

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

Environmental Assessment

**November 2016 Competitive Oil and Gas Lease Sale
DOI-BLM-UT-G010-2016-033-EA**

February 8, 2017

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November 2016 Competitive Oil and Gas Lease
Sale
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Prepared by
U.S. Department of the Interior
Bureau of Land Management

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Chapter 1. Introduction

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1.1. Identifying Information:

1.1.1. Title, EA number, and type of project:

November 2016 Competitive Oil and Gas Lease Sale

DOI-BLM-UT-G010-2016-0033-EA

1.1.2. Location of Proposed Action:

See Appendix A for legal descriptions of Lease Parcels and Appendix B for a Map of the Lease Parcels

1.2. Introduction:

The Bureau of Land Management (BLM) has prepared this environmental assessment (EA) to disclose and analyze the environmental consequences of the sale of 28 proposed parcels during the November 2016 oil and gas lease sale and subsequent potential development. The EA is an analysis of potential impacts that could result from the implementation of a proposed action or alternatives to the proposed action. The EA assists the BLM in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any significant impacts could result from the analyzed actions. *Significance* is defined by NEPA and is found in regulation 40 CFR 1508.27. An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a statement of Finding of No Significant Impact (FONSI). A FONSI statement documents the reasons why implementation of the selected alternative would not result in significant environmental impacts (effects) beyond those already addressed in the Vernal Field Office Resource Management Plan (VFO RMP) [BLM 2008b] EIS's listed in Section 1.7.1, "FEISs." If the decision maker determines that this project has significant impacts following the analysis in the EA, then an EIS would be prepared for the project. If not, a Decision Record may be signed for the EA approving the selected alternative, whether the proposed action or another alternative.

1.3. Background

In general, the BLM Utah State Office (USO) conducts a quarterly competitive lease sale to sell available oil and gas lease parcels in the state. In the process of preparing a lease sale the BLM USO compiles a list of lands nominated and legally available for leasing, and sends a parcel list to the appropriate Field Office where the parcels are located, in this case the Vernal Field Office (VFO). VFO staff then:

- reviews and verifies that the parcels are in conformance with the VFO RMP [BLM 2008b] as being available for leasing;
- reviews any new information that has become available;
- assesses any circumstances that have changed to determine what level of analysis is required;

- attaches appropriate stipulations and notices;
- conducts appropriate consultations;
- completes site visits;
- and identifies any special resource conditions for potential bidders.

The Field Office then either determines that existing analyses provides an adequate basis for making a decision or that additional analysis is needed before making a leasing recommendation.

The surface rights for most of the 28 parcels analyzed in the EA are managed by the Bureau of Land Management and administered by the VFO with smaller portions owned by other Federal, State and private entities. (see Appendix A, November 2016 Preliminary Oil and Gas Lease Sale List; and Appendix B, Maps). Appendix A provides the surface ownership, legal descriptions and acreages by the parcel identification number. The 28 parcels encompass a total of 12,224.48 acres.

An EA is being used to determine whether leasing the remaining parcels would result in significant impacts beyond those disclosed in the EISs listed in Section 1.7.1. Section 1.7.1, “FEISs ” The EA and unsigned FONSI are made available to the public for a 30-day public comment period on the BLM ePlanning Website.¹ After analyzing and incorporating all substantive comments received during the public comment period, changes to the document and/or lease parcels list are made if necessary. The EA and unsigned FONSI are released again with an updated parcel list including applicable lease stipulations and notices through a Notice of Competitive Lease Sale which initiates a 30-day protest period.

1.4. Purpose and Need

The need for the sale is to respond to the public’s lease nomination requests. Offering parcels for competitive oil and gas leasing provides for the orderly development of fluid mineral resources under BLM’s jurisdiction in a manner consistent with multiple use management and environmental consideration for the resources that may be present. The purpose of the lease sale review process is to ensure that adequate provisions are included in the lease terms, notices and stipulations to protect public health and safety, ensure the project conforms with the land use plan, and ensure full compliance with the objectives of NEPA and other federal environmental laws and regulations designed to protect the environment, and comply with the BLM’s multiple use management for public lands. The sale and development of oil and gas leases is needed to meet the energy needs of the United States public. The BLM is required by law to review areas that have been nominated for oil and gas leasing. Oil and gas leasing is a principal use of the public lands as identified in Section 102(a)(12), 103(1) of the Federal Land Policy and Management Act of 1976 (FLPMA), and it is conducted to meet requirements of the Mineral Leasing Act of 1920, as amended, the Mining and Minerals Policy Act of 1970, and the Federal Onshore Oil and Gas Leasing Reform Act of 1987 (Reform Act). Leases would be issued pursuant to 43 CFR subpart 3100.

¹http://www.blm.gov/pgdata/content/wo/en/prog/planning/planning_overview/eplanning2.html

1.5. Conformance with BLM Land Use Plan

The Proposed Action described below is in conformance with VFO RMP, and the Record of Decision and Approved Resource Management Plan Amendments for the Great Basin Region, including the Greater Sage-Grouse Sub-Regions of Idaho and Southwestern Montana, Nevada and Northeastern California, Oregon and Utah [BLM 2015], as amended in 2015, because they are specifically provided for in the planning decision(s). More specifically, the proposed Action is in conformance with the following decisions from the VFO RMP:

- The Record of Decision for the VFO RMP decisions MIN 6 – MIN 14 (pages 98-99) identifies those specific lands within the Vernal Field Office that are available for leasing as illustrated on its corresponding Oil and Gas Leasing map (Figure 8a in VFO RMP).
- Appendices; K (Surface Stipulations to all Surface Disturbing Activities), L (Utah's T&E and Special Status Species Lease Notices for Oil and Gas and BLM Committed Measures) and R (Fluid Mineral Best Management Practices) of the Vernal RMP Record of Decision contain pertinent stipulations, lease notices and committed measures.

It is also consistent with VFO RMP decisions and their corresponding goals and objectives related to the management of (including but not limited to) air quality, cultural resources, recreation, riparian, soils, water, vegetation, fish & wildlife and Areas of Critical Environmental Concern (ACEC).

Standard lease terms provide for reasonable measures to minimize adverse impacts to specific resource values, land uses, or users (Standard Lease Terms are contained in Form 3100-11, Offer to Lease and Lease for Oil and Gas, U.S. Department of the Interior, BLM, October 2008 or later edition). Compliance with valid, nondiscretionary statutes (laws) is included in the standard lease terms. Nondiscretionary actions include the BLM's requirements under federal environmental protection laws, such as the Clean Water Act, Clean Air Act, Endangered Species Act, National Historic Preservation Act, and Federal Land Policy Management Act, which are applicable to all actions on federal lands.

Once the lease has been issued, the lessee has the right to use as much of the leased land as necessary to explore for, drill for, extract, remove, and dispose of oil and gas deposits located under the leased lands, subject to the standard lease terms and additional restrictions attached to the lease in the form of lease stipulations. Even if no restrictions are attached to the lease, the operations must be conducted in a manner that prevents unnecessary or undue degradation of the public lands and minimizes adverse impacts to the land, air, water, cultural, biological, and visual elements of the environment, as well as other land uses or users. Also included in all leases are two mandatory stipulations for the statutory protection of cultural resources (BLM Washington Office Instruction Memorandum No. 2005-03, Cultural Resources and Tribal Consultation for Fluid Minerals Leasing) and threatened or endangered species mandatory stipulation (BLM Washington Office Instruction Memorandum No. 2002-174, Endangered Species Act Section 7 Consultation), which are described in Sections 4.1.1.5 and 4.1.1.11, respectively. BLM would also encourage industry to consider participating in EPA's Natural Gas STAR program under all alternatives. The program is a flexible, voluntary partnership wherein EPA works with companies that produce, process, transmit and distribute natural gas to identify and promote the implementation of cost-effective technologies and practices to reduce emissions of methane, a greenhouse gas.

1.6. Relationship to Statutes, Regulations, or Other Plans

The proposed action is consistent with federal environmental laws and regulations, Executive Orders, Department of Interior, and BLM policies and is in compliance, to the maximum extent possible, with state laws and local and county ordinances and plans, including the following:

- Title V of the Federal Land Policy and Management Act of October 21, 1976 (90 Stat. 2776, 43 U.S.C. 1761) and the regulations issued there under at 43 Code of Federal Regulations, part 2800.
- Taylor Grazing Act (1934), as amended.
- Utah Standards and Guidelines for Rangeland Health. (1997)
- BLM Utah Riparian Management Policy. (2005)
- Section 106 of the National Historic Preservation Act of 1966, as amended and associated regulations at 36 CFR Part 800.
- Bald and Golden Eagle Protection Act of 1962.
- Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.), as amended.
- BLM Manual 6840- Special Status Species Management.
- Migratory Bird Treaty Act. (1918)
- Utah Partners in Flight Avian Conservation Strategy Version 2.0.
- Birds of Conservation Concern 2002.
- Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds.
- MOU between the USDI BLM and USFWS to Promote the Conservation and Management of Migratory Birds. (4/2010)
- Protection of Ground Water Associated with Oil and Gas Leasing, Exploration and Development. (BLM UT IM 2010–055)
- Oil and Gas Adjudication Handbook—Competitive Leases. (Handbook H-3120-1 - Competitive Leases (P))
- MOU Among the USDA, USDI and EPA Regarding Air Quality Analysis and Mitigation for Federal Oil and Gas Decisions Through the NEPA Process. (2011)
- BLM Manual 6310 - Conducting Wilderness Characteristics Inventory of BLM Lands.
- BLM Manual 6320 - Considering Lands with Wilderness Characteristics in the BLM Land Use Planning Process.
- BLM Manual 8100 - The Foundations for Managing Cultural Resources.
- Vernal Field Office Surface Disturbance Weed Policy IM-UT-G010-10-001.

- Utah Greater Sage-Grouse Proposed Land Use Management Plan Amendment and Final Environmental Impact Statement (FEIS)[BLM 2015]
- Utah BLM IM 2016-027 — Bureau of Land Management (BLM)-Utah Lands with Wilderness Characteristics Guidance (9/30/2016)
- The Utah Greater Sage-Grouse Approved Resource Management Plan Amendment (GRSG ARMPA)
- Record of Decision and Approved Resource Management Plan Amendments for the Great Basin Region, Including the Greater Sage-Grouse Sub-Regions of Idaho and Southwestern Montana, Nevada and Northeastern California, Oregon and Utah (GRSG ROD)

The attached Interdisciplinary Team Checklist, Appendix C, was developed after consideration of these laws, ordinances, policies and plans.

1.7. Documents Incorporated by Reference:

In order to reduce redundant paperwork and analysis in the NEPA process (*See* 40 CFR §§ 1502.20 and 1502.21) the following documents and their associated information or analysis are hereby incorporated by reference.

1.7.1. FEISs

- Vernal Field Office Final Environmental Impact Statement (FEIS) and Resource Management Plan (RMP) [BLM 2008a] and Record of Decision
- Utah Greater Sage-Grouse Proposed Land Use Management Plan Amendment and Final Environmental Impact Statement (FEIS)[BLM 2015]
- Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement [BLM 2007] and Record of Decision.
- Final EIS West Tavaputs Plateau Natural Gas Full Field Development Plan, UT-070-05-055 July 2010

1.7.2. Other Documents

- Greater Uinta Basin Oil and Gas Cumulative Impacts Technical Support Document [BLM 2012b]

1.8. Identification of Issues:

The proposed action was reviewed by an interdisciplinary team composed of resource specialists from the Vernal Field Office. The interdisciplinary team conducted Literature review, GIS review and site visits to validate existing data and gather new information in order to make an informed leasing recommendation from March to May 2016. The results of the interdisciplinary team review are contained in the Interdisciplinary Team Checklist, Appendix C. February 2016 letters or memorandum were sent, to the National Park Service, United States Fish and Wildlife Service, United States Forest Service, and State of Utah's Public Lands Policy Coordination Office,

Division of Wildlife Resources (DWR) and School and Institutional Trust Lands Administration to provide notice of the lease sale. The letters included parcel location descriptions and an invitation to attend the interdisciplinary team parcel site visits.

Public notification was initiated by entering the project information on the National BLM NEPA Register Project Webpage (<http://bit.ly/2kjzumJ>) on March 23, 2016. Additional information for the public is maintained on the Utah BLM Oil and Gas Leasing Webpage (<https://on.doi.gov/2jZe9jU>)

Letters were sent to the surface owners of the split estate parcels to solicit their comments and concerns about the pending lease sale.

As a result of this coordination and scoping to solicit issues and concerns, comments were received from agencies, groups, and individuals. The commenters raised the resource issues of concern, which are listed in Chapter 5 and in Appendix E.

The Utah Division of Wildlife Resources (UDWR) provided recommendations regarding wildlife species and habitat and resulted in the addition of lease notices to multiple parcels. Scoping comments were considered by resource specialists when making their impact determination for the ID team checklist. No comments identified an alternative other than the Proposed Action or no action.

All of the issues raised were considered during the internal Interdisciplinary Team review. The issues brought forward for a analysis are:

- The air quality analysis from the 2008 RMP EIS is out of date. Updated analysis is warranted, including analysis of greenhouse gas emissions.
- The parcels should be analyzed to determine if the cultural resource density or sensitivity would warrant a finding of possible adverse impact under the NHPA.
- Native American Consultation must be conducted to determine if there are Tribal concerns.
- Parcels 009 and 010 are within the Nine Mile ACEC. Development of minerals within the parcels may affect the ACEC
- Parcels 009 and 010 intersect with the Currant Canyon Wilderness Characteristics Inventory unit. Parcels 021, 038, 039 and 049 intersect with the Desolation Canyon Unit.
- The parcels are located within grazing allotments.
- Several of the parcels intersect BLM Sensitive plant species habitat.
- Parcels 009 and 010 fall within the Nine Mile Special Recreation Management Area.
- The Nine Mile Canyon Backcountry byway could be impacted.
- Several parcels intersect with VRM Class III and 038 intersects with Class II.
- Migratory bird foraging and nesting habitat is present in all parcels.
- Crucial elk habitat intersects with some parcels.
- Special Status Wildlife Species habitat intersects with several parcels.

1.9. Summary

This chapter has presented the purpose and need of the proposed project. In order to meet the purpose and need of the proposed project in a way that resolves potential issues, the BLM has considered and/or developed two alternatives. These alternatives are presented in Chapter 2. The potential environmental impacts or consequences resulting from the implementation of each alternative considered in detail are analyzed in Chapter 4 for each of the identified issues.

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Chapter 2. Proposed Action and Alternatives

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2.1. Description of Alternatives Analyzed in Detail

This environmental assessment focuses on the Proposed Action and No Action alternatives. No other alternatives were identified that would meet the Purpose and Need for the proposal. The No Action alternative is considered and analyzed to provide a baseline for comparison of the impacts of the Proposed Action.

Initially 102 Parcels were sent to the VFO for consideration for the 2016 lease sale. (Additional information is available on the oil and gas leasing webpage.)¹ The VFO reviewed those 102 preliminary parcels, and deferred 74 full parcels and 5 partial parcels from consideration for the November 2016 lease sale due to issues related to workforce limitations and competing workload priorities, white-tailed prairie dog habitat, Greater Sage-Grouse habitat, Yellow-billed Cuckoo habitat, pending analysis of new information related to lands with wilderness characteristics inventories, pending legislative actions and State Director discretion. With the deferral of 74 parcels, all resource conflicts were resolved.

2.2. Alternative A-Proposed Action

Under Alternative A, 28 of the 102 parcels (12,224.48 total acres) would be offered for lease at the November 2016 competitive Oil and Gas Lease Sale, to be held by the Utah BLM State Office at a location designated by the Utah State Office before the Lease Sale. These parcels would be offered for lease subject to the applicable laws and regulations, the standard lease terms contained in BLM Form 3100-11 (Offer to Lease and Lease for Oil and Gas, October 2008), and the additional resource protection measures attached consistent with the VFO RMP [BLM 2008b]. Legal descriptions of and stipulations and notices attached to each parcel can be found in Appendix A, and a map of the parcels can be found in Appendix B.

Leasing is an administrative action that affects economic conditions but does not directly cause environmental consequences. However, leasing is considered to be an irretrievable commitment of resources because the BLM generally cannot deny all surface use of a lease unless the lease is issued with a No Surface Occupancy stipulation. Potential oil and gas exploration and production activities, committed to in a lease sale, could impact resources and uses in the planning area. Direct, indirect or cumulative effects to resources and uses could result from as yet undetermined and uncertain future levels of lease exploration or development.

Although at this time it is unknown when, where, or if future well sites or roads might be proposed on any leased parcel, should a lease be issued site specific analysis of individual wells or roads would occur when a lease holder submits an Application for Permit to Drill (APD). The Reasonably Foreseeable Development (RFD) scenario serves as an analytical baseline for identifying and quantifying direct, indirect, and cumulative effects of oil and gas activity and forms the foundation for the analysis of the effects of oil and gas management decisions in planning and environmental documents. It is assumed that each lease sold would have at least one well pad developed and that those well pads, including all associated infrastructure, would disturb an estimated 4 acres. Cultural Resource Specialists assumed an even more 5-acre well pad for analysis. With 28 proposed leases the estimated surface disturbance would be 116 acres.

Several parcels are located in areas identified by the Vernal Field Office RMP/ROD [BLM 2008b] as “No Surface Occupancy” (NSO) with no exceptions, waivers, or modifications. Access to the

¹http://www.blm.gov/ut/st/en/prog/energy/oil_and_gas/oil_and_gas_lease.html

minerals within the lease would have to occur from the BLM-managed, private, and State lands adjacent to these parcels. As with on-lease development, an APD, would be submitted to the BLM. Any connected actions (see BLM NEPA Handbook H-1701-1 p. 45) associated with the APD would be subject to the requirements of certain laws and regulations including NEPA, the National Historic Preservation Act, and the Endangered Species Act, and would not be approved until those requirements had been met.

Parcels 032, 067, 151, and 152 are within existing Oil and Gas Units, and surrounded by existing Oil and Gas leases. If leased, lessees would be required to join a unit and leases would be developed in accordance with lease stipulations. (See Appendix A for Unit stipulations and Appendix G for Oil and Gas Unit maps)

2.2.1. Well Pad and Road Construction

Equipment for well pad construction would consist of dozers, scrapers, and graders. Topsoil from each well pad would be stripped to a maximum depth of six inches and stockpiled for future reclamation. Disturbance for each well pad would be estimated at an area of approximately 350 feet by 250 feet (~2 acres of land), including topsoil piles. For this analysis, it was assumed that disturbance for well pads could be as high as 4 acres per well to account for any infrastructure (e.g., roads) that would be required if the wells were to go into production (see below).

It is anticipated that new or upgraded access roads would be required to access well pads and maintain production facilities. Construction of new roads or upgrades to existing roads would require a 30-foot construction width and would be constructed of native material. Any new roads constructed for the purposes of oil and gas development would be utilized year-round for maintenance of the proposed wells and other facilities, and for the transportation of fluids and/or equipment, and would remain open to other land users. The type of equipment required for these activities would be the same as that needed for well pad construction. It is not possible to determine the distance of road that would be required because the location of the wells would not be known until the APD stage. However, for purposes of analysis it is assumed that disturbance from access roads would be approximately 1.8 acres of disturbance for each well pad (0.5 mile of road/well pad).

2.2.2. Drilling and Completion Operations

Once construction or expansion of an individual well pad is completed, drilling equipment would be moved onto the new well pad. It is assumed that wells would be drilled utilizing a conventional, mechanically-powered mobile drilling rig. The exact type and size of drilling rig would be dependent upon rig availability at the time of project implementation. Drilling operations would consist of drilling the hole, running and cementing intermediate casing, drilling the production hole, and running and cementing production casing. Water required for the drilling and completion of the proposed gas wells would be hauled by truck from a combination of the permitted water sources. It is estimated that approximately 3 acre-feet of water would be needed for the drilling and completion of one well. For the purposes of this document it is assumed that the water would be obtained from a fresh water source that would be depleting to the Colorado River System.

The casing and cementing program would be designed to isolate and protect the shallower formations, especially usable ground water, encountered in the well bore as directed by BLM Utah Instruction Memorandum 2010-055 and to prohibit pressure communication or fluid

migration between zones. The cement would protect the well by preventing formation pressure from damaging the casing, and by retarding corrosion by minimizing contact between the casing and formation fluids. The type of casing used and the depth to which it is set would depend upon the physical characteristics of the formations that are drilled. Site-specific descriptions of drilling procedures would be included in the APD and the COAs for each well.

If testing indicates economic potential, completion operations would set production casing to the total drilled depth, perforate the casing in target production zones, and hydraulically fracture (fracking) the productive formation under high pressure. The fracking material would likely contain sand or other proppant material to keep the fractures open, thereby allowing hydrocarbons to flow more freely into the casing. The next phase would be to flow and test the well to determine rates of production.

2.2.3. Hydraulic Fracturing

Hydraulic fracturing (HF) is a well stimulation technique used to increase oil and gas production from underground rock formations. As a result, HF would be evaluated at the APD stage should the lease parcel be sold/issued, and a development proposal submitted. The following paragraphs provide a general discussion of the HF process that could potentially be implemented if development were to occur, including well construction information and general conditions encountered within the VFO.

HF involves the injection of fluids through a wellbore under pressures great enough to fracture the oil and gas producing formations. The fluid is generally comprised of a liquid such as oil, carbon-dioxide or nitrogen, and proppant (commonly sand or ceramic beads), and a minor percentage of chemicals to give the fluid desirable flow characteristics, corrosion inhibition, etc. Water based gel is commonly used in the VFO area. The proppant holds open the newly created fractures after the injection pressure is released. Oil and gas flow through the fractures and up the production well to the surface.

HF has been used by oil and natural gas producers since the late 1940s and, for the first 50 years, was mostly used in vertical wells in conventional formations. HF is still used in these settings, but the process has evolved. Technological developments (including horizontal drilling) have led to the use of HF in “unconventional” hydrocarbon formations that could not otherwise be profitably produced.

The use of horizontal drilling through unconventional reservoirs combined with high-volume water based multi-stage HF activities has led to an increase in oil and gas activity in several areas of the country which has, in turn, resulted in a dramatic increase in domestic oil and gas production nationally.

2.2.4. Production Operations

If wells were to go into production, facilities could be located at the well pad or off location and typically include a well head, a dehydrator/separator unit, and storage tanks for produced fluids. The production facility would typically consist of two storage tanks, a truck load-out, separator, and dehydrator facilities. Oil wells will also have a pump jack on the well head. Construction of the production facility would be located on the well pad and not result in any additional surface disturbance.

All permanent surface structures would be painted a flat, non-reflective color (e.g., juniper green, Carlsbad Canyon, Shadow Gray) specified by the BLM in order to blend with the colors of the surrounding natural environment. Facilities that are required to comply with the Occupational Safety and Health Act (OSHA) would be excluded from painting color requirements. All surface facilities would be painted immediately after installation and under the direction and approval of the BLM.

If oil is produced, the oil would be stored on location in tanks and the majority transported by truck to a refinery with a smaller portion being transported by pipeline. The volume of tanker truck traffic for oil production would be dependent upon production of the wells, however, it is estimated oil would be transported to a Salt Lake City refinery at least once a week, using 280-barrel tanker trucks.

If natural gas is produced, construction of a gas pipeline would be necessary to transport the gas. An additional Sundry Notice, right of way (ROW) and NEPA analysis would be completed, as needed, for any pipelines and/or other production facilities across public lands if not included in the original APD. BLM Best Management Practices (BMPs), such as burying the pipeline or installing the pipeline within the road, would be considered at the time of the proposal. For the purpose of this EA, it is assumed that 0.5 mile of pipeline would be installed within the 30-foot road width per well pad.

All operations would be conducted following the “Gold Book” Surface Operating Standards for Oil and Gas Exploration and Development. The Gold Book was developed to assist operators by providing information on the requirements for conducting environmentally responsible oil and gas operations on federal lands. The Gold Book provides operators with a combination of guidance and standards for ensuring compliance with agency policies and operating requirements, such as those found at 43 CFR 3000 and 36 CFR 228 Subpart E; Onshore Oil and Gas Orders (Onshore Orders); and Notices to Lessees. Included in the Gold Book are environmental BMPs; these measures are designed to provide for safe and efficient operations while minimizing undesirable impacts to the environment.

Periodically, a workover or recompletion on a well may be required to ensure that efficient production is maintained. Workovers can include repairs to the well bore equipment (casing, tubing, rods, or pump), the wellhead, or the production facilities. These repairs would usually be completed in 7 days per well, during daylight hours. The frequency for this type of work cannot be accurately projected because workovers vary by well; however, an average work time may be one workover per well per year after about 5 years of production. In the case of a recompletion, where the wellbore casing is worked on or valves and fittings are replaced to stimulate production, all by-products would be stored in tanks and hauled from the location. For workover operations, it may be necessary to rework the surface location to accommodate equipment. At the completion of the work, the surface location would be re-graded and reclaimed to pre-existing conditions.

Exploration and development on split-estate lands is also addressed in the Gold Book, along with IM 2003-131, Permitting Oil and Gas on Split-Estate Lands and Guidance for Onshore Oil and Gas Order No. 1, and IM 2007-165, Split-Estate Report to Congress – Implementation of Fluid Mineral Leasing and Land Use Planning Recommendations. Proper planning and consultation, along with the proactive incorporation of these BMPs into the APD Surface Use Plan of Operations by the operator typically result in a more efficient APD and environmental review process, increased operating efficiency, reduced long-term operating costs, reduced final reclamation needs, and less impact to the environment.

2.2.5. Interim Reclamation

All fluids in the reserve pit would be allowed to dry prior to reclamation work. After fluids have evaporated from the reserve pit, sub-soil would be backfilled and compacted within 90 days. If the fluids within the reserve pit have not evaporated within 90 days (weather permitting or within one evaporation cycle i.e. one summer), the fluid would be pumped from the pit and disposed of in accordance with Utah Guidance for Management of Oil and Gas Exploration and Production Pits (IB No. UT 2013–038). Portions of the well pad not needed for production of the proposed well, including the reserve pit, would be recontoured, and topsoil would be replaced, scarified, and seeded. The 30-foot road construction width would be reclaimed to an 18-foot wide crowned running surface plus drainage ditches. The topsoil would be spread over the interim reclamation area, seeded, left in place for the life of the well, and then used during the final reclamation process. Reclaimed land would be seeded with a mixture (certified weed free) and rate as recommended or required by the BLM.

2.2.6. Produced Water Handling

Water is often associated with either produced oil or natural gas. Water is separated out of the production stream and can be temporarily stored in the reserve pit for 90 days. Permanent disposal options include discharge to evaporation pits or underground injection. Handling of produced water is addressed in Onshore Oil and Gas Order No. 7.

2.2.7. Maintenance Operations

Traffic volumes during production would be dependent upon whether the wells produced natural gas and/or oil, and for the latter, the volume of oil and/or water produced.

Well maintenance operations may include periodic use of work-over rigs and heavy trucks for hauling equipment to the producing well, and would include inspections of the well by a pumper on a regular basis or by remote sensing. The road and the well pad would be maintained for reasonable access and working conditions.

2.2.8. Plugging and Abandonment

If the well does not produce economic quantities of oil or gas, or when it is no longer commercially productive, the well would be plugged and abandoned. Newly drilled wells would be plugged and abandoned following procedures contained in Onshore Order No. 2 as approved by a BLM Authorized Officer after review by a Petroleum Engineer and Geologist, which would include requiring cement plugs at strategic positions in the well bore. All well pads with BLM managed surface would be reclaimed according to the standards established in the Green River District Reclamation Guidelines.

2.3. Alternative B – No Action

Under the No Action alternative none of the nominated parcels would be offered for sale. No oil and gas exploration and development activity associated with this lease sale would occur.

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Chapter 3. Affected Environment:

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This chapter presents the potentially affected existing environment (i.e., the physical, biological, social, and economic values and resources) of the impact area as identified in the Interdisciplinary Team Checklist found in Appendix C. This chapter provides the baseline for comparison of impacts/consequences described in Chapter 4. Only those aspects of the affected environment that are potentially impacted are described in detail (see Appendix C).

3.1. Resources/Issues Brought Forward for Analysis

3.1.1. Air Quality

The Project Area is located in the Uinta Basin, a semiarid, mid-continental climate regime typified by dry, windy conditions, limited precipitation and wide seasonal temperature variations subject to abundant sunshine and rapid nighttime cooling. The Uinta Basin is designated as unclassified/attainment by the EPA under the Clean Air Act. This classification indicates that the concentration of criteria pollutants in the ambient air is below National Ambient Air Quality Standards (NAAQS), or that adequate air monitoring is not available to determine attainment.

NAAQS are standards that have been set for the purpose of protecting human health and welfare with an adequate margin of safety. Pollutants for which standards have been set include ground level ozone, (O₃), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), carbon monoxide (CO), and particulate matter less than 10 microns in diameter (PM₁₀) or 2.5 microns in diameter (PM_{2.5}). Airborne particulate matter consists of tiny coarse-mode (PM₁₀) or fine-mode (PM_{2.5}) particles or aerosols combined with dust, dirt, smoke, and liquid droplets. PM_{2.5} is derived primarily from the incomplete combustion of fuel sources and secondarily formed aerosols, whereas PM₁₀ is primarily from crushing, grinding, or abrasion of surfaces. Table 3.1, “Air Quality Regulatory Backgrounds for the Uinta Basin” lists ambient air quality background values for the Uinta Basin and NAAQS standards.

Table 3.1. Air Quality Regulatory Backgrounds for the Uinta Basin

Pollutant	Averaging Period(s)	Uinta Basin Background Concentration (µg/m ³)	NAAQS (µg/m ³)
SO ₂	Annual 24-hour 3-hour 1-hour	0.8 ² 3.9 ² 10.1 ² 19.0 ²	-- ¹ -- ¹ 1,300 197
NO ₂	Annual 1-hour	17 8.1 ³ (2010), 60.2 ³ (2011)	100 188
PM ₁₀	Annual 24-hour	7.0 ⁴ 16.0 ⁴	-- ⁶ 150
PM _{2.5}	Annual 24-hour	9.4 ³ 17.8 ³	15 35
CO CO	8-hour 1-hour	3,450 ⁴ 6,325 ⁴	10,000 40,000

Pollutant	Averaging Period(s)	Uinta Basin Background Concentration ($\mu\text{g}/\text{m}^3$)	NAAQS ($\mu\text{g}/\text{m}^3$)
O ₃	8-hour	100.0 ^{3,5}	70
1 – The 24-hour and annual SO ₂ NAAQS have been revoked by USEPA. 2 – Based on 2009 data from Wamsutter Monitoring Station Data (USEPA AQS Database). 3 – Based on 2010/2011 data from Redwash Monitoring Station (USEPA AQS Database). 4 – Based on 2006 data disclosed in the Greater Natural Buttes FEIS. [BLM 2012a]. 5 – Ozone is measured in parts per billion (ppb) 6 – The annual PM ₁₀ NAAQS has been revoked by USEPA.			

Existing point and area sources of air pollution within the Uinta Basin include the following:

- Exhaust emissions (primarily CO, NO_x, PM_{2.5}, and HAPs) from existing natural gas fired compressor engines used in transportation of natural gas in pipelines;
- Natural gas dehydrator still-vent emissions of CO, NO_x, PM_{2.5}, and HAPs;
- Gasoline and diesel-fueled vehicle tailpipe emissions of VOCs, NO_x, CO, SO₂, PM₁₀, and PM_{2.5};
- Oxides of sulfur (SO_x), NO_x, fugitive dust emissions from coal-fired power plants, and coal mining/ processing;
- Fugitive dust (in the form of PM₁₀ and PM_{2.5}) from vehicle traffic on unpaved roads, wind erosion in areas of soil disturbance, and road sanding during winter months; and,
- Long-range transport of pollutants from distant sources.

Two year-round air quality monitoring sites were established in summer 2009 near Red Wash (southeast of Vernal, Utah) and Ouray (southwest of Vernal). These monitors were certified as Federal Reference Monitors in fall of 2011, which means they can be used to make a NAAQS compliance determination. The complete EPA Ouray and Redwash monitoring data can be found at: <http://www.epa.gov/airexplorer/index.htm>

Both monitoring sites have recorded numerous exceedances of the 8-hour ozone standard during the winter months (January through March 2010, 2011, 2013, and 2014). It is thought that high concentrations of ozone are being formed under a “cold pool” process. This process occurs when stagnate air conditions form with very low mixing heights under clear skies, with snow-covered ground, and abundant sunlight. These conditions, combined with area precursor emissions (NO_x and VOCs), can create intense episodes of ozone. The high numbers did not occur in January through March 2012 due to a lack of snow cover. This phenomenon has also been observed in similar locations in Wyoming. Winter ozone formation is a newly recognized issue, and the methods of analyzing and managing this problem are still being developed. Existing photochemical models are currently unable to reliably replicate winter ozone formation. This is due to the very low mixing heights associated with unique meteorology of the ambient conditions. Further research is needed to definitively identify ozone precursor sources that contribute to observed ozone concentrations.

The UDAQ conducted limited monitoring of PM_{2.5} in Vernal, Utah in December 2006. During the 2006-2007 winter seasons, PM_{2.5} levels were higher than the PM_{2.5} health standards that became effective in December 2006. The PM_{2.5} levels recorded in Vernal were similar to other areas in northern Utah that experience wintertime inversions. The most likely causes of elevated PM_{2.5} at the Vernal monitoring station are those common to other areas of the western U.S. (combustion

and dust) plus nitrates and organics from oil and gas activities in the Basin. PM_{2.5} monitoring that has been conducted in the vicinity of oil and gas operations in the Uinta Basin by the Red Wash and Ouray monitors beginning in summer 2009 have not recorded any exceedances of either the 24 hour or annual NAAQS.

HAPs are pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental impacts. The EPA has classified 187 air pollutants as HAPs. Examples of listed HAPs associated with the oil and gas industry include formaldehyde, benzene, toluene, ethyl benzene, isomers of xylene (BTEX) compounds, and normal-hexane (n-hexane). There are no applicable Federal or State of Utah ambient air quality standards for assessing potential HAP impacts to human health.

3.1.1.1. Greenhouse Gases and Climate Change

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

As explained in CEQ's recent guidance on the consideration of GHG emissions and climate change in NEPA review, climate change science continues to expand and refine our understanding of the impacts of anthropogenic GHG emissions [CEQ 2016]. CEQ's first Annual Report in 1970 referenced climate change, indicating that “[m]an may be changing his weather.” It is now well established that rising global atmospheric GHG emission concentrations are significantly affecting the Earth's climate. These conclusions are built upon a scientific record that has been created with substantial contributions from the United States Global Change Research Program (USGCRP).¹ Studies have projected the effects of increasing GHGs on many resources normally discussed in the NEPA process, including water availability, ocean acidity, sea-level rise, ecosystem functions, energy production, agriculture and food security, air quality and human health.

Based primarily on the scientific assessments of the USGCRP, the National Research Council, and the Intergovernmental Panel on Climate Change (IPCC), in 2009 the Environmental Protection Agency (EPA) issued a finding that the changes in our climate caused by elevated concentrations of greenhouse gases in the atmosphere are reasonably anticipated to endanger the public health and public welfare of current and future generations. In 2015, EPA acknowledged more recent scientific assessments that “highlight the urgency of addressing the rising concentration of CO₂ in the atmosphere,” finding that certain groups are especially vulnerable to climate-related effects. Broadly stated, the effects of climate change observed to date and projected to occur in the future include more frequent and intense heat waves, longer fire seasons and more severe wildfires, degraded air quality, more heavy downpours and flooding, increased drought, greater sea-level rise, more intense storms, harm to water resources, harm to agriculture, ocean acidification, and harm to wildlife and ecosystems.

¹See Global Change Research Act of 1990, Pub. L. 101–606, Sec. 103 (November 16, 1990). For additional information on the USGCRP, visit <http://www.globalchange.gov>.

Consistent with CEQ's guidance, this EA includes a qualitative and quantitative analysis of possible greenhouse gas emissions that could occur as a result of reasonably foreseeable oil and gas development associated with the parcels being offered for lease. Additional information about potential emissions would also be available and calculated as part of subsequent site-specific reviews at the APD stage.

It is accepted within the scientific community that global temperatures have risen at an increased rate and the likely cause is gases that trap heat in the atmosphere, referred to as greenhouse gases (GHG). GHGs are composed mostly of carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), water vapor, and ozone. The greenhouse gas effect is the process in which the radiation from the sun that heats the surface of Earth gets blocked by GHG molecules in Earth's atmosphere. Since GHGs are composed of molecules that absorb and emit infrared electromagnetic radiation (heat), they form an intrinsic part of the greenhouse effect.

Greenhouse gases are often presented using the unit of Metric Tons of CO₂ equivalent (MT CO₂e) or Million Metric Tons (MMT CO₂e), a metric to express the impact of each different greenhouse gas in terms of the amount of CO₂ making it possible to express greenhouse gases as a single number. For example, 1 ton of methane would be equal to 25 tons of CO₂ equivalent, because it has a global warming potential (GWP) 25 times that of CO₂ [The Guardian 2011].

As defined by EPA, the GWP provides "ratio of the time-integrated radiative forcing from the instantaneous release of one kilogram of a trace substance relative to that of one kilogram of CO₂." The GWP of greenhouse gas is used to compare global impacts of different gases and used specifically to measure how much energy the emissions of one ton of gas will absorb over a given period of time (e.g. 100 years), relative to the emissions of one ton of CO₂. The GWP accounts for the intensity of each GHG's heat trapping effect and its longevity in the atmosphere. The GWP provides a method to quantify the cumulative effects of multiple GHGs released into the atmosphere by calculating carbon dioxide equivalent for the GHGs.

- Carbon dioxide (CO₂), by definition, has a GWP of 1 regardless of the time period used because it is the gas being used as the reference. CO₂ remains in the climate system for a very long time; CO₂ emissions cause increases in the atmospheric concentrations of CO₂ that will last thousands of years [EPA 2016a].
- Methane (CH₄) is estimated to have a GWP of 28-36 times that of CO₂ over 100 years. CH₄ emitted today lasts about a decade on average, which is much less time than CO₂. But CH₄ also absorbs much more energy than CO₂. The net effect of the shorter lifetime and higher energy absorption is reflected in the GWP. The methane GWP also accounts for some indirect effects, such as the fact that methane is a precursor to ozone, and ozone is in itself a greenhouse gas (USEPA, 2016h).
- Nitrous Oxide (N₂O) has a GWP of 265-298 times that of CO₂ for a 100-year timescale. N₂O emitted today remains in the atmosphere for more than 100 years, on average [EPA 2016a]. Table 3.3. contains GHGs regulated by USEPA and global warming potentials.

Table 3.2. Global Warming Potential

Air Pollutant	Chemical Symbol/ Acronym	Global Warming Potential
Carbon Dioxide	CO ₂	1
Methane	CH ₄	25
Nitrous Oxide	N ₂ O	298

Hydrofluorocarbons	HFCs	Varies
Perfluorocarbons	PFCs	Varies
Sulfur hexafluoride	SF ₆	22,800

Source: [EPA 2016a]

The IPCC concluded that “warming of the climate system is unequivocal” and “most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic GHG concentrations” [IPCC 2007]. Extensive research and development efforts are underway in the field of carbon capture and sequestration (CCS) technology, which could help direct management strategies in the future. The IPCC has identified a target worldwide “carbon budget” to estimate the amount of CO₂ the world can emit while still having a likely chance of limiting global temperature rise to 2°C above pre-industrial levels. The international community estimates this budget to be 1 trillion tonnes of carbon [IPCC 2016].

Because GHGs circulate freely throughout Earth’s atmosphere, climate change is a global issue. The largest component of global anthropogenic GHG emissions is CO₂. Global anthropogenic carbon emissions reached about 7,000,000,000 MT per year in 2000 and an estimated 9,170,000,000 MT per year in 2010 [Boden et. al. 2013]. Oil and gas production contributes to GHGs such as CO₂ and methane. Natural gas systems were the largest anthropogenic source category of CH₄ emissions in the United States in 2014 with 176.1 MMT CO₂ e of CH₄ emitted into the atmosphere. Those emissions have decreased by 30.6 MMT CO₂ e (14.8 percent) since 1990 [EPA 2016b].

Global mean surface temperatures have increased nearly 1.0°C (1.8°F) from 1890 to 2006 [NASA 2007]. In 2001, the IPCC indicated that by the year 2100, global average surface temperatures would increase 1.4 to 5.8°C (2.5 to 10.4°F) above 1990 levels. The National Academy of Sciences [Hansen et. al., 2006] has confirmed these findings, but also indicated that there are uncertainties regarding how climate change may affect different regions. Observations and predictive models indicate that average temperature changes are likely to be greater in the Northern Hemisphere. Data indicate that northern latitudes (above 24° N) have exhibited temperature increases of nearly 1.2°C (2.1°F) since 1900, with nearly a 1.0°C (1.8°F) increase since 1970 alone. It also shows temperature and precipitation trends for the conterminous United States. For both parameters we see varying rates of change, but overall increases in both temperature and precipitation.

3.1.2. Cultural: Archaeological Resources

The National Historic Preservation Act (NHPA) (54 USC § 300101 et. seq.), requires government agencies to take into account the effects of their actions on properties listed or eligible for listing on the National Register of Historic Places (NRHP). These effects may include direct impacts to resources or indirect impacts that may effect NRHP criteria such as: location, design, setting, materials, workmanship, feeling, and association. Cultural resources are defined as any evidence of past human activities and can include structures such as historic or prehistoric buildings, canals and rock art.

