BLM

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Environmental Assessment
DOI-BLM-UT-Y010-2015-0186-EA

February 2016 Competitive Oil and Gas Lease Sale

November 2015

Location: Canyon Country District

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February 2016 Competitive Oil and Gas Lease Sale
Draft Environmental Assessment
DOI-BLM-UT-Y010-2015-0186-EA

1.0 PURPOSE & NEED

1.1 Introduction

The Bureau of Land Management (BLM) has prepared this environmental assessment (EA) to disclose and analyze the environmental consequences of the sale of 13 parcels for the February 2016 Competitive Oil and Gas Lease Sale. 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 Code of Federal Regulations (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, if applicable for this EA, would document the reasons why implementation of the selected alternative would not result in significant environmental impacts (effects). 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 (DR) may be signed for the EA approving the selected alternative, whether the Proposed Action or another alternative.

1.2 Background

The BLM policy is to make mineral resources available for use and to encourage their orderly development to meet national, regional, and local needs. This policy is based in various laws, including the Mineral Leasing Act (MLA) of 1920 and the Federal Land Policy and Management Act (FLPMA) of 1976. The Federal Onshore Oil and Gas Leasing Reform Act (FOOGLRA) of 1987 (Sec. 5102(a)(b)(1)(A)) directs the BLM to conduct quarterly oil and gas lease sales in each state whenever eligible lands are available for leasing.

Oil and gas leasing and potential development was analyzed and stipulations developed and approved in the Moab Field Office Re Moab Field Office Resource Management Plan (BLM, 2008b, and the Monticello Field Office Resource Management Plan (BLM 2008d).

Expressions of Interest (EOI) to nominate parcels for leasing by the BLM are submitted by the public. From these EOIs, the BLM Utah State Office (UTSO) forwards a preliminary parcel list to the Canyon Country District Office (CCDO), consisting of the Moab Field Office (MbFO) and the Monticello Field Office (MtFO), for review and processing. Each field office determines whether or not the existing analyses in the applicable land use plan EISs provide an adequate basis for leasing recommendations or that additional NEPA analysis is needed before making a leasing recommendation. In

most instances an EA will be initiated for the parcels within the district or field office to meet the requirements of Washington Office (WO) Instruction Memorandum (IM) 2010-117, *Oil and Gas Leasing Reform – Land Use Planning and Lease Parcel Reviews*. After the EA is complete, it and an unsigned FONSI, if appropriate, are made available to the public along with the proposed parcels list and applicable lease stipulations/notices for a 30-day public comment period on the BLM ePlanning NEPA Register (https://www.blm.gov/epl-front-office/eplanning). After the end of the public comment period, the BLM reviews the comments and, where appropriate, provides additional analysis and incorporates changes to the document and/or lease parcel list. A copy of the EA and unsigned FONSI, if appropriate, and the final parcel list with lease stipulations and notices is made available to the public through a Notice of Competitive Lease Sale which starts the protest period (30 days). The protest period ends 60 days before the scheduled lease sale. The UTSO resolves any protests within the 60 days between the end of the protest period and the lease sale, when possible. If any changes are needed to the parcels or lease stipulations/notices, an erratum is posted to the BLM Utah website to notify the public of the change.

The parcels would be available for sale at an oral auction to be held at the UTSO, which is tentatively scheduled for February 16, 2016. If a parcel of land is not purchased at the lease sale auction through competitive bidding, it may still be leased non-competitively during the two-year period following the lease sale auction.

Federal oil and gas leases are issued for a ten year primary term, after which the lease expires unless oil or gas is produced in paying quantities. A producing lease can be held indefinitely by economic production.

A lessee must submit an Application for Permit to Drill (APD) (Form 3160-3) to the BLM for approval and must possess an approved APD before any surface disturbances in preparation for drilling may occur on a lease. Any stipulations attached to the standard lease form must be complied with before an APD may be approved. Following BLM approval of an APD, a lessee may produce oil and gas in a manner approved by BLM in the APD or in subsequent sundry notices. The operator must notify the appropriate authorized officer before starting any surface disturbing activity approved in the APD.

The UTSO preliminary parcel list contained 13 parcels encompassing approximately 11,007 acres within the CCDO. As determined through the CCDO interdisciplinary parcel review (IDPR) team initial screening process for the preliminary parcels, six parcels consisting of approximately 2,885.78 acres are recommended for deferral. The reasons for deferral are:

1. Three parcels, UT0216-026, UT0216-037 and UT0216-038, are split-estate with the surface owned by the Navajo Nation and administered by the Bureau of Indian Affairs (BIA). In a letter received on August 7, 2015, the BIA and the Navajo Nation recommended that parcels UT0216-026, UT0216-037 and UT0216-038 be excluded (deferred) from the February 2016 lease sale.
2. Two parcels, UT0216-065 and UT0216-066, are located in Gunnison sage-grouse habitat. BLM WO IM 2014-100 requires that BLM defer leasing in occupied

habitat for Gunnison sage-grouse in order to avoid affecting future management decisions for the species. The Gunnison sage-grouse was listed as threatened by the U. S. Fish and Wildlife Service (USFWS) on November 20, 2014. The Monticello Field Office is currently participating in the Gunnison Sage-grouse Resource Management Plan Amendment Enviromnetal Impact Statement (EIS) process. This EIS will assess the impacts of various actions on the Gunnison sage-grouse and will determine whether or not Monticello's Resource Management Plan will be amended.

3. One parcel, UT0216-070, is located within the boundary of the San Juan Master Leasing Plan (MLP); therefore, parcel 070 is recommended for deferral. In accordance with current BLM leasing policy (WO IM No. 2010-117) and the *BLM Utah State Office Oil and Gas Leasing Reform Implementation Pla*n where MLPs are considered and determined to be necessary at this time, parcel-specific NEPA analysis will not be undertaken to consider EOIs and other proposals to lease

As a result of the initial screening process, all parcels within the MtFO are recommended for deferral. All remaining parcels recommended for lease sale are located within the MbFO.

This EA has been prepared to disclose and analyze the environmental consequences of leasing seven parcels (approximately 8,121.22 acres) located in the CCDO, MbFO. These parcels would be offered at a competitive oil and gas lease sale auction tentatively scheduled to occur on February 16, 2016. **Appendix A** contains the February 2016 lease sale parcel list and the applicable lease stipulations and lease notices for the parcels. **Appendix B** contains maps of the subject parcels. **Appendix C** contains the deferred parcel list.

The EA is being used to determine the necessary administrative actions, stipulations, lease notices, special conditions, or restrictions that would be made a part of an actual lease at the time of issuance. Continued interdisciplinary support and consideration would be required to ensure the on the ground implementation of planning objectives, including the proper implementation of stipulations, lease notices, and best management practices (BMPs) through the APD process.

1.3 Need for the Proposed Action

The parcels proposed for leasing were nominated by the public. The need for the lease sale is to respond to the nomination requests and meet the BLM's responsibilities under the MLA, FLPMA, FOOGLRA, as well as other applicable laws, regulations and policies. 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 sale of oil and gas leases is needed to meet the energy needs of the United States.

Utah is a major source of natural gas for heating and electrical energy production in the lower 48 states. The continued sale and issuance of lease parcels facilitates exploration

and production as oil and gas companies seek new areas for production or attempt to develop previously inaccessible or uneconomical reserves.

1.4 Purpose for the Proposed Action

The purpose for analyzing the subject parcels for potential leasing is to ensure that adequate provisions are included in the lease terms and lease stipulations and notices to protect public health and safety, and assure full compliance with the objectives of NEPA and other federal environmental laws and regulations designed to protect the environment and mandating multiple use of public lands. The BLM is required by law to review areas that have been nominated. Oil and gas leasing is a principal use of the public lands as identified in Section 102(a)(12), 103(1) of FLPMA, and it is conducted to meet requirements of the MLA, the Mining and Minerals Policy Act of 1970, and the FOOGLRA. Leases would be issued pursuant to 43 CFR 3100.

1.5 Conformance with BLM Land Use Plans

The Proposed Action alternative (See **Section 2.2** below) is in conformance with the MbFO Record of Decision and Resource Management Plan (ROD/RMP) (BLM, 2008a) because it is specifically provided for in the planning decisions. The No Action Alternative is not in conformance with the RMP because the lease parcels are in areas designated by the RMP as available for leasing subject to standard terms and conditions, controlled surface use, timing limitations, or no surface occupancy. The Proposed Action conforms to the following RMP decisions (Note: The appendices referenced in the following decisions are found in the RMP and are not the appendices found directly in this document).

1.5.1 Moab RMP Decisions

MIN-4 (page 73)

Leasable Minerals: Split-estate lands (private surface/Federal minerals) and lands administered by other Federal agencies are not managed by the BLM. The lands include about 29,678 acres of split-estate lands and the lands administered by the Manti-La Sal National Forest (141,241 acres). The surface owner or surface management agency (SMA) manages the surface. BLM administers the operational aspects of mineral leases. On lands administered by other Federal agencies, lease stipulations will include those required by the SMA. On 20,061 acres of split estate lands, the BLM will apply the same lease stipulations as those applied to surrounding lands with Federal surface. BLM will close or impose a no surface occupancy stipulation on 9,617 acres of split-estate lands (see Appendix A). Mitigation measures to protect other resource values will be developed during the appropriate site-specific environmental analysis and will be attached as conditions of approval to permits in consultation with the surface owner or SMA.

MIN-12 (page 75)

Leasable Minerals: The plan will recognize and be consistent with the National Energy Policy Act and related BLM policy by adopting the following objectives: recognizing the need for diversity in obtaining energy supplies; encouraging conservation of sensitive resource values; improving energy distribution opportunities.

