable habitat for Graham's penstemon. Assuming random placement of disturbance within the area, 10.8 acres of modeled suitable habitat would be directly impacted by the development. This represents less than 0.1% of the suitable habitat within the parcels and less than 0.1% of the suitable habitat across the range of the species.

Lease Notices:

- UT-LN-90 – Graham's beardtongue (*Penstemon grahamii*): Parcels 1630, 1636, 1638, 1656, 7757, 7765, 7768
- UT-LN-51 – Special Status Plants: Not Federally Listed: All Parcels

Impacts of the Reed Mustards and Sensitive Penstemon Species Avoidance Alternative (Alternative C)

Under Alternative C, twenty-two of the nominated parcels (1602, 1618, 1625, 1630, 1634, 1636, 1641, 1643, 1644, 1645, 1650, 1657, 1660, 7723, 7735, 7739, 7758, 7759, 7760, 7762, 7764, and 7765) intersect modeled suitable habitat for the species. No nominated parcels are located within 300-feet of known locations.

Modeled Suitable Habitat

Acres of modeled suitable habitat found is presented in Table 60.

Table 60: Modeled Graham's penstemon Suitable Habitat

Parcel	Acres Suitable Habitat
1602	2.5
1618	18.1
1625	470.1
1630	70.2
1634	53.6
1636	30.0
1641	49.8
1643	4.2
1644	118.9
1645	67.5
1650	2.0
1657	44.3
1660	30.2
7723	683.6
7735	3.0
7739	8.6
7758	22.8
7759	27.7
7760	0.1
7762	22.5

Parcel	Acres Suitable Habitat
7764	45.6
7765	1,351.9
Grand Total	3,127.1

Using the reasonably foreseeable disturbance assumptions in Section 3.2, 309 acres of disturbance would occur within parcels that intersect modeled suitable habitat for Graham's penstemon. Assuming random placement of disturbance within the area, 13.4 acres of modeled suitable habitat would be directly impacted by the development. This represents 0.4% of the suitable habitat within the parcels and less than 0.1% of the suitable habitat across the range of the species.

Lease Notices:

- UT-LN-90 – Graham's beardtongue (*Penstemon grahamii*): Parcels 1602, 1618, 1625, 1630, 1634, 1636, 1641, 1643, 1644, 1645, 1650, 1657, 1660, 7723, 7735, 7739, 7758, 7759, 7760, 7762, 7764, 7765
- UT-LN-51 – Special Status Plants: Not Federally Listed: All Parcels

Impacts of the No Action Alternative (Alternative D)

Under the No Action Alternative, the BLM would not offer any of the nominated parcels in this Lease Sale. However, in the absence of a Land Use Plan Amendment closing lands to leasing, they could be considered for inclusion in future lease sales. No new impacts to Graham's penstemon occupied or suitable habitat associated with new Federal oil and gas development for the subject leases would occur under the No Action Alternative in the foreseeable future. Existing activities are expected to continue. The current setting is described below for the occupied habitat and modeled suitable habitat across the range of the species

Occupied Habitat

Within occupied Graham's penstemon habitat, there are four fluid mineral pads constructed within Utah, supporting four abandoned well. There are 4,122 acres of occupied habitat that currently has the federal fluid minerals leased. The Vernal Field Office route inventory identified 23 miles of linear routes within occupied habitat within the Vernal Field Office.

Modeled Suitable Habitat

Within modeled suitable habitat for Graham's penstemon, there are 106 well pads within Utah supporting 119 active, abandoned, or proposed fluid mineral wells. There are 426,661 acres of modeled suitable habitat that currently has the federal fluid minerals leased. The Vernal Field Office route inventory identified 190.3 miles of linear routes within modeled suitable habitat for Graham's penstemon within the Vernal Field Office within the Vernal Field Office.

3.6.7. Issue 7: White River Penstemon (*Penstemon albifluvis*)

How would potential development of the nominated lease parcels affect potential and occupied habitat for White River penstemon?

Affected Environment

White River penstemon (*Penstemon* [scariosus var.] *albifluvis*) is a BLM sensitive perennial member of the plantain family endemic to the Green River formation in northeastern Utah and adjacent Rio Blanco County, Colorado. Additional information on the species is available in the Conservation Agreement and Strategy (Penstemon Conservation Team, 2014) and the Biological Status Report (USFWS, 2021)

The USFWS Utah Ecological Services Office defines occupied habitat for federally listed plant species in Utah as all areas currently or historically known to support the species and a 300-foot avoidance buffer to avoid the existing seedbank and indirect effects from dust or to pollinators. This document adopts that definition for White River penstemon and treats all habitat within 300-feet of recorded individuals as occupied habitat.

Using a 2-kilometer separation distance to delineate subpopulations, across the range of the species there are twenty-seven subpopulations with 21,624 acres of occupied habitat.

Habitat modeling for the species (BLM unpublished) identified 89,149 acres of habitat across the range of the species.

Within the project area, seven subpopulations (found within the Seep Ridge population) have occupied habitat that intersects a nominated parcel. One is a small subpopulation to the east of Willow Creek in Section 8 of Township 12 S Range 21 E (Subpopulation A), the second is a small subpopulation to the west of Willow Creek in Sections 18 and 19 of Township 13 S Range 21 E (Subpopulation B), the third is a small subpopulation on the east side of Big Pack Mountain in Sections 10, 11, and 15 of Township 12 S Range 20 E (Subpopulation C), the fourth is a small subpopulation to the west of Willow Creek in Sections 32 and 33 of Township 12 S Range 21 E and Sections 4 and 9 of Township 13 S Range 21 E (Subpopulation D), the fifth is a very small subpopulation to the east of Big Pack Mountain in Section 1 of Township 12 S Range 20 E (Subpopulation E), the sixth is the main Buck Canyon subpopulation (Buck Canyon), the seventh is the Sunday School Canyon subpopulation (Sunday School).

Environmental Affects**Impacts of the Proposed Action (Alternative A)**

Under Alternative A, forty of the nominated parcels (1617, 1618, 1620, 1622, 1625, 1626, 1627, 1630, 1634, 1636, 1638, 1640, 1641, 1643, 1644, 1645, 1650, 1656, 1657, 1658, 1660, 7723, 7727, 7728, 7731, 7733, 7734, 7735, 7738, 7739, 7740, 7746, 7757, 7758, 7759, 7762, 7764, 7765, 7768, and 7771) intersect modeled suitable habitat for the species and eleven of the nominated parcels (1617, 1620, 1655, 1656, 7727, 7728, 7734, 7740, 7746, 7765, 7768) intersects known locations for White River's penstemon.

Occupied Habitat

Acres of occupied habitat is presented in Table 61.

Table 61: White River penstemon occupied habitat (300 feet around known location) acreage

Parcel	A	B	C	D	E	Buck Canyon	Sunday School Canyon	Grand Total
1617			34.9					34.9
1620	19.4							19.4
1655						2,781.7		2,781.7
1656							127.7	127.7
7727		32.7						32.7
7728					6.5			6.5
7734			34.9					34.9
7740						2,781.7		2,781.7
7746				34.0		2,781.7		2,815.7
7765						2,781.7		2,781.7
7768							127.7	127.7
Grand Total ¹	19.4	65.4	69.8	68.0	6.5	13,908.6	383.0	21,624.4

¹ Includes acres of occupied habitat within subpopulation outside of nominated parcels

Using the reasonably foreseeable disturbance assumptions in Section 3.2, 182 acres of disturbance would occur within the nominated parcels that are within 300-feet of known locations.

Table 62: Estimated acres of disturbance within White River penstemon occupied habitat subpopulations

Parcel	A	B	C	D	E	Buck Canyon	Sunday School Canyon	Global Grand Total
1617			0.3					0.3
1620	0.2							0.2
1655						27.8		27.8
1656							1.2	1.2
7727		0.3						0.3
7728					0.1			0.1
7734			0.3					0.3
7740						26.1		26.1
7746				0.3		26.3		26.7
7765						26.1		26.1

Parcel	A	B	C	D	E	Buck Canyon	Sunday School Canyon	Global Grand Total
7768							1.2	1.2
Grand Total	0.2	0.3	0.7	0.3	0.1	106.3	2.4	110.2

Assuming random placement of disturbance within the area, 110.2 acres would be directly impacted by the development representing between 0.5 and 0.9% of the occupied habitat in each subpopulation and less than 0.1% of the total occupied habitat for the species (Table 61 & Table 62). Given the BLM's authority to relocate facilities by up to 800 meters under the standard lease terms and conditions and protective measures provided by UT-LN-51, it is expected that impacts to occupied habitat at the lease development stage would be much less than those presented. However, given the distribution of the populations, topographic constraints, and locations of existing infrastructure (including existing collector roads) it is likely that 100% avoidance of occupied habitat will not be possible, particularly in parcel 7765.

Modeled Suitable Habitat

Acres of modeled suitable habitat found is presented in Table 63.

Table 63: Modeled White River Penstemon Suitable Habitat

Parcel	Acres
1617	2.7
1618	2.5
1620	932.9
1622	892.7
1625	604.2
1626	250.7
1627	1,061.8
1630	0.2
1634	42.7
1636	145.4
1638	0.7
1640	55.8
1641	167.3
1643	9.1
1644	777.5
1645	315.5
1650	0.1
1656	586.1
1657	0.0
1658	130.3
1660	15.1
7723	706.3

Parcel	Acres
7727	23.2
7728	165.8
7731	21.3
7733	290.4
7734	157.8
7735	0.3
7738	1,916.3
7739	3.0
7740	559.9
7746	1,313.4
7757	25.1
7758	62.2
7759	51.4
7762	36.3
7764	0.7
7765	1,684.5
7768	726.3
7771	143.3
Grand Total	13,881.0

Using the reasonably foreseeable disturbance assumptions in Section 3.2, 582 acres of disturbance would occur within parcels that intersect modeled suitable habitat for White River penstemon. Assuming random placement of disturbance within the area, 70.3 acres of modeled suitable habitat would be directly impacted by the development. This represents 0.5% of the suitable habitat within the parcels and less than 0.1% of the suitable habitat across the range of the species.

Lease Notices:

- UT-LN-51 – Special Status Plants: Not Federally Listed: All Parcels

Impacts of the Greater-Sage Grouse Avoidance Alternative (Alternative B)

Under Alternative B, seven of the nominated parcels (1630, 1636, 1638, 1656, 7757, 7765, and 7768,) intersect modeled suitable habitat for the species and three of the nominated parcels (1656, 7765, 7768) intersects known locations for White River's penstemon.

Occupied Habitat

Acres of occupied habitat, defined here as areas within 300 feet of a plant, is presented in Table 64.

Table 64: White River penstemon occupied habitat (300 feet around known location) acreage

Parcel	Buck Canyon	Sunday School Canyon	Grand Total

1656		127.7	127.7
7765	2,781.7		2,781.7
7768		127.7	127.7
Grand Total¹	13,908.6	383.0	21,624.4

¹ Includes acres of occupied habitat within subpopulation outside of nominated parcels

Using the reasonably foreseeable disturbance assumptions in Section 3.2, 44 acres of disturbance would occur within the nominated parcels that are within 300-feet of known locations.

Table 65: Estimated acres of disturbance within White River penstemon occupied habitat subpopulations

Parcel	Buck Canyon	Sunday School Canyon	Global Grand Total
1656		1.2	1.2
7765	26.1		26.1
7768		1.2	1.2
Grand Total	26.1	2.4	28.5

Assuming random placement of disturbance within the area, 28.5 acres would be directly impacted by the development representing between 0.1 and 0.6% of the occupied habitat in each subpopulation and less than 0.1% of the total occupied habitat for the species (Table 64 & Table 65Table 55). Given the BLM's authority to relocate facilities by up to 800 meters under the standard lease terms and conditions and protective measures provided by UT-LN-51, it is expected that impacts to occupied habitat at the lease development stage would be much less than those presented. However, given the distribution of the populations, topographic constraints, and locations of existing infrastructure (including existing collector roads) it is likely that 100% avoidance of occupied habitat will not be possible, particularly in parcel 7765..

Modeled Suitable Habitat

Acres of modeled suitable habitat found is presented in Table 66.

Table 66: Modeled White River Penstemon Suitable Habitat

Parcel	Acres
1630	0.2
1636	145.4
1638	0.7

Parcel	Acres
1656	586.1
7757	25.1
7765	1,684.5
7768	726.3
Grand Total	3,168.4

Using the reasonably foreseeable disturbance assumptions in Section 3.2, 105 acres of disturbance would occur within parcels that intersect modeled suitable habitat for White River penstemon. Assuming random placement of disturbance within the area, 11.5 acres of modeled suitable habitat would be directly impacted by the development. This represents 0.3% of the suitable habitat within the parcels and less than 0.1% of the suitable habitat across the range of the species.

Lease Notices:

- UT-LN-51 – Special Status Plants: Not Federally Listed: All Parcels

Impacts of the Reed Mustards and Sensitive Penstemon Species Avoidance Alternative (Alternative C)

Under Alternative C, twenty of the nominated parcels (1618, 1625, 1630, 1634, 1636, 1641, 1643, 1644, 1645, 1650, 1657, 1660, 7723, 7735, 7739, 7758, 7759, 7762, 7764, and 7765) intersect modeled suitable habitat for the species. No nominated parcels are located within 300-feet of known locations.

Modeled Suitable Habitat

Acres of modeled suitable habitat found is presented in Table 67.

Table 67: Modeled White River Penstemon Suitable Habitat

Parcel	Acres
1618	2.5
1625	604.2
1630	0.2
1634	42.7
1636	145.4
1641	167.3

Parcel	Acres
1643	9.1
1644	777.5
1645	315.5
1650	0.1
1657	0.0
1660	15.1
7723	706.3
7735	0.3
7739	3.0
7758	62.2
7759	51.4
7762	36.3
7764	0.7
7765	1,684.5
Grand Total	4,624.4

Using the reasonably foreseeable disturbance assumptions in Section 3.2, 289 acres of disturbance would occur within parcels that intersect modeled suitable habitat for White River penstemon. Assuming random placement of disturbance within the area, 22.7 acres of modeled suitable habitat would be directly impacted by the development. This represents 0.5% of the suitable habitat within the parcels and less than 0.1% of the suitable habitat across the range of the species.

Lease Notices:

- UT-LN-51 – Special Status Plants: Not Federally Listed: All Parcels

Impacts of the No Action Alternative (Alternative D)

Under the No Action Alternative, the BLM would not offer any of the nominated parcels in this Lease Sale. However, in the absence of a Land Use Plan Amendment closing lands to leasing, they could be considered for inclusion in future lease sales. No new impacts to White River penstemon occupied or

suitable habitat associated with new Federal oil and gas development for the subject leases would occur under the No Action Alternative in the foreseeable future. Existing activities are expected to continue. The current setting is described below for the occupied habitat and modeled suitable habitat across the range of the species

Occupied Habitat

Within 300-feet of known White River penstemon locations, there are four fluid mineral pads in Utah constructed, supporting four abandoned well. There are 4,122 acres of habitat within 300-feet of known locations that currently has the federal fluid minerals leased. The Vernal Field Office route inventory identified 23 miles of linear routes within 300-feet of White River penstemon within the Vernal Field Office.

Modeled Suitable Habitat

Within modeled suitable habitat for White River penstemon, there are 75 well pads in Utah supporting 94 active, abandoned, or proposed fluid mineral wells. There are 28,635 acres of modeled suitable habitat that currently has the federal fluid minerals leased. The Vernal Field Office route inventory identified 113 miles of linear routes within modeled suitable habitat for White River penstemon within the Vernal Field Office.

3.6.8. Issue 8: Penstemon Conservation Areas

How would potential development of the nominated lease parcels affect conservation areas established for Graham's and White River penstemon?

Affected Environment

In 2014, the Conservation Agreement and Strategy for Graham's Beardtongue and White River Beardtongue was finalized between the State of Utah School and Institutional Trust Lands Administration (now Utah Trust Lands Administration (TLA); Uintah County, Utah; Utah Public Lands Policy Coordination Office; Utah Division of Wildlife Resources; Rio Blanco County, Colorado; Bureau of Land Management, and U. S. Fish and Wildlife Service "to identify, avoid, minimize potential threats to Graham's and White River beardtongues and their habitats, and to promote the species' long-term persistence, thereby preventing the need for listing either species (Penstemon Conservation Team, 2014). As part of this agreement, Conservation Areas were established for each species that would "encompass varying site conditions, promote species stability (high-density populations), maintain corridors between populations, and provide redundancy for each species." On federal lands, the conservation areas are managed to maintain a maximum of 5% new surface disturbance for Graham's penstemon and 2.5% new surface disturbance for White River penstemon after July 25, 2014.

The Conservation Areas were originally grouped into five Units (in 2018, an additional Unit representing a disjunct population of White River penstemon was added). The nominated parcels fall within the Seep Ridge Unit. Within the Seep Ridge Unit there are 7,058 acres in Conservation Areas (5,448 acres of BLM Conservation Areas, 744 acres of DWR Conservation areas, and 867 acres of TLA Conservation Areas). To date no new disturbance has been authorized within the BLM Conservation Areas in the Seep Ridge Unit since the establishment of the agreement and thus the "New Surface Disturbance Caps" are unchanged

Environmental Affects**Impacts of the Proposed Action (Alternative A)**

Lease parcels 1627, 1655, 7740, 7746, and 7765 intersect BLM conservation Areas (Table 68).

Table 68: Acres of BLM Conservation Areas by Nominated Parcel and Disturbance Cap

Parcel	Acres in CA with Additional 2.5% Cap	Acres in CA with Additional 5% Cap	Grand Total
1627	187.2		187.2
1655		88.8	88.8
7740		101.3	101.3
7746		15.5	15.5
7765		508.1	508.1
Intersecting Conservation Area acres outside nominated parcels	4.9	4,542.0	4,546.9
Grand Total	192.1	5,255.7	5,447.8

Using the reasonably foreseeable disturbance assumptions in Section 3.2, 79 acres of disturbance would occur within the nominated parcels that intersect Conservation Areas.

Table 69: Estimated disturbance within Penstemon Conservation Areas

Parcel	Acres in CA with Additional 2.5% Cap	Acres in CA with Additional 5% Cap	Grand Total
1627	1.8		1.8
1655		0.9	0.9
7740		0.9	0.9
7746		0.1	0.1
7765		4.8	4.8
Grand Total	1.8	6.7	8.6

Assuming random placement of disturbance within the area, 8.6 acres would be directly impacted by the development (Table 69) representing 0.2% of the Conservation Areas. The calculated disturbance alone would not surpass the Conservation Area “New Surface Disturbance Caps”.

Lease Notices:

- UT-LN-134 – Graham’s beardtounge (*Penstemon grahamii*) & White River beardtongue (*P. scariosus* var. *albifluvis*) Conservation Area: Parcels 1627, 1655, 7740, 7746, 7765

Impacts of the Greater-Sage Grouse Avoidance Alternative (Alternative B)

Lease parcel 7765 intersects BLM conservation Areas (Table 70).

Table 70: Acres of BLM Conservation Areas by Nominated Parcel and Disturbance Cap

Parcel	Acres in CA with Additional 5% Cap	Grand Total
7765	508.1	508.1
Intersecting Conservation Area acres outside nominated parcels	4,542.0	4,546.9
Grand Total	5,255.7	5,447.8

Using the reasonably foreseeable disturbance assumptions in Section 3.2, 18 acres of disturbance would occur within the nominated parcels that are intersect Conservation Areas. The calculated disturbance alone would not surpass the Conservation Area “New Surface Disturbance Caps”.

Table 71: Estimated disturbance within Penstemon Conservation Areas

Parcel	Acres in CA with Additional 5% Cap	Grand Total
7765	4.8	4.8
Grand Total	4.8	4.8

Assuming random placement of disturbance within the area, 4.8 acres would be directly impacted by the development (Table 71) representing 0.2% of the Conservation Areas.

Lease Notices:

- UT-LN-134 – Graham’s beardtounge (*Penstemon grahamii*) & White River beardtongue (*P. scariosus* var. *albifluvis*) Conservation Area: Parcels 7765

Impacts of the Reed Mustards and Sensitive Penstemon Species Avoidance Alternative (Alternative C)

Under Alternative C, no nominated parcels intersect Conservation Areas. Therefore, there would be no impacts to Conservation Areas

Impacts of the No Action Alternative (Alternative D)

Under the No Action Alternative, the BLM would not offer any of the nominated parcels in this Lease Sale. However, in the absence of a Land Use Plan Amendment closing lands to leasing, they could be considered for inclusion in future lease sales. No new impacts to Conservation Areas associated with new Federal oil and gas development for the subject leases would occur under the No Action Alternative in the foreseeable future. Existing activities are expected to continue. Within the Conservation Areas in Utah there are thirteen well pads constructed supporting 13 active, abandoned, or proposed fluid mineral wells. There are 27,017 acres of the Conservation Areas that currently have the federal fluid minerals leased. The Vernal Field Office route inventory identified 15 miles of linear routes within the Conservation Areas within the Vernal Field Office.

CHAPTER 4. CONSULTATION AND COORDINATION

4.1. ENDANGERED SPECIES ACT CONSULTATION

The effects of oil and gas leasing development on T&E species were analyzed through Section 7 consultation as follows:

- Vernal RMP: 2008 (including the 2018 re-initiation to add the geographic area for yellow-billed cuckoo in the Vernal Field Office).

During the consultations, Lease Notices to inform potential lessees of the potential that T&E species may be affected by oil and gas activities were developed and have been attached to parcels as appropriate. The lease action is in compliance with T&E species management outlined in accordance with the requirements under the FLPMA and the NEPA.

While Federal regulations and policies require the BLM to make its public land and resources available on the basis of multiple use principles, it is BLM policy to conserve special status species and their habitats, and to ensure that actions authorized by the BLM do not contribute to the need for the species to become listed as T&E by the USFWS.

For lease sales conducted within the range of listed species covered by the referenced consultation actions, the BLM regularly coordinates with the USFWS to assure agreement that the Proposed Action does not exceed the impacts analyzed in the existing consultations.

To date, coordination for this lease sale with the USFWS is ongoing. Coordination includes providing the USFWS with the list of nominated parcels, geospatial data, and list of species potentially impacted by the Lease Sale nominated parcels. Coordination will be complete before issuance of a lease.

When or if APDs are submitted to develop these parcels, further evaluation and Section 7 consultation with the USFWS will occur as necessary.

4.2. TRIBAL CONSULTATION

Tribal consultation for leasing actions is done on a government-to-government basis. On April 16, 2025, the BLM provided project information and an invitation to consult on resources of concern to potentially affected Tribes for the Lease Sale as provided for by the NEPA, the NHPA, the American Indian Religious Freedom Act (AIRFA), and Executive Order 13007. The BLM contacted the Confederated Tribes of the Goshute Reservation; Eastern Shoshone Tribe of the Wind River Reservation; Hopi Tribe of Arizona; Navajo Nation; Northwestern Band of the Shoshone Nation; Paiute Indian Tribe of Utah and the five constituent Bands (Cedar, Indian Peaks, Kanosh, Koosharem, and Shivwits Bands); Pueblo of Jemez, New Mexico; Pueblo of Laguna, New Mexico; Pueblo of Santa Clara, New Mexico; Pueblo of Zia, New Mexico; Santo Domingo Pueblo; Southern Ute Indian Tribe of the Southern Ute Reservation; Ute Indian Tribe of the Uintah and Ouray Reservation; and the Ute Mountain Ute Tribe including the White Mesa Ute Community.

On May 12, 2025, the BLM received a response from the Southern Ute Indian Tribe of the Southern Ute Reservation (Southern Ute Indian Tribe). In their response, the Southern Ute Indian Tribe deferred their NHPA Section 106 consultation to the Ute Indian Tribe of the Uintah and Ouray Reservation (Ute Indian Tribe) Tribal Historic Preservation Office. To date, the BLM has not received a response from the Ute Indian Tribe requesting to consult on the 2025 Q4 Lease Sale undertaking.

As of April 9, 2025, the BLM has not received any other correspondence from Tribes regarding the Lease Sale. The BLM will remain available to engage with Tribes and respond to any consultation requests until the Lease Sale date. If the nominated parcels are leased, future potential development would be subject to additional Tribal consultation under NEPA, NHPA, AIRFA, and Executive Order 13007 as directed by regulation and current policy.

4.3. NATIONAL HISTORIC PRESERVATION ACT CONSULTATION

The BLM prepared a literature review and analysis of cultural resources for the parcels nominated for the Lease Sale as part of its reasonable and good faith effort to identify historic properties and any potential adverse effects this undertaking may have on historic properties, as required by the National Historic Preservation Act of 1966, 54 U.S.C 306108 (commonly and referred to as Section 106).

The Advisory Council for Historic Preservation's (ACHP) document titled Meeting the "Reasonable and Good Faith" Identification Standards in Section 106 Review, from https://www.achp.gov/sites/default/files/guidance/2018-05/reasonable_good_faith_identification.pdf outlines the steps to determine when a reasonable and good faith identification effort has been met. The ACHP states:

- Prior to beginning the identification stage in the Section 106 process, the regulations (at 36 CFR 800.4) require the federal agency to do the following:
 - Determine and document the APE [Area of Potential Effect] in order to define where the agency will look for historic properties that may be directly or indirectly affected by the undertaking;
 - Review existing information on known and potential historic properties within the APE, so the agency will have current data on what can be expected, or may be encountered, within the APE;
 - Seek information from others who may have knowledge of historic properties in the area. This includes the State Historic Preservation Officer/Tribal Historic Preservation Officer

and as appropriate, Indian tribes or Native Hawaiian organizations who may have concerns about historic properties of religious and cultural significance to them within the APE.

Following these initial steps, the regulations (36 CFR 800.4(b)(1)) set out several factors the agency must consider in determining what is a “reasonable and good faith effort” to identify historic properties:

Take into account past planning, research, and studies; the magnitude and nature of the undertaking and the degree of federal involvement; the nature and extent of potential effects on historic properties; and the likely nature and location of historic properties within the APE. The Secretary of the Interior’s standards and guidelines for identification provide guidance on this subject. The agency official should also consider other applicable professional, state, tribal, and local laws, standards, and guidelines. The regulations note that a reasonable and good faith effort may consist of or include ‘background research, consultation, oral history interviews, sample field investigation, and field survey.’

For lease sales, BLM’s identification efforts include: (1) completing a comprehensive “literature review,” which is a review and analysis of available pertinent cultural resource records and information for each parcel and the surrounding areas that are included in the undertaking APE; and (2) proactively seeking information from others who may have knowledge of historic properties in the area.

As part of the Section 106 process, the BLM provided project information and an invitation to consult on resources of concern to the following potentially affected Tribes via certified letter sent April 16, 2025:

Confederated Tribes of the Goshute Reservation; Eastern Shoshone Tribe of the Wind River Reservation; Hopi Tribe of Arizona; Navajo Nation; Northwestern Band of the Shoshone Nation; Paiute Indian Tribe of Utah and the five constituent Bands (Cedar, Indian Peaks, Kanosh, Koosharem, and Shivwits Bands); Pueblo of Jemez, New Mexico; Pueblo of Laguna, New Mexico; Pueblo of Santa Clara, New Mexico; Pueblo of Zia, New Mexico; Santo Domingo Pueblo; Southern Ute Indian Tribe of the Southern Ute Reservation; Ute Indian Tribe of the Uintah and Ouray Reservation; and the Ute Mountain Ute Tribe including the White Mesa Ute Community.

The BLM Utah State Office also sent invitations to potential Section 106 consulting parties on April 16, 2025. Invitations were sent to Utah Rock Art Research Association (URARA), Utah Trust Lands Administration (UTLA), Utah Public Lands Policy Coordination Office (PLPCO), Utah Professional Archaeological Council (UPAC), The Church of Jesus Christ of Latter-day Saints Church History (LDS Church History), and Uintah County.

In May 2025, PLPCO requested and was granted consulting party status. On June 26, 2025, the BLM provided PLPCO with the draft Section 106 cultural resources literature review report for their review as a consulting party. In a letter dated June 30, 2025, PLPCO notified the BLM that it agreed with the BLM’s proposed finding of no adverse effect to historic properties (36 CFR 800.5 (b)) for the lease sale undertaking.

To date, the BLM has not received any other requests for consulting party status.

All 46 nominated lease parcels for the Lease Sale are on lands administered by the VFO and lie within the exterior boundary of the Ute Indian Tribe of the Uintah & Ouray Reservation (Ute Indian Tribe) reservation. The Ute Indian Tribe entered into an agreement with the National Park Service and the U.S. Department of the Interior to establish a Tribal Historic Preservation Office (THPO) on September 22, 2021, and thereby assumed the functions of a SHPO overseeing Section 106 responsibilities and

undertakings that lie within the exterior boundary of their reservation. Per 36 CFR 800.2(c)(2)(i)(A), an Agency consults with the THPO “in lieu of the SHPO regarding undertakings occurring on or affecting historic properties on tribal lands.” On [ongoing], BLM sought concurrence regarding its finding of effect to historic properties for the 46 parcels within VFO with the Ute Indian Tribe THPO.

CHAPTER 5. LIST OF PREPARERS

Table 72 contains a list of individuals that contributed to preparation of this EA.

Table 72 List of EA Preparers

AREA OF EXPERTISE	NAME	ORGANIZATION
Air Quality Specialist	Erik Vernon	BLM UTSO
Air Quality Specialist	Catherine Chachere	BLM UTSO
Aquatic Ecologist	Cassie Mellon	BLM UTSO
Archaeologist	Tylia Varilek	BLM UTSO
Botanist: Threatened and Endangered Species, Vegetation	Aaron Roe	BLM UTSO
Branch Chief for Planning and Environmental Coordination	Benjamin Gaddis	BLM UTSO
Economist	Bill Stevens	BLM MbFO
Geographic Information System Specialist	Scott Kichman	BLM UTSO
Hydrologist	Jared Dalebout	BLM UTSO
Litigation Coordinator	Melinda Moffitt	BLM UTSO
National Conservation Lands Program Lead	Ray Kelsey	BLM UTSO
Natural Resource Specialist/Project Lead	Nathan Packer	BLM UTSO
Outdoor Recreation Planner-Travel and Transportation Lead	Dave Jacobson	BLM UTSO
Planning and Environmental Specialist	April Hart	BLM UTSO
Rangeland Resources, Weeds	Alan Bass	BLM UTSO
Regional Paleontologist	Georgia Knauss	BLM UTSO
Wildlife Biologist	Dave Cook	BLM UTSO
Wildlife Biologist (Greater Sage-grouse)	Jared Reese	BLM UTSO

CHAPTER 6. LITERATURE CITED

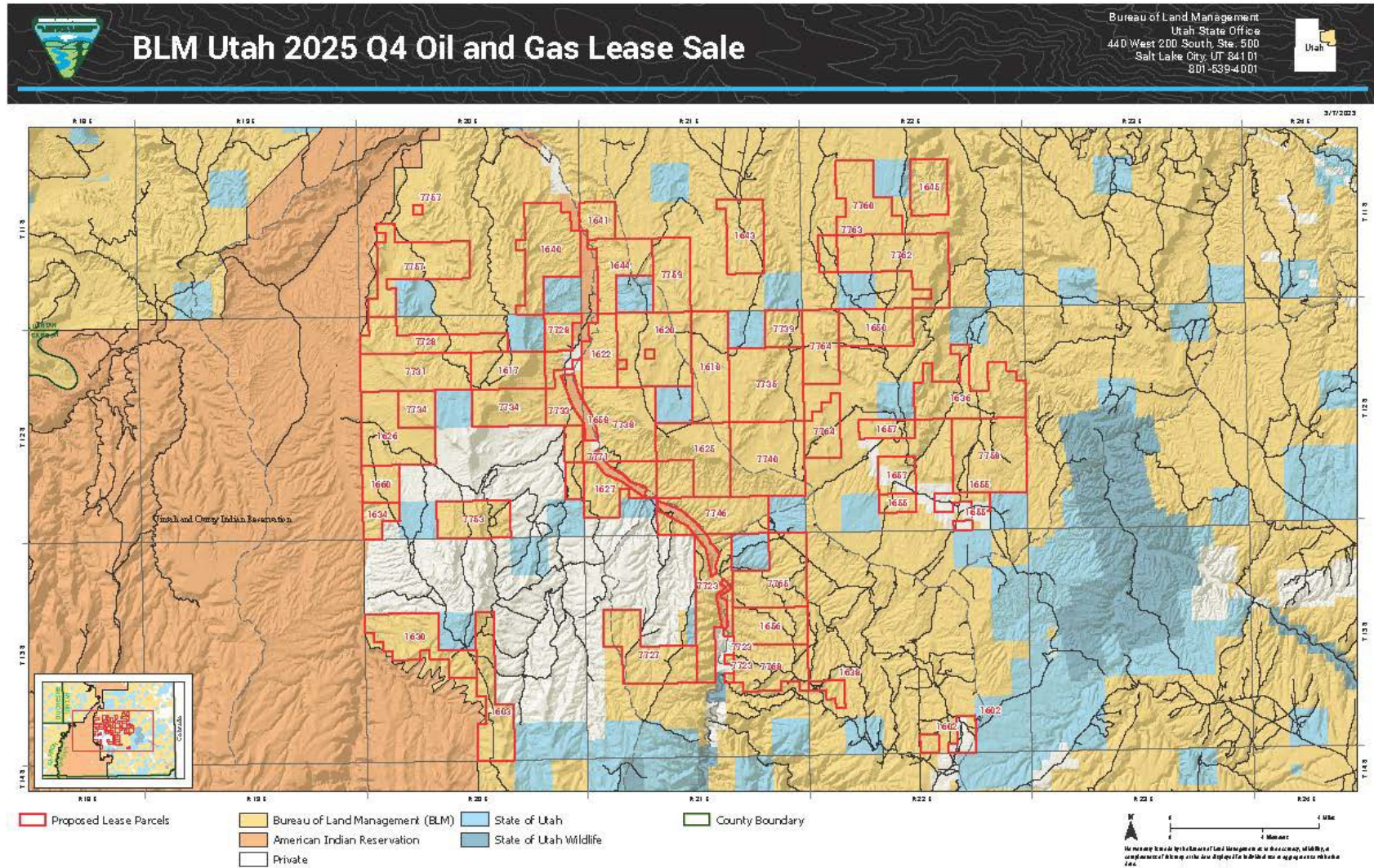
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APPENDIX A. FIGURES/MAPS



APPENDIX B. STIPULATIONS AND NOTICES

Lease stipulations and notices applied to each parcel are listed in B.1. For descriptions of each stipulation and notice, see section B.2. In addition to the parcel specific Stipulations and Notices listed below, the stipulations and notices presented in this table would be applied to **ALL** parcels:

Stipulations	Notices
HQ-CR-1 Cultural Resources Protection (Handbook H-3120-1)	HQ-MLA-1 Notice to Lessee (MLA)
HQ-TES-1 Threatened & Endangered Species Act (Handbook H-3120-1)	

B.1 LEASE STIPULATIONS AND NOTICES BY PARCEL**1602**

UT-2025-12-1602 Split Estate UT, Vernal Field Office, Bureau of Land Management, PD <u>T. 13 S., R. 22 E., Salt Lake</u> Sec. 34 SW1/4; Sec. 34 SE1/4SE1/4; Sec. 35 E1/2NW1/4; Sec. 35 W1/2NW1/4, SW1/4. Uintah County 520 Acres 16.67% Royalty Rate EOI# UT00019613	
Stipulations	Notice
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED

UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-83 SITE ROW
	UT-LN-90 GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-22 UTE LADIES’-TRESSES (<i>Spiranthes diluvialis</i>)

1603

UT-2025-12-1603
UT, Vernal Field Office, Bureau of Land Management, PD
T. 13 S., R. 20 E., Salt Lake
Sec. 15 W1/2;
Sec. 22 W1/2;
Sec. 27 N1/2NW1/4, SE1/4NW1/4, E1/2SW1/4, SE1/4;
Sec. 34 ALL.

Uintah County
1640 Acres
16.67% Royalty Rate
EOI# UT00019515

Stipulations	Notices
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UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-83 SITE ROW
	UT-LN-90 GRAHAM'S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-21 SHRUBBY REED – MUSTARD (<i>SCHOENORAMBE SUFFRUTESCENS</i>)
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES

1617**UT-2025-12-1617**

UT, Vernal Field Office, Bureau of Land Management, PD

T. 12 S., R. 20 E., Salt Lake

Sec. 10 ALL;

Sec. 11 ALL.

Uintah County

1280 Acres

16.67% Royalty Rate

EOI# UT00019597

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-83 SITE ROW
	UT-LN-90 GRAHAM'S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN

	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-20 CLAY REED – MUSTARD (<i>SCHOENCRAMBE ARGILLACEA</i>)
	T&E-21 SHRUBBY REED – MUSTARD (<i>SCHOENORAMBE SUFFRUTESCENS</i>)

1618**UT-2025-12-1618**

UT, Vernal Field Office, Bureau of Land Management, PD

T. 12 S., R. 21 E., Salt Lake

Sec. 3 LOTS 1 thru 4;

Sec. 3 S1/2NE1/4, S1/2NW1/4, S1/2;

Sec. 10 ALL;

Sec. 15 ALL.