Cultural resources are sensitive, irreplaceable resources with potential public and scientific uses and an important and integral part of our national heritage. Cultural resources constitute “a definite location of human activity, occupation, or use identifiable through field inventories (i.e., surveys), historical documentation, or oral evidence” (BLM-M-8100). The term cultural resource also includes “archaeological, historic, or architectural sites, structures, or places with important

public and scientific uses, and may include definite locations (i.e., sites or places) of traditional cultural or religious importance to specified social and/or cultural groups. Cultural resources are concrete, material places and things that are located, classified, ranked, and managed through the system of identifying, protecting, and utilizing for public benefit. They may be but are not necessarily eligible for the National Register” (BLM-8100).

General Cultural Overview

The cultural-chronological sequence represented in the area includes the Paleoindian, Archaic, Fremont, Protohistoric, and Historic. The earliest inhabitants of the region are representative of the Paleoindian stage (ca. 12,000 - 8000 B.P.), characterized by the adaptation to terminal Pleistocene environments and by the exploitation of big game fauna. The Archaic stage (ca. 8000 B.P.-1500 B.P.) is characterized by the dependence on a foraging subsistence, with people seasonally exploiting a wide spectrum of plant and animal species in different eco-zones. Early Archaic (ca. 6000-3000 B.C.) sites in the Basin include sand dune sites and rockshelters primarily clustered in the lower White River drainage. The Middle Archaic era (ca. 3000-500 B.C.) is characterized by improved climatic conditions and an increase in human population on the northern Colorado Plateau. The Late Archaic period (ca. 500 B.C. - A.D. 550) in the Uinta Basin is distinguished by the continuation of Elko Series projectile points with the addition of semi-subterranean residential structures at base camps. By about A.D. 100, maize horticulture and Rose Springs arrow points had been added to the Archaic life way. The Fremont stage (A.D. 500-1300) is characterized by reliance upon domesticated corn and squash, increasing sedentism, and, in later periods, substantial habitation structures, pottery, and “bow and arrow” technology. Proto historic groups including the Utes appeared at approximately A.D. 1100. Historic (~ A.D. 1800 to Present) life ways in the area are marked by livestock grazing, agriculture, timber, mining, bee keeping, and freighting.

All available cultural resource information was reviewed and analyzed for the Area of Potential Effect (APE). The APE was determined by the agency official to be the area bounded by each of the 28 parcels. An additional search for all cultural resources including those eligible for listing in the National Register of Historic Places (NRHP), also known as “historic properties” within one mile of each parcel was conducted to better understand the number of sites and site density potential in the APE and the potential for direct, indirect and cumulative effects as defined by 36 CFR 800, from future parcel development. All twenty-eight parcels were analyzed and evaluated for this undertaking. Development of resources in any of the proposed parcels may impact cultural resources, and several areas are more likely than others for potential impacts. Research on all parcels was conducted to identify results from previous cultural inventories. Between 1979 and 2016, sixty-four Class III – Intensive Pedestrian Surveys (Class III Surveys) were completed inside the boundaries of these twenty-eight parcels in advance of seismic oil and gas exploration, oiland gas operations, habitat restoration, and infrastructure development projects. Archaeologists completed 1,058.67 acres of Class III survey within the 12,201.38 total acres of proposed lease sale lands totaling 8.67% of the total area. Seventy-six sites have been documented within the parcels since the 1950s. Fifty of these sites have been determined eligible for inclusion in the NRHP. Approximately 500 additional sites are within one mile of parcel boundaries; two hundred or more in Nine Mile Canyon near parcels 009 and 010. The majority of these sites are eligible for the NRHP. Parcels with no previous inventories were compared to similar geographic locations where inventories have been conducted. For example, areas such as Nine Mile Canyon and Steinaker Reservoir have greater potential for higher site densities due to: findings from previous surveys and research conducted in those areas, the number of known sites in or within one mile of the parcels, and their distance from permanent water. These parcels

include four near or adjacent to Steinaker Reservoir: 069, 070, 071, and 142. Several of these parcels have been surveyed from 14%-100%. Those surveys have documented over 40 sites in the area including, villages, canal systems, and numerous human remains. Similarly, two proposed parcels are within the Nine Mile Canyon corridor.

Nine Mile Canyon is significant for the numerous cultural resource sites and the archaeological information that has been acquired from that area. These parcels, 009 and 010, contain approximately forty sites and are surrounded by over 100 cultural resources within one mile of the parcel boundaries with hundreds of more sites throughout the canyon. Appendix H includes the cultural resource report describing the cultural resources for each parcel in more detail. There are a total of twenty-eight parcels analyzed for this inventory and each is identified using the BLM Sale ID number as the parcel number.

In addition to analysis of cultural resources the BLM is required to consult with Native American Tribes concerning the identification of cultural values, religious beliefs, and traditional practices of Native American people that may be affected by actions on BLM-administered lands. Consultation includes the identification of places of traditional cultural importance to Native American Tribes or that may be considered sacred to particular Native American Tribes or individuals. The NHPA was amended in 1992 to explicitly allow that "...properties of traditional religious and cultural importance to an Indian Tribe...may be determined to be eligible for inclusion on the NRHP." Per existing laws, as amended, and subsequent regulations and agency direction BLM initiated government-to-government consultation for the Proposed Action by sending letters to the following Tribal groups: the Ute Indian Tribe, the Ute Mountain Ute, the Navajo Nation, the Hopi, the Zia Pueblo, the Laguna Pueblo, the Pueblo of Jemez, the Santa Clara Pueblo, the Goshute, the White Mesa Ute, the Northwest Band of Shoshone, the Southern Ute, and the Eastern Shoshone. A letter describing the proposed undertaking was sent to each tribe on May 24, 2016. The BLM received a response from the Hopi Tribe on June 13, 2016. The Hopi Tribe requested more information about parcels with sensitive cultural resources. A cultural resource report describing resources in all parcels was sent to the Hopi Tribe on August 16, 2016. Consultation with the tribes will continue throughout the NEPA process.

3.1.3. Areas of Critical Environmental Concern

Areas of Critical Environmental Concern (ACECs) are special management areas designated by BLM to protect significant historic, cultural, or scenic values; fish and wildlife resources; natural process or systems; and/or natural hazards that have more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource. ACECs have qualities or circumstances that make them fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change. They have been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of Federal Lands Policy and Management Act (FLMPA) and have qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare.

Potential ACECs must meet the following criteria:

Relevance: presence of a significant historic, cultural, or scenic value; fish or wildlife resource or other natural process or system; or natural hazard; and

Importance: the above described value, resource, process, system, or hazard shall have substantial significance and values. This generally requires qualities of more than local significance and special worth, consequence, meaning, distinctiveness, or cause for concern.

The following lease parcels occur partially or fully within areas designated as ACECs.

Table 3.3. Parcels within ACECs

ACEC	Lease Parcels	Relevance and Importance Values
Nine Mile Canyon (44,168 acres)	009, 010	High value scenery, cultural resources, and special status species.

3.1.4. Lands with Wilderness Characteristics

Lands with wilderness characteristics are areas having at least 5,000 acres in a natural or undisturbed condition, and provide outstanding opportunities for solitude and/or primitive forms of recreation. A full description of inventory findings and maps are documented in the administrative record of the wilderness characteristics reviews completed by the VFO and are available upon request.

Six proposed lease parcels are located in lands found to possess wilderness characteristics. Parcel (ID#) 009, and 010 are located within the Currant Canyon wilderness characteristics unit in southeastern Duchesne County. The Currant Canyon lands with wilderness characteristics unit was inventoried after the completion of the 2008 VFO RMP [BLM 2008b]. Therefore, the unit has not been analyzed through a land use planning process. Approximately 20,700 acres in the Currant Canyon unit possess wilderness characteristics, including size, naturalness, outstanding opportunities for both solitude and primitive and unconfined recreation and supplemental values such as wildlife viewing opportunities, and unique geological formations.

Parcels (ID#) 032, 038, 039 and 049 occur within the Desolation Canyon wilderness characteristics unit located near the intersection of Uintah, Carbon and Duchesne Counties. These parcels occur within sections of the Desolation Canyon unit which have been analyzed through a land use planning process. Decisions regarding the management of wilderness characteristics in this unit are reflected in the VFO RMP,[BLM 2008b] and no new information has been brought forth that would compromise that decision. The Desolation Canyon unit was inventoried during revision of the VFO RMP and found to have wilderness characteristics. Protection of lands with wilderness characteristics for the unit was analyzed in at least one alternative. However, the VFO record of decision selected an alternative that emphasizes other multiple uses as a priority over protecting wilderness characteristics because “the area is considered high potential for O&G development”. [BLM 2008b] Approximately 95,000 acres in the Desolation Canyon inventory unit (Vernal and Price Field Offices) possess wilderness characteristics, including size, naturalness, outstanding opportunities for both solitude and primitive and unconfined recreation and supplemental values such as wildlife habitat, historic and prehistoric properties, and unique geological formations.

Table 3.4. Parcels and Acres Overlapping Lands with Wilderness Characteristics

Inventory Unit Name	Total Acres of Lands with Wilderness Characteristics in Unit	Acres Overlapping Lease Parcels	Parcel #s
Desolation Canyon (Vernal and Price Field Offices)	95,000	959	032, 038, 039, 049
Currant Canyon	20,700	1,561	009, 010
Total	115,700	2,520	

3.1.5. Livestock Grazing & Rangeland Health Standards

The following specific parcels were determined to have possible effects to Livestock Grazing and Rangeland Health Standards due to the current amount of existing Oil and Gas development.

Parcel Number	Livestock Grazing Allotment
103	Split Mountain Allotment

The allotment this parcel is within ranges from desert salt shrub to sage steppe. Numerous areas consist of small to large ephemeral drainages, and some border the Green River. Elevation ranges from around 4,000 to 5,000 feet in elevation. The area is located within the 5–8 inch annual precipitation zone. Soils are sandy to desert clay loam. The Sand Wash allotment Rangeland Health Assessments was last conducted in 2014.

3.1.6. Plants: Special Status Species

3.1.6.1. Plants: BLM-Sensitive Plants

The BLM-Sensitive plant species presented in Table 3.5, “BLM-Sensitive Plants” occur within the Project Area or have the potential to be affected by the Proposed Action.

Table 3.5. BLM-Sensitive Plants

Species	Status	Potential Occurrence and Habitat Type	Parcels
<i>Aquilegia scopulorum</i> var. <i>goodrichii</i> (rock columbine)	BLM-Sensitive	Habitat includes semi-barren, white shale layers of the Green River Formation in pinyon-juniper plant communities on the West Tavaputs Plateau from 7,400 to 9,420 feet elevation.	004, 005, 007, 009, 010
<i>Astragalus hamiltonii</i> (Hamilton milkvetch)	BLM-Sensitive	Habitat includes eroding slopes of the Duchesne River Formation in desert shrub and pinyon-juniper plant communities from 5,500 to 6,740 feet elevation.	069, 070, 071, 142
<i>Cryptantha grahamii</i> (Graham catseye)	BLM-Sensitive	Habitat includes sparsely vegetated shale slopes, benches, and terraces of the Green River Formation in salt desert shrub and pinyon-juniper communities from 4,750 to 6,750 feet elevation.	049
<i>Erigeron untermanii</i> (Untermann fleabane)	BLM-Sensitive	Habitat includes open, wind-swept, marly ridges and slopes in Salina wildrye, pinyon-juniper, limber pine, and Douglas-fir plant communities on the West Tavaputs Plateau from 7,000 to 9,300 feet elevation.	004, 005, 009, 010

<i>Mentzelia goodrichii</i> (Goodrich blazingstar)	BLM-Sensitive	Habitat includes eroding slopes of the Green River and Uinta Formations in desert shrub, pinyon-juniper, mountain-mahogany, limber pine, and Douglas-fir plant communities on the West Tavaputs Plateau from 6,440 to 8,800 feet elevation	004, 005, 009, 010
<i>Penstemon goodrichii</i> (Goodrich beardtongue)	BLM-Sensitive	Habitat includes red and grey clays of the Duchesne River Formation in shadscale, sagebrush, and pinyon-juniper plant communities from 5,600 to 6,200 feet elevation.	093, 094, 103
<i>Penstemon grahamii</i> (Graham beardtongue)	BLM-Sensitive	Habitat includes semi-barren, white to tan shale and oil shale slopes, hills, and ridges of the Green River Formation in shadscale, Salina wildrye, and pinyon-juniper plant communities from 5,000 to 6,300 feet elevation.	032, *121, *122
<i>Penstemon scariosus</i> var. <i>alblifluvis</i> (White River beardtongue)	BLM-Sensitive	Habitat includes semi-barren, white to tan shale and oil shale slopes, hills, and ridges of the Green River Formation in shadscale, Salina wildrye, and pinyon-juniper plant communities from 5,000 to 6,800 feet elevation.	*121, *122
<i>Phacelia argylensis</i> (Arglye Canyon phacelia)	BLM-Sensitive	Known only from Argyle Canyon in Duchesne County, Utah. Habitat includes wash bottoms in shale of the Green River Formation in pinyon-juniper-serviceberry-Douglas-fir plant communities at 7,595 feet elevation.	004, 005, 009, 010
<i>Thelesperma subnudum</i> var. <i>caespitosum</i> (Green River greenthread)	BLM-Sensitive	Habitat includes semi-barren, eroding slopes and ridges of the Green River Formation in desert shrub and pinyon-juniper plant communities on the West Tavaputs Plateau from 6,000 to 8,800 feet elevation.	004, 005, 009, 010
<i>Yucca sterilis</i> (sterile yucca)	BLM-Sensitive	Known occurrences of the species are found growing in sandy soils. However, this species is new to the Utah BLM-Sensitive plant species list and, as such, has not been extensively surveyed for nor is the range and exact habitat requirements fully understood. Therefore, at this time, any sandy soils within the proposed lease parcels have to be assumed to be potential habitat for the species.	all parcels
*Parcel contains habitat designated as Conservation Agreement Areas for the species that will require additional mitigation measures if developed (see SWCA 2014).			

3.1.6.2. Plants: Threatened, Endangered, Proposed, and Candidate

During GIS review of the parcels, the federally listed plant species presented in Table 3.6, “Threatened, Endangered, Proposed, and Candidate Plants” occur within the Project Area or have the potential to be affected by the Proposed Action.

Table 3.6. Threatened, Endangered, Proposed, and Candidate Plants

Species	Status	Potential Occurrence and Habitat Type	Parcels
<i>Hesperidanthus argillaceus</i> (clay reed-mustard)	Threatened	Habitat includes steep slopes in soils between the Uinta and Green River Formations in shadscale, sagebrush, and mixed-desert shrub plant communities at 4,900 to 5,600 feet elevation.	032, 038, 049, 067

<i>Hesperidanthus suffrutescens</i> (shrubby reed-mustard)	Endangered	Habitat includes semi-barren slopes and hill tops of white shale from the Green River Formation. Soils and habitat may often include clast stones on the surface. Typical plant communities include: black sagebrush, shadscale, mixed-desert shrub, mountain-mahogany, and pinyon-juniper. From 5,100 to 7,000 feet elevation.	049, 067
<i>Sclerocactus brevispinus</i> (Pariette cactus)	Threatened	Habitat includes clay badlands of cobbles and gravel pavements from the Uinta Formation in mixed-desert shrub (saltbush) plant communities from 4,800 to 5,200 feet elevation.	*038, 049, 067, 105
<i>Sclerocactus wetlandicus</i> (Uinta Basin hookless cactus)	Threatened	Habitat includes river benches, slopes, and hills of fine textured xeric soils from the Duchesne River, Green River, Mancos, and Uinta Formations, generally overlain with large, round cobble. Associated plant communities include mixed-desert shrub and pinyon-juniper plant communities from 4,700 to 5,800 feet elevation.	*038, 049, 067, 105
<i>Spiranthes diluvialis</i> (Ute ladies'-tresses)	Threatened	Habitat includes gravelly sand and sandy loam soils within wet places including wet meadows, margins of rivers, lakes, and streams, riparian sandbars, sub-irrigated springs and seeps, and irrigated fields. Typical plant communities include sedges, grasses, and forbs with little to no woody plant canopy. From 4,400 to 7,100 feet elevation.	005, 012, 013, *038, 069, 071, 094, 103
*Parcels contain habitat designated as Core Conservation Areas for the species that will require additional mitigation measures if developed. [USFWS 2014]			

3.1.7. Recreation

The BLM's basic units of recreation management are the Special Recreation Management Area (SRMA) and the Extensive Recreation Management Area (ERMA). A SRMA is an area where recreation is emphasized. Within an ERMA, recreation is generally unstructured and dispersed, minimal recreation-related investments are required, and there are minimal regulatory constraints. ERMAs generally cover all areas that are not designated as SRMAs. Popular recreational destinations in the project area include the Nine Mile SRMA.

Table 3.7. Recreation SRMA and Sites

Recreation Areas/Sites	Parcels	Recreation features
Nine Mile SRMA and Backcountry Byway	009, 010	Recreation opportunities available to visitors within the Nine Mile SRMA include but are not limited to backpacking, camping, dirt biking, enjoying natural and cultural features, four wheel driving, hiking, horseback riding, hunting, falconry, mountain biking, operating off highway vehicles (OHV), rock climbing, and scenic driving. The Nine Mile SRMA is managed to protect high-value cultural values and scenic quality

3.1.8. Visual Resource Management

The BLM uses a Visual Resource Management (VRM) system to inventory and manage visual resources on public lands. The primary objective of VRM is to manage visual resources so that the quality of scenic (visual) values is protected. The VRM system uses four classes (and their associated visual resource objectives) to describe the different degrees of surface disturbance or

modification allowed on the landscape (see VRM table below Table 3.9, “BLM Visual Resource Management (VRM) Class Objectives”).

Visual Resource Inventory

As part of the VRM program, the BLM is to prepare and maintain — on a continual basis — an inventory of visual values of all its public lands. The inventory stage identifies the visual resources of an area and assigns them to an inventory class using the BLM’s VRI process, which is described in BLM Manual H-8410-1. The VRI process consists of the following:

1. A scenic quality evaluation to rate the visual appeal of an area
2. A sensitivity level analysis to assess public concern of an area’s scenic quality and their sensitivity to potential changes in the visual setting.
3. A delineation of distance zones to indicate the relative visibility of the landscape from primary travel routes or observation points.

Based on these three factors, BLM-administered lands are placed into one of four VRI classes — Class I, Class II, Class III, and Class IV — that represent the relative value of the visual resources and provide the basis for considering visual values in the resource management planning process. VRI Classes II, III, and IV are determined based on a combination of scenic quality, sensitivity level, and distance-zone overlays to assign the proper class. In the relative scale of visual values, Class II has a higher level of value than Class III, which is moderately valued. Class IV is least valued. VRI class—Class I—is assigned to special management areas where a management decision has previously been made to maintain a natural landscape. These areas are the most valued landscapes. This includes areas such as Wilderness Areas or Wilderness Study Areas, the wild section of national Wild and Scenic rivers, and other congressionally and administratively designated areas where decisions have been made to preserve a natural landscape. Since these areas are assigned the highest value, the inventory process does not provide a scoring method to assign VRI Class I. However, in the inventory process Class I areas are evaluated for their existing scenic quality, sensitivity level and distance from observation areas.

The Vernal Field Office completed a Visual Resource inventory in 2011. VFO inventory classes reflect the findings in regards to scenic quality, sensitivity level, and view shed. These findings are referenced in table 3.7 and reflect each proposed lease’s visual inventory class. Note: some parcels may occur in multiple VRI classes and may appear to be duplicated in the VRI Class table.

Table 3.8. Visual Resource Class Objectives of Lease Parcels

VRI Class	Parcels
Class I	None
Class II	004, 005, 009, 010, 090, 103, 151
Class III	032, 038, 039, 049, 067, 070, 071, 093, 094, 103, 121, 122, 152
Class IV	006, 012, 013, 014, 015, 016, 039, 049, 067, 121, 122, 152

Table 3.9. BLM Visual Resource Management (VRM) Class Objectives

VRM Class	VRM Objective
Class I	The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and should not attract attention.

Class II	The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.
Class III	The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.
Class IV	The objective of this class 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. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements of the landscape.

The proposed lease parcels would encompass several different VRM management classes as listed in Table 3.10, “Lease Parcels ID and associated VRM Classes”. Note: some parcels may occur in multiple VRM Classes and may appear to be duplicated in the VRM Class Table below. The remaining parcels are located entirely on private land and do not have an associated VRM Class.

Table 3.10. Lease Parcels ID and associated VRM Classes

VRM Class	Parcel ID
Class I	None
Class II	038
Class III	004, 005, 009, 010, 012, 013, 014, 015, 032, 038, 067, 070, 094, 103, 121, 122, 151, 152
Class IV	006, 009, 010, 012, 013, 014, 015, 016, 032, 039, 049, 070, 071

3.1.9. Wildlife: Migratory Birds including Raptors

All of the lease parcels contain nesting and foraging habitat for migratory birds. The Migratory Bird Treaty Act of 1918 protects migratory birds and their parts. Executive Order 13186, signed on January 10, 2001, directs federal agencies to evaluate the effects of actions and agency plans on migratory birds, with emphasis on species of concern. The MOU between the US Department of Interior BLM and United States Fish and Wildlife Service (USFWS) to promote the Conservation and Management of Migratory Birds (extended 5/2015) also strives to increase the conservation of migratory birds and avoid and minimize adverse impacts on these species through collaboration with USFWS. The BLM and USFWS have decided to focus on the Birds of Conservation Concern (BCC). [USFWS 2008] identified each of the Bird Conservation Regions (BCRs) in the United States for the review and analysis of projects. The parcels are within BCR 16 (Southern Rockies/Colorado Plateau). Species lists for BCR16 have been reviewed and the potential exists for several migratory bird species, currently designated as species of concern, to nest within the parcels, primarily between April and September. Additional discussion is contained in Table 3.11, “Wildlife: Special Status Species Potential Occurrence”.

3.1.9.1. Raptors

Raptors, including the red-tailed hawk, Cooper’s hawk, sharp-shinned hawk, American kestrel, northern harrier, great horned owl, and other less common species utilize each of the habitat types within the lease parcels and may be present year round or seasonally. Nesting tends

to be concentrated around cliffs, large trees, embankments, and other habitat features. Raptor management is guided by Appendix A in the 2008 RMP. [BLM 2008c] These are best management practices which are BLM-specific recommendations for implementation of the U.S. Fish and Wildlife Service, Utah Field Office's "Guidelines for Raptor Protection from Human and Land Use Disturbances". The Guidelines were originally developed by the Fish and Wildlife Service in 1999, and were updated in 2002 based on recent court rulings, policy decisions, and Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds. The Guidelines were provided to BLM and other land-managing agencies to provide raptor management consistency while ensuring project compatibility with the ecological requirements of raptors. The best management practices include timing limitations and controlled surface measures to protect raptor species. Table 3.11, "Wildlife: Special Status Species Potential Occurrence" identifies sensitive raptor species potential occurrence and habitat within the parcels.

3.1.10. Wildlife: Non-USFWS Designated

3.1.10.1. Elk

Elk occur year-round in the project area in low numbers. Resident elk use the low-elevation water resources, such as the Green River. Parcels 005, 009, 070, and 152 are in crucial elk wintering habitat and parcels 006, 012, 013, 014, 015, and 016 are in calving habitat. Crucial habitat provides shelter and forage for elk during critical times of the year.

3.1.10.2. Mule Deer

Parcels 009, 070, 152, 121, and 122 are within crucial winter and parcels 004, 070, 094, and 103 are within fawning range for mule deer. Crucial range provides unique habitat for deer. The function of crucial winter range is to provide shelter and forage to big game, ensuring their survival during periods of significant winter and fawning stress. Mule deer populations in the western U.S. have historically fluctuated due to environmental factors (e.g., drought, severe winters). Deer populations in eastern Utah have declined in recent years. Unusually high deer mortalities in the 1980s and 1990s are primarily attributed to the severe, 1983-1984 and 1992-1993 winters, and to a prolonged, seven-year drought between 1986 and 1992. These conditions decimated the fawn population as well as a large percentage of the adult deer population. A very slow recovery of the deer population has occurred since that time. Fawn production and survival, which continued to be low through 1996, began to improve after 1996 with good forage and winter conditions. The current drought is causing severe stress to mule deer, once again reducing their populations and limiting the forage on which they depend. However, these are environmental factors that are beyond human control. Factors within human control that affect the population of mule deer in the area include hunting, grazing, energy development, increased recreation, and predation.

3.1.11. Wildlife: Special Status Species

BLM manages sensitive species in accordance with BLM Manual 6840 with the objective to initiate proactive conservation measures that reduce or eliminate threats to these species to minimize the likelihood of and need for listing of these species under the ESA. Special status species are, collectively, the federally listed or proposed and Bureau sensitive species, which include both Federal candidate species and delisted species within 5 years of delisting. There are 57 BLM Utah sensitive species, including 12 species under conservation agreement and 4

candidate species. Of these, 52 species occur or potentially occur within the VFO. The Utah sensitive species lists also includes federally listed species. VFO has used available data sources to determine if the parcels fall within known habitat for BLM or UDWR sensitive species. After site-specific review, it has been determined that the Special Status Species listed in Table 3.11, “Wildlife: Special Status Species Potential Occurrence” may occur within the project area or be affected by the proposed action.

Table 3.11. Wildlife: Special Status Species Potential Occurrence

Species	Status	Potential Occurrence and Habitat Type	Parcels
Fish			
Bonytail Chub, Colorado Pikeminnow, Humpback Chub, Razorback Sucker	Endangered	These species occur in the Green River. Habitat is not present within the proposed project area; however, water depletion is anticipated to occur.	All parcels
Bluehead Sucker, Flannelmouth Sucker, Roundtail Chub	Conservation Agreement Species	These species occur in the Green River. Habitat is not present within the proposed project area; however, water depletion is anticipated to occur.	All parcels
Mammals			
Townsend's Big-Eared Bat, Big Free-Tailed Bat, Spotted Bat, Fringed Myotis, Allens Big Eared Bat, Western Red Bat	BLM Sensitive	These species potentially occur throughout Utah; however, no occurrence records exist for the extreme northern or western parts of the state. Known occurrences have been reported in northeastern Uintah County. Habitat is present within the proposed project area.	All parcels
Black-Footed Ferret	Endangered	Utilizes prairie dog burrows for shelter and feed on the prairie dogs. Populations of Black-footed ferrets have been introduced into the wild in Coyote Basin, in Uintah County area ferrets are characterized as “non-essential experimental” populations (UDWR 2007).	094, 103
Raptors			
Golden Eagle	BLM Sensitive, Bird of Conservation Concern	Throughout the summer, golden eagles are found in mountainous areas, canyons, shrub-land and grassland. During the winter they inhabit shrub-steppe vegetation, as well as wetlands, river systems and estuaries. Golden eagles are quite common to Uintah County. All parcels contain foraging habitat however no known nests exist within them.	All parcels
Bald Eagle	BLM Sensitive, Bird of Conservation Concern	Throughout the winter, bald eagles are typically found near rivers, lakes, and marshes where unfrozen, open waters offer the opportunity to prey on fish and waterfowl. The Colorado and Green River corridors are well used by Utah's wintering bald eagles. The eagles begin to arrive in November.	038, 069, 071, 094, 103, 142

Species	Status	Potential Occurrence and Habitat Type	Parcels
Mexican Spotted Owl	Threatened	In Utah, found primarily in rocky canyons. Nests in caves or crevices. Roosts on ledges or in trees in canyons. The species prefers mesic (moister/cooler) canyons with mixed conifer or riparian components.	004, 005, 009, 010
Ferruginous Hawk	BLM Sensitive, Bird of Conservation Concern	This species is known to occur in the West Desert and the Uinta Basin as a summer resident and a common migrant. Within the Uinta Basin, the species is more associated with prairie dog colonies as the main prey base. These parcels contain foraging habitat; however no known or documented ferruginous hawk nests are within ½ mile of the proposed project.	All parcels
Short-eared Owl	Wildlife Species of Concern	Inhabits arid grasslands, agricultural areas, marshes, and occasionally open woodlands. In Utah, cold desert shrub and sagebrush-rabbit brush habitats also are utilized.	All parcels
Birds			
Gray Vireo	Bird of Conservation Concern	Dry shrubby areas, chaparral, and sparse woodlands. Habitat is present within the proposed project area.	All parcels
Grasshopper Sparrow	Bird of Conservation Concern	In Utah, the species is widespread and has been known to breed in Uintah, Duchesne, and Daggett Counties. Habitat is present within the proposed project area.	All parcels
Bobolink	Wildlife Species of Concern	Short grass prairies, alpine meadows, riparian woodlands, and reservoir habitats.	All parcels
Brewer's Sparrow	Bird of Conservation Concern	Desert and shrubland/chaparral. Habitat is present within the proposed project area.	All parcels
Yellow-billed Cuckoo	Threatened	Wooded habitat with dense cover and water nearby, including woodlands with low, scrubby, vegetation, overgrown orchards, abandoned farmland, and dense thickets along streams and marshes.	<u>Potential Habitat</u> 094, 103
Sage-grouse	BLM Sensitive Species	Sage-grouse are emblematic of the sagebrush steppe of the intermountain West.	<u>General Habitat Management Areas</u> 032, 067, 152

Priority Habitat Management Areas (PHMA), General Management Habitat Management Area (GHMA) and Population Areas (PA) for Greater Sage-grouse (GRSG) in Utah were identified in the 2015 *Record of Decision and Approved Resource Management Plan Amendments for the Great Basin Region, Including the Greater Sage-grouse Sub-Regions of Idaho and Southwestern Montana, Nevada and Northeastern California, Oregon and Utah* (GRSG ROD) and the *Utah Greater Sage-grouse Approved Resource Management Plan Amendment* [BLM 2015]. PHMA is GRSG habitat on BLM-administered lands identified as having the highest value in order to maintain populations in UT. GHMA is GRSG habitat on BLM administered lands where some management will apply and there are some areas of occupied seasonal or year-round habitat outside of PHMA. The 15 GRSG PAs were mapped in the GRSG land use plan amendment process to improve the organization and structure of GRSG planning documents. Using the PA concept in those documents the BLM was able to discuss differences in habitat, threats, and impacts in different sections of the GRSG planning area by simply referencing a PA. Lands in the

PA that do not include PHMA or GHMA may provide for connectivity or facilitate movement of birds between habitats. Although the boundaries of population areas were drawn using some biological considerations it is important to note that they are not intended to reflect distinct populations. More information about PHMA, GHMA and the individual PA's is available in Section 1.3.2 in the GRSG Proposed Land Use Plan Amendment and Final Environmental Impact Statement (GRSG FEIS).[BLM 2015]

For the November 2016 lease sale, 17 of the proposed lease parcels, comprising 7,937.55 acres, are outside of PHMA and GHMA, but within a PA. GRSG habitat has not been identified or mapped in these areas.

Three of the proposed lease parcels for the November 2016 lease sale are within GHMA. One parcel is in the Carbon PA and two are within the Uinta PA. Descriptions of conditions in these PAs are included in Section 3.3.5 of the GRSG FEIS. [BLM 2015].

Parcel 032 is in GHMA within Carbon PA. The Carbon PA is located in north central UT and contains several subpopulations (refer to Map 1-2 of the GRSG FEIS 2015). Parcel 32 is within the Anthro Mountain breeding complex and the birds use this area seasonally for brood-rearing and winter. Only the western portion of the parcel (approximately 80 acres of the 320 acres) is mapped as GHMA, however, the entire parcel is within the PA. There are no occupied leks within 5 miles of parcel 032. The nearest occupied lek is approximately 21 miles to the west of the parcel. This parcel is surrounded by existing leases that have developed well-pads and is within the Deseret Oil and Gas Unit.

Parcels 067 and 152 are in GHMA within the Uintah PA. The Uintah PA is located in northeastern UT and is comprised of three different GRSG areas (refer to Map 1-2 of the GRSG FEIS [BLM 2015]). This PA also includes several subpopulations. Parcels 067 and 152 are within the Book Cliffs GRSG breeding complex and birds use this area when transitioning from nesting to brood-rearing areas along Willow Creek. Even though these parcels are near Hill Creek, GRSG are not known to use the area within these parcels for brood-rearing. There is a steep drop-off to the creek from the uplands separating the habitat types. The parcels are surrounded by existing leases and producing oil and gas wells. The nearest occupied lek is 5 miles to the east of parcel 067, and 4.6 miles northeast of parcel 152. Parcel 067 is within the Little Canyon Oil and Gas Unit. The area surrounding parcel 067 is highly developed. There are 8 producing oil and gas wells in the section where 067 is proposed to be leased. Parcel 152 is within the Flat Stone Oil and Gas Unit which is also surrounded by existing leases that are highly developed with several existing oil and gas wells in the area. Only 20 of the 80 acres for parcel 152 are within the mapped GHMA. However, the entire parcel is within the Uintah PA.

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Chapter 4. Environmental Effects:

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This chapter discusses the environmental consequences of implementing the alternatives described in Chapter 2 on the Resources identified in the ID team checklist and carried forward in Chapter 3. Under NEPA, actions with the potential to affect the quality of the human environment must be disclosed and analyzed in terms of direct and indirect effects—whether beneficial or adverse and short or long term—as well as cumulative effects. Direct effects are caused by an action and occur at the same time and place as the action. Indirect effects are caused by an action but occur later or farther away from the resource. Beneficial effects are those that involve a positive change in the condition or appearance of a resource or a change that moves the resource toward a desired condition. Adverse effects involve a change that moves the resource away from a desired condition or detracts from its appearance or condition. Cumulative effects are the effects on the environment that result from the incremental effect of the action when added to other past, present, and reasonably foreseeable future actions.

The No Action alternative (offer none of the nominated parcels for sale), serves as a baseline against which to evaluate the environmental consequences of the Proposed Action alternative (offer of eleven parcels for sale with additional resource protective measures). For each alternative, the environmental effects are analyzed for the resources that were carried forward for analysis in Chapter 3.

4.1. Direct and Indirect Impacts

4.1.1. Alternative A – Proposed Action

This section analyzes the impacts of the proposed action to those potentially impacted resources described in the Affected Environment (Chapter 3).

4.1.1.1. Air Quality

The act of leasing would not result in changes to air quality. However, should the leases be issued, development of those leases could impact air quality conditions. It is not possible to accurately estimate potential air quality impacts by computer modeling from the project 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, so this discussion will remain qualitative.

Should development on issued leases be proposed, and prior to authorizing specific proposed projects on the subject lease parcels, emission inventories would need to be developed. Air quality dispersion modeling, which may also be required, includes direct and cumulative impact analysis for demonstrating compliance with the NAAQS, plus analysis of impacts to Air Quality Related Values (i.e. deposition, visibility), particularly as they might affect nearby Class 1 areas (National parks and Wilderness areas). Such proposed development would be a minor air pollution source under the Clean Air Act. At present, control technology on some emissions sources (e.g. drill rigs) is not required by regulatory agencies. Possible future development would result in different emission sources associated with two project phases: well development and well production. Annual estimated emissions from development of a single well are summarized in Table 4.1, “Anticipated Emissions ¹(tons per year)”.

Table 4.1. Anticipated Emissions ¹(tons per year)

Pollutant	Development	Production	Total
NO _x	14.2	2.2	16.4
CO	3.2	3.2	6.4
SO _x	0.9	0	0.9
PM ₁₀	0.7	0.03	0.73
PM _{2.5}	0.3	0.01	0.31
VOC	2.5	6.5	9.0
Benzene	0.03	0.13	0.16
Toluene	0.02	0.09	0.11
Ethylbenzene	0.02	0.22	0.24
Xylene	0	0.07	0.07
n-Hexane	0.05	0.08	0.13
Formaldehyde	0	0	0
¹ Emissions include one producing well and associated operations traffic during the year in which the project is developed			

Well development includes NO_x, SO₂, and CO tailpipe emissions from earth-moving equipment, vehicle traffic, drilling, and completion activities. Fugitive dust concentrations would occur from vehicle traffic on unpaved roads and from wind erosion where soils are disturbed. Drill rig and fracturing engine operations would result mainly in NO_x and CO emissions, with lesser amounts of SO₂. These emissions would be short-term during the drilling and completion phases.

During well production, continuous NO_x, CO, VOC, and HAP emissions would originate from well pad separators, condensate storage tank vents, and daily tailpipe and fugitive dust emissions from operations traffic. Road dust (PM₁₀ and PM_{2.5}) would also be produced by vehicles servicing the wells.

Emissions of NO_x and VOC, ozone precursors, for a single well are estimated to be 16.4 tons/yr for NO_x, and 9.0 tons/yr of VOC (Table 4.1, “Anticipated Emissions ¹(tons per year)”) per well. Emissions would be dispersed and/ or diluted to the extent where any local ozone impacts from the Proposed Action would be indistinguishable from background conditions.

The primary sources of HAPs are from oil storage tanks and smaller amounts from other production equipment. Small amounts of HAPs are emitted by construction equipment. These emissions are estimated to be minor and less than one ton per year.

Application of Stipulations UT-S-01 and Notice UT-LN-96 to each of the parcels on federal surface would be adequate for the leasing stage to disclose potential future restrictions and to facilitate the reduction of potential impacts upon receipt of a site specific APD.

4.1.1.1.1. Greenhouse Gases Emissions

As explained in Section 3.1.1.1 and the recent CEQ guidance, the effects of climate change observed to date and projected to occur in the future include more frequent and intense heat waves, longer fire seasons and more severe wildfires, degraded air quality, more heavy downpours and flooding, increased drought, greater sea-level rise, more intense storms, harm to water resources, harm to agriculture, ocean acidification, and harm to wildlife and ecosystems

There would be no GHG emissions as a direct result of the Proposed Action, which is administrative in nature – i.e., issuance of leases for Federal mineral resources. Nevertheless,

the BLM recognizes that GHG emissions are a potential effect of the subsequent fluid mineral exploration and/or development of any leases that are issued. Oil and gas activities may lead to the installation and production of new wells, which may consequently produce an increase in GHG emissions. The primary sources of GHG emissions include the following:

- Fossil fuel combustion for construction and operation of oil and gas facilities – vehicles driving to and from production sites, engines that drive drill rigs, etc. These produce CO₂ in quantities that vary depending on the age, types, and conditions of the equipment as well as the targeted formation, locations of wells with respect to processing facilities and pipelines, and other site-specific factors;
- Fugitive CH₄ – CH₄ that escapes from wells (both gas and oil), oil storage, and various types of processing equipment. This is a major source of global CH₄ emissions. These emissions have been estimated for various aspects of the energy sector, and starting in 2011, producers are required under 40 CFR 98, to estimate and report their CH₄ emissions to the USEPA; and
- Combustion of produced oil and gas – it is expected that future operations would produce marketable quantities of oil and/or gas. Combustion of the oil and/or gas would release CO₂ into the atmosphere. Fossil fuel combustion is the largest source of global CO₂.

In recent years, many states, tribes, and other organizations have initiated GHG inventories, tallying GHG emissions by economic sector. The U.S. EPA provides links to statewide GHG emissions inventories [EPA 2013]. Guidelines for estimating project-specific GHG emissions are available [URSC 2010], but some additional data, including the projected volume of oil or natural gas produced for an average well, number of wells (as well as other factors described in Section 4.2.1. Air Quality) were used to provide GHG estimates.

Rule of Reason

CEQ advises that agencies should be guided by a “rule of reason” in ensuring that the level of effort expended in analyzing GHG emissions or climate change effects is reasonably proportionate to the importance of climate change related considerations to the agency action being evaluated. This statement is grounded in the purpose of NEPA to concentrate on matters that are truly significant to the proposed action (40 CFR §§ 1500.4(b), 1500.4(g), 1501.7.). CEQ guidance cautions against using a comparison of global GHG emissions to project-specific GHG emissions as a stand-alone reason for no detailed analysis [CEQ 2016]. In light of the difficulties in attributing specific climate impacts to individual projects, CEQ recommends agencies use the projected GHG emissions as a proxy for assessing a Proposed Action’s potential climate change impacts [CEQ 2016].

Direct Greenhouse Gas Emissions

Direct greenhouse gas emissions from speculative future oil and gas well production on the proposed lease parcels was calculated assuming one well per parcel. Total Greenhouse Gas Warming Potential (GWP), which includes direct emissions of carbon dioxide, methane, and nitrous oxide from an oil or gas producing well is estimated based on the emissions estimates from the Greater Monument Buttes Final Environmental Impact Statement ([BLM 2016] Table 4.2.1.1.1-1), which is the most recent NEPA calculation of GHG in the lease area. The per-well GWP emissions estimate was made by dividing the Project Total GWP emissions in Table 4.2.1.1.1-1 (3,096,936 tpy) by the total number of producing oil and gas wells used to generate the GWP emissions estimates (5,740 wells). This gives a GWP emissions estimate of approximately

540 tons per year GWP emissions on a per-well, per-parcel basis. Actual emissions may range from zero if a parcel is not leased or not developed after leasing, to an unknown upper range.

Indirect Greenhouse Gas Emissions

Indirect GHG emissions are estimated on a one-well per-parcel basis and presented as low, average, and high production scenarios estimated from current oil and gas production on other parcels in the same field. The low emissions estimate was based on an assumption of no production on the lease parcel. It is impossible to know which of these scenarios (if any) will actually occur, so emissions numbers are presented to estimate the range of possible indirect emissions that could occur as a result of the lease sale. Indirect GHG emissions are calculated only for carbon dioxide based on combustion of the product.