MIN-13 (page 75)

Leasable Minerals: In accordance with an Utah Division of Environmental Quality-Division of Air Quality letter dated June 6, 2008 (See [RMP] Appendix J, Moab) requesting implementation of interim nitrogen oxide control measures for compressor engines; BLM will require the following as a Lease Stipulation and a Condition of Approval for Applications for Permit to Drill: (1) All new and replacement internal combustion oil and gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 grams of NOx per horsepower-hour. This requirement does not apply to oil and gas field engines of less than or equal to 40 design-rated horsepower; (2) All new and replacement internal combustion oil and gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 grams of NOx per horsepower-hour.

MIN-14 (page 75)

Leasable Minerals: Lease stipulations have been developed to mitigate the impacts of oil and gas activity (see Appendix A and Map 12). The stipulations adhere to the Uniform Format prepared by the Rocky Mountain Regional Coordinating Committee in March 1989. Stipulations reflect the minimum requirements necessary to accomplish the desired resource protection and contain provisions/criteria to allow for exception, waiver and modification if warranted. Stipulations would be determined unnecessary if duplicative of Section 6 of the Standard Lease Terms. The BLM has identified Land-Use Plan leasing allocations for all lands within the Moab Field Office. In addition, the Approved RMP describes specific lease stipulations and program related BMPs (both found in Appendix A: Stipulations and Environmental Best Practices Application to Oil and Gas Leasing and Other Surface Disturbing Activities) that apply to a variety of different resources.

MIN-19 (page76)

Leasable Minerals: Oil and Gas Leasing stipulations (see Map 12):

- Approximately 427,273 acres will be open to oil and gas leasing, subject to standard terms and conditions.
- Approximately 806,994 acres will be open to oil and gas leasing subject to controlled surface use (CSU) and timing limitation (TL) stipulations.
- Approximately 217,480 acres will be open to oil and gas leasing subject to a no surface occupancy (NSO) stipulation.
- Approximately 370,250 acres will be closed to oil and gas leasing, of which 25,306 acres are outside Wilderness or Wilderness Study Areas. About 25,306 acres are closed to oil and gas leasing because it is not reasonable to apply an NSO stipulation. This includes areas where the oil and gas resources are physically inaccessible by current directional drilling technology from outside the boundaries of the NSO areas. (These lands closed to oil and gas leasing will be managed to preclude all other surface-disturbing activities.) Should technology

change, a Plan Amendment will be initiated to place these 25,306 acres under an NSO stipulation for oil and gas leasing.

- In addition, 8,078 acres of Federal minerals (split-estate lands) will be managed as open to oil and gas leasing with an NSO stipulation, and 1,539 acres of Federal minerals (split-estate lands) will be closed to oil and gas leasing (see Appendix A).

The Proposed Action is consistent with the MbFO RMP and its leasable mineral decisions and the corresponding goals and objectives related to the management of the following resources, including but not limited to: air quality, cultural resources, recreation, riparian, soils, water, vegetation, fish & wildlife, BLM natural areas, lands with wilderness characteristics, 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, June 1988 or later edition). Although 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 unless it is leased under an NSO stipulation. Operations must be conducted in a manner that avoids unnecessary or undue degradation of the environment 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. Compliance with applicable statutes (laws) is included in the standard lease terms and would apply to all lands and operations that are part of all of the alternatives.

Nondiscretionary actions include the BLM's requirements under federal environmental protection laws, such as the Clean Water Act, Clean Air Act, Endangered Species Act (ESA), National Historic Preservation Act (NHPA), and FLPMA, which are applicable to all actions on federal lands even though they are not reflected in the oil and gas stipulations in the RMP and would be applied to all potential leases regardless of their category. Also included in all leases are the mandatory stipulations for the statutory protection of cultural resources (BLM WO IM-2005-03, Cultural Resources and Tribal Consultation for Fluid Minerals Leasing); and threatened or endangered species (BLM WO IM-2002-174, Endangered Species Act Section 7 Consultation).

This EA is tiered to and includes by reference the environmental impact analysis contained in the MbFO Proposed Resource Management Plan and Final Environmental Impact Statement (PRMP) (BLM, 2008b).

1.6 Relationship to Statutes, Regulations, or Other Plans

The Proposed Action is compliant with federal laws and regulations, Executive Orders, and Department of Interior and the BLM policies; and is consistent, to the maximum extent possible, with state, local and county laws, ordinances and plans, including the following:

- Federal Land Policy and Management Act (1976) as amended

- Taylor Grazing Act (1934) as amended
- Utah Standards and Guidelines for Rangeland Health (1997)
- BLM Utah Riparian Management Policy (2005)
- National Historic Preservation Act (1966) as amended
- Bald and Golden Eagle Protection Act (1962)
- Endangered Species Act (1973) as amended
- BLM Manual 6840-Special Status Species Management
- Migratory Bird Treaty Act (1918)
- Utah Partners in Flight Avian Conservation Strategy Version 2.0 (Parrish et al., 2002)
- Birds of Conservation Concern 2008 (USFWS, 2008)
- Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds
- MOU between the BLM and USFWS to Promote the Conservation and Management of Migratory Birds (April 2010)
- Grand County General Plan Update (2004)
- San Juan County Master Plan, as revised
- Cane Creek Modeling Report (Golder, 2010)
- MOU Among the USDA, USDI and EPA Regarding Air Quality Analysis and Mitigation for Federal Oil and Gas Decisions Through the NEPA Process (2011)
- Oil and Gas Leasing Reform – Land Use Planning and Lease Parcel Reviews (BLM WO IM 2010-117)
- National Trails System Act of 1968
- Utah Energy Zone Legislation, March 23, 2015 – establishes eastern San Juan County as an energy zone.

These documents and their associated analysis and/or information are hereby incorporated by reference, based on their use and consideration by various authors of this EA. The attached interdisciplinary (ID) team checklist, **Appendix D**, was developed after consideration of these documents and their contents. Each of these documents is available for review upon request from the MbFO or the MtFO. Utah's Standards for Rangeland Health address upland soils, riparian/wetlands, desired and native species and water quality. These resources are either analyzed later in this document or, if not impacted, are also listed in **Appendix D**.

1.6 Documents Incorporated by Reference:

In order to reduce redundant paperwork and analysis in the NEPA process (*See* 40 CFR §§ 1502.20 and 1502.2) the following documents and their associated information or analysis are hereby incorporated by reference. The FEISs in Section 1.61 have associated RODs that explicitly apply to the proposed action, and this EA is tiered to those documents.

1.61 EISs

- Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (BLM, 2007)
- Bureau of Land Management, 2008b. Moab Field Office Proposed Resource Management Plan and Final Environmental Impact Statement (FEIS), (BLM 2008).
- Utah Greater Sage Grouse Proposed Land Use Plan Amendment and Final Environmental Impact Statement (BLM 2015)

1.62 Other Documents

- Final Vegetation Treatments on BLM Lands in 17 Western States Programmatic Environmental Report. (BLM, 2007b)

The attached Interdisciplinary Team Checklists, Appendix C, was also developed after consideration of these documents and their content. These resources are either analyzed later in this document or, if not impacted, are also listed in Appendix C.

1.7 Identification of Issues

The Proposed Action was reviewed by the IDPR team composed of resource specialists from the MtFO and the MbFO. Issuing oil and gas leases for the parcels offered at a lease sale would have no environmental consequences as the act of leasing is an administrative action only with no associated on-the-ground activity. The determination and rationale for determination in the ID team checklist relate only to the part of the Proposed Action regarding the construction, drilling, completion, testing, production and reclamation of oil and gas wells as described in the Proposed Action and subject to lease stipulations and lease notices required by the MbFO RMP.

The IDPR teams identified resources in the parcel areas which might be affected and considered potential impacts using personal knowledge of the CCDO area, current office records, geographic information system data, and field visits to the subject parcels by members of the MbFO and MtFO IDPR teams.

On June 9 and 10, 2015, the MbFO specialists conducted field visits to parcels UT0216-001 through UT0216-005, and parcels UT0216-063 and UT0216-064. The MtFO specialists conducted site visits to parcels UT0216-026, UT0216-037, and UT0216-038 on June 25, 2015. Based on observations during these visits, the ground conditions have not changed since the RMP; therefore, the stipulations in the RMP are valid. Field reports and photos of the site visits are available and on file in the MbFO.

As previously stated, all parcels within the MtFO are recommended for deferral; therefore, there would be no resources or issues with potential for relevant impacts. Internal scoping by the MbFO IDPR team identified the following resources as present with potential for relevant impact, requiring detailed analysis in the EA:

- Air Quality
- Greenhouse gas emissions/Climate Change
- Lands with Wilderness Character
- Migratory Birds including Raptors

All other resources were considered but eliminated from further analysis by resource specialist's determinations of "not present in the area" or "present, but not affected to a degree that detailed analysis is required." Resource issues were eliminated from analysis because they were either not applicable to the lands considered in the Proposed Action or the reviewing specialists did not consider the Proposed Action to represent a potential impact to these issues. These determinations were based upon knowing that the parcels would be subject to applicable leasing protective measures provided through the standard lease terms, the MbFO RMP, standard operating procedures required by regulation, and BMPs typically contained in an APD or attached to an approved APD as conditions of approval (COAs). The ID team checklist with the determinations and rationales are contained in **Appendix D**.

On May 21, 2015, the UTSO sent notification to the U. S. Forest Service, USFWS, National Park Service (NPS), BIA – Navajo Regional Office, State of Utah Public Lands Policy Coordination Office, State of Utah Institutional Trust Lands, and Utah Division of Wildlife to notify them of the pending lease sale and to solicit their comments and concerns.

Public notification was initiated by entering the project information on the BLM ePlanning NEPA Register (https://www.blm.gov/epl-front-office/eplanning) on May 28, 2015. Additional information for the public is maintained on the Utah BLM Oil and Gas Leasing Webpage (http://www.blm.gov/ut/st/en/prog/energy/oil_and_gas/oil_and_gas_

lease.html).