Uintah County

1920.4 Acres

16.67% Royalty Rate

EOI# UT00019602, UT00019603

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS

UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-83 SITE ROW
	UT-LN-90 GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES

1620

UT-2025-12-1620

UT, Vernal Field Office, Bureau of Land Management, PD

T. 12 S., R. 21 E., Salt Lake

Sec. 4 LOTS 1 thru 4;

Sec. 4 S1/2NE1/4, S1/2NW1/4, S1/2;

Sec. 5 LOTS 1 thru 4;

Sec. 5 S1/2NE1/4, S1/2NW1/4, S1/2;

Sec. 8 W1/2NE1/4, SE1/4NE1/4, E1/2NW1/4, NW1/4NW1/4, S1/2;

Sec. 9 ALL.

Uintah County

2481.08 Acres

16.67% Royalty Rate

EOI# UT00019602

Stipulations**Notices**

UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-83 SITE ROW
	UT-LN-90 GRAHAM'S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-20 CLAY REED – MUSTARD (<i>SCHOENCRAMBE ARGILLACEA</i>)
	T&E-21 SHRUBBY REED – MUSTARD (<i>SCHOENORAMBE SUFFRUTESCENS</i>)

1622**UT-2025-12-1622 Split Estate**

UT, Vernal Field Office, Bureau of Land Management, PD

T. 12 S., R. 21 E., Salt Lake

Sec. 6 LOTS 1, 2;

Sec. 6 LOTS 7;

Sec. 6 S1/2NE1/4, SE1/4NW1/4, E1/2SW1/4, SE1/4;

Sec. 7 LOTS 1;

Sec. 7 LOTS 2 thru 4;

Sec. 7 NE1/4, E1/2NW1/4, E1/2SW1/4, SE1/4.

Uintah County

1087.66 Acres

16.67% Royalty Rate

EOI# UT00019602

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-83 SITE ROW
	UT-LN-90 GRAHAM'S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES

	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-121 NSO – PL 97-98 – PRIME SOILS OF STATEWIDE SIGNIFICANCE
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-20 CLAY REED – MUSTARD (<i>SCHOENCRAMBE ARGILLACEA</i>)
	T&E-21 SHRUBBY REED – MUSTARD (<i>SCHOENORAMBE SUFFRUTESCENS</i>)

1625**UT-2025-12-1625**

UT, Vernal Field Office, Bureau of Land Management, PD

T. 12 S., R. 21 E., Salt Lake

Sec. 21 ALL;

Sec. 22 ALL;

Sec. 27 ALL.

Uintah County

1920 Acres

16.67% Royalty Rate

EOI# UT00019603, UT00019604

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SUFRACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES

UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-195 NO SURFACE OCCUPANCY – GREATER SAGE-GROUSE LEKS	UT-LN-52 NOXIOUS WEEDS
UT-S-205 TIMING LIMITATION – GREATER SAGE-GROUSE BROOD REARING AND NESTING	UT-LN-53 RIPARIAN AREAS
UT-S-206 CONTROLLED SURFACE USE – GREATER SAGE-GROUSE (NOISE REDUCTION)	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-207 CONTROLLED SURFACE USE – GREATER SAGE-GROUSE (STRUCTURES)	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-83 SITE ROW
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-90 GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-96 AIR QUALITY MITIGATION MEASURES
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
UT-S-353 TIMING LIMITATION – GREATER SAGE-GROUSE BREEDING, NESTING AND EARLY BROOD REARING	UT-LN-102 AIR QUALITY ANALYSIS
UT-S-354 TIMING LIMITATION – GREATER SAGE GROUSE BROOD REARING	UT-LN-128 FLOODPLAIN MANAGEMENT
UT-S-355 TIMING LIMITATION – GREATER SAGE-GROUSE WINTER HABITAT	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASINUT
	T&E-05 LISTED PLANT SPECIES

1626

UT-2025-12-1626
 UT, Vernal Field Office, Bureau of Land Management, PD
 T. 12 S., R. 20 E., Salt Lake
 Sec. 18 LOTS 1 thru 4;
 Sec. 18 E1/2, E1/2NW1/4, E1/2SW1/4;
 Sec. 19 LOTS 1 thru 4;
 Sec. 19 E1/2, E1/2NW1/4, E1/2SW1/4;
 Sec. 20 ALL.

Uintah County
 1920.88 Acres
 16.67% Royalty Rate
 EOI# UT00019597

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-83 SITE ROW
	UT-LN-90 GRAHAM'S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT

	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-20 CLAY REED – MUSTARD (<i>SCHOENCRAMBE ARGILLACEA</i>)
	T&E-21 SHRUBBY REED – MUSTARD (<i>SCHOENORAMBE SUFFRUTESCENS</i>)

1627

UT-2025-12-1627

UT, Vernal Field Office, Bureau of Land Management, PD

T. 12 S., R. 21 E., Salt Lake

Sec. 29 LOTS 1 thru 6;

Sec. 29 NE1/4, N1/2NW1/4, SE1/4NW1/4, E1/2SE1/4;

Sec. 30 LOTS 1 thru 9;

Sec. 30 SE1/4NW1/4, E1/2SW1/4, W1/2SE1/4, SE1/4SE1/4;

Sec. 31 LOTS 1, 2;

Sec. 31 NE1/4, E1/2NW1/4.

Uintah County

1336.9 Acres

16.67% Royalty Rate

EOI# UT00019604

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED

USE/TIMING LIMITATION – VISUAL RESOURCES	
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-83 SITE ROW
	UT-LN-90 GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMII</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-134 GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMII</i>) & WHITE RIVER BEARDTONGUE (<i>P. SCARIOSUS</i> BAR. <i>ALBIFLUVIS</i>) CONSERVATION AREA
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-21 SHRUBBY REED – MUSTARD (<i>SCHOENORAMBE SUFFRUTESCENS</i>)

1630**UT-2025-12-1630**

UT, Vernal Field Office, Bureau of Land Management, PD

T. 13 S., R. 20 E., Salt Lake

Sec. 17 ALL;

Sec. 18 LOTS 1, 2;

Sec. 18 NE1/4, E1/2NW1/4, NE1/4SW1/4, SE1/4;

Sec. 19 NE1/4NE1/4;

Sec. 20 NE1/4NE1/4, N1/2NW1/4;

Sec. 21 NE1/4, E1/2NW1/4, NW1/4NW1/4, NE1/4SW1/4, N1/2SE1/4.

Uintah County

1717.66 Acres

16.67% Royalty Rate

EOI# UT00019517

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-83 SITE ROW
	UT-LN-90 GRAHAM'S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS

	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-06 MEXICAN SPOTTED OWL
	T&E-21 SHRUBBY REED – MUSTARD (<i>SCHOENORAMBE SUFFRUTESCENS</i>)
	T&E-26 SOUTHWESTER WILLOW FLYCATCHER HABITAT - RIPARIAN

1634**UT-2025-12-1634**

UT, Vernal Field Office, Bureau of Land Management, PD
T. 12 S., R. 20 E., Salt Lake
Sec. 31 LOTS 1 thru 4;
Sec. 31 NE1/4, E1/2NW1/4, E1/2SW1/4.

Uintah County
478.32 Acres
16.67% Royalty Rate
EOI# UT00019519

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123: No Surface Occupancy – Riparian, Floodplains, And Public Water Reserves	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS

UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-90 GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-21 SHRUBBY REED – MUSTARD (<i>SCHOENORAMBE SUFFRUTESCENS</i>)

1636**UT-2025-12-1636**

UT, Vernal Field Office, Bureau of Land Management, PD

T. 12 S., R. 22 E., Salt Lake

Sec. 10 E1/2SW1/4;

Sec. 11 N1/2NW1/4, SE1/4NW1/4, E1/2SW1/4;

Sec. 12 SW1/4, SW1/4SE1/4;

Sec. 13 ALL;

Sec. 14 S1/2NE1/4, NW1/4, S1/2;

Sec. 15 ALL.

Uintah County

2320 Acres

16.67% Royalty Rate

EOI# UT00019599

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG

UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-90 GRAHAM'S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-06 MEXICAN SPOTTED OWL

1638**UT-2025-12-1638**

UT, Vernal Field Office, Bureau of Land Management, PD
T. 13 S., R. 22 E., Salt Lake
Sec. 30 LOTS 1;
Sec. 30 NE1/4, NE1/4NW1/4, NE1/4SE1/4.

Uintah County
277.12 Acres
16.67% Royalty Rate
EOI# UT00019601

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-90 GRAHAM'S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT

	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES

1640**UT-2025-12-1640**

UT, Vernal Field Office, Bureau of Land Management, PD

T. 11 S., R. 20 E., Salt Lake

Sec. 23 E1/2;

Sec. 24 W1/2, SW1/4NE1/4, W1/2SE1/4, SE1/4SE1/4;

Sec. 25 ALL;

Sec. 26 E1/2, NE1/4NW1/4;

Sec. 35 E1/2, SE1/4SW1/4.

Uintah County

2160 Acres

16.67% Royalty Rate

EOI# UT00019605

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-90 GRAHAM'S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES

	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-121 NSO – PL 97-98 – PRIME SOILS OF STATEWIDE SIGNIFICANCE
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-20 CLAY REED – MUSTARD (<i>SCHOENCRAMBE ARGILLACEA</i>)
	T&E-21 SHRUBBY REED – MUSTARD (<i>SCHOENORAMBE SUFFRUTESCENS</i>)

UT-2025-12-1641

UT, Vernal Field Office, Bureau of Land Management, PD

T. 11 S., R. 21 E., Salt Lake

Sec. 19 LOTS 1 thru 3;

Sec. 19 E1/2, E1/2NW1/4, E1/2SW1/4.

Uintah County

574.17 Acres

16.67% Royalty Rate

EOI# UT00019606

UT-2025-12-1641**1641**

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD

UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-83 SITE ROW
	UT-LN-90 GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-121 NSO – PL 97-98 – PRIME SOILS OF STATEWIDE SIGNIFICANCE
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-20 CLAY REED – MUSTARD (<i>SCHOENCRAMBE ARGILLACEA</i>)
	T&E-21 SHRUBBY REED – MUSTARD (<i>SCHOENORAMBE SUFFRUTESCENS</i>)

1643**UT-2025-12-1643**

UT, Vernal Field Office, Bureau of Land Management, PD
T. 11 S., R. 21 E., Salt Lake
Sec. 22 NE1/4NE1/4;
Sec. 23 ALL;
Sec. 26 ALL.

Uintah County
1320 Acres
16.67% Royalty Rate
EOI# UT00019606

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-83 SITE ROW
	UT-LN-90 GRAHAM'S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT

	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES

1644

UT-2025-12-1644

UT, Vernal Field Office, Bureau of Land Management, PD

T. 11 S., R. 21 E., Salt Lake

Sec. 29 ALL;

Sec. 30 E1/2, NE1/4NW1/4;

Sec. 31 E1/2.

Uintah County

1320 Acres

16.67% Royalty Rate

EOI# UT00019607

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS

UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-83 SITE ROW
	UT-LN-90 GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-121 NSO – PL 97-98 – PRIME SOILS OF STATEWIDE SIGNIFICANCE
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-20 CLAY REED – MUSTARD (<i>SCHOENCRAMBE ARGILLACEA</i>)
	T&E-21 SHRUBBY REED – MUSTARD (<i>SCHOENORAMBE SUFFRUTESCENS</i>)

UT-2025-12-1645

UT, Vernal Field Office, Bureau of Land Management, PD

T. 11 S., R. 22 E., Salt Lake

Sec. 15 ALL;

Sec. 22 N1/2.

Uintah County

960 Acres

16.67% Royalty Rate

EOI# UT00019608, UT00019609

1645

Stipulations	Notices
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UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-90 GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES

1650**UT-2025-12-1650**

UT, Vernal Field Office, Bureau of Land Management, PD

T. 12 S., R. 22 E., Salt Lake

Sec. 4 LOTS 1 thru 4;

Sec. 4 S1/2NE1/4, S1/2NW1/4, S1/2;

Sec. 5 LOTS 1 thru 4;

Sec. 5 S1/2NE1/4, S1/2NW1/4, S1/2.

Uintah County

1278.4 Acres

16.67% Royalty Rate

EOI# UT00019610

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-90 GRAHAM'S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT

	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE - BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES

1655**UT-2025-12-1655 Split Estate**

UT, Vernal Field Office, Bureau of Land Management, PD

T. 12 S., R. 22 E., Salt Lake

Sec. 33 N1/2;

Sec. 34 NE1/4;

Sec. 35 N1/2NE1/4, N1/2NW1/4;

Sec. 35 S1/2NE1/4, S1/2SW1/4.

Uintah County

800 Acres

16.67% Royalty Rate

EOI# UT00019612

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS

UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-90 GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-134 GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMII</i>) & WHITE RIVER BEARDTONGUE (<i>P.SCARIOSUS BAR. ALBIFLUVIS</i>) CONSERVATION AREA
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-22 UTE LADIES’-TRESSES (<i>Spiranthes diluvialis</i>)

1656**UT-2025-12-1656**

UT, Bureau of Land Management, PD

T. 13 S., R. 21 E., Salt Lake

Sec. 13 ALL;

Sec. 14 ALL.

Uintah County

1280 Acres

16.67% Royalty Rate

EOI# UT00019596

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG

UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-90 GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-31 WESTERN YELLOW-BILLED CUCKOO

1657**UT-2025-12-1657 Split Estate**

UT, Vernal Field Office, Bureau of Land Management, PD

T. 12 S., R. 22 E., Salt Lake

Sec. 20 NE1/4;

Sec. 21 N1/2;

Sec. 28 NE1/4, N1/2NW1/4, SE1/4NW1/4, S1/2SW1/4, NE1/4SE1/4;

Sec. 28 SW1/4NW1/4, N1/2SW1/4, W1/2SE1/4, SE1/4SE1/4.

Uintah County

1120 Acres

16.67% Royalty Rate

EOI# UT00019611, UT00019612

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-90 GRAHAM'S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT

	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE - BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-22 UTE LADIES’-TRESSES (<i>Spiranthes diluvialis</i>)

1658

UT-2025-12-1658

UT, Vernal Field Office, Bureau of Land Management, PD

T. 12 S., R. 20 E., Salt Lake

Sec. 24 E1/2

Uintah County

320 Acres

16.67% Royalty Rate

EOI# UT00019597

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS

UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-21 SHRUBBY REED – MUSTARD (<i>SCHOENORAMBE SUFFRUTESCENS</i>)
	T&E-22 UTE LADIES’-TRESSES (<i>Spiranthes diluvialis</i>)

1660**UT-2025-12-1660**

UT, Vernal Field Office, Bureau of Land Management, PD
T. 12 S., R. 20 E., Salt Lake
Sec. 30 LOTS 1 thru 4;
Sec. 30 E1/2, E1/2NW1/4, E1/2SW1/4.

Uintah County
639.52 Acres
16.67% Royalty Rate
EOI# UT00019597

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD

UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-90 GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-21 SHRUBBY REED – MUSTARD (<i>SCHOENORAMBE SUFFRUTESCENS</i>)

7723**UT-2025-12-7723**

UT, Vernal Field Office, Bureau of Land Management, PD

T. 13 S., R. 21 E., Salt Lake

Sec. 3 LOTS 1 thru 10;

Sec. 3 SE1/4NE1/4, W1/2SW1/4, E1/2SE1/4;

Sec. 10 LOTS 1 thru 9;

Sec. 10 W1/2NW1/4, SE1/4NW1/4, SW1/4;

Sec. 15 LOTS 1 thru 4, 7;

Sec. 15 W1/2, NE1/4NE1/4SE1/4, S1/2NE1/4SE1/4;

Sec. 22 SE1/4NE1/4, W1/2, SE1/4SE1/4.

Uintah County

1864.75 Acres

16.67% Royalty Rate

EOI# UT00019596, UT00019604

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-90 GRAHAM'S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS

	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-06 MEXICAN SPOTTED OWL
	T&E-31 WESTERN YELLOW-BILLED CUCKOO

7727**UT-2025-12-7727**

UT, Vernal Field Office, Bureau of Land Management, PD

T. 13 S., R. 21 E., Salt Lake

Sec. 17 W1/2;

Sec. 18 E1/2;

Sec. 20 ALL;

Sec. 21 ALL.

Uintah County

1920 Acres

16.67% Royalty Rate

EOI# UT00019596

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED

UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-83 SITE ROW
	UT-LN-90 GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-06 MEXICAN SPOTTED OWL
	T&E-21 SHRUBBY REED – MUSTARD (<i>SCHOENORAMBE SUFFRUTESCENS</i>)

7728**UT-2025-12-7728**

UT, Vernal Field Office, Bureau of Land Management, PD

T. 12 S., R. 20 E., Salt Lake

Sec. 1 LOTS 1 thru 4;

Sec. 1 SW1/4NE1/4, S1/2NW1/4, SW1/4, W1/2SE1/4;

Sec. 3 S1/2;

Sec. 4 S1/2;

Sec. 5 S1/2;

Sec. 6 LOTS 1 thru 3, 6, 7;

Sec. 6 S1/2NE1/4, SE1/4NW1/4, E1/2SW1/4, SE1/4.

Uintah County

2040.66 Acres

16.67% Royalty Rate

EOI# UT00019597

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-83 SITE ROW
	UT-LN-90 GRAHAM'S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS

	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-121 NSO – PL 97-98 – PRIME SOILS OF STATEWIDE SIGNIFICANCE
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-20 CLAY REED – MUSTARD (<i>SCHOENCRAMBE ARGILLACEA</i>)
	T&E-21 SHRUBBY REED – MUSTARD (<i>SCHOENORAMBE SUFFRUTESCENS</i>)

7731**UT-2025-12-7731**

UT, Vernal Field Office, Bureau of Land Management, PD

T. 12 S., R. 20 E., Salt Lake

Sec. 7 LOTS 1 thru 4;

Sec. 7 E1/2, E1/2NW1/4, E1/2SW1/4;

Sec. 8 ALL;

Sec. 9 ALL.

Uintah County

1920.8 Acres

16.67% Royalty Rate

EOI# UT00019597

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION

UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-83 SITE ROW
	UT-LN-90 GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-20 CLAY REED – MUSTARD (<i>SCHOENCRAMBE ARGILLACEA</i>)
	T&E-21 SHRUBBY REED – MUSTARD (<i>SCHOENORAMBE SUFFRUTESCENS</i>)

7733**UT-2025-12-7733 Split Estate**

UT, Vernal Field Office, Bureau of Land Management, PD

T. 12 S., R. 20 E., Salt Lake

Sec. 12 LOTS 2;

Sec. 12 LOTS 1, 3, 4, 7, 8;

Sec. 12 SE1/4NE1/4;

Sec. 13 LOTS 1, 3, 4, 7 thru 10;

Sec. 13 W1/2, SW1/4SE1/4.

Uintah County

704.53 Acres

16.67% Royalty Rate

EOI# UT00019597

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-83 SITE ROW
	UT-LN-90 GRAHAM'S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT

	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-20 CLAY REED – MUSTARD (<i>SCHOENCRAMBE ARGILLACEA</i>)
	T&E-21 SHRUBBY REED – MUSTARD (<i>SCHOENORAMBE SUFFRUTESCENS</i>)

7734**UT-2025-12-7734**

UT, Vernal Field Office, Bureau of Land Management, PD

T. 12 S., R. 20 E., Salt Lake

Sec. 14 ALL;

Sec. 15 ALL;

Sec. 17 ALL.

Uintah County

1920 Acres

16.67% Royalty Rate

EOI# UT00019597

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED

UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-90 GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-20 CLAY REED – MUSTARD (<i>SCHOENCRAMBE ARGILLACEA</i>)
	T&E-21 SHRUBBY REED – MUSTARD (<i>SCHOENORAMBE SUFFRUTESCENS</i>)

7735**UT-2025-12-7735**

UT, Vernal Field Office, Bureau of Land Management, PD

T. 12 S., R. 21 E., Salt Lake

Sec. 11 ALL;

Sec. 12 ALL;

Sec. 13 ALL;

Sec. 14 ALL.

Uintah County

2560 Acres

16.67% Royalty Rate

EOI# UT00019603

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-83 SITE ROW
	UT-LN-90 GRAHAM'S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS

	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES

7738**UT-2025-12-7738 Split Estate**

UT, Vernal Field Office, Bureau of Land Management, PD

T. 12 S., R. 21 E., Salt Lake

Sec. 17 ALL;

Sec. 18 LOTS 1 thru 6;

Sec. 18 E1/2, E1/2NW1/4;

Sec. 19 LOTS 1 thru 3, 6 thru 9;

Sec. 19 LOTS 4, 5;

Sec. 19 NE1/4, N1/2SE1/4, SE1/4SE1/4;

Sec. 20 ALL.

Uintah County

2295.82 Acres

16.67% Royalty Rate

EOI# UT00019603, UT00019602

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED

UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-83 SITE ROW
	UT-LN-90 GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-20 CLAY REED – MUSTARD (<i>SCHOENCRAMBE ARGILLACEA</i>)
	T&E-21 SHRUBBY REED – MUSTARD (<i>SCHOENORAMBE SUFFRUTESCENS</i>)
	T&E-22 UTE LADIES’-TRESSES (<i>Spiranthes diluvialis</i>)

7739**UT-2025-12-7739**

UT, Vernal Field Office, Bureau of Land Management, PD

T. 12 S., R. 21 E., Salt Lake

Sec. 1 LOTS 1 thru 4;

Sec. 1 S1/2NE1/4, S1/2NW1/4, S1/2.

Uintah County

639.88 Acres

16.67% Royalty Rate

EOI# UT00019602

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-90 GRAHAM'S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN

	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES

7740**UT-2025-12-7740**

UT, Vernal Field Office, Bureau of Land Management, PD

T. 12 S., R. 21 E., Salt Lake

Sec. 23 ALL;

Sec. 24 ALL;

Sec. 25 ALL;

Sec. 26 ALL.

Uintah County

2560 Acres

16.67% Royalty Rate

EOI# UT00019604

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS

UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-83 SITE ROW
	UT-LN-90 GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-134 GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMII</i>) & WHITE RIVER BEARDTONGUE (<i>P. SCARIOSUS BAR. ALBIFLUVIS</i>) CONSERVATION AREA
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES

7746**UT-2025-12-7746**

UT, Vernal Field Office, Bureau of Land Management, PD

T. 12 S., R. 21 E., Salt Lake

Sec. 33 LOTS 1 thru 9;

Sec. 33 N1/2NE1/4, W1/2SW1/4, SE1/4SW1/4, SW1/4SE1/4;

Sec. 34 LOTS 1 thru 3;

Sec. 34 N1/2, NE1/4SW1/4, SE1/4;

Sec. 35 ALL.

Uintah County

1690.4 Acres

16.67% Royalty Rate

EOI# UT00019604

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG

UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-83 SITE ROW
	UT-LN-90 GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-134 GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMII</i>) & WHITE RIVER BEARDTONGUE (<i>P. SCARIOSUS</i> BAR. <i>ALBIFLUVIS</i>) CONSERVATION AREA
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES

7753

UT-2025-12-7753

UT, Vernal Field Office, Bureau of Land Management, PD

T. 12 S., R. 20 E., Salt Lake

Sec. 33 ALL;

Sec. 34 ALL.

Uintah County

1280 Acres

16.67% Royalty Rate

EOI# UT00019519

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-83 SITE ROW
	UT-LN-90 GRAHAM'S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT

	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-21 SHRUBBY REED – MUSTARD (<i>SCHOENORAMBE SUFFRUTESCENS</i>)

7757**UT-2025-12-7757**

UT, Vernal Field Office, Bureau of Land Management, PD

T. 11 S., R. 20 E., Salt Lake

Sec. 19 N1/2SE1/4, SE1/4SE1/4;

Sec. 20 NW1/4NE1/4;

Sec. 28 ALL;

Sec. 29 ALL;

Sec. 30 E1/2;

Sec. 31 W1/2NE1/4, SE1/4NE1/4, E1/2SW1/4, SE1/4.

Uintah County

2120 Acres

16.67% Royalty Rate

EOI# UT00019598

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED

UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-83 SITE ROW
	UT-LN-90 GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-20 CLAY REED – MUSTARD (<i>SCHOENCRAMBE ARGILLACEA</i>)
	T&E-21 SHRUBBY REED – MUSTARD (<i>SCHOENORAMBE SUFFRUTESCENS</i>)

7758**UT-2025-12-7758**

UT, Vernal Field Office, Bureau of Land Management, PD

T. 12 S., R. 22 E., Salt Lake

Sec. 23 ALL;

Sec. 24 ALL;

Sec. 25 ALL;

Sec. 26 ALL.

Uintah County

2560 Acres

16.67% Royalty Rate

EOI# UT00019600, UT00019612

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS

UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-90 GRAHAM'S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES

7759**UT-2025-12-7759**

UT, Vernal Field Office, Bureau of Land Management, PD

T. 11 S., R. 21 E., Salt Lake

Sec. 28 ALL;

Sec. 33 ALL.

Uintah County

1280 Acres

16.67% Royalty Rate

EOI# UT00019606, UT00019607

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-83 SITE ROW
	UT-LN-90 GRAHAM'S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN

	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES

7760**UT-2025-12-7760**

UT, Vernal Field Office, Bureau of Land Management, PD

T. 11 S., R. 22 E., Salt Lake

Sec. 17 ALL;

Sec. 20 E1/2, E1/2NW1/4, SW1/4;

Sec. 21 W1/2, W1/2SE1/4.

Uintah County

1600 Acres

16.67% Royalty Rate

EOI# UT00019608

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51: SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE

UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-90 GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES

7762**UT-2025-12-7762**

UT, Vernal Field Office, Bureau of Land Management, PD

T. 11 S., R. 22 E., Salt Lake

Sec. 27 ALL;

Sec. 28 ALL;

Sec. 29 ALL;

Sec. 34 N1/2, S1/2SW1/4, SE1/4.

Uintah County

2480 Acres

16.67% Royalty Rate

EOI# UT00019609, UT00019610

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES

UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-83 SITE ROW
	UT-LN-90 GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES

7763**UT-2025-12-7763**

UT, Vernal Field Office, Bureau of Land Management, PD
T. 11 S., R. 22 E., Salt Lake
Sec. 30 E1/2.

Uintah County
320 Acres
16.67% Royalty Rate
EOI# UT00019610

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-90 GRAHAM'S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN

	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES

UT-2025-12-7764

UT, Vernal Field Office, Bureau of Land Management, PD

T. 12 S., R. 22 E., Salt Lake

Sec. 6 LOTS 1 thru 7;

Sec. 6 S1/2NE1/4, SE1/4NW1/4, E1/2SW1/4, SE1/4;

Sec. 7 LOTS 1 thru 4;

Sec. 7 E1/2, E1/2NW1/4, E1/2SW1/4;

Sec. 18 SE1/4NE1/4, SE1/4SW1/4, SE1/4;

Sec. 19 LOTS 1 thru 4;

Sec. 19 E1/2, E1/2NW1/4, E1/2SW1/4.

Uintah County

2113.23 Acres

16.67% Royalty Rate

EOI# UT00019611

7764

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED

UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-83 SITE ROW
	UT-LN-90 GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES

7765

UT-2025-12-7765 Split Estate UT, Bureau of Land Management, PD T. 13 S., R. 21 E., Salt Lake Sec. 1 LOTS 1 thru 4; Sec. 1 S1/2NE1/4, S1/2NW1/4, S1/2; Sec. 11 ALL; Sec. 12 ALL. Uintah County 1921.2 Acres 16.67% Royalty Rate EOI# UT00019596	
Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG

UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-83 SITE ROW
	UT-LN-90 GRAHAM'S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-134 GRAHAM'S BEARDTONGUE (<i>PENSTEMON GRAHAMII</i>) & WHITE RIVER BEARDTONGUE (<i>P. SCARIOSUS BAR. ALBIFLUVIS</i>) CONSERVATION AREA
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-06 MEXICAN SPOTTED OWL
	T&E-31 WESTERN YELLOW-BILLED CUCKOO

7768

UT-2025-12-7768
 UT, Bureau of Land Management, PD
 T. 13 S., R. 21 E., Salt Lake
 Sec. 23 ALL;
 Sec. 24 ALL;
 Sec. 25 NE1/4NE1/4, NW1/4NW1/4;
 Sec. 26 N1/2NE1/4, NE1/4NW1/4.

Uintah County
 1480 Acres
 16.67% Royalty Rate
 EOI# UT00019596

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-90 GRAHAM'S BEARDTONGUE (<i>PENSTEMON GRAHAMI</i>)
	UT-LN-96 AIR QUALITY MITIGATION MEASURES
	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT

	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-06 MEXICAN SPOTTED OWL
	T&E-31 WESTERN YELLOW-BILLED CUCKOO

7771**UT-2025-12-7771**

UT, Vernal Field Office, Bureau of Land Management, PD
T. 12 S., R. 20 E., Salt Lake
Sec. 25 E1/2.

Uintah County
320 Acres
16.67% Royalty Rate
EOI# UT00019519

Stipulations	Notices
UT-S-01 AIR QUALITY	UT-LN-25 WHITE-TAILED AND GUNNISON PRAIRIE DOG
UT-S-96 NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%	UT-LN-44 RAPTORS
UT-S-99 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES	UT-LN-45 MIGRATORY BIRD
UT-S-100 CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)	UT-LN-49 UTAH SENSITIVE SPECIES
UT-S-123 NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES	UT-LN-50 HABITAT RESTORATION
UT-S-157 NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES	UT-LN-51 SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED
UT-S-218 CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG	UT-LN-52 NOXIOUS WEEDS
UT-S-230 TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE	UT-LN-53 RIPARIAN AREAS
UT-S-231 CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE	UT-LN-56 DRINKING WATER SOURCE PROTECTION ZONE
UT-S-261 TIMING LIMITATION – RAPTOR BUFFERS	UT-LN-72 HIGH POTENTIAL PALEONTOLOGICAL RESOURCES
	UT-LN-96 AIR QUALITY MITIGATION MEASURES

	UT-LN-99 REGIONAL OZONE FORMATION CONTROLS
	UT-LN-102 AIR QUALITY ANALYSIS
	UT-LN-128 FLOODPLAIN MANAGEMENT
	UT-LN-131 GREATER SAGE-GROUSE – NET CONSERVATION GAIN
	UT-LN-132 GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES
	UT-LN-133 GREATER SAGE-GROUSE – BUFFER
	UT-LN-156 POLLINATORS AND POLLINATOR HABITAT
	T&E-03 ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN
	T&E-05 LISTED PLANT SPECIES
	T&E-21 SHRUBBY REED – MUSTARD (<i>SCHOENORAMBE SUFFRUTESCENS</i>)

B.2 DESCRIPTION OF LEASE STIPULATIONS AND NOTICES

Standard Lease Stipulations (from H-3120 – Competitive Leasing Handbook)*

STIPULATION	DESCRIPTION/PURPOSE
HQ-CR-1	<p>CULTURAL RESOURCE PROTECTION</p> <p>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, E.O. 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 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.</p>
HQ-TES-1	<p>THREATENED AND ENDANGERED SPECIES ACT</p> <p>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 would contribute to a need to list such species or their habitat. 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. BLM will not approve any ground-disturbing activity until it completes its obligations under applicable</p>

STIPULATION	DESCRIPTION/PURPOSE
	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.
HQ-MLA-1	<p>NOTICE TO LESSEE – MINERAL LEASING ACT SECTION 2(A)(2)(A)</p> <p>Provisions of the Mineral Leasing Act (MLA) of 1920, as amended by the Federal Coal Leasing Amendments Act of 1976, affect an entity's qualifications to obtain an oil and gas lease. Section 2(a)(2)(A) of the MLA, 30 U.S.C. 201(a)(2)(A), requires that any entity that holds and has held a Federal Coal Lease for 10 years beginning on or after August 4, 1976, and which is not producing coal in commercial quantities from each such lease, cannot qualify for the issuance of any other lease granted under the MLA. Compliance by coal lessees with Section 2(a)(2)(A) is explained in 43 CFR 3472.</p> <p>In accordance with the terms of this oil and gas lease with respect to compliance by the initial lessee with qualifications concerning Federal coal lease holdings, all assignees and transferees are hereby notified that this oil and gas lease is subject to cancellation if: (1) the initial lessee as assignor or as transferor has falsely certified compliance with Section 2(a)(2)(A) because of a denial or disapproval by a State Office of a pending coal action, i.e., arms-length assignment, relinquishment, or logical mining unit, the initial lessee as assignor or as transferor is no longer in compliance with Section 2(a)(2)(A). The assignee or transferee does not qualify as a bona fide purchaser and, thus, has no rights to bona fide purchaser protection in the event of cancellation of this lease due to noncompliance with Section 2(a)(2)(A).</p> <p>Information regarding assignor or transferor compliance with Section 2(a)(2)(A) is contained in the lease case file as well as in other Bureau of Land Management records available through the State Office issuing this lease.</p>

*These stipulations are attached to all leases issued.