Table 4.2. Indirect GHG Emissions

Indirect GHG Emissions (tpy)	Oil ⁴	Gas ⁵
Low ¹	0	0
Average ²	21,197	14,987
High ³	464,253	32,557

1. Assumes no development on a lease parcel
2. Average of production from selected parcels currently in operation. Data from Utah Division of Oil and Gas and Mining production sheet Appendix I[UDOGM 2016]
3. Highest producing parcel from above referenced source.
4. 4. Oil well GHG indirect emission factor: 0.43 MT CO₂ per Barrel[EIA 2006]
5. 5. Gas well indirect emission factor: 0.054717 MT of CO₂ per Mcf [EPA 2016c]

As it is not possible to assign a “significance” value or impact to these numbers, the emissions estimates themselves are presented as a proxy for impact. This is consistent with final CEQ guidance. [CEQ 2016]

Uncertainties of GHG Calculations

Although this EA presents a quantified estimate of potential GHG emissions associated with reasonably foreseeable oil and gas development, there is significant uncertainty in GHG emission estimates due to uncertainties with regard to eventual production volumes and variability in flaring, construction, and transportation.

End Uses

The estimates above provide a complete GHG lifecycle of a well from site inspection to possible indirect emissions through combustion. A rough estimate was possible using publicly available information and using estimates from future production for reasonably foreseeable development. With respect to the rough estimates of indirect CO₂ emissions, it should be noted that it is difficult to discern with certainty what end uses for the fuels extracted from a particular leasehold might be reasonably foreseeable. For instance, some end uses of fossil fuels extracted from Federal leases include: combustion of transportation fuels, fuel oils for heating and electricity generation, as well as production of asphalt and road oil, and the feedstocks used to make

chemicals, plastics, and synthetic materials. At this time, there is some uncertainty with regard to the actual development that may occur.

It is important to note that the BLM does not exercise control over the specific end use of the oil and gas produced from any individual federal lease. The BLM has no authority to direct or regulate the end use of the produced oil and/or gas. As a result, the BLM can only provide an estimate of potential GHG emissions using national approximations of where or how the end use may occur because oil, condensate, and natural gas could be used for combustion of transportation fuels, fuel oils for heating and electricity generation, as well as production of asphalt and road oil, and the feedstocks used to make chemicals, plastics, and synthetic materials.

Availability of Input Data

In light of the difficulties in attributing specific climate impacts to individual projects, CEQ recommends agencies use the projected GHG emissions as a proxy for assessing a Proposed Action's potential climate change impacts. Estimates were made based on readily available data and reasonable assumptions about potential future development. There are many factors that affect the potential for GHG emissions estimates at the leasing stage: a lease may not be purchased, so no GHG emissions would be expected; a lease may be purchased but never explored, so again there would be no GHG emissions; a lease may be purchased and an exploratory well drilled that showed no development potential, so minimal GHG emissions would occur; or a lease may be purchased, explored, and developed. If developed there are notable differences in the potential for emissions related to a wide variety of variables, including the production potential of the well, economic considerations, regulatory considerations, and operator dynamics, to name a few. Further NEPA analysis would be conducted at the APD stage, when specific development details with which to analyze potential GHG emissions are likely to be known.

Monetizing Costs and Benefits: Social Cost of Carbon

The 2016 CEQ guidance states that “NEPA does not require monetizing costs and benefits” and allows for agency discretion in including monetized assessment of the impacts of GHGs in NEPA documents [CEQ 2016]. The BLM finds that including monetary estimates of the social cost of GHGs (SC GHG) in its NEPA analysis for this Proposed Action would not be useful. Since the BLM is not doing a cost-benefit analysis in this NEPA document, we do not believe monetizing only SCC would be instructive.

Given the global nature of climate change, estimating SCC of an individual decision requires assessing the impact of the project on the global market for the commodity in question. While the BLM is able to estimate the GHG emissions associated with reasonably foreseeable oil and gas development, this EA does not estimate the net effect of this action on global GHG emissions or climate change. Depending on the global demand for oil and gas, the net effect of this project may be partially offset by changes in production in other locations. Accounting for this potential substitution effect is technically challenging.

Possible Future Best Management Practices, Standard Operating Procedures, and/or Mitigation Measures

The BLM holds regulatory jurisdiction over portions of natural gas and petroleum systems, identified in the USEPA *Inventory of U.S. Greenhouse Gas Emissions and Sinks* [EPA 2016d]. Exercise of this regulatory jurisdiction has led to development of Best Management Practices (BMPs), which are state-of-the-art mitigation measures applied to oil and natural gas drilling and

production to help ensure that energy development is conducted in an environmentally responsible manner. The BLM encourages industry to incorporate and implement BMPs to reduce impacts to air quality through reduction of emissions, surface disturbances, and dust from field production and operations. Typical measures are mentioned below.

- 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;
- All internal combustion equipment would be kept in good working order;
- Flared hydrocarbon gases at high temperatures in order to reduce emissions of incomplete combustion through the use of multi-chamber combustors;
- Watering dirt roads during periods of high use to reduce fugitive dust emissions;
- Co-location wells and production facilities to reduce new surface disturbances;
- Use of natural gas fired or electric drill rig engines;
- The use of selective catalytic reducers and low-sulfur fuel for diesel-fired drill rig engines;
- Adherence to BLM's Notice to Lessees' (NTL) 4a concerning the venting and flaring of gas on Federal leases for natural gas emissions that cannot be economically recovered;
- Protecting frac sand from wind erosion;
- Implementation of directional drilling and horizontal completion technologies whereby one well provides access to petroleum resources that would normally require the drilling of several vertical wellbores;
- Requiring that vapor recovery systems be maintained and functional in areas where petroleum liquids are stored; and
- Performing interim reclamation to reclaim areas of the pad not required for production facilities and to reduce the amount of dust from the pads.

Additionally, the BLM encourages oil and natural gas companies to adopt proven, cost-effective technologies and practices that improve operational efficiency and reduce natural gas emissions. In October 2012, the EPA promulgated air quality regulations for completion of hydraulically fractured gas wells [EPA 2015]. These rules required air pollution mitigation measures that reduced the emissions of volatile organic compounds during gas well completions. Mitigation included utilizing a process known as a "green" completion in which natural gas brought up during flowback is captured in tanks rather than in open fluid pits. Among other measures to reduce emissions include the USEPA's Natural Gas STAR program. The EPA U.S. inventory data shows that industry's implementation of BMPs proposed by the program has reduced emissions from oil and gas exploration and development [EPA 2016b].

4.1.1.2. Cultural Resources

Previous survey coverage within these parcels varies widely with moderate (generally defined as one site for every 20 acres) to low survey coverage being the norm. However, all parcels are in areas with sufficient survey coverage on adjacent or similar land forms to make reasonable assumptions about expected site density within or near parcels. The VFO expects all parcels to have low or medium site density. All parcels are sufficiently large, have sufficient topographic complexity, and/or have sufficient areas of expected low or medium site densities to allow for 5 acres of disturbance associated with a single well pad within, and in some cases near, a parcel without causing any adverse effects to historic properties. With the expected site densities in this area and the completion of numerous undertakings without any direct, indirect or cumulative adverse effects to historic properties, the lease sale, will have “no adverse effect” to historic properties.

As discussed in the Vernal RMP EIS, page 4-52 [BLM 2008c]: “sites within the area of potential direct effects will have been identified and either avoided or mitigated as part of the specific mineral development projects, sites not located within the footprints of undertakings are also vulnerable to negative impacts as human traffic in the general area increases. Potential indirect effects on cultural resources include vandalism and looting of cultural resource sites related to increased human activity within areas of mineral development. Other indirect negative impacts related to increased human activity in given areas include trampling of sites simply through the sheer volume of individuals visiting sites. Additional potential indirect impacts include increased erosion on cultural resource sites located near well pads, pipelines, and other minerals related facilities where vegetation cover has been reduced or eliminated.”

Furthermore, the following Cultural Resource Protection lease stipulation is included to each of these parcels:

This lease may contain historic properties and/or resources protected under the 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.

This stipulation requires the BLM to conduct more cultural resource identification and evaluation efforts for any future oil and gas developments associated with these leases if they are sold. These additional identification efforts will most likely include Class III surveys. These Class III surveys or the information from existing adequate Class III surveys would be used prior the BLM authorizing any ground disturbing activities. If historic properties are identified the BLM will make every effort to first avoid any potential effects to this resources. If potential adverse effects to historic properties are identified and cannot be avoided, the VFO will resolve those adverse effects by following the procedures in *Resolution of adverse effects* 36 C.F.R. § 800.6.

Cultural resources in parcels under an NSO stipulation would be protected; however, they could still be impacted by off lease development and resources on the adjacent Federal, private and State lands, such as surface disturbing activities and truck traffic that may cause increased

dust/particulate matter that may affect rock art panels, and long-term changes in overall site settings. If development were to occur on adjacent land to access Federal minerals, an APD would not be approved until the requirements of laws and regulations, including NEPA, and the National Historic Preservation Act have been met. (Onshore Oil and Gas Order No. 1, Part III.F.a.2.) Also, each issued parcel would contain a mandatory stipulation for the statutory protection of cultural resources within proposed parcels (BLM Handbook H-3120-1 – Competitive Leases (P) p. 35), which would be enforced through any future authorization to conduct exploration or operational activities under the lease.

Potential impacts relating to future authorizations would be mitigated through avoidance whenever possible. Reasonable development could occur within the proposed parcels without impacts to cultural resources or effects to historic properties. In addition to the Cultural Resource Protection lease stipulation, the BLM would add lease notices UT-LN-67, UT-LN-68, UT-LN-69 and UT-LN-70, to all BLM surface-administered parcels offered for lease.

Appendix H includes the cultural resource report describing resources for each parcel in more detail. There are a total of twenty-eight parcels analyzed for this inventory and each is identified using the BLM Sale ID number as the parcel number.

4.1.1.3. Areas of Critical Environmental Concern

The issuance of leases would not directly impact the ACEC's relevance and importance values. However, as the BLM generally cannot deny all surface use of a lease unless the lease is issued as a No Surface Occupancy stipulation, the issuance of leases does convey an expectation that drilling and development would occur. No surface occupancy, controlled surface use, and timing limitation stipulation UT-S-23 would be applied within the ACEC and mitigate impacts of oil and gas development on ACEC values.

The Nine Mile Canyon ACEC (44,168 acres) was designated in the Vernal RMP [BLM 2008c] to "be managed to enhance cultural and special status plant species while enhancing scenic vistas, recreation, and wildlife resource values." [BLM 2008b] The relevance and importance values are cultural resources, special status species, and high quality scenery. For a detailed explanation of impacts to the specific related resources, please refer to the Cultural, Visual Resources and Plants: Special Status sections in Chapter 4 of this document.

The relevant and important value of scenery only applies within the Nine Mile Canyon itself and is protected by VRM Class II objectives from canyon rim to canyon rim within the river corridor. Because scenic relevant and important values are not attributed to areas above the rim, the Approved VFO RMP [BLM 2008b] states on page 41 that, "there is no need to restrict oil and gas leasing for visual purpose" above the canyon rim. Parcels 009 and 010 are located below the canyon rim. BLM would add the lease stipulation UT-S-23 - No Surface Occupancy to parcels 009 and 010. Leasing the parcels under a No Surface Occupancy stipulation would prevent any future associated development from occurring within these parcels. Thus, no direct impacts to relevant and important values within the Nine Mile Canyon ACEC are anticipated as a result of the proposed action.

Table 4.3. Nine Mile Canyon ACEC

ACEC	Lease Notice or Stipulation	Parcel
Nine Mile Canyon	UT-S-23 – No Surface Occupancy/Controlled Surface Use/Timing Limitations	009, 010

4.1.1.4. Lands with Wilderness Characteristics

Although the issuance of the lease would not directly impact the wilderness characteristics (naturalness, solitude, and primitive unconfined recreation) of the area, the issuance of leases does convey an expectation that drilling and development would occur. The potential development of the lease would likely cause indirect impacts to wilderness characteristics (see Table 3.3 above). A number of variables would influence the degree of impact to lands with wilderness characteristics, including where surface-disturbing activities occur, land form or topography, vegetation type, sequence of development, and reclamation time. If drilling and development were to occur in lands with wilderness characteristics, the wilderness characteristics in that area would likely be reduced. Impacts could include loss of naturalness and loss of opportunities for solitude or primitive unconfined recreation. Additional impacts from development could include a reduction in the size of the unit. Development associated with oil and gas leasing (e.g., well pads, access roads) could bisect or fragment a portion of the wilderness characteristics unit so that all or part of the unit no longer meets the size criteria.

Potential impacts to wilderness characteristics as a result of oil and gas development were anticipated in the Vernal FEIS and Proposed RMP [BLM 2008c], which states, “Construction of roads, well pads, compressors, pipelines, and power lines would disturb vegetation and soil and the natural characteristics of the non-WSA lands with wilderness characteristics. The presence of people, vehicles, and equipment, and the physical disturbance to the landscape would diminish opportunities for solitude and conflict with primitive forms of recreation”.

For Desolation Canyon, the VFO FEIS and Proposed RMP [BLM 2008c] states that, “Given the resource potential, level of past production, existing leases, and ongoing exploration and development, it is anticipated [that the Desolation Canyon Unit and others] would lose all or most of their wilderness characteristics”. The ROD qualifies on pages 33 and 34 that some areas were not selected to be managed for the purpose of preserving wilderness characteristics because they possess “high potential for oil and gas resources and currently have a large portions of the lands leased.”[BLM 2008b] A portion of parcel 038 would be leased under Lease Stipulation UT-S-157 – No Surface Occupancy/Controlled Surface Use/Timing Limitations. Parcels 032, and 039 are fully within the Desolation Canyon lands with wilderness characteristics unit, except for a cherry-stemmed road that is excluded from Parcel 039. Small portions of parcels 038 and 049 overlap the periphery of the Desolation Canyon Unit. All four of these parcels would be leased under standard oil and gas leasing stipulations. Where development occurs, wilderness characteristics would potentially be negatively affected; however, mitigation and project design features identified during future site-specific analysis could reduce the potential impacts to wilderness characteristics.

Impacts to wilderness characteristics for the Currant Canyon Unit have not been analyzed within a land use plan. Generally, impacts from the development of a lease would be similar to those described above. Parcels 009 and 010 are located along the southern boundary of the Currant Canyon lands with wilderness characteristics unit. These parcels are within an area subject to No Surface Occupancy stipulations to protect fragile soils, slopes and visual resources. BLM would add the lease stipulation UT-S-23 - No Surface Occupancy to parcels 009 and 010. Leasing the parcels under a No Surface Occupancy stipulation will prevent any future associated development from occurring within these parcels. Thus, no direct impacts to wilderness characteristics within lease parcels 009 and 010 that are within the Currant Canyon unit are anticipated as a result of the proposed action.

4.1.1.5. Livestock Grazing and Rangeland Health

Livestock grazing would continue; however, should development occur on the lease, loss of forage and possible reductions of AUMs would occur in the allotment due to disturbance and activity. Livestock movement patterns would be hindered by new roads and oil well pads. Increased traffic may lead to an increase in vehicle livestock collisions, and increasing mortality rates. Invasive weeds would be expected to increase along new roads and throughout well pads; past reclamation efforts have not been successful in eradication of invasive species or in obtaining the seral state of ecological site descriptions for those areas before disturbance occurred. Topsoil erosion would occur which would increase sediment loading within riparian areas and decrease viable soils for plant communities. Channelization would occur along roads.

Rangeland Health Assessments have been taken on these allotments in key areas for years. Some of these key areas could be lost due to disturbance from oil and gas development activity. Data would be and has been lost due to surface disturbance. New areas would have to be targeted as key areas for these allotments. Mitigation may need to take place on a site specific basis where Range Improvement Projects (RIPs) exist. This should include a 200 meter buffer from all RIPs. Depending on amount of disturbance, compensatory adjustments may be needed if AUMs are reduced on livestock operations. Compensatory adjustments would be looked at on a case by case basis at the Environmental Assessment level for the allotments' permit renewal process.

4.1.1.6. Plants: Special Status

4.1.1.6.1. Plants: BLM-Sensitive Species

The issuance of leases would not directly impact BLM-Sensitive plant species on the nominated parcels. However, as the BLM generally cannot deny all surface use of a lease unless the lease is issued as a No Surface Occupancy stipulation, the issuance of leases does convey an expectation that drilling and development would occur. Chapter 3 identifies species that could be impacted through future actions on leased parcels. Beyond the potential loss or damage to individuals these impacts include direct dispersed and indirect impacts including: the loss of suitable habitat for the species and its pollinators; increased competition for space, light, and nutrients with invasive and noxious weed species introduced and spread due to the Proposed Action; accidental spray or drift of herbicides used during invasive plant control; altered physiology (*i.e.*, photosynthesis, respiration, and transpiration) and reproductive success due to increased fugitive dust resulting from the surface disturbance and project related traffic. For the parcels on federally managed surface, application of the appropriate species-specific lease notices and application of lease notices UT-LN-49 (Utah Sensitive Species), UT-LN-51 (Special Status Plants: Not Federally Listed), UT-LN-89 (Horseshoe milkvetch [*Astragalus equisolensis*]), and UT-LN-90 (Graham beardtongue [*Penstemon grahamii*]) would be adequate for the leasing stage to disclose potential restrictions against future authorizations. Lease notices UT-LN-49 and UT-LN-51 may require modifications to the Surface Use Plan of Operations. Lease notices UT-LN-89 and UT-LN-90 outline specific mitigation measures and survey requirements for each specific BLM-Sensitive plant species they include. Additionally, parcels identified as containing designated Conservation Agreement Areas (Table 3.4) will require additional mitigation and conservation measures if developed (see Conservation Agreement and Strategy for Graham's Beardtongue [*Penstemon grahamii*] and White River Beardtongue [*P. scariosus* var. *albifluvis*] SWCA 2014).

For a detailed descriptions of the Stipulation and Notices and how they are implemented see Appendix A.

Endangered Species Act (ESA) related stipulation (in accordance with BLM Handbook 3120–1 Competitive Leases (P) (H3120)) would be applied to all parcels: See Appendix A.

4.1.1.6.2. Plants: Threatened, Endangered, Proposed, and Candidate

The issuance of leases would not directly impact threatened, endangered, proposed, and candidate plant species on the nominated parcels. However, as the BLM generally cannot deny all surface use of a lease unless the lease is issued as a No Surface Occupancy stipulation, the issuance of leases does convey an expectation that drilling and development would occur. Chapter 3 identifies species that could be impacted through future actions on leased parcels. Beyond the potential loss or damage to individuals these impacts include direct dispersed and indirect impacts including: the loss of suitable habitat for the species and its pollinators; increased competition for space, light, and nutrients with invasive and noxious weed species introduced and spread due to the Proposed Action; accidental spray or drift of herbicides used during invasive plant control; altered physiology (*i.e.*, photosynthesis, respiration, and transpiration) and reproductive success due to increased fugitive dust resulting from the surface disturbance and project related traffic. For the parcels on federally managed surface, application of the appropriate species-specific lease notices and application of lease notices UT-LN-49 (Utah Sensitive Species), T&E-05 (Listed Plant Species), T&E-12 (Pariette cactus [*Sclerocactus brevispinus*] and Uinta Basin hookless cactus [*Sclerocactus wetlandicus*]), T&E-20 (Clay reed-mustard [*Hesperidanthus suffrutescens*]), T&E-21 (Shrubby reed-mustard [*Hesperidanthus suffrutescens*]), and T&E-22 (Ute ladies'-tresses [*Spiranthes diluvialis*]) would be adequate for the leasing stage to disclose potential restrictions against future authorizations. Additionally, the parcels identified as containing Core Conservation Areas (038 and 105; Table 3.5) will require additional mitigation and conservation measures if developed, including payment(s) into the Sclerocactus Mitigation Fund (see Ecological Restoration Mitigation Calculation Guidelines for impacts to *Sclerocactus wetlandicus* and *Sclerocactus brevispinus* Habitat, USFWS 2014).

4.1.1.7. Recreation

The issuance of lease parcels 009 and 010 would not directly impact the recreational opportunities of the Nine Mile SRMA or Nine Mile Canyon Back-country Byway. However, since the leases would be issued with a No Surface Occupancy stipulation, the expectation is that drilling and development would occur on adjacent Federal, State and private lands. The impacts to recreational opportunities from drilling and development were generally disclosed in Section 4.12.2.4 of the VFO RMP/EIS.

NSO stipulations were developed to protect the scenic qualities of Nine Mile ACEC by diverting development to areas out of the line of sight of the canyon bottom. Should development of federal minerals be proposed to occur on the private lands of the canyon bottom, potentially affecting the ACEC, Back Country Byway, and SRMA, NEPA analysis of the impacts to scenic quality and other issues would determine whether another EIS would be required prior to such development.

Should construction and drilling occur, the sights and sounds associated with the development of the oil and gas related activities would be apparent to visitors participating in recreation related activities. The noise of construction and operation of producing wells, including the presence of work crews, vehicles, and equipment, would reduce primitive recreational opportunities in

proximity to development. Impacts from light and sound would be minimized by implementing the VFO RMP [BLM 2008c] management decisions (MIN-5) that state, “The BLM would seek to minimize light and sound pollution within the Vernal Planning Area by using the best available technology such as installation of multi-cylinder pumps, hospital sound-reducing mufflers, and placement of exhaust systems to direct noise away from noise sensitive areas.” The noise sensitive area would be the Nine Mile Canyon itself. The following lease stipulations and notices would be adequate for the leasing stage to disclose potential restrictions against future development of parcels 009, and 010: UT-S-23 - No Surface Occupancy/Controlled Surface Use and UT-LN-106 (Special Recreation Management Area).

Table 4.4. SMRA

SMRA	Lease Notice or Stipulation	Parcels
Nine Mile Canyon SMRA	UT-S-23 – No Surface Occupancy/Controlled Surface Use	009, 010

4.1.1.8. Visual Resources

The issuance of leases would not directly impact Visual Resources. However, as the BLM generally cannot deny all surface use of a lease unless the lease is issued as a No Surface Occupancy stipulation, the issuance of leases does convey an expectation that drilling and development would occur.

For the purposes of this analysis, there could be potential effects to visual resources found in the existing inventory classification identified in VRI Section 3.1.8. These impacts would include future development in the form oil wells/pads, pipelines, compressors, power lines, constructed roads and other linear features. These impacts (form, line, color and texture) to the existing landscape found in the current VRI Classes would be allowable under the visual resource management decision which was established in the VFO RMP [BLM 2008b]. Further detailed analysis of these potential impacts to the VRI would be analyzed in the future as oil and gas development plans and permits to drill are submitted. Mitigations and design features in order to reduce the potential impacts to the VRI would be addressed at that time. Management decisions made in order to manage visual resources are reflected in the visual resource management classification (VRM). These classes would be utilized to address potential effects to the visual resource for the remainder of the document. Impact to visual resources would be considered relevant if the impacts of the proposed project do not conform to an area's designated visual resource management (VRM) class objectives which for this proposed action include VRM Class II, III, and IV. Short-term impacts are those that would affect visual resources for fewer than five years; long-term impacts would affect visual resources for more than five years. The potential direct adverse impacts to visual resources would include the visual contrasts created by construction equipment, pipelines, well pads, temporary and permanent access roads, and other forms of infrastructure associated with oil and gas exploration and development. In general, drilling rigs and equipment, construction and maintenance vehicles, development infrastructure, and surface disturbance, including roads, would impact an area's scenic quality and appearance of naturalness with human-made form, color, and linear contrasts. A visual contrast rating process would be used for the VRM analysis, which involves comparing the project features with the major features in the existing landscape to determine whether the scenic values of the BLM managed lands within each parcel have been maintained. The following lease stipulations would be adequate for the leasing stage to disclose potential restrictions against future development of parcel 038: UT-S-157 (NSO/CSU/TL Visual Resources) and UT-S-159 (VRM I/II).

Table 4.5. VRM

VRM Class	Lease Notice or Stipulation	Parcels
All	UT-S-157 – No Surface Occupancy/Controlled Surface Use/timing Limitations — Visual Resources	All Parcels
Class /II	Controlled Surface Use – Visual Resources – VRM II	038

4.1.1.9. Wildlife: Migratory Birds including Raptors

The issuance of leases would not directly impact migratory birds and raptors on the nominated parcels. However, the issuance of leases does convey an expectation that construction and drilling could occur. Chapter 3 identifies that migratory birds and raptors occur on all parcels and could be potentially impacted through future actions on leased parcels. In addition to the direct loss and fragmentation of habitat, noise disturbances from increased traffic levels could displace migratory birds and raptors. However, the Lease Stipulation UT-S-261 (Buffers and timing limitations for raptor nests) and Lease Notice UT-LN-45 (notice for Migratory bird nesting surveys) would be applied to all parcels to mitigate/minimize these impacts. Modifications to a surface plan of operation would be addressed at the APD stage. Bird and raptor surveys would be conducted and utilized prior to any surface disturbing activity.

Application of the migratory bird and raptor lease notices would be adequate for the leasing stage to disclose potential restrictions to reduce potential impacts. Appropriate lease stipulations and notices have been included within the Proposed Action to protect habitat values (see Appendix A). Project-specific impacts relating to future authorizations cannot be analyzed until an exploration or development application is received.

4.1.1.10. Wildlife: Non-USFWS Designated

The issuance of leases would not directly impact fish and wildlife resources on the nominated parcels. Chapter 3 identifies species and habitats which could be potentially impacted through future actions on leased parcels. Project-specific impacts relating to future authorizations cannot be analyzed until an exploration or development application is received, however for both general fish and wildlife, impacts are assumed to include the direct loss and fragmentation of habitat upon construction of a well pad with its associated road and pipeline. In addition, noise disturbances from increased traffic levels could displace wildlife species.

Appropriate lease stipulations and notices have been included to protect big game habitat values (see Table 4.6, “General Wildlife Stipulations”).

Table 4.6. General Wildlife Stipulations

Species	Stipulations	Parcels
Crucial elk calving	UT-S-247 TL-Crucial Deer Fawning & Elk Calving Habitat	006, 012, 013, 014, 015, 016
Crucial elk winter	UT-S-230 TL-Crucial Deer and Elk Winter Range	005, 009, 070, 152
Crucial deer fawning	UT-S-247 TL-Crucial Deer Fawning & Elk Calving Habitat	004, 038, 070, 094, 103
Crucial deer wintering	UT-S-230 TL-Crucial Deer and Elk Winter Range	009, 070, 121, 122, 152

4.1.1.11. Wildlife: Special Status Species

The issuance of leases would not directly impact special status species or habitat. However, the issuance of a lease does convey an expectation that oil and gas development could occur. Chapter 3 identifies species and habitats which could be potentially impacted through future actions on leased parcels. Project-specific impacts relating to future authorizations cannot be analyzed until an application for development is received, however it is assumed to include the direct loss and fragmentation of habitat upon construction of a well pad with its associated road and pipeline. In addition to the direct loss and fragmentation of habitat associated with the Proposed Action, noise disturbances from increased traffic levels, or water depletion (for fish) could temporarily displace wildlife species. Refer to Table 4.7, “Special Status Species” for a brief summary of anticipated impacts should development occur and refer to Table 4.8, “Special Status Species Stipulations/Notices”. for a description of the lease stipulations and notices.

Table 4.7. Special Status Species

Species	Potential Impacts
Bonytail Chub, Colorado Pikeminnow, Humpback Chub, Razorback Sucker, Bluehead Sucker, Flannelmouth Sucker, Roundtail Chub	All parcels have potential for drilling activities to use water from the Green River system. Water depletions reduce the ability of the river to create and maintain the primary constituent elements that define critical habitats. Food supply, predation, and competition are important elements of the biological environment. Food supply is a function of nutrient supply and productivity, which could be limited by reduction of high spring flows brought about by water depletions. Predation and competition from nonnative fish species have been identified as factors in the decline of the endangered fishes.
Black Footed Ferret	Construction of roads and well pads could result in the loss of suitable habitat, decrease in prairie dog prey for the black-footed ferret. Vehicle traffic could result in crushing burrows and collisions with ferrets.
Townsend's Big-Eared Bat, Big Free-Tailed Bat, Spotted Bat, Fringed Myotis, Allens Big Eared Bat, Western Red Bat	Construction of roads and well pads could result in the loss of foraging habitat, making it less suitable for bats. As traffic volumes and/or project-related activities increase, adjacent habitats may be avoided due to human presence, noise, and the potential influx of invasive weeds.
Golden Eagle, Bald Eagle, Burrowing Owl, Ferruginous Hawk, Short-eared Owl	Potential effects of the Proposed Action on raptor species include: 1) increased indirect impacts (including poaching and collisions with vehicles), 2) direct loss or degradation of potential nesting and foraging habitats from construction and drilling, and 3) indirect disturbance from human activity (including harassment, displacement, and noise).
Gray Vireo, Grasshopper Sparrow, Brewer's Sparrow, Bobolink	The proposed action would result in a loss of habitat for migratory birds. Direct impacts to nesting and breeding migratory birds may occur, depending upon the time of construction and drilling. If development occurs in the spring, during the nesting season for most migratory birds, impacts would be greater than if development occurred between late summer and late winter. Impacts to birds during the spring could include nest abandonment, reproductive failure, displacement, and destruction of nests.
Mexican Spotted Owl	Potential impacts include increased human presence; equipment and vehicle use; and surface disturbance in owl habitat. Associated visual and noise disturbance may adversely affect the behavior of owl during breeding, nesting, roosting, or foraging efforts.
Sage-grouse	Some potential impacts of oil and gas development to Sage-grouse include: (1) direct loss and fragmentation of habitat from well, road, and pipeline construction, (2) increased human activity causing avoidance and displacement, and (3) increased predation from installation of infrastructure (i.e., storage tanks, power lines, etc.).
Yellow-billed Cuckoo	The impacts could include loss of suitable habitat from construction and drilling. Disturbance due to noise from construction and human activities could cause birds to abandon nests or deter them from nesting in those areas.

The following Endangered Species Act (ESA) related stipulation (in accordance with BLM Handbook 3120–1–competitive Leases (P) (H-3120) p. 35) would be applied to all parcels:

The lease may now and hereafter contain plants, animals, and their habitats determined to be special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objectives to avoid BLM approved activity that will contribute to a need to list such a species or their habitat. BLM may require modification 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 that may affect any such species or critical habitat until it completes its obligation under 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.

Parcels 032, 067 and 152 are within GHMA for GRSG, within oil and gas developed areas and within an oil and gas unit, therefore they are being considered for leasing for the November 2016 Lease Sale. It is assumed, at the leasing stage, that at least one well would be drilled on each of these leases. Therefore, each parcel could have approximately 4 acres of disturbance if development were to occur (refer to Proposed Action in Ch. 2). The GRSG habitat on these parcels is marginal, and the areas adjacent to these parcels have already had substantial impacts from existing development. In complying with RMP management, the BLM would be able to work with the operator at the time of the development to avoid that habitat

All of these three leases also include lease notices that alert the lessee that there is GRSG habitat on the parcel. Lease notices for Required Design Features (RDF), buffers and net conservation gain have been placed on these parcels. These inform the lessee that there are additional resources that are going to have to be considered at the time of development and some of the possible restrictions that may be associated with those resources. The lease notices listed here are to ensure management activities for GRSG at the development stage will be completed according to management action MA-SSS-5 in the GRSG ARMPA. This decision includes required mitigation for any action in GRSG habitat (GHMA or PHMA) in order to provide a net conservation gain to the species. This can be achieved through avoiding, minimizing or providing compensatory mitigation for those habitats impacted by the development. The buffer notice will be applied by ensuring that leks within GHMA are still protected to the extent needed in each situation to sustain that population. That would be decided on a case-by-case basis at the time of proposed development. See the table below for GHMA lease notices.

Impacts on GRSG in these populations would be minimal based on the incidental or low use of this habitat. However, the impacts could include but are not limited to degradation of overall habitat displacement and fragmentation of habitat (see GRSG FEIS section 4.3.7 for a detailed description of potential impacts on GRGS in GHMA from oil and gas activity).

Table 4.8, “Special Status Species Stipulations/Notices” lists all additional lease notices and stipulations that would also be applied to the indicated parcels.

Table 4.8. Special Status Species Stipulations/Notices

Species	Lease Notice or Stipulations	Parcels
Bonytail Chub, Colorado Pikeminnow, Humpback Chub, Razorback Sucker	T&E-03 Endangered Fish of the Upper Colorado River Drainage Basin UT-LN-49 Utah Sensitive Species	All
Black Footed Ferret	T&E-02 Black Footed Ferret	094, 103
Bluehead Sucker, Flannelmouth Sucker, Roundtail Chub	UT-LN-49 Utah Sensitive Species	All
Townsend's Big-Eared Bat, Big Free-Tailed Bat, Spotted Bat, Fringed Myotis, Allens Big Eared Bat, Western Red Bat	UT-LN-49 Utah Sensitive Species	All
Mexican Spotted Owl	T&E-06 NSO/CSU/TL Mexican Spotted Owl	004, 005, 009, 010
Bald Eagle	UT-S-278 CSU-Bald Eagle Winter Roost UT-LN-107 Bald Eagle Nesting and Winter Roost Habitat	038, 069, 071, 094, 103, 142,
Golden Eagle and Bald Eagle	UT-S-261 NSO/CSU/TL-Raptor Buffer UT-LN-49 Utah Sensitive Species UT-LN-40 Golden Eagle Habitat UT-LN-49 Bald Eagle Habitat	All
Ferruginous Hawk	UT-S-261 NSO/CSU/TL-Raptor Buffer UT-LN-49 Utah Sensitive Species	All
Short-eared owl	UT-S-261 NSO/CSU/TL-Raptor Buffer UT-LN-49 Utah Sensitive Species	All
Gray Vireo, Grasshopper Sparrow, Brewer's Sparrow, Bobolink	UT-LN-45 Migratory Birds UT-LN-49 Utah Sensitive Species	All
Sage-grouse GHMA	UT-LN-49 Ut. Sens. Species UT-LN-131 SG/Net Gain UT-LN-132 SG/RDF's UT-LN-133 SG/Buffer UT-S-195 NSO - SG/Leks UT-S-205 TL - SG/Brood Rearing UT-S-206 CSU - SG/Noise Reduction UT-S-207 CSU - SG/Structures	032, 067, 152
Yellow-billed Cuckoo	UT-LN-49 Utah Sens. Species UT-LN-113 Western YBC UT-LN-115 Light and Sound	038, 094, 103

Application of these stipulations and notices to each of the parcels on federal surface would be adequate for the leasing stage to disclose potential future restrictions and to facilitate the reduction of potential impacts upon receipt of a site specific APD.

4.1.2. Alternative B – No Action

4.1.2.1. Air Quality

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.1.2.1.1. Greenhouse Gases and Climate Change

Under the no action alternative no direct or indirect GHG emissions would occur from any potential future production from these lease parcels. Whether this would result in an actual reduction in future GHG emissions is unknowable, as this production could be made up from production from other oil and gas production fields.

4.1.2.2. Cultural Resources

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.1.2.3. Areas of Critical Environmental Concern

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.1.2.4. Lands with Wilderness Characteristics

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.1.2.5. Livestock Grazing & Rangeland Health

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.1.2.6. Plants: Special Status

4.1.2.6.1. Plants: BLM-sensitive Species

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.1.2.6.2. Plants: Threatened, Endangered, Proposed, and Candidate.

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.1.2.7. Recreation

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.1.2.8. Visual Recourses

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.1.2.9. Wildlife: Migratory Birds including Raptors

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.1.2.10. Wildlife: Non-USFWS Designated

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.1.2.11. Wildlife :Special Status Species

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.2. Cumulative Impacts Analysis

A cumulative impact is defined in CEQ regulations (40 CFR §1508.7) as “the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions.” Cumulative impacts can result from individually minor but collectively major actions taking place over a period of time. The cumulative impact area varies by resource.

Past, present, and reasonably foreseeable impacts may occur from a variety of activities. Dispersed recreation activities, such as sightseeing, biking, camping, and hunting, have occurred and are likely to continue to occur within the nominated parcels; these activities likely result in negligible impacts to resources because of their dispersed nature. Other land use activities, such as livestock grazing, vegetation projects, oil and gas development, and wildland fire, have also occurred within the nominated parcels and are likely to occur in the future. These types of activities are likely to have a greater impact on resources in the project area because of their more concentrated nature.

4.2.1. Air Quality

The cumulative impact area for air quality is the Uinta Basin, plus all regional Class I areas and other environmentally sensitive areas (e.g., national parks and monuments, wilderness areas, etc.) near the Uinta Basin. The Air Resource Management Strategy (ARMS) Modeling Project [BLM 2011] is a cumulative assessment of potential future air quality impacts associated with predicted

oil and gas activity in the Uinta Basin . Consequently, past, present and reasonably foreseeable wells in the Uinta Basin are a part of the cumulative actions considered in this analysis. The ARMS is incorporated by reference and summarized below.

The ARMS Modeling Project predicted the following impacts to air quality and air quality related values for the 2010 typical year and four 2021 future year scenarios: 2021 on-the-books (OTB); 2021 Scenario 1 (NO_xcontrols); 2021 Scenario 2 (VOC controls); and 2021 Scenario 3 (NO_x and VOC controls).

- Ozone

- The highest modeled ozone occurs in the Uinta Basin study area regardless of model scenario, and all scenarios predict exceedances of the ozone NAAQS and state AAQS in the Uinta Basin.
- In the Uinta Basin, the ozone concentrations are highest during the winter period. In Class I and Class II areas outside the Uinta Basin study area, ozone concentrations are highest during the summer period.
- During non-winter months in the Uinta Basin the model predicts that ozone may exceed the NAAQS and state AAQS (Ambient Air Quality Standards); however, model-adjusted results from the MATS tool (which accounts for model performance biases) indicate that non-winter ozone concentrations are below the NAAQS and state AAQS for all monitors and areas analyzed. Also, the 2021 scenarios have minimal effect on model-predicted ozone concentrations during non-winter months.
- 2021 Scenario 2 tends to have the lowest 8-hour ozone concentration relative to all other 2021 scenarios (4th highest daily maximum is 3 ppb lower compared to the 2021 OTB Scenario). When comparing Scenario 2 to the OTB Scenario, a potential reduction in ozone concentrations occurs in the vicinity of the Ouray site (where the concentrations are already largest). There is no predicted ozone disbenefit associated with Scenario 2 mitigation measures (i.e., there is no area with predicted ozone increases relative to the OTB Scenario). This supports the assessment that peak ozone impacts are in VOC-limited areas.
- 2021 Scenarios 1 and 3 are predicted to have higher ozone impacts than either the 2010 Typical year and the 2021 OTB Scenario. Both scenarios predict a relatively large increase in ozone concentrations within the vicinity of Ouray indicating potential ozone disbenefits associated with NO_x control mitigation measures.

- NO₂, CO, SO₂, PM_{2.5}, and PM₁₀

- There are seven monitoring stations within the 4- km domain with daily PM_{2.5} concentrations that exceed the NAAQS and state AAQS in the baseline emissions inventory.
- All modeled NO₂, CO, SO₂, PM_{2.5}, and PM₁₀ values are well below the NAAQS and state AAQS in the Uinta Basin.
- The model-predicted PM_{2.5} and PM₁₀ concentrations may underestimate future impacts due to a negative model bias throughout the year in the 4-km domain with the largest bias occurring in summer [AECOM and STL].

- Results from the MATS tool (which accounts for model performance biases) indicate that PM_{2.5} concentrations may exceed the NAAQS and state AAQS for select monitors and assessment areas in the 2010 Typical year. All 2021 scenarios predict that only one of these monitoring station would continue to exceed the NAAQS and state AAQS.
- No monitoring stations within the 4-km domain exceed the annual PM_{2.5} NAAQS and state AAQS during the 2010 typical or 2021 Scenarios.
- Two unmonitored areas within the Uinta Basin exceed the annual PM_{2.5} NAAQS and state AAQS during the 2010 typical year, and impacts in these areas tend to increase under 2021 Scenarios 1 and 2. Under 2021 Scenario 3, the annual PM₂ impacts decrease in the Uinta Basin due to combustion control measures.
- The 2021 scenarios generally have lower NO₂, CO, SO₂, PM_{2.5}, and PM₁₀ concentrations than the 2010 Typical Year scenario, except for within the Uinta Basin.
- Under the 2021 scenarios, all assessment areas are within the PSD (Prevention of Significant Deterioration) increments for annual NO₂, 3-hour SO₂, annual SO₂, and annual PM₁₀.
- Under the 2021 scenarios, most assessment areas exceed the 24-hour PM_{2.5} PSD increment.
- **Visibility**
 - Visibility conditions in Class I and sensitive Class II areas generally show improvement in the 2021 Scenarios relative to the 2010 Typical Year.
 - There also are no substantial differences in the 20th percentile best and worst visibility days between the 2021 Scenarios.
- **Deposition and Acid Neutralizing Capacity**
 - Results generally show a decrease in deposition for the 2021 Scenarios relative to the 2010 Typical Year.
 - The differences in estimated deposition between the 2021 Scenarios are generally very small.
 - Acid Neutralizing Capacity change at all seven sensitive lakes exceeds the 10 percent limit of acceptable change for all model scenarios.

It is anticipated that the impact to ambient air quality and air quality related values associated with the Proposed Action would be indistinguishable from and dwarfed by the model and emission inventory scope and margin of error. The No Action alternative would not contribute any cumulative impacts.

Greenhouse Gases

Even though the Proposed Action of leasing would not contribute to cumulative effects on air resources, future foreseeable development could contribute to cumulative GHG emissions. The primary sources of emissions include the following:

- Fossil fuel combustion for construction and operation of oil and gas facilities – vehicles driving to and from production sites, engines that drive drill rigs, etc. These produce CO₂ in quantities that vary depending on the age, types, and conditions of the equipment as well as the

targeted formation, locations of wells with respect to processing facilities and pipelines, and other site-specific factors.

- Fugitive CH₄ – CH₄ that escapes from wells (both gas and oil), oil storage, and various types of processing equipment. This is a major source of global CH₄ emissions. These emissions have been estimated for various aspects of the energy sector, and starting in 2011, producers are required under 40 C.F.R. §98, to estimate and report their CH₄ emissions to the EPA.
- Combustion of produced oil and gas – it is expected that operations will produce marketable quantities of oil and/or gas. Combustion of the oil and/or gas would release CO₂ into the atmosphere. Fossil fuel combustion is the largest source of global CO₂.