The BLM also submitted a press release to the Moab *Times Independent* and the Monticello *San Juan Record* newspapers, which were published on June 4, 2015 and June 3, 2015, respectively, to notify the public of a 30-day scoping period for the EA. The public scoping period ended on June 27, 2015.

On May 22, 2015, 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 following resource issues of concern:

- Air quality
- Cultural resources

- Surface water quality
- Lands with wilderness characteristics
- Gunnison sage-grouse critical habitat
- Wildlife resources
- NEPA process
- Policy requirements (WO IM 2010-117) for the BLM's oil and gas leasing process.

Refer to **Appendix E** for comments submitted from stakeholders. Refer to **Appendix F**, Public Participation for a comments/issues response table. All of the issues raised by the public were considered during the internal IDPR team review. 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.

1.8 Summary

This chapter has presented the purpose and need of the proposed project, as well as the relevant issues, i.e., those elements of the human environment that could be affected by the implementation of the proposed project. In order to meet the purpose and need of the proposed project in a way that resolves the issues, the BLM has considered and/or developed a range of action 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.

2.0 DESCRIPTION OF ALTERNATIVES, INCLUDING PROPOSED ACTION

2.1 Introduction

This EA focuses on the Proposed Action and No Action Alternative. Other alternatives were not considered because the issues identified during scoping did not indicate a need for additional alternatives or mitigation beyond those contained in the Proposed Action.

2.2 Alternative A – Proposed Action

Thirteen (13) lease parcels (approximately 11,007 acres) were originally included on the preliminary list of parcels proposed for inclusion in the February 2016 Competitive Oil and Gas Lease Sale. Under the Proposed Action (Alternative A), seven (7) parcels containing approximately 8,121.22 acres would be offered for lease in February 2016. Six (6) parcels totaling approximately 2,885.78 acres are recommended for deferral. The reasons for deferral are:

- Three parcels, UT0216-026, UT0216-037 and UT0216-038, are split-estate with the surface owned by the Navajo Nation and administered by the BIA. In a letter received on August 7, 2015, the BIA and the Navajo Nation recommended that parcels UT0216-026, UT0216-037 and UT0216-038 be excluded (deferred) from the February 2016 lease sale.
- Two parcels, UT0216-065 and UT0216-066, occur within USFWS cirtical Gunnison sage-grouse habitat.
- One parcel, UT0216-070, is located within the boundary of the San Juan MLP.

Refer to **Appendix C** for a listing with legal descriptions of the location of the parcels recommended for deferral.

The following tables depict the acreage to be offered and the acreage recommended for deferral at the February 2016 lease sale.

Table 2-1: Canyon Country District Summary

Office	Total Parcel Acreage	Acreage Offered	Acreage Deferred
Monticello FO	2,885.78	0	2,885.78
Moab FO	8,121.22	8,121.22	0
Canyon Country District Total	**13 parcels for 11,007.00 acres**	**7 parcels for 8,121.22 acres**	**6 parcels for 2,885.78 acres**

Table 2-2: Moab Field Office Detail

Parcel #	Total Acreage	Acreage Offered	Acreage Deferred	Deferral Reason
001	271.20	271.20	0	

Parcel #	Total Acreage	Acreage Offered	Acreage Deferred	Deferral Reason
002	2,161.48	2,161.48	0	
003	1,400.00	1,400.00	0	
004	799.83	799.83	0	
005	680.00	680.00	0	
063	1,280.00	1,280.00	0	
064	1,528.71	1,528.71	0	
Totals	**7 parcels for 8,121.22 acres**	**7 parcels for 8,121.22 acres**	**None**	

Table 2-3: Monticello Field Office Detail

Parcel #	Total Acreage	Acreage Offered	Acreage Deferred	Deferral Reason
026	356.52	0	356.52	BIA/Navajo Nation Surface Ownership
037	640.00	0	640.00	BIA/Navajo Nation Surface Ownership
038	799.31	0	799.31	BIA/Navajo Nation Surface Ownership
065	671.33	0	671.33	Gunnison sage-grouse habitat
066	228.62	0	228.62	Gunnison sage-grouse habitat
070	190.00	0	190.00	Within the San Juan MLP Boundary
Totals	**6 parcels for 2,885.78 acres**	**None**	**6 parcels for 2,885.78 acres**	

The nominated parcels would be offered with stipulations and lease notices as specified in the MbFO RMP (BLM, 2008a) and identified by the resource specialists in the Interdisciplinary Checklist as applicable to each specific parcel, or as developed through this EA analysis. Legal descriptions of and stipulations and lease notices for each nominated parcel can be found in **Appendix A** and maps of the nominated 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 NSO stipulation. Potential oil and gas exploration and production activities, committed to in a lease sale, could impact other 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.

Standard lease terms would be attached to all issued leases. These 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, June 1988 or later edition). 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 lease stipulations; however, operations must be conducted in a manner that avoids unnecessary or undue degradation of the environment 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.

Compliance with applicable statutes (laws) is included in the standard lease terms and would apply to all lands and operations that are part of all of the alternatives. Nondiscretionary actions include the BLM's requirements under federal environmental protection laws, such as the Clean Water Act, Clean Air Act, ESA, NHPA, and FLPMA, which are applicable to all actions on federal lands even though they are not reflected in the oil and gas stipulations in the field office RMP and would be applied to all potential leases regardless of their category. Also included in all leases are mandatory stipulations for the statutory protection of cultural resources (WO IM-2005-03, Cultural Resources and Tribal Consultation for Fluid Minerals Leasing); and threatened or endangered species (WO IM-2002-174, Endangered Species Act Section 7 Consultation).

BLM would also encourage industry to consider participating in EPA's Natural Gas STAR program. The program is a flexible, voluntary partnership between EPA and the oil and natural gas industry 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.

All operations would be conducted in accordance with standard operating procedures required by regulation (43 CFR 3000 and 3160) and the "Gold Book", *Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development.* The Gold Book was developed to assist operators by providing information 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, measures designed to provide for safe and efficient operations while minimizing undesirable impacts to the environment.

Reasonably Foreseeable Development Scenario for Oil and Gas Resources

At this time it is unknown when, where, or if future oil and gas exploration and development might be proposed on any leased parcel. Should a lease be issued, site

specific analysis of individual wells, roads, pipelines and/or other facilities would occur when a lease holder submits an APD. For the purposes of this analysis, the BLM assumed oil and gas development would continue to occur as predicted in the Moab planning area "Reasonably Foreseeable Development Scenario (RFD) for Oil and Gas" (McClure, Nothrup, Fouts, 2005); and oil and gas development would occur proportionate to acres of oil and gas leases authorized. The acreage of the February 2016 oil and gas lease parcels was compared to existing authorized oil and gas leases in order to estimate the percentage attributable to the February 2016 lease parcels. These figures are subsequently described.

Moab Field Office Area

The MbFO RFD was prepared for the Moab planning area to predict the level of oil and gas development over the next 15 years for the purpose of analyzing impacts from oil and gas development to other resources in the MbFO PRMP. The RFD predicted:

- Assumptions:
  - BLM lands in the RFD include BLM surface and split estate (private, State of Utah) lands with federal oil and gas mineral estate.
  - The RFD projections are based in part on past leasing and drilling activity.
  - Drilling activity will occur on lands with authorized oil and gas leases.
  - Drilling activity and surface disturbance from the Proposed Action will be proportionate based on the acreage of the Proposed Action and current authorized lease acreage.
  - Drilling activity and surface disturbance resulting from the February 2016 lease sale would consist of oil and gas exploration and development that would occur over a 10 year period (period of a lease not held by production).
- BLM lands available for oil and gas leasing and development are 68% (MbFO RFD, pg. 3) of the total acreage available to oil and gas leasing and development in the RFD area.
- Over the next 15 years, 600 wells would be drilled on all lands within the Moab planning area (MbFO RFD modification).
- Sixty eight percent of 600 wells would be 408 wells drilled on BLM lands over the next 15 years.
- Each well and associated roads and pipelines would result in approximately 15 acres of surface disturbance (MbFO RFD, pg. 1).
- Over the next 15 years, new oil and gas exploration and development activities would cause surface disturbance of 6,120 acres on BLM lands (408 wells × 15 acres/well = 6,120 acres).
- Annual surface disturbance = 408 acres (6,120 acres ÷ 15 years = 408 acres surface disturbance per year).

Currently in the MbFO:

- There are approximately 653,753 acres under authorized oil and gas lease at the present time (June 2015).
- The MbFO February 2016 lease parcels total approximately 8,121.22 acres.
- If all offered parcels were sold and leases issued, the February 2016 leases would amount to 1% of the acreage of the total leased area in the MbFO (653,753 + 8,121 = 661,874; 8,121 ÷ 661,874 = 1.22 or ≈1%).
- Predicted surface disturbance from the February 2016 leases is approximately 40 acres for the 10 year period (408 acres × 1% ≈ 4 acres ×10 years = 40 acres of surface disturbance over 10 years).
- Predicted wells from the February 2016 lease sale is approximately 3 wells for the 10 year period (408 wells ÷ 15 years = 27.2 wells per year × 1% ≈ 0.272 wells per year × 10 years = 2.72 or ≈ 3 wells for the 10 year period).

The 40 acres of surface disturbance estimated to result from exploration, development and production activities resulting from the proposed lease sale amounts to 0.49% of the acreage included in the lease sale (40 acres of surface disturbance ÷ 8,121 acres in lease sale = 0.49%).

The following sections provide a general discussion of possible post-leasing RFD activities. All of these activities would require additional NEPA review.

2.2.1 Well Pad and Road Construction

Equipment for road and well pad construction would include dozers, scrapers, graders, and trackhoes/backhoes. Topsoil, to the extent available, would be salvaged from all disturbed areas and reserved for interim and final reclamation purposes. The size of a well pad would vary but would average approximately 350 feet by 350 feet plus additional area required for cut and fill slopes, stockpiles of topsoil and spoil, and equipment operation.