Utah Lease Stipulations

STIPULATION	DESCRIPTION/PURPOSE
UT-S-01	<p>AIR QUALITY</p> <p>All new stationary and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower shall not emit more than 2 grams of NO_x per horsepower-hour.</p> <p>Exception: This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.</p> <p>Modification: None</p> <p>Waiver: None</p> <p>AND</p> <p>All new and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gram of NO_x per horsepower-hour.</p> <p>Exception: None</p> <p>Modification: None</p> <p>Waiver: None</p>

STIPULATION	DESCRIPTION/PURPOSE
UT-S-96	<p align="center">NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%</p> <p>No surface occupancy for slopes greater than 40 percent.</p> <p>Exception: If after an environment analysis the authorized officer determines that it would cause undue or unnecessary degradation to pursue other placement alternatives; surface occupancy in the NSO area may be authorized. Additionally a plan shall be submitted by the operator and approved by BLM prior to construction and maintenance and include:</p> <ul style="list-style-type: none"> • An erosion control strategy; • GIS modeling; • Proper survey and design by a certified engineer. <p>Modification: Modifications also may be granted if a more detailed analysis, i.e. Order I, soil survey conducted by a qualified soil scientist finds that surface disturbance activities could occur on slopes greater than 40% while adequately protecting the area from accelerated erosion.</p> <p>Waiver: None</p>
UT-S-99	<p align="center">CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES</p> <p>The surface operating standards for oil and gas exploration and development (Gold Book) shall be used as a guide for surface-disturbing proposals on steep slopes/hillsides.</p> <p>Exception: None</p> <p>Modification: None</p> <p>Waiver: None</p>
UT-S-100	<p align="center">CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)</p> <p>If surface-disturbing activities cannot be avoided on slopes from 21-40% a plan will be required. The plan will approved by BLM prior to construction and maintenance and include:</p> <ul style="list-style-type: none"> • An erosion control strategy; • GIS modeling; • Proper survey and design by a certified engineer. <p>Exception: None</p> <p>Modification: None</p> <p>Waiver: None</p>
UT-S-123	<p align="center">NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES</p> <p>No new surface-disturbing activities are allowed within active flood plains, wetlands, public water reserves, or 100 meters of riparian areas. Keep construction of new stream crossings to a minimum.</p>

STIPULATION	DESCRIPTION/PURPOSE
	<p>Exception: An exception could be authorized if: (a) there are no practical alternatives (b) impacts could be fully mitigated, or (c) the action is designed to enhance the riparian resources.</p> <p>Modification: None</p> <p>Waiver: None</p>
UT-S-157	<p align="center">NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATION – VISUAL RESOURCES</p> <p>Visual resource management activities will comply with BLM Handbook 8410-1.</p> <p>Within VRM Class I areas, very limited management activity will be allowed, with the objective of preserving the existing character of the landscape, allowing for natural ecological changes. The level of change to the landscape should be very low and shall not attract attention.</p> <p>Within VRM Class II areas, surface-disturbing activities will retain the existing character of the landscape. The level of change to the landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any change to the landscape shall repeat the basic elements of form, line, color and texture found in the predominant natural features of the characteristic landscape.</p> <p>Within VRM Class III areas, surface disturbing activities will partially retain the existing character of the landscape. The allowable level of change will be moderate, may attract attention, but should not dominate the view of the casual observer. Landscape changes should repeat the basic elements of form, line, color and texture found in the predominant natural features of the characteristic landscape.</p> <p>Within VRM Class IV areas, surface disturbing activities are allowed to dominate the view and the major focus of viewer attention. Major modifications to the existing character of the landscape are allowed. But every attempt should be made to minimize and mitigate the impacts.</p> <p>Exception: Exempted are recognized utility corridors.</p> <p>Modification: None</p> <p>Waiver: None</p>
UT-S-195	<p align="center">NO SURFACE OCCUPANCY – GREATER SAGE-GROUSE LEKS</p> <p>No surface-disturbing activities within 1/4 mile of active Greater Sage-Grouse leks year-round found outside of Priority Habitat Management Areas (PHMA).</p> <p>Exception: None</p> <p>Modification: None</p> <p>Waiver: None</p>
UT-S-205	<p align="center">TIMING LIMITATION – GREATER SAGE-GROUSE BROOD REARING AND NESTING</p>

STIPULATION	DESCRIPTION/PURPOSE
	<p>No surface-disturbing activities within 2 miles of active Greater Sage-Grouse leks found outside of Priority Habitat Management Areas (PHMA) within brood rearing and nesting habitat from March 1 - June 15.</p> <p>Exception: None</p> <p>Modification: None</p> <p>Waiver: None</p>
UT-S-206	<p>CONTROLLED SURFACE USE – GREATER SAGE-GROUSE (NOISE REDUCTION)</p> <p>Within ½ mile of known active Greater Sage-Grouse leks found outside of Priority Habitat Management Areas (PHMA) use the best available technology such as installation of multi-cylinder pumps, hospital sound reducing mufflers, and placement of exhaust systems to reduce noise.</p> <p>Exception: None</p> <p>Modification: None</p> <p>Waiver: None</p>
UT-S-207	<p>CONTROLLED SURFACE USE – GREATER SAGE-GROUSE (STRUCTURES)</p> <p>No permanent facilities or structures would be allowed within 2 miles of Greater Sage-Grouse leks found outside of Priority Habitat Management Areas (PHMA) when possible.</p> <p>Exception: None</p> <p>Modification: None</p> <p>Waiver: None</p>
UT-S-218	<p>CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG</p> <p>No surface-disturbing activities within 660 feet of prairie dog colonies identified within prairie dog habitat. No permanent aboveground facilities are allowed within the 660 feet buffer.</p> <p>Exception: An exception may be granted by the authorized officer if the applicant submits a plan that indicates that impacts of the proposed action can be adequately mitigated or, if due to the size of the town, there is no reasonable location to develop a lease and avoid colonies the authorized officer will allow for loss of prairie dog colonies and/or habitat to satisfy terms and conditions of the lease.</p> <p>Modification: The authorized officer may modify the boundaries of the stipulation area if portions of the area does not include prairie dog habitat or active colonies are found outside current defined area, as determined by BLM.</p> <p>Waiver: May be granted if in the leasehold if it is determined that habitat no longer exists or has been destroyed.</p>
UT-S-230	<p>TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE</p>

STIPULATION	DESCRIPTION/PURPOSE
	<p>No surface disturbing activities in deer and elk crucial winter range from December 1 - April 30.</p> <p>Exception: This restriction would not apply if and/or elk are not present, or if it is determined through analysis and coordination with UDWR that impacts could be mitigated. Factors to be considered would include snow depth, temperature, snow crusting, location of disturbance, forage quantity and quality, animal condition, and expected duration of disturbance.</p> <p>Modification: The stipulation could be modified based on findings of collaborative monitoring and analysis. For example, the winter range configuration and time frames could be changed if current animal use patterns are determined to be inconsistent with the dates and boundaries established.</p> <p>Waiver: This stipulation could be waived if it is determined through collaborative monitoring and analysis that the area is not crucial winter range or that timing restrictions are unnecessary.</p>
UT-S-231	<p style="text-align: center;">CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE</p> <p>Within crucial deer winter range, no more than 10% of such habitat will be subject to surface disturbance and remain un-reclaimed at any given time.</p> <p>Exception: This stipulation may be excepted if either the resource values change or the lessee/operator demonstrates to BLMs satisfaction that impacts can be mitigated.</p> <p>Modification: None</p> <p>Waiver: None</p>
UT-S-261	<p style="text-align: center;">TIMING LIMITATION – RAPTOR BUFFERS</p> <p>Raptor management will be guided by the use of "Best Management Practices for Raptors and Their Associated Habitats in Utah" (Utah BLM, 2006, Appendix A), utilizing seasonal and spatial buffers, as well as mitigation, to maintain and enhance raptor nesting and foraging habitat, while allowing other resource uses.</p> <p>Exception: None</p> <p>Modification: Criteria that would need to be met, prior to implementing modifications to the spatial and seasonal buffers in the “<i>Raptor BMPs</i>”, would include the following:</p> <ol style="list-style-type: none"> 1. Completion of a site-specific assessment by a wildlife biologist or other qualified individual. See example (Attachment 1 of the Raptor BMPs in Appendix A) 2. Written documentation by the BLM Field Office Wildlife Biologist, identifying the proposed modification and affirming that implementation of the proposed modification(s) would not affect nest success or the suitability of the site for future nesting. Modification of

STIPULATION	DESCRIPTION/PURPOSE
	<p>the “BMPs” would not be recommended if it is determined that adverse impacts to nesting raptors would occur or that the suitability of the site for future nesting would be compromised.</p> <p>3. Development of a monitoring and mitigation strategy by a BLM biologist, or other raptor biologist. Impacts of authorized activities would be documented to determine if the modifications were implemented as described in the environmental documentation or Conditions of Approval, and were adequate to protect the nest site. Should adverse impacts be identified during monitoring of an activity, BLM would follow an appropriate course of action, which may include cessation or modification of activities that would avoid, minimize or mitigate the impact, or, with the approval of UDWR and the USFWS, BLM could allow the activity to continue while requiring monitoring to determine the full impact of the activity on the affected raptor nest. A monitoring report would be completed and forwarded to UDWR for incorporation into the Natural Heritage Program (NHP) raptor database.</p> <p>Waiver: None</p>
UT-S-353	<p>Timing Limitation – Greater Sage-Grouse Breeding, Nesting and Early Brood Rearing*</p> <p>Manage uses to prevent disturbance to GRSG populations and habitat by applying seasonal restrictions (e.g., no surface disturbance) between Feb 15 – June 15, in Greater Sage-Grouse Priority Habitat Management Areas (PHMA) breeding, nesting, and early brood-rearing habitat to seasonally protect those habitats from disruptive activity.</p> <p>Exception: None</p> <p>Modification: Specific time and distance determinations would be based on site-specific conditions and may be modified due to documented local variations (e.g., higher/lower elevations) or annual climactic fluctuations (e.g., early/late spring, long and/or heavy winter) in order to better protect GRSG, in coordination with the appropriate State of Utah agency.</p> <p>Waiver: None</p> <p>*This would only be applicable to new fluid minerals leases if the exception criteria identified for the NSO stipulation above were granted.</p>
UT-S-354	<p>TIMING LIMITATION – GREATER SAGE-GROUSE BROOD-REARING</p> <p>Manage uses to prevent disturbance to GRSG populations and habitat by applying seasonal restrictions (e.g., no surface disturbance) between April 15 – August 15 in the Greater Sage-Grouse (GRSG) Priority Habitat Management Areas (PHMA) brood-rearing habitat to seasonally protect that habitat from disruptive activity.</p> <p>Exception: None</p> <p>Modification: Specific time and distance determinations would be based on site-specific conditions and may be modified due to documented local variations (e.g., higher/lower elevations) or annual climactic fluctuations</p>

STIPULATION	DESCRIPTION/PURPOSE
	<p>(e.g., early/late spring, long and/or heavy winter) in order to better protect GRSG, in coordination with the appropriate State of Utah agency.</p> <p>Waiver: None</p> <p>*This would only be applicable to new fluid minerals leases if the exception criteria identified for the NSO stipulation above were granted.</p>
UT-S-355	<p>Timing Limitation – Greater Sage-Grouse Winter Habitat</p> <p>Manage uses to prevent disturbance to GRSG populations and habitat by applying seasonal restrictions (e.g., no surface disturbance) between Nov 15 – March 15 in Priority Habitat Management Areas (PHMA) for Greater Sage-Grouse (GRSG) winter habitat to protect GRSG within PHMA from disruptive activity during the winter season.</p> <p>Exception: None</p> <p>Modification: Specific time and distance determinations would be based on site-specific conditions and may be modified due to documented local variations (e.g., higher/lower elevations) or annual climactic fluctuations (e.g., early/late spring, long and/or heavy winter) in order to better protect GRSG, in coordination with the appropriate State of Utah agency.</p> <p>Waiver: None</p> <p>*This would only be applicable to new fluid minerals leases if the exception criteria identified for the NSO stipulation above were granted.</p>

Table 73 Utah Lease Notices

NOTICE	DESCRIPTION/PURPOSE
UT-LN-25	<p>WHITE-TAILED AND GUNNISON PRAIRIE DOG</p> <p>The lessee/operator is given notice that this lease parcel has been identified as containing white-tailed or Gunnison prairie dog habitat. Modifications to the Surface Use Plan of Operations may be required in order to protect white-tailed or Gunnison prairie dog from surface disturbing activities in accordance with the Endangered Species Act and 43 CFR 3101.1-2.</p>
UT-LN-44	<p>RAPTORS</p> <p>Appropriate seasonal and spatial buffers shall be placed on all known raptor nests in accordance with Utah Field Office Guidelines for Raptor Protection from Human and Land use Disturbances (USFWS 2002) and Best Management Practices for Raptors and their Associated Habitats in Utah (BLM 2006). All construction related activities will not occur within these buffers if pre-construction monitoring indicates the nests are active, unless a site-specific evaluation for active nests is completed prior to construction and if a BLM wildlife biologist, in consultation with USFWS and UDWR, recommends that activities may be permitted within the buffer. The BLM will coordinate with the USFWS and UDWR and have a recommendation within 3-5 days of notification. Any construction activities authorized within a protective (spatial and seasonal) buffer for raptors will require an on-site</p>

	monitor. Any indication that activities are adversely affecting the raptor and/or it's young the on-site monitor will suspend activities and contact the BLM AO immediately. Construction may occur within the buffers of inactive nests. Construction activities may commence once monitoring of the active nest site determines that fledglings have left the nest and are no longer dependent on the nest site. Modifications to the Surface Use Plan of Operations may be required in accordance with Section 6 of the lease terms and 43 CFR 3101.1-2.
UT-LN-45	<p style="text-align: center;">MIGRATORY BIRD</p> <p>The lessee/operator is given notice that surveys for nesting migratory birds may be required during migratory bird breeding season whenever surface disturbances and/or occupancy is proposed in association with fluid mineral exploration and development within priority habitats. Surveys should focus on identified priority bird species in Utah. Field surveys will be conducted as determined by the AO of the Bureau of Land Management. Based on the result of the field survey, the AO will determine appropriate buffers and timing limitations.</p>
UT-LN-49	<p style="text-align: center;">UTAH SENSITIVE SPECIES</p> <p>The lessee/operator is given notice that no surface use or otherwise disruptive activity would be allowed that would result in direct disturbance to populations or individual special status plant and animal species, including those listed on the BLM sensitive species list and the Utah sensitive species list. The lessee/operator is also given notice that lands in this parcel have been identified as containing potential habitat for species on the Utah Sensitive Species List. Modifications to the Surface Use Plan of Operations may be required in order to protect these resources from surface disturbing activities in accordance with Section 6 of the lease terms, Endangered Species Act, Migratory Bird Treaty Act and 43 CFR 3101.1-2.</p>
UT-LN-50	<p style="text-align: center;">HABITAT RESTORATION</p> <p>The lessee/operator is given notice that lands in this lease have an existing habitat restoration project present. Modifications to the Surface Use Plan of Operations may be required or other appropriate mitigation as deemed necessary by the BLM Authorized Officer.</p>
UT-LN-51	<p style="text-align: center;">SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED</p> <p>The lessee/operator is given notice that lands in this lease have been identified as containing special status plants, not federally listed, and their habitats. Modifications to the Surface Use Plan of Operations may be required in order to protect the special status plants and/or habitat from surface disturbing activities in accordance with Section 6 of the lease terms, Endangered Species Act, and 43 CFR 3101.1-2.</p>
UT-LN-52	<p style="text-align: center;">NOXIOUS WEEDS</p> <p>The lessee/operator is given notice that lands in this lease have been identified as containing or is near areas containing noxious weeds. Best</p>

	management practices to prevent or control noxious weeds may be required for operations on the lease. Modifications to the Surface Use Plan of Operations may be required in accordance with section 6 of the lease terms and 43CFR3101.1-2.
UT-LN-53	<p style="text-align: center;">RIPARIAN AREAS</p> <p>The lessee/operator is given notice that this lease has been identified as containing riparian areas. No surface use or otherwise disruptive activity allowed within 100 meters of riparian areas unless it can be shown that (1) there is no practicable alternative; (2) that all long-term impacts are fully mitigated; or (3) that the construction is an enhancement to the riparian areas. Modifications to the Surface Use Plan of Operations may be required in accordance with section 6 of the lease terms and 43 CFR 3101.1-2.</p>
UT-LN-56	<p style="text-align: center;">DRINKING WATER SOURCE PROTECTION ZONE</p> <p>This lease (or a portion thereof) is within a public Drinking Water Source Protection zone. Before application for a permit to drill (APD) submittal or any proposed surface-disturbing activity, the lessee/operator must contact the public water system manager to determine any zoning ordinances, best management or pollution prevention measures, or physical controls that may be required within the protection zones. Drinking Water Source Protection plans are developed by the public water systems under the requirements of R309-600. Drinking Water Source Protection for Ground-Water Sources. (Utah Administrative Code). There may also be county ordinances in place to protect the source protection zones, as required by Section 19-4-113 of the Utah Code.</p> <p>Incorporated cities and towns may also protect their drinking water sources using Section 10-8-15 of the Utah Code. This part of the Code gives cities and towns the extraterritorial authority to enact ordinances to protect a source of drinking water ... "For 15 miles above the point from which it is taken and for a distance of 300 feet on each side of such stream..." Class I cities (greater than 100,000 population) are granted authority to protect their entire watersheds.</p> <p>Some public water sources qualify for monitoring waivers which reduce their monitoring requirements for pesticides and volatile organic chemicals (VOCs). Exploration, drilling, and production activities within Source Protection zone 3 could jeopardize these waivers, thus requiring increased monitoring. Contact the public water system to determine what effect your activities may have on their monitoring waivers. Please be aware of other State rules to protect surface and ground water: the Utah Division of Water Quality Rules R317 Water Quality Rules; and Rules of the Utah Division of Oil, Gas and Mining, Utah Oil and Gas Conservation Rules R649.</p> <p>At the time of development, drilling operators will additionally conform to the operational regulations in Onshore Oil & Gas Order No. 2 (which requires the protection and isolation of all usable quality waters, $\leq 10,000$ mg/L Total Dissolved Solids), Onshore Oil and Gas Order No. 7 (which prescribes measures required for the handling of produced water to insure the protection of surface and ground water sources) and the Surface Operating Standards and Guidelines for Oil and Gas Development, The Gold Book, Fourth</p>

	<p>Edition-Revised 2007 (which provides information and requirements for conducting environmentally responsible oil and gas operations).</p> <p>Additional mitigation measures may be necessary to prevent adverse impacts from oil and gas exploration and development activities. Mitigation measures may include submitting an erosion control plan with best management practices (BMPs) that address rigorous interim reclamation which might include surface roughening, vegetative buffer strips, etc.; and sediment control through the use of sediment logs, silt fences, erosion control blankets, outlet/inlet protection of water control features such as culverts or diversion ditches, sediment traps, run on/run off pad design features. If project activities are close to sensitive areas or water sources a semi or closed-loop drilling system should be required.</p>
UT-LN-72	<p>HIGH POTENTIAL PALEONTOLOGICAL RESOURCES</p> <p>The lessee/operator is given notice that lands in this lease have been identified as having high potential for paleontological resources. Surveys will be required and modifications to the Surface Use Plan of Operations may be required in order to protect paleontological resources from surface disturbing activities in accordance with Section 6 of the lease terms and 43 CFR 3101.12. In addition, monitoring may be required during surface disturbing activities.</p>
UT-LN-83	<p>SITE ROW</p> <p>The lessee/operator is given notice that lands in this lease have an existing site ROW present. Modifications to the Surface Use Plan of Operations may be required or other appropriate mitigation as deemed necessary by the BLM Authorized Officer in order to protect the valid existing rights.</p>
UT-LN-90	<p>GRAHAM'S BEARDTONGUE (<i>PENSTEMON GRAHAMII</i>)</p> <p>In order to minimize effects to the federally proposed Graham's beardtongue, the Bureau of Land Management (BLM) in coordination with the U.S. Fish and Wildlife Service (Service) developed the following avoidance and minimization measures. The following avoidance and minimization measures should be included in the Plan of Development:</p> <ol style="list-style-type: none"> 1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat¹ prior to any ground disturbing activities to determine if suitable Graham's beardtongue habitat is present. 2. Within suitable habitat³, site inventories will be conducted to determine occupancy. Inventories: <ol style="list-style-type: none"> a. Must be conducted by qualified individual(s) and according to BLM and Service accepted survey protocols, b. Will be conducted in suitable and occupied habitat⁴ for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (usually April 15th to May 20th in the Uintah Basin; however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known population is in flower),

	<ul style="list-style-type: none"> c. Will occur within 300' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad, d. Will include, but not be limited to, plant species lists and habitat characteristics, and e. Will be valid until April 15th the following year. <p>3. Design project infrastructure to minimize impacts within suitable habitat²:</p> <ul style="list-style-type: none"> a. Reduce well pad size to the minimum needed, without compromising safety, b. Limit new access routes created by the project, c. Roads and utilities should share common right-of-ways where possible, d. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat, e. Place signing to limit off-road travel in sensitive areas, and f. Stay on designated routes and other cleared/approved areas. <p>4. Within occupied habitat⁴, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:</p> <ul style="list-style-type: none"> a. Follow the above (3.) recommendations for project design within suitable habitats, b. Construction of roads will occur such that the edge of the right of way is at least 300' from any plant, c. Roads will be graveled within occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from April 15th to May 20th (flowering period); dust abatement applications will be comprised of water only, d. The edge of the well pad should be located at least 300' away from plants, e. Surface pipelines will be laid such that a 300 foot buffer exists between the edge of the right of way and the plants, use stabilizing and anchoring techniques when the pipeline crosses the habitat (exposed raw shale knolls and slopes derived from the Parachute Creek and Evacuation Creek members of the geologic Green River Formation) to ensure pipelines don't move towards the population, f. Construction activities will not occur from April 15th through May 30th within occupied habitat, g. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging, temporary fencing, rebar, etc., h. Where technically and economically feasible, use directional drilling or multiple wells from the same pad,
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	<ul style="list-style-type: none"> i. Designs will avoid concentrating water flows or sediments into occupied habitat, j. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and k. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible. <p>5. Occupied Graham's beardtongue habitats within 300' of the edge of the surface pipelines' right-of-ways, 300' of the edge of the roads' right-of-ways, and 300' from the edge of well pads shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the Service. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.</p> <p>Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the U.S. Fish and Wildlife Service to ensure continued conservation of the species.</p>
UT-LN-96	<p style="text-align: center;">AIR QUALITY MITIGATION MEASURES</p> <p>The lessee is given notice that the Bureau of Land Management (BLM) in coordination with the U.S. Environmental Protection Agency and the Utah Department of Air Quality, among others, has developed the following air quality mitigation measures that may be applied to any development proposed on this lease. Integration of and adherence to these measures may help minimize adverse local or regional air quality impacts from oil and gas development (including but not limited to construction, drilling, and production) on regional ozone formation.</p> <ul style="list-style-type: none"> • All internal combustion equipment would be kept in good working order. • Water or other approved dust suppressants would be used at construction sites and along roads, as determined appropriate by the AO. • Open burning of garbage or refuse would not occur at well sites or other facilities. • Drill rigs would be equipped with Tier II or better diesel engines. • Vent emissions from stock tanks and natural gas TEG dehydrators would be controlled by routing the emissions to a flare or similar control device which would reduce emissions by 95% or greater. • Low bleed or no bleed pneumatics would be installed on separator dump valves and other controllers. • During completion, flaring would be limited as much as possible. Production equipment and gathering lines would be installed as soon as possible. • Well site telemetry would be utilized as feasible for production operations.

	<ul style="list-style-type: none"> Stationary internal combustion engine would comply with the following standards: 2g NOx/bhp-hr for engines <300HP; and 1g NOx/bhp-hr for engines >300HP. <p>Additional site-specific measures may also be employed to avoid or minimize effects to local or regional air quality. These additional measures will be developed and implemented in coordination with the U.S. Environmental Protection Agency, the Utah Department of Air Quality, and other agencies with expertise or jurisdiction as appropriate based on the size of the project and magnitude of emissions.</p>
UT-LN-99	<p style="text-align: center;">REGIONAL OZONE FORMATION CONTROLS</p> <p>To mitigate any potential impact oil and gas development emissions may have on regional ozone formation, the following Best Management Practices (BMPs) would be required for any development projects:</p> <ul style="list-style-type: none"> Tier II or better drilling rig engines Stationary internal combustion engine standard of 2g NOx/bhp-hr for engines <300HP and 1g NOx/bhp-hr for engines >300HP Low bleed or no bleed pneumatic pump valves Dehydrator VOC emission controls to +95% efficiency <p>Tank VOC emission controls to +95% efficiency.</p>
UT-LN-102	<p style="text-align: center;">AIR QUALITY ANALYSIS</p> <p>The lessee/operator is given notice that prior to project-specific approval, additional air quality analyses may be required to comply with the National Environmental Policy Act, Federal Land Policy Management Act, and/or other applicable laws and regulations. Analyses may include dispersion modeling and/or photochemical modeling for deposition and visibility impacts analysis, control equipment determinations, and/or emission inventory development. These analyses may result in the imposition of additional project-specific air quality control measures.</p>
UT-LN-121	<p style="text-align: center;">NSO – PL 97-98 – PRIME SOILS OF STATEWIDE SIGNIFICANCE</p> <p>These soil units are to be avoided, no surface occupancy until cleared by United States Department of Agriculture, Natural Resources Conservation Service (NRCS), as described in Public Law 97-98.</p>
UT-LN-128	<p style="text-align: center;">FLOODPLAIN MANAGEMENT</p> <p>The lessee/operator is given notice that, in accordance with Executive Order 11988, to avoid adverse impact to floodplains: 1) facilities should be located outside the 100-year floodplain, or 2) would be minimized or mitigated by modification of surface use plans within floodplains present within the lease.</p>
UT-LN-131	<p style="text-align: center;">GREATER SAGE-GROUSE– NET CONSERVATION GAIN</p> <p>In Priority and General Habitat Management Areas (PHMA and GHMA) all actions that result in habitat loss and degradation will require mitigation that provides a net conservation gain to the Greater Sage-Grouse (GRSG). Mitigation must account for any uncertainty associated with the effectiveness of the mitigation and will be achieved through avoiding, minimizing and</p>

	compensating for impacts. Mitigation will be conducted according to the mitigation framework found in Appendix F in the 2015 Utah Approved Management Plan Amendment.
UT-LN-132	<p>GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES</p> <p>Apply the Required Design Features (RDF)* in Appendix C of the 2015 Utah Approved Management Plan Amendment when developing a lease in Priority and General Habitat Management Areas (PHMA and GHMA).</p> <p>*RDFs may not be required if it is demonstrated through the NEPA analysis that the RDF associated project/activity is:</p> <ul style="list-style-type: none"> • Documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable; • An alternative RDF, state-implemented conservation measure, or plan-level protection is determined to provide equal or better protection for GRSG or its habitat; • Provide no additional protection to GRSG or its habitat.
UT-LN-133	<p>GREATER SAGE-GROUSE – BUFFER</p> <p>In Priority and General Habitat Management Areas (PHMA and GHMA), the BLM will apply the lek buffer-distances identified in the USGS Report Conservation Buffer Distance Estimates for Greater Sage-Grouse – A Review (Open File Report 2014-1239) in accordance with Appendix B, Applying Lek-Buffer Distances, consistent with valid and existing rights and applicable law in authorizing management actions.</p>
UT-LN-134	<p>GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMII</i>) & WHITE RIVER BEARDTONGUE (<i>P. SCARIOSUS</i> VAR. <i>ALBIFLUVIS</i>) CONSERVATION AREA</p> <p>This lease is subject to the management requirements set forth in the Conservation Agreement for Graham’s Beardtongue (<i>Penstemon grahamii</i>) and White River Beardtongue (<i>P. scariosus</i> var. <i>albifluvis</i>) (July 2014 as amended), to the extent this Conservation Agreement is further amended and/or in effect. Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the U.S. Fish and Wildlife Service between the lease sale stage and lease development stage to ensure continued conservation of the species.</p>
UT-LN-156	<p>POLLINATORS AND POLLINATOR HABITAT</p> <p>In order to protect pollinators and pollinator habitat, in accordance with BLM policy outlined in Instruction Memorandum No. 2016-013, Managing for Pollinators on Public Lands, and Pollinator-Friendly Best Management Practices for Federal Lands (2015), the following avoidance, minimization, and mitigation measures would apply to this parcel:</p> <ol style="list-style-type: none"> 1. Give a preference for placing well pads in previously disturbed areas, dry areas that do not support forbs, or areas dominated by nonnative grasses.

	<ol style="list-style-type: none"> 2. Utilize existing well pads where feasible. 3. Avoid disturbance to native milkweed patches within Monarch migration routes to protect Monarch butterfly habitat. 4. Avoid disturbance of riparian and meadow sites, as well as small depressed areas that may function as water catchments and host nectar-producing species, to protect Monarch butterfly habitat and nectaring sites. 5. Minimize the use of pesticides that negatively impact pollinators. 6. During revegetation treatments: <ol style="list-style-type: none"> a. Use minimum till drills where feasible. b. Include pollinator-friendly site-appropriate native plant seeds or seedlings in seed mixes. c. Where possible, increase the cover and diversity of essential habitat components for native pollinators by: <ul style="list-style-type: none"> ▪ Using site-appropriate milkweed seeds or seedlings within Monarch migration routes through priority sage-grouse habitat. ▪ Using seed mixes with annual and short-lived perennial native forbs that will bloom the first year and provide forage for pollinators. ▪ Using seed mixes with a variety of native forb species to ensure different colored and shaped flowers to provide nectar and pollen throughout the growing season for a variety of pollinators. ▪ Seeding forbs in separate rows from grasses to avoid competition during establishment. <p>Avoiding seeding non-native forbs and grasses that establish early and out compete slower-growing natives.</p>
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Table 74 Utah Threatened and Endangered Species Notices

NOTICE	DESCRIPTION/PURPOSE
T&E-03	<p style="text-align: center;">ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN</p> <p>The Lessee/Operator is given notice that the lands in this parcel contain Critical Habitat for the Colorado River fish (bonytail, humpback chub, Colorado pike minnow, and razorback sucker) listed as endangered under the Endangered Species Act, or these parcels have watersheds that are tributary to designated habitat. Critical habitat was designated for the four endangered Colorado River fishes on March 21, 1994(59 FR 13374-13400). Designated critical habitat for all the endangered fishes includes those portions of the 100-year floodplain that contain primary constituent elements necessary for survival of the species. Avoidance or use restrictions may be placed on portions of the lease. The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the Endangered Species Act. Integration of and adherence to these measures will facilitate review and analysis</p>

NOTICE	DESCRIPTION/PURPOSE
	<p>of any submitted permits under the authority of this lease. Following these measures could reduce the scope of Endangered Species Act, Section 7 consultation at the permit stage. Current avoidance and minimization measures include the following:</p> <ol style="list-style-type: none"> 1. Surveys will be required prior to operations unless species occupancy and distribution information are complete and available. All surveys must be conducted by qualified individual(s). 2. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated. 3. Water production will be managed to ensure maintenance or enhancement of riparian habitat. 4. Avoid loss or disturbance of riparian habitats. 5. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in suitable riparian habitat. Ensure that such directional drilling does not intercept or degrade alluvial aquifers. 6. Conduct watershed analysis for leases in designated critical habitat and overlapping major tributaries in order to determine toxicity risk from permanent facilities. 7. Implement Appendix B (Hydrologic Considerations for Pipeline Crossing Stream Channels, Technical Note 423). 8. Drilling will not occur within 100-year floodplains of rivers or tributaries to rivers that contain listed fish species or critical habitat. 9. In areas adjacent to 100-year flood plains, particularly in systems prone to flash floods, analyze the risk for flash floods to impact facilities, and use closed loop drilling, and pipeline burial or suspension according to Appendix B (Hydrologic Considerations for Pipeline Crossing Stream Channels, Technical Note 423, to minimize the potential for equipment damage and resulting leaks or spills. <p>Water depletions from <i>any</i> portion of the Upper Colorado River drainage basin above Lake Powell are considered to adversely affect or adversely modify the critical habitat of the four resident endangered fish species and must be evaluated with regard to the criteria described in the Upper Colorado River Endangered Fish Recovery Program. Formal consultation with USFWS is required for all depletions. All depletion amounts must be reported to BLM.</p> <p>Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the U.S. Fish and Wildlife Service between the lease sale stage and lease development stage to ensure continued compliance with the Endangered Species Act (ESA).</p>
T&E-05	<p style="text-align: center;">LISTED PLANT SPECIES</p> <p>The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for federally listed plant species under the Endangered Species Act. The following avoidance and minimization measures have been developed to facilitate review and analysis of any submitted permits under the authority of this lease.</p> <ol style="list-style-type: none"> 1) Site inventories: <ol style="list-style-type: none"> a) Must be conducted to determine habitat suitability,

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	<ul style="list-style-type: none"> b) Are required in known or potential habitat for all areas proposed for surface disturbance prior to initiation of project activities, at a time when the plant can be detected, and during appropriate flowering periods, c) Documentation should include, but not be limited to individual plant locations and suitable habitat distributions, and d) All surveys must be conducted by qualified individuals. <p>2) Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.</p> <p>3) Project activities must be designed to avoid direct disturbance to populations and to individual plants:</p> <ul style="list-style-type: none"> a) Designs will avoid concentrating water flows or sediments into plant occupied habitat. b) Construction will occur down slope of plants and populations where feasible; if well pads and roads must be sited upslope, buffers of 300 feet minimum between surface disturbances and plants and populations will be incorporated. c) Where populations occur within 300 ft. of well pads, establish a buffer or fence the individuals or groups of individuals during and post-construction. d) Areas for avoidance will be visually identifiable in the field (e.g., flagging, temporary fencing, rebar, etc.) e) For surface pipelines, use a 10-foot buffer from any plant locations: <p>i) If on a slope, use stabilizing construction techniques to ensure the pipelines don't move towards the population.</p> <ul style="list-style-type: none"> 4) For riparian/wetland-associated species (e.g., Ute ladies-tresses) avoid loss or disturbance of riparian habitats. 5) Ensure that water extraction or disposal practices do not result in change of hydrologic regime. 6) Limit disturbances to and within suitable habitat by staying on designated routes. 7) Limit new access routes created by the project. 8) Place signing to limit ATV travel in sensitive areas. 9) Implement dust abatement practices near occupied plant habitat. 10) All disturbed areas will be re-vegetated with native species comprised of species indigenous to the area. 11) Post construction monitoring for invasive species will be required. 12) Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in plant habitat. Ensure that such directional drilling does not intercept or degrade alluvial aquifers. 13) Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated. <p>Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the U.S. Fish and Wildlife Service between the lease sale stage and lease development stage to ensure continued compliance with the Endangered Species Act.</p>
T&E-06	MEXICAN SPOTTED OWL

NOTICE	DESCRIPTION/PURPOSE
	<p>The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for Mexican spotted owl, a federally listed species. The Lessee/Operator is given notice that the lands in this lease contain Designated Critical Habitat for the Mexican spotted owl, a federally listed species. Critical habitat was designated for the Mexican spotted owl on August 31, 2004 (69 FR 53181-53298). Avoidance or use restrictions may be placed on portions of the lease. Application of appropriate measures will depend whether the action is temporary or permanent, and whether it occurs within or outside the owl nesting season.</p> <p>A <u>temporary</u> action is completed prior to the following breeding season leaving no permanent structures and resulting in no permanent habitat loss. A <u>permanent</u> action continues for more than one breeding season and/or causes a loss of owl habitat or displaces owls through disturbances, i.e. creation of a permanent structure.</p> <p>The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the Endangered Species Act. Integration of, and adherence to these measures, will facilitate review and analysis of any submitted permits under the authority of this lease. Following these measures could reduce the scope of Endangered Species Act, Section 7 consultation at the permit stage. Current avoidance and minimization measures include the following:</p> <ol style="list-style-type: none"> 1. Surveys will be required prior to operations unless species occupancy and distribution information is complete and available. All Surveys must be conducted by qualified individual(s). 2. Assess habitat suitability for both nesting and foraging using accepted habitat models in conjunction with field reviews. Apply the conservation measures below if project activities occur within 0.5 mile of suitable owl habitat. Determine potential effects of actions to owls and their habitat. <ol style="list-style-type: none"> a. Document type of activity, acreage and location of direct habitat impacts, type and extent of indirect impacts relative to location of suitable owl habitat. b. Document if action is temporary or permanent. 3. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated. 4. Water production will be managed to ensure maintenance or enhancement of riparian habitat. 5. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in canyon habitat suitable for Mexican spotted owl nesting. 6. For all temporary actions that may impact owls or suitable habitat: <ol style="list-style-type: none"> a. If the action occurs entirely outside of the owl breeding season (March 1 – August 31), and leaves no permanent structure or permanent habitat disturbance, action can proceed without an occupancy survey. b. If action will occur during a breeding season, survey for owls prior to commencing activity. If owls are found, activity must be delayed until outside of the breeding season. c. Rehabilitate access routes created by the project through such means as raking out scars, re-vegetation, gating access points, etc.