Since climate change and global warming are global phenomena, for purposes of this NEPA analysis, the analysis presented above about the direct and indirect effects of GHG emissions from the proposed actions is also an analysis of the cumulative effects of the proposed actions. Consistent with CEQ guidance, the BLM has determined that this analysis “adequately addresses the cumulative impacts for climate change from the proposed action and its alternatives, and therefore a separate cumulative effects analysis for GHG emissions is not needed.

4.2.2. Cultural Resources

The cumulative impact area for this resource is the parcel boundaries, and includes the entirety of Nine Mile Canyon, and Steinaker Reservoir. Past, present, and reasonably foreseeable activities within the parcels that could have potential cumulative impacts on cultural resources include increased visitation and motorized access into previously inaccessible areas. Cumulative impacts include dust accumulation and its impact on rock art, changes in visitation, inadvertent or advertent (i.e., vandalism and looting) damage to cultural resources, impacts to unidentified Traditional Cultural Properties and increased recreational use.

Surface disturbance resulting from mineral exploration and development including road, pipeline and electric line construction could potentially cause the greatest amount of cumulative impacts to cultural resources in the parcels. These activities have the potential to increase visual, noise, atmospheric and other such intrusions that affect the cultural setting of historic properties, which may contribute to their National Register of Historic Places eligibility determinations. The proposed action adds the potential for development to occur in these areas. The No Action alternative would not contribute any cumulative impacts.

4.2.3. Areas of Critical Environmental Concern

The cumulative impact boundary of analysis for the Nine Mile Canyon ACEC (44,168 Acres) is the boundary of the respective ACEC resource area. The rationale for this boundary is that special management considerations are placed on the ACECs to protect the relevant and important (R&I) values. The R&I values of these ACECs include, Nine Mile ACEC: cultural resources, high quality scenery, and special status species. The past, present, and foreseeable future actions with the potential to contribute to surface disturbance include development of new and existing mineral rights or realty actions (for example, oil wells, pump jacks, pipeline, road rights of ways, etc.). The cumulative effects and the area of impact would be the same as outlined in section 4.16.1 and 4.23.15.1 of the VFO RMP [BLM 2008b]. The proposed action would contribute to these cumulative impacts by making parcels 009 and 010 available for lease and mineral development

within the Nine Mile ACEC. For specific analysis of the cumulative impacts to the R&I values contained within the ACEC please refer to the applicable sections of this document. The No Action alternative would not contribute any cumulative impacts.

4.2.4. Lands with Wilderness Characteristics

The cumulative impact area for lands with wilderness characteristics for this EA includes all lands with wilderness characteristics within the Desolation Canyon and Currant Canyon Units. The past, present, and foreseeable future actions with the potential to contribute to surface disturbance include development of new and existing mineral rights (leases) and/or realty actions (for example, pipeline or road rights-of-way). Reasonably foreseeable actions related to the implementation of the proposed action could result in the loss wilderness characteristics within the units affected.

Desolation Canyon Wilderness Character Inventory Unit (95,000 acres)

Leasing the parcels described in the proposed action (approximately 959 acres which represent approximately 1.0% of the Desolation Canyon Unit), combined with all other active leases within this lands with wilderness characteristics unit (approximately 57,776 acres) would result in total leased area of approximately 58,725 acres within the contiguous Desolation Canyon lands with wilderness characteristics unit. Cumulatively, 62% of the unit would be leased for oil and gas development. If development were to occur, it can be expected that wilderness characteristics would be lost specifically in the areas where associated surface disturbance occurs. Even if the majority of the unit is leased, there would continue to be areas greater than 5,000 contiguous acres which would meet the minimum size criteria for wilderness characteristics. Reasonably foreseeable development scenarios indicate that the cumulative impacts of the proposed action could affect an additional 1.0% of the unit; however, this is subject to each individual lease's surface use stipulations and topography and whether or not the lease is developed. For the Desolation Canyon unit, this level of development was disclosed in the VFO FEIS and Proposed RMP and accepted by the decision in the RMP [BLM 2008c].

The No Action alternative would not contribute any cumulative impacts within the Desolation Canyon Unit.

Currant Canyon Wilderness Character Inventory Unit (20,700 acres)

Leasing the parcels described in the proposed action (approximately 1,561 acres which represent approximately 7.5% of the Currant Canyon Unit), combined with all other active leases within this lands with wilderness characteristics unit (approximately 13,154 acres) would result in the total leased area of approximately 14,715 acres. Depending upon the location of the well pad outside of the area that is NSO, there is potential for impacts to wilderness characteristics in the portion of Currant Canyon that is not subject to leasing restrictions. Cumulatively, 73% of this inventory unit would be leased for oil and gas development.

Additionally, while no decision has been issued, the preferred alternative for the Energy Gateway South FEIS would remove approximately 103 acres from the unit for development of a right-of-way along the unit's northern edge.

If development were to occur, it can be expected that wilderness characteristics would be lost specifically in the areas where associated surface disturbance occurs. In addition, if development were to occur on every current lease as well as the Energy Gateway South right-of-way, the layout of the ROW application, current leased and proposed parcels within the Currant Canyon lands

with wilderness characteristics unit would result in the fragmentation of the unit so as to eliminate any area that would meet the minimum size criteria of 5,000 contiguous acres within the unit. However, leases are subject to each individual lease's surface use stipulations, constrained by topography and development of leases and proposed projects may or may not occur.

The No Action alternative would not contribute any cumulative impacts within the Currant Canyon unit.

4.2.5. Livestock Grazing & Rangeland Health Standards

The cumulative impact area for the lease sale is the boundary of the affected allotments. Ground disturbing activities associated with oil and gas development would include well pad construction, road upgrades and construction, compressor station and pipeline construction. This development results in a loss of AUMs and provides conditions for invasive plant species establishment and increase.

Natural resources affected within these allotments would include direct surface disturbing impacts to soil and vegetation from ground disturbing activities. Permitted livestock use on some of these allotments has already been reduced due to oil and gas development. Future reductions would be expected as a direct result of fragmentation and loss of forage. Surface impacts also directly (*alter water flow*) and indirectly (*noise and traffic offset animals loafing and watering at ponds*) affect the water improvements specifically managed for livestock. The analysis for any changes in AUM allocation and general grazing operations throughout these allotments would occur in separate permit renewal NEPA documents. The proposed action would contribute to these cumulative effects by making eleven parcels available for leased mineral development within active grazing allotments.

The No Action alternative would not result in cumulative impacts.

4.2.6. Plants: Special Status

4.2.6.1. Plants: BLM-Sensitive Species

The cumulative impact area for BLM-Sensitive plant species will be the Vernal Planning Area. Cumulative impacts are incorporated by reference to 4.17.2 4.23.16, and 4.23.14 in the VFO RMP [BLM 2008c]. Cumulative impacts include reduction in loss of habitat, habitat fragmentation, increased road access for OHV use and illegal collection of individuals. The past, present, and foreseeable future actions include development of new and existing mineral rights, including road, pipeline, and well pad construction. The Proposed Action would contribute to these cumulative impacts by making the proposed parcels available for lease sale and mineral development. The No Action alternative would not contribute any cumulative impacts.

4.2.6.2. Plants: Threatened, Endangered, Proposed, and Candidate

The cumulative impact area for threatened, endangered, proposed, and candidate plant species will be the Vernal Planning Area. Cumulative impacts are incorporated by reference to 4.17.2 4.23.16, and 4.23.14 in the VFO RMP[BLM 2008c]. Cumulative impacts include reduction in loss of habitat, habitat fragmentation, increased road access for OHV use and illegal collection of individuals. The past, present, and foreseeable future actions include development of new

and existing mineral rights, including road, pipeline, and well pad construction. The Proposed Action would contribute to these cumulative impacts by making the proposed parcels available for lease sale and mineral development. The No Action alternative would not contribute any cumulative impacts.

4.2.7. Recreation

The cumulative impact area for the Nine Mile Canyon SRMA and respective SRMA boundary. The rationale for this boundary is the interconnected access of recreational resources (trailheads, campgrounds, etc.) within the SRMA. Cumulative impacts are incorporated by reference to 4.12.2. and 4.23.10 in the []. The past, present, and foreseeable future actions include development of new and existing mineral rights (including pump jacks, roads, pipelines, well pad construction, etc.). Cumulative impacts include noise, light and traffic from oil and gas drilling and production in the area which would change the recreational experience of the area. The proposed action would contribute to these cumulative impacts by leasing parcels 009 and 010 for mineral development. Cumulatively, this would reduce the availability and/or quality of outdoor recreation opportunities (both dispersed and developed) on public lands within the VFO planning area:

Nine Mile Canyon SRMA (44,168 Acres)

Currently approximately 23,903 acres are leased for oil and gas development within the Nine Mile Canyon SRMA. The proposed action would lease an additional two parcels within the Nine Mile SRMA, approximately 1,839 acres for a total of approximately 25,702 acres or 58% of the SRMA. The No Action alternative would not contribute any cumulative impacts.

4.2.8. Visual Resources

The cumulative impact area considered for visual resources is the applicable inventory units of the Vernal Field Visual Resource Inventory (November 2011). The rationale for this boundary is that the visual resource inventory serves as the baseline information for assessing potential effects to visual resources within the proposed projects. Cumulative impacts are incorporated by reference to 4.12.2. and 4.23.10 of the VFO RMP [BLM 2008b]. The past, current and future activities in the inventory unit would cumulatively increase the cultural modification done to the landscape. This is viewed as negative impact when assessing the scenic quality of an area. The proposed action would contribute to these cumulative impacts by making 28 parcels available for lease and mineral development Parcel 038 in VRM Class II areas; Parcels: 004, 005, 009, 010, 012, 013, 014, 015, 032, 038, 067, 070, 094, 103, 121, 122, 151, 152 in VRM Class III areas; and parcels: 006, 009, 010, 012, 013, 014, 015, 016, 032, 039, 049, 070, 071 in VRM Class IV. Visual contrast analysis would be conducted to determine if development is in compliance with VRM standards when the project proponents begin the work of developing the minerals within the parcels. When a plan of development is created, site specific VRM analysis would be conducted. The No Action alternative would not contribute any cumulative impacts.

4.2.9. Wildlife: Migratory Birds Including Raptors

The cumulative impact area for Migratory Birds is the Vernal Planning Area. Cumulative impacts are incorporated by reference to 4.21.2 and 4.23.18 in the VFO RMP [BLM 2008b]. Cumulative impacts include loss of migratory bird habitat, habitat fragmentation, and disruption or alteration

of seasonal migration routes. The past, present, and foreseeable future actions with the potential to contribute to surface disturbance include development of new and existing mineral rights or realty actions (for example, pipeline or road rights of way) and the continuation of agricultural activities. The proposed action would contribute to these cumulative impacts by making the 28 proposed parcels available for lease sale and mineral development, with the potential for future surface disturbance should the leases be developed. The No Action alternative would not contribute any cumulative impacts.

4.2.10. Wildlife: Non-USFWS Designated

The cumulative impact area for elk and mule deer will be the Vernal Planning Area. Cumulative impacts are incorporated by reference to 4.21.2 and 4.23.18 in the VFO RMP [BLM 2008c]. Cumulative impacts to general wildlife and raptors include loss of habitat for wildlife and fisheries, habitat fragmentation, and disruption or alteration of seasonal migration routes. The past, present, and foreseeable future actions with the potential to contribute to surface disturbance include development of new and existing mineral rights or realty actions (for example, pipeline or road rights of way) or the continuation of agricultural activities. The proposed action would contribute to these cumulative impacts by making parcels 004, 005, 006, 009, 012, 013, 014, 015, 016, 038, 070, 094, 103, 121, 122, and 152, available for mineral development, with the potential for future surface disturbance should the leases be developed. The No Action alternative would not contribute any cumulative impacts.

4.2.11. Wildlife: Special Status Species

The cumulative impact area for Special Status Animal Species is the Vernal Planning Area. Cumulative impacts are incorporated by reference to 4.17.2, 4.21.2, and 4.23.14 in the VFO RMP [BLM 2008c]. Cumulative impacts to threatened, endangered, candidate, or sensitive animal species include loss of habitat for wildlife and fisheries (including water depletion), habitat fragmentation, and disruption or alteration of seasonal migration routes. The past, present, and foreseeable future actions with the potential to contribute to surface disturbance include development of new and existing mineral rights or realty actions (for example, pipeline or road rights of way) or the continuation of agricultural activities. The proposed action would contribute to these cumulative impacts by making the 28 proposed parcels, as found in Appendix A, available for lease sale and mineral development, with the potential for future surface disturbance should the leases be developed. The No Action alternative would not contribute any cumulative impacts.

Greater Sage-Grouse

The cumulative impact area for GRSG is the Vernal Planning Area. Cumulative impacts are incorporated by reference to 4.17.2, 4.21.2, and 4.23.14 in the Vernal RMP [BLM 2008c] and from chapter 5 of the GRSG FEIS. The proposed action does have a potential to contribute to surface disturbance and habitat fragmentation from development of new and existing mineral rights or realty actions (for example, pipeline or road rights-of-way). The proposed action could contribute to these cumulative impacts by making the 032, 067, 152 proposed parcels, as found in Appendix A, available for lease sale and mineral development. However, when added to the past, present, and foreseeable future impacts associated with the GRSG habitats in these PAs, these new impacts are not anticipated to affect local populations given their small size relative to the landscape (Parcel 032 is 0.0003% of the total acres of the Carbon population and Parcels

067 and 152 combined is 0.00005% of the total acres of the Uintah population), existing habitat conditions, and the presence of impacts from existing developments surrounding these parcels. The No Action alternative would not contribute any cumulative impacts.

Chapter 5. Consultation and Coordination:

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The ID Team Checklist (Appendix C) provides the rationale for issues that were considered but not analyzed further. The issues were identified through the public and agency involvement process described below.

Table 5.1. List of Persons, Agencies and Organizations Consulted

Name	Purpose & Authorities for Consultation or Coordination	Findings & Conclusions
Utah State Historic Preservation Office (SHPO)	Consultation for undertakings, as required by the National Historic Preservation Act (NHPA) (16 USC 470)	The BLM initiated consultation on the proposed lease sale with the Utah SHPO under Section 106, of the NHPA on 05/24/2016. An additional consultation letter and cultural report for the proposed parcels was sent to the SHPO on 08/16/2016 with a determination of “No Adverse Effect”. SHPO concurred with that determination on 09/21/2016.
Ute Mountain Ute Tribe, Ute Indian Tribe, Goshute Indian Tribe, Zia Pueblo Tribe, White Mesa Ute Tribe, Navajo Nation, Laguna Pueblo Tribe, Northwest Band of Shoshone Tribe, Southern Ute Tribe, Eastern Shoshone Tribe, Santa Clara Pueblo Tribe, Hopi Tribe, Jemez Pueblo	Consultation as required by the American Indian Religious Freedom Act of 1978 (42 USC 1531) and NHPA (16 USC 1531)	<p>Letters containing notification of this lease sale, location maps, and legal descriptions of the proposed parcels were sent to the Tribes 5/24/2016 . The letters detail the leasing proposal and requested comments and concerns. Consultation with tribes is ongoing.</p> <p>A response dated August 29, 2016 and received in the Vernal Field Office September 12, 2016, from the Hopi Tribe requested parcels 004, 005, 009, 010, and 014 be withdrawn from the lease sale. (Commented that leasing parcels 009, 010 & 014 would lead to increased and cumulative industrial traffic, noise and pollution on and around the so called Nine Mile Canyon Scenic By-way. Commented that they understand a No Surface Occupancy stipulation is proposed, but do not concur that this will result in no adverse effects.)</p> <p>A response dated August 2, 2016 and received in the Vernal Field Office August 8, 2016 from the Ute Indian Tribe stating that the Tribe asserted ownership of such lands and the Tribe has submitted a proposal to restore the trust status of lands within our historic Uncompahgre Reservation - now a part of our current Reservation - to the Secretary for the Department of Interior. Lands within the Uncompahgre Reservation are eligible for restoration under the Indian Reorganization Act of 1914 and we have asked the Administration</p>

Name	Purpose & Authorities for Consultation or Coordination	Findings & Conclusions
		to correct the ongoing Federal mismanagement of our lands.
Private land owners	Coordinated with as a leasing program partner.	May 18, 2016, letters were sent to all known private landowners potentially impacted by the proposed leasing. Phone responses have been received asking for more information.
Utah Public Lands Policy and Coordination Office	Coordinated with as a leasing program partner.	In February 2016 a letter providing notice of the lease sale, parcel locations and an invitation to attend parcel site-visits was transmitted to PLPCO. A response dated May 6th 2016 was received providing scoping comments.
National Park Service	Coordinated with as a leasing program partner.	In February 2016 a letter providing notice of the lease sale, parcel locations, and invitation to attend parcel site-visits was transmitted to NPS.
U.S. Fish and Wildlife Service	Informal Consultation	Consultation is ongoing.

5.1. Field Visits

Field visits for all parcels were conducted throughout March, April , and May 2016. An interdisciplinary team visited each parcel. Pictures of the parcels are included in Appendix F.

5.2. Public comment period

A public comment period was held June 14, 2016 through July 15, 2016.

The comments and responses form the comment period can be found in Appendix E.

Chapter 6. List of Preparers

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Table 6.1. List of Preparers

Name	Title	Responsible for the Following Section(s) of this Document
Melissa Wardle	Natural Resource Specialist	Team Lead, Chapters 1 and 2
Denise Ohler	Planning and Environmental Coordinator	Document Preparation and Review
Leonard Herr	Air Resources Specialist	Air Quality
Rene Arce	Recreation Planner	ACECs, WSR, Wilderness Characteristics, Recreation, SRMA, Visual Resources
David Christensen	Archaeologist	Cultural Resources
Dan Emmett	Wildlife Biologist	Wildlife
Matthew Lewis	Botanist	Plants
Craig Newman, Dusty Carpenter	Range Conservationist	Livestock Grazing and Rangeland Health

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Appendix A. Preliminary Oil and Gas Lease Sale List

BLM Sale ID	Legal Description of Available Parcel	Lease Stipulations and Notices
UT-1116-004	T. 11 S., R. 13 E., Salt Lake Sec. 19: Lots 2, 3, W2NE, E2NW, S2SE. 320.72 Acres	<p>Stipulations</p> <p>UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers WO IM 2002-174: Endangered Species Act Stipulation</p> <p>Notices</p> <p>T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-06: Mexican Spotted Owl UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consultation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-96: Air Quality Mitigation Measures</p>
UT-1116-005	T. 11 S., R. 13 E., Salt Lake Sec. 35: S2. 320.00 Acres	<p>Stipulations</p> <p>UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-123: NSO - Riparian, Floodplain, and Public Water Reserves UT-S-157: NSO/CSU/TL – Visual Resources UT-S-230: TL- Crucial Deer and Elk Winter Range UT-S-261: TL-Raptor Buffers WO IM 2002-174: Endangered Species Act Stipulation</p> <p>Notices</p> <p>T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-06: Mexican Spotted Owl T&E-22: Ute Ladies'-Tresses (spiranthes diluvialis) UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-53: Riparian Areas UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consultation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-96: Air Quality Mitigation Measures</p>

UT-1116-006	T. 10 S., R. 14 E., Salt Lake Sec. 24: SE; Sec. 25: NE, E2NW. 400.00 Acres	<p>Stipulations UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers WO IM 2002-174: Endangered Species Act Stipulation</p> <p>Notices T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consultation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-96: Air Quality Mitigation Measures</p>
UT-1116-009	T. 11 S., R. 14 E., Salt Lake Sec. 25: W2NW, SENW, SW; Sec. 26: E2SW, SWSE; Sec. 35: Lots 1-4, N2N2, NESW, N2SE. 839.95 Acres	<p>Stipulations UT-S-01: Air Quality UT-S-23: NSO/CSU/TL-Nine Mile Canyon ACEC UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-261: TL-Raptor Buffers WO IM 2002-174: Endangered Species Act Stipulation</p> <p>Notices T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-06: Mexican Spotted Owl UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consultation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-96: Air Quality Mitigation Measures UT-LN-106: Special Recreation Management Area</p>

UT-1116-010	T. 11 S., R. 14 E., Salt Lake Sec. 27: E2NW, NESW, S2SW; Sec. 28: E2SE; Sec. 33: E2SE; Sec. 34: NE, E2NW, N2SW, NWSE. 720 Acres	<p>Stipulations UT-S-01: Air Quality UT-S-23: NSO/CSU/TL-Nine Mile Canyon ACEC UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-261: TL-Raptor Buffers WO IM 2002-174: Endangered Species Act Stipulation</p> <p>Notices T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-06: Mexican Spotted Owl UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consultation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-96: Air Quality Mitigation Measures UT-LN-106: Special Recreation Management Area</p>
UT-1116-012	T. 10 S., R. 15 E., Salt Lake Sec. 11: N2. 320 Acres	<p>Stipulations UT-S-01: Air Quality UT-S-96: NSO– Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-123: NSO – Riparian, Floodplains, and Public Water Reserves UT-S-157: NSO/CSU/TL – Visual Resources UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers WO IM 2002-174: Endangered Species Act Stipulation</p> <p>Notices T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-22: Ute Ladies' Tresses (<i>spiranthes diluvialis</i>) UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-53: Riparian Areas UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consultation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-96: Air Quality Mitigation Measures UT-LN-128: Federal Flood Risk Management Standard</p>

UT-1116-013	T. 10 S., R. 15 E., Salt Lake Sec. 3: Lots 1-4, S2NW, SW; Secs. 4 and 9: All; Sec. 10: W2; Sec. 15: W2; Sec. 22: W2NW. 1,255.14 Acres	<p>Stipulations UT-S-01: Air Quality UT-S-96: NSO– Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-123: NSO – Riparian, Floodplains, and Public Water Reserves UT-S-157: NSO/CSU/TL – Visual Resources UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers WO IM 2002-174: Endangered Species Act Stipulation</p> <p>Notices T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-22: Ute Ladies' Tresses <i>spiranthes diluvialis</i> UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-53: Riparian Areas UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consultation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-96: Air Quality Mitigation Measures UT-LN-128: Federal Flood Risk Management Standard</p>
UT-1116-014	T. 10 S., R. 15 E., Salt Lake Sec. 17: All; Sec. 19: Lots 2-6, S2NE, SENW, E2SW, SE; Secs. 20, 29 and 30: All. 2540.78 Acres	<p>Stipulations UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers WO IM 2002-174: Endangered Species Act Stipulation</p> <p>Notices T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consultation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-96: Air Quality Mitigation Measures</p>

UT-1116-015	T. 10 S., R. 15 E., Salt Lake Sec. 28: NW. 160 Acres	<p>Stipulations UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers WO IM 2002-174: Endangered Species Act Stipulation</p> <p>Notices T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consultation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-96: Air Quality Mitigation Measures</p>
UT-1116-016	T. 10 S., R. 15 E., Salt Lake Sec. 31: Lot 7, NESE. 75.79 Acres	<p>Stipulations UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-159: CSU - VISUAL RESOURCES - VRM II UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers WO IM 2002-174: Endangered Species Act Stipulation</p> <p>Notices T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consultation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-96: Air Quality Mitigation Measures</p>

UT-1116-032	T. 11 S., R. 17 E., Salt Lake Sec. 10: E2. 320.00 Acres	<p>Stipulations</p> <p>UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-195: NSO-Greater Sage-Grouse Leks UT-S-205: TL-Greater Sage-Grouse Brood Rearing and Nesting UT-S-206: CSU-Greater Sage-Grouse (Noise Reduction) UT-S-207: CSU-Greater Sage-Grouse (Structures) UT-S-261: TL-Raptor Buffers UT-S-317: Unit Joinder - Deseret Unit UTU89823X WO IM 2002-174: Endangered Species Act Stipulation</p> <p>Notices</p> <p>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>schoenocrambe argillacea</i>) UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consultation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-90: Graham's Penstemon (<i>penstemon grahamii</i>) UT-LN-96: Air Quality Mitigation Measures 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</p>
UT-1116-038	T. 10 S., R. 18 E., Salt Lake Sec. 13: Lot 4. 40.04	<p>Stipulations</p> <p>UT-S-01: Air Quality UT-S-96: NSO– Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-123: NSO-Riparian, Floodplain, and Public Water Reserves UT-S-157: NSO/CSU/TL – Visual Resources UT-S-159: CSU VRM II UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers UT-S-278: CSU-Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation</p> <p>Notices</p> <p>T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species T&E-12: Pariette Cactus (<i>sclerocactus brevispinus</i>) and Uinta Basin Hookless Cactus (<i>[sclerocactus glaucus) brevispinus and wetlandicus]</i>) T&E-22: Ute Ladies' Tresses (<i>spiranthes diluvialis</i>) UT-LN-37: Bald Eagle Habitat UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-53: Riparian Areas</p>

		UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consultation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-96: Air Quality Mitigation Measures UT-LN-113: Western Yellow-billed Cuckoo UT-LN-128: Federal Flood Risk Management Standard UT-LN-107: Bald Eagle
UT-1116-039	T. 11 S., R. 18 E., Salt Lake Sec. 6: Lots 2-4, SWNE, S2NW, SW, NWSE; Sec. 7: NW, NWSW. 639.29 Acres	Stipulations UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-261: TL-Raptor Buffers WO IM 2002-174: Endangered Species Act Stipulation Notices T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consultation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-96: Air Quality Mitigation Measures
UT-1116-049	T. 11 S., R. 19 E., Salt Lake Sec. 28: SWSW; Sec. 33: W2NW, NWSW. 160.00 Acres	Stipulations UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-261: TL-Raptor Buffers WO IM 2002-174: Endangered Species Act Stipulation Notices T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species T&E-12: Pariette Cactus (<i>sclerocactus brevispinus</i>) and Uinta Basin Hookless Cactus [<i>sclerocactus glaucus</i> (<i>brevispinus</i> and <i>wetlandicus</i>)] T&E-20: Clay Reed-Mustard (<i>schoenocrambe argillacea</i>) T&E-21: Shrubby Reed-Mustard (<i>schoenocrambe suffrutescens</i>) UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consultation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-96: Air Quality Mitigation Measures

UT-1116-067	T. 11 S., R. 20 E., Salt Lake Sec. 11: NENE. 40.00 Acres	<p>Stipulations</p> <p>UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-261: TL-Raptor Buffers UT-S-317: Unit Joinder - Little Canyon Unit UTU81878X UT-S-195: NSO-Greater Sage-Grouse Leks UT-S-205: TL-Greater Sage-Grouse Brood Rearing and Nesting UT-S-206: CSU-Greater Sage-Grouse (Noise Reduction) UT-S-207: CSU-Greater Sage-Grouse (Structures) WO IM 2002-174: Endangered Species Act Stipulation</p> <p>Notices</p> <p>T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species T&E-12: Pariette Cactus (<i>sclerocactus brevispinus</i>) and Uinta Basin Hookless Cactus [<i>sclerocactus glaucus (brevispinus and wetlandicus)</i>] T&E-20: Clay Reed-Mustard (<i>schoenocrambe argillacea</i>) T&E-21: Shrubby Reed-Mustard (<i>schoenocrambe suffrutescens</i>) UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consultation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-96: Air Quality Mitigation Measures UT-LN-107: Bald Eagle 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</p>
UT-1116-069	T. 3 S., R. 21 E., Salt Lake Sec. 35: Lot 1, E2NE, N2SE. 201.89 Acres	<p>Stipulations</p> <p>UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-123: NSO- Riparian, Floodplains and Public Water Reserves UT-S-157: NSO/CSU/TL – Visual Resources UT-S-261: TL-Raptor Buffers UT-S-278: CSU-Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation</p> <p>Notices</p> <p>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>) UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-53: Riparian Areas UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consultation Regarding Cultural Resources</p>

		UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-96: Air Quality Mitigation Measures UT-LN-128: Federal Flood Risk Management Standard
UT-1116-070	T. 4 S., R. 21 E., Salt Lake Sec. 1: Lots 1, 2, S2NE, NESE; Sec. 3: SWNE, SENW, N2NWSW, SWNWSW, N2SENWSW. 315.10 Acres	Stipulations UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-230: TL-Crucial Deer and Elk Winter Habitat UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers WO IM 2002-174: Endangered Species Act Stipulation Notices T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consultation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-96: Air Quality Mitigation Measures
UT-1116-071	T. 4 S., R. 21 E., Salt Lake Sec. 1: Lots 3 and 4; Sec. 3: Lot 1. 121.28 Acres	Stipulations UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-123: NSO- Riparian, Floodplains and Public Water Reserves UT-S-157: NSO/CSU/TL – Visual Resources UT-S-261: TL-Raptor Buffers UT-S-278: CSU-Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation Notices T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-22: Ute Ladies'-Tresses (spiranthes diluvialis) UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-53: Riparian Areas UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consultation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-96: Air Quality Mitigation Measures UT-LN-128: Federal Flood Risk Management Standard UT-LN-107: Bald Eagle

UT-1116-093	T. 5 S., R. 22 E., Salt Lake Sec. 29: SENE, NWNW, SWSW, SWSE. 160.00 Acres	<p>Stipulations UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-261: TL-Raptor Buffers WO IM 2002-174: Endangered Species Act Stipulation</p> <p>Notices T&E-03: Endangered Fish of the Up- per Colorado River Drainage Basin UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consul- tation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-96: Air Quality Mitigation Measures</p>
UT-1116-094	T. 6 S., R. 22 E., Salt Lake Sec. 12: Lots 2, 3, 11, SWNE, NWSE. 114.12 Acres	<p>Stipulations UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-123: NSO- Riparian, Floodplains and Public Water Reserves UT-S-157: NSO/CSU/TL – Visual Resources UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers UT-S-278: CSU-Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation</p> <p>Notices T&E-02: Black-Footed Ferret T&E-03: Endangered Fish of the Up- per Colorado River Drainage Basin T&E-22: Ute Ladies'-Tresses (spiranthes diluvialis) UT-LN-37: Bald Eagle Habitat UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-53: Riparian Areas UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consul- tation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-96: Air Quality Mitigation Measures UT-LN-113: Western Yellow-billed Cuckoo UT-LN-128: Federal Flood Risk Management Standard UT-LN-107: Bald Eagle</p>

UT-1116-103	T. 5 S., R. 23 E., Salt Lake Sec. 29: SESE; Sec. 32: SWSE. 80.00 Acres	<p>Stipulations</p> <p>UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-123: NSO- Riparian, Floodplains and Public Water Reserves UT-S-157: NSO/CSU/TL – Visual Resources UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers UT-S-278: CSU-Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation</p> <p>Notices</p> <p>T&E-02: Black-Footed Ferret T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-22: Ute Ladies'-Tresses (<i>spiranthes diluvialis</i>) UT-LN-37: Bald Eagle Habitat UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-53: Riparian Areas UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consultation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-96: Air Quality Mitigation Measures UT-LN-113: Western Yellow-billed Cuckoo UT-LN-128: Federal Flood Risk Management Standard UT-LN-107: Bald Eagle</p>
UT-1116-105	T. 8 S., R. 23 E., Salt Lake Sec. 26: NENE 40	<p>Stipulations</p> <p>UT-S-01: Air Quality UT-S-123: NSO- Riparian, Floodplains and Public Water Reserves UT-S-157: NSO/CSU/TL – Visual Resources UT-S-261: TL-Raptor Buffers WO IM 2002-174: Endangered Species Act Stipulation</p> <p>Notices</p> <p>T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-12: Paria Cactus (<i>sclerocactus brevispinus</i>) and Uinta Basin Hookless Cactus (<i>[sclerocactus glaucus) brevispinus and wetlandicus]</i>) UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-53: Riparian Areas UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consultation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-96: Air Quality Mitigation Measures UT-LN-128: Federal Flood Risk Management Standard</p>

UT-1116-121	T. 9 S., R. 25 E., Salt Lake Sec. 35: S2. 320.00 Acres	<p>Stipulations UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-230: TL-Crucial Deer and Elk Winter Habitat UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers WO IM 2002-174: Endangered Species Act Stipulation</p> <p>Notices T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consultation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-90: Graham's Penstemon (penstemon grahamii) UT-LN-96: Air Quality Mitigation Measures</p>
UT-1116-122	T. 10 S., R. 25 E., Salt Lake Sec. 1: All; Sec. 10: NWNWSE, S2N2SE, S2SE; Sec. 11: W2; Sec. 14: W2; Sec. 15: All; Sec. 21: E2SW, SE; Sec. 28: E2. 2257.65	<p>Stipulations UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-123: NSO- Riparian, Floodplains and Public Water Reserves UT-S-157: NSO/CSU/TL – Visual Resources UT-S-230: TL-Crucial Deer and Elk Winter Habitat UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers WO IM 2002-174: Endangered Species Act Stipulation</p> <p>Notices T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consultation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-90: Graham's Penstemon (penstemon grahamii) UT-LN-96: Air Quality Mitigation Measures</p>

UT-1116-123	T. 2 S., R. 2 W., Uintah Special Sec. 30: SENE. 40.00 Acres	<p>Stipulations UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-261: TL-Raptor Buffers WO IM 2002-174: Endangered Species Act Stipulation</p> <p>Notices T&E-03: Endangered Fish of the Up- per Colorado River Drainage Basin UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consul- tation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-96: Air Quality Mitigation Measures</p>
UT-1116-142	T. 3 S., R. 21 E., Salt Lake Sec. 35: Lot 3, W2NE, NW, E2NESW. 302.73 Acres Acquired Lands	<p>Stipulations UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers UT-S-278: CSU-Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation</p> <p>Notices T&E-03: Endangered Fish of the Up- per Colorado River Drainage Basin TUT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consul- tation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-96: Air Quality Mitigation Measures</p> <p>UT-LN-107: Bald Eagle</p>

UT-1116-151	T. 11S., R. 15E., Salt Lake Sec 9: SESE 40.00acres	<p>Stipulations UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-261: TL-Raptor Buffers UT-S-317: Unit Joinder - Gate Canyon II Unit UTU90523X WO IM 2002-174: Endangered Species Act Stipulation</p> <p>Notices T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consultation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-96: Air Quality Mitigation Measures</p>
UT-1116-152	T. 12 S., R. 21 E., Salt Lake Sec. 8: NENE, SWNW. . 80	<p>Stipulations UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-317: Unit Joinder - Flat Stone Unit UTU90379X UT-S-195: NSO-Greater Sage-Grouse Leks UT-S-205: TL-Greater Sage-Grouse Brood Rearing and Nesting UT-S-206: CSU-Greater Sage-Grouse (Noise Reduction) UT-S-207: CSU-Greater Sage-Grouse (Structures) WO IM 2002-174: Endangered Species Act Stipulation</p> <p>Notices T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin UT-LN-40: Golden Eagle Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-67: Historical and Cultural Resource Values UT-LN-68: Notification and Consultation Regarding Cultural Resources UT-LN-69: High Potential for Cultural Resources UT-LN-70: High Potential for Cultural Resource Occurrence UT-LN-96: Air Quality Mitigation Measures 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</p>

Table A.1. Utah Stipulations

Stipulation Number	Utah Stipulations
UT-S-01	<p>AIR QUALITY</p> <p>All new 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 NOx 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 NOx per horsepower-hour.</p> <p>Exception: None</p> <p>Modification: None</p> <p>Waiver: None</p>
UT-S-23	<p>NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATIONS – NINE MILE CANYON ACEC</p> <p>No surface occupancy for oil and gas leasing within approximately 17,162 acres, and approximately 209 acres will be open to leasing subject to moderate constraints such as timing limitations and controlled surface use.</p> <p>Exception: None</p> <p>Modification: None</p> <p>Waiver: None</p>
UT-S-96	<p>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, and ● 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. Waiver: None</p>

UT-S-100	<p>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 Modification: None Waiver: None</p>
UT-S-123	<p>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> <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 Waiver: None</p>
UT-S-157	<p>NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE TIMING LIMITATION – VISUAL RESOURCES</p> <p>Visual resource management activities will comply with BLM Handbook 8410-1. 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. 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. 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. 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. Modification: None Waiver: None</p>

UT-S-159	<p>CONTROLLED SURFACE USE – VISUAL RESOURCES - VRM II</p> <p>Within VRM 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 attention of the casual observer. Any change to the landscape must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.</p> <p>Exception: Exempted are recognized utility corridors.</p> <p>Modification: None</p> <p>Waiver: None</p>
UT-S-230	<p>TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE</p> <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-247	<p>TIMING LIMITATION – CRUCIAL ELK CALVING AND DEER FAWNING HABITAT</p> <p>In order to protect crucial elk calving and deer fawning habitat exploration, drilling, and other development activity will not be allowed from May 15 - June 30.</p> <p>Exception: This restriction would not apply to maintenance and operation of existing facilities. This stipulation may be excepted if either the resource values change or the lessee/operator demonstrates to BLMs satisfaction that adverse impact can be mitigated.</p> <p>Modification: None</p> <p>Waiver: None</p>
UT-S-261	<p>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 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. 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

	<p>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-278	<p>CONTROLLED SURFACE USE – BALD EAGLE WINTER ROOST</p> <p>Protect and restore cottonwood bottoms for bald eagle winter habitat along the Green and White Rivers, at Pelican Lake, and at the Cliff Creek Bald Eagle roost site, as well as any new roost sites discovered in the future.</p> <p>Exception: None</p> <p>Modification: None</p> <p>Waiver: None</p>
UT-S-317	<p>UNIT JOINDER</p> <p>The successful bidder will be required to join the _____ Unit Agreement or show reason why a joinder should not be required.</p>
UT-S-195	<p>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>TIMING LIMITATION – GREATER SAGE-GROUSE BROOD REARING AND NESTING</p> <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 Greater Sage-Grouse leks found outside of Priority Habitat Management Areas (PHMA) when possible.</p>

	Exception: None Modification: None Waiver: None
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Table A.2. Utah's Lease Notices

Number	Utah's Lease Notices
UT-LN-37	BALD EAGLE HABITAT <p>The lessee/operator is given notice that lands in this lease have been identified as containing Bald Eagle Habitat. Modifications to the Surface Use Plan of Operations may be required in order to protect the Bald Eagle 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-40	GOLDEN EAGLE HABITAT <p>The lessee/operator is given notice that lands in this lease have been identified as containing Golden Eagle Habitat. Modifications to the Surface Use Plan of Operations may be required in order to protect the Golden Eagle 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-45	MIGRATORY BIRD <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 authorized officer of the Bureau of Land Management. Based on the result of the field survey, the authorized officer will determine appropriate buffers and timing limitations.</p>
UT-LN-49	UTAH SENSITIVE SPECIES <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-51	SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED <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-53	RIPARIAN AREAS <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 43CFR3101.1-2.</p>

UT-LN-67	<p>HISTORICAL AND CULTURAL RESOURCE VALUES</p> <p>The lessee/operator is given notice that lands in this lease may contain significant Historical and Cultural Resources. Modifications to the Surface Use Plan of Operations may be required for the protection of these resources.</p>
UT-LN-68	<p>NOTIFICATION & CONSULTATION REGARDING CULTURAL RESOURCES</p> <p>The lease area may now or hereafter be found to contain historic properties and/or resources protected under the National Historic Preservation Act (NHPA), the Archaeological Resources Protections Act (ARPA), the Native American Graves Protection and Repatriation Act (NAGPRA), the American Indian Religious Freedom Act (AIRFA), other statues and Executive Order 13007, and which may be of concern to Native American tribes, interested parties, and the State Historic Preservation Officer (SHPO). BLM will not approve any ground disturbing activities as part of future lease operations until it completes applicable requirements of the National Historic Preservation Act (NHPA), including the completion of any required procedure for notification and consultation with appropriate tribe(s) and/or the SHPO. BLM may require modifications to exploration and development proposals to further its conservation and management objectives on BLM-approved activities that are determine to affect or impact historic or cultural properties and/or resources.</p>
UT-LN-69	<p>HIGH POTENTIAL FOR CULTURAL RESOURCES</p> <p>This parcel is located in an area of high concentrations of cultural resources. Known cultural sites are fragile and many are buried under sandy deposits which migrate due to their susceptibility to wind. These sites, or large portions, are not visible from the surface. Therefore, the following mitigation measures may be applied to any surface disturbance of this parcel: 1) pre-surface disturbance cultural resource inventories; 2) pre-surface disturbance subsurface testing; 3) monitoring of ground disturbance; and 4) post-disturbance monitoring identifying resources as the soils stabilize around a project.</p>
UT-LN-70	<p>HIGH POTENTIAL FOR CULTURAL RESOURCE OCCURRENCE</p> <p>The lessee/operator is given notice that lands in this lease contain significant Cultural Resources. Modifications to the Surface Use Plan of Operations may be required for the protection of these resources. Class III level block inventories may be required to determine resource location and possible impact to the resource.</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, i. Designs will avoid concentrating water flows or sediments into occupied habitat,

	<p>j. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and</p> <p>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> <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>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 Authorized Officer. • 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. • Stationary internal combustion engine would comply with the following standards: 2g NO_x/bhp-hr for engines <300HP; and 1g NO_x/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-106	<p>SPECIAL RECREATION MANAGEMENT AREA</p> <p>The lessee/operator is given notice that lands in this lease have been identified as being within a Special Recreation Management Area. Modifications to the Surface Use Plan of Operations may be required in order once an activity plan is prepared for the area to protect sensitive resources from surface disturbing activities in accordance with the Vernal RMP.</p>
UT-LN-107	<p>BALD EAGLE</p> <p>The Lessee/Operator is given notice that the lands in this parcel contains nesting/winter roost habitat for the bald eagle. The bald eagle was de-listed in 2007; however, it is still afforded protection under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 1940). Therefore, avoidance or use restrictions may be placed on portions of the lease. Application of appropriate measures will depend on whether the action is temporary or permanent, and whether it occurs within or outside the bald eagle breeding or roosting season. A <u>temporary</u> action is completed prior to the following breeding or roosting season leaving no permanent structures and resulting in no permanent habitat loss. A <u>permanent</u> action continues for more than one breeding or roosting season and/or causes a loss of eagle habitat or displaces eagles through disturbances, i.e. creation of a permanent structure. The following avoidance and minimization measures have been designed to ensure activities carried out on the lease will not lead to the need to consider listing the eagle as threatened or endangered. Integration of, and adherence to the following measures will facilitate review and analysis of any submitted permits under the authority of this lease.</p> <p>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), and be conducted according to protocol. 2. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated. 3. Water production will be managed to ensure maintenance or enhancement of riparian habitat. 4. Temporary activities within 1.0 mile of nest sites will not occur during the breeding season of January 1 to August 31, unless the area has been surveyed according to protocol and determined to be unoccupied. 5. Temporary activities within 0.5 miles of winter roost areas, e.g., cottonwood galleries, will not occur during the winter roost season of November 1 to March 31, unless the area has been surveyed according to protocol and determined to be unoccupied. 6. No permanent infrastructure will be placed within 1.0 mile of nest sites. 7. No permanent infrastructure will be placed within 0.5 miles of winter roost areas. 8. Remove big game carrion from within 100 feet of lease roadways occurring within bald eagle foraging range. 9. Avoid loss or disturbance to large cottonwood gallery riparian habitats. 10. 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 Utilize directional drilling to avoid direct impacts to large

	<p>cottonwood gallery riparian habitats. Ensure that such directional drilling does not intercept or degrade alluvial aquifers.</p> <p>11. All areas of surface disturbance within riparian areas and/or adjacent uplands should be re-vegetated with native species.</p> <p>Additional measures may also be employed to avoid or minimize effects to the species between the lease sale stage and lease development stage. These additional measures will be developed and implemented in coordination with the U.S. Fish and Wildlife Service.</p>
UT-LN-113	<p>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 the parcel and/or within a 0.25 mile buffer of the parcel will be identified prior to lease development to identify potential survey needs. 2. Protocol Breeding Season Surveys will be required in suitable habitats 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 – August 31), and leaves no structure or habitat disturbance, action can proceed without a presence/absence survey. 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. 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: <ol style="list-style-type: none"> a. Protocol level surveys by permitted individuals will be conducted prior to commencing activities. b. If cuckoos are detected, no activity will occur within 0.25 mile of occupied habitat. c. Avoid drilling and permanent structures within 0.25 mile of suitable habitat unless absence is determined according to protocol level surveys conducted by permitted individual(s).