Depending on the locations of the proposed wells, it is anticipated that some new or upgraded access roads would be required to access well pads and maintain production facilities. Any new roads constructed for the purposes of oil and gas exploration drilling would be constructed in a manner that would minimize surface disturbance to that which is necessary to provide safe access. When drilling is successful and a well goes into production, the access road would be upgraded for year-round operation of the well and maintenance of the facilities. With few exceptions, the road would remain open to other land users. New roads or upgrades to existing roads would be constructed to the appropriate standard as required by BLM Manual 9113. Roads accessing oil and gas well locations are generally constructed to the “resource” road standard requiring a 14-foot driving width, a 35 to 45-foot construction disturbance width, properly drained and appropriately surfaced. The BLM may, at its discretion, adopt roads constructed for oil and gas exploration and development into its transportation plan. When a well is plugged

and abandoned, the access road would be reclaimed by the operator unless the BLM has included the road in its transportation plan.

2.2.2 Well Drilling and Completion Operations

Drilling would be accomplished by using a conventional rotary drilling rig. A drilling plan is included in every APD and is subject to review by a BLM engineer for compliance with Onshore Order No. 2, Drilling Operations. Onshore Order No. 2 includes requirements for the design of well casing, cementing and testing to insure the integrity of the well bore. After review, the engineer may determine that additional COAs are required to supplement the drilling plan. Transporting drilling equipment and materials to the well pad may require 10 to 40 truckloads. Additionally, six to 10 smaller vehicles would be used to transport drilling personnel and other support services. Drilling operations typically continue 24 hours a day.

Water trucks would be used daily to supply water during drilling and, if necessary, completion operations. Water to drill and complete a well would be hauled from a permitted source. A reserve pit may be constructed on the location to contain drill cuttings and produced fluids. Operators are, with increasing frequency, proposing closed loop drilling mud systems as a best management practice to eliminate the need for a reserve pit. Also, the BLM may require, through a condisiotn of approval applied to the APD, an operator to use a closed loop drilling system if analysis at the APD stage supports this. Drill cuttings would be contained on location during drilling operations, and depending on a variety of conditions including surface geology and drill fluid and drill cuttings composition; cutting would be disposed of on location as part of the interim reclamation program or would be transported to an approved disposal facility. Drilling mud could be recycled or hauled to an approved disposal facility. When drilling operations are complete the reserve pit would be fenced and netted to prevent birds and small animals from gaining access to and becoming trapped in the contents of the pit.

Hydraulic Fracturing

Hydraulic fracturing (HF) is a well stimulation technique used to increase oil and gas production from underground rock formations. As summarized below, HF technology is not used on all wells drilled in the CCDO. As a result, HF will 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 CCDO.

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. 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. However, along with the production increase, HF activities are suspected of causing contamination of fresh water by creating fluid communication between oil and gas reservoirs and aquifers. The EPA is currently conducting an assessment of HF on drinking water resources (http://cfpub.epa.gov/ncea/hfstudy/recordisplay.cfm?deid=244651).

There are presently no unconventional reservoirs in the CCDO that are being exploited using high-volume water based HF techniques.

Oil and Gas Fields

Oil and gas fields within the CCDO represent a variety of different geologic and production characteristics. These characteristics, specific to a given oil or gas field, influence how operators drill, complete, and produce wells in that field. Historically, most wells in the area have been vertically drilled, targeting "conventional" sandstone and carbonate (limestone or dolomite) formations. "Conventional" in this usage means geologic formations that possess porosity (i.e. space that oil and gas can occupy) and permeability (connected passages through which oil and gas can move). These characteristics are necessary for oil and gas to flow from the formation into a well bore in sufficient volume to be economically produced. HF has long been used to enhance porosity and permeability in conventional reservoirs, and its use is expected to continue with little change.

In the past 25 years, horizontal drilling into the "unconventional" clastic cycles of the Paradox Formation, such as the Cane Creek shale zone, have been actively pursued because of the potential to produce tremendous volumes of oil and associated gas. Although the Cane Creek zone is shale, and therefore an unconventional reservoir, operators rely on its natural fractures to provide the pathway allowing oil and gas to flow into the wellbore. Wells are typically drilled horizontally thorough the Cane Creek zone in a direction perpendicular to the expected orientation of the natural fractures. This increases the likelihood of the wellbore intercepting a fracture, or perhaps a series of fractures, which is essential to drilling a productive well.

Because of the reliance on natural fractures to convey oil and gas, and due to other geologic considerations, wells completed in the Cane Creek zone are rarely stimulated using HF. HF poses a risk of damaging the wells productivity by fracturing into the salts that bound the thin shale reservoir, and allowing salt to invade and seal natural fractures and the well. Consequently, HF activities would be limited in size and would be

performed only on wells with little production potential. Because HF has only recently been used in this type of reservoir, its effectiveness is not yet known.

Another unconventional reservoir that could be targeted in the future is the Mancos Shale which crops-out across the Cisco desert and extends under the Bookcliffs to the north. A few vertical wells within the CCDO produce oil from the Mancos Shale, but to date it has not been an attractive target locally. Nevertheless, it is a thick and laterally extensive carbonaceous shale that is similar in many ways to unconventional reservoirs that are being exploited elsewhere in the country.

Well Construction

Compliance with Onshore Order No. 2 assures that wells are appropriately designed and drilled. In addition, the State of Utah regulates drilling and operating practices under Utah Administrative Code R649-3 and HF activities are specifically addressed in R649-3-39. Well construction—casing and cement design—are tailored to the geologic characteristics of the area, and are designed to provide effective isolation of groundwater and mineral deposits, to control formation pressures that may be encountered, and to provide a single pathway for oil and gas to be produced to the surface.

To ensure the effective isolation of any potentially usable groundwater aquifer, a continuous string of steel pipe (or "casing") known as the "surface" casing is placed in the well, extending from the surface to at least 50 feet below the bottom of the aquifer. The entire length of that casing string is then cemented into place. The casing is then pressure tested to ensure there are no leaks before deeper drilling resumes.

After drilling deeper, a second string of casing known as "intermediate" casing could be run, if needed, to isolate water flows, high-pressure zones or lost circulation zones. Intermediate casing is typically cemented along its entire length, back to surface. Whether an intermediate casing string will be run is typically known and planned for prior to drilling.

Drilling then continues to the wells planned total depth. If indications of the wells productivity are positive, another string of steel "production" casing would be run and cemented into place. A sufficient volume of cement would be used to extend above any potentially productive zone to ensure that, following completion of the well, produced fluids can only flow into the cased well.

2.2.3 Production Operations

If wells were to go into production, facilities would typically be located on the well pad and would require no additional surface disturbance. The production facility for natural gas within the CCDO, typically consist of a well head, separator, dehydrator, meter house and sometimes tank storage with a truck load-out for produced water and a pump jack are necessary. A gas well location may also include a flare that would be used during well maintenance. A typical production facility for an oil well in the CCDO consists of a pump jack, storage tanks with truck load-out for oil and produced wate. In some instances where production from a well is both oil and gas, the facilities noted for both oil and gas wells would be located on the well pad.

All permanent surface structures would be painted a flat, non-reflective color (e.g., juniper green) 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 would be excluded from painting color requirements.

If oil is produced, the oil would be stored on location in tanks and transported off lease by truck to market. The volume of tanker truck traffic for oil production would be dependent upon production of the wells.

If natural gas is produced, construction of a gas sales pipeline would be necessary to transport the gas to market. An additional Sundry Notice, right of way and NEPA analysis would be completed, as needed, for any pipelines and/or other production facilities proposed upon public lands. BMPs, such as burying the pipeline or installing the pipeline within the road, would be considered at the time of the proposal.

Interim reclamation would be conducted on areas of the well pad, access roads, and pipelines not needed for production operations, as specified in the approved APD. The following sequence is typical of interim reclamation:

1. Pits used for drilling and completion activities would be properly closed. The well pad would be reduced to the minimum area necessary to safely conduct production operations. All other areas would be subject to interim reclamation which would include re-contouring, spreading of top soil, seedbed preparation, and seeding a seed mix appropriate to the site.
2. Access roads to the well pad would be reclaimed back to the driving surface.
3. Trees cleared during site preparation and large rocks excavated during construction would be scattered across the interim reclamation area.

The goal of interim reclamation is to achieve, to the extent possible, final reclamation standards including re-contouring to achieve the original contour and grade, or a contour that blends with the surrounding topography; and the establishment of a self-sustaining, vigorous native and/or desirable vegetation community with a density sufficient to provide a stable soil surface.

2.2.4 Produced Water Handling

Water is often associated with either produced oil or natural gas. Water is separated out of the production stream and, for a newly completed well, can be temporarily disposed of in the reserve pit for 90 days. Permanent disposal options include discharge to evaporation pits or underground injection. Disposal of produced water is regulated by Onshore Order No. 7.

2.2.5 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 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.

2.2.6 Plugging and Abandonment

If a 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 in accordance with procedures contained in Onshore Order No. 2 and approved by a BLM Petroleum Engineer. All fluids in the reserve pit would be allowed to dry or removed and disposed of in accordance with applicable regulations. All equipment would be removed from the location and the well pad, access roads and pipelines would be subject to final reclamation. The following sequence is typical of final reclamation:

1. In accordance with Onshore Order No. 1, earthwork for interim and/or final reclamation, including pit closure, shall be completed within six months of well completion or abandonment.
2. All weather surfacing material would be removed.
3. As appropriate, top soil would be salvaged and reserved for final reclamation.
4. Re-contouring, spreading of salvaged top soil, seed bed preparation, seeding, and scattering trees (woody debris) would be conducted all areas disturbed by well pads, access roads, and pipelines.