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	<p>7. For all permanent actions that may impact owls or suitable habitat:</p> <ol style="list-style-type: none"> Survey two consecutive years for owls according to accepted protocol prior to commencing activities. If owls are found, no actions will occur within 0.5 mile of identified nest site. If nest site is unknown, no activity will occur within the designated Protected Activity Center (PAC). Avoid drilling and permanent structures within 0.5 mi of suitable habitat unless surveyed and not occupied. Reduce noise emissions (e.g., use hospital-grade mufflers) to 45 dBA at 0.5 mile from suitable habitat, including canyon rims. Placement of permanent noise-generating facilities should be determined by a noise analysis to ensure noise does not encroach upon a 0.5 mile buffer for suitable habitat, including canyon rims. Limit disturbances to and within suitable habitat by staying on approved routes. Limit new access routes created by the project. <p>Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the U.S. Fish and Wildlife Service between the lease sale stage and lease development stage to ensure continued compliance with the Endangered Species Act.</p>
T&E-20	<p style="text-align: center;">CLAY REED - MUSTARD (<i>SCHOENOCRAMBE ARGILLACEA</i>)</p> <p>The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for clay reed-mustard under the Endangered Species Act. The following avoidance and minimization measures have been developed to facilitate review and analysis of any submitted permits under the authority of this lease:</p> <p>In order to minimize effects to the federally threatened clay reed-mustard, the Bureau of Land Management (BLM) in coordination with the U.S. Fish and Wildlife Service (Service) developed the following avoidance and minimization measures. Integration of and adherence to these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance) are in compliance with the Endangered Species Act (ESA). For the purposes of this document, the following terms are so defined: Potential habitat is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment. Suitable habitat is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain clay reed-mustard; habitat descriptions can be found in Federal Register Notice and species recovery plan links at <http://www.fws.gov/endangered/wildlife.html>. Occupied habitat is defined as areas currently or historically known to support clay reed-mustard; synonymous with “known habitat.” The following avoidance and minimization measures should be included in the Plan of Development:</p> <ol style="list-style-type: none"> Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat prior to any ground disturbing activities to determine if suitable clay reed-mustard habitat is present. Site inventories will be conducted within suitable habitat to determine occupancy. Where standard surveys are technically infeasible and otherwise

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	<p>hazardous due to topography, slope, etc., suitable habitat will be assessed and mapped for avoidance (hereafter, “avoidance areas”); in such cases, in general, 300-foot buffers will be maintained between surface disturbance and avoidance areas. However, site-specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat. Where conditions allow, inventories:</p> <ol style="list-style-type: none"> a. Must be conducted by qualified individual(s) and according to BLM and Service accepted survey protocols, b. Will be conducted in suitable and occupied habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (usually May 1st to June 5th, in the Uintah Basin; however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known population is in flower), c. Will occur within 300 feet from the edge of the proposed right-of-way for surface pipelines or roads; and within 300 feet from the perimeter of disturbance for the proposed well pad including the well pad, d. Will include, but not be limited to, plant species lists and habitat characteristics, and e. Will be valid until May 1st the following year. <p>3. Design project infrastructure to minimize impacts within suitable habitat²:</p> <ol style="list-style-type: none"> a. Where standard surveys are technically infeasible, infrastructure and activities will avoid all suitable habitat (avoidance areas) and incorporate 300-foot buffers, in general; however, site-specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat, b. Reduce well pad size to the minimum needed, without compromising safety, c. Limit new access routes created by the project, d. Roads and utilities should share common right-of-ways where possible, e. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat, f. Place signing to limit off-road travel in sensitive areas, and g. Stay on designated routes and other cleared/approved areas. <p>4. Within occupied habitat³, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:</p> <ol style="list-style-type: none"> a. Where standard surveys are technically infeasible, infrastructure and activities will avoid all suitable habitat (avoidance areas) and incorporate 300-foot buffers, , in general; however, site-specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat, b. Follow the above recommendations (3.) for project design within suitable habitats,

NOTICE	DESCRIPTION/PURPOSE
	<ul style="list-style-type: none"> c. To avoid water flow and/or sedimentation into occupied habitat and avoidance areas, silt fences, hay bales, and similar structures or practices will be incorporated into the project design; appropriate placement of fill is encouraged, d. Construction of roads will occur such that the edge of the right of way is at least 300 feet from any plant and 300 feet from avoidance areas, e. Roads will be graveled within occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from May 1st to June 5th (flowering period); dust abatement applications will be comprised of water only, f. The edge of the well pad should be located at least 300 feet away from plants and avoidance areas, in general; however, site-specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat, g. Surface pipelines will be laid such that a 300-foot buffer exists between the edge of the right of way and plants and 300 feet between the edge of right of way and avoidance areas; use stabilizing and anchoring techniques when the pipeline crosses suitable habitat to ensure pipelines don't move towards the population; site-specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat, h. Construction activities will not occur from May 1st through June 5th within occupied habitat, i. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging, temporary fencing, rebar, etc., <ul style="list-style-type: none"> j. Where technically and economically feasible, use directional drilling or multiple wells from the same pad, k. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and l. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible. <p>5. Occupied clay reed-mustard habitats within 300 feet of the edge of the surface pipelines' right of ways, 300 feet of the edge of the roads' right of ways, and 300 feet from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the Service. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.</p> <p>6. Re-initiation of section 7 consultation with the Service will be sought immediately if any loss of plants or occupied habitat for the clay reed-mustard is anticipated as a result of project activities.</p> <p>Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in</p>

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	consultation with the U.S. Fish and Wildlife Service to ensure continued compliance with the ESA.
T&E-21	<p>SHRUBBY REED - MUSTARD (<i>SCHOENOCRAMBE SUFFRUTESCENS</i>)</p> <p>The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for shrubby reed-mustard under the Endangered Species Act. The following avoidance and minimization measures have been developed to facilitate review and analysis of any submitted permits under the authority of this lease.</p> <p>In order to minimize effects to the federally endangered shrubby reed-mustard, the Bureau of Land Management (BLM) in coordination with the U.S. Fish and Wildlife Service (Service) developed the following avoidance and minimization measures. Integration of and adherence to these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance) are in compliance with the Endangered Species Act (ESA). For the purposes of this document, the following terms are so defined: Potential habitat is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment. Suitable habitat is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain shrubby reed-mustard; habitat descriptions can be found in the Federal Register 52(193):37416-37420 and in the U.S. Fish and Wildlife Service's 1994 Utah Reed-Mustards Recovery Plan (http://www.fws.gov/endangered/wildlife.html). Occupied habitat is defined as areas currently or historically known to support shrubby reed-mustard; synonymous with "known habitat." The following avoidance and minimization measures should be included in the Plan of Development:</p> <ol style="list-style-type: none"> 1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat prior to any ground disturbing activities to determine if suitable shrubby reed-mustard habitat is present. 2. Within suitable habitat, site inventories will be conducted to determine occupancy. Inventories: <ol style="list-style-type: none"> a. Must be conducted by qualified individual(s) and according to BLM and Service accepted survey protocols, b. Will be conducted in suitable and occupied habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (April 15th to August 1st, unless extended by the BLM), c. Will occur within 300 feet from the edge of the proposed right-of-way for surface pipelines or roads; and within 300 feet from the perimeter of disturbance for the proposed well pad including the well pad, d. Will include, but not be limited to, plant species lists and habitat characteristics, and e. Will be valid until April 15th the following year. 3. Design project infrastructure to minimize impacts within suitable habitat: <ol style="list-style-type: none"> a. Reduce well pad size to the minimum needed, without compromising safety, b. Limit new access routes created by the project, c. Roads and utilities should share common right-of-ways where possible,

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	<ul style="list-style-type: none"> d. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat, e. Place signing to limit off-road travel in sensitive areas, and f. Stay on designated routes and other cleared/approved areas. <p>4. Within occupied habitat, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:</p> <ul style="list-style-type: none"> a. Follow the above (3.) recommendations for project design within suitable habitats, b. Construction of roads will occur such that the edge of the right of way is at least 300' from any plant, c. Roads will be graveled within occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from April 15th to May 30th (flowering period); dust abatement applications will be comprised of water only, d. The edge of the well pad should be located at least 300 feet away from plants, e. Surface pipelines will be laid such that a 300-foot buffer exists between the edge of the right of way and the plants, use stabilizing and anchoring techniques when the pipeline crosses the white shale strata to ensure the pipelines don't move towards the population, f. Construction activities will not occur from April 15th through May 30th within occupied habitat, g. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging, temporary fencing, rebar, etc., h. Where technically and economically feasible, use directional drilling or multiple wells from the same pad, i. Designs will avoid concentrating water flows or sediments into occupied habitat, j. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and k. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible. <p>5. Occupied shrubby reed-mustard habitats within 300 feet of the edge of the surface pipeline right of ways, 300 feet of the edge of the road right of ways, and 300 feet from the edge of well pads shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the Service. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.</p>

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	<p>6. Re-initiation of section 7 consultation with the Service will be sought immediately if any loss of plants or occupied habitat for the shrubby reed-mustard is anticipated as a result of project activities.</p> <p>Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the U.S. Fish and Wildlife Service to ensure continued compliance with the ESA.</p>
T&E-22	<p style="text-align: center;">UTE LADIES'-TRESSES (<i>SPIRANTHES DILUVIALIS</i>)</p> <p>The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for Ute ladies'-tresses under the Endangered Species Act (ESA). The following avoidance and minimization measures have been developed to facilitate review and analysis of any submitted permits under the authority of this lease. In order to minimize effects to the federally threatened Ute ladies'-tresses, the BLM in coordination with the USFWS, developed the following avoidance and minimization measures. Integration of and adherence to these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance) are in compliance with the ESA. Ute ladies'-tresses habitat is provided some protection under Executive Orders 11990 (wetland protection) and 11988 (floodplain management), as well as section 404 of the Clean Water Act. For the purposes of this document, the following terms are so defined: Potential habitat is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment. Suitable habitat is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain Ute ladies'-tresses. Habitat descriptions can be found in Recovery Plans and Federal Register Notices for the species at http://www.fws.gov/endangered/wildlife.html. Occupied habitat is defined as areas currently or historically known to support Ute ladies'-tresses; synonymous with "known habitat. Although plants, habitat, or populations may be afforded some protection under these regulatory mechanisms, the following conservation measures should be included in the Plan of Development:</p> <ol style="list-style-type: none"> 1. Pre-project habitat assessments will be completed across 100% of the project disturbance area, including areas where hydrology might be affected by project activities, within potential habitat prior to any ground disturbing activities to determine if suitable Ute ladies'-tresses habitat is present. 2. Within suitable habitat, site inventories will be conducted to determine occupancy. Inventories: <ol style="list-style-type: none"> a. Must be conducted by qualified individual(s) and according to BLM and USFWS accepted survey protocols, b. Will be conducted in suitable and occupied habitat for all areas proposed for surface disturbance or areas that could experience direct or indirect changes in hydrology from project activities, c. Will be conducted prior to initiation of project activities and within the same growing season, at a time when the plant can be detected, and during appropriate flowering periods (usually August 1st and August 31st in the Uintah Basin; however, surveyors should verify that the plant is flowering

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	<p>by contacting a BLM or USFWS botanist or demonstrating that the nearest known population is in flower),</p> <ul style="list-style-type: none"> d. Will occur within 300' from the edge of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad, e. Will include, but not be limited to, plant species lists, habitat characteristics, source of hydrology, and estimated hydroperiod, and f. Will be valid until August 1st the following year. <p>3. Design project infrastructure to minimize direct or indirect impacts to suitable habitat both within and downstream of the project area:</p> <ul style="list-style-type: none"> a. Alteration and disturbance of hydrology will not be permitted, b. Reduce well pad size to the minimum needed, without compromising safety, c. Limit new access routes created by the project, d. Roads and utilities should share common right-of-ways where possible, e. Reduce width of right-of-ways and minimize the depth of excavation needed for the road bed, f. Construction and right-of-way management measures should avoid soil compaction that would impact Ute ladies' tresses habitat, g. Off-site impacts or indirect impacts should be avoided or minimized (i.e. install berms or catchment ditches to prevent spilled materials from reaching occupied or suitable habitat through either surface or groundwater), h. Place signing to limit off-road travel in sensitive areas, i. Stay on designated routes and other cleared/approved areas, and j. All disturbed areas will be re-vegetated with species approved by USFWS and BLM botanists. <p>4. Within occupied habitat, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:</p> <ul style="list-style-type: none"> a. Follow the above (#3) recommendations for project design within suitable habitats, b. Buffers of 300 feet minimum between right of way (roads and surface pipelines) or surface disturbance (well pads) and plants and populations will be incorporated, c. Surface pipelines will be laid such that a 300-foot buffer exists between the edge of the right of way and the plants, using stabilizing and anchoring techniques when the pipeline crosses habitat to ensure the pipelines don't move towards the population, d. Before and during construction, areas for avoidance should be visually identifiable in the field (e.g., flagging, temporary fencing, rebar, etc.), e. Where technically and economically feasible, use directional drilling or multiple wells from the same pad, f. Designs will avoid altering site hydrology and concentrating water flows or sediments into occupied habitat,

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	<p>g. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, with berms and catchment ditches to avoid or minimize the potential for materials to reach occupied or suitable habitat, and</p> <p>h. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.</p> <p>5. Occupied Ute ladies'-tresses habitats within 300' of the edge of the surface pipelines' right-of-ways, 300' of the edge of the roads' right-of-ways, and 300' from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Habitat impacts include monitoring any changes in hydrology due to project related activities. Annual reports shall be provided to the BLM and the USFWS. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.</p> <p>6. Re-initiation of section 7 consultation with the USFWS will be sought immediately if any loss of plants or occupied habitat for the Ute ladies'-tresses is anticipated as a result of project activities.</p> <p>Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the USFWS to ensure continued compliance with the ESA.</p>
T&E-26	<p>SOUTHWESTERN WILLOW FLYCATCHER HABITAT – RIPARIAN AREAS</p> <p>The lessee/operator is given notice that the lands in this parcel contains riparian habitat within the range for southwestern willow flycatcher. In order to protect southwestern willow flycatcher habitat and avoid negative impacts to the species, actions would be avoided or restricted that may cause stress and disturbance during nesting and rearing of their young. Appropriate measures would depend on whether the action is temporary or permanent, and whether it occurs within or outside the nesting season. A temporary action is completed prior to the following breeding season leaving no permanent structures and resulting in no permanent habitat loss. A permanent action continues for more than one breeding season and/or causes a loss of habitat or displaces flycatchers through disturbances, i.e., creation of a permanent structure. Current avoidance and minimization measures include the following:</p> <ol style="list-style-type: none"> 1. Surveys would be required prior to operations unless species occupancy and distribution information is complete and available. All surveys must be conducted by qualified individual(s) and be conducted according to protocol. 2. Activities would require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures would be evaluated and, if necessary, Section 7 consultation reinitiated. 3. Water production would be managed to ensure maintenance or enhancement of riparian habitat. 4. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in suitable riparian habitat. Ensure that such directional drilling does not intercept or degrade alluvial aquifers.

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	<ol style="list-style-type: none"> 5. Activities would maintain a 330 feet buffer from suitable riparian habitat year long. 6. Activities within 0.25-mile of occupied breeding habitat would not occur during the breeding season of April 15 to August 15. 7. Noise emissions within 0.25-miles of suitable habitat for the southwestern willow flycatcher will not exceed baseline conditions during the breeding season of April 15 to August 15. 8. Ensure that water extraction or disposal practices do not result in change of hydrologic regime that would result in loss or degradation of riparian habitat. 9. Re-vegetate with native species all areas of surface disturbance within riparian areas and/or adjacent land. 10. Avoid loss or disturbance of riparian habitats. <p>Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the USFWS between the lease sale stage and lease development stage to ensure continued compliance with the ESA.</p>
T&E-31	<p style="text-align: center;">WESTERN YELLOW-BILLED CUCKOO</p> <p>The Lessee/Operator is given notice that the lands in or adjacent to this parcel contain potentially suitable habitat that falls within the range for western yellow-billed cuckoo, a federally listed species. Avoidance or use restrictions may be placed on portions of the lease. Application of appropriate measures will depend upon whether the action is temporary or permanent, and whether it occurs within or outside the breeding and nesting season. A temporary action is completed prior to the following breeding season leaving no permanent structures and resulting in no permanent habitat loss. A permanent action could continue for more than one breeding season and/or cause a loss of habitat or displace western yellow-billed cuckoos through disturbances. The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the Endangered Species Act. Integration of, and adherence to, these measures will facilitate review and analysis of any submitted permits under the authority of this lease. Following these measures could reduce the scope of Endangered Species Act, Section 7 consultation at the permit stage. Avoidance and minimization measures include the following:</p> <ol style="list-style-type: none"> 1. Habitat suitability within, and within a 0.5-mile buffer, of the proposed project analysis area will be identified prior to lease development to identify potential survey needs. 2. If suitable or proposed critical habitat is present, protocol Breeding Season Surveys will be required within, and within 0.5-mile buffer, of the proposed project analysis area prior to operations unless species occupancy and distribution information is complete and available. All Surveys must be conducted by permitted individual(s), and be conducted according to protocol. 3. For all temporary actions that may impact cuckoo or suitable habitat: <ol style="list-style-type: none"> a. If action occurs entirely outside of the cuckoo breeding season (June 1 – Aug 31), and leaves no structure or habitat disturbance, action can proceed without a presence/absence survey.

NOTICE	DESCRIPTION/PURPOSE
	<ul style="list-style-type: none"> b. If action is proposed between June 1 and August 31, presence/absence surveys for cuckoo will be conducted prior to commencing activity. If cuckoo are detected, activity should be delayed until September 1. The cuckoo survey protocol requires four surveys across the breeding season to conclude absence, thus the survey cannot conclude absence of cuckoos until mid-August. c. Eliminate access routes created by the project through such means as raking out scars, revegetation, gating access points, etc. 4. For all permanent actions that may impact cuckoo or suitable habitat: <ul style="list-style-type: none"> a. Habitat suitability within and within a 0.5-mile buffer of the proposed project analysis area will be identified prior to lease development to identify potential survey needs. b. Protocol level surveys by permitted individuals will be conducted within, or within a 0.5-mile buffer, of the proposed project analysis area prior to commencing activities. c. Avoid drilling and permanent structures within 0.5 miles of suitable or proposed critical habitat unless absence is determined according to protocol level surveys conducted by permitted individual(s). d. During construction and operation phases of the project, ensure noise levels at the edge of suitable habitat do not exceed baseline conditions. Placement of permanent noise-generating facilities should be determined by a noise analysis. 5. Temporary or permanent actions will require monitoring throughout the duration of the project to ensure that western yellow-billed cuckoo or its habitat is not affected in a manner or to an extent not previous considered. Avoidance and minimization measures will be evaluated throughout the duration of the project. 6. Water produced as a by-product of drilling or pumping will be managed to ensure maintenance or enhancement of riparian habitat. 7. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in suitable habitat. Ensure that such directional drilling does not intercept or degrade alluvial aquifers. 8. Ensure that water extraction or disposal practices do not result in change of hydrologic regime that would result in loss or degradation of riparian habitat. 9. Re-vegetate with native species, where possible, all areas of surface disturbance within riparian areas and/or adjacent uplands. <p>Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the U.S. Fish and Wildlife Service between the lease sale stage and lease development stage to ensure continued compliance with the ESA.</p>

APPENDIX C. COMMENTS AND BLM RESPONSES

The BLM evaluated all comments received and parsed them into substantive or non-substantive comments according to the guidance in the BLM's NEPA Handbook (H-1790-1; page 66). Example substantive comments contained in Table 76 are representative of topics raised, and single responses are provided for similarly stated topics. Due to their length, the BLM has summarized or excerpted comments below.

The majority of the comments expressed opinions or preferences and are outside the scope of the EA. The BLM will only respond to substantive comments. The comments, in their entirety, are on ePlanning.

As detailed in Table 75 the BLM assigned unique codes for all individuals, entities, and organizations who submitted comments during the Comment Period. The BLM evaluated all comments received and parsed them into substantive or non-substantive comments according to BLM's NEPA Handbook (H-1790-1; page 66). The agency then identified resource/topic areas for each of the substantive comments. The commenter codes and resource/topic areas are used in Table 76 44 for responding to all substantive comments. Substantive comments contained in Table 76. Comment summary and BLM response. are representative of topics raised, and single responses are provided for similarly stated comments.

Substantive comments 1) question, with reasonable basis, the accuracy of the information in the analysis; 2) question, with reasonable basis, the adequacy of, methodology for, or assumptions used for the analysis; 3) present new information relevant to the analysis; 4) present reasonable alternatives other than those analyzed; or 5) cause changes or revisions in one or more of the alternatives.

Non-substantive comments generally 1) expressed opposition to or support for the proposed action or alternatives or agreed or disagreed with BLM policy or resource decisions without reasoning, justification, or supporting data; 2) did not pertain to the project area or the project; or 3) took the form of vague or open-ended questions and did not warrant a specific response. Similarly, comments that merely cited other comments or sources without providing reasoning or additional explanation were considered non-substantive.

The BLM received the following non-substantive comments during the comment period on the EA:

- TBD

While the BLM does not provide specific responses to each of these comments because they do not meet the criteria for being substantive, the agency thanks these commenters for their feedback. The BLM received XX comments, XX of which contained substantive comments.

Table 75. Public submissions with assigned commenter codes and resource/topic areas.

Organization	Commenter Code	Resource/Topic Area

Table 76. Comment summary and BLM response.

Comment number	Resource/Topic	Summarized Comment*	Addressed in the EA, Section:	Comment Response

APPENDIX D. LEASING PREFERENCE RATING FOR NOMINATED LEASE PARCELS

BACKGROUND

The following states have a permanent injunction on implementation on any stop or pause on quarterly sales: Louisiana, Alabama, Alaska, Arkansas, Georgia, Mississippi, Missouri, Montana, Nebraska, Oklahoma, Texas, Utah, and West Virginia.

Upon the conclusion of the 30-day Public Scoping period, the BLM completed the parcel preference review process. In accordance with regulation, the BLM has evaluated the nominated lease parcels against five criteria to determine each parcel's leasing preference. All the parcels nominated are rated as low preference based on one or more criteria. The regulation states that if there are no high-preference parcels available for the sale, the office will select one or more low-preference parcels that present the least number of conflicts based on the criteria listed. Given the BLM's ability to mitigate resource impacts through the attachment of stipulations and lease notices at the leasing stage and coupled with site-specific analysis and pre-disturbance biological surveys at the lease development stage, impacts to resources are expected to be avoided, minimized, and reduced, such that any reasonably foreseeable impacts can be effectively addressed.

Lease Parcel Preference Criteria

1. Proximity to existing oil and gas development, giving preference to lands upon which a prudent operator would seek to expand existing operations;
2. The presence of important fish and wildlife habitats or connectivity areas, giving preference to lands that would not impair the proper functioning of such habitats or corridors;
3. The presence of historic properties, sacred sites, or other high value cultural resources, giving preference to lands that do not contribute to the cultural significance of such resources;
4. The presence of recreation and other important uses or resources, giving preference to lands that do not contribute to the value of such uses or resources; and
5. Potential for development, giving preference to lands with high potential for development.

Table 77. Leasing Preference Rating for BLM's Utah Fourth Quarter 2025 Lease Sale

PARCEL NUMBER	43 C.F.R. § 3120.32 CRITERIA FOR LEASING PREFERENCE					PREFERENCE FOR LEASING
	<i>O&G Proximity</i>	<i>Plant and Wildlife Habitat⁵</i>	<i>Cultural Resources</i>	<i>Recreation⁶ (Other Resources)</i>	<i>Development Potential⁷</i>	
1602	High	Sage-grouse High - Crucial winter mule deer habitat-Low, Shrubby-reed mustard occupied habitat - low, Graham's penstemon suitable habitat-Low	High	High	High	Low
1603	High	Sage-grouse High- Crucial winter mule deer habitat-Low, Shrubby reed-mustard suitable habitat - Low, Graham's penstemon suitable habitat-Low	High	High	High	Low
1617	High	Sage-grouse High - Crucial winter mule deer habitat-Low, Graham's penstemon occupied habitat -Low, White River penstemon occupied habitat - Low, clay-reed mustard suitable habitat-Low, Shrubby reed-mustard suitable, Graham's penstemon suitable habitat-Low habitat - Low, White River penstemon suitable habitat - Low	High	High	High	Low
1618	High	Sage-grouse High - Crucial winter mule deer habitat-Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low

⁵ Low Determinations were made if the parcel(s) is within important habitat or connectivity areas. If the preference value for leasing is High if the nominated parcel(s) is NOT within important habitat or connectivity area and there is not a high potential for conflict with important habitats.

⁶ Low Determinations were made if parcel(s) contains competing uses of the Federal lands that will be curtailed due to the lease issuance. If the preference value is High because the nominated parcel(s) does NOT contain incompatible uses.

⁷ Low Determinations were made if the parcel(s) because of Low or Very Low potential for development based on the BLM Reasonably Foreseeable Development (RFD) scenario where the RFD contains projections of the number of possible oil and gas wells that could be drilled and produced within each of the development potential areas specified as Very High, High, Moderate, Low, and Very Low development potential. Any nominated parcel that falls within Very High or High in the RFD will have a preference value of HIGH for this criterion.

PARCEL NUMBER	43 C.F.R. § 3120.32 CRITERIA FOR LEASING PREFERENCE					PREFERENCE FOR LEASING
	<i>O&G Proximity</i>	<i>Plant and Wildlife Habitat⁵</i>	<i>Cultural Resources</i>	<i>Recreation⁶ (Other Resources)</i>	<i>Development Potential⁷</i>	<i>High/Low</i>
1620	High	Sage-grouse High - Crucial winter mule deer habitat Low, Graham's penstemon occupied habitat -Low, White River penstemon occupied habitat - Low, clay-reed mustard suitable habitat-Low, Shrubby reed-mustard suitable, Graham's penstemon suitable habitat-Low habitat - Low, White River penstemon suitable habitat - Low	High	High	High	Low
1622	High	Sage-grouse Low - Crucial winter mule deer habitat-Low, White River penstemon occupied habitat - Low, clay-reed mustard suitable habitat-Low, Shrubby reed-mustard suitable habitat - Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
1625	High	Sage-grouse High - Crucial winter mule deer habitat Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
1626	High	Sage-grouse Low - Crucial winter mule deer habitat-Low, Shrubby-reed mustard occupied habitat - low, Shrubby reed-mustard suitable habitat - Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low

PARCEL NUMBER	43 C.F.R. § 3120.32 CRITERIA FOR LEASING PREFERENCE					PREFERENCE FOR LEASING
	<i>O&G Proximity</i>	<i>Plant and Wildlife Habitat⁵</i>	<i>Cultural Resources</i>	<i>Recreation⁶ (Other Resources)</i>	<i>Development Potential⁷</i>	<i>High/Low</i>
1627	High	Sage-grouse Low - Crucial winter mule deer habitat-low, 3 species UCR fish low, White River penstemon occupied habitat - Low, Shrubby reed-mustard suitable habitat - Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
1630	High	Crucial winter mule deer habitat-Low, Shrubby reed-mustard suitable habitat - Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
1634	High	Sage-grouse Low, Shrubby reed-mustard suitable habitat - Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
1636	High	Crucial winter mule deer habitat- low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
1638	High	Crucial winter mule deer habitat Low, White River penstemon occupied habitat - Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low

PARCEL NUMBER	43 C.F.R. § 3120.32 CRITERIA FOR LEASING PREFERENCE					PREFERENCE FOR LEASING
	<i>O&G Proximity</i>	<i>Plant and Wildlife Habitat⁵</i>	<i>Cultural Resources</i>	<i>Recreation⁶ (Other Resources)</i>	<i>Development Potential⁷</i>	<i>High/Low</i>
1640	High	Sage-grouse High - Crucial winter mule deer habitat-High, 3 species UCR fish low, clay-reed mustard occupied habitat-Low, Shrubby-reed mustard occupied habitat - low, clay-reed mustard suitable habitat-Low, Shrubby reed-mustard suitable habitat - Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
1641	High	Sage-grouse High - Crucial winter mule deer habitat-Low, clay-reed mustard suitable habitat-Low, Shrubby reed-mustard suitable habitat - Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
1643	High	Sage-grouse High - Crucial winter mule deer habitat-Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
1644	High	Sage-grouse High - Crucial winter mule deer habitat-Low, 3 species UCR fish low, clay-reed mustard suitable habitat-Low, Shrubby reed-mustard suitable habitat - Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low

PARCEL NUMBER	43 C.F.R. § 3120.32 CRITERIA FOR LEASING PREFERENCE					PREFERENC E FOR LEASING
	<i>O&G Proximity</i>	<i>Plant and Wildlife Habitat⁵</i>	<i>Cultural Resources</i>	<i>Recreation⁶ (Other Resources)</i>	<i>Development Potential⁷</i>	<i>High/Low</i>
1645	High	Sage-grouse High - Crucial winter mule deer habitat-Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
1650	High	Sage-grouse High - Crucial winter mule deer habitat-Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
1655	High	Sage-grouse Low - Crucial winter mule deer habitat-Low, Graham's penstemon occupied habitat -Low, Graham's penstemon suitable habitat-Low	High	High	High	Low
1656	High	Crucial winter mule deer habitat- low, Graham's penstemon occupied habitat -Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
1657	High	Sage-grouse Low - Crucial winter mule deer habitat-Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
1658	High	Sage-grouse Low - Crucial winter mule deer habitat-Low, White River penstemon occupied habitat - Low, Shrubby reed-mustard suitable habitat - Low, White River penstemon suitable habitat - Low	High	High	High	Low

PARCEL NUMBER	43 C.F.R. § 3120.32 CRITERIA FOR LEASING PREFERENCE					PREFERENCE FOR LEASING
	<i>O&G Proximity</i>	<i>Plant and Wildlife Habitat⁵</i>	<i>Cultural Resources</i>	<i>Recreation⁶ (Other Resources)</i>	<i>Development Potential⁷</i>	<i>High/Low</i>
1660	High	Sage-grouse Low - Crucial winter mule deer habitat-Low, Shrubby reed-mustard suitable habitat - Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
7723	High	Sage-grouse Low - Crucial winter mule deer habitat-Low, 3 species UCR fish low, White River penstemon occupied habitat - Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
7727	High	Sage-grouse High - Crucial winter mule deer habitat-Low, Graham's penstemon occupied habitat -Low, Shrubby reed-mustard suitable habitat - Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
7728	High	Sage-grouse High - Crucial winter mule deer habitat-Low, Graham's penstemon occupied habitat -Low, White River penstemon occupied habitat - Low, clay-reed mustard suitable habitat-Low, Shrubby reed-mustard suitable, Graham's penstemon suitable habitat-Low habitat - Low, White River penstemon suitable habitat - Low	High	High	High	Low

PARCEL NUMBER	43 C.F.R. § 3120.32 CRITERIA FOR LEASING PREFERENCE					PREFERENCE FOR LEASING
	<i>O&G Proximity</i>	<i>Plant and Wildlife Habitat⁵</i>	<i>Cultural Resources</i>	<i>Recreation⁶ (Other Resources)</i>	<i>Development Potential⁷</i>	<i>High/Low</i>
7731	High	Sage-grouse High - Crucial winter mule deer habitat-Low, Shrubby-reed mustard occupied habitat - low, clay-reed mustard suitable habitat-Low, Shrubby reed-mustard suitable habitat - Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
7733	High	Sage-grouse Low - Crucial winter mule deer habitat-High, 3 species UCR fish low, White River penstemon occupied habitat - Low, clay-reed mustard suitable habitat-Low, Shrubby reed-mustard suitable habitat - Low, White River penstemon suitable habitat - Low	High	High	High	Low
7734	High	Sage-grouse Low - Crucial winter mule deer habitat-Low, Shrubby-reed mustard occupied habitat - low, Graham's penstemon occupied habitat -Low, clay-reed mustard suitable habitat-Low, Shrubby reed-mustard suitable, Graham's penstemon suitable habitat-Low habitat - Low, White River penstemon suitable habitat - Low	High	High	High	Low
7735	High	Sage-grouse Low - Crucial winter mule deer habitat-Low, clay-reed mustard suitable habitat-Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low

PARCEL NUMBER	43 C.F.R. § 3120.32 CRITERIA FOR LEASING PREFERENCE					PREFERENCE FOR LEASING
	<i>O&G Proximity</i>	<i>Plant and Wildlife Habitat⁵</i>	<i>Cultural Resources</i>	<i>Recreation⁶ (Other Resources)</i>	<i>Development Potential⁷</i>	<i>High/Low</i>
7738	High	Sage-grouse Low - Crucial winter mule deer habitat-Low, 3 species UCR fish low, White River penstemon occupied habitat - Low, Shrubby reed-mustard suitable habitat - Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
7739	High	Sage-grouse High - Crucial winter mule deer habitat-Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
7740	High	Sage-grouse Low - Crucial winter mule deer habitat-Low, Graham's penstemon occupied habitat -Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
7746	High	Sage-grouse Low - Crucial winter mule deer habitat-Low, 3 species UCR fish low, Graham's penstemon occupied habitat -Low, White River penstemon occupied habitat - Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
7753	High	Sage-grouse High - Crucial winter mule deer habitat-Low, Shrubby-reed mustard occupied habitat - low, Shrubby reed-mustard suitable habitat - Low, Graham's penstemon suitable habitat-Low	High	High	High	Low

PARCEL NUMBER	43 C.F.R. § 3120.32 CRITERIA FOR LEASING PREFERENCE					PREFERENC E FOR LEASING
	<i>O&G Proximity</i>	<i>Plant and Wildlife Habitat⁵</i>	<i>Cultural Resources</i>	<i>Recreation⁶ (Other Resources)</i>	<i>Development Potential⁷</i>	<i>High/Low</i>
7757	High	Crucial winter mule deer habitat-Low, 3 species UCR fish low, Shrubby-reed mustard occupied habitat - low, clay-reed mustard suitable habitat-Low, Shrubby reed-mustard suitable habitat - Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
7758	High	Sage-grouse High - Crucial winter mule deer habitat-Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
7759	High	Sage-grouse High - Crucial winter mule deer habitat-Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
7760	High	Sage-grouse High, Graham's penstemon suitable habitat-Low	High	High	High	Low
7762	High	Sage-grouse High - Crucial winter mule deer habitat-Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
7763	High	Sage-grouse High - Crucial winter mule deer habitat-Low	High	High	High	Low
7764	High	Sage-grouse High - Crucial winter mule deer habitat-Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low

PARCEL NUMBER	43 C.F.R. § 3120.32 CRITERIA FOR LEASING PREFERENCE					PREFERENC E FOR LEASING
	<i>O&G Proximity</i>	<i>Plant and Wildlife Habitat⁵</i>	<i>Cultural Resources</i>	<i>Recreation⁶ (Other Resources)</i>	<i>Development Potential⁷</i>	<i>High/Low</i>
7765	High	Crucial winter mule deer habitat-Low, Graham's penstemon occupied habitat -Low, White River penstemon occupied habitat - Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
7768	High	Crucial winter mule deer habitat-Low, Graham's penstemon occupied habitat -Low, White River penstemon occupied habitat - Low, Graham's penstemon suitable habitat-Low, White River penstemon suitable habitat - Low	High	High	High	Low
7771	High	Sage-grose High- Crucial winter muledeer habitat Low, White River penstemon occupied habitat - Low, Shrubby reed-mustard suitable habitat - Low, White River penstemon suitable habitat - Low	High	High	High	Low

APPENDIX E. SUMMARY OF THE TYPICAL PHASES OF OIL AND GAS DEVELOPMENT

INTRODUCTION

There are three phases of oil and gas lease development, including Well Development, Production and Operation, and Well Reclamation. Well Development includes the construction of the well pad, access road and associated pipelines, along with the actual drilling of the well. Production and Operation. The production phase begins when the well starts producing in saleable quantities. This phase also includes all the maintenance and monitoring actions conducted during the productive lifetime of the well. The well abandonment and reclamation phase occurs after the productive life of the well has concluded. Well abandonment and reclamation involve plugging wells and reclaiming the surface according to BLM guidelines and requirements.

Well Development

During construction activity, the area is cleared of vegetation and the pad is constructed. Clearing of the proposed well pad and access road are typically limited to the smallest area possible to provide safe and efficient work areas for all phases of construction. All clearing activities are accomplished by cutting, mowing, and/or grading vegetation, as necessary. Cut vegetation may be mulched and spread on site or hauled to a commercial waste disposal facility. Guidelines and best practices can be found in the BLM publication “Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development” (BLM, 2007), commonly referred to as “the Gold Book.”

Next, heavy equipment, including but not limited to, bulldozers, graders, front-end loaders, and/or track hoes are used to construct the pad, along with other features, as needed for development. Other features may include, but are not limited to, an access road, reserve pit, pipeline, and/or fracturing pond. Cut and fills may be required to level the pad or road surfaces. Reserve pits⁸, if authorized, are lined using an impermeable liner or other lining mechanism (i.e., bentonite or clay) to prevent fluids from leaching into the soil. Access roads may have cattle guards, gates, drainage control, or pull-outs installed, among a host of other features that may be necessary based on the site-specific situation. Long-term surface disturbances such as pads and roads are typically surfaced with a layer of crushed rock. Areas not needed for long-term development are reclaimed by recontouring the surface and re-establishing vegetation.

Throughout the drilling operation phase, equipment is moved on site and used to install the drill rig and other associated infrastructure. At this stage, the well is drilled and completed. Well completion includes setting the casing to depth, cementing the casing,⁹ and perforating the casing in target zones. If a well is

⁸ A conventional reserve pit is a lined earthen pit excavated adjacent to a well pad and is commonly used for the disposal of drilling muds and fluids in gas or oil fields (USFWS 2009).

⁹ According to BLM regulations from 43 CFR 3160: 43 CFR 3170: Subpart 3172, casing and cementing programs are conducted to protect and/or isolate all usable water zones, lost circulation zones, abnormally pressured zones, and any prospectively valuable deposits of minerals. The casing setting depth is calculated to position the casing seat opposite a competent formation which will contain the maximum pressure to which it will be exposed during normal drilling operations. Determination of casing setting depth is based on all relevant factors, including presence/absence of hydrocarbons; fracture gradients; usable water zones; formation pressures; lost circulation zones; other minerals; or other unusual characteristics. Any isolating medium other than cement shall receive approval prior to use. The deepest casing may not be cemented and may remain open hole depending on the type of formation it is located in.

going to be drilled directionally,¹⁰ horizontally,¹¹ or vertically¹² this phase may be followed by hydraulic fracturing which involves pumping fracturing fluid into a formation at a calculated, predetermined rate and pressure to generate fractures or cracks in the target formation.

A pipeline, if needed, is laid within a right-of-way that is first cleared of vegetation. A backhoe, or similar piece of equipment, digs a trench to a depth at least 36 inches below ground surface. After the trench is dug, the pipeline is assembled by welding pieces of pipe together to fit the contour of the pipeline's path. Once inspected, the pipe can be lowered into the trench and covered with stockpiled subsoil originally removed from the trench. Each pipeline undergoes hydrostatic testing prior to natural gas being pumped through the pipeline. This ensures the pipeline is strong enough and absent any leaks. Table 78 46 includes some of the common wastes (hazardous and nonhazardous) that are produced during construction.

In many cases, small diameter (less than 6 inches) surface gathering lines are used for local collection and transportation of products. In these cases, the pipeline can be laid directly on the surface to avoid disturbing vegetation and the associated risk of weed infiltration. These pipelines are commonly made of steel, high-density polyethylene (HDPE), or Thermoplastic Polyurethane (TPU) / Nitrile Rubber (NBR) lay-flat hose.

Production, Operations

When construction of the well-pad is complete, the drilling rig and associated equipment are moved on site and erected. Usually, a conventional rotary drill rig is used. The drill rig must be capable of withstanding all the anticipated conditions that may be encountered while drilling. Wells may be drilled directionally, horizontally, or vertically based on the target formation. The depth of the well is entirely dependent on the target formation depth and may be several hundred feet deep to over 20,000 feet deep.

When a conventional reserve pit system is used, drilling fluid or mud is circulated through the drill pipe to the bottom of the hole, through the bit, up the bore of the well, and finally to the surface. When drilling mud emerges from the hole, it enters the reserve pit where it remains until all fluids are evaporated and the solids can be buried. Drilling and completing a well can often require 1,000-4,000 bbls of water. The source and method of transport of the water is analyzed when the APD is evaluated.

A closed-loop system operates in a similar fashion except that when the drilling mud emerges from the hole, it passes through equipment used to screen and remove drill cuttings (rock chips) and sand-sized solids rather than going into a pit. When the solids have been removed, the drilling mud is placed into holding tanks, and from the tank, used again.

In either situation the drilling mud is maintained at a specific weight and viscosity to cool the bit, seal off any porous zones (thereby protecting aquifers and preventing damage to producing zone productivity), control subsurface pressure, lubricate the drill string, clean the bottom of the hole, and bring the drill

¹⁰ Vertical drilling is the process of drilling a well from the surface vertically to a subsurface location where the target oil or gas reservoir is located (U.S. Department of Energy 2015).

¹¹ Horizontal drilling is the process of drilling a well from the surface to a subsurface location just above the target oil or gas reservoir called the "kickoff point," then deviating the well bore from the vertical plane around a curve to intersect the reservoir at the "entry point" with a near-horizontal inclination and remaining within the reservoir until the desired bottom hole location is reached (North Dakota Department of Mineral Resources 2008).

¹² Directional drilling is the process of controlling the direction and deviation of drilling a well from the surface to a subsurface location without disturbing the land directly above the target oil or gas reservoir (U.S. Department of Energy 2015).

cuttings to the surface. Water-based or oil-based muds can be used. This choice is dependent on the site-specific conditions.

Once a well has been drilled, completion operations begin. Well completion involves setting casing to depth and perforating the casing in target zones.

Wells are often treated during completion to improve the recovery of hydrocarbons by increasing the rate and volume of hydrocarbons moving from the natural oil and gas reservoir into the wellbore. These processes are known as well-stimulation treatments, which create new fluid passageways in the producing formation or remove blockages within existing passageways. They include fracturing, acidizing, and other mechanical and chemical treatments often used in combination. The results from different treatments are additive and complement each other.

Hydraulic Fracturing

Hydraulic Fracturing Overview

Hydraulic fracturing is a technique used to enhance oil and gas production by increasing permeability in geological formations. This allows oil and gas to flow more easily into the wellbore. The process can help overcome natural challenges, such as low permeability or blockage due to damage near the wellbore that affects fluid flow (Groundwater Protection Council, 2017). While hydraulic fracturing has been utilized for oil and gas recovery since the early 1900s, advancements in technology have made it more common today, especially alongside horizontal drilling.