	<p>d. Ensure noise levels at 0.25 mile from suitable habitat do not exceed baseline conditions. Placement of permanent noise-generating facilities should be determined by a noise analysis to ensure noise does not encroach upon a 0.25 mile buffer for suitable habitat.</p> <p>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 previously considered. Avoidance and minimization measures will be evaluated throughout the duration of the project.</p> <p>6. Water produced as a by-product of drilling or pumping will be managed to ensure maintenance or enhancement of riparian habitat.</p> <p>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.</p> <p>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.</p> <p>9. Re-vegetate with native species all areas of surface disturbance within riparian areas and/or adjacent uplands.</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 ESA.</p>
UT-LN-128	<p>FEDERAL FLOOD RISK MANAGEMENT STANDARD</p> <p>To mitigate potential impacts to floodplains, activities would be limited or precluded within the 500 year base flood level (area subject to flooding by the 0.2 percent annual chance flood) or the 100 year base flood elevation plus 3 feet. (Executive Order 13690 amending Executive Order 11988).</p>
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). 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 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 Utah Approved Management Plan Amendment when leasing within 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>
T&E-02	<p>BLACK-FOOTED FERRET</p> <p>The Lessee/Operator is given notice that the lands in this lease may contain occupied black-footed ferret habitat, an endangered species under the Endangered Species Act classified as an experimental, nonessential population in the state of Utah. Avoidance and minimization measures that should be followed are included within the <i>Cooperative Plan for the Reintroduction and Management of Black-Footed Ferrets in Coyote Basin, Uintah County, Utah</i> published by the Utah Division of Wildlife Resources in September, 1996. These measures may be updated based on the best available scientific data as it becomes available.</p>
T&E-03	<p>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 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. 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).

	<p>8. Drilling will not occur within 100 year floodplains of rivers or tributaries to rivers that contain listed fish species or critical habitat.</p> <p>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> <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 ESA</p>
T&E-05	<p>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, 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. 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. Project activities must be designed to avoid direct disturbance to populations and to individual plants: <ol 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.

	<p>e. For surface pipelines, use a 10 foot buffer from any plant locations:</p> <p>f. If on a slope, use stabilizing construction techniques to ensure the pipelines don't move towards the population.</p> <p>4. For riparian/wetland-associated species, e.g. Ute ladies-tresses, avoid loss or disturbance of riparian habitats.</p> <p>5. Ensure that water extraction or disposal practices do not result in change of hydrologic regime.</p> <p>6. Limit disturbances to and within suitable habitat by staying on designated routes.</p> <p>7. Limit new access routes created by the project.</p> <p>8. Place signing to limit ATV travel in sensitive areas.</p> <p>9. Implement dust abatement practices near occupied plant habitat.</p> <p>10. All disturbed areas will be re-vegetated with native species comprised of species indigenous to the area.</p> <p>11. Post construction monitoring for invasive species will be required.</p> <p>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.</p> <p>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> <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	<p>MEXICAN SPOTTED OWL</p> <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>

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.
 - 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:
 - 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.
7. For all permanent actions that may impact owls or suitable habitat:
 - a. Survey two consecutive years for owls according to accepted protocol prior to commencing activities.
 - b. 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).
 - c. Avoid drilling and permanent structures within 0.5 mi of suitable habitat unless surveyed and not occupied.
 - d. 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.
 - e. Limit disturbances to and within suitable habitat by staying on approved routes.

	<p>f. Limit new access routes created by the project.</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.</p>
T&E-12	<p>PARIETTE CACTUS (<i>sclerocactus brevispinus</i>) AND UINTA BASIN HOOKLESS CACTUS [<i>sclerocactus glaucus (brevispinus and wetlandicus)</i>]</p> <p>The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for the Pariette cactus and Uinta Basin hookless cactus, 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.</p> <p>In order to minimize effects to the federally threatened Pariette cactus and Uinta Basin hookless cactus, 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. 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 Uinta Basin hookless cactus. Habitat descriptions can be found in the U.S. Fish and Wildlife Service's 1990 Recovery Plan and Federal Register Notices for the Uinta Basin hookless cactus (http://www.fws.gov/endangered/wildlife.html). Occupied habitat is defined as areas currently or historically known to support Uinta Basin hookless cactus; 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 Pariette cactus and Uinta Basin hookless cactus 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, and during appropriate flowering periods: <ol style="list-style-type: none"> i. <i>Pariette Cactus (sclerocactus brevispinus) and Uinta Basin Hookless Cactus [sclerocactus glaucus (brevispinus and wetlandicus)] brevispinus</i> surveys should be conducted March 15th to June 30th, unless extended by the BLM ii. <i>Pariette Cactus (sclerocactus brevispinus) and Uinta Basin Hookless Cactus [sclerocactus glaucus (brevispinus and wetlandicus)] wetlandicus</i> surveys can be done any time of the year, provided there is no snow cover,

	<ul style="list-style-type: none"> c. 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, d. Will include, but not be limited to, plant species lists and habitat characteristics, and e. Will be valid until March 15th the following year for <i>Pariette Cactus (sclerocactus brevispinus)</i> and <i>Uinta Basin Hookless Cactus [sclerocactus glaucus (brevispinus and wetlandicus)] brevispinus</i> and one year from the survey date for <i>Pariette Cactus (sclerocactus brevispinus)</i> and <i>Uinta Basin Hookless Cactus [sclerocactus glaucus (brevispinus and wetlandicus)] wetlandicus</i>.
	<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 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, f. Stay on designated routes and other cleared/approved areas, and g. All disturbed areas will be re-vegetated with native species comprised of species indigenous to the area and non-native species that are not likely to invade other 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> <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 the edge of the 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, use stabilizing and anchoring techniques when the pipeline crosses the 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 concentrating water flows or sediments into occupied habitat, g. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and

	<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 Pariette cactus and Uinta Basin hookless cactus habitats within 300' of the edge of the surface pipelines' right-of-ways, 300' of the edge of the roads' right-of-ways, and 100' 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 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 USFWS.</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 Pariette cactus and Uinta Basin hookless cactus 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-20	<p>CLAY REED - MUSTARD (<i>SCHOENCRAMBE 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"> 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 clay reed-mustard habitat is present. 2. Site inventories will be conducted within suitable habitat to determine occupancy. Where standard surveys are technically infeasible and otherwise 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: <ol style="list-style-type: none"> 1. Must be conducted by qualified individual(s) and according to BLM and Service accepted survey protocols,

	<ol style="list-style-type: none"> 2. 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 Uinta 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), 3. 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, 4. Will include, but not be limited to, plant species lists and habitat characteristics, and 5. Will be valid until May 1st the following year.
	<ol style="list-style-type: none"> 1. Design project infrastructure to minimize impacts within suitable habitat²: <ol style="list-style-type: none"> 1. 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, 2. Reduce well pad size to the minimum needed, without compromising safety, 3. Limit new access routes created by the project, 4. Roads and utilities should share common right-of-ways where possible, 5. 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, 6. Place signing to limit off-road travel in sensitive areas, and 7. Stay on designated routes and other cleared/approved areas. 1. Within occupied habitat³, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants: <ol style="list-style-type: none"> 1. 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, 2. Follow the above recommendations (3.) for project design within suitable habitats, 3. 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, 4. 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, 5. 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,

	<ol style="list-style-type: none"> 6. 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, 7. 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, 8. Construction activities will not occur from May 1st through June 5th within occupied habitat, 9. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging, temporary fencing, rebar, etc., 10. Where technically and economically feasible, use directional drilling or multiple wells from the same pad, 11. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and 12. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible. 1. 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. 2. 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>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-21	<p>SHRUBBY REED - MUSTARD (SCHOENOCRAMBE SUFFRUTESCENS)</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;</p>

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:

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:
 - 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:
 - 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.
4. Within occupied habitat, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
 - 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,

	<ul style="list-style-type: none"> 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> <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>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,</p>

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:

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:
 1. Must be conducted by qualified individual(s) and according to BLM and USFWS accepted survey protocols,
 2. 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,
 3. 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 Uinta Basin; however, surveyors should verify that the plant is flowering by contacting a BLM or USFWS botanist or demonstrating that the nearest known population is in flower),
 5. 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,
 6. Will include, but not be limited to, plant species lists, habitat characteristics, source of hydrology, and estimated hydroperiod, and
 7. Will be valid until August 1st the following year.
1. Design project infrastructure to minimize direct or indirect impacts to suitable habitat both within and of the project area:
 1. Alteration and disturbance of hydrology will not be permitted,
 2. Reduce well pad size to the minimum needed, without compromising safety,
 3. Limit new access routes created by the project,
 4. Roads and utilities should share common right-of-ways where possible,
 5. Reduce width of right-of-ways and minimize the depth of excavation needed for the road bed,

	<ol style="list-style-type: none"> 6. Construction and right-of-way management measures should avoid soil compaction that would impact Ute ladies' tresses habitat, 7. 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), 8. Place signing to limit off-road travel in sensitive areas, 9. Stay on designated routes and other cleared/approved areas, and 10. All disturbed areas will be re-vegetated with species approved by USFWS and BLM botanists.
	<ol style="list-style-type: none"> 1. Within occupied habitat, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
	<ol style="list-style-type: none"> 1. Follow the above (#3) recommendations for project design within suitable habitats, 2. 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, 3. 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, 4. Before and during construction, areas for avoidance should be visually identifiable in the field (e.g., flagging, temporary fencing, rebar, etc.), 5. Where technically and economically feasible, use directional drilling or multiple wells from the same pad, 6. Designs will avoid altering site hydrology and concentrating water flows or sediments into occupied habitat, 7. 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 8. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.
	<ol style="list-style-type: none"> 1. 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. 2. 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.

	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.
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Appendix B. Maps

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Appendix C. Interdisciplinary Checklist

INTERDISCIPLINARY TEAM CHECKLIST

Project Title: November 2016 Vernal Competitive Oil and Gas Lease Sale

NEPA Log Number: DOI-BLM-UT-G010-2016-033-EA

Project Leader: Melissa Wardle

DETERMINATION OF STAFF: (Choose one of the following abbreviated options for the left column)

NP = not present in the area impacted by the proposed or alternative actions

NI = present, but not affected to a degree that detailed analysis is required

PI = present with potential for relevant impact that need to be analyzed in detail in the EA

NC = (DNAs only) actions and impacts not changed from those disclosed in the existing NEPA documents cited in Section D of the DNA form. The Rationale column may include NI and NP discussions.

Determina- tion	Resource/Issue	Rationale for Determination	Signature	Date
RESOURCES AND ISSUES CONSIDERED (INCLUDES SUPPLEMENTAL AUTHORITIES APPENDIX 1 H-1790-1)				
PI	Air Quality & Greenhouse Gas Emissions	Leasing itself would not have impacts to air quality. However, should development occur on issued leases, emissions from earth-moving equipment, vehicle traffic, drilling and completion activities, separators, oil storage tanks, dehydration units, and daily tailpipe and fugitive dust emissions could adversely affect air quality. No standards have been set by EPA or other regulatory agencies for greenhouse gases. In addition, the assessment of greenhouse gas emissions and climate change is still in its earliest stages of formulation. Global scientific models are inconsistent, and regional or local scientific models are lacking so that it is not technically feasible to determine the net impacts to climate due to greenhouse gas emissions.	Leonard Herr	10/6/2016
NP	BLM Natural Areas	None of the proposed lease parcels occur within any BLM Natural Areas as per GIS and VFO RMP [BLM 2008b] review.	Melissa Wardle	4/4/2016

Determination	Resource/Issue	Rationale for Determination	Signature	Date
PI	Cultural: Archaeological Resources	<p>A complete inventory of the proposed lease parcels is in progress and will be attached to the final EA; cultural resources have been identified within and adjacent to the parcels.</p> <p>Cultural resource information and data has been considered including: the VFO Resource Management Plan, previous cultural reports and surveys, archaeological site forms, geography, vegetation, topography, site visits, and personal knowledge and experience of the proposed parcels; and it has been determined that reasonable development could occur without adverse impacts to cultural properties in most parcels. However, it is likely that additional cultural resources will be located within the proposed lease parcels. Six Parcels are proposed near Steinaker Reservoir or Nine Mile Canyon. Those areas are more sensitive because of their proximity to water sources and the high numbers of cultural sites already recorded in that area. Many of these parcels may also have indirect impacts to cultural site setting, and the development of parcels in those areas may increase the cumulative impacts of the area as well.</p> <p>The BLM will not approve any ground disturbing activities that may affect 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 properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized or mitigated.</p>	David Christensen	8/3/2016
NI	Cultural: Native American Religious Concerns	<p>Two parcels are on or near Nine Mile Canyon; an area that is considered sensitive to Native Americans. A letter was sent on May 24, 2016 to the following tribes regarding this proposed project and there concerns or comments will be added. Ute Mountain Ute Tribe, Ute Indian Tribe, Goshute Indian Tribe, Zia Pueblo, White Mesa Ute Tribe, Navajo Nation, Laguna Pueblo, Northwest Band of Shoshone, Southern Ute Tribe, Eastern Shoshone, Santa Clara Pueblo, Hopi Tribe, Jemez Pueblo.</p> <p>Maps of the parcels were provided to each of the tribes. they were asked to identify traditional cultural places or any other areas of traditional cultural importance that need to be considered within the APE.</p> <p>The Hopi Tribe responded on June 13, 2016. They wished for more information on cultural</p>	David Christensen	8/3/2016

Determina- tion	Resource/Issue	Rationale for Determination	Signature	Date
		resources in proposed parcels. A letter with the cultural report was sent to the Hopi Tribe on August 16, 2016. Update: February 3, 2017: The Hopi Tribe responded again on August 29, 2016. Two of the parcels, 009 and 010 were deferred in response to concerns by the Tribe and other groups. The Tribe did not, however, provide any information on TCPs or specific concerns that required any further analysis than was conducted in the archaeological resources section.		
PI	Designated Areas: Areas of Critical Environmental Concern	Parcels 009, and 010 occur within the Nine Mile ACEC, relevance and importance values include high value scenery, cultural resources, and special status species.	Rene Arce	4/22/2016
NP	Designated Areas: Wild and Scenic Rivers	None present within the project area as per the VFO RMP [BLM 2008b] and GIS review.	Rene Arce	4/22/2016
NP	Designated Areas: Wilderness Study Areas	None present within the project area as per the VFO RMP [BLM 2008b] and GIS review.	Rene Arce	4/22/2016
NI	Environmental Justice	As defined in EO 12898, minority, low income populations and disadvantaged groups may be present within the counties involved in this lease sale. However, all citizens can file an expression of interest or participate in the bidding process (43 CFR §3120.3-2). The stipulations and notices applied to the subject parcels do not place an undue burden on these groups. Leasing the nominated parcels would not cause any disproportionately high and adverse human health or environmental effects on minority populations, low-income populations, or Native American Tribes because the minerals are federal and or the surface is private or BLM.	Melissa Wardle	5/16/2016
NI	Farmlands (prime/unique)	None of the proposed Lease Parcels occur within prime or unique Farmlands as defined by the NRCS.	Melissa Wardle	4/4/2016
NI	Fuels/Fire Management	Fuels Management: Any new disturbance and additional traffic will increase the amount of <i>Bromus tectorum</i> . An increase in <i>Bromus tectorum</i> may lead to a changing fire regime and an increase in fire frequency. Implementing the Green River District reclamation standards and ensuring the standards are met will minimize any new populations of <i>Bromus tectorum</i> .	Blaine Tarbell	3/09/2016

Determina- tion	Resource/Issue	Rationale for Determination	Signature	Date
NI	Geology/Minerals/Energy Production	<p>All or portions of parcels 009, and 010 are spatially located within the Sunnyside Special Tar Sands Area (STSA) portions of parcel 052 within the Asphalt Ridge STSA. There is the potential for Gilsonite to be encountered within parcel 122. Leasing of parcels spatially located within STSA's would singly retain the right to develop oil and gas mineral resources as a separate entity from potential tar sand commodities, nor retain the rights on that commodity within parcels established as combined hydrocarbon leases. Leasing will also have no direct impact on geologic conditions or other mineral resources contained within those parcels. At the development stage, compliance with "Onshore Oil and Gas Order No. 2, Drilling Operations" would assure that the proposed development would not adversely affect other mineral resources. The guidelines of this Order specifies the following: "...proposed casing and cementing programs should be conducted as approved to protect and/or isolate all usable water zones, potentially productive zones, lost circulation zones, abnormally pressured zones, and any prospectively valuable deposits of minerals. Any isolating medium other than cement shall receive approval prior to use." Prospectively valuable deposits of minerals would include Gilsonite, oil shale, and tar sands for example, in addition to the oil and gas resource.</p>	Joseph Islas	6/10/2016
		<p>The underground injection of 'fracking waste water' in Utah presents little potential for inducing seismic activity. The majority of fracking waste 'fluids' are recycled and reused for future frack jobs. There have been no reported earthquakes in Utah that were suspected of being produced (induced) from injecting fluids into oil and gas disposal wells. (Personal communication from Brad Rogers, Utah Division of Oil, Gas and Mining ("UDOGM"), August 10, 2015). This fluid is predominantly produced water with a high salt brine content. As stated above in order to analyze and predict the potential for earthquakes associated with oil and gas disposal wells three kinds of data will be necessary: (1) seismic data: high-quality, real-time earthquake locations, which require dense seismic instrumentation; (2) geologic data: hydrological parameters, orientation and magnitude of the stress field, and the location and orientation of known faults; and (3) industrial data: injection rates and downhole</p>	Mike McKinley	6/9/2016

Determination	Resource/Issue	Rationale for Determination	Signature	Date
		pressures sampled and reported frequently. This data is not currently available, with the exception of industrial injection data reported to UDOGM, with which to do the analysis.		
NI	Invasive Plants/Noxious Weeds, Soils & Vegetation	<p>The lease sale alone would not affect Invasive Plants/Noxious Weeds. However, there is an expectation that development will occur in the future, at which time additional NEPA would be conducted. At the development stage, mitigation measures and best management practices will need to be incorporated to avoid the spread of undesirable non-native plant species. Required mitigation measures will need to at a minimum meet the standards set forward within the Vernal Field Office Surface Disturbance Weed Policy (IM-UTG010-10-001). Future site specific NEPA should discuss the non-native species present, the likelihood they would spread, the developed mitigation measures, and information on chemical weed control and how it tiers to the National and local programmatic guidance.</p> <p>Soils: The Vernal VFO RMP [BLM 2008b] requires application of CSU and NSO stipulations on parcels with slopes greater than 21%. of the parcels contain slopes greater than 21%. Inclusion of the stipulations UT-S-96 NSO slopes >40% and UT-S-100 CSU slopes 21–40% should be sufficient to notify the operator of any potential future development restrictions.</p>	Melissa Wardle	5/16/2016
NI	Lands/Access	<p>The proposed area is located within the Vernal Field Office Resource Management Plan area, which allows for oil and gas development with associated road and pipeline right-of-ways. Current land uses, within the area identified in the proposed action and adjacent lands, consist of existing oil and gas development, wildlife habitat, recreational use, and sheep and cattle ranching. No existing land uses would be changed or modified by the implementation of the proposed action.</p> <p>Master Title Plats have been checked for conflicts with Public Water Reserves. No PWRs were identified.</p> <p>There are Uintah and Duchesne roads on the proposed parcels. They have been identified on the Counties' Transportation Maps as Class B and D roads.</p>	Margo Roberts	5/18/2016

Determination	Resource/Issue	Rationale for Determination	Signature	Date
PI	Lands with Wilderness Characteristics (LWC)	Several proposed lease parcels are located in lands found to possess wilderness characteristics. Parcels (ID#) 009, and 010 occur partially or fully within Currant Canyon wilderness character inventory unit. Parcels (ID#) 032, 038, 039, and 049 occur partially or fully within the Desolation Canyon wilderness inventory unit.	Rene Arce	4/22/2016
PI	Livestock Grazing & Rangeland Health Standards	<p>Livestock Grazing:</p> <p>The current parcels available for leasing are located within numerous active grazing allotments. The use on these allotments vary seasonally and with livestock type (sheep/cows). Many of these allotments have been evaluated for grazing use through the NEPA process. The leasing process does not determine the actuality or amount of ground disturbance due to the nature of energy development. The site specific NEPA document for the exploration and/or development application is the process for further potential analysis regarding possible fragmentation, forage loss and/or other operational impacts. Assumptions are not valid due to the volatility of the energy market and other issue regarding full production of leases within the allotted time-frames</p> <p>Rangeland Health Standards: Rangeland health issues such as invasive weeds, soil loss, and lack of native species diversity do exist in areas within the Vernal Field Office associated grazing allotments. Leasing of the proposed parcels would not, by itself, authorize any ground disturbances. Site-specific effects of land health standards cannot be analyzed until an exploration or development application is received, after leasing has occurred. However, any development proposal on the lease parcels would be subject to analysis for impact on rangeland health standards. Site-specific analysis would be required prior to the approval of any ground disturbance proposal on the parcels.</p>	Dusty Carpenter	3/04/2016

Determina- tion	Resource/Issue	Rationale for Determination	Signature	Date
NI	Paleontology	<p>There is a potential for the proposed lease locations to be spatially on or near areas designated as high PYFC zones for in-situ fossil localities. Evaluation of paleontological sensitivity of all geological formations along proposed access roads, pipeline right-of-ways and well sites is requested by the Department of the Interior and the Bureau of Land Management by the mandates outlined in NEPA (P.L. 91–190; 31 Stat. 852, 42 U.S.C. 4321–4327); FLPMA (P.L. 94–579; 90 Stat. 2743, U.S.C. 1701–1782; OPLM-Subtitle D, Paleontological Resources Protection, Sections 6301–6312, PL 111–11, Congressional Record-House, p. H3900–H3901; BLM Paleontology Resources Management Manual and Handbook H-8270–1, 1998, BLM IM 2008–09; BLM IM 2009–11.</p> <p>Paleontological surveys should be performed by licensed and permitted companies experienced in completing specialized surveys for exploration companies, with reports of research to accompany APD applications to the Vernal field office in Vernal, Utah.</p>	Joseph Islas	2/24/2015
PI	Plants: BLM Sensitive	<p>The following BLM-Sensitive plant species and their habitat have been identified, or have the potential to occur, within one or more of the proposed lease parcels: rock columbine (<i>Aquilegia scopulorum</i> var. <i>goodrichii</i>), Horseshoe milkvetch (<i>Astragalus equisolensis</i>), Hamilton milkvetch (<i>Astragalus hamiltonii</i>), Graham catseye (<i>Cryptantha grahamii</i>), Untermann fleabane (<i>Erigeron untermannii</i>), Goodrich blazingstar (<i>Mentzelia goodrichii</i>), Goodrich beardtongue (<i>Penstemon goodrichii</i>), Graham beardtongue (<i>Penstemon grahamii</i>), White River beardtongue (<i>Penstemon scariosus</i> var. <i>albifluvis</i>), Argyle phacelia (<i>Phacelia argylensis</i>), Green River greenthread (<i>Thelesperma subnudum</i> var. <i>caespitosum</i>), and sterile yucca (<i>Yucca sterilis</i>).</p> <p>Application of lease notices UT-LN-49, UT-LN-51, UT-LN-89, and UT-LN-90 is required for these parcels. In addition, there are eight parcels that overlap with portions of the Penstemon Conservation Agreement areas. These parcels will be subject to the stipulations and conservation measures outlined in the Penstemon Conservation Agreement. Additionally, pursuant to BLM Handbook 3120-1 – Competitive Leases (P) (H-3120), the following stipulation is attached to all of the lease parcels: <i>The lease may now</i></p>	Matt Lewis	2/23/2016

Determination	Resource/Issue	Rationale for Determination	Signature	Date
		<p>and hereafter contain plants, animals, and 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 objectives to avoid BLM approved activity that will contribute to a need to list such a species or their habitat. BLM may require modification to or disapprove a 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 that may affect any such species or critical habitat until it completes its obligation under 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 (H-3120 at 35).</p>		
PI	Plants: Threatened, Endangered, Proposed, or Candidate	<p>The following federally listed plant species and their habitat occur, or have the potential to occur, within one or more of the proposed lease parcels: clay reed-mustard (<i>Hesperidanthus argillaceus</i>), shrubby reed-mustard (<i>Hesperidanthus suffrutescens</i>), Pariette cactus (<i>Sclerocactus brevispinus</i>), Uinta Basin hookless cactus (<i>Sclerocactus wetlandicus</i>), and Ute ladies'-tresses (<i>Spiranthes diluvialis</i>).</p> <p>Application of lease notices T&E-05, T&E-12, T&E-20, T&E-21, and T&E-22 is required for these parcels. In addition, stipulation UT-S-314 and the Endangered Species Act Section 7 Consultation Stipulation would be attached to the parcels as required by BLM Handbook 3120-1 – Competitive Leases (P) (H-3120). During the development of the proposed lease parcels, and including proposed or required conservation and mitigation measures, any impacts to these species will be analyzed during Section 7 consultation with the US Fish and Wildlife Service.</p>	Matt Lewis	2/23/2016

Determina- tion	Resource/Issue	Rationale for Determination	Signature	Date
NI	Plants: Wetland/Riparian	Although leasing of the parcels will not directly affect wetlands or riparian zones, if oil and gas development occurs the small portions of the mapped 100 year floodplains and wetlands that are found in parcels (ID#s) 005, 012, 013, 038, 069, 071, 094, 103, 105, and 122 which tend to exhibit wetland and riparian type functions could be affected. Impacts to these areas will be mitigated by Lease Stipulation UT-S-123 and Lease Notice UT-LN-53.	Melissa Wardle	5/16/2016
PI	Recreation	Parcels (ID#) 009, and 010 occur partially or fully within the Nine Mile SRMA. The Nine-Mile Canyon Backcountry ByWay could be affectd.	Rene Arce	4/22/2016
NI	Socio-Economics	No impact to the social or economic status of the counties or nearby communities would occur from the leasing of these parcels due to their small size of this project in relation to ongoing development throughout the Uinta Basin.	Melissa Wardle	5/18/2016
PI	Visual Resources	Parcel (ID#) 038, falls partially or fully within lands that are managed as VRM class II. The objective of this class is to 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 changes to the landscape must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape. Parcels (ID#) 004, 009, 010, 012, 013, 014, 015, 032, 038, 067, 070, 094, 103, 121, 122, 151, and 152 fall partially or fully within lands that are managed as VRM class III. The objective of this class is to partially retain the existing character of the landscape. The level of change to the landscape should be moderate. Management activities may attract the attention of the casual observer, but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape. Parcels 006, 009, 010, 012, 013, 014, 015, 016, 032, 039, 049, 070, and 071 occur partially or fully within lands that are managed as VRM class IV. The objective of this class 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. These management activities may dominate the view and be the major focus of attention. However, every attempt should be made to minimize	Rene Arce	4/22/2016

Determina- tion	Resource/Issue	Rationale for Determination	Signature	Date
		the impact of these activities through careful location, minimal disturbance, and repeating the basic elements of the landscape.		
NI	Wastes (hazardous/solid)	The analysis in the VFO RMP [BLM 2008b] is sufficient. No hazardous or solid waste sites are known to be present. No hazardous or solid waste sites are anticipated to occur as a result of leasing. No stipulations or lease notices apply.	Melissa Wardle	4/4/2016
NI	Water: Floodplains	Floodplains are associated with Parcels 012, 013, 038, 069, 071, and 094. Leasing of the proposed parcels would not, by itself, authorize any ground disturbances. Site-specific effects cannot be analyzed until an exploration or development application is received, after leasing has occurred. However, any development proposal on the lease parcels would be subject to the standard lease terms, the protective lease notices and stipulations identified in Appendix A, and all applicable laws, regulations and onshore orders in existence at the time of lease issuance. Site-specific analysis would be required prior to the approval of any ground disturbance proposal on the parcels. In light of existing knowledge regarding resource values on the subject parcels, which is based upon the analysis in the VFO RMP [BLM 2008b], BLM VFO resource specialist knowledge and parcel site-visits, and the protective measure that would be applied to the parcels if leased, significant impacts beyond those already addressed in the VFO RMP [BLM2008bBLM 2008b] are not anticipated to occur as a result of leasing the proposed parcels. Application of UT-S-123 should be sufficient to notify the operator of any potential future development restrictions.	Melissa Wardle	4/4/2016
NI	Water: Groundwater Quality	Spatial position of proposed leasing allotments will not affect groundwater resources, conditional to compliance with "Onshore Oil and Gas Order 1" and federal regulations outlined in 43 CFR, part 3160, to assure that downhole operations will protect and isolate all useable waters through the use of steel casing and hardened cement settings from the subsurface up onto surface operations. No EPA Sole Source Aquifers or State of Utah Drinking Water Source Protection Zones underlie the proposed parcels. The potential to encounter useable groundwater with <10,000 ppm Total Dissolved Solids during drilling operations throughout the leasing area is a possibility and subject to mitigation procedures.	Joseph Islas	6/10/2016

Determination	Resource/Issue	Rationale for Determination	Signature	Date
		<p>EPA stated in the draft June 2015, <i>Assessment of the Potential Impacts of Hydraulic Fracturing for Oil and Gas on Drinking Water Resources</i> (“EPA Draft” http://cfpub.epa.gov/ncea/hfstudy/recordisplay.cfm?deid=244651), that “We did not find evidence that these mechanisms have led to widespread, systemic impacts on drinking water resources in the United States...The number of identified cases where drinking water resources were impacted are small relative to the number of hydraulically fractured wells...There is insufficient pre- and post-hydraulic fracturing data on the quality of drinking water resources. This inhibits a determination of the frequency of impacts. Other limiting factors include the presence of other causes of contamination, the short duration of existing studies, and inaccessible information related to hydraulic fracturing activities. There is not sufficient evidence to support the contention that hydraulic fracturing negatively impacts ground water to an unacceptable degree...The potential impacts to surface and/or ground water from hydraulic fracturing activities has not been shown to reach a level requiring detailed analysis.” See EPA Draft at ES-23.</p>	Mike McKinley	6/9/2016
NI	<p>Water:</p> <p>Hydrologic Conditions (stormwater)</p>	<p>Hydrologic conditions do exist in the Vernal Field Office, Leasing of the proposed parcels would not, by itself, authorize any ground disturbances. Site-specific effects cannot be analyzed until an exploration or development application is received, after leasing has occurred. However, any development proposal on the lease parcels would be subject to the standard lease terms, the protective lease notices and stipulations identified in Appendix A, and all applicable laws, regulations and onshore orders in existence at the time of lease issuance. Site-specific analysis would be required prior to the approval of any ground disturbance proposal on the parcels. In light of existing knowledge regarding resource values on the subject parcels, which is based upon the analysis in the VFO RMP [BLM 2008b] resource specialist knowledge and parcel site-visits, significant impacts beyond those already addressed in the Record of Decision VFO RMP [BLM2008bBLM 2008b] are not anticipated to occur as a result of leasing the proposed parcels.</p>	Melissa Wardle	4/4/2016

Determina- tion	Resource/Issue	Rationale for Determination	Signature	Date
NI	Water: Surface Water Quality	Leasing of the proposed parcels would not, by itself, authorize any ground disturbances which could contribute runoff affecting surface water quality. Site-specific effects cannot be analyzed until an exploration or development application is received, after leasing has occurred. However, any development proposal on the lease parcels would be subject to the standard lease terms, the protective lease notices and stipulations identified in Appendix A, and all applicable laws, regulations and onshore orders in existence at the time of lease issuance. Site-specific analysis would be required prior to the approval of any ground disturbance proposal on the parcels. In light of existing knowledge regarding resource values on the subject parcels, which is based upon the analysis in the VFO RMP [BLM 2008b], BLM VFO resource specialist knowledge and parcel site-visits, significant impacts beyond those already addressed in the VFO RMP [BLM 2008b] are not anticipated to occur as a result of leasing the proposed parcels.	Melissa Wardle	4/4/2016
NP	Water: Waters of the U.S.	No waters of the US are present in the project area per GIS information.	Melissa Wardle	4/4/2016
NP	Wild Horses	Approximately 12 parcels are within or adjacent to the historic Hill Creek Herd Area boundary. Although, appropriate management level targets were removed from the herd in 2008, the horses within the Hill Creek HA are still recognized as free-roaming wild horses protected under the FRWHB Act. These horses fall within the jurisdiction of the BLM for management until such time that each horse is removed from the herd area - effectively zeroing out the population. The document to analyze the leasing of the parcels will not create an impact to the existing horses in this HA. However, impacts will be determined to this resource through the site specific documents that may be subsequently developed.	Dusty Carpenter	5/17/2016
PI	Wildlife: Migratory Birds	Migratory bird foraging and nesting habitat is present in all parcels. Application of lease notice UT-LN-45 is required all parcels. There are known or documented raptor nests within ½ miles of several parcels. Application of lease notice and/or stipulation UT-LN-49, UT-LN-40, UT-S-261, UT-S-278 is required for all parcels.	Daniel Emmett	5/11/2016

Determination	Resource/Issue	Rationale for Determination	Signature	Date
PI (Aquatics NI)	Wildlife:	Designated elk crucial year long and winter habitat within several parcels. Designated deer crucial year long and winter habitat within several parcels. Application of lease notice and/or stipulation UT-S-247, UT-S-230, UT-S-247, UT-S-230 is required for parcels (ID#) 004, 005, 006, 009, 012, 013, 014, 015, 016, 038, 070, 094, 103, 121, 122, 152. The following conservation agreement fish species and their habitat have been identified, or have the potential to occur, within one or more of the proposed lease parcels: Roundtail Chub (<i>Gila robusta</i>), Bluehead Sucker (<i>Catostomus discobolus</i>), and Flannelmouth Sucker (<i>Catostomus Latipinnis</i>) Application of lease notice UT-LN-49 is required for parcels (ID#) 094, and 103.	Jerrad Goodell	5/11/2016
	Non-USFWS Designated		Daniel Emmett	5/16/2016
PI (Aquatics NI)	Wildlife:	MSO habitat exists within some parcels. Application of lease notice and/or stipulation T&E-06 is required for parcels (ID#) 004, 005, 009, 010. Yellow-billed cuckoo potential habitat exists within parcels. Application of lease notice and/or stipulation UT-LN-49, UT-LN-113, UT-LN-115 is required for parcels (ID#) 038, 094, 103. No parcels are within or partially within Primary but 3 parcels are within General Greater Sage Habitat, as designated in the 2015 <i>Record of Decision and Approved Resource Management Plan Amendments for the Great Basin Region, Including the Greater Sage-Grouse Sub-Regions of Idaho and Southwestern Montana, Nevada and Northeastern California, Oregon and Utah</i> (GRSG ROD) and the <i>Utah Greater Sage-Grouse Approved Resource Management Plan Amendment</i> (GRSG ARMPA). Application of lease notice and/or stipulation UT-LN-49, UT-LN-132, UT-S-195, UT-S-205, UT-S-206, UT-S-207 is required for parcels (ID#) 032, 067, 152.[BLM 2015] Should analysis at the time of development indicate the need, Conditions of Approval to protect Sage-Grouse can be added in accordance with the Sensitive Species lease notice. The following federally listed fish species and their habitat occur, or have the potential to occur, within one or more of the proposed lease parcels: Razorback Sucker (<i>Xyrauchen texanus</i>), Colorado pikeminnow (<i>Ptycheilus lucius</i>), Humpback Chub (<i>Gila cypha</i>), and Bonytail Chub (<i>Gila elegans</i>) Application of lease notice T&E-03 is required for these parcels (ID#) 094, and 103. Per the	Jerrad Goodell	5/11/2016
	Special Status Species		Daniel Emmett	5/16/2016

Determination	Resource/Issue	Rationale for Determination	Signature	Date
		notice T&E-03: Water depletions from any 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 depletions amounts must be reported to BLM		
NI	Woodlands/Forestry	<p>Woodlands are present in areas of the proposed lease parcels. Leasing of the proposed parcels would not, by itself, authorize any ground disturbing activities that could affect woodlands. Site-specific effects cannot be analyzed until an exploration or development application is received, after leasing has occurred. However, any development proposal on the lease parcels would be subject to the standard lease terms, the protective lease notices and stipulations identified in Appendix A, and all applicable laws, regulations and onshore orders in existence at the time of lease issuance. Site-specific analysis would be required prior to the approval of any ground disturbance proposal on the parcels.</p> <p>In light of existing knowledge regarding resource values on the subject parcels, which is based upon the analysis in the VFO RMP [BLM 2008b], BLM VFO resource specialist knowledge and parcel site-visits, and the protective measure that would be applied to the parcels if leased, significant impacts beyond those already addressed in the VFO RMP [BLM 2008b] are not anticipated to occur as a result of leasing the proposed parcels.</p>	David Palmer	5/17/2016

Appendix D. Deferred Parcels

BLM_Sale ID	Legal Description of Deferred Parcel and deferred Sections	Reason for Deferral
UT1116 - 001	T. 10 S., R. 13 E., Salt Lake Sec. 31: Lot 1; Sec. 33: Lots 1-4, S2SW; Sec. 34: Lot 1. 246.85 Acres Duchesne County, Utah Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSG plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.
UT1116 - 002	T. 11 S., R. 13 E., Salt Lake Sec. 1: All; Sec. 11: E2, NENW; Sec. 12: All. 980.79 Acres Duchesne County, Utah Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSG plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.
UT1116 - 003	T. 11 S., R. 13 E., Salt Lake Secs. 3, 4 and 5: All. 1,878.18 Acres Duchesne County, Utah Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSG plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.

UT1116 - 007	T. 11 S., R. 14 E., Salt Lake Sec. 8: All. 258.40 Acres Duchesne County, Utah Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSg plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSg Plans.
UT1116 - 008	T. 11 S., R. 14 E., Salt Lake Sec. 11: S2; Sec. 12: SW; Sec. 14: E2. 800.00 Acres Duchesne County, Utah Vernal Field Office	BLM identified lands with wilderness characteristics in the Currant Canyon Inventory Unit in 2011 and additions in 2015, post-RMP EIS analysis. This parcel is within both the 2011 Inventory Unit and the 2015 addition and was deferred due to staff and time limitations to sufficiently evaluate the impacts to the Unit. Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSg plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSg Plans.
UT1116 - 010	<i>partial deferral - deferred section:</i> T. 11 S., R. 14 E., Salt Lake Sec. 33: NW, N2SW, SESW, 280.00 Acres Duchesne County, Utah Vernal Field Office	BLM identified lands with wilderness characteristics in the Currant Canyon Inventory Unit in 2011 and additions in 2015, post-RMP EIS analysis. This parcel is within both the 2011 Inventory Unit and the 2015 addition and was deferred due to staff and time limitations to sufficiently evaluate the impacts to the Unit.
UT1116 - 011	T. 11 S., R. 14 E., Salt Lake Sec. 30: Lots 3, 4, 7-9, 12; Sec. 31: Lot 6, NENE, NESE. 402.26 Acres Duchesne County, Utah Vernal Field Office	BLM identified lands with wilderness characteristics in the Currant Canyon Inventory Unit in 2011 and additions in 2015, post-RMP EIS analysis. This parcel is within both the 2011 Inventory Unit and the 2015 addition and was deferred due to staff and time limitations to sufficiently evaluate the impacts to the Unit.