The goal of final reclamation is to restore all areas of the well pad and access roads to the original land form or a land form the blends with the surrounding landform, and the establishment of a self-sustaining, vigorous, diverse native and/or desirable vegetation community with a density sufficient to provide a stable soil surface and inhibit non-native plant invasion (Gold Book, 4th Edition, pg.43).

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 the February 2016 lease sale would occur.

3.0 AFFECTED ENVIRONMENT

3.1 Introduction

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 ID team checklist found in **Appendix D** and presented in **Chapter 1** of this assessment. This chapter provides the baseline for comparison of impacts/consequences described in **Chapter 4**.

3.2 General Setting

Refer to **Appendix B** for maps showing the location of the parcels. The lease parcels include BLM-managed surface and minerals.

Parcels UT0216-001 through UT0216-005 are located within a 5-mile radius of Crescent Junction, Utah and the intersection of Interstate Highway 70 and State Highway 191. Elevation ranges from 4,500 feet to 6,000 feet. Vegetation in this area varies from salt desert shrub at the lower elevations and transitions to pinyon – juniper woodland at the higher elevations. The landscape varies from open, gently rolling terrain to very steep hillsides and vertical escarpments.

Parcels UT0216-063 and UT0216-064 are located in Lisbon Valley, approximately 15 miles southeast of La Sal, Utah and approximately 4 miles west of the Utah/Colorado border. Vegetation in this area varies from a desert shrub/grass to pinyon – juniper woodland. Elevation ranges from 6,200 feet to 6,800 feet. The landscape varies from open, gently rolling terrain to very steep hillsides and vertical escarpments.

3.3 Resources Brought Forward for Analysis

3.3.1 Air Quality

Air quality is affected by various natural and anthropogenic factors. Industrial sources such as power plants, mines, and oil and gas extraction activities in the Four Corners region contribute to local and regional air pollution. Urbanization and tourism create emissions that affect air quality over a wide area. Air pollutants generated by motor vehicles include tailpipe emissions and dust from travel over dry, unpaved road surfaces. Wildfires and controlled burns produce smoke that can affect communities and other sensitive areas. Strong winds, especially during the spring months can generate substantial amounts of windblown dust.

Air pollution emissions are characterized as point, area, or mobile. Point sources are large, stationary facilities such as power plants and manufacturing facilities and are accounted for on a facility by facility basis. Area sources are smaller stationary sources and, due to their greater number, are accounted for by classes. Production emissions from an oil and gas well and dust from construction of a well pad would be considered area source emissions. Mobile sources consist of non-stationary sources such as cars and trucks. Mobile emissions are further divided into on-road and off-road sources. Engine exhaust from truck traffic to and from oil and gas locations would be considered on-road

mobile emissions. Engine exhaust from drilling operations would be considered off road mobile emissions.

The Clean Air Act required the Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The Utah Division of Air Quality (UDAQ) is responsible to ensure compliance with the NAAQS within the state of Utah. **Table 3-1** shows NAAQS for the EPA designated criteria pollutants (EPA 2008).

Table 3-1: National Ambient Air Quality Standards

Pollutant	Primary Standards Level	Primary Standards Averaging Time	Secondary Standards Level	Secondary Standards Averaging Time
Carbon Monoxide (CO)	9 ppm (10 mg/m^3)	8-hour [(1)]	None	None
Carbon Monoxide (CO)	35 ppm (40 mg/m^3)	1-hour [(1)]	None	None
Lead (Pb)	0.15 µg/m^3 [(2)]	Rolling 3-Month Average	Same as Primary	Same as Primary
Lead (Pb)	1.5 µg/m^3	Quarterly Average	Same as Primary	Same as Primary
Nitrogen Dioxide (NOx)	0.053 ppm (100 µg/m^3)	Annual (Arithmetic Mean)	Same as Primary	Same as Primary
Nitrogen Dioxide (NOx)	100 ppb	1-hour	Same as Primary	Same as Primary
Particulate Matter (PM_{10})	150 µg/m^3	24-hour [(3)]	Same as Primary	Same as Primary
Particulate Matter ($PM_{2.5}$)	15.0 µg/m^3	Annual [(4)] (Arithmetic Mean)	Same as Primary	Same as Primary
Particulate Matter ($PM_{2.5}$)	35 µg/m^3	24-hour [(5)]	Same as Primary	Same as Primary
Ozone (O_3)	0.075 ppm (2008 std)	8-hour [(6)]	Same as Primary	Same as Primary
Sulfur Dioxide (SO_2)	0.03 ppm	Annual (Arithmetic Mean)	0.5 ppm (1300 µg/m^3)	3-hour [(1)]
Sulfur Dioxide (SO_2)	0.14 ppm	24-hour [(1)]	0.5 ppm (1300 µg/m^3)	3-hour [(1)]
Sulfur Dioxide (SO_2)	75 ppb	1-hour [(1)]	None	None

Table Notes:

(1) Not to be exceeded more than once per year.
(2) Final rule signed October 15, 2008.
(3) Not to be exceeded more than once per year on average over 3 years.
(4) To attain this standard, the 3-year average of the weighted annual mean PM2.5 concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m3.
(5) To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m3 (effective December 17, 2006).
(6) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm. (effective May 27, 2008).

Air Quality Related Value (AQRV) is a resource that may be affected by a change in air quality. Under the Clean Air Act, the Federal official with direct responsibility for management of Federal Class I parks and wilderness areas have an affirmative responsibility to protect the AQRV, including visibility, of such lands, and to consider whether a proposed major emitting facility will have an adverse impact on such values (U.S. Forest Service, 2010). As authorized under the Clean Air Act, AQRV applies only to major sources of pollutants. An oil and gas exploration and development would be

considered a minor source of pollutants. AQRV is included in this EA for NEPA analysis purposes.

Canyonlands National Park is the nearest Class I area with the potential to be affected by the Proposed Action. The closest parcels are located approximately 20 to 30 miles east of the Park. AQRV in Canyonlands National Park are statistically acceptable and good for most monitored pollutants. Canyonlands shares similar traits with regional issues or is better than its surroundings in many cases. The only pollutant of concern is ammonium concentrations in precipitation. This has been increasing in trends for all states west of Texas. Other regional concerns are elevated levels of ozone but this, again, is found similarly to the west. Large cities, shipping lanes, and forest fires add to the cumulative mechanisms for ozone formation. All other AQRV's that the Canyonlands National Park clearly summarize the steady or decreasing level of monitored values.

The Summary of Regional Conditions (**Table 3-2**) shows the trends best. Annual Deciview is becoming clearer when averaged over the years, and wet deposition, which are a major factor from boundary condition sources, show no increase or decrease besides ammonium. Ammonium atmospheric deposition should be the only concern and this is a transport issue and seen increasing in the west compared to other National Park trends.

Table 3-2: Summary of Regional Conditions

	Visibility	Visibility	Nitrogen Deposition	Nitrogen Deposition	Sulfur Deposition	Sulfur Deposition	Ozone	Ozone
Park	**Condition**	**Trend**	**Condition**	**Trend**	**Condition**	**Trend**	**Condition**	**Trend**
Arches	Moderate	None	Significant Concern		Good		Moderate	
Bryce Canyon	Moderate	None	Moderate	None	Good	None	Moderate	
Capitol Reef	Moderate	None	Moderate		Good		Moderate	
Canyonlands	Moderate	None	Moderate	None	Good	None	Moderate	None
Glen Canyon	Moderate	None	Good		Good		Moderate	
Grand Canyon	Moderate	None	Significant Concern	None	Moderate	None	Moderate	None
Grand Teton	Moderate	None	Significant Concern		Significant Concern		Moderate	
Great Basin	Moderate	None	Significant Concern	None	Significant Concern	None	Moderate	None
Mesa Verde	Moderate	None	Moderate	None	Moderate	None	Moderate	None
Timpanogos Cave	Moderate		Moderate		Moderate		Significant Concern	Improving
Yellowstone	Moderate	None	Significant Concern	None	Moderate	None	Moderate	None
Zion	Moderate	None	Moderate		Good		Moderate	None

More information on National Park AQRV Trends can be found here: http://nature.nps.gov/air/who/npsPerfMeasures.cfm (NPS, 2013).

Regional ozone concentrations are of concern in the lease area. Ozone monitoring data collected at Canyonlands National Park (see **Figure 1** below) demonstrates that the area encompassing the February 2016 lease sale is approaching the current 8-hour NAAQS of 75 parts per billion (ppb) for ozone. **Figure 1** below shows ozone trends at the Canyonlands monitoring site expressed in terms of the 4th maximum 8-hour value, the primary health-based standard, as well as the W-126 values, which represent a weighted

average that is biologically relevant for evaluating impacts to sensitive vegetation. Studies show that some types of vegetation are more sensitive to the deleterious effects of ozone than humans are, and can exhibit injury or harm at ozone concentrations lower than the current primary ozone standard. While Canyonlands and Arches have plant species known to be sensitive to ozone such as serviceberry (*Amelanchier* sp.), Goodding's willow (*Salix gooddingii*), and skunkbush (*Rhus aromatica*)[1], no in-park surveys have been completed that document ozone injury. In general, risk to vegetation from ozone injury may be low due to climatic conditions (i.e. low soil moisture); however, vegetation in riparian areas may be vulnerable.