The Hydraulic Fracturing Process

The hydraulic fracturing process involves high-pressure pumps that inject a fracturing fluid into the formation at a specific rate and pressure. This generates fractures or cracks in the target area. For shale developments, fracturing fluids are primarily water-based and mixed with additives that facilitate the transport of proppants into the fractures. Proppants, which can include materials like sand or walnut hulls, help keep the fractures open once the pumping stops. After initiating the fracture, additional fluids are pumped to extend the fracture and carry proppants deeper into the formation, maintaining the necessary downhole pressure as the fracture expands.

Composition of Fracturing Fluids

The fracturing fluid typically consists of over 99% water and sand, with less than 1% being various chemical additives that adjust the properties of the mixture. Since large volumes of water are needed for hydraulic fracturing, the specific amount can vary based on the area being treated. In some cases, water is recycled, or produced water is used instead.

Currently, water-based fracturing fluids with friction-reducing additives, often referred to as "slick water," are predominantly used in shale gas plays (Groundwater Protection Council, 2017). The number of chemical additives used can vary based on the specific conditions of the well, with typical treatments utilizing low concentrations of three to twelve different chemicals. Each additive serves a specific purpose, such as preventing bacterial growth or protecting the well casing from corrosion. Since these fluids are tailored to meet the unique needs of different formations, there is no universal formula for the types and volumes of additives. Additionally, service companies have developed various compounds with similar functions adaptable to different well environments, with even small changes in concentration potentially affecting performance (Groundwater Protection Council, 2017).

Pre-Fracturing Preparations

Before any hydraulic fracturing treatment, operators and service companies conduct a series of tests to ensure that the well's casing, cement, and fracturing equipment are in proper working order and can safely withstand the pressures and flow rates involved in the treatment.

Fracturing Stages in Horizontal Wells

Hydraulic fracturing in horizontal shale gas wells is usually done in stages. The lateral lengths of these horizontal wells can range from 1,000 to over 5,000 feet. Depending on the length, treatment may involve isolating smaller sections of the lateral for fracturing, with each isolated section referred to as a "stage." Stages are treated sequentially, starting from the farthest end of the wellbore and moving toward the surface until the entire lateral has been stimulated. During drilling, the Bureau of Land Management (BLM) is present to oversee critical processes such as casing and cementing the surface casing, which helps protect groundwater. Before hydraulic fracturing occurs, all surface casings and some deeper zones must be cemented from the bottom of the cased hole to the surface. The cemented well is then pressure-tested for leaks, and sometimes a cement bond log is performed to ensure proper adhesion to the casing and formation. If the fracturing operation is classified as "non-routine" for that area, the BLM will always be present during the process, especially if any abnormal conditions arise during drilling or well completion.

Naturally Occurring Radioactive Material (NORM)

Some soils and geological formations contain low levels of naturally occurring radioactive material (NORM). This material emits low levels of radiation, which is something everyone is exposed to daily. In the context of oil and natural gas production, NORM typically consists of small amounts of uranium and thorium found within the rock. As these elements decay, they produce Radium-226 and Radium-228, which can be brought to the surface in drill cuttings and produced water. Additionally, Radon-222, a gas produced from radium decay, can also accompany shale gas. When NORM is extracted, it may remain in the rock pieces of drill cuttings or in solution with produced water and may occasionally form scales or sludges. The radiation emitted is weak and cannot penetrate dense materials like steel pipes and tanks. According to the EPA, Utah has very low levels of NORM associated with oil and gas production waste (EPA, 2023).

Production Operations

Production equipment used during the life of the well may include a three-phase separator-dehydrator, flowlines, a meter run, tanks for condensate, produced oil and water, and heater treater. A pumpjack may be required if the back pressure of the well is too high. Production facilities are arranged to facilitate safety and maximize reclamation opportunities. All permanent aboveground structures not subject to safety considerations are painted a standard BLM environmental color or as landowner specified.

Workovers may be performed multiple times over the life of the well. Because oil and gas production usually decline over the years, operators perform workover operations, which involve cleaning, repairing, and maintaining the well for the purposes of increasing or restoring production.

Reclamation and Abandonment

Well abandonment (whether dry hole or depleted producer) and reclamation of location, access road, and other facilities requires BLM approval. After approval, wellbores are plugged with cement as necessary to prevent fluid or pressure mitigation and to protect and isolate mineral and water resources. Wellheads are

removed, and both the surface casing and the production casing are cut off below ground in compliance with federal and state regulations. BLM, 2007) The well pad, reserve pit and access are reclaimed according to BLM guidelines. This may include backfilling the pit, recontouring the surface to blend with natural surroundings and redistributing topsoil. All surfaces are then reseeded per BLM and state requirements specified in the Application for Permit to Drill (APD) approval.

Common Wastes

Table 78 includes some of the common wastes (hazardous and nonhazardous) that are produced during oil and gas development.

Table 78. Common Wastes Produced during Oil and Gas Development

Phase	Waste	
Well Development Construction, Well Drilling and Completion (including hydraulic fracturing)	Domestic wastes (e.g., food scraps, paper, etc.)	
	Excess construction materials	Woody debris
	Used lubricating oils	Paints
	Solvents	Sewage
	Drilling muds, including additives (i.e., chromate and barite) and cuttings; Well drilling, completion, workover, and stimulation fluids (i.e., oil derivatives such as polycyclic aromatic hydrocarbons (PAHs), spilled chemicals, suspended and dissolved solids, phenols, cadmium, chromium, copper, lead, mercury, nickel)	
	Equipment, power unit and transport maintenance wastes (i.e., batteries; used filters, lubricants, oil, tires, hoses, hydraulic fluids; paints; solvents)	
	Fuel and chemical storage drums and containers	
	Cementing wastes	Drilling rig wash
	Production testing wastes	Excess drilling chemicals
	Excess construction materials	Processed water
	Scrap metal	Contaminated soil including hazardous and non-hazardous materials (potential)
	Sewage	Domestic wastes
Production & Operations	Power unit and transport maintenance wastes (i.e., batteries; used filters, lubricants, filters, tires, hoses, coolants, antifreeze; paints; solvents, used parts)	
	Discharged produced water	
	Production chemicals	
	Workover wastes (e.g., brines)	
Well Reclamation Including abandonment,	Construction materials	
	Decommissioned equipment	
	Contaminated soil (potential)	

Phase	Waste
recontouring, and re-seeding	Equipment or wastes that could contain hazardous and nonhazardous materials

LITERATURE CITED IN APPENDIX E

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APPENDIX F. GENERAL CONFORMITY APPLICABILITY

The Clean Air Act's (CAA) General Conformity Rule mandates that the BLM evaluate reasonably foreseeable emissions that result from its actions in a nonattainment area to determine if they conform with the applicable regulatory agency implementation plans (40 CFR 93.153). The rule takes into account air pollution emissions associated with actions that are federally funded, licensed, permitted, or approved, and ensures emissions do not contribute to air quality degradation, thus preventing the achievement of state and federal air quality goals. In short, general conformity refers to the process of evaluating plans, programs, and projects to determine and demonstrate they meet the requirements of the CAA and an applicable implementation plan.

The General Conformity Rule divides the air conformity process into two distinct areas, applicability and determination. Federal agencies must initially assess if an action is subject to the Conformity Rule (Applicability Analysis) and then if the action conforms to an applicable implementation plan (Conformity Determination). Guidance from Information Bulletin 2014-084 (BLM, 2014) was used to perform an applicability analysis in order to determine if a conformity determination is needed for this Lease Sale.

The general conformity rules are not applicable to this Lease Sale because: 1) leasing does not directly authorize pollutant emitting activities, and no direct emissions would result, 2) indirect emissions are not reasonably foreseeable as defined in 40 CFR 93.152 as it is unknown what design features or mitigation measures an operator will use, and 3) it is unknown what emissions sources would be included in an air quality permit and not subject to a general conformity review. The BLM has evaluated the proposed Lease Sale in accordance with the provisions of 40 CFR Part 93, Subpart B. Based on a review of 40 CFR 93.153(c), BLM has determined that the requirement to perform a full conformity determination is not required for the Proposed Action for the following reasons:

- Under 40 CFR 93.153(c)(2), a conformity determination is not required for actions “which would result in no emissions increase or an increase in emissions that is clearly de minimis,” such as the “granting of leases.” Leasing does not authorize emissions generating activities, and therefore does not directly result in an emissions increase. Additionally, 40 CFR 93.153(c)(3) lists Initial Outer Continental Shelf leasing as not having reasonably foreseeable emissions and onshore leasing is similar where lease sales “are made on a broad scale and are followed by exploration and development plans on a project level.” At the leasing stage the BLM does not have a development plan for lease parcels and has determined that indirect emissions are not reasonably foreseeable until the project level.
- A conformity determination also is not required “where the emissions (direct or indirect) are not reasonably foreseeable.” 40 CFR 93.153(c)(3). As defined in the CAA, “Reasonably foreseeable emissions are projected future direct and indirect emissions that are identified at the time the conformity determination is made; the location of such emissions is known and the emissions are quantifiable as described and documented by the Federal agency based on its own information and after reviewing any information presented to the Federal agency.” 40 CFR 93.152 While this EA provides information for the factors that should be considered to determine a reasonable *estimate* of foreseeable emissions for the proposed lease parcels and overall for the region for purposes of NEPA indirect and cumulative impacts analysis, it does not have specific information about whether or how the specific parcel under consideration will be developed during the initial 10 year lease period, such that a more precise emissions inventory could be reasonably estimated and compared to the thresholds provided in 40 CFR 93.153(b).

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- Furthermore, 40 CFR 93.153(d) provides, “[notwithstanding the other requirements of this subpart, a conformity determination is not required for:
 - The portion of an action that includes major or minor new or modified stationary sources that require a permit under the new source review program (Section 110(a)(2)(c) and Section 173 of the [CAA]) or the prevention of significant deterioration program (title I, part C of the [CAA]).” 40 CFR 93.153(d)(1). It is uncertain at this time, but highly likely, that several project design features, for example equipment sets, such as storage vessels, truck loading, wellsite stationary engines, VOC control devices, dehydration units, and other equipment will require at least a minor new source review (permit) prior to constructing such facilities to implement any subsequent development proposals. Emissions from such permitted facilities would not be subject to the general conformity analysis provisions. Potential sources that would be permitted, and not subject to general conformity provisions, are identified in Utah Administrative Code R307-504-511 or the Federal Implementation Plan for the Indian Country Minor New Source Review Program for the Oil and Natural Gas Industry (80 FR 51991).

For all of these reasons, a conformity determination is not required for the sale of the leases under consideration.

APPENDIX G. EMISSIONS TABLES

This appendix provides the per well emissions factors (GHG's and non-GHG's) by phase (well development and production operations) and the total emissions calculated for each alternative on an annual basis. An emissions factor is a value that relates the quantity of a pollutant released into the atmosphere with an activity that generates the pollutant. They are typically expressed in units of mass (e.g. pounds, kilograms, tons) per activity (e.g. duration of equipment operation, construction of an oil or gas well). Emissions factors are the basis for developing emissions inventories that are used for air quality management decisions. The BLM uses emissions inventories to evaluate the change to county-level emissions, comparison between NEPA alternatives, and as inputs for air quality models if modeling is warranted. Over time emissions factors may change due to new emissions regulations, development of control technologies, or data and information improvements for emissions.

Air pollutant emissions from oil and gas activities occur during construction and operations of a well. Construction related emissions occur from the use of heavy machinery during pad construction, drilling, testing and completion, venting and flaring, interim reclamation, and vehicles. Construction emissions are typically a onetime occurrence. Operation related emissions occur from well workovers, pump engines, heaters, tanks, truck loading, fugitive leaks, pneumatics, dehydrators, compressor engines, reclamation, and vehicle traffic. Emissions from operation activities occur throughout the life of a well. Several factors may influence actual emissions including location, geological formation, well depth, equipment used, supporting infrastructure, and other factors. To estimate emissions for this Lease Sale the BLM used the emission factors from the AMRBLM, (2024) for a weighted average gas well due to there being both vertical and horizontal drilling proposed in this lease. These single well emissions are presented in Table 7945. Annual emissions for each alternative are based on the single well emissions factors and the estimated number of wells developed and operating in each year and are presented in

Table 80 and Table 81 and 47 for Alternative A and Table 48 and Table 49 for Alternative B.

Table 79. Single Well Emissions Factors in Tons Per Year (tpy), and Metric Tonnes (t)

Well Type	CO (tpy)	NO_x (tpy)	PM₁₀ (tpy)	PM_{2.5} (tpy)	SO₂ (tpy)	VOC (tpy)	HAP (tpy)	CO₂ (t)	CH₄ (t)	N₂O (t)
Horizontal – Well Construction	4.31	10.7	1.35	0.45	0.00638	1.17	0.09	1,339.9	0.27	0.010
Horizontal – Well Production Operations	5.72	3.43	0.78	0.37	0.000263	12.15	1.03	1,944.47	3.49	0.000

Table 80 Annual CAP and HAP Emissions for the Proposed Action Alternative (Alternative A) in Tons Per Year

Year	# Wells		Well Development Emissions							Well Operation Emissions							Sum of Well Development and Operation Emissions						
	Developed	Operating	PM ₁₀	PM _{2.5}	VOC	NO _x	CO	SO ₂	HAPs	PM ₁₀	PM _{2.5}	VOC	NO _x	CO	SO ₂	HAPs	PM ₁₀	PM _{2.5}	VOC	NO _x	CO	SO ₂	HAPs
1	34	34	45.9	15.3	39.8	363.8	146.5	0.22	3.06	26.5	12.6	413.1	116.6	194.5	0.01	35.02	72.4	27.9	452.9	480.4	341.0	0.23	38.08
2	42	76	56.7	18.9	49.1	449.4	181.0	0.27	3.78	59.3	28.1	923.4	260.7	434.7	0.02	78.28	116.0	47.0	972.5	710.1	615.7	0.29	82.06
3	28	104	37.8	12.6	32.8	299.6	120.7	0.18	2.52	81.1	38.5	1263.6	356.7	594.9	0.03	107.12	118.9	51.1	1,296.4	656.3	715.6	0.21	109.64
4	33	137	44.6	14.9	38.6	353.1	142.2	0.21	2.97	106.9	50.7	1664.6	469.9	783.6	0.04	141.11	151.4	65.5	1,703.2	823.0	925.9	0.25	144.08
5	40	177	54.0	18.0	46.8	428.0	172.4	0.26	3.60	138.1	65.5	2150.6	607.1	1012.4	0.05	182.31	192.1	83.5	2,197.4	1,035.1	1,184.8	0.30	185.91
6	61	238	82.4	27.5	71.4	652.7	262.9	0.39	5.49	185.6	88.1	2891.7	816.3	1361.4	0.06	245.14	268.0	115.5	2,963.1	1,469.0	1,624.3	0.45	250.63
7	44	282	59.4	19.8	51.5	470.8	189.6	0.28	3.96	220.0	104.3	3426.3	967.3	1613.0	0.07	290.46	279.4	124.1	3,477.8	1,438.1	1,802.7	0.35	294.42
8	42	324	56.7	18.9	49.1	449.4	181.0	0.27	3.78	252.7	119.9	3936.6	1111.3	1853.3	0.09	333.72	309.4	138.8	3,985.7	1,560.7	2,034.3	0.35	337.50
9	48	372	64.8	21.6	56.2	513.6	206.9	0.31	4.32	290.2	137.6	4519.8	1276.0	2127.8	0.10	383.16	355.0	159.2	4,576.0	1,789.6	2,334.7	0.40	387.48
10	56	428	75.6	25.2	65.5	599.2	241.4	0.36	5.04	333.8	158.4	5200.2	1468.0	2448.2	0.11	440.84	409.4	183.6	5,265.7	2,067.2	2,689.5	0.47	445.88
11	0	428	0.0	0.0	0.0	0.0	0.0	0.00	0.00	333.8	158.4	5200.2	1468.0	2448.2	0.11	440.84	333.8	158.4	5,200.2	1,468.0	2,448.2	0.11	440.84
12	0	428	0.0	0.0	0.0	0.0	0.0	0.00	0.00	333.8	158.4	5200.2	1468.0	2448.2	0.11	440.84	333.8	158.4	5,200.2	1,468.0	2,448.2	0.11	440.84
13	0	428	0.0	0.0	0.0	0.0	0.0	0.00	0.00	333.8	158.4	5200.2	1468.0	2448.2	0.11	440.84	333.8	158.4	5,200.2	1,468.0	2,448.2	0.11	440.84
14	0	428	0.0	0.0	0.0	0.0	0.0	0.00	0.00	333.8	158.4	5200.2	1468.0	2448.2	0.11	440.84	333.8	158.4	5,200.2	1,468.0	2,448.2	0.11	440.84
15	0	428	0.0	0.0	0.0	0.0	0.0	0.00	0.00	333.8	158.4	5200.2	1468.0	2448.2	0.11	440.84	333.8	158.4	5,200.2	1,468.0	2,448.2	0.11	440.84
16	0	428	0.0	0.0	0.0	0.0	0.0	0.00	0.00	333.8	158.4	5200.2	1468.0	2448.2	0.11	440.84	333.8	158.4	5,200.2	1,468.0	2,448.2	0.11	440.84
17	0	428	0.0	0.0	0.0	0.0	0.0	0.00	0.00	333.8	158.4	5200.2	1468.0	2448.2	0.11	440.84	333.8	158.4	5,200.2	1,468.0	2,448.2	0.11	440.84
18	0	428	0.0	0.0	0.0	0.0	0.0	0.00	0.00	333.8	158.4	5200.2	1468.0	2448.2	0.11	440.84	333.8	158.4	5,200.2	1,468.0	2,448.2	0.11	440.84
19	0	428	0.0	0.0	0.0	0.0	0.0	0.00	0.00	333.8	158.4	5200.2	1468.0	2448.2	0.11	440.84	333.8	158.4	5,200.2	1,468.0	2,448.2	0.11	440.84
20	0	428	0.0	0.0	0.0	0.0	0.0	0.00	0.00	333.8	158.4	5200.2	1468.0	2448.2	0.11	440.84	333.8	158.4	5,200.2	1,468.0	2,448.2	0.11	440.84
21	0	428	0.0	0.0	0.0	0.0	0.0	0.00	0.00	333.8	158.4	5200.2	1468.0	2448.2	0.11	440.84	333.8	158.4	5,200.2	1,468.0	2,448.2	0.11	440.84
22	0	428	0.0	0.0	0.0	0.0	0.0	0.00	0.00	333.8	158.4	5200.2	1468.0	2448.2	0.11	440.84	333.8	158.4	5,200.2	1,468.0	2,448.2	0.11	440.84
23	0	428	0.0	0.0	0.0	0.0	0.0	0.00	0.00	333.8	158.4	5200.2	1468.0	2448.2	0.11	440.84	333.8	158.4	5,200.2	1,468.0	2,448.2	0.11	440.84
24	0	428	0.0	0.0	0.0	0.0	0.0	0.00	0.00	333.8	158.4	5200.2	1468.0	2448.2	0.11	440.84	333.8	158.4	5,200.2	1,468.0	2,448.2	0.11	440.84
25	0	428	0.0	0.0	0.0	0.0	0.0	0.00	0.00	333.8	158.4	5200.2	1468.0	2448.2	0.11	440.84	333.8	158.4	5,200.2	1,468.0	2,448.2	0.11	440.84
26	0	428	0.0	0.0	0.0	0.0	0.0	0.00	0.00	333.8	158.4	5200.2	1468.0	2448.2	0.11	440.84	333.8	158.4	5,200.2	1,468.0	2,448.2	0.11	440.84
27	0	428	0.0	0.0	0.0	0.0	0.0	0.00	0.00	333.8	158.4	5200.2	1468.0	2448.2	0.11	440.84	333.8	158.4	5,200.2	1,468.0	2,448.2	0.11	440.84
28	0	428	0.0	0.0	0.0	0.0	0.0	0.00	0.00	333.8	158.4	5200.2	1468.0	2448.2	0.11	440.84	333.8	158.4	5,200.2	1,468.0	2,448.2	0.11	440.84
29	0	428	0.0	0.0	0.0	0.0	0.0	0.00	0.00	333.8	158.4	5200.2	1468.0	2448.2	0.11	440.84	333.8	158.4	5,200.2	1,468.0	2,448.2	0.11	440.84
30	0	428	0.0	0.0	0.0	0.0	0.0	0.00	0.00	333.8	158.4	5200.2	1468.0	2448.2	0.11	440.84	333.8	158.4	5,200.2	1,468.0	2,448.2	0.11	440.84
31	0	394	0.0	0.0	0.0	0.0	0.0	0.00	0.00	307.3	145.8	4787.1	1351.4	2253.7	0.10	405.82	307.3	145.8	4,787.1	1,351.4	2,253.7	0.10	405.82
32	0	352	0.0	0.0	0.0	0.0	0.0	0.00	0.00	274.6	130.2	4276.8	1207.4	2013.4	0.09	362.56	274.6	130.2	4,276.8	1,207.4	2,013.4	0.09	362.56
33	0	324	0.0	0.0	0.0	0.0	0.0	0.00	0.00	252.7	119.9	3936.6	1111.3	1853.3	0.09	333.72	252.7	119.9	3,936.6	1,111.3	1,853.3	0.09	333.72
34	0	291	0.0	0.0	0.0	0.0	0.0	0.00	0.00	227.0	107.7	3535.7	998.1	1664.5	0.08	299.73	227.0	107.7	3,535.7	998.1	1,664.5	0.08	299.73
35	0	251	0.0	0.0	0.0	0.0	0.0	0.00	0.00	195.8	92.9	3049.7	860.9	1435.7	0.07	258.53	195.8	92.9	3,049.7	860.9	1,435.7	0.07	258.53
36	0	190	0.0	0.0	0.0	0.0	0.0	0.00	0.00	148.2	70.3	2308.5	651.7	1086.8	0.05	195.70	148.2	70.3	2,308.5	651.7	1,086.8	0.05	195.70
37	0	146	0.0	0.0	0.0	0.0	0.0	0.00	0.00	113.9	54.0	1773.9	500.8	835.1	0.04	150.38	113.9	54.0	1,773.9	500.8	835.1	0.04	150.38
38	0	104	0.0	0.0	0.0	0.0	0.0	0.00	0.00	81.1	38.5	1263.6	356.7	594.9	0.03	107.12	81.1	38.5	1,263.6	356.7	594.9	0.03	107.12
39	0	56	0.0	0.0	0.0	0.0	0.0	0.00	0.00	43.7	20.7	680.4	192.1	320.3	0.01	57.68	43.7	20.7	680.4	192.1	320.3	0.01	57.68
Total (MT)			577.8	192.6	500.8	4,579.6	1,844.7	2.73	38.52	10,015.2	4,750.8	156,006.0	44,041.2	73,444.8	3.38	13,225.20	10,593	4,943	156,507	48,621	75,289	6	13,264
Max Year			82.4	27.5	71.4	652.7	262.9	0.39	5.49	333.8	158.4	5,200.2	1,468.0	2,448.2	0.11	440.84	409.4	183.6	5,265.7	2,067.2	2,689.5	0.5	445.9
Average Year			57.8	19.3	50.1	458.0	184.5	0.3	3.9	256.8	121.8	4,000.2	1,129.3	1,883.2	0.1	339.1	271.6	126.8	4,013.0	1,246.7	1,930.5	0.2	340.1
Minimum Year			37.8	12.6	32.8	299.6	120.7	0.2	2.5	26.5	12.6	413.1	116.6	194.5	0.0	35.0	43.7	20.7	452.9	192.1	320.3	0.0	38.1

Table 81 Annual GHG Emissions for the Proposed Action Alternative (Alternative A) in Metric Tonnes

	# Wells		Well Development Emissions				Well Operation Emissions				Mid-Stream Emissions				End-Use Emissions																			
Years	Developed	Operating	CO ₂	CH ₄	N ₂ O	CO ₂ e (100-yr)	CO ₂	CH ₄	N ₂ O	CO ₂ e (100-yr)	CO ₂	CH ₄	N ₂ O	CO ₂ e (100-yr)	CO ₂	CH ₄	N ₂ O	CO ₂ e (100-yr)																
1	34	34	45,558.0	9.18	0.340	45,924.3	66,112.0	118.66	0.000	69,648.0	646,541.1	8,012.90	9.284	887,860.0	3,829,051.1	93.24	13.289	3,835,457.5																
2	42	76	56,277.5	11.34	0.420	56,730.1	147,779.7	265.24	0.000	155,683.9	1,105,948.2	13,847.44	15.848	1,522,928.4	6,524,272.4	157.30	22.188	6,535,017.1																
3	28	104	37,518.3	7.56	0.280	37,820.0	202,224.9	362.96	0.000	213,041.1	1,111,542.7	14,088.74	15.888	1,535,724.8	6,526,211.4	155.42	21.640	6,536,750.6																
4	33	137	44,218.0	8.91	0.330	44,573.6	266,392.4	478.13	0.000	280,640.7	1,274,094.7	16,203.12	18.199	1,761,916.2	7,470,801.9	177.30	24.596	7,482,800.3																
5	40	177	53,597.6	10.80	0.400	54,028.6	344,171.2	617.73	0.000	362,579.5	1,520,988.6	19,367.98	21.720	2,104,084.0	8,913,954.9	211.27	29.266	8,928,240.3																
6	61	238	81,736.3	16.47	0.610	82,393.7	462,783.9	830.62	0.000	487,536.3	2,075,526.9	26,365.69	29.654	2,869,319.9	12,175,449.5	289.29	40.181	12,195,039.9																
7	44	282	58,957.4	11.88	0.440	59,431.5	548,340.5	984.18	0.000	577,669.1	2,060,934.6	26,387.95	29.397	2,855,320.9	12,052,185.7	284.02	39.098	12,071,323.3																
8	42	324	56,277.5	11.34	0.420	56,730.1	630,008.3	1,130.76	0.000	663,704.9	2,090,352.4	26,873.82	29.791	2,899,325.2	12,204,409.7	286.37	39.235	12,223,654.7																
9	48	372	64,317.1	12.96	0.480	64,834.4	723,342.8	1,298.28	0.000	762,031.6	2,261,113.0	29,086.79	32.221	3,136,695.7	13,198,183.6	309.48	42.372	13,218,973.9																
10	56	428	75,036.6	15.12	0.560	75,640.1	832,233.2	1,493.72	0.000	876,746.0	2,527,225.1	32,497.59	36.016	3,505,485.5	14,753,747.0	346.10	47.407	14,777,003.0																
11	0	428	0.0	0.00	0.000	0.0	832,233.2	1,493.72	0.000	876,746.0	1,627,590.2	21,487.46	23.066	2,274,213.4	9,400,478.4	214.18	28.379	9,414,608.4																
12	0	428	0.0	0.00	0.000	0.0	832,233.2	1,493.72	0.000	876,746.0	1,248,854.7	16,693.17	17.651	1,751,130.0	7,175,687.7	161.13	20.982	7,186,217.3																
13	0	428	0.0	0.00	0.000	0.0	832,233.2	1,493.72	0.000	876,746.0	1,026,374.7	13,828.92	14.481	1,442,429.8	5,877,479.6	130.71	16.821	5,885,967.1																
14	0	428	0.0	0.00	0.000	0.0	832,233.2	1,493.72	0.000	876,746.0	876,174.9	11,874.04	12.346	1,233,391.7	5,004,880.1	110.51	14.094	5,012,021.0																
15	0	428	0.0	0.00	0.000	0.0	832,233.2	1,493.72	0.000	876,746.0	766,567.7	10,436.15	10.790	1,080,510.8	4,370,162.3	95.94	12.148	4,376,337.8																
16	0	428	0.0	0.00	0.000	0.0	832,233.2	1,493.72	0.000	876,746.0	682,459.6	9,325.96	9.598	962,993.5	3,884,342.0	84.87	10.681	3,889,787.0																
17	0	428	0.0	0.00	0.000	0.0	832,233.2	1,493.72	0.000	876,746.0	615,591.2	8,438.89	8.652	869,432.0	3,498,905.6	76.14	9.531	3,503,776.5																
18	0	428	0.0	0.00	0.000	0.0	832,233.2	1,493.72	0.000	876,746.0	561,003.3	7,711.67	7.880	792,962.3	3,184,809.5	69.06	8.605	3,189,216.4																
19	0	428	0.0	0.00	0.000	0.0	832,233.2	1,493.72	0.000	876,746.0	515,512.5	7,103.45	7.237	729,170.9	2,923,456.6	63.19	7.841	2,927,480.2																
20	0	428	0.0	0.00	0.000	0.0	832,233.2	1,493.72	0.000	876,746.0	476,969.7	6,586.48	6.692	675,073.9	2,702,317.8	58.24	7.200	2,706,019.2																
21	0	428	0.0	0.00	0.000	0.0	832,233.2	1,493.72	0.000	876,746.0	443,865.3	6,141.21	6.225	628,572.9	2,512,609.1	54.02	6.655	2,516,035.6																
22	0	428	0.0	0.00	0.000	0.0	832,233.2	1,493.72	0.000	876,746.0	415,104.8	5,753.39	5.819	588,144.5	2,347,970.6	50.36	6.185	2,351,159.8																
23	0	428	0.0	0.00	0.000	0.0	832,233.2	1,493.72	0.000	876,746.0	389,873.1	5,412.37	5.464	552,653.3	2,203,674.2	47.16	5.775	2,206,656.3																
24	0	428	0.0	0.00	0.000	0.0	832,233.2	1,493.72	0.000	876,746.0	367,549.8	5,110.03	5.149	521,234.5	2,076,125.3	44.34	5.415	2,078,925.2																
25	0	428	0.0	0.00	0.000	0.0	832,233.2	1,493.72	0.000	876,746.0	347,653.8	4,840.05	4.869	493,216.5	1,962,539.0	41.84	5.097	1,965,177.2																
26	0	428	0.0	0.00	0.000	0.0	832,233.2	1,493.72	0.000	876,746.0	329,805.6	4,597.42	4.618	468,069.4	1,860,721.7	39.60	4.812	1,863,215.5																
27	0	428	0.0	0.00	0.000	0.0	832,233.2	1,493.72	0.000	876,746.0	313,701.8	4,378.15	4.391	445,369.3	1,768,920.7	37.59	4.557	1,771,284.9																
28	0	428	0.0	0.00	0.000	0.0	832,233.2	1,493.72	0.000	876,746.0	299,096.5	4,178.97	4.185	424,772.5	1,685,718.1	35.76	4.327	1,687,965.2																
29	0	428	0.0	0.00	0.000	0.0	832,233.2	1,493.72	0.000	876,746.0	285,788.5	3,997.23	3.998	405,997.4	1,609,953.3	34.11	4.118	1,612,094.0																
30	0	428	0.0	0.00	0.000	0.0	832,233.2	1,493.72	0.000	876,746.0	273,611.4	3,830.70	3.827	388,811.0	1,540,667.2	32.59	3.928	1,542,711.0																
31	0	394	0.0	0.00	0.000	0.0	766,121.2	1,375.06	0.000	807,098.0	245,231.1	3,435.54	3.429	348,546.6	1,380,466.4	29.18	3.513	1,382,294.9																
32	0	352	0.0	0.00	0.000	0.0	684,453.4	1,228.48	0.000	721,062.1	214,238.0	3,002.95	2.996	304,543.7	1,205,707.3	25.47	3.062	1,207,302.2																
33	0	324	0.0	0.00	0.000	0.0	630,008.3	1,130.76	0.000	663,704.9	191,755.4	2,689.52	2.681	272,635.1	1,078,868.6	22.77	2.734	1,080,293.6																
34	0	291	0.0	0.00	0.000	0.0	565,840.8	1,015.59	0.000	596,105.4	167,820.7	2,355.18	2.346	238,645.6	943,957.2	19.90	2.388	945,202.2																
35	0	251	0.0	0.00	0.000	0.0	488,062.0	875.99	0.000	514,166.5	141,409.7	1,985.56	1.977	201,119.0	795,214.1	16.76	2.008	796,261.6																
36	0	190	0.0	0.00	0.000	0.0	369,449.3	663.10	0.000	389,209.7	105,469.1	1,481.41	1.474	150,017.5	593,013.2	12.49	1.496	593,793.7																
37	0	146	0.0	0.00	0.000	0.0	283,892.6	509.54	0.000	299,076.9	79,476.6	1,116.80	1.111	113,060.4	446,780.8	9.40	1.125	447,368.2																
38	0	104	0.0	0.00	0.000	0.0	202,224.9	362.96	0.000	213,041.1	55,470.5	779.81	0.775	78,920.4	311,767.7	6.56	0.784	312,177.2																
39	0	56	0.0	0.00	0.000	0.0	108,890.3	195.44	0.000	114,714.4	29,302.7	412.11	0.409	41,695.3	164,663.4	3.46	0.414	164,879.5																
Total (MT)	428		573,494	115.56	4.280	578,106	24,966,995	44,811.60	0.000	26,302,380	29,767,590	391,716.64	422.152	41,555,994	172,160,125	3,937.13	523.949	172,420,489																
Max Year			81,736.3	16.47	0.610	82,394	832,233.2	1,493.72	0.000	876,746	2,527,225.1	32,497.59	36.016	3,505,485	14,753,747.0	346.10	47.407	14,777,003																
Average Year							640,179.4	1,149.02	0.000	674,420.0	763,271.5	10,044.02	10.824	1,065,538	4,414,362.2	100.95	13.435	4,421,038																
			Development Percent of Total =				0%				Operations Percent of Total =				11%				Mid-Stream Percent of Total =				17%				End-Use Percent of Total =				72%			

Table 82 Annual CAP and HAP emissions for the Greater Sage-grouse Alternative (Alternative B) in Tons Per Year