UT1116 - 012	<p><i>partial deferral — deferred section:</i></p> <p>T. 10 S., R. 15 E., Salt Lake Sec. 1: All; 641.04 Acres Duchesne County, Utah Vernal Field Office</p>	<p>BLM received submissions for the Big Wash, Addition in July 2014 during the scoping period for the November 2014 Oil and Gas lease sale. While field work has been performed, BLM was unable to complete an update to the wilderness characteristics inventory or finalize a determination of the presence or absence of wilderness characteristics in advance of the November 2016 Oil and Gas Lease Sale EA.</p> <p>WO IM 2013-106 stated, "The BLM field offices should make finalized and signed wilderness characteristics inventory findings ...before the inventory data is used to inform decisions [emphasis added]." BLM is unable to analyze and disclose impacts to wilderness characteristics until the presence or absence of the resource is determined. Therefore, the analysis necessary to make an informed decision could not be completed.</p>
UT1116 - 013	<p><i>partial deferral — deferred section:</i></p> <p>T. 10 S., R. 15 E., Salt Lake Sec. 22: NE; Sec. 23: W2E2, NW. 480.00 Acres Duchesne County, Utah Vernal Field Office</p>	<p>BLM received submissions for the Sheep Wash Addition in July 2014 during the scoping period for the November 2014 Oil and Gas lease sale. While field work has been performed, BLM was unable to complete an update to the wilderness characteristics inventory or finalize a determination of the presence or absence of wilderness characteristics in advance of the November 2016 Oil and Gas Lease Sale EA.</p> <p>WO IM 2013-106 stated, "The BLM field offices should make finalized and signed wilderness characteristics inventory findings ...before the inventory data is used to inform decisions [emphasis added]." BLM is unable to analyze and disclose impacts to wilderness characteristics until the presence or absence of the resource is determined. Therefore, the analysis necessary to make an informed decision could not be completed.</p>
UT1116 - 015	<p><i>partial deferral — deferred section:</i></p> <p>T. 10 S., R. 15 E., Salt Lake Sec. 28: SENE, NESE. 80.00 Acres Duchesne County, Utah Vernal Field Office</p>	<p>BLM received submissions for the Big Wash Additions in July 2014 during the scoping period for the November 2014 Oil and Gas lease sale. While field work has been performed, BLM was unable to complete an update to the wilderness characteristics inventory or finalize a determination of the presence or absence of wilderness characteristics in advance of the November 2016 Oil and Gas Lease Sale EA.</p> <p>WO IM 2013-106 stated, "The BLM field offices should make finalized and signed wilderness characteristics inventory findings ...before the inventory data is used to inform decisions [emphasis added]." BLM is unable to analyze and disclose impacts to wilderness characteristics until the presence or absence of the resource is determined. Therefore, the analysis necessary to make an informed decision could not be completed.</p>
UT1116 - 017	<p>T. 10 S., R. 15 E., Salt Lake Sec. 33: Lots 1-4; Sec. 34: Lots 1-4, NWNE, SENW; Sec. 35: All. 1,020.76 Acres Duchesne County, Utah Vernal Field Office</p>	<p>Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSG plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.</p>

UT1116 - 018	T. 11 S., R. 15 E., Salt Lake Sec. 1: All; Sec. 11: NE, S2; Sec. 12: All; 1, 761.40 Acres Duchesne County, Utah Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSG plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.
UT1116 - 019	T. 11 S., R. 15 E., Salt Lake Sec. 3: S2N2, S2; Sec. 4: All; 1,222.72 Acres Duchesne County, Utah Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSG plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.
UT1116 - 020	T. 11 S., R. 15 E., Salt Lake Sec. 28: NESE, S2SE; Sec. 31: Lot 4; Sec. 33: Lots 1-3, SENE, NW, N2SE. 567.37 Acres Duchesne County, Utah Vernal Field Office	At the time of the preparation of the preliminary Environmental Assessment, the introduction of H.R. 5780, the Utah Public Lands Initiative (UPLI), was imminent; a public discussion draft was released in January 2016 and the bill was formally introduced on July 14, 2016. These nominated parcels were included in areas that would be protected from development under the UPLI. Offering and issuing new leases within areas protected by the UPLI could create additional conflicts to be resolved should the bill become law. Therefore, in the judgement of the Utah State Director, deferral of the parcels is the most prudent course of action.
UT1116 - 021	T. 10 S., R. 16 E., Salt Lake Sec. 1: All; Sec. 10: SENE, E2SW, SE; Secs. 11 and 12: All. 2,199.60 Acres Duchesne County, Utah Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSG plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1),

		the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.
UT1116 - 022	T. 10 S., R. 16 E., Salt Lake Secs. 13, 14 and 15: All; Sec. 23: E2E2. 2,080.00 Acres Duchesne County, Utah Vernal Field Office	<p>BLM received submissions for the Sheep Wash Additions in July 2014 during the scoping period for the November 2014 Oil and Gas lease sale. While field work has been performed, BLM was unable to complete an update to the wilderness characteristics inventory or finalize a determination of the presence or absence of wilderness characteristics in advance of the November 2016 Oil and Gas Lease Sale EA.</p> <p>WO IM 2013-106 stated, "The BLM field offices should make finalized and signed wilderness characteristics inventory findings ...before the inventory data is used to inform decisions [emphasis added]." BLM is unable to analyze and disclose impacts to wilderness characteristics until the presence or absence of the resource is determined. Therefore, the analysis necessary to make an informed decision could not be completed.</p>
UT1116 - 023	T. 10 S., R. 16 E., Salt Lake Sec. 25: N2, N2SW, SESW, SE. 600.00 Acres Duchesne County, Utah Vernal Field Office	<p>BLM received submissions for the Sheep Wash Addition in July 2014 during the scoping period for the November 2014 Oil and Gas lease sale. While field work has been performed, BLM was unable to complete an update to the wilderness characteristics inventory or finalize a determination of the presence or absence of wilderness characteristics in advance of the November 2016 Oil and Gas Lease Sale EA.</p> <p>WO IM 2013-106 states, "The BLM field offices should make finalized and signed wilderness characteristics inventory findings (using the forms provided in BLM Manual 6310, Appendix B) available to the public as soon as practicable after their completion and before the inventory data is used to inform decisions [emphasis added]." BLM is unable to analyze and disclose impacts to wilderness characteristics until the presence or absence of the resource is determined. Therefore, the analysis necessary to make an informed decision could not be completed.</p>
UT1116 - 024	T. 10 S., R. 16 E., Salt Lake Sec. 27: N2; Sec. 28: N2. 640.00 Acres Duchesne County, Utah Vernal Field Office	<p>BLM received submissions for the Sheep Wash Addition in July 2014 during the scoping period for the November 2014 Oil and Gas lease sale. While field work has been performed, BLM was unable to complete an update to the wilderness characteristics inventory or finalize a determination of the presence or absence of wilderness characteristics in advance of the November 2016 Oil and Gas Lease Sale EA.</p> <p>WO IM 2013-106 stated, "The BLM field offices should make finalized and signed wilderness characteristics inventory findings (...before the inventory data is used to inform decisions [emphasis added]." BLM is unable to analyze and disclose impacts to wilderness characteristics until the presence or absence of the resource is determined. Therefore, the analysis necessary to make an informed decision could not be completed.</p> <p>Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits may be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.</p>

UT1116 - 025	T. 10 S., R. 16 E., Salt Lake Sec. 35: SENE, SESE. 80.00 Acres Duchesne County, Utah Vernal Field Office	<p>BLM received submissions for the Sheep Wash Additions in July 2014 during the scoping period for the November 2014 Oil and Gas lease sale. While field work has been performed, BLM was unable to complete an update to the wilderness characteristics inventory or finalize a determination of the presence or absence of wilderness characteristics in advance of the November 2016 Oil and Gas Lease Sale EA.</p> <p>WO IM 2013-106 states, "The BLM field offices should make finalized and signed wilderness characteristics inventory findings ...before the inventory data is used to inform decisions [emphasis added]." BLM is unable to analyze and disclose impacts to wilderness characteristics until the presence or absence of the resource is determined. Therefore, the analysis necessary to make an informed decision could not be completed.</p> <p>Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits may be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.</p>
UT1116 - 026	T. 11 S., R. 16 E., Salt Lake Sec. 1: All; Sec. 11: S2; Sec. 12: W2; Sec. 13: N2N2, SE; Sec. 14: N2; Sec. 15: N2. 2,234.48 Acres Duchesne County, Utah Vernal Field Office	<p>BLM received submissions for the Badlands Cliffs Addition in July 2014 during the scoping period for the November 2014 Oil and Gas lease sale. While field work has been performed, BLM was unable to complete an update to the wilderness characteristics inventory or finalize a determination of the presence or absence of wilderness characteristics in advance of the November 2016 Oil and Gas Lease Sale EA.</p> <p>WO IM 2013-106 states, "The BLM field offices should make finalized and signed wilderness characteristics inventory findings ...before the inventory data is used to inform decisions [emphasis added]." BLM is unable to analyze and disclose impacts to wilderness characteristics until the presence or absence of the resource is determined. Therefore, the analysis necessary to make an informed decision could not be completed.</p> <p>Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits may be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.</p>

UT1116 - 027	T. 11 S., R. 16 E., Salt Lake Sec. 6: Lots 1-7, S2NE, SENW; Sec. 7: All. 853.78 Acres Duchesne County, Utah Vernal Field Office	BLM received submissions for the Badlands Cliffs Addition in July 2014 during the scoping period for the November 2014 Oil and Gas lease sale. While field work has been performed, BLM was unable to complete an update to the wilderness characteristics inventory or finalize a determination of the presence or absence of wilderness characteristics in advance of the November 2016 Oil and Gas Lease Sale EA. WO IM 2013-106 stated, "The BLM field offices should make finalized and signed wilderness characteristics inventory findings ... before the inventory data is used to inform decisions [emphasis added]." BLM is unable to analyze and disclose impacts to wilderness characteristics until the presence or absence of the resource is determined. Therefore, the analysis necessary to make an informed decision could not be completed. Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits may be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.
UT1116 - 028	T. 11 S., R. 16 E., Salt Lake Secs. 25 and 26: All. 1,280.00 Acres Duchesne County, Utah Vernal Field Office	At the time of the preparation of the preliminary Environmental Assessment, the introduction of H.R. 5780, the Utah Public Lands Initiative (UPLI), was imminent; a public discussion draft was released in January 2016 and the bill was formally introduced on July 14, 2016. These nominated parcels were included in areas that would be protected from development under the UPLI. Offering and issuing new leases within areas protected by the UPLI could create additional conflicts to be resolved should the bill become law. Therefore, in the judgement of the Utah State Director, deferral of the parcels is the most prudent course of action.
UT1116 - 029	T. 11 S., R. 16 E., Salt Lake Secs. 33, 34 and 35: All. 1,920.00 Acres Duchesne County, Utah Vernal Field Office	At the time of the preparation of the preliminary Environmental Assessment, the introduction of H.R. 5780, the Utah Public Lands Initiative (UPLI), was imminent; a public discussion draft was released in January 2016 and the bill was formally introduced on July 14, 2016. These nominated parcels were included in areas that would be protected from development under the UPLI. Offering and issuing new leases within areas protected by the UPLI could create additional conflicts to be resolved should the bill become law. Therefore, in the judgement of the Utah State Director, deferral of the parcels is the most prudent course
UT1116 - 030	T. 9 S., R. 17 E., Salt Lake Sec. 35: All. 640.00 Acres Duchesne County, Utah (183.24 Acres) Uintah County, Utah (456.76 Acres) Vernal Field Office	The VFO RMP does not contain sufficient stipulations or analysis to address protection of white-tailed prairie dog habitat. BLM is deferring this parcel until appropriate protections can be applied through additional analysis.

UT1116 - 031	T. 10 S., R. 17 E., Salt Lake Sec. 30: Lot 4; Sec. 31: Lots 1-4, E2W2. 359.20 Acres Duchesne County, Utah Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSg plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits may be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSg Plans.
UT1116 - 033	T. 11 S., R. 17 E., Salt Lake Sec. 19: Lots 2-4, S2NE, SENW, E2SW, SE; Sec. 20: All; Sec. 21: SWNW, S2. 1,464.42 Acres Duchesne County, Utah Vernal Field Office	At the time of the preparation of the preliminary Environmental Assessment, the introduction of H.R. 5780, the Utah Public Lands Initiative (UPLI), was imminent; a public discussion draft was released in January 2016 and the bill was formally introduced on July 14, 2016. These nominated parcels were included in areas that would be protected from development under the UPLI. Offering and issuing new leases within areas protected by the UPLI could create additional conflicts to be resolved should the bill become law. Therefore, in the judgement of the Utah State Director, deferral of the parcels is the most prudent course of action.
UT1116 - 034	T. 11 S., R. 17 E., Salt Lake Sec. 23: S2S2; Sec. 24: S2S2; Secs. 25, 26 and 27: All. 2,240.00 Acres Duchesne County, Utah (1,104.10 Acres) Uintah County, Utah (1,135.90 Acres) Vernal Field Office	At the time of the preparation of the preliminary Environmental Assessment, the introduction of H.R. 5780, the Utah Public Lands Initiative (UPLI), was imminent; a public discussion draft was released in January 2016 and the bill was formally introduced on July 14, 2016. These nominated parcels were included in areas that would be protected from development under the UPLI. Offering and issuing new leases within areas protected by the UPLI could create additional conflicts to be resolved should the bill become law. Therefore, in the judgement of the Utah State Director, deferral of the parcels is the most prudent course of action.
UT1116 - 035	T. 11 S., R. 17 E., Salt Lake Sec. 28: S2; Sec. 29: S2; Sec. 30: Lots 3, 4, E2SW, SE; Sec. 31: Lots 1, 2, 4, W2NE, E2NW, SESW, SWSE. 1,295.33 Acres Duchesne County, Utah Vernal Field Office	At the time of the preparation of the preliminary Environmental Assessment, the introduction of H.R. 5780, the Utah Public Lands Initiative (UPLI), was imminent; a public discussion draft was released in January 2016 and the bill was formally introduced on July 14, 2016. These nominated parcels were included in areas that would be protected from development under the UPLI. Offering and issuing new leases within areas protected by the UPLI could create additional conflicts to be resolved should the bill become law. Therefore, in the judgement of the Utah State Director, deferral of the parcels is the most prudent course of action.
UT1116 - 036	T. 11 S., R. 17 E., Salt Lake Secs. 33, 34 and 35: All. 1,920.00 Acres Duchesne County, Utah (1,653.97 Acres) Uintah County, Utah (266.03 Acres) Vernal Field Office	At the time of the preparation of the preliminary Environmental Assessment, the introduction of H.R. 5780, the Utah Public Lands Initiative (UPLI), was imminent; a public discussion draft was released in January 2016 and the bill was formally introduced on July 14, 2016. These nominated parcels were included in areas that would be protected from development under the UPLI. Offering and issuing new leases within areas protected by the UPLI could create additional conflicts to be resolved should the bill become law. Therefore, in the judgement of the Utah State Director, deferral of the parcels is the most prudent course of action.

UT1116 - 037	T. 9 S., R. 18 E., Salt Lake Sec. 33: S2. 320.00 Acres Uintah County, Utah Vernal Field Office	The VFO RMP does not contain sufficient stipulations or analysis to address protection of white-tailed prairie dog habitat. BLM is deferring this parcel until appropriate protections can be applied through additional analysis.
UT1116 - 040	T. 11 S., R. 18 E., Salt Lake Sec. 17: N2NE, SENE, NW; Sec. 18: N2NE, SWNE, NW, N2SW, NWSE. 680.00 Acres Uintah County, Utah Vernal Field Office	At the time of the preparation of the preliminary Environmental Assessment, the introduction of H.R. 5780, the Utah Public Lands Initiative (UPLI), was imminent; a public discussion draft was released in January 2016 and the bill was formally introduced on July 14, 2016. These nominated parcels were included in areas that would be protected from development under the UPLI. Offering and issuing new leases within areas protected by the UPLI could create additional conflicts to be resolved should the bill become law. Therefore, in the judgement of the Utah State Director, deferral of the parcels is the most prudent course of action.
UT1116 - 041	T. 11 S., R. 18 E., Salt Lake Sec. 19: N2SW, N2SWSW, SESW, S2SE; Sec. 20: S2S2; Sec. 29: W2; Secs. 30 and 31: All. 1,980.00 Acres Uintah County, Utah Vernal Field Office	The Sand Wash Recreation Area was not fully analyzed in the Vernal RMP and therefore the parcel is being deferred until further analysis is completed.
UT1116 - 042	T. 11 S., R. 18 E., Salt Lake Sec. 25: SESW, S2SE; Secs. 26, 35 and 36: All. 1,442.00 Acres Uintah County, Utah Vernal Field Office	At the time of the preparation of the preliminary Environmental Assessment, the introduction of H.R. 5780, the Utah Public Lands Initiative (UPLI), was imminent; a public discussion draft was released in January 2016 and the bill was formally introduced on July 14, 2016. These nominated parcels were included in areas that would be protected from development under the UPLI. Offering and issuing new leases within areas protected by the UPLI could create additional conflicts to be resolved should the bill become law. Therefore, in the judgement of the Utah State Director, deferral of the parcels is the most prudent course of action.
UT1116 - 043	T. 11 S., R. 18 E., Salt Lake Sec. 27: Lots 1-4, S2NW, W2SW; Sec. 28: S2NE, NWNW, SE; Sec. 33: N2NE. 649.49 Acres Uintah County, Utah Vernal Field Office	At the time of the preparation of the preliminary Environmental Assessment, the introduction of H.R. 5780, the Utah Public Lands Initiative (UPLI), was imminent; a public discussion draft was released in January 2016 and the bill was formally introduced on July 14, 2016. These nominated parcels were included in areas that would be protected from development under the UPLI. Offering and issuing new leases within areas protected by the UPLI could create additional conflicts to be resolved should the bill become law. Therefore, in the judgement of the Utah State Director, deferral of the parcels is the most prudent course of action.
UT1116 - 044	T. 11 S., R. 18 E., Salt Lake Sec. 27: NESE, S2SE; Sec. 33: S2SW, NWSE; Sec. 34: N2NE, SWNE, S2NW, N2SW, SWSW. 560.00 Acres Uintah County, Utah Vernal Field Office	At the time of the preparation of the preliminary Environmental Assessment, the introduction of H.R. 5780, the Utah Public Lands Initiative (UPLI), was imminent; a public discussion draft was released in January 2016 and the bill was formally introduced on July 14, 2016. These nominated parcels were included in areas that would be protected from development under the UPLI. Offering and issuing new leases within areas protected by the UPLI could create additional conflicts to be resolved should the bill become law. Therefore, in the judgement of the Utah State Director, deferral of the parcels is the most prudent course of action.
UT1116 - 045	T. 9 S., R. 19 E., Salt Lake Sec. 1: Lots 5-7; Sec. 13: Lot 5; Sec. 14: Lot 5. 59.78 Acres Uintah County, Utah Vernal Field Office	This parcel is in Yellow Billed Cuckoo habitat. The Yellow Billed Cuckoo is a federally listed species and therefore this parcel is being deferred because the RMP EIS did not analyze impacts to this species.
UT1116 - 046	T. 9 S., R. 19 E., Salt Lake Sec. 13: NENE, S2NE, E2SW, SE. 360.00 Acres Uintah County, Utah Vernal Field Office	The VFO RMP does not contain sufficient stipulations or analysis to address protection of white-tailed prairie dog habitat. BLM is deferring this parcel until appropriate protections can be applied through additional analysis.

UT1116 - 047	T. 9 S., R. 19 E., Salt Lake Sec. 14: Lots 1-3, NW, N2SW; Sec. 15: All. 952.05 Acres Uintah County, Utah Vernal Field Office	The VFO RMP does not contain sufficient stipulations or analysis to address protection of white-tailed prairie dog habitat. BLM is deferring this parcel until appropriate protections can be applied through additional analysis.
UT1116 - 048	TT. 11 S., R. 19 E., Salt Lake Sec. 6: Lots 3-7, SENW, E2SW; Sec. 7: Lots 1-4, E2W2; Sec. 18: Lot 1. 669.09 Acres Uintah County, Utah Vernal Field Office	At the time of the preparation of the preliminary Environmental Assessment, the introduction of H.R. 5780, the Utah Public Lands Initiative (UPLI), was imminent; a public discussion draft was released in January 2016 and the bill was formally introduced on July 14, 2016. These nominated parcels were included in areas that would be protected from development under the UPLI. Offering and issuing new leases within areas protected by the UPLI could create additional conflicts to be resolved should the bill become law. Therefore, in the judgement of the Utah State Director, deferral of the parcels is the most prudent course of action.
UT1116 - 050	T. 4 S., R. 20 E., Salt Lake Secs. 4, 5 and 6: All. 2,030.42 Acres Uintah County, Utah Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSG plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.
UT1116 - 051	T. 4 S., R. 20 E., Salt Lake Secs. 7, 8 and 9: All. 1,985.12 Acres Uintah County, Utah Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSG plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.

UT1116 - 052	T. 4 S., R. 20 E., Salt Lake Sec. 10: All; Sec. 11: Lots 3-6, E2NE, SWNW, W2SW, SE; Sec. 13: Lots 2, 5-7, SWNE, SENW, E2SW, W2SE; Sec. 24: Lot 1. 1,483.10 Acres Uintah County, Utah Vernal Field Office	The VFO RMP does not contain sufficient stipulations or analysis to address protection of white-tailed prairie dog habitat. BLM is deferring this parcel until appropriate protections can be applied through additional analysis.
UT1116 - 053	T. 4 S., R. 20 E., Salt Lake Sec. 17: N2NE, SWNE, W2, W2SE, SESE; Secs. 18 and 19: All. 1,969.04 Acres Uintah County, Utah Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSG plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.
UT1116 - 054	T. 4 S., R. 20 E., Salt Lake Secs. 20, 29 and 30: All. 1,982.80 Acres Uintah County, Utah Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSG plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.
UT1116 - 055	T. 4 S., R. 20 E., Salt Lake Sec. 21: NE, W2NW, SENW, S2; Secs. 28 and 33: All. 1,880.00 Acres Uintah County, Utah Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSG plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease

		particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.
UT1116 - 056	T. 5 S., R. 20 E., Salt Lake Sec. 3: Lots 3, 4, S2NW, SW; Secs. 4 and 10: All. 1,575.70 Acres Uintah County, Utah Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSG plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.
UT1116 - 057	T. 5 S., R. 20 E., Salt Lake Secs. 13, 14 and 24: All. 1,920.00 Acres Uintah County, Utah Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSG plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.
UT1116 - 058	T. 6 S., R. 20 E., Salt Lake Sec. 30: Lots 1-4, E2W2; Sec. 31: All excluding ROW U16133 (77.06 ac.). 859.60 Acres Uintah County, Utah Vernal Field Office	The VFO RMP does not contain sufficient stipulations or analysis to address protection of white-tailed prairie dog habitat. BLM is deferring this parcel until appropriate protections can be applied through additional analysis.
UT1116 - 059	T. 6 S., R. 20 E., Salt Lake Secs. 33, 34 and 35: All. 1,920.00 Acres Uintah County, Utah Vernal Field Office	The VFO RMP does not contain sufficient stipulations or analysis to address protection of white-tailed prairie dog habitat. BLM is deferring this parcel until appropriate protections can be applied through additional analysis.
UT1116 - 063	T. 7 S., R. 20 E., Salt Lake Sec. 22: NWNW; Sec. 23: NENE, SWNE, E2NW, NESW, NWSE; Sec. 27: E2NW. 360.00 Acres Uintah County, Utah Vernal Field Office	The VFO RMP does not contain sufficient stipulations or analysis to address protection of white-tailed prairie dog habitat. BLM is deferring this parcel until appropriate protections can be applied through additional analysis.

UT1116 - 068	T. 3 S., R. 21 E., Salt Lake Sec. 13: NE, NENW, S2NW, S2; Sec. 24: All; Sec. 25: NE, W2NW, SENW, S2. 1,840.16 Acres Uintah County, Utah Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSG plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.
UT1116 - 072	T. 4 S., R. 21 E., Salt Lake Sec. 18: Lots 2-4, E2NW, NESW; Sec. 19: E2SESE; Sec. 30: SWNE, NENENW; Sec. 31: SE. 465.50 Acres Uintah County, Utah Vernal Field Office	The VFO RMP does not contain sufficient stipulations or analysis to address protection of white-tailed prairie dog habitat. BLM is deferring this parcel until appropriate protections can be applied through additional analysis.
UT1116 - 073	T. 5 S., R. 21 E., Salt Lake Sec. 15: Lots 1-8; Sec. 19: All; Sec. 22: Lots 1, 2, S2NE; Sec. 23: Lots 4, 5, S2NW, SW; Sec. 24: NESE. 1,474.55 Acres Uintah County, Utah Vernal Field Office	The VFO RMP does not contain sufficient stipulations or analysis to address protection of white-tailed prairie dog habitat. BLM is deferring this parcel until appropriate protections can be applied through additional analysis.
UT1116 - 074	T. 6 S., R. 21 E., Salt Lake Secs. 3, 10 and 15: All. 1,794.16 Acres Uintah County, Utah Vernal Field Office	The VFO RMP does not contain sufficient stipulations or analysis to address protection of white-tailed prairie dog habitat. BLM is deferring this parcel until appropriate protections can be applied through additional analysis.
UT1116 - 075	T. 6 S., R. 21 E., Salt Lake Secs. 6 and 7: All. 1,155.38 Acres Uintah County, Utah Vernal Field Office	The VFO RMP does not contain sufficient stipulations or analysis to address protection of white-tailed prairie dog habitat. BLM is deferring this parcel until appropriate protections can be applied through additional analysis.
UT1116 - 076	T. 6 S., R. 21 E., Salt Lake Sec. 11: All; Sec. 12: Lots 1, 2, 7, 8, S2; Sec. 14: Lots 7, 8, NENW, W2W2. 1,401.43 Acres Uintah County, Utah Vernal Field Office	The VFO RMP does not contain sufficient stipulations or analysis to address protection of white-tailed prairie dog habitat. BLM is deferring this parcel until appropriate protections can be applied through additional analysis.
UT1116 - 077	T. 7 S., R. 21 E., Salt Lake Sec. 14: NWSW; Sec. 15: W2NE, SENE; Sec. 20: SE. 320.00 Acres Uintah County, Utah Vernal Field Office	The VFO RMP does not contain sufficient stipulations or analysis to address protection of white-tailed prairie dog habitat. BLM is deferring this parcel until appropriate protections can be applied through additional analysis.

UT1116 - 082	T. 12 S., R. 21 E., Salt Lake Sec. 7: Lot 1. 33.34 Acres Uintah County, Utah Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSg plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSg Plans.
UT1116 - 083	T. 12 S., R. 21 E., Salt Lake Sec. 17: W2; Sec. 18: E2; Sec. 28: All. 1,280.00 Acres Uintah County, Utah Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSg plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSg Plans.
UT1116 - 084	T. 3 S., R. 22 E., Salt Lake Secs. 17, 18 and 19: All. 1,986.84 Acres Uintah County, Utah Vernal Field Office	The VFO RMP does not contain sufficient stipulations or analysis to address protection of white-tailed prairie dog habitat. BLM is deferring this parcel until appropriate protections can be applied through additional analysis.
UT1116 - 085	T. 3 S., R. 22 E., Salt Lake Secs. 20 and 21: All; Sec. 22: W2W2NE, W2, W2SE. 1,728.41 Acres Uintah County, Utah Vernal Field Office	The VFO RMP does not contain sufficient stipulations or analysis to address protection of white-tailed prairie dog habitat. BLM is deferring this parcel until appropriate protections can be applied through additional analysis.
UT1116 - 086	T. 3 S., R. 22 E., Salt Lake Sec. 27: Lots 2-5, 8, 9, SWNE, SENW, E2SW, W2SE; Sec. 34: Lots 5-7, W2NE, NW, N2SW, NWSE. 973.00 Acres Uintah County, Utah Vernal Field Office	The VFO RMP does not contain sufficient stipulations or analysis to address protection of white-tailed prairie dog habitat. BLM is deferring this parcel until appropriate protections can be applied through additional analysis.
UT1116 - 087	T. 3 S., R. 22 E., Salt Lake Secs. 28, 29 and 33: All. 1,920.00 Acres Uintah County, Utah Vernal Field Office	The VFO RMP does not contain sufficient stipulations or analysis to address protection of white-tailed prairie dog habitat. BLM is deferring this parcel until appropriate protections can be applied through additional analysis.

UT1116 - 088	T. 3 S., R. 22 E., Salt Lake Secs. 30 and 31: All. 1,346.28 Acres Uintah County, Utah Vernal Field Office	The VFO RMP does not contain sufficient stipulations or analysis to address protection of white-tailed prairie dog habitat. BLM is deferring this parcel until appropriate protections can be applied through additional analysis.
UT1116 - 089	T. 4 S., R. 22 E., Salt Lake Secs. 3, 4 and 5: All. 1,919.12 Acres Uintah County, Utah Vernal Field Office	The VFO RMP does not contain sufficient stipulations or analysis to address protection of white-tailed prairie dog habitat. BLM is deferring this parcel until appropriate protections can be applied through additional analysis.
UT1116 - 090	T. 4 S., R. 22 E., Salt Lake Sec. 6: All; Sec. 7: Lots 1, 7, NE, E2NW, NESW, N2SE; Sec. 8: All. 1,793.43 Acres Uintah County, Utah Vernal Field Office	The VFO RMP does not contain sufficient stipulations or analysis to address protection of white-tailed prairie dog habitat. BLM is deferring this parcel until appropriate protections can be applied through additional analysis.
UT1116 - 092	T. 5 S., R. 22 E., Salt Lake Sec. 1: All; Sec. 11: NENE, S2NE, SE; Sec. 12: W2NW, SENW, SW, W2SE, SESE. 1,321.60 Acres Uintah County, Utah Vernal Field Office	The VFO RMP does not contain sufficient stipulations or analysis to address protection of white-tailed prairie dog habitat. BLM is deferring this parcel until appropriate protections can be applied through additional analysis.
UT1116 - 097	T. 8 S., R. 22 E., Salt Lake Sec. 6: Lots 1-5, S2NE, SENW. 317.92 Acres Uintah County, Utah Vernal Field Office	The VFO RMP does not contain sufficient stipulations or analysis to address protection of white-tailed prairie dog habitat. BLM is deferring this parcel until appropriate protections can be applied through additional analysis.
UT1116 - 102	T. 5 S., R. 23 E., Salt Lake Sec. 5: S2NE, SW, SWSE; Sec. 6: Lots 5-7, SENW, E2SW, W2SE, SESE; Sec. 7: Lots 1-4, NE, E2NW, NESW, NESE; Sec. 18: Lots 7, 8, E2NENWNE, NESWNWNE, S2SWNWNE, SENWNE, E2NESENW, SESENW. 1,175.42 Acres Uintah County, Utah Vernal Field Office SENWNE, E2NESENW, SESENW.	The VFO RMP does not contain sufficient stipulations or analysis to address protection of white-tailed prairie dog habitat. BLM is deferring this parcel until appropriate protections can be applied through additional analysis.
UT1116 - 106	T. 16 S., R. 23 E., Salt Lake Sec. 12: E2, NESW, S2SW; Sec. 13: N2NE, NW, N2SW. 760.00 Acres Grand County Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSG plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook

		(H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.
UT1116 - 107	T. 8 S., R. 24 E., Salt Lake Sec. 1: Lots 1, 2, S2NE, SE. 320.00 Acres Uintah County, Utah Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSG plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.
UT1116 - 108	T. 8 S., R. 24 E., Salt Lake Sec. 13: S2SE; Sec. 24: E2; Sec. 25: E2. 720.00 Acres Uintah County, Utah Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSG plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.
UT1116 - 109	T. 8 S., R. 24 E., Salt Lake Sec. 15: N2SW, SESW, SE; Sec. 23: SENE, SWSE. 360.00 Acres Uintah County, Utah Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSG plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.

UT1116 - 110	T. 9 S., R. 24 E., Salt Lake Sec. 4: Lots 3, 4, S2N2, S2. 552.49 Acres Uintah County, Utah Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSG plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.
UT1116 - 111	T. 15 1/2 S., R. 24 E., Salt Lake Secs. 33 and 34: All. 905.62 Acres Grand County Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSG plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.
UT1116 - 112	T. 16 S., R. 24 E., Salt Lake Sec. 3: All; Sec. 4: Lots 1, 2, S2NE, SE. 959.23 Acres Grand County Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSG plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.

UT1116 - 140	T. 11 S., R. 18 E., Salt Lake Sec. 27: S2NE, E2SW, NWSE; Sec. 33: S2NE, N2SW; Sec. 34: N2NW. 440.00 Acres Uintah County, Utah Vernal Field Office	At the time of the preparation of the preliminary Environmental Assessment, the introduction of H.R. 5780, the Utah Public Lands Initiative (UPLI), was imminent; a public discussion draft was released in January 2016 and the bill was formally introduced on July 14, 2016. These nominated parcels were included in areas that would be protected from development under the UPLI. Offering and issuing new leases within areas protected by the UPLI could create additional conflicts to be resolved should the bill become law. Therefore, in the judgement of the Utah State Director, deferral of the parcels is the most prudent course of action.
UT1116 - 143	50% U.S. Mineral Interest T. 5 S., R. 21 E., Salt Lake Sec. 13: S2SE; Sec. 24: N2NE. 160.00 Acres Uintah County, Utah Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSG plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.
UT1116 - 151	<i>partial deferral — deferred section:</i> T. 11 S., R. 15 E., Salt Lake, Sec. 13: E2. 320.00 Acres, Uintah County, Utah, Vernal Field Office	Instruction Memorandums were not issued relative to Sage-Grouse habitat until after the 2016 Oil and Gas Lease Draft EA was published; however, the agency considered parcels that would focus potential disturbance outside the most important areas for Sage-Grouse conservation, consistent with the objectives and provisions of the GRSG plan. On September 1, 2016, Instruction Memorandum No. 2016-143 was issued regarding Oil & Gas Leasing and Development Sequential Prioritization in Sage-Grouse habitat, which states: The BLM's Authorized Officer, acting under the delegated authority of the Secretary of the Interior, has discretion to determine which public lands will be offered at a lease sale. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act "which are known or believed to contain oil or gas deposits <u>may</u> be leased by the Secretary." (30 U.S.C. § 226(a) (emphasis added)). When evaluating Expressions of Interest (EOIs) to lease particular parcels, pursuant to the Competitive Leases Handbook (H-3120-1), the BLM will plan for leasing and development in accordance with the objectives and provisions in the GRSG Plans.

Appendix E. Public Comments and Responses

Comment	Comment Summary	Response
Center for Biological Diversity-01	<p>The EA reveals the presence of numerous threatened, endangered, and sensitive species and their critical habitat within the areas proposed for leasing, but fails to provide any meaningful information regarding potential effects. BLM must not only evaluate the indirect and cumulative effects on special status species under NEPA, it must also (a) consult (and/or confer in the case of black-footed ferrets) with the Fish and Wildlife Service under Section 7 regarding the effects of oil and gas development and water use on listed species and critical habitat, and (b) evaluate the effects on sensitive species under its own sensitive species policy.</p>	<p>Impacts to these resources were considered and carried forward when warranted in the analysis. See the ID team checklist in Appendix C for determinations of potential impacts, Chapter 3 for a description of these resources, and Chapter 4 for the potential impacts and effects on these resources.</p> <p>There are no direct impacts from leasing. However, possible development scenarios, which are only hypothetical at this stage, were analyzed and the anticipated impacts were disclosed.</p> <p>As an action agency, we are required to initiate consultation for ferrets when a "may affect, likely to adversely affect" is determined through the NEPA process on a site specific basis. However, by applying lease stipulations/notices to the appropriate parcels for the purposes of analysis that determination was not necessary and the BLM is not required to consult USFWS. Section 7 determinations on site-specific oil and gas projects are not in the scope of this document.</p>
Center for Biological Diversity-02	<p>According to the EA, parcels 094 and 103 contain habitat and/or potential occurrences of reintroduced black-footed ferrets. The black-footed ferret, one of the most critically endangered mammals in North America, was reintroduced to the Coyote Basin in northeast Utah following near-extirpation in the wild. The species was reintroduced to Utah as a nonessential, experimental population pursuant to a rule promulgated under Section 10(j) of the ESA. Although nonessential experimental populations are not subject to the consultation requirement of ESA 7(a)(2), two provisions of ESA Section 7 still apply: (1) section 7(a)(1)—which requires all Federal agencies to use their authority to conserve listed species; and (2) section 7(a)(4)—which requires Federal agencies to confer with the Service on actions that are likely to jeopardize the continued existence of a proposed species throughout its range." Under the requirements of Section 7(a)(1) and 7(a)(4), BLM must still ensure that it is using its authority to conserve the black-footed ferret, and must confer with the Fish and Wildlife Service to determine whether its actions will jeopardize the continued existence of the species.</p> <p>Appendix D to the EA discloses that BLM deferred 23 nominated parcels from this lease sale based on the presence of white-tailed</p>	<p>Parcels UT-1116-94 and UT-1116-103 are included within the State's reintroduction area boundaries, but these leases are not located within the black-footed ferret management zone; therefore, additional mitigation is not required. In addition, the majority of these parcels are located on privately owned lands. There is a portion of parcel UT-1116-103 which is located on BLM-administered lands that contains suitable habitat for prairie dogs. There are historic burrows on this parcel; however, prairie dogs have not occupied these colonies for several years. For spatial references in relation to the parcels suitable habitat for these species occurs over one mile of the lease area and the nearest known ferret occurrence is located over 3 miles of the leases. These parcels were brought forward for analysis and not deferred because of the lack of suitable habitat and/or species.</p>

	<p>prairie dog colonies. We commend the BLM on the deferral of those parcels, but the EA provides no explanation or justification for why parcels 094 and 103 are still proposed for sale, despite the possible presence of not only white-tailed prairie dogs but also black-footed ferrets. Absent additional information regarding the location and condition of white-tailed prairie dog colonies, black-footed ferret occurrence and habitat use, and site-specific potential impacts of well pads, roads, and traffic on habitat, prey, and mortality, the inclusion of parcels 094 and 103 in the proposed lease sale is arbitrary and unjustified.</p>	
Center for Biological Diversity-03	<p>The EA, and proposed stipulations, fail to adequately disclose or mitigate impacts to these five listed species (see table 3.5 in EA) from oil and gas leasing and development. BLM must take a hard look at impacts to listed plant species in an EIS, and must consult with the Fish and Wildlife Service under ESA Section 7(a)(2) to ensure its action will not cause jeopardy to these species or adverse modification of their critical habitat.</p> <p>For the Uinta Basin Hookless cactus, found on parcels 38, 49, 67, and 105, the Fish and Wildlife Service's recent GasCo BiOp found the 300 foot buffer proposed for the lease sale to be ineffective at minimizing impacts to the species:</p> <p>BLM must take a hard look at the effects of well pads, roads, and other ground disturbance on the Uinta Basin hookless cactus and other listed plant species, including effects on their pollinators and effects extending beyond the 300-foot buffer proposed in Stipulation TE-12. In addition, BLM must consult with the Fish and Wildlife Service, using best available scientific information, to determine whether the proposed action will jeopardize the continued existence of these species.</p>	<p>There are no direct impacts from leasing. Indirect impacts to these species were disclosed in the Vernal Field Office RMP EIS. Consultation occurred during the RMP EIS process and lease notices were developed. When development is proposed, site specific impacts will be analyzed in a separate EA document and additional Section 7 consultation will occur as appropriate for each proposal.</p> <p>The Vernal Field Office RMP EIS, analyzed impacts to water resources. This EA tiers to that EIS.</p>
Center for Biological Diversity-04	<p>Graham's and White River beardtongues, BLM sensitive species, are present on parcels 032, 121, and 122. Oil and gas development in the Uinta Basin threatens these sensitive beardtongues. As of July 2014, 27% and 13% of all known Graham's and White River beardtongue habitat, respectively, occurred on lands that already had been leased by BLM or the State of Utah for oil and gas development. Given rapidly increasing oil and gas production in the region over the past two decades and current exploration occurring in beardtongue habitat, FWS expects oil and gas activity</p>	<p>There are no direct impacts from leasing. Indirect impacts to these species were disclosed in the Vernal Field Office RMP EIS. Consultation occurred during the RMP EIS process and lease notices were developed. When development is proposed, site specific impacts will be analyzed in a separate EA document and additional Section 7 consultation will occur as appropriate for each proposal.</p>

	to pose an increasing threat. ⁶⁹ Although the Fish and Wildlife Service withdrew these beardtongues from proposed ESA listing largely in reliance on a conservation agreement, the BLM still has a duty under its Manual and sensitive species policy to conserve the species.	
Center for Biological Diversity-05	<p>All proposed sale parcels have the potential to impact the four Colorado River endangered fish species (bonytail chub, Colorado pikeminnow, humpback chub, and razorback sucker) through water depletions resulting from oil and gas development. Stipulation TE-03 requires consultation on and reporting of, but does not prohibit, such water depletions:</p> <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>In addition, neither the 2008 VFO RMP nor the Draft EA considered the impacts of climate change on these water resources, such as the decline in stream flows. This is a significant omission, as numerous climate change models show anthropogenic climate change is profoundly impacting the Colorado River in ways that are altering temperature, streamflow, and the hydrologic cycle. Climate change is likely to have significant effects on the endangered fish species and the Colorado River ecosystem, and the effect of climate change on future flow regimes and water temperatures must be taken into account in the consultation process and considering the sufficiency of the existing Recovery Program.</p>	<p>In 2006 a programmatic water depletion biological opinion for oil and gas development administered or permitted by the Vernal Field Office, Bureau of Land Management was issued, and was updated in 2011. (FWS/R6ES/UT 06-F-0215R001) This consultation addressed the effects of water depletions on the endangered Colorado River fishes. A section 7 agreement was created with the Upper Colorado River Endangered Fish Recovery Program (UCRRP). Incorporated into this agreement is a requirement of financial contribution to the UCRRP (known as a depletion fee). After many years of successful implementation federal action agencies anticipate that these payments serve as the Reasonable and Prudent Alternative. The programmatic biological opinion goes on to state that the United States Fish and Wildlife Service (USFWS) no longer considers small depletions to jeopardize the continued existence of these species. The BLM is required to submit and annual report of water depletions associated with oil and gas development. At the conclusion of the biological opinion USFWS concurs that the oil and gas development may effect and is likely to affect the 4 endangered fish species, however they believe the recovery program will adequately address effects to this species.</p> <p>As indicated in Appendix C, Interdisciplinary Team Checklist, water resources would not be impacted to a degree that detailed analysis is required. Cumulative impacts from climate change were not considered because there was no incremental increase from indirect impacts.</p>
Center for Biological Diversity-06	BLM must take a hard look, pursuant to NEPA, at the mounting evidence proving that oil and gas operations are a major cause of climate change. The EA quantifies only greenhouse gas emissions from the drilling of a single exploratory well. It arbitrarily and capriciously rejects any consideration of the foreseeable and intended downstream effects of oil and gas transport, distribution, processing, leakage, and, most importantly, combustion. The EA argues, contrary to reason, CEQ guidance, BLM practice, and judicial precedent, that “[i]n a leasing EA	The EA has been revised to reflect current guidance on analysis of Green House Gas (GHG) emissions.

	there is no substantive difference between any possible alternative, including the no action alternative, when addressing GHG emissions and their potential to impact global climate.”	
Center for Biological Diversity-07	The EA omits any mention of water resources from its analysis of Affected Environment (Chapter 3) and Environmental Effects (Chapter 4), despite the fact that the action area encompasses numerous streams, reservoirs, rivers and tributaries, some of which include critical habitat for endangered fish, as well as impaired waters. For example, Parcel UT-1116-009 intersects Ninemile Creek; Parcel UT-1116-067 intersects Willow Creek; Parcels UT-1116-094 and -103 intersect Green River; and Parcel UT-1116-142 overlaps the Steinaker Reservoir. Even BLM states in the draft EA that there are four parcels “near or adjacent to Steinaker Reservoir: 069, 070, 071, and 142.” Yet BLM does not discuss at all, any of the foreseeable consequences that oil and gas development would have on the water resources present in the areas to be leased. An EA may be set aside if it fails to address “certain crucial factors, consideration of which is essential to a truly informed decision whether or not to prepare an EIS.”	The Interdisciplinary Team Checklist, Appendix C, has been revised to better explain why water resources are not analyzed in detail in this Environmental Assessment (EA). In addition, this EA tiers to the Vernal Field Office RMP EIS, which analyzed impacts to water resources.
Center for Biological Diversity-08	The foreseeable impacts to water resources in the planning area, as well as the endangered species and their critical habitat are significant enough to warrant the preparation of an EIS. However, BLM’s decision not to look at any of these glaring issues resulted instead in a “Finding of No Significant Impact” (“FONSI”) and in the consequent decision not to prepare an EIS. In deciding so, BLM ignores both the high degree of uncertainty and substantial controversy regarding the effects that the proposed action will have on the quality of the environment, especially in regards to the water resources in the areas to be leased. BLM’s finding appears to be based solely upon its refusal to look at any site-specific impacts. In essence, BLM concludes that there are no significant impacts because BLM will not analyze any of those impacts. That is not a proper basis for a FONSI, and BLM provides no other reasoned explanation or basis for the conclusion that none of the foreseeable environmental consequences of the proposed action are significant. In fact, BLM’s finding is contrary to the growing body of scientific evidence, discussed above, showing the likely impacts of water contamination and depletion on not only endangered species but human health and safety as well.	The Vernal Field Office RMP EIS, analyzed impacts to water resources. This EA tiers to that EIS.