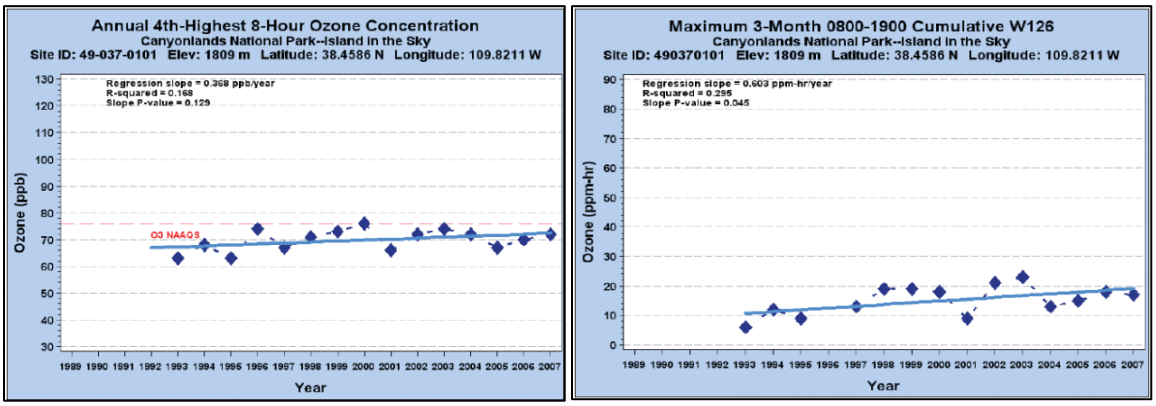

Figure 1. Trends in the annual 4th highest 8-hr ozone concentration (current primary standard, top panel) and the cumulative W126 ozone metric measured at Canyonlands National Park, Island in the Sky. Data excerpted from Perkins 2010.

The UDAQ issued the Division of Air Quality 2014 Annual Report (UDAQ, 2014) that includes information on areas of the state where monitoring data shows that levels of criteria pollutants exceed NAAQS. These areas are referred to as non-attainment areas. At present, San Juan and Grand Counties are considered in attainment or unclassified for all criteria pollutants. An "unclassified" designation indicates that sufficient air monitoring is not available to make a determination as to attainment status. For regulatory purposes, an unclassified county is considered the same as attainment. The UDAQ 2014 annual report also includes an emissions inventory (conducted in 2011) by county which includes pollutants released by all emissions sources in the state. **Table 3-3** shows the emissions inventory for San Juan and Grand Counties in tons per year (tpy).

[1] A complete list of ozone sensitive species by park is available at http://www.nature.nps.gov/air/permits/aris/networks/ozonerisk.cfm.

Table 3-3: Emissions Inventory (2011)

Pollutant	San Juan County	Grand County
PM_{10}	5,917	647
$PM_{2.5}$	1,467	356
SOx	57	24
NOx	1,591	2,213
VOC	65,357	36,703
CO	19,324	13,883

Although not listed as a NAAQS criteria pollutant, volatile organic compounds (VOCs) are also considered in this EA as they, along with NOx, are precursors to the formation of ozone and are listed by UDAQ as a pollutant that, if the threshold is exceeded, would require an approval order.

This EA addresses mobile off road engine exhaust emissions from drilling activities, venting and flaring emissions from completion and testing activities, emissions from ongoing production activities, and fugitive dust emissions, specifically, emissions of total particulate matter of less than 10 micrometers (PM_{10}) from heavy construction operations. PM_{10} emissions are converted from total suspended particulates by applying a conversion factor of 25%. $PM_{2.5}$ is not specifically addressed as it is included as a component of PM_{10}. This EA does not consider mobile emissions as they are dispersed, sporadic, temporary, and not likely to cause or contribute to an exceedance of the NAAQS.

3.3.2 Greenhouse Gas/Climate Change

According to National Oceanic and Atmospheric Administration (NOAA) and National Aeronautic and Space Administration (NASA) data, Earth's average surface temperature has increased by approximately 1.2 to 1.4 ºF in the last 100 years. The 8 warmest years on record (since 1850) have all occurred since 1998, with the warmest year being 2005. Most of the warming in recent decades is very likely the result of human activities. The past 18 years have had negligible increase in maximum temperature even though they have been some of the hottest in the continental US. Equilibrium climate sensitivity quantifies the response of the climate system to constant radiative forcing on multicentury time scales. It is defined as the change in global mean surface temperature at equilibrium that is caused by a doubling of the atmospheric CO2 concentration. Equilibrium climate sensitivity is likely in the range 1.5°C to 4.5°C (high confidence), extremely unlikely less than 1°C (high confidence), and very unlikely greater than 6°C (medium confidence). The lower temperature limit of the assessed likely range is thus less than the 2°C in the AR4, but the upper limit is the same. This assessment reflects improved understanding, the extended temperature record in the atmosphere and ocean, and new estimates of radiative forcing. No best estimate for equilibrium climate sensitivity can now be given because of a lack of agreement on values across assessed lines of evidence and studies (IPCC, 2013).

Regional Effects

The IPCC and Global Change Research Program include the planning area in the "southwest" region. Recent warming in the southwest region has been among the most rapid in the Nation, with the average temperature increasing approximately 1.5 °F compared to a 1960 through 1979 baseline period. Temperature increases are driving declines in spring snowpack in the region and flows in the Colorado River, combining with other factors to affect water supply. Projections suggest continued strong warming, with much larger increases under higher emissions scenarios. By the end of the century (2100), average annual temperature is projected to rise approximately 4º F to 10º F above the historical baseline, averaged over the southwest region.

Current Conditions

The BLM recognizes the importance of climate change and the potential effects it could have on natural and socioeconomic environments. Throughout the planning area, the BLM authorizes numerous types of activities and actions that result in GHG emissions, with the largest contributor being the combustion of fossil fuels for on-road and off-road vehicles, engines, and construction equipment. Additional activities that result in GHG emissions include prescribed burns and other fire management activities; authorization of ROWs for energy development and transmission, roads, pipelines, and other uses; grazing permits; and oil and gas and other mineral exploration and development. Although individually these activities result in small amounts of GHG emissions, they do contribute to the regional, national, and global pool of GHG emissions.

In addition to direct GHG emissions, indirect GHG emissions and other factors potentially contributing to climate change include fires; land use changes (e.g., converting rangelands to urban use); and wind erosion, fugitive dust from roads, and entrained atmospheric dust that darkens glacial surfaces and snow packs and results in faster snowmelt. Other activities could help sequester carbon, such as managing vegetation to favor perennial grasses and increase vegetation cover, which could help build organic carbon in soils and function a "carbon sinks."

Additionally, significant research and development efforts are underway in the field of carbon capture and sequestration (CCS) technology. This technology is expected to become available in the next two decades and would allow the power generation industry to capture carbon dioxide and store it underground, drastically reducing emissions to the atmosphere. There is also an increased emphasis on the development of renewable energy projects. Policy developments worldwide will likely accelerate the process of emissions reduction. In the near future, the US is expected to join the European Union and other nations in placing mandatory caps on carbon dioxide emissions (there is also a possibility of a carbon tax). Such mandatory caps would be even more effective in reducing global carbon dioxide emissions with the participation of developing nations such as China and India. Vehicle fuel economy standards will further serve to reduce carbon dioxide emissions worldwide. Ultimately, the levels of global dioxide emissions in the future will be determined by a mix of these technological, economic, and policy developments; thus,

future increases and decreases in carbon dioxide emission rates remain uncertain at present.

3.3.3 Lands with Wilderness Characteristics

As discussed in **Chapter 2**, 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 NSO stipulation. Potential oil and gas exploration and production activities, committed to in a lease sale, could impact other 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 oil and gas exploration and development might be proposed on any leased parcel, should a lease be issued, site specific analysis of individual wells, roads, pipelines and/or other facilities would occur when a lease holder submits an APD. For the purposes of this analysis, the BLM assumed oil and gas development would continue to occur as predicted in the Moab planning area "Reasonably Foreseeable Development Scenario for Oil and Gas" (BLM, 2005); and oil and gas development would occur proportionate to acres of oil and gas leases authorized.

Proposed lease parcel UT0216-064 encompasses lands determined by the BLM MbFO to possess wilderness characteristics. Approximately 3.27 acres of the 1,280 acres in the northeast of lease parcel UT0216-063, within the 14,768 acre Coyote Wash West area identified as possessing wilderness characteristics, could be impacted.

The 2008 Moab RMP identified the Coyote Wash West area as lacking wilderness characteristics, although BLM had no formal wilderness characteristics inventory procedures in place at the time. In March 2012, BLM issued Manual 6310 outlining policies and procedures for evaluating lands for the presence, or lack thereof, of wilderness characteristics. In response to the issuance of Manual 6310, the Southern Utah Wilderness Alliance (SUWA) provided Moab BLM with a proposal of 17,541 acres. This areage excluded several "cherry-stems" that account for several travel routes and exclusions along boundary routes that are roadside impacts to naturalness. BLM evaluated this proposal using the procedures of Manual 6310, and determined that Coyote Wash West possessed 14,768 acres of wilderness characteristics (see Appendix G).

3.3.4 Migratory Birds including Raptors

A variety of migratory song bird species use habitats within these parcels for breeding, nesting, foraging, and migratory habitats. Migratory birds are protected under the Migratory Bird Treaty Act of 1918 (MBTA). Unless permitted by regulations, the MBTA makes it unlawful to pursue, hunt, kill, capture, possess, buy, sell, purchase, or barter any migratory bird, including the feathers or other parts, nests, eggs, or migratory bird products. In addition to the MBTA, Executive Order 13186 sets forth the responsibilities of Federal agencies to further implement the provisions of the MBTA by integrating bird

conservation principles and practices into agency activities and by ensuring that Federal actions evaluate the effects of actions and agency plans on migratory birds.