	# Wells		Well Development Emissions								Well Operation Emissions						Sum of Well Development and Operation Emissions							
Year	Developed	Operating	PM ₁₀	PM _{2.5}	VOC	NO _x	CO	SO ₂	HAPs	PM ₁₀	PM _{2.5}	VOC	NO _x	CO	SO ₂	HAPs	PM ₁₀	PM _{2.5}	VOC	NO _x	CO	SO ₂	HAPs	
1	5	5	6.8	2.3	5.9	53.5	21.6	0.03	0.45	3.9	1.9	60.8	17.2	28.6	0.00	5.15	10.7	4.1	66.6	70.7	50.2	0.03	5.60	
2	7	12	9.5	3.2	8.2	74.9	30.2	0.04	0.63	9.4	4.4	145.8	41.2	68.6	0.00	12.36	18.8	7.6	154.0	116.1	98.8	0.05	12.99	
3	5	17	6.8	2.3	5.9	53.5	21.6	0.03	0.45	13.3	6.3	206.6	58.3	97.2	0.00	17.51	20.0	8.5	212.4	111.8	118.8	0.04	17.96	
4	5	22	6.8	2.3	5.9	53.5	21.6	0.03	0.45	17.2	8.1	267.3	75.5	125.8	0.01	22.66	23.9	10.4	273.2	129.0	147.4	0.04	23.11	
5	7	29	9.5	3.2	8.2	74.9	30.2	0.04	0.63	22.6	10.7	352.4	99.5	165.9	0.01	29.87	32.1	13.9	360.5	174.4	196.1	0.05	30.50	
6	10	39	13.5	4.5	11.7	107.0	43.1	0.06	0.90	30.4	14.4	473.9	133.8	223.1	0.01	40.17	43.9	18.9	485.6	240.8	266.2	0.07	41.07	
7	7	46	9.5	3.2	8.2	74.9	30.2	0.04	0.63	35.9	17.0	558.9	157.8	263.1	0.01	47.38	45.3	20.2	567.1	232.7	293.3	0.06	48.01	
8	7	53	9.5	3.2	8.2	74.9	30.2	0.04	0.63	41.3	19.6	644.0	181.8	303.2	0.01	54.59	50.8	22.8	652.1	256.7	333.3	0.06	55.22	
9	8	61	10.8	3.6	9.4	85.6	34.5	0.05	0.72	47.6	22.6	741.2	209.2	348.9	0.02	62.83	58.4	26.2	750.5	294.8	383.4	0.07	63.55	
10	9	70	12.2	4.1	10.5	96.3	38.8	0.06	0.81	54.6	25.9	850.5	240.1	400.4	0.02	72.10	66.8	30.0	861.0	336.4	439.2	0.08	72.91	
11	0	70	0.0	0.0	0.0	0.0	0.0	0.00	0.00	54.6	25.9	850.5	240.1	400.4	0.02	72.10	54.6	25.9	850.5	240.1	400.4	0.02	72.10	
12	0	70	0.0	0.0	0.0	0.0	0.0	0.00	0.00	54.6	25.9	850.5	240.1	400.4	0.02	72.10	54.6	25.9	850.5	240.1	400.4	0.02	72.10	
13	0	70	0.0	0.0	0.0	0.0	0.0	0.00	0.00	54.6	25.9	850.5	240.1	400.4	0.02	72.10	54.6	25.9	850.5	240.1	400.4	0.02	72.10	
14	0	70	0.0	0.0	0.0	0.0	0.0	0.00	0.00	54.6	25.9	850.5	240.1	400.4	0.02	72.10	54.6	25.9	850.5	240.1	400.4	0.02	72.10	
15	0	70	0.0	0.0	0.0	0.0	0.0	0.00	0.00	54.6	25.9	850.5	240.1	400.4	0.02	72.10	54.6	25.9	850.5	240.1	400.4	0.02	72.10	
16	0	70	0.0	0.0	0.0	0.0	0.0	0.00	0.00	54.6	25.9	850.5	240.1	400.4	0.02	72.10	54.6	25.9	850.5	240.1	400.4	0.02	72.10	
17	0	70	0.0	0.0	0.0	0.0	0.0	0.00	0.00	54.6	25.9	850.5	240.1	400.4	0.02	72.10	54.6	25.9	850.5	240.1	400.4	0.02	72.10	
18	0	70	0.0	0.0	0.0	0.0	0.0	0.00	0.00	54.6	25.9	850.5	240.1	400.4	0.02	72.10	54.6	25.9	850.5	240.1	400.4	0.02	72.10	
19	0	70	0.0	0.0	0.0	0.0	0.0	0.00	0.00	54.6	25.9	850.5	240.1	400.4	0.02	72.10	54.6	25.9	850.5	240.1	400.4	0.02	72.10	
20	0	70	0.0	0.0	0.0	0.0	0.0	0.00	0.00	54.6	25.9	850.5	240.1	400.4	0.02	72.10	54.6	25.9	850.5	240.1	400.4	0.02	72.10	
21	0	70	0.0	0.0	0.0	0.0	0.0	0.00	0.00	54.6	25.9	850.5	240.1	400.4	0.02	72.10	54.6	25.9	850.5	240.1	400.4	0.02	72.10	
22	0	70	0.0	0.0	0.0	0.0	0.0	0.00	0.00	54.6	25.9	850.5	240.1	400.4	0.02	72.10	54.6	25.9	850.5	240.1	400.4	0.02	72.10	
23	0	70	0.0	0.0	0.0	0.0	0.0	0.00	0.00	54.6	25.9	850.5	240.1	400.4	0.02	72.10	54.6	25.9	850.5	240.1	400.4	0.02	72.10	
24	0	70	0.0	0.0	0.0	0.0	0.0	0.00	0.00	54.6	25.9	850.5	240.1	400.4	0.02	72.10	54.6	25.9	850.5	240.1	400.4	0.02	72.10	
25	0	70	0.0	0.0	0.0	0.0	0.0	0.00	0.00	54.6	25.9	850.5	240.1	400.4	0.02	72.10	54.6	25.9	850.5	240.1	400.4	0.02	72.10	
26	0	70	0.0	0.0	0.0	0.0	0.0	0.00	0.00	54.6	25.9	850.5	240.1	400.4	0.02	72.10	54.6	25.9	850.5	240.1	400.4	0.02	72.10	
27	0	70	0.0	0.0	0.0	0.0	0.0	0.00	0.00	54.6	25.9	850.5	240.1	400.4	0.02	72.10	54.6	25.9	850.5	240.1	400.4	0.02	72.10	
28	0	70	0.0	0.0	0.0	0.0	0.0	0.00	0.00	54.6	25.9	850.5	240.1	400.4	0.02	72.10	54.6	25.9	850.5	240.1	400.4	0.02	72.10	
29	0	70	0.0	0.0	0.0	0.0	0.0	0.00	0.00	54.6	25.9	850.5	240.1	400.4	0.02	72.10	54.6	25.9	850.5	240.1	400.4	0.02	72.10	
30	0	70	0.0	0.0	0.0	0.0	0.0	0.00	0.00	54.6	25.9	850.5	240.1	400.4	0.02	72.10	54.6	25.9	850.5	240.1	400.4	0.02	72.10	
31	0	65	0.0	0.0	0.0	0.0	0.0	0.00	0.00	50.7	24.1	789.8	223.0	371.8	0.02	66.95	50.7	24.1	789.8	223.0	371.8	0.02	66.95	
32	0	58	0.0	0.0	0.0	0.0	0.0	0.00	0.00	45.2	21.5	704.7	198.9	331.8	0.02	59.74	45.2	21.5	704.7	198.9	331.8	0.02	59.74	
33	0	53	0.0	0.0	0.0	0.0	0.0	0.00	0.00	41.3	19.6	644.0	181.8	303.2	0.01	54.59	41.3	19.6	644.0	181.8	303.2	0.01	54.59	
34	0	48	0.0	0.0	0.0	0.0	0.0	0.00	0.00	37.4	17.8	583.2	164.6	274.6	0.01	49.44	37.4	17.8	583.2	164.6	274.6	0.01	49.44	
35	0	41	0.0	0.0	0.0	0.0	0.0	0.00	0.00	32.0	15.2	498.2	140.6	234.5	0.01	42.23	32.0	15.2	498.2	140.6	234.5	0.01	42.23	
36	0	31	0.0	0.0	0.0	0.0	0.0	0.00	0.00	24.2	11.5	376.7	106.3	177.3	0.01	31.93	24.2	11.5	376.7	106.3	177.3	0.01	31.93	
37	0	24	0.0	0.0	0.0	0.0	0.0	0.00	0.00	18.7	8.9	291.6	82.3	137.3	0.01	24.72	18.7	8.9	291.6	82.3	137.3	0.01	24.72	
38	0	17	0.0	0.0	0.0	0.0	0.0	0.00	0.00	13.3	6.3	206.6	58.3	97.2	0.00	17.51	13.3	6.3	206.6	58.3	97.2	0.00	17.51	
39	0	9	0.0	0.0	0.0	0.0	0.0	0.00	0.00	7.0	3.3	109.4	30.9	51.5	0.00	9.27	7.0	3.3	109.4	30.9	51.5	0.00	9.27	
Total (MT)			94.5	31.5	81.9	749.0	301.7	0.45	6.30	1,638.0	777.0	25,515.0	7,203.0	12,012.0	0.55	2,163.00	1,733	809	25,597	7,952	12,314	1	2,169	
Max Year			13.5	4.5	11.7	107.0	43.1	0.06	0.90	54.6	25.9	850.5	240.1	400.4	0.02	72.10	66.8	30.0	861.0	336.4	439.2	0.1	72.9	
Average Year			9.5	3.2	8.2	74.9	30.2	0.0	0.6	42.0	19.9	654.2	184.7	308.0	0.0	55.5	44.4	20.7	656.3	203.9	315.7	0.0	55.6	
Minimum Year			6.8	2.3	5.9	53.5	21.6	0.0	0.5	3.9	1.9	60.8	17.2	28.6	0.0	5.2	7.0	3.3	66.6	30.9	50.2	0.0	5.6	

Table 83 Annual GHG Emissions for the Greater Sage-grouse Alternative (Alternative B) in Metric Ton

Years	# Wells		Well Development Emissions				Well Operation Emissions				Mid-Stream Emissions				End-Use Emissions			
	Developed	Operating	CO ₂	CH ₄	N ₂ O	CO ₂ e (100-yr)	CO ₂	CH ₄	N ₂ O	CO ₂ e (100-yr)	CO ₂	CH ₄	N ₂ O	CO ₂ e (100-yr)	CO ₂	CH ₄	N ₂ O	CO ₂ e (100-yr)
1	16	16	21,439.0	4.32	0.160	21,611.5	31,111.5	55.84	0.000	32,775.6	304,254.6	3,770.78	4.369	417,816.5	1,801,906.4	43.88	6.253	1,804,921.2
2	19	35	25,458.9	5.13	0.190	25,663.6	68,056.5	122.15	0.000	71,696.5	505,904.6	6,336.22	7.249	696,703.0	2,984,125.3	71.93	10.142	2,989,037.6
3	13	48	17,419.2	3.51	0.130	17,559.3	93,334.6	167.52	0.000	98,326.7	512,812.0	6,499.59	7.330	708,500.8	3,010,928.8	71.71	9.985	3,015,791.5
4	15	63	20,099.1	4.05	0.150	20,260.7	122,501.6	219.87	0.000	129,053.7	583,424.5	7,421.00	8.333	806,845.2	3,420,727.2	81.17	11.258	3,426,219.3
5	19	82	25,458.9	5.13	0.190	25,663.6	159,446.5	286.18	0.000	167,974.7	709,987.5	9,037.08	10.140	982,060.6	4,161,658.2	98.68	13.676	4,168,332.3
6	28	110	37,518.3	7.56	0.280	37,820.0	213,891.7	383.90	0.000	225,331.9	958,408.2	12,175.86	13.693	1,324,986.8	5,622,016.9	133.57	18.550	5,631,061.5
7	21	131	28,138.7	5.67	0.210	28,365.0	254,725.6	457.19	0.000	268,349.8	965,052.7	12,351.38	13.767	1,336,882.2	5,644,466.3	133.07	18.328	5,653,435.3
8	19	150	25,458.9	5.13	0.190	25,663.6	291,670.5	523.50	0.000	307,270.8	964,294.8	12,400.72	13.742	1,337,587.9	5,629,323.2	132.05	18.086	5,638,195.6
9	22	172	29,478.7	5.94	0.220	29,715.8	334,448.8	600.28	0.000	352,337.2	1,041,724.9	13,403.27	14.844	1,445,194.6	6,080,108.7	142.54	19.512	6,089,683.2
10	26	198	34,838.4	7.02	0.260	35,118.6	385,005.1	691.02	0.000	405,597.5	1,169,082.5	15,032.76	16.661	1,621,607.2	6,825,099.8	160.11	21.932	6,835,858.6
11	0	198	0.0	0.00	0.000	0.0	385,005.1	691.02	0.000	405,597.5	752,727.2	9,937.54	10.667	1,051,778.2	4,347,524.3	99.05	13.125	4,354,059.1
12	0	198	0.0	0.00	0.000	0.0	385,005.1	691.02	0.000	405,597.5	577,569.2	7,720.31	8.163	809,862.9	3,318,593.5	74.52	9.703	3,323,463.1
13	0	198	0.0	0.00	0.000	0.0	385,005.1	691.02	0.000	405,597.5	474,692.6	6,395.85	6.697	667,117.4	2,718,291.5	60.45	7.780	2,722,216.8
14	0	198	0.0	0.00	0.000	0.0	385,005.1	691.02	0.000	405,597.5	405,239.9	5,491.91	5.710	570,457.7	2,314,800.8	51.11	6.519	2,318,103.5
15	0	198	0.0	0.00	0.000	0.0	385,005.1	691.02	0.000	405,597.5	354,555.9	4,827.00	4.991	499,763.1	2,021,298.8	44.37	5.619	2,024,155.1
16	0	198	0.0	0.00	0.000	0.0	385,005.1	691.02	0.000	405,597.5	315,661.6	4,313.61	4.440	445,419.2	1,796,640.5	39.26	4.940	1,799,158.9
17	0	198	0.0	0.00	0.000	0.0	385,005.1	691.02	0.000	405,597.5	284,738.4	3,903.38	4.002	402,151.6	1,618,396.0	35.22	4.409	1,620,649.0
18	0	198	0.0	0.00	0.000	0.0	385,005.1	691.02	0.000	405,597.5	259,493.3	3,567.07	3.645	366,786.9	1,473,137.6	31.94	3.980	1,475,176.0
19	0	198	0.0	0.00	0.000	0.0	385,005.1	691.02	0.000	405,597.5	238,454.7	3,285.77	3.347	337,284.6	1,352,267.4	29.23	3.627	1,354,128.6
20	0	198	0.0	0.00	0.000	0.0	385,005.1	691.02	0.000	405,597.5	220,629.0	3,046.68	3.096	312,265.1	1,249,992.7	26.94	3.331	1,251,704.8
21	0	198	0.0	0.00	0.000	0.0	385,005.1	691.02	0.000	405,597.5	205,318.1	2,840.74	2.880	290,758.3	1,162,252.0	24.99	3.078	1,163,837.0
22	0	198	0.0	0.00	0.000	0.0	385,005.1	691.02	0.000	405,597.5	192,016.0	2,661.37	2.692	272,059.6	1,086,104.8	23.29	2.861	1,087,580.0
23	0	198	0.0	0.00	0.000	0.0	385,005.1	691.02	0.000	405,597.5	180,345.8	2,503.64	2.527	255,644.2	1,019,364.9	21.82	2.671	1,020,744.3
24	0	198	0.0	0.00	0.000	0.0	385,005.1	691.02	0.000	405,597.5	170,020.7	2,363.80	2.382	241,112.1	960,370.1	20.51	2.505	961,665.2
25	0	198	0.0	0.00	0.000	0.0	385,005.1	691.02	0.000	405,597.5	160,818.1	2,238.92	2.252	228,152.8	907,832.7	19.35	2.358	909,053.0
26	0	198	0.0	0.00	0.000	0.0	385,005.1	691.02	0.000	405,597.5	152,562.6	2,126.70	2.136	216,521.3	860,738.2	18.32	2.226	861,891.8
27	0	198	0.0	0.00	0.000	0.0	385,005.1	691.02	0.000	405,597.5	145,113.9	2,025.27	2.031	206,021.5	818,276.3	17.39	2.108	819,369.9
28	0	198	0.0	0.00	0.000	0.0	385,005.1	691.02	0.000	405,597.5	138,358.2	1,933.14	1.936	196,494.4	779,791.0	16.54	2.002	780,830.5
29	0	198	0.0	0.00	0.000	0.0	385,005.1	691.02	0.000	405,597.5	132,202.6	1,849.08	1.850	187,810.0	744,745.9	15.78	1.905	745,736.1
30	0	198	0.0	0.00	0.000	0.0	385,005.1	691.02	0.000	405,597.5	126,570.0	1,772.05	1.770	179,860.3	712,697.2	15.08	1.817	713,642.6
31	0	182	0.0	0.00	0.000	0.0	353,893.5	635.18	0.000	372,821.9	113,304.4	1,587.32	1.585	161,039.1	637,819.3	13.48	1.623	638,664.1
32	0	163	0.0	0.00	0.000	0.0	316,948.6	568.87	0.000	333,900.9	99,188.8	1,390.33	1.387	140,999.2	558,222.6	11.79	1.418	558,961.0
33	0	150	0.0	0.00	0.000	0.0	291,670.5	523.50	0.000	307,270.8	88,762.0	1,244.96	1.241	126,200.7	499,398.6	10.54	1.266	500,058.2
34	0	135	0.0	0.00	0.000	0.0	262,503.5	471.15	0.000	276,543.7	77,822.6	1,092.17	1.088	110,666.2	437,734.6	9.23	1.107	438,311.9
35	0	116	0.0	0.00	0.000	0.0	225,558.5	404.84	0.000	237,622.8	65,348.1	917.57	0.913	92,941.0	367,483.5	7.74	0.928	367,967.6
36	0	88	0.0	0.00	0.000	0.0	171,113.4	307.12	0.000	180,265.5	48,835.2	685.94	0.683	69,462.4	274,581.1	5.78	0.693	274,942.5
37	0	67	0.0	0.00	0.000	0.0	130,279.5	233.83	0.000	137,247.6	36,483.3	512.66	0.510	51,899.7	205,093.2	4.32	0.517	205,362.8
38	0	48	0.0	0.00	0.000	0.0	93,334.6	167.52	0.000	98,326.7	25,604.7	359.95	0.358	36,428.9	143,909.2	3.03	0.362	144,098.2
39	0	26	0.0	0.00	0.000	0.0	50,556.2	90.74	0.000	53,260.3	13,604.8	191.34	0.190	19,358.5	76,450.9	1.61	0.192	76,551.2
Total (MT)	198		265,308	53.46	1.980	267,442	11,550,152	20,730.60	0.000	12,167,924	13,770,988	181,214.71	195.295	19,224,502	79,644,170	1,821.38	242.388	79,764,619
Max Year			37,518.3	7.56	0.280	37,820	385,005.1	691.02	0.000	405,597	1,169,082.5	15,032.76	16.661	1,621,607	6,825,099.8	160.11	21.932	6,835,859
Average Year							296,157.7	531.55	0.000	311,998.0	353,102.3	4,646.53	5.008	492,936	2,042,158.2	46.70	6.215	2,045,247
			Development Percent of Total =				Operations Percent of Total =				Mid-Stream Percent of Total =				End-Use Percent of Total =			
			0%				11%				17%				72%			

Table 84 Annual CAP and HAP emissions for the Reed Mustards and Sensitive Penstemon Species Avoidance Alternative (Alternative C) in Tons Per Year

Year	# Wells		Well Development Emissions							Well Operation Emissions							Sum of Well Development and Operation Emissions						
	Developed	Operating	PM ₁₀	PM _{2.5}	VOC	NO _x	CO	SO ₂	HAPs	PM ₁₀	PM _{2.5}	VOC	NO _x	CO	SO ₂	HAPs	PM ₁₀	PM _{2.5}	VOC	NO _x	CO	SO ₂	HAPs
1	16	16	21.6	7.2	18.7	171.2	69.0	0.10	1.44	12.5	5.9	194.4	54.9	91.5	0.00	16.48	34.1	13.1	213.1	226.1	160.5	0.11	17.92
2	19	35	25.7	8.6	22.2	203.3	81.9	0.12	1.71	27.3	13.0	425.3	120.1	200.2	0.01	36.05	53.0	21.5	447.5	323.4	282.1	0.13	37.76
3	13	48	17.6	5.9	15.2	139.1	56.0	0.08	1.17	37.4	17.8	583.2	164.6	274.6	0.01	49.44	55.0	23.6	598.4	303.7	330.6	0.10	50.61
4	15	63	20.3	6.8	17.6	160.5	64.7	0.10	1.35	49.1	23.3	765.5	216.1	360.4	0.02	64.89	69.4	30.1	783.0	376.6	425.0	0.11	66.24
5	19	82	25.7	8.6	22.2	203.3	81.9	0.12	1.71	64.0	30.3	996.3	281.3	469.0	0.02	84.46	89.6	38.9	1,018.5	484.6	550.9	0.14	86.17
6	28	110	37.8	12.6	32.8	299.6	120.7	0.18	2.52	85.8	40.7	1336.5	377.3	629.2	0.03	113.30	123.6	53.3	1,369.3	676.9	749.9	0.21	115.82
7	21	131	28.4	9.5	24.6	224.7	90.5	0.13	1.89	102.2	48.5	1591.7	449.3	749.3	0.03	134.93	130.5	57.9	1,616.2	674.0	839.8	0.17	136.82
8	19	150	25.7	8.6	22.2	203.3	81.9	0.12	1.71	117.0	55.5	1822.5	514.5	858.0	0.04	154.50	142.7	64.1	1,844.7	717.8	939.9	0.16	156.21
9	22	172	29.7	9.9	25.7	235.4	94.8	0.14	1.98	134.2	63.6	2089.8	590.0	983.8	0.05	177.16	163.9	73.5	2,115.5	825.4	1,078.7	0.19	179.14
10	26	198	35.1	11.7	30.4	278.2	112.1	0.17	2.34	154.4	73.3	2405.7	679.1	1132.6	0.05	203.94	189.5	85.0	2,436.1	957.3	1,244.6	0.22	206.28
11	0	198	0.0	0.0	0.0	0.0	0.0	0.00	0.00	154.4	73.3	2405.7	679.1	1132.6	0.05	203.94	154.4	73.3	2,405.7	679.1	1,132.6	0.05	203.94
12	0	198	0.0	0.0	0.0	0.0	0.0	0.00	0.00	154.4	73.3	2405.7	679.1	1132.6	0.05	203.94	154.4	73.3	2,405.7	679.1	1,132.6	0.05	203.94
13	0	198	0.0	0.0	0.0	0.0	0.0	0.00	0.00	154.4	73.3	2405.7	679.1	1132.6	0.05	203.94	154.4	73.3	2,405.7	679.1	1,132.6	0.05	203.94
14	0	198	0.0	0.0	0.0	0.0	0.0	0.00	0.00	154.4	73.3	2405.7	679.1	1132.6	0.05	203.94	154.4	73.3	2,405.7	679.1	1,132.6	0.05	203.94
15	0	198	0.0	0.0	0.0	0.0	0.0	0.00	0.00	154.4	73.3	2405.7	679.1	1132.6	0.05	203.94	154.4	73.3	2,405.7	679.1	1,132.6	0.05	203.94
16	0	198	0.0	0.0	0.0	0.0	0.0	0.00	0.00	154.4	73.3	2405.7	679.1	1132.6	0.05	203.94	154.4	73.3	2,405.7	679.1	1,132.6	0.05	203.94
17	0	198	0.0	0.0	0.0	0.0	0.0	0.00	0.00	154.4	73.3	2405.7	679.1	1132.6	0.05	203.94	154.4	73.3	2,405.7	679.1	1,132.6	0.05	203.94
18	0	198	0.0	0.0	0.0	0.0	0.0	0.00	0.00	154.4	73.3	2405.7	679.1	1132.6	0.05	203.94	154.4	73.3	2,405.7	679.1	1,132.6	0.05	203.94
19	0	198	0.0	0.0	0.0	0.0	0.0	0.00	0.00	154.4	73.3	2405.7	679.1	1132.6	0.05	203.94	154.4	73.3	2,405.7	679.1	1,132.6	0.05	203.94
20	0	198	0.0	0.0	0.0	0.0	0.0	0.00	0.00	154.4	73.3	2405.7	679.1	1132.6	0.05	203.94	154.4	73.3	2,405.7	679.1	1,132.6	0.05	203.94
21	0	198	0.0	0.0	0.0	0.0	0.0	0.00	0.00	154.4	73.3	2405.7	679.1	1132.6	0.05	203.94	154.4	73.3	2,405.7	679.1	1,132.6	0.05	203.94
22	0	198	0.0	0.0	0.0	0.0	0.0	0.00	0.00	154.4	73.3	2405.7	679.1	1132.6	0.05	203.94	154.4	73.3	2,405.7	679.1	1,132.6	0.05	203.94
23	0	198	0.0	0.0	0.0	0.0	0.0	0.00	0.00	154.4	73.3	2405.7	679.1	1132.6	0.05	203.94	154.4	73.3	2,405.7	679.1	1,132.6	0.05	203.94
24	0	198	0.0	0.0	0.0	0.0	0.0	0.00	0.00	154.4	73.3	2405.7	679.1	1132.6	0.05	203.94	154.4	73.3	2,405.7	679.1	1,132.6	0.05	203.94
25	0	198	0.0	0.0	0.0	0.0	0.0	0.00	0.00	154.4	73.3	2405.7	679.1	1132.6	0.05	203.94	154.4	73.3	2,405.7	679.1	1,132.6	0.05	203.94
26	0	198	0.0	0.0	0.0	0.0	0.0	0.00	0.00	154.4	73.3	2405.7	679.1	1132.6	0.05	203.94	154.4	73.3	2,405.7	679.1	1,132.6	0.05	203.94
27	0	198	0.0	0.0	0.0	0.0	0.0	0.00	0.00	154.4	73.3	2405.7	679.1	1132.6	0.05	203.94	154.4	73.3	2,405.7	679.1	1,132.6	0.05	203.94
28	0	198	0.0	0.0	0.0	0.0	0.0	0.00	0.00	154.4	73.3	2405.7	679.1	1132.6	0.05	203.94	154.4	73.3	2,405.7	679.1	1,132.6	0.05	203.94
29	0	198	0.0	0.0	0.0	0.0	0.0	0.00	0.00	154.4	73.3	2405.7	679.1	1132.6	0.05	203.94	154.4	73.3	2,405.7	679.1	1,132.6	0.05	203.94
30	0	198	0.0	0.0	0.0	0.0	0.0	0.00	0.00	154.4	73.3	2405.7	679.1	1132.6	0.05	203.94	154.4	73.3	2,405.7	679.1	1,132.6	0.05	203.94
31	0	182	0.0	0.0	0.0	0.0	0.0	0.00	0.00	142.0	67.3	2211.3	624.3	1041.0	0.05	187.46	142.0	67.3	2,211.3	624.3	1,041.0	0.05	187.46
32	0	163	0.0	0.0	0.0	0.0	0.0	0.00	0.00	127.1	60.3	1980.5	559.1	932.4	0.04	167.89	127.1	60.3	1,980.5	559.1	932.4	0.04	167.89
33	0	150	0.0	0.0	0.0	0.0	0.0	0.00	0.00	117.0	55.5	1822.5	514.5	858.0	0.04	154.50	117.0	55.5	1,822.5	514.5	858.0	0.04	154.50
34	0	135	0.0	0.0	0.0	0.0	0.0	0.00	0.00	105.3	50.0	1640.3	463.1	772.2	0.04	139.05	105.3	50.0	1,640.3	463.1	772.2	0.04	139.05
35	0	116	0.0	0.0	0.0	0.0	0.0	0.00	0.00	90.5	42.9	1409.4	397.9	663.5	0.03	119.48	90.5	42.9	1,409.4	397.9	663.5	0.03	119.48
36	0	88	0.0	0.0	0.0	0.0	0.0	0.00	0.00	68.6	32.6	1069.2	301.8	503.4	0.02	90.64	68.6	32.6	1,069.2	301.8	503.4	0.02	90.64
37	0	67	0.0	0.0	0.0	0.0	0.0	0.00	0.00	52.3	24.8	814.1	229.8	383.2	0.02	69.01	52.3	24.8	814.1	229.8	383.2	0.02	69.01
38	0	48	0.0	0.0	0.0	0.0	0.0	0.00	0.00	37.4	17.8	583.2	164.6	274.6	0.01	49.44	37.4	17.8	583.2	164.6	274.6	0.01	49.44
39	0	26	0.0	0.0	0.0	0.0	0.0	0.00	0.00	20.3	9.6	315.9	89.2	148.7	0.01	26.78	20.3	9.6	315.9	89.2	148.7	0.01	26.78
Total (MT)			267.3	89.1	231.7	2,118.6	853.4	1.26	17.82	4,633.2	2,197.8	72,171.0	20,374.2	33,976.8	1.56	6,118.20	4,901	2,287	72,403	22,493	34,830	3	6,136
Max Year			37.8	12.6	32.8	299.6	120.7	0.18	2.52	154.4	73.3	2,405.7	679.1	1,132.6	0.05	203.94	189.5	85.0	2,436.1	957.3	1,244.6	0.2	206.3
Average Year			26.7	8.9	23.2	211.9	85.3	0.1	1.8	118.8	56.4	1,850.5	522.4	871.2	0.0	156.9	125.7	58.6	1,856.5	576.7	893.1	0.1	157.3
Minimum Year			17.6	5.9	15.2	139.1	56.0	0.1	1.2	12.5	5.9	194.4	54.9	91.5	0.0	16.5	20.3	9.6	213.1	89.2	148.7	0.0	17.9

Table 85 Annual GHG Emissions for the Reed Mustards and Sensitive Penstemon Species Avoidance Alternative (Alternative C) in Metric Ton

Years	# Wells		Well Development Emissions				Well Operation Emissions				Mid-Stream Emissions				End-Use Emissions			
	Developed	Operating	CO ₂	CH ₄	N ₂ O	CO ₂ e (100-yr)	CO ₂	CH ₄	N ₂ O	CO ₂ e (100-yr)	CO ₂	CH ₄	N ₂ O	CO ₂ e (100-yr)	CO ₂	CH ₄	N ₂ O	CO ₂ e (100-yr)
1	5	5	6,699.7	1.35	0.050	6,753.6	9,722.4	17.45	0.000	10,242.4	95,079.6	1,178.37	1.365	130,567.6	563,095.7	13.71	1.954	564,037.9
2	7	12	9,379.6	1.89	0.070	9,455.0	23,333.6	41.88	0.000	24,581.7	178,299.6	2,230.47	2.555	245,465.3	1,052,197.0	25.39	3.585	1,053,932.3
3	5	17	6,699.7	1.35	0.050	6,753.6	33,056.0	59.33	0.000	34,824.0	187,683.7	2,375.48	2.683	259,205.4	1,102,566.6	26.30	3.667	1,104,351.3
4	5	22	6,699.7	1.35	0.050	6,753.6	42,778.3	76.78	0.000	45,066.4	202,970.3	2,583.21	2.899	280,741.4	1,189,783.4	28.21	3.911	1,191,691.8
5	7	29	9,379.6	1.89	0.070	9,455.0	56,389.6	101.21	0.000	59,405.7	254,996.6	3,243.66	3.642	352,652.0	1,495,060.8	35.47	4.920	1,497,461.0
6	10	39	13,399.4	2.70	0.100	13,507.2	75,834.3	136.11	0.000	79,890.4	342,393.1	4,349.15	4.892	473,333.2	2,008,603.2	47.73	6.630	2,011,835.5
7	7	46	9,379.6	1.89	0.070	9,455.0	89,445.6	160.54	0.000	94,229.7	334,979.0	4,290.66	4.778	464,144.9	1,958,636.4	46.14	6.349	1,961,744.5
8	7	53	9,379.6	1.89	0.070	9,455.0	103,056.9	184.97	0.000	108,569.0	343,686.5	4,417.52	4.898	476,665.8	2,006,769.1	47.10	6.455	2,009,934.8
9	8	61	10,719.5	2.16	0.080	10,805.7	118,612.7	212.89	0.000	124,956.8	373,476.9	4,802.99	5.322	518,059.1	2,180,247.5	51.14	7.004	2,183,683.6
10	9	70	12,059.5	2.43	0.090	12,156.4	136,112.9	244.30	0.000	143,393.0	412,191.8	5,301.85	5.874	571,790.6	2,406,075.7	56.43	7.726	2,409,866.5
11	0	70	0.0	0.00	0.000	0.0	136,112.9	244.30	0.000	143,393.0	266,021.2	3,512.39	3.770	371,719.7	1,536,390.5	35.00	4.637	1,538,699.4
12	0	70	0.0	0.00	0.000	0.0	136,112.9	244.30	0.000	143,393.0	204,263.7	2,730.49	2.887	286,420.3	1,173,635.8	26.35	3.431	1,175,357.8
13	0	70	0.0	0.00	0.000	0.0	136,112.9	244.30	0.000	143,393.0	167,927.3	2,262.63	2.369	236,000.6	961,616.2	21.39	2.752	963,004.8
14	0	70	0.0	0.00	0.000	0.0	136,112.9	244.30	0.000	143,393.0	143,375.1	1,943.06	2.020	201,829.8	818,982.0	18.08	2.306	820,150.5
15	0	70	0.0	0.00	0.000	0.0	136,112.9	244.30	0.000	143,393.0	125,449.3	1,707.89	1.766	176,826.5	715,178.7	15.70	1.988	716,189.4
16	0	70	0.0	0.00	0.000	0.0	136,112.9	244.30	0.000	143,393.0	111,689.5	1,526.26	1.571	157,600.8	635,701.1	13.89	1.748	636,592.2
17	0	70	0.0	0.00	0.000	0.0	136,112.9	244.30	0.000	143,393.0	100,747.8	1,381.10	1.416	142,291.2	572,632.5	12.46	1.560	573,429.7
18	0	70	0.0	0.00	0.000	0.0	136,112.9	244.30	0.000	143,393.0	91,814.3	1,262.09	1.290	129,776.7	521,230.2	11.30	1.408	521,951.4
19	0	70	0.0	0.00	0.000	0.0	136,112.9	244.30	0.000	143,393.0	84,368.9	1,162.54	1.184	119,336.1	478,455.4	10.34	1.283	479,113.9
20	0	70	0.0	0.00	0.000	0.0	136,112.9	244.30	0.000	143,393.0	78,060.3	1,077.93	1.095	110,481.6	442,260.0	9.53	1.178	442,865.7
21	0	70	0.0	0.00	0.000	0.0	136,112.9	244.30	0.000	143,393.0	72,641.7	1,005.04	1.019	102,870.1	411,207.7	8.84	1.089	411,768.4
22	0	70	0.0	0.00	0.000	0.0	136,112.9	244.30	0.000	143,393.0	67,933.9	941.56	0.952	96,252.4	384,258.2	8.24	1.012	384,780.2
23	0	70	0.0	0.00	0.000	0.0	136,112.9	244.30	0.000	143,393.0	63,803.7	885.74	0.894	90,442.8	360,638.2	7.72	0.945	361,126.2
24	0	70	0.0	0.00	0.000	0.0	136,112.9	244.30	0.000	143,393.0	60,149.5	836.25	0.843	85,299.8	339,759.4	7.26	0.886	340,217.6
25	0	70	0.0	0.00	0.000	0.0	136,112.9	244.30	0.000	143,393.0	56,892.7	792.06	0.797	80,713.5	321,166.1	6.85	0.834	321,597.9
26	0	70	0.0	0.00	0.000	0.0	136,112.9	244.30	0.000	143,393.0	53,971.1	752.34	0.756	76,597.1	304,499.4	6.48	0.788	304,907.5
27	0	70	0.0	0.00	0.000	0.0	136,112.9	244.30	0.000	143,393.0	51,335.0	716.45	0.719	72,881.3	289,472.3	6.15	0.746	289,859.2
28	0	70	0.0	0.00	0.000	0.0	136,112.9	244.30	0.000	143,393.0	48,944.3	683.84	0.685	69,509.8	275,852.8	5.85	0.708	276,220.6
29	0	70	0.0	0.00	0.000	0.0	136,112.9	244.30	0.000	143,393.0	46,765.9	654.09	0.654	66,436.5	263,451.0	5.58	0.674	263,801.3
30	0	70	0.0	0.00	0.000	0.0	136,112.9	244.30	0.000	143,393.0	44,772.7	626.84	0.626	63,623.3	252,109.7	5.33	0.643	252,444.1
31	0	65	0.0	0.00	0.000	0.0	126,390.6	226.85	0.000	133,150.7	40,413.2	566.18	0.565	57,439.5	227,493.2	4.81	0.579	227,794.5
32	0	58	0.0	0.00	0.000	0.0	112,779.3	202.42	0.000	118,811.4	35,267.4	494.35	0.493	50,133.7	198,479.4	4.19	0.504	198,742.0
33	0	53	0.0	0.00	0.000	0.0	103,056.9	184.97	0.000	108,569.0	31,370.0	439.99	0.439	44,601.4	176,496.2	3.72	0.447	176,729.3
34	0	48	0.0	0.00	0.000	0.0	93,334.6	167.52	0.000	98,326.7	27,656.0	388.13	0.387	39,327.8	155,557.8	3.28	0.393	155,762.9
35	0	41	0.0	0.00	0.000	0.0	79,723.3	143.09	0.000	83,987.4	23,098.0	324.32	0.323	32,851.0	129,890.9	2.74	0.328	130,062.0
36	0	31	0.0	0.00	0.000	0.0	60,278.6	108.19	0.000	63,502.6	17,209.1	241.72	0.241	24,478.0	96,760.6	2.04	0.244	96,888.0
37	0	24	0.0	0.00	0.000	0.0	46,667.3	83.76	0.000	49,163.3	13,058.7	183.50	0.182	18,576.9	73,409.7	1.55	0.185	73,506.2
38	0	17	0.0	0.00	0.000	0.0	33,056.0	59.33	0.000	34,824.0	9,064.4	127.43	0.127	12,896.4	50,945.6	1.07	0.128	51,012.6
39	0	9	0.0	0.00	0.000	0.0	17,500.2	31.41	0.000	18,436.2	4,709.4	66.23	0.066	6,701.0	26,463.8	0.56	0.066	26,498.5
Total (MT)	70		93,796	18.90	0.700	94,550	4,083,387	7,329.00	0.000	4,301,791	4,868,531	64,065.81	69.044	6,796,541	28,157,030	643.92	85.693	28,199,613
Max Year			13,399.4	2.70	0.100	13,507	136,112.9	244.30	0.000	143,393	412,191.8	5,301.85	5.874	571,791	2,406,075.7	56.43	7.726	2,409,866
Average Year							104,702.2	187.92	0.000	110,302.3	124,834.1	1,642.71	1.770	174,270	721,975.1	16.51	2.197	723,067
			Development Percent of Total =				Operations Percent of Total =				Mid-Stream Percent of Total =				End-Use Percent of Total =			
			0%				11%				17%				72%			

APPENDIX H. SAGE-GROUSE PRIORITIZATION

Utah Greater Sage-grouse (GRSG) Plan Conformance and Leasing Considerations Quarter 4, 2025 Lease Sale June 4, 2025

For the Quarter 4 lease-sale (2025), the BLM has prioritized leasing in Greater Sage-grouse habitat, based on an evaluation and balancing of biological components (described below) and fluid mineral components (described below), to fully comply with applicable provisions of the 2015 Greater Sage Grouse (GRSG) Resource Management Plan Amendment (ARMPA) to reduce impacts from potential fluid mineral development on GRSG and its habitat. This lease-sale applies Management Actions (MAs) from the ARMPA and associated stipulations that pertain to unleased fluid minerals in GRSG management areas as listed above. Implementation of these MAs and stipulations help to mitigate disturbance, habitat loss, and cumulative impacts to GRSG. The ARMPA provides that “priority will be given to development in non-habitat areas first and then in the least suitable habitat for GRSG” (Objective MR-1).

The 2015 GRSG Record of Decision (ROD), describes how this objective is intended “to guide development to lower conflict areas and, as such, protect important habitat.” This leasing prioritization strategy was developed as one of the tools the BLM would apply to meet that objective. Review of plan conformance is conducted during the lease sale process and again during proposed site-specific actions, such as when processing an Application for Permit to Drill (APD). At both stages, the BLM coordinates with the State of Utah to address any concerns related to GRSG or wildlife.

The BLM has prioritized leasing and development outside Priority Habitat Management Areas (PHMA) and General Habitat Management Areas (GHMA) to limit surface disturbance and encourage new development in areas outside GRSG habitat, consistent with the ROD. In addition to the multiple MAs in the ARMPA, the following framework was used to assist the BLM UT in its prioritization process for the subject parcels in this Lease Sale.