	<p>Courts, including the Tenth Circuit, have repeatedly rejected BLM's claim that it does not have to perform site-specific NEPA analyses, or address mitigation measures, until an APD is received. As BLM acknowledges in its Draft EA, BLM is required to perform and disclose an analysis of environmental impacts <i>prior</i> to the irretrievable commitment of resources. N.M. ex rel. Richardson v. BLM, 565 F.3d 683, 716 (10th Cir. 2009) (Assessment of a given environmental impact must occur as soon as that impact is "reasonably foreseeable," citing 40 C.F.R. § 1502.22, and must take place before an "irretrievable commitment of resources" occurs, citing 42 U.S.C. § 4332(2)(C)(v)); See also Pennaco Energy, Inc. v. United States DOI, 377 F.3d 1147, 1160 (10th Cir. 2004) (Agencies are required to satisfy NEPA before committing themselves irretrievably to a given course of action, so that the action can be shaped to account for environmental values.). The point of irretrievable and irreversible commitment occurs at the point of lease issuance. S. Utah Wilderness All. v. Norton, 457 F. Supp. 2d 1253, 1256 (D. Utah 2006). Therefore, BLM's deferral of site-specific analysis until the APD stage is unlawful under NEPA, its implementing regulations, and legal precedents. BLM is therefore required to thoroughly analyze the impacts of the proposed lease sale at this time – which requires the agency to prepare an EIS.</p>	
Center for Biological Diversity-09	<p>BLM's finding of no significant impacts relies on outdated information and fails to take into account new and significant information regarding the effects of climate change on the Upper Colorado River Basin. For example, BLM's only mention of water resources is the generalized and unsubstantiated conclusion that surface waters are present in the areas to be leased "but not affected to a degree that detailed analysis is required." In light of "existing knowledge regarding resource values on the subject parcels," which is based upon highly generalized information contained in the VFO RMP from 2008, BLM concludes that "significant impacts beyond those already addressed in the VFO RMP [2008] are not anticipated to occur as a result of leasing the proposed parcels." However, neither the 2008 VFO RMP nor the Draft EA considered the impacts of climate change on these water resources, such as the decline in stream flows. This is a significant omission, as numerous climate change models show anthropogenic climate change is profoundly</p>	<p>As indicated in Appendix C, Interdisciplinary Team Checklist, water resources would not be impacted to a degree that detailed analysis is required. Cumulative impacts from climate change were not considered because there was no incremental increase from indirect impacts.</p>

	<p>impacting the Colorado River in ways that are altering temperature¹⁹⁸, streamflow, and the hydrologic cycle. Changes observed to date include rising temperatures, earlier snowmelt and streamflow, decreasing snowpack, and declining runoff and streamflow. Modeling studies project that these changes will only worsen, including continued declines in streamflow and intensification of drought. Climate change is likely to have significant effects on the endangered fish species and the Colorado River ecosystem.</p> <p>In sum, the best available scientific data indicates that climate change is resulting in higher temperatures in the Colorado River Basin, reduced snowpack, reduced runoff, and increased drought, <i>which have already reduced</i> and will continue to reduce stream flows in the Basin. BLM must consider this new information regarding current and future Green and Colorado River flows both in its NEPA analysis and in consultation with the Fish and Wildlife Service regarding effects to listed fish.</p>	
Center for Biological Diversity-10	Executive Order 12898 requires that “each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States.” Despite substantial questions regarding air pollution from Uinta Basin drilling and its public health effects on communities in northeast Utah, BLM in the EA declines to address public health and environmental justice, stating...	As noted in Appendix C, Interdisciplinary Team Checklist, leasing the nominated parcels would not cause any <i>disproportionately</i> high and adverse human health or environmental effects on minority populations, low-income populations, or Native American Tribes because the minerals are federal and or the surface is private or BLM.
Center for Biological Diversity-11	Climate change is a problem of global proportions resulting from the cumulative greenhouse gas emissions of countless individual sources. A comprehensive look at the impacts of fossil fuel extraction, and especially fracking, across the planning area affected by the leases in an updated RMP is absolutely necessary. BLM has <i>never</i> thoroughly considered the cumulative climate change impacts of <i>all</i> potential fossil fuel extraction and fracking (1) within the planning area, (2) across the state, and (3) across all public lands. Proceeding with new leasing proposals <i>ad hoc</i> in the absence of a comprehensive plan that addresses climate change and fracking is premature and risks irreversible damage before the agency and public have had the opportunity to weigh the full costs of oil and gas and other fossil fuel extraction and consider necessary limits	The issue of global GHG emissions is beyond the scope of this document. The EA has been revised to reflect the current guidance.

	on such activities. Therefore BLM must cease all new leasing at least until the issue is adequately analyzed in a programmatic review of all U.S. fossil fuel leasing, or at least within amended RMPs.	
Nine Mile Canyon Coalition-01	Our comments and concerns relate to parcels 9 & 10 in the proposed lease sale. BLM makes no attempt to even guess about how these leases might be accessed. In terms of development, it is fairly obvious all the traffic would be on the Nine Mile Canyon Road. This road is a BLM Nationally designated, Backcountry Byway. There is no analysis of how increased heavy truck traffic on the road would affect the road itself or the backcountry byway experience. Likewise, if oil and gas is produced, there will be a need for new pipes, pumps, compressors to get the product out. The most likely route for this infrastructure is again in the bottom of Nine Mile Canyon, the area with the highest user sensitivity. Since these pipelines are typically varied, inadvertent discoveries of buried cultural resources are almost assured. These discoveries are an adverse effect that would have to be mitigated, preferably by avoidance. Avoidance is best achieved by not leasing these parcels.	<p>Mention of the Nine Mile Canyon's designation as a backcountry byway will be included in the final EA.</p> <p>There are no direct impacts from leasing, but there may be indirect future impacts due to possible subsequent development. At this time it is unknown when, where, or if future well sites or roads might be proposed on any leased parcel or adjoining parcel. It is also unknown when, where or if future development might be proposed near any parcels with a No Surface Occupancy Stipulation such as parcels 9 and 10. Potential impacts to cultural resources can be speculated by use of a Reasonably Foreseeable Development Scenario (RFD). Potential impacts from oil and gas development were disclosed in the RMP and the West Tavaputs Plateau EISs.</p> <p>See response to comment Southern Utah Wilderness Alliance-09 and Utah Rock Art Research Association-01.</p>
Nine Mile Canyon Coalition-02	Cultural resources are abundant in the Nine Mile Canyon area. The EA discusses hundreds of sites surrounding parcels 9 & 10. It does not identify the sites that are present on the lease parcels or the potential for subsurface cultural resources where ancillary facilities are constructed off lease.	See Response to Comment Nine Mile Canyon Coalition-01.
Nine Mile Canyon Coalition-03	Recreation is totally, inadequately addressed in this EA. This is particularly disturbing for an SRMA. Instead of describing the market niche, opportunities and experiences, all the EA provides is a laundry list of recreational activities that may occur in the ACEC. Recreation activities are not the same as recreation opportunity and experience. The affected environment should describe the existing opportunities and experience available as well as the desired opportunity and experience called for in the RMP. Much of parcels 9 & 10 are within a semiprimitive non-motorized ROS Class. (Note, since the RMP was signed the terminology was changed so now the SPNM ROS Class is now "backcountry.")	<p>Recreation opportunities and experiences are qualitative values which are different for each individual recreationist. Listing some of the recreation activities that currently occur and/or could potentially occur is a way to convey the type of recreation opportunities available to the public within a specific area. Virtually all of Parcels 9 & 10 is within an NSO stipulation category which would protect the ROS class mentioned in the comment.</p> <p>Table 3.7 describes the "recreational opportunities" available in the Nine Mile SRMA. "Recreational opportunity" and "recreational activity" can be used interchangeably. Section 3.1.7 adequately addresses the affected environment. Virtually all of Parcels 9 & 10 is within an NSO stipulation category which would protect the ROS class mentioned in the comment.</p>

Nine Mile Canyon Coalition-04	The document makes no mention of the fact the Nine Mile Canyon Road is a Back Country Byway. This is a national BLM designation. Nine Mile Canyon was one of the first backcountry byways, dedicated in person, on site by the BLM Director. We would expect this designation would still carry some importance for the BLM. In any case, the EA fails to identify the byway, the opportunity and experience available to users and their reasons for being there. The byway also helps point out the visitors to Nine Mile Canyon are very sensitive to changes in the environment.	Mention of the Nine Mile Canyon's designation as a backcountry byway will be included in the final EA.
Nine Mile Canyon Coalition-05	Visual Resources are correctly identified as being inventoried as Class II for parcels 9 & 10. Yet you have it in VRM Management Class III. This is curious situation for an ACEC that has scenic resources as one of the relevant and important values. There is no discussion of the scenic quality, distance zones and viewer sensitivity that is important in making determinations on impact to scenic resources. In this case, we have high quality scenery, most of the views are foreground and the users are highly sensitive.	Parcels 9 & 10 occur within an area open to leasing subject to major constraints such as NSO stipulations which would most likely eliminate negative impacts to the visual resource within the Nine Mile Canyon ACEC due to tighter constraints as compared to higher Visual Resource Management Classes. Potential future development within proposed lease parcels 9 & 10 would be analyzed in detail expressed in the comment. This level of analysis goes beyond the scope of this document due to the lack of variables such as detailed proposed development plans.
Nine Mile Canyon Coalition-06	ACEC Just how does leasing for Oil and Gas comport with managing to "enhance cultural, special status species, scenic vistas, recreation and wildlife" as stated in the RMP? It seems the proposed action not only would not enhance those values but would in fact lead to their degradation. It appears the RMP is in conflict with itself by also allowing for oil and gas leasing. Leasing is a discretionary action, BLM's RMP commitment to enhance those values is not. In this case, the conflict should be resolved in favor of the SRMA/ACEC by deferring the leases.	Oil and Gas lease stipulations such as No Surface Occupancy (NSO), Timing Limitations (TLs), and Conditional Surface Use (CSUs), are specifically outlined in the Vernal RMP in order to continue to protect and enhance the values mentioned in the comment. Except for a few acres along the edges of parcel 10, all proposed lease parcels within the Nine Mile Canyon ACEC specific to this EA are located within areas subject to an NSO stipulation.
Nine Mile Canyon Coalition-07	The analysis of Recreation is entirely inadequate. Curiously it identifies a loss of primitive recreation opportunity even though none is recognized in Chapter 3. There is no discussion of the impacts to the most common recreational visitor to Nine Mile Canyon, people driving the byway for pleasure and stopping to visit numerous road side attractions. There is no discussion is visitor sensitivity that we assert is high, or discussion of how the lights, noise, odors, dust and traffic would affect them. Instead we are told those impact would be mitigated to a level where they would not be as bad as they could be. This is hardly meaningful disclosure of the current situation regarding Nine Mile Canyon and how it would change under the proposed action.	BLM will include the dedicated motorist and sight seer in the EA. The addition of this recreation user group will not change the overall effects to recreation as a result of the proposed action due to the oil and gas leasing stipulations such as Timing Limitations (TLs), Conditional Surface Use (CSUs), and No Surface Occupancy (NSO), which are outlined in the Vernal RMP and apply to all proposed lease parcels within the Nine mile Canyon ACEC specific to the EA.

Parsons Behle & Latimer-01	Each of the parcels nominated by the undersigned are legally “open” for oil and gas leasing under the VFO RMP, either with standard stipulations, controlled surface use/timing stipulations or major constraints. In selecting the lands for inclusion within the EOI, our clients expended considerable resources identifying lands that are “open” for leasing under the VFO RMP and conform to the RMP’s requirements for leasing, and screening out parcels that contain potential resource conflicts. For example, our clients were careful to ensure that none of the nominated lands embrace Areas of Critical Environmental Concern, Wilderness Study Areas, Wild and Scenic Rivers or Special Management Areas or designated critical habitat for species listed under the Endangered Species Act. ⁴ Indeed, as shown in Exhibit D to the Draft EA, <i>none</i> of the 74 parcels that BLM failed to analyze in the Draft EA are closed to oil and gas leasing under the VFO RMP.	Although all of the nominated parcels are identified as open for leasing in the 2008 VFO RMP, the RMP cannot take into account recent resource issues or resource conflicts not identified in the RMP that may arise on a more detailed onsite review. These issues and conflicts can justify not offering a parcel for sale. Furthermore, the Secretary, through the authority she has delegated to her BLM State Directors, has the discretion to temporarily defer the sale of certain nominated parcels. See Parsons Behle & Latimer-05.
Parsons Behle & Latimer-02	The Draft EA Should Have Included an Alternative Analyzing all Parcels Legally Open for Leasing.	Analysis of parcels determined to have resources issues that were not ripe for decision in this document were not analyzed.
Parsons Behle & Latimer-03	Because the Sage-grouse LUPA has now been completed and implemented, consistent with BLM’s position regarding prior deferrals, BLM should lease these parcels consistent with the LUPA, or, at the very least, evaluate their leasing consistent with the Sage-grouse LUPA. As stated in our EOI, the Utah State Offices’ continued deferral of certain parcels in the Uinta Basin that are “open” to leasing under the VFRO RMP amounts to de facto land use planning, in violation of FLPMA public process requirements.	Language in Appendix D of the EA has been expanded to clarify the reasons for deferral. Per Objective MR-1 in the Greater Sage-Grouse Approved Resource Management Plan Amendment, the VFO prioritized proposed lease parcels outside of Sage-Grouse habitat for PHMA and GHMA. The BLM elected to consider for leasing three parcels within GHMA that were within designated federal oil and gas units. This prioritization approach minimizes conflicts with Greater Sage-Grouse habitat and is consistent with the amended VFO RMP.
Parsons Behle & Latimer-04	According to Appendix D to the Draft EA, BLM elected to defer 24 parcels because of the presence of white-tailed prairie dog colonies or yellow-billed cuckoo habitat. Neither the VFO RMP nor any other statute, regulation or BLM policy contains any authority either requiring or justifying BLM’s failure to analyze nominated lease parcels because of the presence of ESA listed species or their habitat, whether designated as critical habitat or otherwise. Rather than declining to perform <i>any</i> analysis in the Draft EA of these 24 nominated parcels because they contain habitat for ESA-listed species, and consistent with the dictates of NEPA, BLM should have included an alternative in the Draft EA that evaluates the effects of leasing these parcels. This alternative would have allowed the public and BLM to understand whether application	The deferral language in the EA has been expanded to read: “The VFO RMP does not contain sufficient stipulations or analysis to address protection of white-tailed prairie dog habitat. BLM is deferring this parcel until appropriate protections can be applied through additional analysis.” And “This parcel is in Yellow Billed Cuckoo habitat. The Yellow Billed Cuckoo is a federally listed species and therefore this parcel is being deferred because the RMP EIS did not analyze impacts to this species” “Appropriate restrictions” cannot be added at the leasing stage without an RMP amendment. The parcels were deferred due to staff and time limitations to sufficiently evaluate whether Conditions of Approval added at the

	of appropriate restrictions could successfully mitigate any impacts to white-tailed prairie dog or western yellow-billed cuckoo habitat.	time of development would be sufficient to protect the species.
Parsons Behle & Latimer-05	<p>According to Appendix D, 14 of the nominated parcels were deferred because of “State Director Discretion,” with no additional information provided. As discussed above, while BLM retains some discretion as to lease issuance under the Mineral Leasing Act, this completely opaque determination cannot be used to justify BLM’s failure to evaluate the offering of these parcels.</p> <p>While numerous statutes and regulatory regimes commit actions to agency discretion, this discretion cannot be arbitrary and capricious and must have some rational support. <i>See, e.g., Citizens to Preserve Overton Park v. Volpe</i>, 401 U.S. 402, 415 (1971); <i>Motor Vehicle Manufacturing Ass’n v. State Farm</i>, 463 U.S. 29, 43 (1985) (agency “must examine the relevant data and articulate a satisfactory explanation for its action including a rational connection between the facts found and the choice made”).</p>	<p>Parcel 046 was incorrectly identified in Appendix D as having been deferred due to State Director Discretion. It was actually deferred due to conflicts with White Tailed prairie dog.</p> <p>The Secretary, through the authority she has delegated to her BLM State Directors, has the discretion to temporarily defer the sale of certain nominated parcels. The Utah State Director has appropriately chosen to exercise that discretion here. The Mineral Leasing Act of 1920 (MLA), as amended, provides that lands subject to disposition under the Act “which are known or believed to contain oil or gas deposits may be leased by the Secretary.” (30 U.S.C. § 226 (a) (emphasis added)). Although lands identified as available for leasing are identified through the Land Use Planning process; BLM policy has established that nominated parcels within available lands may be temporarily deferred from leasing at the discretion of the State Director. As has been clarified in Appendix D of the EA, at the time of the preparation of the preliminary Environmental Assessment, the introduction of H.R. 5780, the Utah Public Lands Initiative H.R. 5780, the Utah Public Lands Initiative (PLI), was imminent; it was introduced on July 14, 2016. The 13 nominated parcels referred to in this comment were included in areas that would be protected from development under the PLI. Offering and issuing new leases within areas protected by the PLI could create additional conflicts to be resolved should the bill become law. Therefore, in the judgement of the Utah State Director, deferral of the parcels for one year would be a prudent course of action.</p>
Parsons Behle & Latimer-06	<p>Finally, 6 parcels were deferred or partially deferred from analysis either because of “unfinished wilderness inventories” or because they are “in [the] Currant Canyon inventory.” Section 201 of FLPMA requires that BLM maintain a current inventory of land under its jurisdiction and identify within that inventory lands with wilderness characteristics. BLM refers to these areas as “lands with wilderness characteristics” or “LWCs.” Under the VFO RMP, non-wilderness study area LWCs are broken into two categories: (1) those that are to be managed to “protect, preserve and maintain” wilderness characteristics, including closing the lands to oil and gas leasing; and (2) those that have no such management proscriptions. While we do not know the precise location of the Currant Canyon inventory and the Currant Canyon inventory is not discussed in the VFO RMP, it is our understanding that these lands are within the category of lands</p>	<p>Appendix D has been expanded to clarify the rationale for deferral. BLM received submissions for Big Wash, Sheep Wash and Badlands Cliffs Additions in July 2014 during the scoping period for the November 2014 Oil and Gas lease sale.</p> <p>BLM identified lands with wilderness characteristics in Currant Canyon in 2011 and additions in 2015, post-RMP. The Currant Canyon unit has not been analyzed in a land use plan, thus VFO RMP Management Decisions WC-1 and WC-2 do not apply to the Currant Canyon unit. In the absence of stipulations, the parcels were deferred due to staff and time limitation to sufficiently evaluate the impacts to the Unit.</p> <p>While field work has been performed, on the Big Wash, Sheep Wash and Badlands Cliffs Additions BLM was unable to complete an update to the wilderness characteristics inventory or finalize a determination of the presence or absence of wilderness characteristics in advance of the November 2016 Oil and Gas Lease Sale EA.</p>

<p>with no management prescriptions, falling within VFO RMP Management Decisions WC-1 and WC-2.</p> <p>Similarly, as to the parcels deferred because of “unfinished wilderness inventories,” the simple fact that BLM has not completed performing wilderness inventories of these lands does not justify BLM’s refusal to perform any analysis of the effects of leasing these lands.</p> <p>Instead of performing <i>no</i> analysis of these parcels, BLM should analyze the effects of leasing both the un-inventoried parcels and the parcels within the Currant Canyon inventory in order to evaluate the effects of leasing these parcels subject to the constraints and stipulations outlined in the VFO RMP and federal statutes and regulations. This would be consistent with Department of</p> <p>Interior Secretarial Order 3310, <i>Protecting Wilderness Characteristics on Lands Managed by the Bureau of Land Management</i>, which requires the protection of the wilderness characteristics of “inventoried” lands. Here, as to the Currant Canyon inventoried lands, the Draft EA should analyze whether protection of wilderness characteristics is possible while still offering these parcels for oil and gas leasing. This could be accomplished by application of the management proscriptions contained in the VFO RMP, including application of no-surface occupancy restrictions. Had BLM performed this analysis, it would have discovered that all 6 parcels nominated by the undersigned that were deferred because of wilderness are directly adjacent to existing oil and gas leases. Thus, it is likely that at least some of these parcels could be developed with no surface disturbance or effect to wilderness characteristics.</p> <p>For the reasons stated in this letter, we ask that BLM revise the Draft EA to include an alternative that considers leasing each of the nominated parcels that are legally open for leasing.</p>	<p>BLM is unable to analyze and disclose impacts to wilderness characteristics until their presence or absence of is determined.</p>
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Rocky Mountain Wild-01	<p>Parcels UT-116-009, 032, 067, 122, 152, are completely or partially within Sage-grouse Preliminary Priority Habitat areas (“PPH”). These parcels should be deferred.</p> <p>Limitation Stipulations proposed for Sage-grouse in this lease sale are ineffective in the face of standard oil and gas development practices. These stipulations have likewise been condemned as inadequate by the U.S. Fish and Wildlife Service and renowned Sage-grouse expert Dr. Clait Braun.</p> <p>We remain concerned that development activities on the Sage-grouse parcels noted above will result in significant impacts to Sage-grouse occupying these parcels and/or the habitats nearby, and the BLM’s programmatic NEPA underlying this lease sale does not adequately address these significant impacts in light of new information. Therefore, the requisite NEPA analysis to support the leasing of the Sage-grouse parcels listed above in the absence of an Environmental Impact Statement does not exist.</p>	<p>Per Objective MR-1 in the Greater Sage-Grouse Approved Resource Management Plan Amendment, the Vernal Field Office prioritized proposed lease parcels outside of Sage-Grouse habitat for PHMA and GHMA. The BLM elected to consider for leasing three lease parcels within GHMA that were within designated federal oil and gas units. Other parcels within Sage-Grouse habitat were not prioritized for lease consideration in this lease sale. This prioritization approach minimizes conflicts with Greater Sage-Grouse and is consistent with the amended RMP.</p> <p>PPH is a term associated with the BLM’s interim management Instruction Memorandum. That terminology and prioritization was superseded by the Record of Decision for the Greater Sage-Grouse Approved Resource Management Plan Amendment (GRSG ARMPA).</p> <p>The GRSG ARMPA established priorities for management of GRSG habitat in Priority and General Habitat Management Areas (see GRSG FEIS section 1.3.2), with management commensurate with the prioritization. No PHMA areas were considered for leasing in this lease sale, and the only areas in GHMA that are considered for lease are within designated oil and gas units where impacts to GRSG are already present, as described in the GRSG FEIS section 4.3.2 and section 4.3.7. Impacts to these resources were considered and carried forward when warranted in the analysis. See the ID team checklist in Appendix C for determinations of potential impacts, Chapter 3 for a description of these resources, and Chapter 4 for the potential impacts and effects on these resources.</p> <p>No surface disturbance will occur as a direct result of the leasing. However, possible development scenarios, which are only hypothetical at this stage, were analyzed and the anticipated impacts were disclosed.</p>
Rocky Mountain Wild-02	<p>BLM should not lease parcels that are within Areas of Critical Environmental Concern (“ACEC”). Parcels UT-116-009 and 010 are within the Nine Mile ACEC. Even with NSO stipulations for the ACEC, accessing and developing this parcel will impact the ACEC. This limited NSO stipulation will not ensure the ACEC’s values are protected. The plan to “mitigate” anticipated impacts is uncertain and any such mitigation should be analyzed in this NEPA process. The resource values warrant and deserve better protection than that being afforded.</p>	<p>Whether or not BLM should lease parcels within an ACEC is an issue beyond the scope of this document. Oil and Gas leasing directives outlined in the VFO RMP state that zero acres will be unavailable for oil and gas leasing. Stipulations such as Timing Limitations (TLs), Conditional Surface Use (CSUs), and No Surface Occupancy (NSO) are set and apply in order to protect ACEC resources which include cultural, special status plants, and visual resources. In addition to these stipulations other stipulations would apply due to topography. These stipulations include: UT-S-96 – No surface occupancy for slopes greater than 40%, and UT-S-99- Controlled surface use for fragile soils/slopes from 21-40%. These stipulations would further aid in the protection of ACEC resources. Detailed environmental analysis which would include any site specific mitigations would be completed post leasing as potential proposed development plans are submitted by a proponent.</p>

		See Nine Mile Canyon Coalition-06.
Rocky Mountain Wild-03	The Uinta hookless cactus and Pariente cactus occur primarily in the Uinta and Duchesne Counties in Utah. These counties are where a majority of the Vernal Field Office's November 2016 oil and gas parcels are to be leased. Specifically, parcels UT-116-032, 038, 039, 067, and 151 are entirely within recognized cactus habitat. We ask that the BLM defer these parcels and any other parcels within Uinta and Duchesne Counties since the development of these areas will undoubtedly lead to cactus habitat degradation, and a listing of "endangered" for the cactus species by the Fish and Wildlife Service ("FWS").	These species are currently listed as threatened with the U.S. Fish and Wildlife Service (USFWS). They are monitoring disturbance in cactus habitat and measures are being taken to prevent further endangerment and promote unlisting these species. Site specific NEPA analysis and mitigation would be applied if an application for permit to drill were received after leasing.
Rocky Mountain Wild-04	Graham's penstemon and White River beardtongue occur on parcels UT-116-032, 121, and 122, with parcels 121 and 122 occurring within a designated Conservation Agreement Area for the species that will require additional mitigation measures. It is in all parties' best interest, as well as mandated by the CEQ, that mitigation measures be promulgated at the earliest possible time so that all parties involved are aware of their responsibilities. We request that an alternative containing NSO for these parcels be considered in order to protect Graham's penstemon and White River beardtongue habitat. The EA references a penstemon stipulation, but it does not appear to exist.	An alternative containing NSO would not be in conformance with the current RMP for the VFO. Site specific NEPA analysis and mitigation would be applied if an application for permit to drill were received after leasing. Thank you for your comment. Appendix C, Interdisciplinary Team Checklist, has been changed to remove reference to stipulation UT-S-314 from the sensitive species rational and has been corrected to refer to the BLM Handbook 3120-1 – Competitive Leases (P) (H-3120).
Rocky Mountain Wild-05	The EA fails to consider the impacts of hydraulically fracturing of oil and gas wells. There is not adequate analysis of wildlife impacts, seismic activity, health impacts, or many of the other known impacts of hydraulic fracturing. Around 90 percent of wells have used hydraulic fracturing to get more gas flowing, according to the drilling industry. With the very high probability that this practice will occur on the specific parcels, it is arbitrary and capricious of BLM to neglect this highly controversial and impactful practice in its environmental analysis.	The ID Team Checklist (Appendix C) for Groundwater Quality has been revised to provide rationale for not analyzing that issue in detail. There are no known impacts to wildlife from hydraulic fracturing. Potential geologic hazards caused by hydraulic fracturing may include induced seismic activity. Earthquakes occur when energy is released due to blocks of the earth's crust moving along areas of weakness or faults. Earthquakes attributable to human activities are called "induced seismic events" or "induced earthquakes." A study conducted by the National Research Council (2013) studied the issue of induced seismic activity from energy development. The study found that: 1) The process of hydraulic fracturing a well as presently implemented for shale gas recovery does not pose a high risk for inducing felt seismic events; and, 2) Injection for disposal of waste water derived from energy technologies into the subsurface does pose some risk for induced seismicity, but very few events have been documented over the past several decades relative to the large number of disposal wells in operation. Also, out of the ~ 1.8 million treatments in over ~ 1 million wells, from 1947-2010 drilled in the United

		<p>States, there are only three reported cases of hydraulic fracturing-induced earth quakes. (Seismological Research Letters, Volume 86, Number 4, July/August 2015). The Utah Division of Oil, gas and Mining (UDOGM) has stated that there has been no reported ground water contamination or fracking-induced problems in Utah associated with oil and gas well drilling and/or completion, or from injection into disposal wells.</p> <p>Oil production in Oklahoma has been going on for over 100 years. Some activities related to oil production, particularly disposal of wastewater in deep injection wells, are known to potentially cause earthquakes. The rate of earthquakes has increased sharply since 2009 in the central and eastern United States, with growing evidence confirming that these earthquakes are primarily caused by human activity, namely the injection of wastewater in deep disposal wells contacting basement rocks. A new study by the U.S Geological Survey presents evidence that, in addition to these recent earthquakes, most of the larger earthquakes in Oklahoma in the past century may likely have been induced by industrial activities. Prior to the 2011 magnitude 5.7 Prague, Oklahoma earthquake, the largest historical earthquake in the area was the 1952 magnitude 5.7 El Reno earthquake, which the study concludes was likely induced by activities related to oil production near Edmond, Oklahoma. (<i>A Century of Induced Earthquakes in Oklahoma?</i> Bulletin of the Seismological Society of America, October 20, 2015. doi:10.1785/0120150109).</p>
State of Utah-01	<p>The BLM's failure to include 79 nominated land parcels in the upcoming lease sale leads to a checkerboard approach to production rather than allowing for a consolidation of operations. Disallowing this approach leads to unnecessary costs, increased emissions, and a hodgepodge of land use. Consolidating operations is the goal of every operator because it spawns important efficiencies, such as fewer facilities, fewer roads, less energy use, and lower emissions. The EA failed to consider the increase in carbon dioxide emissions and other ozone-emitting chemicals that occur as the result of staggered and un-consolidated production. BLM must include the negative environmental impacts of un-consolidated production in the analysis of this lease sale.</p>	<p>Efforts were made to include parcels that would make the leased lands uniform in areas of existing high development but due to the nature of some resources and of issues identified since the signing of the 2008 RMP this cannot be done for all parcels.</p> <p>The unpredictability of who would acquire leases and how they would be consolidated would make any analysis of unconsolidated production so speculative as to make the usefulness of the information to the decision making process beyond the "rule of reason."</p>

State of Utah-02	<p>The State made specific, practical requests in its May 6 comment letter for the protection of Sage-grouse habitat, and these requests should be incorporated into the EA. The State requested avoidance and minimization of disturbance impact within sagebrush habitats and compensatory mitigation for impacts which cannot be avoided. Mitigation methods should follow the State's 2013 Conservation Plan/or Greater Sage-grouse in Utah. The State also recommended seasonal stipulations to avoid construction and vehicle noise disturbances during brood-rearing activities, and seasonal stipulations in the winter to reduce impacts to wintering Sage-grouse. Topographic screening and the maintaining and enhancing of wet meadows and riparian habitat are also important management measures that could feasibly be used to mitigate and reduce impacts. As such, the parcels containing sagebrush habitat do not need to be defined in the lease sale, and the BLM should revisit the draft EA so that these recommendations can be incorporated.</p>	<p>The BLM applied notices and stipulations consistent with those contained in our existing Resource Management Plan as amended. Notices were applied to the parcels for Sage-Grouse conservation. Net conservation gain (including compensatory mitigation sites) for all areas which cannot be avoided, Required Design Features for avoidance and minimization of crucial Sage-Grouse habitat, and Sage-Grouse buffer distances apply to all identified parcels that contain Sage-Grouse habitat. In addition, seasonal restrictions will be applied in accordance with the Vernal Land Use Plan (2008). All mitigation that is not included in these notices (outside the scope of the Vernal Land Use Plan (2008) and Approved Resource Management Plan Amendment (2015)) will be applied at a site specific proposal and will be in coordination with the local UDWR sensitive species biologist.</p>
State of Utah-03	<p>The State reviewed the proposed preliminary list of lands considered for sale in a letter dated May 6, 2016. In that letter, the State, in conjunction with the Utah Division of Wildlife Resources (UDWR) recommended measures to minimize the impact to federally listed species, state sensitive species, game, and sportfish that occur on potential lease parcels. The State's recommendations for sensitive parcels included a prohibition on construction during certain periods of the year, mitigation of construction activities, and best management practices. At no point did the State request or recommend that any parcels be deferred in the lease sale.</p> <p>The State's review of the BLM's preliminary list is a courtesy provided by the State, in the spirit of FLPMA's requirement for coordination between the State and the BLM. It is an opportunity for the BLM to benefit from the State's expertise in the field of wildlife management. Unfortunately, when the BLM uses the State's recommendations in the preliminary review as cause to defer parcels from the lease sale, it disincentives the State from providing a helpful, thorough review of future lease sales. The State will not continue to coordinate with the BLM in providing wildlife recommendations if that information is used to further stonewall oil and gas leasing. The BLM must incorporate the State's specific recommendations contained in the preliminary review.</p>	<p>We appreciate UDWR recommendations. In Section 1.8 of the EA, BLM stated: "The Utah Division of Wildlife Resources (UDWR) provided recommendations regarding wildlife species and habitat and resulted in the addition of lease notices to multiple parcels."</p> <p>None of the parcels were deferred as a consequence of UDWRs letter. Resource Specialists evaluated parcels and determined that some parcels would require EIS level analysis to be brought forward. The State Director determined via her authority to defer additional parcels.</p> <p>BLM cannot add stipulations simply based on the recommendation of the State of Utah. BLM must develop stipulations through the Land Use Planning process. As stated previously, BLM did add lease notices upon the recommendation of UDWR. However, recommendations will be considered during site specific NEPA analysis as warranted.</p>

	<p>The BLM should offer all 79 parcels for lease, while incorporating the specific stipulations request by the State. This would allow for responsible development of oil and gases resources while protecting wildlife habitat and recreation. The State's proposal would allow for a balanced approach to these competing demands. Unfortunately, the BLM's deferral of 79 parcels is a one-sided approach that is neither necessary nor appropriate to the BLM' s mission.</p>	
State of Utah-04	<p>BLM has failed to consider the impacts of the deferments in the socio-economic section of the environmental analysis. The State receives fifty percent of the leasing bonus money from these federal sales and there is strong interest among bidders for parcels in the Uintah Basin. By not offering parcels that are legally available, the BLM will harm the economic viability of the Uintah Basin and the State of Utah, and will cost the United States millions of dollars in lost revenue. BLM must consider include these impacts in the EA.</p>	<p>It is debatable that the deferred parcels are “legally available” if by offering them the BLM has not complied with NEPA. Further analysis and/or guidance are needed to determine if they are actually legally available, which is why they were deferred.</p> <p>Additionally, there is no way to predict the monetary value that may result if offering these parcels. Bonuses can run from hundreds to millions of dollars per lease. The unpredictability of the monetary result would make any analysis of the socio-economic impacts so speculative as to make the usefulness of the information to the decision making process beyond the “rule of reason.”</p>
Southern Utah Wilderness Alliance-01	<p>The BLM has failed “to make a reasonable and good faith effort” to identify cultural resources that may be affected by this undertaking, as required by Section 106 of the NHPA. 36 C.F.R. § 800.4(b)(1). Likewise, BLM’s conclusion that the lease sale will not adversely affect cultural resources is arbitrary and capricious. BLM also failed to take a hard look at the project’s effects on cultural resources, as required by NEPA.</p>	<p>Section 106 of the NHPA. 36 C.F.R. § 800.4(b)(1) states that “the agency official shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey”.</p> <p>The BLM has made a reasonable and good faith effort according to what may be included as appropriate identification efforts, and has been discussed in the EA. Those efforts are continued through the NHPA process which runs parallel to the NEPA process and is in progress at this time. The cultural resource report results will be added to the final EA.</p> <p>The undertaking in this case is to lease the parcels. There are no adverse effects to historic properties from this lease sale. Whereas NHPA does require consideration of “reasonably foreseeable effects” that may occur in an undertaking, (36 C.F.R. § 800.5) without specific development plans what those adverse effects may be are speculative, not reasonably foreseen. Undertakings that will occur after the issuance of the lease will follow the Section 106 process, and determinations of effects to historic properties will be made at that time. Therefore, the No Adverse Effect finding is valid.</p> <p>There are no direct impacts from leasing, but there may be future indirect impacts due to possible subsequent development. Potential impacts to cultural resources can be speculated by use of a Reasonably Foreseeable Development Scenario (RFD). These potential impacts to cultural resources from oil and gas development were</p>

		disclosed in the RMP EIS. BLM has made a meaningful effort at this lease sale phase to address available information regarding historic and cultural properties located on the individual parcels and to take appropriate steps to protect them through assigning protective lease stipulations.
Southern Utah Wilderness Alliance-02	Second, BLM's modified conclusion (i.e., that adverse impacts can be avoided in most parcels) is arbitrary due to the agency's overwhelming dearth of information and analysis. For example, BLM has never performed a Class 1, 2, or 3, survey for parcels 4, 5, 49, and 151 – and has performed only minimal surveys for parcels 9, 10, 32, 38, 39, and 49 – but acknowledges that oil and gas development could, at a minimum, indirectly impact cultural resources in these areas. Compare <i>id.</i> Appendix H, Sheet 1, with <i>id.</i> at 37 (“Indirect impacts to cultural resources could result from future lease actions, such as exploration and development.”).	<p>There is no modified conclusion in regards to NHPA. In regards to NEPA,</p> <p>BLM's finding is not arbitrary and capricious, rather it is based on professional judgement of BLM's cultural resource staff, background research, the survey and research results in similar environments, the known site locations in the specific and general area and environmental factors such as topography, elevation, and water resources. Furthermore, the agency official and staff experience of permitting development and managing recreation in this area and the permitting of thousands of oil and gas projects within the Green River District, has provided an overwhelming amount of experience in making this conclusion. BLM's cultural resource staff evaluated the potential for direct and indirect impacts of the parcels while determining what potential they have for cultural resources.</p> <p>The undertaking in this case is to lease the parcels. There are no adverse effects to historic properties from this lease sale. (See Response to Southern Utah Wilderness Alliance-01).</p>
Southern Utah Wilderness Alliance-03	Third, to the extent BLM analyzes impacts to cultural resources in the EA; the agency only does so for six of the twenty-eight lease parcels. See EA at 37 (analyzing impacts to “[t]wo parcels . . . within or adjacent to Nine Mile Canyon [i.e., parcels 9, 10]” and “four parcels located adjacent to Steinaker Reservoir [i.e., parcels 69-71, 142].”); <i>id.</i> at 21 (“Of the twenty-eight parcels for lease there are six that are in areas with potential for adverse impacts [to cultural resources].”). The EA acknowledges that there are likely yet to be discovered cultural sites in each of the twenty-eight lease parcels and NEPA and the NHPA require BLM to analyze the direct, indirect, and cumulative impacts to these resource values and consult with interested parties to minimize impacts to such values. See <i>id.</i> at 37 (“all [proposed parcels] have a potential to contain cultural resources.”); <i>id.</i> Appendix C at 108 (“it is likely that additional cultural resources will be located within the proposed lease parcels.”).	<p>The EA explains that the six parcels in question have higher potential for cultural resources due to research and previous survey in those areas. The EA mentions the six parcels specifically because the other parcels, even though they are likely to contain cultural resources, could reasonably be developed without adverse impacts. The cultural resource report results will be added to the final EA.</p> <p>Appendix A lists each parcel with the following cultural resource notices: UT-LN-67, UT-LN-68, UT-LN-69, UT-LN-70</p> <p>The EA explains that the six parcels in question have higher potential for cultural resources due to research and previous survey in those areas. The EA mentions the six parcels specifically because the other parcels, even though they are likely to contain cultural resources, could reasonably avoid impacts to cultural resources while being developed . . . Potential impacts to cultural resources from oil and gas development were disclosed in the RMP EIS.</p> <p>Appendix A lists each parcel with the following cultural resource notices: UT-LN-67, UT-LN-68, UT-LN-69, UT-LN-70</p> <p>Potential impacts to all cultural sites, documented and undiscovered, were disclosed in the RMP EIS. NHPA does not require speculative analysis. If and when</p>