A Memorandum of Understanding (MOU) between the BLM and USFWS (BLM MOU WO-230-2010-04) provides direction for the management of migratory birds to promote their conservation. At the project level, the MOU direction includes evaluating the effects of the BLM's actions on migratory birds during the NEPA process; identify potential measurable negative effect on migratory bird populations focusing first on species of concern, priority habitats, and key risk factors. In such situations, BLM would implement approaches to lessen adverse impact. Identifying species of concern, priority habitats, and key risk factors includes identifying species listed on the USFWS Birds of Conservation Concern (BCC) that are most likely to be present in the project area and evaluating and considering management objectives and recommendations for migratory birds resulting from comprehensive planning efforts, such as Utah Partners in Flight American Land Bird Conservation Plan. The Utah Partners in Flight (UPIF) Working Group completed a statewide avian conservation strategy identifying "priority species" for conservation due to declining abundance distribution, or vulnerability to various local and/or range-wide risk factors. One application of the strategy and priority list is to give these birds specific consideration when analyzing effects of proposed management actions and to implement recommended conservation measures where appropriate.

The UPIF Priority Species List, the BCC list for Region 16 (Colorado Plateau) and the Utah Conservation Data Center database (Utah Division of Wildlife Resources, 2015) were used to identify potential habitat for priority species that could utilize habitats within the CCDO. **Table 3-4** lists the UPIF Priority Species list and the USFWS BCC species that are a concern within the CCDO. These species could occur anywhere within the District at any given time.

Table 3-4: Canyon Country District Office UPIF & FWS BCC Species 2008 (Region 16)

Species	BCC	UPIF	DWR Habitats	1st Breeding Habitat	2nd Breeding Habitat	Winter Habitat
Bald Eagle	X		Winter	Lowland Riparian	Agriculture	Lowland Riparian
Band-tailed Pigeon			Critical/ Substantial	Ponderosa pine	Mixed conifer	Migrant
Black Rosy-finch	X	X	Substantial/ Critical	Alpine	Alpine	Grassland
Black-necked Stilt		X	Critical	Wetland	Playa	Migrant
Black-throated Gray Warbler		X	Prime Breeding	Pinyon-Juniper	Mountain Shrub	Migrant
Bobolink		X	Prime Breeding/Winter	Wet Meadow	Agriculture	Migrant
Brewer's Sparrow	X	X	Critical/High	Shrub/steppe	High Desert Shrub	Migrant
Broad-tailed Hummingbird		X	Critical/ Substantial	Lowland Riparian	Mountain Riparian	Migrant
Burrowing Owl	X		Primary Breeding	High Desert Shrub	Grassland	Migrant
Cassin's Finch	X		Critical/Substantial	Aspen	Sub-Alpine conifer	Lowland Riparian
Ferruginous Hawk	X	X	Prime Breeding	Pinyon-Juniper	Shrub/steppe	Grassland
Flammulated Owl	X		Critical	Ponderosa pine	Sub-Alpine conifer	Migrant
Gambel's Quail		X	High	Low Desert Shrub	Lowland Riparian	Low Desert Shrub
Golden Eagle	X		Critical/High	Cliff	High Desert Shrub	High Desert Shrub
Grace's Warbler	X		Critical	Ponderosa pine	Mixed conifer	Migrant

Species	BCC	UPIF	DWR Habitats	1st Breeding Habitat	2nd Breeding Habitat	Winter Habitat
Gray Vireo	X	X	Prime Breeding/Winter	Pinyon-Juniper	Oak	Migrant
Juniper Titmouse	X		Critical/High	Pinyon-Juniper	Pinyon-Juniper	Pinyon-Juniper
Lewis's Woodpecker	X	X	Prime Breeding	Ponderosa pine	Lowland Riparian	Oak
Long-billed Curlew	X	X	Substantial/Prime Breeding	Grassland	Agriculture	Migrant
Pinyon Jay	X		Critical/High	Pinyon-Juniper	Ponderosa pine	Pinyon-Juniper
Prairie Falcon	X		Critical/High	Cliff	High Desert Shrub	Agriculture
Sage Sparrow		X	Critical	Shrub/steppe	High Desert Shrub	Low Desert Shrub
*Southwestern Willow Flycatcher**	X		Migrant			
Verry	X		High	Lowland Riparian	Lowland Riparian	Migrant
Virginia's Warbler		X	Prime Breeding/Winter	Oak	Pinyon-Juniper	Migrant
Willow Fly-catcher	X		Migrant	Lowland Riparian	Mountain Riparian	Migrant
Yellow-billed Cuckoo*	X	X	Not Known	Lowland Riparian	Agriculture	Migrant

‡Utah Partners in Flight Avian Conservation Strategy Version 2.0 (Parrish et al., 2002), §Birds of Conservation Concern 2008 (USFWS, 2008)
†Utah Conservation Data Center, *Utah Sensitive Species,**=Federally List, *Italic=Utah Sensitive Species*

Raptors. Habitats within the CCDO area have the potential to support breeding, nesting, and foraging raptors, golden eagle and wintering bald eagles. Raptor nest sites are typically located on promontory points such as cliff faces and rock outcrops in areas with slopes of 30 percent or greater, but they may also nest in pinyon, juniper, or deciduous trees. Raptors typically use the same nest site year after year. Raptor young tend to disperse to areas near the traditional nest sites. The project area also offers suitable wintering and migration habitats for several raptor species. The nesting season for most raptors in the CCDO area extends from March 1 through August 31.

Raptor species with the potential to occur in the CCDO area are identified in **Table 3-5** with a description of their nesting and foraging habitats.

Table 3-5: Raptor Species with the Potential to Occur Canyon Country District Office and USFWS Spatial and Seasonal Buffers

Common Name	Scientific Name	General Habitat and Potential to Occur in the Canyon County District	Spatial Buffer [1] (miles)	Seasonal Buffer [1]
Sharp-shinned Hawk	*Accipiter striatus*	Moderate to high potential to nest and forage in pinyon/juniper woodlands, nesting in more dense areas that have older and larger trees or riparian areas and drainages. Low potential to nest in desert shrub.	0.5	3/15-8/31
Cooper's Hawk	*Accipiter cooperii*	Moderate to high potential to nest and forage in deciduous, mixed-deciduous, and pinyon/juniper woodlands nesting in more open areas that have older and larger trees or riparian areas and drainages. Low potential to nest in desert shrub.	0.5	3/15-8/31
Golden Eagle	*Aquila chrysaetos*	Occurs throughout the district. Commonly nests on cliff ledges and rock outcrops. High potential to forage in desert shrub, canyon habitats and lower elevation open pinyon-juniper woodlands.	0.5	1/1-8/31
Bald Eagle	*Haliaeetus*	Winter habitat typically includes areas of open water,	0.5	1/1/-8/31

Common Name	Scientific Name	General Habitat and Potential to Occur in the Canyon County District	Spatial Buffer [1] (miles)	Seasonal Buffer [1]
	leucocephalus	adequate food sources, and sufficient diurnal perches and night roosts. High potential to occur during the winter along the river corridors, in desert shrub and canyon habitats and lower elevation pinyon-juniper woodlands. Nesting occurs along the river corridors. No potential for nesting in lease parcels.		
Burrowing Owl	*Athene cunicularia*	Low potential to nest in pinyon-juniper woodland area due to lack of prairie dog colonies in the area. High potential to forage and nest in sagebrush/grassland community and desert scrublands. Utilizes open habitats such as grasslands that also offer prairie dog or other burrowing mammal habitats. Commonly utilizes prairie dog burrows for nesting.	0.25	3/1-8/31
Long-eared Owl	*Asio otus*	Occurs throughout the district. High potential to nest in dense vegetation adjacent to open grasslands or shrublands; also open coniferous or deciduous woodlands. Moderate to high potential to nest in pinyon-juniper woodlands. Moderate to high potential to forage in desert shrub, grasslands and open canopy pinyon-juniper woodlands.	0.25	2/1-8/15
Great-horned Owl	*Bubo virginianus*	Occurs throughout the district in a variety of habitats. Nests on cliff ledges, deciduous and pinyon-juniper trees, and nests of other species. Moderate to high potential to nest and forage in canyon habitats, shrub-steppe, desert shrub and pinyon-juniper woodlands.	0.25	12/1-9/31
Ferruginous Hawk	*Buteo regalis*	Commonly nests on ground, in pinyon-juniper woodlands, and on rock outcrops. High potential to nest and forage in desert shrub and pinyon-juniper woodlands.	0.5	3/1-8/1
Red-tailed Hawk	*Buteo jamaicensis*	Occurs throughout the district in a variety of habitats including deserts, grasslands, coniferous and deciduous forests. Typically nests in the tallest tree. Moderate to high potential to nest on cliffs and low potential to nest in dense pinyon-juniper woodlands unless tall ponderosas are available. High potential to forage in desert shrub and pinyon-juniper woodlands.	0.5	3/15-8/15
Swainson's Hawk	*Buteo swainsoni*	Not likely to nest in the district. Moderate potential to forage in desert shrub and pinyon-juniper woodlands.	0.5	3/1-8/31
Northern Harrier	*Circus cyaneus*	Moderate potential to forage and nest in sagebrush/grassland vegetative community and desert scrublands. Low potential to nest in pinyon-juniper woodlands. Utilizes open habitats such as marshes, fields, and grasslands.	0.5	4/1-8/15
Peregrine Falcon	*Falco peregrinus*	High potential to nest on cliffs and ledges near riparian areas. Nest sites in southern Utah are associated with pinyon-juniper and deciduous riparian woodlands.	1.0	2/1-8/31
Prairie Falcon	*Falco mexicanus*	High potential to nest on cliffs and ledges. Moderate potential to forage in desert shrub, moderate in pinyon-juniper woodland.	0.25	4/1-8/31
American Kestrel	*Falco*	Moderate potential to nest on cliffs, and ledges.	0	4/1-8/15

Common Name	Scientific Name	General Habitat and Potential to Occur in the Canyon County District	Spatial Buffer [1] (miles)	Seasonal Buffer [1]
	sparverius	Moderate potential to forage from cliffs and ledges and low potential in desert shrub and pinyon-juniper woodland.		

* Romin and Muck, 2002, Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances.