The ARMPA includes several MAs and stipulations intended to achieve the desired condition explained in the Objective MR-1, which is “leasing and development of fluid mineral resources...outside of [Priority Habitat Management Areas] PHMA and [General Habitat Management Areas] GHMA” and to give priority “to development in non-habitat areas first and then in the least suitable habitat for GRSG”. The no surface occupancy (NSO) stipulation represents a fluid mineral leasing allocation decision for PHMA and provides that certain areas may be “open to leasing, subject to NSO stipulations” which preclude any new surface occupancy fluid mineral development in PHMA.

There are also several MAs that help to avoid sensitive areas and that limit future surface disturbance and disruptive developments in PHMA and GHMA. These include (1) disturbance caps (MA-SSS-3B), (2) density caps (MA-SSS-3C), (3) noise restrictions (MA-SSS-3E), (4) tall structure restrictions (MA-SSS-3F), (5) seasonal restrictions (MA-SSS-3G), (6) buffers (MA-

SSS-3H and MA-SSS-5C)), and (7) application of Required Design Features (MA-SSS-3I and MA-SSS-5D). The overlapping combination of all these measures achieves Objective MR-1 by creating a strong economic incentive to lease and develop outside PHMA as a result of the significant restrictions on development within PHMA. Even if PHMA were leased, it would be “subject to [these] applicable stipulations for the conservation of GRSG” as specifically noted in Objective MR-1. In combination with the land use allocations and stipulations in the ARMPA, a strategy that encourages new development in areas that would not conflict with GRSG could help the agency determine which lands to offer for leasing on a quarterly basis. In addition to those MAs, this prioritization strategy outlines a process to help inform the BLM Authorized Officer in identifying areas of important habitat and sensitive areas in an effort to encourage leasing and development to lower conflict areas. This prioritization occurs at both the leasing stage as described here in this appendix, and again at the development stage where habitat availability and quality would be considered, as described in ARMPA MA-MR-6.

Prioritization Process Outline

The BLM has evaluated all parcels nominated in this Lease Sale within GRSG PHMA and GHMA in terms of their biological components, such as: (1) the amount of PHMA/GHMA in each parcel; (2) the parcel’s proximity to active leks; (3) habitat treatments since the ARMPA; (4) areas identified for GRSG habitat recovery from wildfire; and (5) input from the Adaptive Management Strategy Team in coordination with the Utah Division of Wildlife Resources where appropriate. These components are included in Table 1.

The BLM has also evaluated parcels in terms of certain fluid mineral considerations: (1) whether the parcel is adjacent to existing leases; (2) the parcel’s proximity to and density of existing oil and gas well(s) (producing well(s)); (3) whether there are nearby oil and gas agreements (communitization, exploratory unit, and secondary recovery); (4) potential drainage cases; (5) oil and gas potential; and (6) the well data map. These components are included in Table 2.

Biological Components

For this Lease Sale, GRSG associated parcels occur within the Uintah population area for a total of thirty-nine (39) parcels (see Tables 1 and 2). The Uintah population area includes seven separate habitat and distinct populations. Threats that USFWS noted in the COT report for the Uintah population area include fire, conifer encroachment, weeds/annual grasses, energy, mining, infrastructure, recreation, and urbanization.

The parcels are within the East Bench/Book Cliffs GHMA. This area is primarily Wyoming big sagebrush and black sagebrush in the low elevation and pinyon-juniper with pockets of mountain sagebrush in the upper elevations. This population has steadily declined and one of the primary threats in the low elevations may be gas development, which is extensive in proximity to the lease parcel and the leks in this area. Threats that USFWS noted in the COT report for the Uintah population area include fire, conifer encroachment, weeds/annual grasses, energy, mining, infrastructure, recreation, and urbanization. The East Bench lek counts steadily declined since 2005. There are three inactive leks and two historical leks within the East Bench area, all counts

completed by Utah Division of Wildlife Resources in the past 10 years have been zero (personal communication, UDWR, May 2, 2025).

The thirty-nine (39) nominated parcels in this Lease Sale that are within GRSG habitat have been evaluated based on the biological and fluid components listed below in the tables.

Table 1. Overview of Biological Components of Each Parcel Considered

Parcel #	(Field Office/GRSG Population)	Parcel Size (Acres)	% w/in PHMA	% w/in GHMA	Occupied leks w/in 3.1 mi (#)	Habitat treatments since ARMPA (acres)	Wildfire since ARMPA (acres)	Adaptive Management Trigger Met (Yes/No)
1602	Uintah	520.36	0	57.98	0	1.43	0.00	No
1603	Uintah	1625.37	0	0.86	0	0.00	0.00	No
1617	Uintah	1274.20	0	47.19	0	0.00	0.00	No
1618	Uintah	1919.00	0	0.05	0	0.00	7.41	No
1620	Uintah	2477.38	0	8.96	0	0.00	0.00	No
1622	Uintah	1085.05	0	99.99	0	0.00	0.00	No
1625	Uintah	1916.60	0	32.24	0	0.00	0.00	No
1626	Uintah	1909.86	0	90.93	0	0.00	0.00	No
1627	Uintah	1334.85	0	100.00	0	0.00	0.00	No
1634	Uintah	639.40	0	93.69	0	0.00	0.00	No
1640	Uintah	2137.43	0	94.47	0	0.00	0.00	No
1641	Uintah	572.95	0	100	0	0.00	0.00	No
1643	Uintah	1320.39	0	100	0	0.00	0.00	No
1644	Uintah	1315.57	0	100	0	0.00	0.00	No
1645	Uintah	959.90	0	100	0	0.00	0.00	No
1650	Uintah	1279.98	0	94.08	0	0.00	0.00	No
1655	Uintah	800.16	0	90.37	0	87.16	0.00	No
1657	Uintah	1122.00	0	61.11	0	36.30	0.00	No
1658	Uintah	315.77	0	100	0	0.00	0.00	No
1660	Uintah	638.66	0	100	0	0.00	0.00	No
7723	Uintah	1863.51	0	40.56	0	0.00	0.00	No
7727	Uintah	1916.48	0	80.57	0	0.00	0.00	No
7728	Uintah	2031.16	0	25.53	0	0.00	0.00	No
7731	Uintah	1915.90	0	3.96	0	0.00	0.00	No
7733	Uintah	699.87	0	99.99	0	0.00	0.00	No
7734	Uintah	1905.90	0	57.57	0	0.00	0.00	No
7735	Uintah	2558.95	0	43.14	0	147.66	0.00	No
7738	Uintah	2292.81	0	79.74	0	0.00	0.00	No

7739	Uintah	639.55	0	63.37	0	0.00	0.00	No
7740	Uintah	2559.90	0	55.88	0	373.64	0.00	No
7746	Uintah	1687.89	0	87.86	0	0.00	0.00	No
7753	Uintah	1270.46	0	38.99	0	0.00	0.00	No
7758	Uintah	2557.49	0	1.05	0	106.02	0.00	No
7759	Uintah	1280.56	0	79.91	0	0.00	0.00	No
7760	Uintah	1604.28	0	99.99	0	0.00	0.00	No
7762	Uintah	2482.82	0	85.50	0	0.00	0.00	No
7763	Uintah	320.11	0	100	0	0.00	0.00	No
7764	Uintah	2111.03	0	91.24	0	107.14	0.00	No
7771	Uintah	318.29	0	100	0	0.00	0.00	No

Fluid Mineral Components

As noted in the ARMPA, any parcel considered for leasing in PHMA would be subject to an NSO stipulation, thus no surface disturbance would occur on those parcels. In addition to the NSO stipulation, for all parcels in PHMA and GHMA, seasonal stipulations would also apply, which limit certain activities within various proximity to leks during certain times of the year. Application of other management actions and Required Design Features would help inform whether it is possible to directionally drill from an authorized surface location outside of PHMA or on a valid existing lease.

Evaluation for Quarter 4 (2025) Nominated Parcels:

Forty-six (46) parcels were evaluated for the Quarter 4 (2025) Lease Sale. Of those parcels, none were located within PHMA. However, thirty-nine (39) of the nominated parcels were (either entirely or partially) located within GHMA. All parcels within GHMA were evaluated through the prioritization process and presented to the Authorized Officer. After all resource issues were carefully evaluated, including the biological and fluid mineral components described above, all parcels in GHMA were brought forward for evaluation in the Quarter 4 (2025) Lease Sale. No (0) parcels were recommended for deferral.

A summary of the prioritization for the thirty-nine (39) parcels nominated for the Quarter 4 (2025) sale that were in GRSG habitat is listed below.

Table 2. Overview of the Fluid Minerals Components of Each Parcel Considered

Parcel #	(Field Office/GRSG Population)	Parcel Size (Acres)	% w/in 3.1 mi		Distance to Closest O&G Location	Well Density w/in 1 Mile	Within Existing O&G Agreement	O&G Potential (Per Square Mile)
			Leased %	HBP %				
1602	Uintah	520.36	28.27	28.27	Producing well 0.1 miles to the SE	0.45	No	Oil: 54.41 Mbbl, Gas: 984.06 MMcf
1603	Uintah	1625.37	1.05	1.05	Producing well 3.1 miles to the E	0	No	Oil: 42.65 Mbbl, Gas: 1553.5 MMcf
1617	Uintah	1274.20	27.14	27.14	Producing well 0.2 miles to the N	0.18	No	Oil: 3.76 Mbbl, Gas: 1227.54 MMcf
1618	Uintah	1919.00	49.76	49.76	Producing well 2.4 miles to the N	0	Yes	Oil: 55.44 Mbbl, Gas: 1626.92 MMcf
1620	Uintah	2477.38	35.56	35.56	Producing well 2.3 miles to the N	0	Yes	Oil: 39.69 Mbbl, Gas: 1505.19 MMcf
1622	Uintah	1085.05	34.35	34.35	Producing well 1.9 miles to the W	0	Yes	Oil: 3.76 Mbbl, Gas: 1227.54 MMcf
1625	Uintah	1916.60	24.36	24.36	Producing well 4.4 miles to the NW	0	Yes	Oil: 55.44 Mbbl, Gas: 1629.64 MMcf
1626	Uintah	1909.86	5.44	5.44	Producing well 3.0 miles to the NE	0	No	Oil: 3.76 Mbbl, Gas: 1227.54 MMcf
1627	Uintah	1334.85	4.24	4.24	Producing well 3.7 miles to the NW	0	Yes	Oil: 27.72 Mbbl, Gas: 1452.65 MMcf
1634	Uintah	639.40	0	0	Producing well 4.9 miles to the SW	0	No	Oil: 3.76 Mbbl, Gas: 1227.54 MMcf
1640	Uintah	2137.43	70.33	70.33	Producing well 0.4 miles to the SW	0.26	No	Oil: 40.29 Mbbl, Gas: 1509.81 MMcf
1641	Uintah	572.95	75.58	75.58	Producing well 0.1 miles to the E	0.51	No	Oil: 22.92 Mbbl, Gas: 1375.54 MMcf
1643	Uintah	1320.39	72.32	72.32	Producing well 0.1 miles to the N	0.52	No	Oil: 55.44 Mbbl, Gas: 1626.92 MMcf
1644	Uintah	1315.57	64.69%	64.69	Producing well 0.3 miles to the N	0.24	No	Oil: 14.2 Mbbl, Gas: 1308.17 MMcf
1645	Uintah	959.90	78.28%	78.28	Producing well 0.7 miles to the N	0.52	No	Oil: 55.44 Mbbl, Gas: 1626.92 MMcf
1650	Uintah	1279.98	69.19%	69.19	Producing well 4.3 miles to the NW	0	Yes	Oil: 55.44 Mbbl, Gas: 1626.92 MMcf

Parcel #	(Field Office/GRSG Population)	Parcel Size (Acres)	% w/in 3.1 mi		Distance to Closest O&G Location	Well Density w/in 1 Mile	Within Existing O&G Agreement	O&G Potential (Per Square Mile)
			Leased %	HBP %				
1655	Uintah	800.16	68.25%	68.25	Producing well 3.9 miles to the S	0	No	Oil: 10.2 Mbbl, Gas: 1312.82 MMcf
1657	Uintah	1122.00	80.19%	80.19	Producing well 5.2 miles to the S	0	No	Oil: 21.69 Mbbl, Gas: 1366.08 MMcf
1658	Uintah	315.77	6.19%	6.19	Producing well 2.6 miles to the NW	0	No	Oil: 5.32 Mbbl, Gas: 1239.58 MMcf
1660	Uintah	638.66	0%	0	Producing well 4.4 miles to the NE	0	No	Oil: 3.76 Mbbl, Gas: 1227.54 MMcf
7723	Uintah	1863.51	24.18%	24.18	Producing well 2.5 miles to the SW	0	No	Oil: 29.32 Mbbl, Gas: 1468.5 MMcf
7727	Uintah	1916.48	8.09%	8.09	Producing well 1.8 miles to the S	0	No	Oil: 55.44 Mbbl, Gas: 1670.38 MMcf
7728	Uintah	2031.16	23.25%	23.25	Producing well 0.1 miles to the E	9.50	Yes	Oil: 3.76 Mbbl, Gas: 1227.54 MMcf
7731	Uintah	1915.90	15.37%	15.37	Producing well 1.1 miles to the E	0	No	Oil: 3.76 Mbbl, Gas: 1227.54 MMcf
7733	Uintah	699.87	16.82%	16.82	Producing well 1.3 miles to the NW	0	Yes	Oil: 3.76 Mbbl, Gas: 1227.54 MMcf
7734	Uintah	1905.90	12.66%	12.66	Producing well 1.2 miles to the N	0	No	Oil: 3.76 Mbbl, Gas: 1227.54 MMcf
7735	Uintah	2558.95	57.18%	57.18	Producing well 3.4 miles to the N	0	No	Oil: 55.44 Mbbl, Gas: 1626.92 MMcf
7738	Uintah	2292.81	7.33%	7.33	Producing well 2.2 miles to the NW	0	Yes	Oil: 31.45 Mbbl, Gas: 1442.13 MMcf
7739	Uintah	639.55	62.94%	62.94	Producing well 2.9 miles to the NW	0	No	Oil: 55.44 Mbbl, Gas: 1626.92 MMcf
7740	Uintah	2559.90	56.18%	56.18	Producing well 5.4 miles to the N	0	No	Oil: 55.43 Mbbl, Gas: 1626.94 MMcf
7746	Uintah	1687.89	33.58%	33.58	Producing well 5.6 miles to the NW	0	Yes	Oil: 18.13 Mbbl, Gas: 1380.87 MMcf
7753	Uintah	1270.46	0%	0	Producing well 4.2 miles to the N	0	No	Oil: 35.74 Mbbl, Gas: 1474.62 MMcf

Parcel #	(Field Office/GRSG Population)	Parcel Size (Acres)	% w/in 3.1 mi		Distance to Closest O&G Location	Well Density w/in 1 Mile	Within Existing O&G Agreement	O&G Potential (Per Square Mile)
			Leased %	HBP %				
7758	Uintah	2557.49	62.64%	62.64	Producing well 4.9 miles to the S	0	No	Oil: 3.76 Mbbl, Gas: 1264.38 MMcf
7759	Uintah	1280.56	60.77%	60.77%	Producing well 0.5 miles to the NE	0.36	No	Oil: 44.3 Mbbl, Gas: 1540.76 MMcf
7760	Uintah	1604.28	73.4%	73.4%	Producing well 1.0 miles to the NE	0	Yes	Oil: 55.44 Mbbl, Gas: 1626.92 MMcf
7762	Uintah	2482.82	76.21%	76.21%	Producing well 2.7 miles to the N	0	Yes	Oil: 55.44 Mbbl, Gas: 1626.92 MMcf
7763	Uintah	320.11	74.15%	74.15%	Producing well 2.7 miles to the NW	0	No	Oil: 55.44 Mbbl, Gas: 1626.92 MMcf
7764	Uintah	2111.03	70.94%	70.94%	Producing well 3.5 miles to the NW	0	No	Oil: 55.44 Mbbl, Gas: 1626.92 MMcf
7771	Uintah	318.29	4.49%	28.27%	Producing well 3.4 miles to the NW	0	No	Oil: 53.5 Mbbl, Gas: 1612.7 MMcf

Parcels Considered Low Priority for Leasing at This Time

After careful consideration of the biological and fluid mineral components for the thirty-nine (39) parcels in GRSG habitat in the Quarter 4 (2025) Lease Sale, the BLM identified sixteen (16) parcels that are considered low priority for leasing at this time, which include Parcels 1622, 1626, 1627, 1634, 1655, 1657, 1658, 1660, 7723, 7733, 7734, 7735, 7738, 7740, 7746, and 7771. These parcels were determined to have a lower priority for leasing because they are generally associated with greater biological components are present, and fewer fluid mineral components exist. Five (5) parcels are within an Existing Oil and Gas Agreement area, these include parcels 1622, 1627, 7733, 7738, and 7746. All sixteen (16) of the lower priority for leasing parcels are within a high oil and gas potential area. The distances from the closest producing wells to these parcels range from 1.2 miles to 5.9 miles as listed in Table 2.

Historically, the East Bench/Book Cliffs GHMA area contained five occupied GRSG leks known as the Middle Bench Guzzler, Sand Wash Rim, East Bench Section 16, East Bench Northeast, and East Bench leks. All of these leks are unoccupied and/or historical. Leks continue to be monitored by UDWR occasionally and all counts have been zero (0) (UDWR personal communication May 2, 2025). The GHMA habitat in the East Bench/Book Cliffs GHMA area is identified as nesting, summer, and winter habitat. One of the primary reasons for identifying these sixteen (16) parcels as lower priority for leasing is due to their distance from heavier oil and gas development within the area, as well as, protecting the integrity of habitat restoration treatments on parcels 1655, 1657, 7735, 7740, and 7764, which were completed to improve the sagebrush community for sage-grouse and mule deer.

Parcels Considered Higher Priority for Leasing at This Time

Of the thirty-nine (39) proposed parcels within GHMA, twenty-three (23) were determined to have a higher priority for leasing because they are generally where fewer biological component(s) are present, and more than one fluid mineral component is also present. All proposed parcels within this Lease Sale are eligible for leasing with the applicable MAs, stipulations, and notices in conformance with the ARMPA. Application of stipulations have been confirmed by the Utah State Office Leasing Team.

This prioritization process helped to inform which proposed parcels (low priority for leasing and high priority for leasing) should be carried forward and be analyzed in the NEPA document, which is being prepared in connection with the leasing decision for the Quarter 4 (2025) Lease Sale. In the Decision Record, the Authorized Officer will determine whether all, some, or none of the proposed parcels, will be offered during the Lease Sale based on this prioritization analysis and any other appropriate factors.

Parcels 1602, 1603, 1617, 1618, 1620, 1625, 1640, 1641, 1643, 1644, 1645, 1650, 7727, 7728, 7731, 7739, 7753, 7758, 7759, 7760, 7762, 7763, and 7764 are all within the East Bench/Book Cliffs GHMA. These areas have a relative high percentage of leased lands and leased lands held by production in this Lease Sale. All are within an area that has high oil and gas potential as listed in Table 2. Parcels 1618, 1620, 1625, 1650, 7728, 7760, and 7762 are within an Existing Oil and Gas Agreement. There are producing wells in close proximity to many of the parcels, ranging from 0.1 miles up to 4.9 miles as listed in Table 2. Therefore, these parcels would be a high priority to lease at this time.

Since the parcels that are considered high priority for this sale have the appropriate stipulations and notices attached to them from the 2015 UT GRSG ARMPA, they would all be available for leasing.

All of the parcels (lower and higher priority for leasing) moved forward for analysis will include the following lease notices to protect GRSG:

Lease Notices:

UT-LN-131 - Greater Sage-Grouse – Net Conservation Gain

UT-LN-132 - Greater Sage-Grouse – Required Design Features

UT-LN-133 - Greater Sage-Grouse – Buffer

Parcels Where Adaptive Management Triggers have been Tripped

BLM Utah does not have any parcels within areas where an adaptive management trigger has been tripped for this lease sale. All of the parcels are within GHMA.

Parcel #	(Field Office/GRSG Population)	Priority (Low/High)	Rationale
1602	Uintah	High	57.98% of the parcel is located within GHMA

Parcel #	(Field Office/GRSG Population)	Priority (Low/High)	Rationale
			0 occupied leks in proximity to the parcel Producing well within 0.1 miles to the southeast Approximately 28.27% of the land adjacent to the lease are already leased. O&G potential is High Not within an existing O&G Agreement
1603	Uintah	High	0.86% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 3.1 miles to the east Approximately 1.05% of the land adjacent to the lease are already leased. O&G potential is High Not within an existing O&G Agreement
1617	Uintah	High	47.19% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 0.2 miles to the north Approximately 27.14% of the land adjacent to the lease are already leased. O&G potential is High Not within an existing O&G Agreement
1618	Uintah	High	0.05% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 2.4 miles to the north Approximately 49.76% of the land adjacent to the lease are already leased. O&G potential is High Within an existing O&G Agreement
1620	Uintah	High	8.96% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 2.3 miles to the north Approximately 35.56% of the land adjacent to the lease are already leased. O&G potential is High Within an existing O&G Agreement
1622	Uintah	Low	99.99% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 1.9 miles to the west Approximately 34.35% of the land adjacent to the lease are already leased. O&G potential is High Within an existing O&G Agreement
1625	Uintah	High	32.24% of the parcel is located within GHMA

Parcel #	(Field Office/GRSG Population)	Priority (Low/High)	Rationale
			0 occupied leks in proximity to the parcel Producing well within 4.4 miles to the northwest Approximately 24.36% of the land adjacent to the lease are already leased. O&G potential is High Within an existing O&G Agreement
1626	Uintah	Low	90.93% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 3.7 miles to the northwest Approximately 4.24% of the land adjacent to the lease are already leased. O&G potential is High Within an existing O&G Agreement
1627	Uintah	Low	100% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 3.0 miles to the northeast Approximately 5.44% of the land adjacent to the lease are already leased. O&G potential is High Not within an existing O&G Agreement
1634	Uintah	Low	93.69% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 4.9 miles to the southwest None of the land adjacent to the lease are already leased. O&G potential is High Not within an existing O&G Agreement
1640	Uintah	High	94.47% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 0.4 miles to the southwest Approximately 70.33% of the land adjacent to the lease are already leased. O&G potential is High Not Within an existing O&G Agreement
1641	Uintah	High	100% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 0.14 miles to the north

Parcel #	(Field Office/GRSG Population)	Priority (Low/High)	Rationale
			Approximately 75.58% of the land adjacent to the lease are already leased. O&G potential is High Not Within an existing O&G Agreement
1643	Uintah	High	100% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 0.1 miles to the north Approximately 72.32% of the land adjacent to the lease are already leased. O&G potential is High Not Within an existing O&G Agreement
1644	Uintah	High	100% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 0.3 miles to the north Approximately 64.69% of the land adjacent to the lease are already leased. O&G potential is High Not Within an existing O&G Agreement
1645	Uintah	High	100% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 0.7 miles to the north Approximately 78.28% of the land adjacent to the lease are already leased. O&G potential is High Not Within an existing O&G Agreement
1650	Uintah	High	0.05% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 2.4 miles to the north Approximately 49.76% of the land adjacent to the lease are already leased. O&G potential is High Within an existing O&G Agreement
1655	Uintah	Low	90.37% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 3.9 miles to the south Approximately 68.25% of the land adjacent to the lease are already leased. O&G potential is High Not within an existing O&G Agreement The parcel encompasses 87.16 acres of previous vegetative treatments
1657	Uintah	Low	61.11% of the parcel is located within GHMA

Parcel #	(Field Office/GRSG Population)	Priority (Low/High)	Rationale
			0 occupied leks in proximity to the parcel Producing well within 5.2 miles to the south Approximately 80.19% of the land adjacent to the lease are already leased. O&G potential is High Not within an existing O&G Agreement The parcel encompasses 36.60 acres of previous vegetative treatments
1658	Uintah	Low	100% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 2.6 miles to the northwest Approximately 6.19% of the land adjacent to the lease are already leased. O&G potential is High Not within an existing O&G Agreement
1660	Uintah	Low	100% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 4.4 miles to the northeast None of the land adjacent to the lease are already leased. O&G potential is High Not within an existing O&G Agreement
7723	Uintah	Low	40.56% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 2.5 miles to the southwest Approximately 24.18% of the land adjacent to the lease are already leased. O&G potential is High Not within an existing O&G Agreement
7727	Uintah	High	80.57% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 1.8 miles to the south Approximately 8.09% of the land adjacent to the lease are already leased. O&G potential is High Not Within an existing O&G Agreement
7728	Uintah	High	25.53% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 0.1 miles to the east

Parcel #	(Field Office/GRSG Population)	Priority (Low/High)	Rationale
			Approximately 23.25% of the land adjacent to the lease are already leased. O&G potential is High Within an existing O&G Agreement
7731	Uintah	High	3.96% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 1.1 miles to the east Approximately 15.37% of the land adjacent to the lease are already leased. O&G potential is High Not Within an existing O&G Agreement
7733	Uintah	Low	99.99% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 1.3 miles to the northwest Approximately 16.82% of the land adjacent to the lease are already leased. O&G potential is High Within an existing O&G Agreement
7734	Uintah	Low	57.57% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 1.2 miles to the north Approximately 12.66% of the land adjacent to the lease are already leased. O&G potential is High Not within an existing O&G Agreement
7735	Uintah	Low	43.14% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 3.4 miles to the north Approximately 57.18% of the land adjacent to the lease are already leased. O&G potential is High Not within an existing O&G Agreement The parcel encompasses 147.66 acres of previous vegetative treatments
7738	Uintah	Low	79.74% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 2.2 miles to the northwest Approximately 7.33% of the land adjacent to the lease are already leased. O&G potential is High Within an existing O&G Agreement

Parcel #	(Field Office/GRSG Population)	Priority (Low/High)	Rationale
7739	Uintah	High	63.37% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 2.9 miles to the northwest Approximately 62.94% of the land adjacent to the lease are already leased. O&G potential is High Not Within an existing O&G Agreement
7740	Uintah	Low	55.88% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 5.4 miles to the north Approximately 56.18% of the land adjacent to the lease are already leased. O&G potential is High Not within an existing O&G Agreement The parcel encompasses 373.64 acres of previous vegetative treatments
7746	Uintah	Low	87.86% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 5.6 miles to the northwest Approximately 33.58% of the land adjacent to the lease are already leased. O&G potential is High Within an existing O&G Agreement
7753	Uintah	High	38.99% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 4.2 miles to the north Approximately 0% of the land adjacent to the lease are already leased. O&G potential is High Not Within an existing O&G Agreement
7758	Uintah	High	1.05% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 0.5 miles to the northeast Approximately 62.64% of the land adjacent to the lease are already leased. O&G potential is High Not Within an existing O&G Agreement
7759	Uintah	High	79.91% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel

Parcel #	(Field Office/GRSG Population)	Priority (Low/High)	Rationale
			Producing well within 0.5 miles to the northeast Approximately 60.77% of the land adjacent to the lease are already leased. O&G potential is High Not Within an existing O&G Agreement
7760	Uintah	High	99.99% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 1.0 miles to the northeast Approximately 73.4% of the land adjacent to the lease are already leased. O&G potential is High Within an existing O&G Agreement
7762	Uintah	High	85.50% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 2.7 miles to the northwest Approximately 76.21% of the land adjacent to the lease are already leased. O&G potential is High Within an existing O&G Agreement
7763	Uintah	High	100% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 2.7 miles to the northwest Approximately 74.15% of the land adjacent to the lease are already leased. O&G potential is High Not Within an existing O&G Agreement
7764	Uintah	High	91.24% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 3.5 miles to the northwest Approximately 70.94% of the land adjacent to the lease are already leased. O&G potential is High Not Within an existing O&G Agreement
7771	Uintah	Low	100% of the parcel is located within GHMA 0 occupied leks in proximity to the parcel Producing well within 3.4 miles to the northwest

Parcel #	(Field Office/GRSG Population)	Priority (Low/High)	Rationale
			Approximately 4.49% of the land adjacent to the lease are already leased. O&G potential is High Not within an existing O&G Agreement

Attachments:

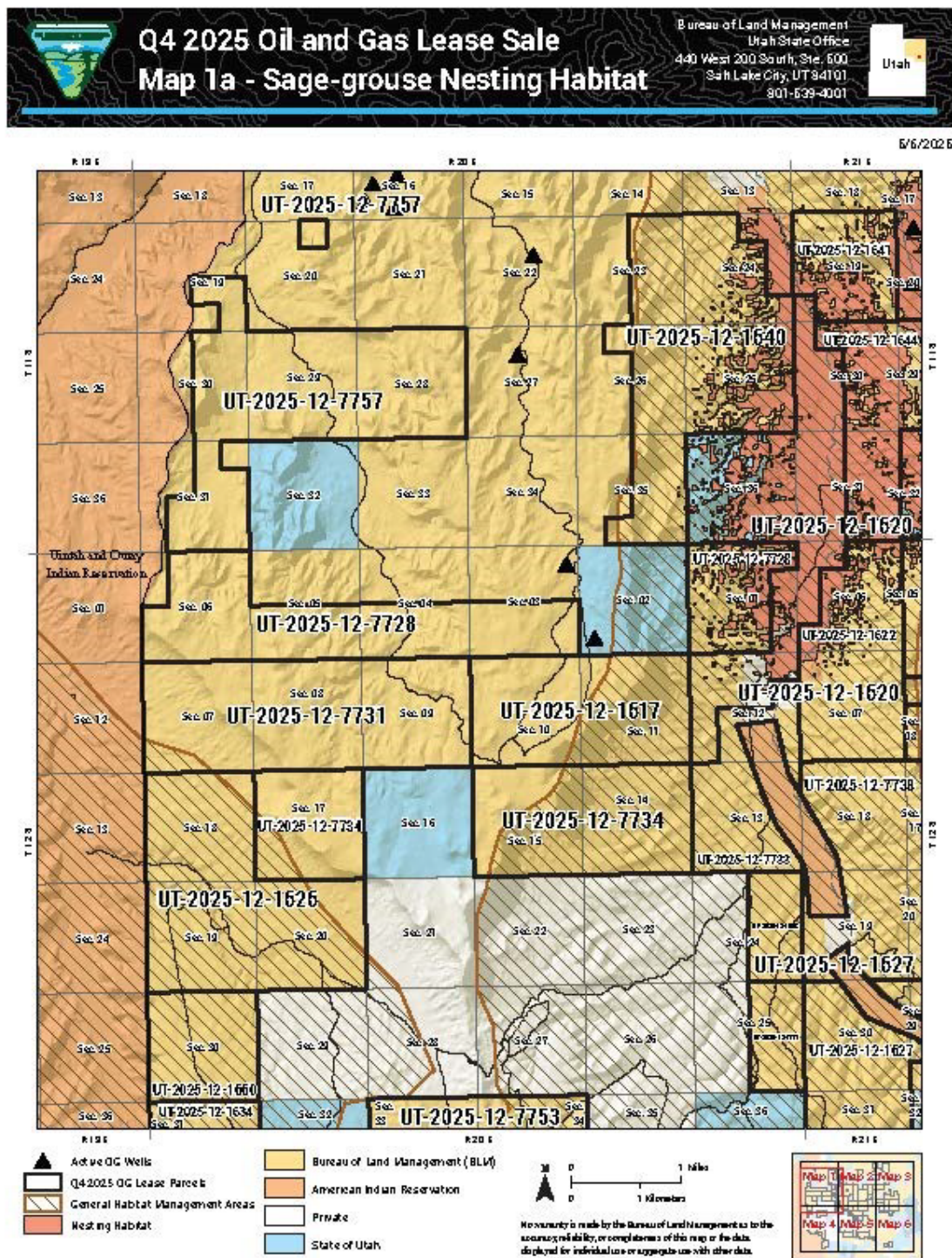
1. Stipulations and notices in full
2. Maps

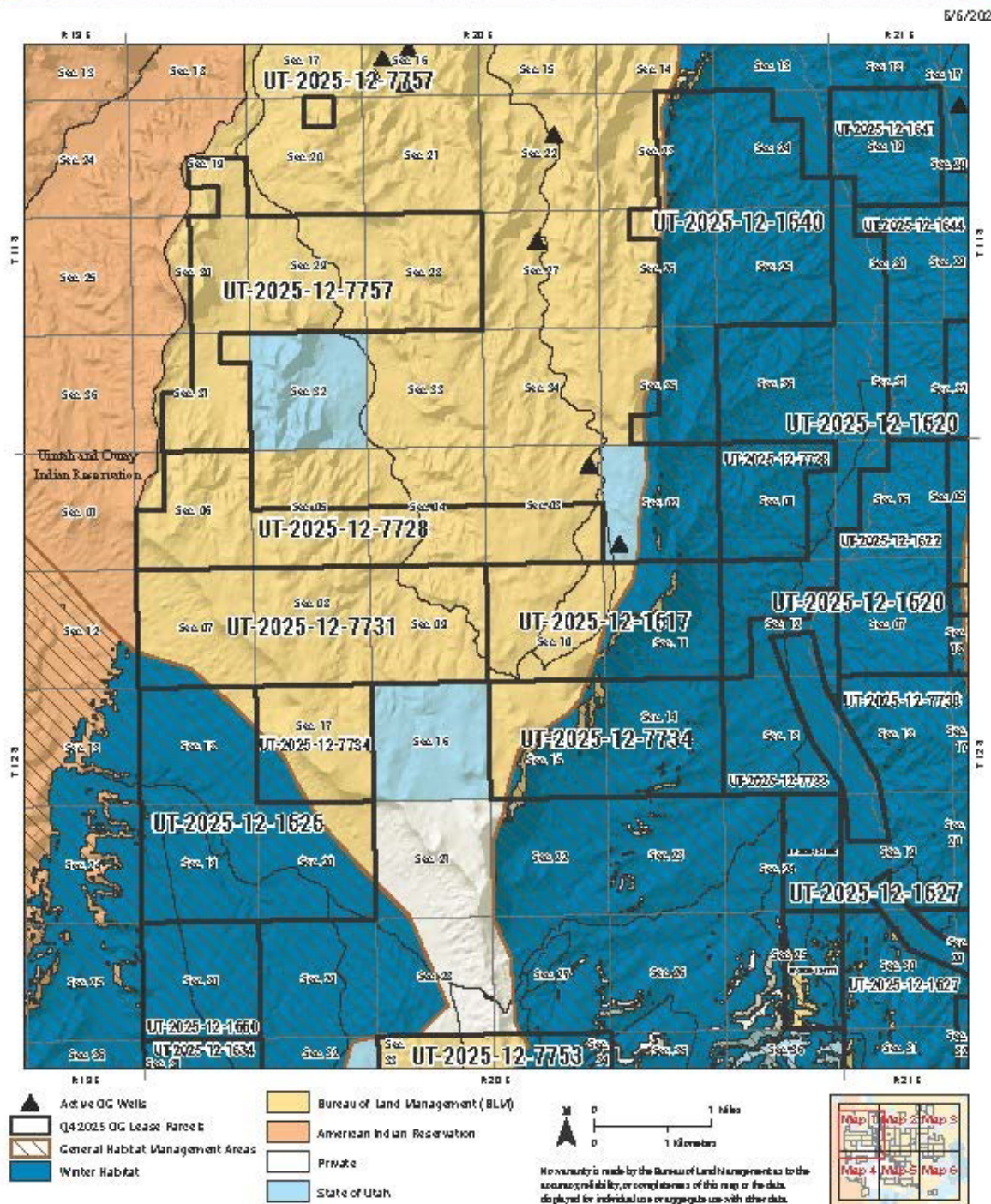
Attachment #1 - Stipulations and notices in full