		<p>development occurs on a lease, surveys are undertaken to discover any unknown cultural sites, and the effects of the development are determined at that time.</p> <p>The undertaking in this case is to lease the parcels. There are no adverse effects to historic properties from this lease sale. (See Response to Southern Utah Wilderness Alliance-01).</p>
Southern Utah Wilderness Alliance-04	<p>Fourth, BLM's conclusion that the issuance of non-no surface occupancy ("non-NSO") leases will likely not adversely impact cultural resources is not the same as a "no adverse effect" determination. See, e.g., EA at 22 (impacts to cultural resources could likely be avoided).</p> <p>SUWA maintains that even with these stipulations the sale of non-NSO leases may result in adverse effects to cultural resources. Thus, BLM is required to assess and disclose adverse effects now, see 36 C.F.R. § 800.5, and work with the SHPO, Native American tribes, and consulting parties to resolve those adverse effects. See id. § 800.6. The plain language of the referenced stipulations makes clear that subsequent undertakings may be approved even if they result in "minimized" adverse effects. Because BLM admits that it may allow subsequent undertakings to proceed if adverse effects are "minimized" or "mitigated," the agency's "no adverse effects" determination is baseless.</p>	<p>The no adverse effects determination is not baseless, rather it is a recognition that for this undertaking (lease sale) no adverse effect to historic properties. Undertakings that will occur after the issuance of the lease will follow the Section 106 process. Therefore there is no need at this time to assess and disclose adverse effects.</p> <p>At this time it is unknown when, where, or if future well sites or roads might be proposed on any leased parcel or adjoining parcel. It is also unknown when, where or if future development might be proposed near any parcels with a No Surface Occupancy Stipulation. See Cultural Resource Report, Appendix H, for details as to how BLM came to a No Adverse Effect determination.</p> <p>The commenter is trying to intermingle the requirements of NEPA and NHPA. In the case of this proposed action (NEPA) or undertaking (NHPA) the purpose of the analysis of the EA is to determine whether or not significant impacts may occur in this case from the indirect future impacts of leasing. The purpose of the NHPA analysis is to determine if leasing would result in reasonably foreseeable effects. As stated in the response to the commenter's first comment, without a development scenario effects are speculative, not reasonably foreseen, unless a cultural resource density in a parcel is so high that any development is likely to result in adverse effects.</p> <p>The no adverse effects determination is not baseless, rather it is a recognition that for this undertaking (lease sale) no adverse effect to historic properties. Undertakings that will occur after the issuance of the lease will follow the Section 106 process. Therefore there is no need at this time to assess and disclose adverse effects in the NHPA report.</p> <p>At this time it is unknown when, where, or if future well sites or roads might be proposed on any leased parcel or adjoining parcel. It is also unknown when, where or if future development might be proposed near any parcels with a No Surface Occupancy Stipulation. See Cultural Resource Report, Appendix H, for details as to how BLM came to a No Adverse Effect determination.</p> <p>The undertaking in this case is to lease the parcels. There are no adverse effects to historic properties from this lease sale. (See Response to Southern Utah Wilderness Alliance-01).</p>

Southern Utah Wilderness Alliance-05	<p>Finally, the EA states that consultation with SHPO is “ongoing.” EA at 59. Regardless, SHPO’s concurrence (if received) does not excuse BLM from complying with the NHPA:</p> <p>While the NEPA requires BLM to consult with the Utah SHPO, its consultation with SHPO merely satisfies the procedural requirement of doing such a consultation. A concurrence from the SHPO <i>does not satisfy the other procedural requirements of NHPA</i>. There is nothing in the NHPA or Section 106 that excuses the BLM’s failure to comply with the other procedures based on a concurrence from the SHPO. <i>S. Utah Wilderness Alliance v. Burke</i>, 981 F.Supp.2d 1099, 1109 (D. Utah 2013) (emphasis added).</p> <p>SUWA requests to participate as a consulting party for this undertaking and that BLM provide it with a copy of this Class I Cultural Inventory and reserves the right to supplement these comments upon review of this document.</p>	<p>The BLM still recognizes the regulations for <i>No adverse effect</i> found at 36CFR800.5(d)(1), which states “. . . Implementation of the undertaking in accordance with the finding as documented fulfills the agency official’s responsibilities under section 106 and this part.” The procedural requirements of NHPA have been fulfilled.</p> <p>See Cultural Resource Report, Appendix H, for details as to how BLM came to a No Adverse Effect determination.</p>
Southern Utah Wilderness Alliance-06	<p>The EA fails to take a hard look at the indirect, direct, and cumulative impact on local, regional, and national climate change from leasing the above-listed parcels. While stating that oil and gas exploration and development activities are a large contributor of greenhouse gas (“GHG”) emissions, the EA does not even attempt to analyze – quantitatively or qualitatively – the potential impacts of such emissions. <i>See, e.g.</i>, EA at 18-19 (“The most likely cause of elevated PM2.5 . . . are those common to other areas of the western U.S. (combustion and dust) plus nitrates and organics from oil and gas activities in the [Uinta] Basin.”); <i>id.</i> at 20 (oil and gas activities “contribute to the regional, national, and global pool of GHG emissions”). Instead, BLM essentially punts on the issue, citing to the low amount of expected GHG emissions: There are no direct impacts related to GHG emissions and climate change from leasing . . . Estimated GHG emissions can be calculated using a generic emissions calculator . . . which shows emissions of 1,192 tons per year CO₂-e for a single operational well, and 2,305 tons per year CO₂-e for a single drill rig. Based on this analysis a single exploratory well is unlikely to exceed the 25,000 ton per year reference point recommended by [CEQ], and no further analysis is warranted at this stage.</p>	<p>The EA has been revised to reflect current guidance on analysis of Green House Gas (GHG) emissions.</p>

Southern Utah Wilderness Alliance-07	<p>The EA fails to take a hard look at the social cost of carbon from leasing the above-listed parcels. CEQ has instructed federal agencies, including the BLM, to consider the social cost of carbon when reviewing proposed actions under NEPA. <i>See</i> CEQ Climate Change Guidance at 16. While developed initially to assess the costs and benefits of alternatives in rulemaking, the social cost of carbon “offers a harmonized interagency metric that can provide decisionmakers and the public with some context for meaningful NEPA review.”</p>	<p>The EA has been revised to reflect current guidance on analysis of social cost of carbon.</p>
Southern Utah Wilderness Alliance-08	<p>The EA does not comply with Instruction Memorandum No. 2010-117, <i>Oil and Gas, Planning, and National Environmental Policy Act (NEPA)</i> (May 17, 2010) (“IM 2010-117”) Specifically, the EA does not analyze alternative(s) in which oil and gas lease parcels are not offered in BLM-identified LWCs. <i>Compare</i> Lease Sale EA, Appendix C at 111 (Parcels 9, 10, 32, 38, 39, and 49 each are located in BLM-identified LWC), <i>with id.</i> at 13 (the EA considered the Proposed Action and No Action alternatives only). Such an alternative is required by IM 2010-117: The EA <i>will</i> analyze [1] a no action alternative (no leasing), [2] a proposed leasing action (lease the parcel(s) in conformance with the land use plan), <i>and</i> [3] any alternatives to the proposed action that may address unresolved resource conflicts.</p> <p>IM 2010-117 § III.E (emphases added); <i>see also id.</i> § III.C.4 (an oil and gas leasing EA must consider “other considerations” such as whether “[i]n undeveloped areas, non-mineral resource values are greater than potential mineral development values”)...[T]here is no record evidence that BLM took into account “other considerations,” including whether “non-mineral resource values are greater than potential mineral development” in “undeveloped areas,” such as BLM-identified LWCs. IM 2010-117 § III.C.4. The BLM identified LWCs at issue here each have considerable “non-mineral resource values” such as wilderness character, cultural, and historic, among others. <i>See, e.g.,</i> Vernal RMP at 3-46 (Desolation Canyon LWC); <i>id.</i> at 3-88 (Nine Mile Canyon ACEC). These values <i>vis`a vis</i> mineral values were not considered in the EA.</p> <p>Finally, there also is no record evidence that BLM ever evaluated whether (1) oil and gas management decisions – such as the decision to not manage the LWCs at issue here for protection of their wilderness values – made in the Vernal RMP/ROD are still appropriate</p>	<p>All parcels in BLM identified LWCs have either been through the RMP planning process, <i>or are No Surface Occupancy</i>, therefore, there are no unresolved resource conflicts.</p> <p>The no action alternative addresses not leasing and would eliminate any impact to the resource.</p> <p>The commenter has misrepresented the requirement for the consideration of non-mineral resources values opposed to mineral development values. <i>Consideration</i> of the values is part of the process, not a requirement for “<i>vis`a vis</i>” analysis. There has been extensive consideration of other values by the Interdisciplinary Resource Team prior to and during preparation of the EA, as well as during preparation of the responses to comments.</p> <p>Section 3.14 of the EA has been revised to confirm that there has been no new information in regards to the resource evaluated since the RMP was approved. Management decisions made in the 2008 Vernal RMP to not protect Lands with Wilderness Characteristics are still valid, and the lease stipulations are still adequate.</p>

	<p>or provide adequate protection for resources values, or (2) new lease stipulations need to be developed or existing stipulations updated. See IM 2010-117 § III.C.2 (requiring such analysis). If the Vernal RMP/ROD no longer is adequate in this regard, a plan amendment is required and “the parcel(s) should be withheld from leasing” until such amendment is completed. Id.</p>	
Southern Utah Wilderness Alliance-09	<p>BLM designated the Nine Mile Canyon ACEC to protect the area’s relevant and important values such as cultural, high quality scenic, and special status plant species. See Vernal ROD at 36. ACECs are defined as “areas within the public lands where special management attention is required . . . to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes.” 43 U.S.C. § 1702(a). A potential ACEC must have: (1) “relevance,” meaning it possesses “a significant historic, cultural, or scenic value [or] a fish or wildlife resource or other natural system or process,” and (2) “importance,” meaning the relevant values, resources, or processes have “substantial significance.” 43 C.F.R. § 1610.7-2(a). Once BLM has identified areas which contain relevant and important values within the planning area, it must ensure their protection, either through special management (by designating an area as an ACEC), <i>see</i> 43 U.S.C. § 1702(a), or through standard management prescriptions.</p> <p>“[T]he Nine Mile Canyon ACEC is a “unresolved resource conflict[.]” – similar to LWCs discussed <i>supra</i> – due to BLM’s continued failure to complete the required management plan. As such, BLM is required to consider in the EA an alternative which does not offer leases in the ACEC. See IM 2010-117 § III.E. Moreover, BLM should not offer new oil and gas leases in the ACEC – such as Parcels 9 and 10 – until completion of a management plan to ensure that future management options are not foreclosed or limited such as adding restrictions to oil and gas development activities. See, e.g., 40 C.F.R. § 1506.1(c)(3); Lease Sale EA at 23 (Parcels 9 and 10 are in the Nine Mile Canyon ACEC)</p> <p>“The EA Failed to Take a Hard Look at Impacts to the Potential Four Mile Wash and Nine Mile Canyon Extension ACECs”</p>	<p>The commenter has offered no basis for the statement: “Once BLM has identified areas which contain relevant and important values within the planning area, it must ensure their protection, either through special management (by designating an area as an ACEC), <i>see</i> 43 U.S.C. § 1702(a), or through standard management prescriptions.”</p> <p>Parcels 9 and 10 would be leased subject to a no surface occupancy stipulation. As such, there would be no impacts to the designated ACEC.</p> <p>As a follow up to the first paragraph of this response: Decisions to provide protections to resources beyond those required by law and policy are made through the Land Use Planning Process. There is no requirement to provide special considerations for resources in a particular area simply because they were once identified as relevant and important values in consideration of an ACEC in a land use planning process.</p>

Southern Utah Wilderness Alliance-10	<p>The EA failed to take a hard look at the direct, indirect, and cumulative impacts to the potential Four Mile Wash and Nine Mile Canyon Extension ACECs from leasing the above-listed parcels. These potential ACECs contain BLM-identified relevant and important values such as high value scenery, important riparian ecosystems, and significant cultural resources, among others. <i>See</i> Vernal RMP at 3-89 to 3-90. Parcels 32, 38, and 39, are in the potential Four Mile Wash ACEC which contains “[s]pectacular scenery viewed by increasing numbers of visitors” and “lush riparian vegetation [which] is rare in this desert ecosystem.” <i>Id.</i> at 3-89. Similarly, Parcels 4, 5, and 151, are in the Nine Mile Canyon Extension ACEC which contains relevant and important values on par with those in the designated Nine Mile Canyon ACEC such as “[n]ationally significant Fremont, Ute, and Archaic rock art and structures.” <i>Id.</i> at 3-88, 3-90.</p>	<p>See the response to comment Southern Utah Wilderness Alliance-09. The RMP EIS disclosed the impacts to the relevant and important values from oil and gas development. Internal scoping for the lease sale did not reveal any new information that would require additional analysis for the resources listed in the comment.</p>
Southern Utah Wilderness Alliance-11	<p>The EA fails to protect the BLM-identified resource values in the Nine Mile Canyon SRMA from leasing Parcels 9 and 10. BLM must manage the SRMA to “protect high-value cultural values and scenic quality.” Vernal RMP at 4-321; Vernal ROD at 35 (same). However, BLM has yet to complete a management plan for the SRMA to ensure protection of these values. <i>See</i> Vernal RMP Five-Year Review at 1 (“No program-specific or integrated activity level plans have been completed” for designated SRMAs).¹⁰ No SRMA management plan has been prepared; meaning that oil and gas leasing in this area remains a “unresolved resource conflict[]” which – pursuant to IM 2010-117 – requires BLM to consider an alternative in the EA to address this issue such as prohibiting and/or restricting oil and gas leasing in this area. <i>See</i> IM 2010-117 § III.E. The EA fails to do so. <i>See, e.g.,</i> Lease Sale EA at 13 (EA considered the Proposed Action and No Action alternatives only).</p> <p>Furthermore, leasing Parcels 9 and 10 prior to completion of the management plan will foreclose and/or limit management options such as restricting oil and gas development activities, in violation of NEPA. <i>See, e.g.,</i> 40 C.F.R. § 1506.1(c)(3). Therefore, the EA fails to protect resource values in the Nine Mile Canyon SRMA.</p>	<p>The oil and gas leasing decisions were made in the VFO RMP ROD and are independent of the Nine Mile Canyon SRMA plan. However, the SRMA plan has to be consistent with the RMP decision. A SRMA (Special Resource Management Area) plan is not a master leasing plan. The SRMA plan will manage recreation activity.</p>

Southern Utah Wilderness Alliance-12	<p>The EA failed to take a hard look at the direct, indirect, and cumulative impacts to water quality/resources from leasing Parcels 4, 5, 9, 10, and 38, among others. In particular, the EA does not analyze or disclose impacts to <i>any</i> surface water let alone to Argyle Creek, Ninemile Creek, and the Green River. <i>See, e.g.,</i> Lease Sale EA, Appendix C at 117 (surface water quality is “present, but not affected to a degree that detailed analysis is required”).</p>	<p>Leasing of the proposed parcels would not, by itself, authorize any ground disturbances which could contribute runoff affecting surface water quality. Site-specific effects cannot be analyzed until an exploration or development application (APD) is received, after leasing has occurred. However, any development proposal on the lease parcels would be subject to the standard lease terms, the protective lease notices and stipulations identified in Appendix A, and all applicable laws, regulations and onshore orders in existence at the time of lease issuance. Site-specific analysis would be required prior to the approval of any ground disturbance proposal on the parcels. In light of existing knowledge regarding resource values on the subject parcels, which is based upon the analysis in the VFO RMP, BLM VFO resource specialist knowledge and parcel site-visits, significant impacts beyond those already addressed in the VFO RMP are not anticipated to occur as a result of leasing the proposed parcels.</p>
Southern Utah Wilderness Alliance-13	<p>The EA fails to prioritize oil and gas leasing outside of greater Sage-grouse General Habitat Management Areas (“GHMA”). GHMA is BLM-managed lands where special management is needed to sustain greater Sage-grouse populations and viability. <i>See</i> BLM, Utah Greater Sage-grouse Approved Resource Management Plan Amendment at 1-6 (Sept. 2015). Notably, BLM is required to “[p]rioritize the leasing and development of fluid mineral resources <i>outside of</i>” GHMA. <i>Id.</i> at 1-11 (emphasis added); <i>id.</i> at 2-25 (same). In addition, FLPMA requires BLM to manage public lands pursuant to and in compliance with approved land use plans. <i>See</i> 43 U.S.C. § 1732(a). The EA does not meet these requirements.</p> <p>First, Parcels 32, 67, and 152, are located in GHMA. <i>See</i> Lease Sale EA at 31. Furthermore, there is no record evidence in the EA that BLM prioritized the leasing of areas outside of GHMA before resorting to inclusion of Parcels 32, 67, and 152, in the lease sale. The EA does not contain any discussion regarding the need for these parcels or why other parcels outside of GHMA were not prioritized, among other things. Instead, the EA contains only a few generic statements regarding the location of each parcel at issue and then concludes that oil and gas activities in these areas would adversely impact greater Sage-grouse and the species’ habitat – a factor that cuts against BLM’s decision to offer leases in GHMA and in favor of prioritizing leasing <i>outside of</i> such areas. <i>See id.</i> at 31-32, 44-46.</p> <p>Therefore, BLM has failed to prioritize oil and gas leasing outside of GHMA in violation</p>	<p>Per Objective MR-1 in the Greater Sage-Grouse Approved Resource Management Plan Amendment, the Vernal Field Office prioritized proposed lease parcels outside of Sage-Grouse habitat for PHMA and GHMA. The BLM elected to consider for leasing three lease parcels within GHMA that were within designated federal oil and gas units. Other parcels within Sage-Grouse habitat were not prioritized for lease consideration in this lease sale. This prioritization approach minimizes conflicts with Greater Sage-Grouse and is consistent with the amended RMP.</p>

	of its relevant land management plans and FLPMA.	
Southern Utah Wilderness Alliance-14	SUWA herein incorporates and adopts the comments and analysis submitted by the Center for Biological Diversity for the Lease Sale EA with regard to Graham's beardtongue (<i>Penstemon grahamii</i>) and White River beardtongue (<i>Penstemon scariosus</i>).	There are no direct impacts from leasing. Indirect impacts to these species were disclosed in the Vernal Field Office RMP EIS. Consultation occurred during the RMP EIS process and lease notices were developed. When development is proposed, site specific impacts will be analyzed in a separate EA document and additional Section 7 consultation will occur as appropriate for each proposal.
Utah Rock Art Research Association -01	<p>We oppose the inclusion of leases 009 and 010 located within the Nine Mile Canyon corridor. The EA notes the following:</p> <p>Two proposed parcels are within the Nine Mile Canyon corridor. Nine Mile Canyon is significant for the numerous cultural resources and the archaeological information that has been acquired from that area. These parcels, 009 and 010 are surrounded by over 100 cultural resources within one mile of the parcel boundaries with hundreds of more sites throughout the canyon. Many of these resources have been or are being listed on the National Registry of Historic Places because of their significance as part of the archaeological record. However, this description fails to note the additional 40 sites, eligible for the National Register of Historic Places, within the lease borders themselves.</p> <p>We appreciate that non-surface occupancy stipulations associated with these leases provide protection of sites within the lease parcels. However, the BLM must also consider indirect impacts associated with potential development of these leases. It is unclear to us where the actual drilling will occur, where roads will be developed for drilling, where pipelines and other gathering facilities will be located, how traffic associated with development and maintenance of potential wells will be routed, and the associated visual and auditory impacts associated with all of these activities.</p>	<p>See Response to Comment Nine Mile Canyon Coalition-01.</p> <p>There are no direct impacts from leasing, but there are indirect impacts due to possible subsequent development. Impacts to cultural resources from oil and gas development were disclosed in the RMP EIS.</p> <p>Impacts of development of the Nine Mile Canyon road were analyzed in the Final EIS West Tavaputs Plateau Natural Gas Full Field Development Plan, UT-070-05-055 signed July 2010. This EA incorporates that analysis by reference.</p>
Utah Rock Art Research Association -02	We are concerned about leases 004 and 005 in the Argyle Canyon area. We are not aware of cultural sites associated with these leases but are concerned about indirect impacts associated with roads, gathering lines, pipelines, and traffic. If these were routed north through Argyle Canyon then we would be supportive of these leases. However, we expect that they will be routed through Nine Mile Canyon. If this is the case, we oppose these leases.	<p>The act of leasing these parcels has no direct impact on cultural resources. In addition, parcels 4 and 5 are covered by NSO stipulations and any impacts from oil and gas development would be analyzed through the NHPA process when those parcels are up for development. This analysis includes research of previous surveys as well as 100% survey of any proposed well pads, pipelines, and roads. The final cultural resource report results will be added to the final EA.</p> <p>Impacts of development of the Nine Mile Canyon road were analyzed in the Final EIS West Tavaputs</p>

		Plateau Natural Gas Full Field Development Plan, UT-070-05-055 signed July 2010. This EA incorporates that analysis by reference.
Utah Rock Art Research Association -03	We are concerned about leases 069, 070, 071, and 142 in the Steinaker Reservoir area. This is an area of high cultural site concentration. We appreciate that non-surface occupancy stipulations associated with these leases provide protection of sites within the lease parcels but are concerned about indirect impacts associated with roads, gathering lines, pipelines, and traffic. We appreciate that the proximity of these leases to Vernal means that the public has access to, and has likely impacted, sites in the lease area. But we do not think that lease development should increase access or impact to sites in the area.	The act of leasing these parcels has no direct impact on cultural resources. The NSO stipulations and any impacts from oil and gas development would be analyzed through the NHPA process when those parcels are up for development. This analysis includes research of previous surveys as well as 100% survey of any proposed well pads, pipelines, and roads. The final cultural resource report results will be added to the final EA.
Western Energy Alliance-01	BLM originally received Expressions of Interest (EOI) for 102 parcels totaling 95,880 federal mineral acres in the planning area. BLM is now only offering 28 parcels totaling 12,344 acres, as more than 87% of the nominated acres have been deferred. We strongly disagree with BLM's decision to defer 74 nominated parcels, especially as many of these parcels have been nominated in past years and are again being deferred. Companies rely upon regular lease sales in order to plan future development, and years-long delays only further discourage oil and natural gas development on federal lands. Parcels deferred in the EA will not be available for leasing until at least November 2017 if BLM continues its current rotational leasing practice, and any parcels that are deferred will experience an unacceptable delay of several years. Instead, BLM should make these parcels available at the earliest possible lease sale, in February 2017.	Parcels were deferred until further analysis and/or guidance are received to determine if they are actually legally available for oil and gas leasing. The BLM cannot commit to making these parcels available by February 2017 because resolution of the reasons for deferral and new NEPA analysis cannot be completed in that timeframe.
Western Energy Alliance-02	We are especially concerned that 28 parcels are being deferred because of Greater Sage-grouse (GrSG). In September 2015 BLM finalized an amendment to the 2008 land use plan for the Vernal Field Office to specifically provide for GrSG protections in the planning area. The plan amendment provided protections such as timing stipulations and buffers which should allow oil and natural gas development to proceed forward. The plan took years to develop, and leasing in GrSG habitat was repeatedly delayed while the plans were being finalized. Now that the Record of Decision has been signed and the plans are in force with strong protections, leasing in GrSG should proceed forward. The justification offered for further delays is illegitimate:	Per Objective MR-1 in the Greater Sage-Grouse Approved Resource Management Plan Amendment, the Vernal Field Office prioritized proposed lease parcels outside of Sage-Grouse habitat for PHMA and GHMA. The BLM elected to consider for leasing three lease parcels within GHMA that were within designated federal oil and gas units. Other parcels within Sage-Grouse habitat were not prioritized for lease consideration in this lease sale. This prioritization approach minimizes conflicts with Greater Sage-Grouse and is consistent with the amended RMP.

	<p>“[t]his deferral was made consistent with the BLM’s Sage-grouse conservation plans and strategy, which direct the BLM to prioritize oil and gas leasing and development in a manner that minimizes resource conflicts in order to protect important habitat.” BLM is using the plans to enact a de facto ban on oil and natural gas development in sage grouse habitat.</p>	
Western Energy Alliance-03	<p>Furthermore, the remaining 51 deferrals are the result of the state director’s discretion, recreation concerns, and other wildlife species. As discussed above, however, the land use plan for the Vernal Field Office contains stipulations on oil and natural gas leasing that provide protections for wildlife and recreation concerns. Oil and natural gas development can coexist with other land uses, as the plan rightly indicates. We urge BLM to reconsider and offer these parcels for lease.</p>	<p>As conflicts are resolved, parcels will be offered for lease.</p>
Wild Earth Guardians-01	<p>A programmatic EIS is necessary. Put simply, BLM is failing to describe or to analyze climate impacts from its oil and gas program and this document is no exception. The repeated pattern and practice of such failure suggests that only a programmatic analysis at the national level can address this shortcoming. In fact, a programmatic analysis is exactly what the CEQ Guidance calls for.</p> <p>The Guidance suggests that for “long-range energy” actions, “it would be useful and efficient to provide an aggregate analysis of [greenhouse gas] emissions or climate change effects in a programmatic analysis and then incorporate by reference that analysis into future NEPA review.” CEQ Guidance at 29. The lack of climate analysis of this long-range energy action demonstrates that this office, along with other state offices as demonstrated in other recent oil and gas leasing EAs, is incapable or unwilling to undertake adequate review of greenhouse gas (“GHG”) emissions or climate change effects. This is exactly why the CEQ Guidance is correct in calling for programmatic analysis of climate emissions and effects for programs like the BLM oil and gas leasing program.¹ In fact, when listing examples of “site-specific actions that can benefit from a programmatic NEPA review,” authorizing leases for oil and gas drilling is specifically mentioned. CEQ Guidance at 30. Thus, the CEQ Guidance creates an expectation that BLM would undertake a programmatic EIS of its oil and gas program, which it has thus far failed to do.</p>	<p>There is merit to the suggestion that climate change would be best analyzed through development of a programmatic EIS, and various entities have recognized this, including CEQ and Utah BLM air staff. Whether to pursue such a programmatic EIS for this project, however, is beyond the decision space of the Vernal Field Office, and also not within the scope of the EA.</p>

Wild Earth Guardians-02	<p>A complete estimate and analysis of climate emissions and impacts from this project is required, but missing. NEPA has a mandate to assess impacts at the earliest opportunity. Having already ignored such impacts by failing to analyze them in a programmatic analysis or in the analysis for RMPs, BLM cannot claim it will undertake analysis at the last possible moment, during an application for permit to drill analysis, rather than the earliest opportunity. “We will do it later” doesn’t cut it under NEPA, even the less so when the claim of later analysis is not true.</p>	The EA has been revised to reflect current guidance on analysis of Green House Gas (GHG) emissions.
Wild Earth Guardians-03	<p>BLM Utah is now using the ePlanning system to provide the public with NEPA documents. On July 14, 2016, a search was performed for all VFO Fluid Minerals planning documents. DOI-BLM-UT-G010-2016-0055-EA is said to be an analysis of five proposed wells. The project status is listed as “Completed.” The links to “Documents” leads to the following statement: “Document preparation underway. No documents are available at this time. However, at a minimum a signed NEPA document will be uploaded as soon as it is available.”</p> <p>The exact same situation pertains to DOI-BLM-UT-G010-2016-0026-EA. The project is listed as completed and no documents are available. Thus, no adequate climate change analysis is available to the public as NEPA demands. Please provide this document to me and keep the November lease sale EA comment period open until I have a chance to review it and utilize it for comments on this sale.</p> <p>For DOI-BLM-UT-G010-2016-0025-EA, which is also listed as completed, the only documents that appear are maps. The “Documents” section contains no NEPA analysis. Please provide that document and time to comment on the November lease sale.</p>	Thank you for bringing these to BLM’s attention. These documents did not post to the ePlanning website due to technical errors. They are now available for your review on the website and a copy of each document was e-mailed to you 7/21/2016.
Wild Earth Guardians-04	<p>The high costs to society from the leasing and subsequent burning of public lands fossil fuels must be properly analyzed and that analysis presented to the public and agency decision makers. Historically, BLM has ignored the costs of fossil fuel leasing on public lands, especially the costs to society that result from global warming. Proper consideration of these social costs of carbon is simply good governance and good stewardship of public resources, and such consideration is legally required.</p>	The EA has been revised to reflect current guidance on analysis of the social cost of carbon.

Wild Earth Guardians-05	<p>A recent consensus report, joined by more 190 countries, makes the basic science on global warming crystal clear. Global warming is unequivocal: since the 1950s the atmosphere and oceans have warmed, snow and ice have diminished, and seas have risen. Ex. 6, Climate Change 2013 – The Physical Science Basis - Summary for Policymakers, United Nation Intergovernmental Panel on Climate change (2013) (“AR5 summary”) at 4. There is little doubt that pollution from human activities is the cause of this warming. Id. at 17. The U.S. government’s own more recent report concludes that global warming is now affecting our country in far-reaching ways. Ex. 7, National Climate Assessment 2014 – Overview (“National Climate Assessment”). Climate pollution has warmed the U.S. almost 2°F, mostly since 1970, with another 2°F to 4°F expected in the next few decades. Id. Much greater warming in future decades is also possible, possibly up to an increase of 10°F above current temperatures by the end of the century. Id.</p> <p>These are not the estimates of “environmentalists.” This is the scientific consensus accepted both in the U.S. and around the world.</p>	Thank you for providing this information.
Wild Earth Guardians-06	<p>The requirement to analyze the social cost of carbon is supported by the general requirements of the National Environmental Policy Act (“NEPA”) and specifically supported in federal case law. NEPA requires agencies to take a “hard look” at the consequences of proposed agency actions. 42 U.S.C. § 4321 <i>et seq.</i>; <i>Morris v. U.S. Nuclear Regulatory Commission</i>, 598 F.3d 677, 681 (10th Cir. 2010). Consequences that must be considered include direct, indirect, and cumulative consequences. 40 C.F.R. §§ 1502.16, 1508.7, 1508.8. A cumulative impact is the “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” 40 C.F.R. § 1508.7. Analysis of site specific impacts must take place at the lease stage and cannot merely be deferred until after receiving APDs to drill. <i>See New Mexico ex rel. Richardson v. Bureau of Land Management</i>, 565 F.3d 683, 717-18 (10th Cir. 2009); <i>Conner v. Burford</i>, 848 F.2d 1441 (9th</p>	The EA has been revised to reflect current guidance on analysis of the social cost of carbon.

	<p>Cir. 1988); <i>Bob Marshall Alliance v. Hodel</i>, 852 F.2d 1223, 1227 (9th Cir. 1988). Any NEPA analysis of a fossil fuel development project that fails to use the government-wide protocol for assessing the costs to society of carbon emissions from the proposed action has failed to take the legally required “hard look.”</p>	
Wild Earth Guardians-07	<p>The new Departmental Landscape-Scale Mitigation policy applies to BLM. 600 DM 6.2. Its purpose is to “avoid, minimize, and compensate for impacts to Department-managed resources.” 600 DM 6.1. The BLM is required to apply a “no net loss” policy to agency resources, including those impacted by oil and gas leasing and development. 600 DM 6.5. BLM is empowered to decline authorization of projects where mitigation and compensation cannot be achieved. 600 DM 6.6. Specifically, BLM is required to “[i]dentify and promote mitigation measures that help address the effects of climate change” and to consider “greenhouse gas emissions in design, analysis, and development of alternatives.” <i>Id.</i> These policies and principles should be employed “when developing and approving strategies and plans, reviewing projects, and issuing permits.” 600 DM 6.8.</p>	<p>Landscape scale mitigation policy is beyond the scope of this document.</p>
Wild Earth Guardians-08	<p>The EA largely ignores wastewater created by oil and gas extraction. This itself renders the EA inoperable. Despite BLM ignoring the issue however, it is well known that much fracking wastewater is injected into underground wells. That practice is known or suspected of causing earthquakes in Oklahoma, Texas, Ohio, Pennsylvania, California, and Canada and has been restricted for just that reason in some of those areas. BLM must, in a supplemental analysis, analyze the likelihood of such impacts before they occur and require mitigation before this project can proceed.</p>	<p>Injection of fluids associated with oil and gas production has caused induced seismic events. However, the underground injection of 'fracking waste water' in Utah presents little potential for inducing seismic activity. The majority of fracking waste 'fluids' are recycled and reused for future frack jobs. There have been no reported earthquakes in Utah that were suspected of being produced (induced) from injecting fluids in disposal wells (Class II UIC permitted by Utah Department of Oil, Gas and Mining (DOGM)), which fluid is predominantly produced water with a high salt brine content. In order to analyze the potential for earthquakes associated with oil and gas disposal wells three kinds of data will be necessary: (1) seismic data: high-quality, real-time earthquake locations, which require dense seismic instrumentation; (2) geologic data: hydrological parameters, orientation and magnitude of the stress field, and the location and orientation of known faults; and (3) industrial data: injection rates and downhole pressures sampled and reported frequently (see following link). However this data is not currently available, with the exception of industrial injection data reported to DOGM, to do the analysis. <footnote></p> <p><para>https://profile.usgs.gov/myscience/upload_folder/ci2015Jun1012005755600Induced_EQs_Review.pdf</para></p> <p></footnote></p>

		<p>Potential geologic hazards caused by hydraulic fracturing may include induced seismic activity. Earthquakes occur when energy is released due to blocks of the earth's crust moving along areas of weakness or faults. Earthquakes attributable to human activities are called "induced seismic events" or "induced earthquakes." A study conducted by the National Research Council (2013) studied the issue of induced seismic activity from energy development. The study found that: 1) The process of hydraulic fracturing a well as presently implemented for shale gas recovery does not pose a high risk for inducing felt seismic events; and, 2) Injection for disposal of waste water derived from energy technologies into the subsurface does pose some risk for induced seismicity, but very few events have been documented over the past several decades relative to the large number of disposal wells in operation.</p> <p>Also, out of the ~ 1.8 million treatments in over ~ 1 million wells, from 1947-2010 drilled in the United States, there are only three reported cases of hydraulic fracturing-induced earth quakes. (Seismological Research Letters, Volume 86, Number 4, July/August 2015). The Utah Division of Oil, gas and Mining (UDOGM) has stated that there has been no reported ground water contamination or fracking-induced problems in Utah associated with oil and gas well drilling and/or completion, or from injection into disposal wells.</p> <p>Oil production in Oklahoma has been going on for over 100 years. Some activities related to oil production, particularly disposal of wastewater in deep injection wells, are known to potentially cause earthquakes. The rate of earthquakes has increased sharply since 2009 in the central and eastern United States, with growing evidence confirming that these earthquakes are primarily caused by human activity, namely the injection of wastewater in deep disposal wells contacting basement rocks. A new study by the U.S Geological Survey presents evidence that, in addition to these recent earthquakes, most of the larger earthquakes in Oklahoma in the past century may likely have been induced by industrial activities. Prior to the 2011 magnitude 5.7 Prague, Oklahoma earthquake, the largest historical earthquake in the area was the 1952 magnitude 5.7 El Reno earthquake, which the study concludes was likely induced by activities related to oil production near Edmond, Oklahoma. (<i>A Century of Induced Earthquakes in Oklahoma?</i> Bulletin of the Seismological Society of America, October 20, 2015. doi:10.1785/0120150109).</p>
Wild Earth Guardians-09	Parcels 032, 067, 152 are completely or partially within Sage-grouse Priority Habitat Management Areas ("PHMAs") according to our maps. Yet BLM asserts that they are within General Habitat Management Areas ("GHMA"). EA at 31-32. According	Per Objective MR-1 in the Greater Sage-Grouse Approved Resource Management Plan Amendment, the Vernal Field Office prioritized proposed lease parcels outside of Sage-Grouse habitat for PHMA and GHMA. The BLM elected to consider for leasing three lease parcels within GHMA that were within

	<p>to BLM, these parcels are within existing units and are surrounded by other leases. EA at 9. All restrictions and stipulations included in the Utah Greater Sage-grouse RMP Amendment must be attached to these parcels should they be offered at auction. Yet we remain concerned that Sage-grouse stipulations prescribed in BLM land-use plan amendments and revisions to protect greater Sage-grouse are scientifically unsound, legally invalid, and fail to grant an adequate level of protection to allow for the survival of greater Sage-grouse in the context of development on oil and gas leases, and therefore protest these parcels.</p> <p>Under BLM's greater Sage-grouse plan amendments and revisions, the agency made an explicit commitment to prioritize oil and gas leasing and development outside PHMAs (which include SFAs) and General Habitat Management Areas ("GHMAs"). Particularly relevant to this lease sale:</p> <p>"Objective MR-1: Priority will be given to leasing and development of fluid mineral resources, including geothermal, outside of PHMA and GHMA. When analyzing leasing and authorizing development of fluid mineral resources, including geothermal, in PHMA and GHMA, and subject to applicable stipulations for the conservation of GRSG, priority will be given to development in non-habitat areas first and then in the least suitable habitat for GRSG." Utah Greater Sage-grouse Approved RMP Amendment at 2-25.</p>	<p>designated federal oil and gas units. Other parcels within Sage-Grouse habitat were not prioritized for lease consideration in this lease sale. This prioritization approach minimizes conflicts with Greater Sage-Grouse and is consistent with the amended RMP.</p> <p>PPH is a term associated with the BLM's interim management Instruction Memorandum. That terminology and prioritization was superseded by the Record of Decision for the Greater Sage-Grouse Approved Resource Management Plan Amendment (GRSG ARMPA).</p> <p>The GRSG ARMPA established priorities for management of GRSG habitat in Priority and General Habitat Management Areas (see GRSG FEIS section 1.3.2), with management commensurate with the prioritization. Within GHMA, conservation measures do not include additional stipulations as are included for PHMA. Rather, this lease includes management for a net conservation gain for development and application of required design features and buffers during project implementation to minimize impacts in these areas.</p> <p>No PHMA areas were considered for leasing in this lease sale, and the only areas in GHMA that are considered for lease are within designated oil and gas units where impacts to GRSG are already present, as described in the GRSG FEIS section 4.3.2 and section 4.3.7. Impacts to these resources were considered and carried forward when warranted in the analysis. See the ID team checklist in Appendix C for determinations of potential impacts, Chapter 3 for a description of these resources, and Chapter 4 for the potential impacts and effects on these resources.</p> <p>No surface disturbance will occur as a direct result of the leasing. However, possible development scenarios, which are only hypothetical at this stage, were analyzed and the anticipated impacts were disclosed.</p>
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Appendix F. Parcel Pictures



Figure F.1. Lease Parcel UT-1116-004



Figure F.2. Lease Parcel UT-1116-005



Figure F.3. Lease Parcel UT-1116-006



Figure F.4. Lease Parcel UT-1116-009



Figure F.5. Lease Parcel UT-1116-010



Figure F.6. Lease Parcel UT-1116-012



Figure F.7. Lease Parcel UT-1116-013



Figure F.8. Lease Parcel UT-1116-014



Figure F.9. Lease Parcel UT-1116-015



Figure F.10. Lease Parcel UT-1116-016



Figure F.11. Lease Parcel UT-1116-032



Figure F.12. Lease Parcel UT-1116-038



Figure F.13. Lease Parcel UT-1116-039



Figure F.14. Lease Parcel UT-1116-049



Figure F.15. Lease Parcel UT-1116-067



Figure F.16. Lease Parcel UT-1116-069



Figure F.17. Lease Parcel UT-1116-070



Figure F.18. Lease Parcel UT-1116-071



Figure F.19. Lease Parcel UT-1116-093



Figure F.20. Lease Parcel UT-1116-094



Figure F.21. Lease Parcel UT-1116-103



Figure F.22. Lease Parcel UT-1116-105



Figure F.23. Lease Parcel UT-1116-121



Figure F.24. Lease Parcel UT-1116-122



Figure F.25. Lease Parcel UT-1116-123



Figure F.26. Lease Parcel UT-1116-142

This is a picture of parcel 143.

Figure F.27. Lease Parcel UT-1116-143



Figure F.28. Lease Parcel UT-1116-151



Figure F.29. Lease Parcel UT-1116-152

Appendix G. Unit Maps

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Appendix H. Cultural Resources Summary