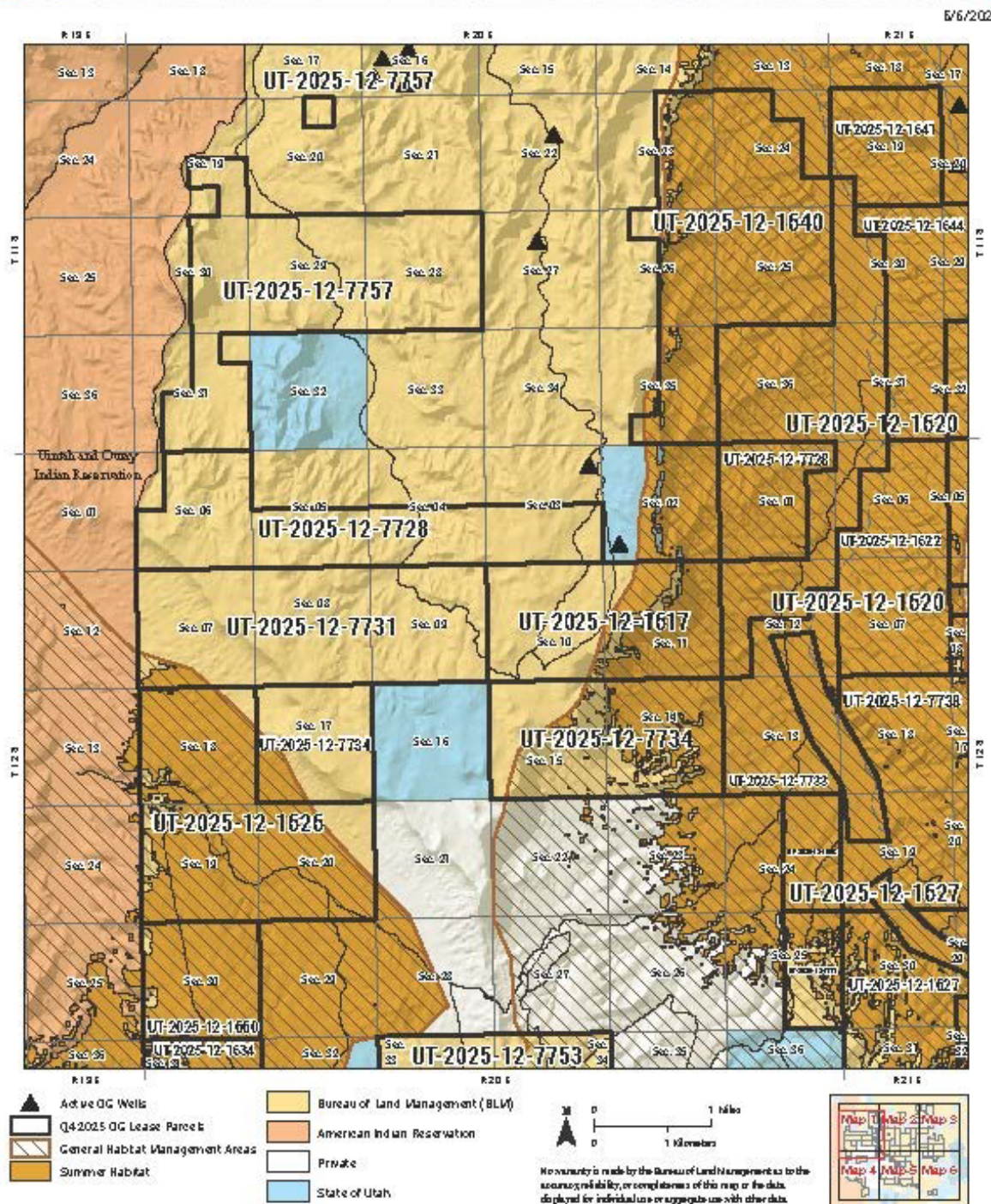
UT-LN-131	<p>Greater Sage-Grouse – Net Conservation Gain</p> <p>In Priority and General Habitat Management Areas (PHMA and GHMA) all actions that result in habitat loss and degradation will require mitigation that provides a net conservation gain to the Greater Sage-Grouse (GRSG).</p> <p>Mitigation must account for any uncertainty associated with the effectiveness of the mitigation and will be achieved through avoiding, minimizing and compensating for impacts. Mitigation will be conducted according to the mitigation framework found in Appendix F in the 2015 Utah Approved Management Plan Amendment.</p>
UT-LN-132	<p>GREATER SAGE-GROUSE – REQUIRED DESIGN FEATURES</p> <p>Apply the Required Design Features (RDF)* in Appendix C of the 2015 Utah Approved Management Plan Amendment when developing a lease in Priority and General Habitat Management Areas (PHMA and GHMA).</p> <p>*RDFs may not be required if it is demonstrated through the NEPA analysis that the RDF associated project/activity is:</p> <ul style="list-style-type: none"> • Documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable; • An alternative RDF, state-implemented conservation measure, or plan-level protection is determined to provide equal or better protection for GRSG or its habitat;

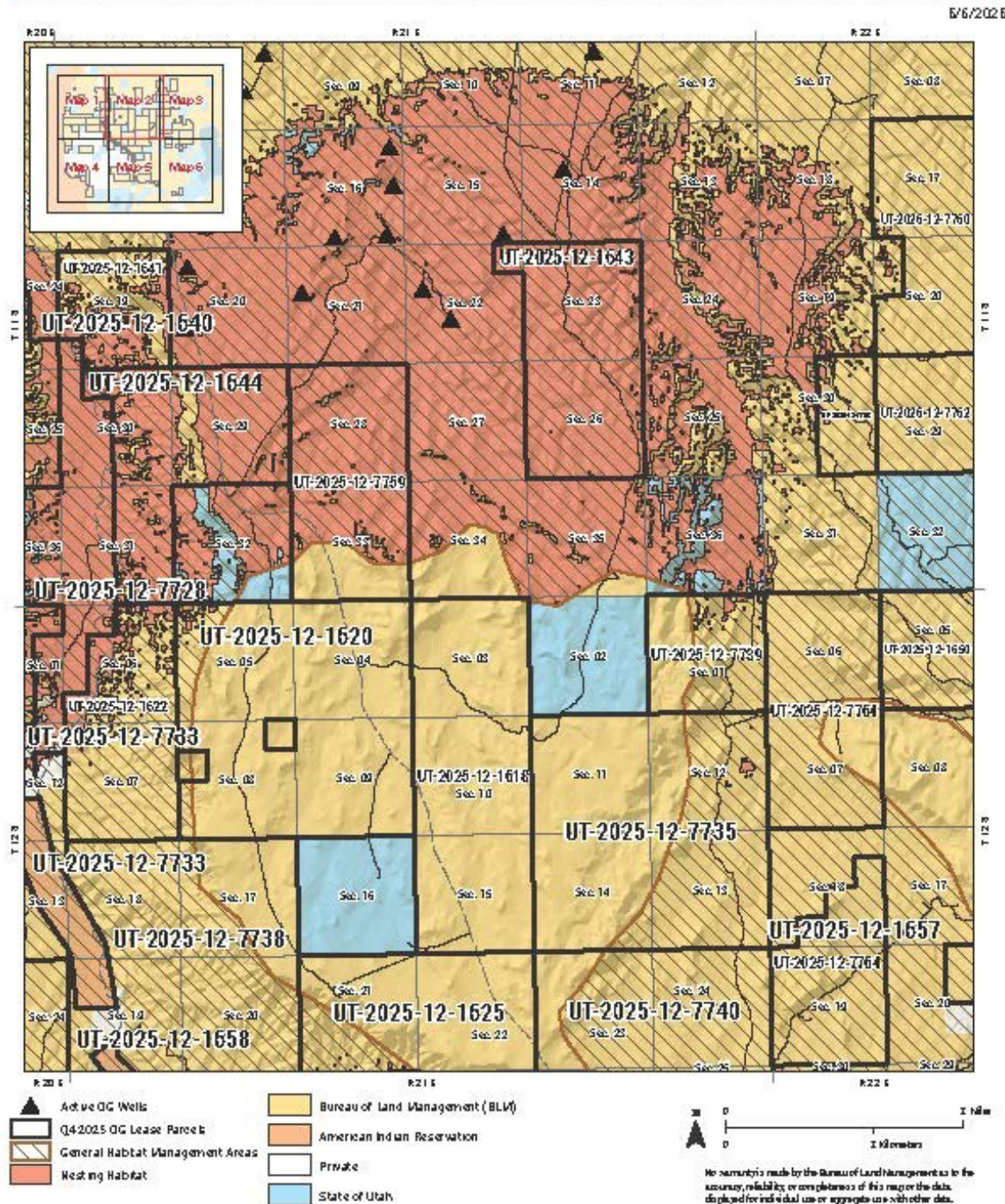
	<ul style="list-style-type: none">• Provide no additional protection to GRSB or its habitat.
UT-LN-133	GREATER SAGE-GROUSE - BUFFER In Priority and General Habitat Management Areas (PHMA and GHMA), the BLM will apply the lek buffer-distances identified in the USGS Report Conservation Buffer Distance Estimates for Greater Sage-Grouse – A Review (Open File Report 2014-1239) in accordance with Appendix B, Applying Lek-Buffer Distances, consistent with valid and existing rights and applicable law in authorizing management actions.

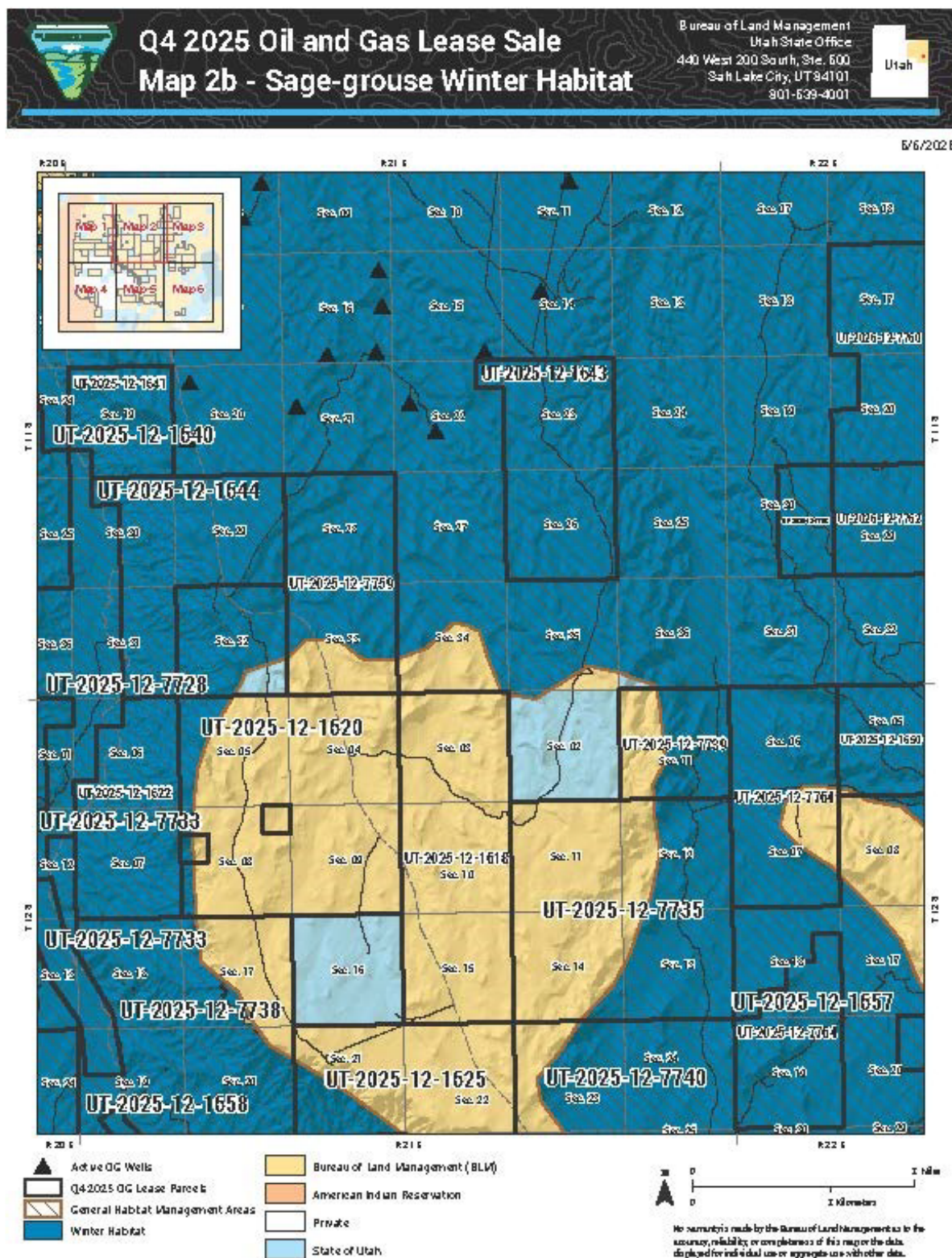
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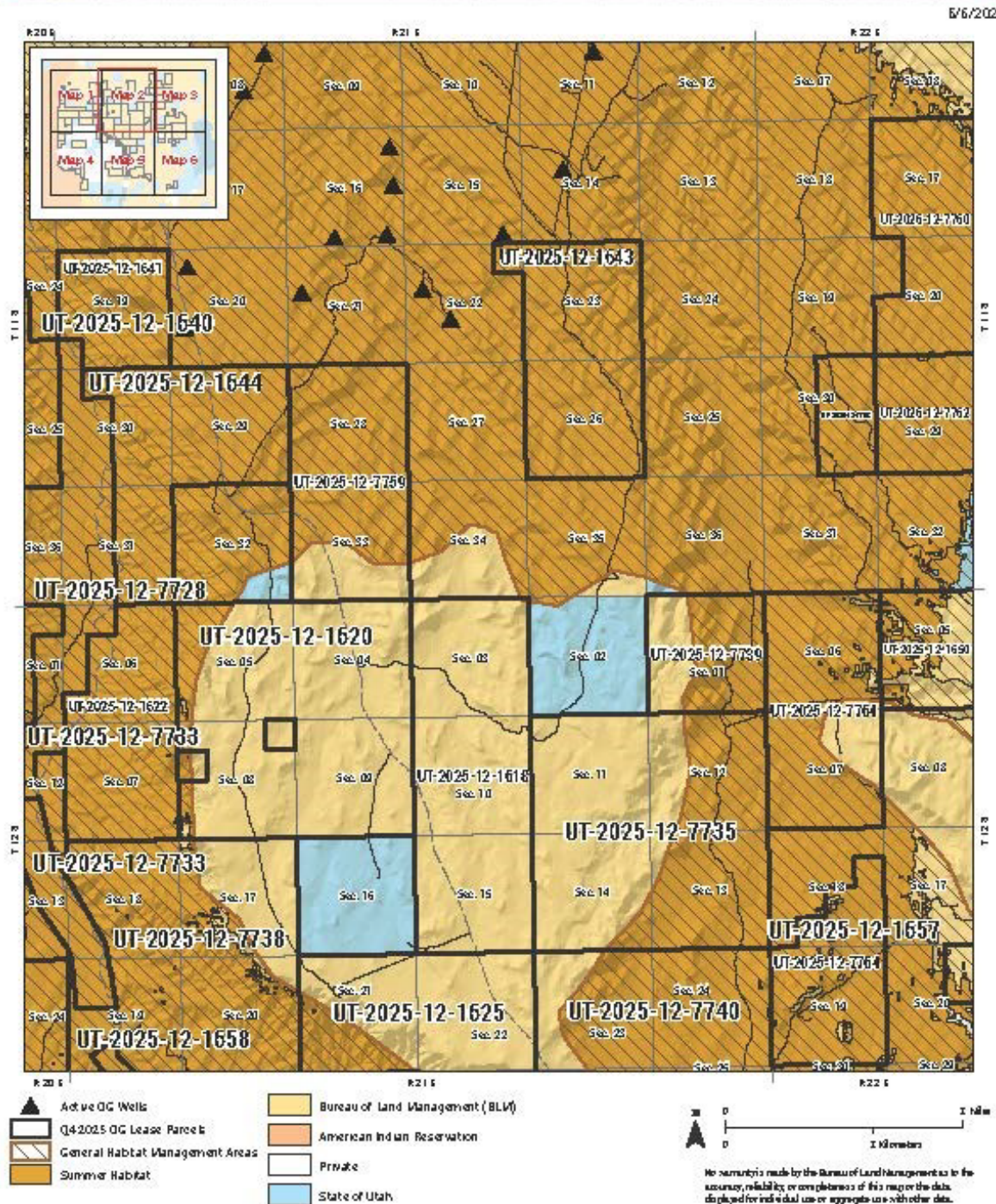


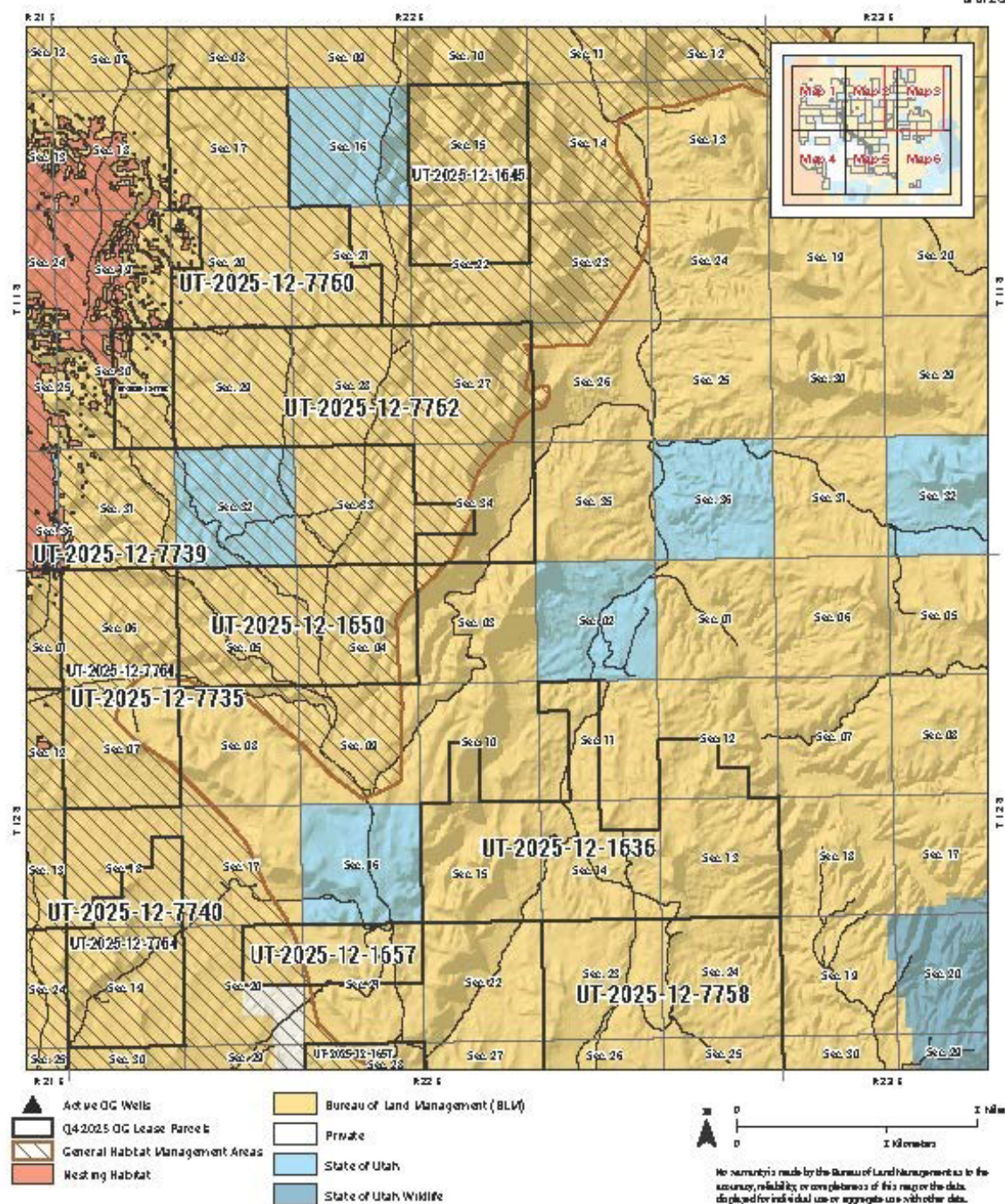


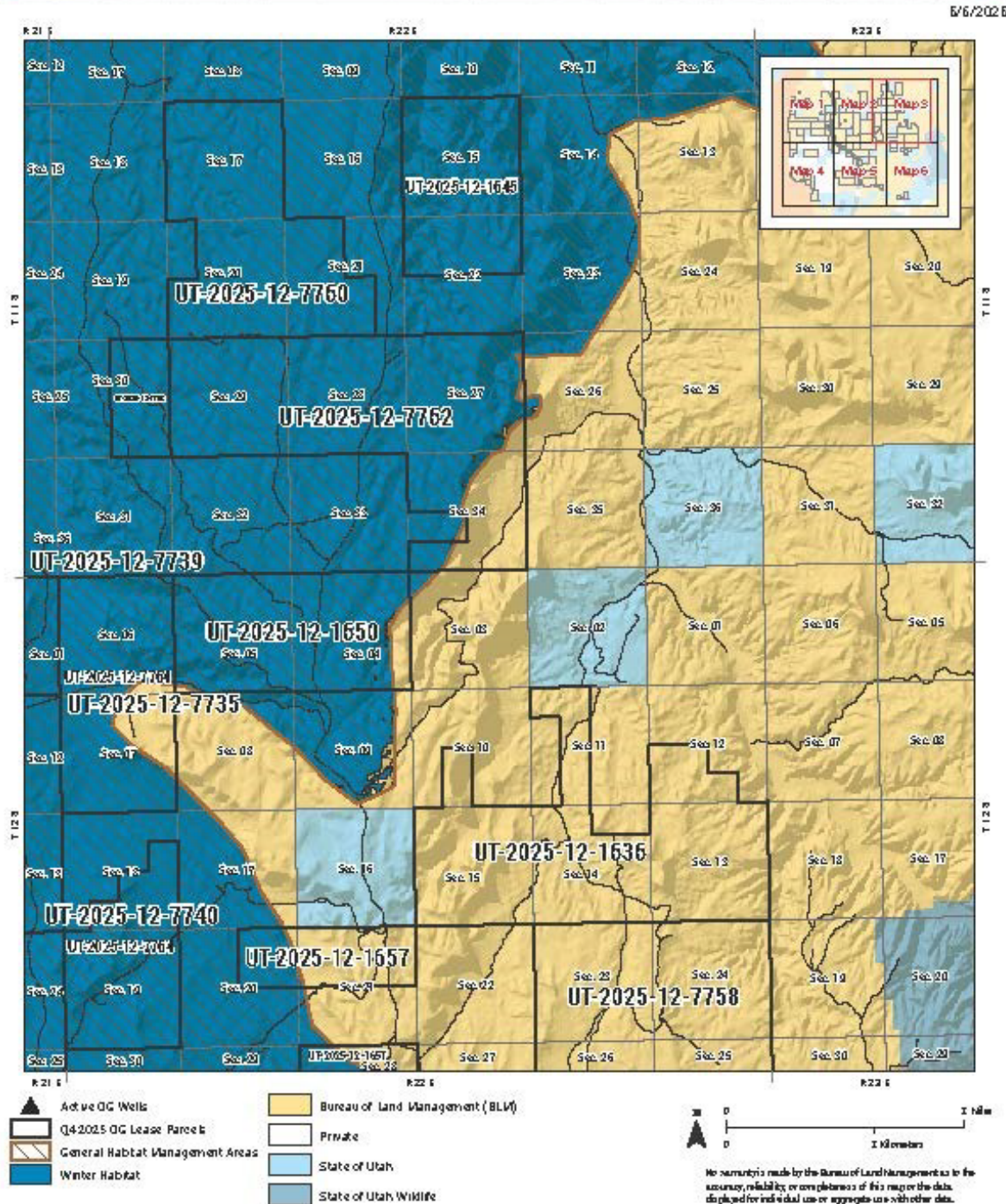


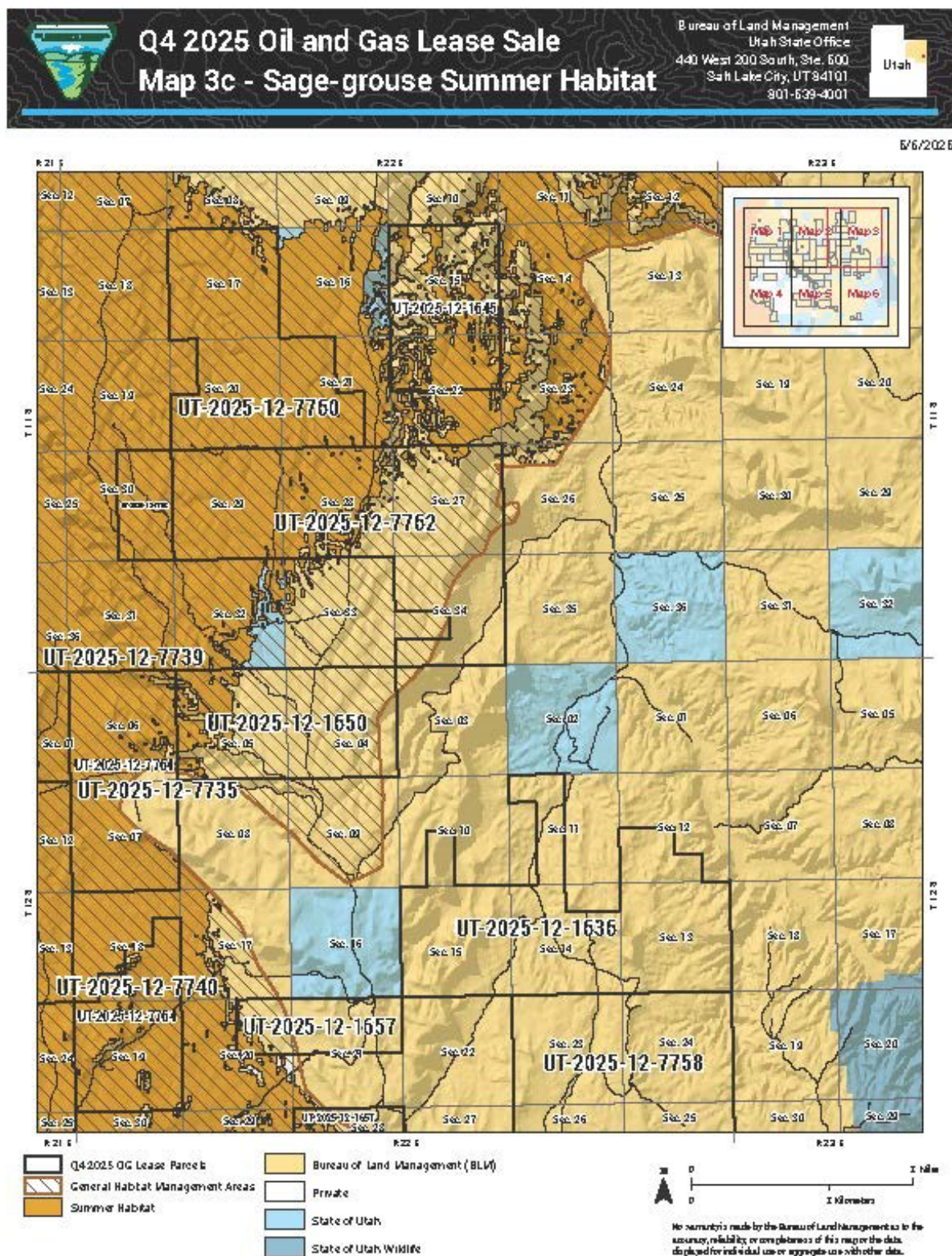


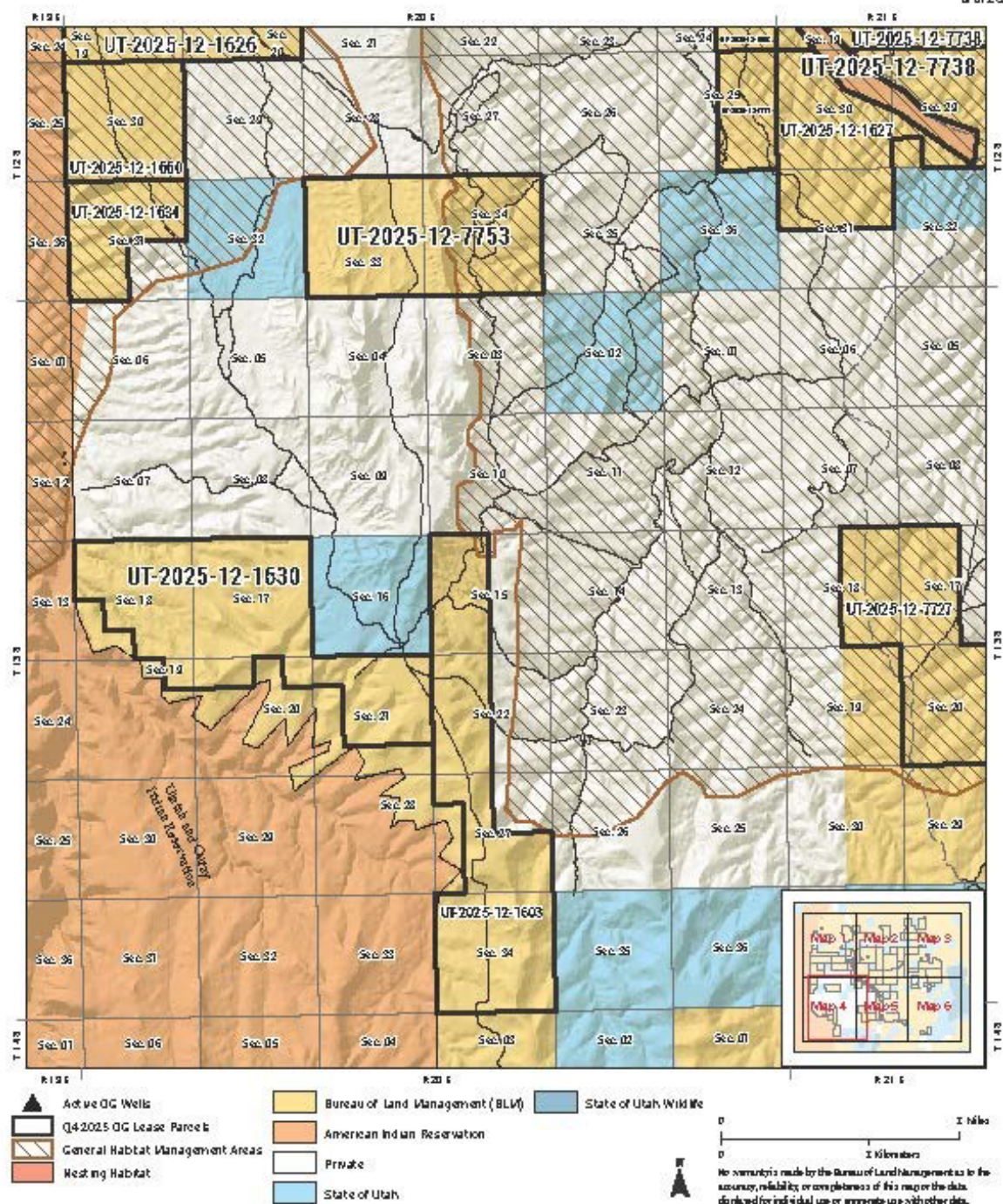


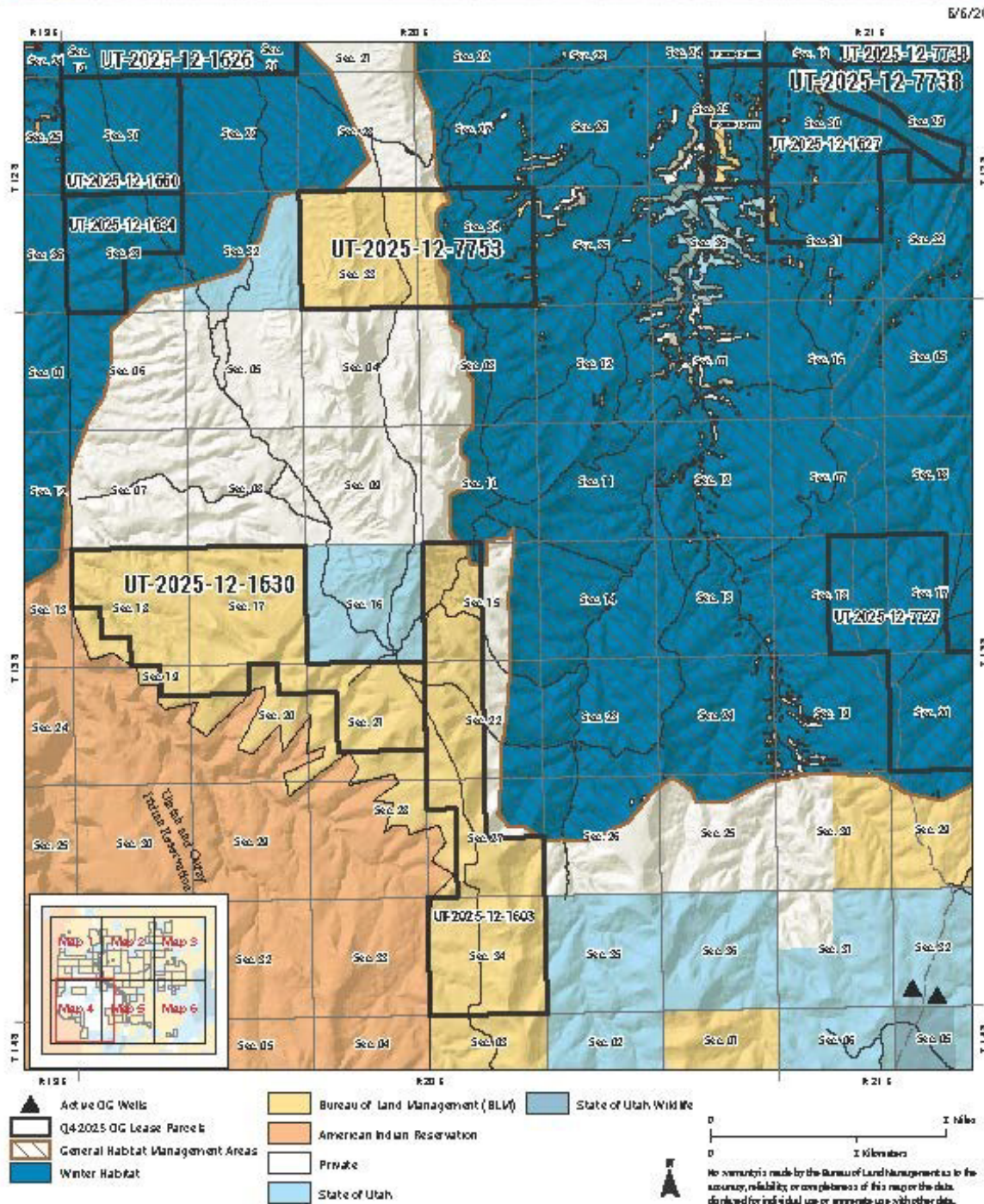






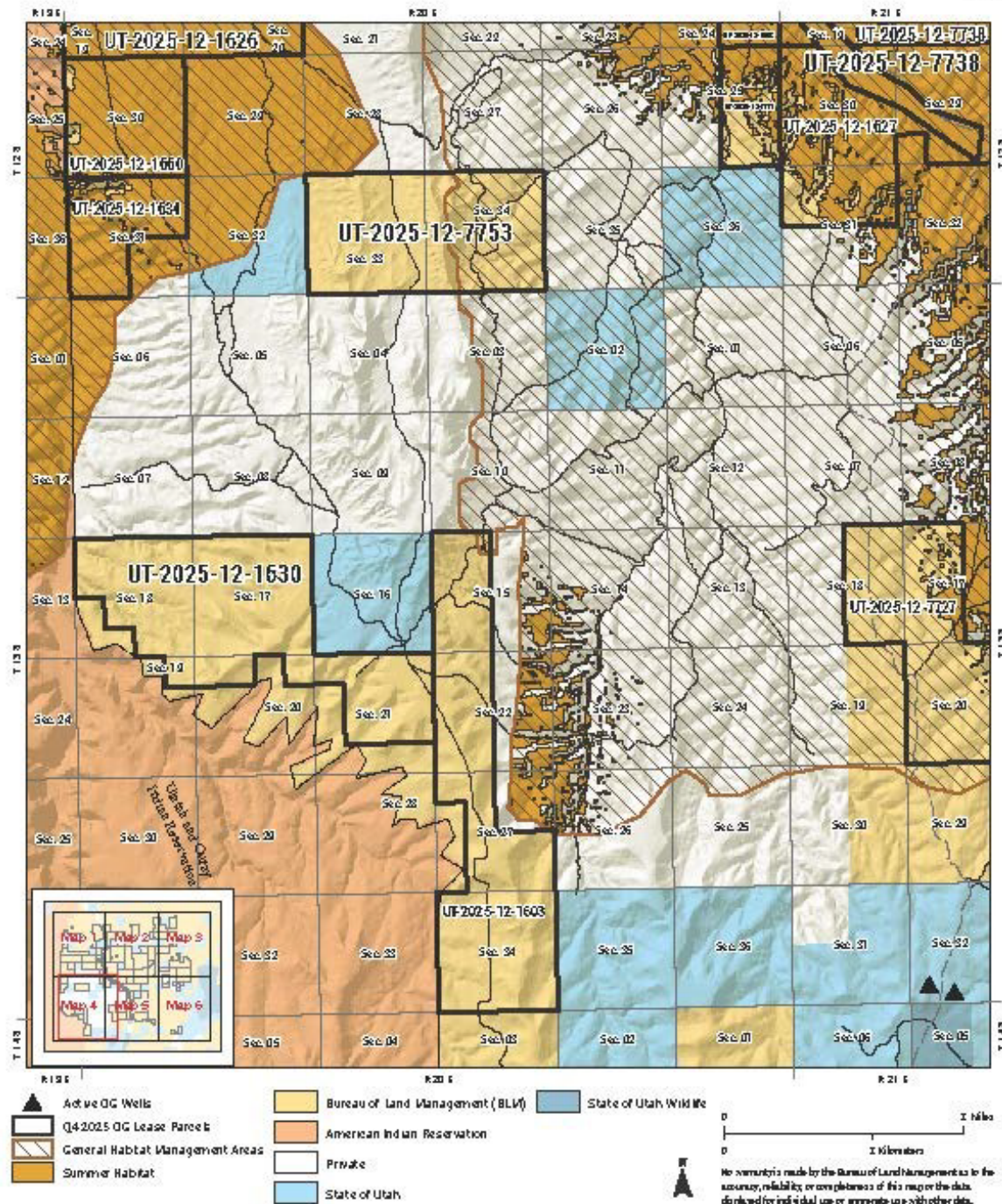








6/6/2025



Q4 2025 Oil and Gas Lease Sale
Map 5a - Sage-grouse Nesting Habitat

Bureau of Land Management
Utah State Office
440 West 200 South, Ste. 600
Salt Lake City, UT 84101
801-639-4001

Utah

5/6/2025