4.0 ENVIRONMENTAL IMPACTS

4.1 Introduction

This chapter discusses the environmental consequences of implementing the alternatives described in **Chapter 2**. 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. For each alternative, the environmental effects are analyzed for the resources that were carried forward for analysis in **Chapter 3**.

4.2 Direct and Indirect Impacts

4.2.1 Alternative A – Proposed Action

4.2.1.1 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.

However, due to the deterioration of air quality in the region being primarily focused on the oil and gas community, reductions from PM and ozone precursor emissions will mean reductions in GHG's. Any oil and gas that is potentially leased, will be subject to strict mitigation practices and must conform to our lease notice for design types, and enhanced mitigation from BLM
and UDAQ.

Should development on issued leases be proposed, and prior to authorizing specific proposed projects on the subject lease parcels, emission inventories will need to be developed, and possibly near field modeling will need to be conducted, to adequately analyze direct and indirect potential air quality impacts. Air quality dispersion modeling, which may also be required, includes 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 futuredevelopment 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)" (p. 32).

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, SO_2, 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 SO_2. 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 ($PM_{10}$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.

4.2.1.2 Greenhouse Gas/Climate Change

There are no direct impacts related to GHG emissions and climate change in leasing EA. Likely indirect impacts could potentially include GHG emissions from a well drilling for exploratory purposes. Estimated GHG emissions can be calculated using a generic emissions calculator available on the BLM Utah Air Quality webpage (http://www.blm.gov/ut/st/en/prog/more/air_quality/airprojs.html) 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.

4.2.1.3 Lands with Wilderness Characteristics

Under the Proposed Action, up to 3.27 acres of lands with wilderness characteristics in the Coyote Wash West area could be impacted if Parcel UT0216-064 were leased and developed. This represents 0.02% of the 14,768 acres in Coyote Wash West found by BLM to possess wilderness characteristics.

In addition to the loss of naturalness caused by such surface disturbances, there would be a loss of outstanding opportunities for solitude and/or primitive and unconfined recreation in the vicinity of the surface disturbance. On the other hand, any surface disturbances resulting from lease-related development could occur on lands within the parcel not previously determined to possess wilderness characteristics, in which case there would be no impact to that resource.

4.2.1.4 Migratory Birds including Raptors

Migratory birds are protected by the MBTA and Executive Order 13186. An intentional take under the MBTA is the deliberate taking of migratory birds with the take as the primary purpose of an action. No actions considered in this analysis involve the intentional take of migratory birds.

All parcels may incur impacts to migratory birds, excluding raptors, if surface disturbing activities occur during the nesting season (May 1st through July 31st). Construction and development activities during the nesting season would create the greatest impacts to migratory birds. Impacts to nesting migratory birds could include nest site abandonment, nest failure and chick mortality; and may also cause premature fledging which may also lead to chick mortality. These impacts would be specific to that nesting season, as parent birds would re-nest in following years in more suitable locations.

A lease notice (UT-LN-44: Raptors) informing the potential lessee 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 has been attached to all of the lease parcels. The surveys would be determined on a site-specific basis.

Disturbing activities (such as flaring) outside of migratory bird breeding and nesting season may cause temporary, short distance and short term displacement that would have minimal to no impacts to birds, as birds can easily move to other suitable areas. Immeasurable indirect impacts may include fragmentation and loss of unoccupied suitable habitats in the developed area but there are sufficient suitable habitats in surrounding areas, therefore impacts would be minimal.

The Comprehensive Wildlife Conservation Strategy, Utah Partners in Flight Avian Conservation Strategy Version 2.0. (2002), Birds of Conservation Concern (2002), Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds, MOU between the BLM and USFWS to Promote the Conservation and Management of Migratory Birds (2010) provide direction to promote migratory bird conservation. Project specific and site specific conservation measures would be developed as needed during project development to ensure impacts to migratory birds and their habitats are minimized during development.

Raptors (eagles, hawks and owls) are given federal protection under the Migratory Bird Act and Executive Order 13186. Nesting raptors would be given both seasonal and spatial protection throughout the implementation of this project according to the USFWS 2002 Raptor Protection Guidelines and through the BLMs BMPs for Raptor Protection. There would be no direct effects to nesting raptors as breeding season raptor surveys would be conducted and impacts to nesting raptors would be avoided if nesting raptors are found in the project area.

Raptors may forage in the project area. Construction, operations and maintenance activities may cause foraging raptors to avoid the proposed project area. However, these activities are not likely to affect the raptors, as they could avoid disturbance by moving to other areas to forage and roost.

Some degree of habitat degradation or fragmentation may potentially occur as an indirect effect development. Foraging habitat may be impacted but it would be limited to the disturbance footprint, as prey species may be displaced but individuals would be able to relocate to surrounding suitable habitat within the project area. This habitat loss can be difficult to predict. An immeasurable indirect effect could occur within the project area or in nearby suitable habitats currently unused for nesting if human and vehicular activity increases as a result of development. New disturbance created by increased activity may make nesting habitat undesirable by potential nesting raptors during the following or future breeding seasons.

4.2.1.4 Mitigation

Mitigation for the MbFO RMP was addressed within the final EIS. This mitigation was carried forward as BMPs, standard operating procedures and the stipulations or notices as identified in the corresponding appendices. This also incorporates the conclusions of the

USFWS in their biological opinion and concurrence from the State Historic Preservation Office.

Application of applicable stipulations and lease notices (**Appendix A**) to lease parcels 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.

Additional air quality control measures may be warranted and imposed at the APD stage. These control measures are dependent on future regional modeling studies, other analysis or changes in regulatory standards. As such, lease notices UT-LN-96 (Air Quality Mitigation Measures), UT-LN-99 (ozone control) and UT-LN-102 (air quality analysis) would be appropriate to inform an operator and the general public that additional air quality control measures may be pursued.

Reasonable and prudent measures and terms and conditions beyond the USFWS programmatic opinion were not required. The RMP stipulations and BMPs determined to be appropriate to attach to each lease parcel are also consistent with the USFWS's recommended conservation and resource protection measures. It is possible that additional measures may be required at the APD stage.

The application of additional measures to mitigate (reduce or eliminate) the effects of the Proposed Action is not warranted. The Proposed Action includes applicable design features (stipulations and notices). There are no residual effects remaining after the application of the stipulations.

4.2.2 Alternative B - No Action Alternative

This alternative (not to offer any of the nominated parcels for sale) would not meet the need for the Proposed Action. All parcels may be subject to drainage of Federal reserves by development on adjacent state or private leases.

Although drilling and production activities on federal land surfaces are restricted to leased parcels, oil and gas exploration may also be authorized on unleased public lands, on a case-by-case basis, pursuant to 43 CFR 3150.0-1. Accordingly, this alternative would not prevent direct, indirect, or cumulative environmental impacts relating to oil and gas exploration activities through denial of the Proposed Action. Additionally, this alternative would not prevent indirect impacts relating to rights of way authorizations to support oil and gas operations on adjacent leased lands.

4.2.2.1 Air Quality

The No Action Alternative would result in continuation of already approved land uses with any attendant potential air quality impacts, but would not result in impacts relating to exploration and development of these lease parcels, because they would not be leased. Other exploration and development activities on surrounding areas that are currently leased would continue.

4.2.2.2 Greenhouse Gas/Climate Change

The No Action Alternative would not result in impacts to greenhouse gas or climate change.

4.2.2.3 Lands with Wilderness Characteristics

The No Action Alternative would not result in impacts to lands determined by the BLM to have wilderness characteristics.

4.2.2.4 Migratory Birds including Raptors

The No Action Alternative would result in continuation of already approved land uses with any attendant potential impacts on migratory birds, but would not result in impacts relating to exploration and development of these lease parcels, because they would not be leased. Other exploration and development activities on surrounding areas that are currently leased would continue.

4.2.2.4 Mitigation

The No Action Alternative would not require mitigation.

4.3 Cumulative Impacts

A cumulative impact is defined in Council on Environmental Quality 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. Past and present actions and reasonably foreseeable future actions with the potential to contribute to cumulative effects are discussed below followed by an analysis of cumulative effects. All resource values addressed in **Chapter 3** have been evaluated for cumulative effects. If, through the implementation of mitigation measures or project design features, no net effect to a particular resource results from an action, then no cumulative effects result.

A variety of activities, such as sightseeing, biking, camping, and hunting, have occurred and are likely to continue to occur near or within some or all of the nominated parcels; these activities likely result in negligible impacts to resources because of their dispersed nature. Other activities, such as farming, livestock grazing, vegetation projects, and motorized recreation on unpaved roads have also occurred within some or all of 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. Because these activities are occurring within the nominated parcel boundaries, they have the potential to contribute to cumulative effects.

The cumulative impacts analysis as described in the MbFO PRMP FEIS -is incorporated by reference to **Chapter 4**. The Proposed Action would contribute to these cumulative impacts by making seven parcels (8,121.22 acres) 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. 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.

4.3.1 Air Quality

The Cumulative Impact Analysis Area (CIAA) for air quality is the Four Corners area of southeast Utah and the adjoining states of Arizona, New Mexico, and Colorado. As described in the Affected Environment chapter, regional ozone is a recognized pollutant of concern in the Four Corners region, with ambient concentrations near, but not over, the relevant NAAQS. Oil and gas development does not directly emit ozone; however, the formation of ozone at the lower levels of the atmosphere is related to emissions of NOx and VOC, which are pollutants emitted by oil and gas operations. The Air Quality Modeling Study for the Four Corners Region (FC CAMx) (EIC 2009b) was prepared to model the air quality impacts of potential alternative mitigation strategies being developed by various Four Corners Air Quality Task Force work groups. The four kilometer modeling domain (EIC 2009b, Figure ES-1) for this study included much of San Juan County, Utah. Ozone predictions in this study indicate that NAAQS ozone levels would not be exceeded.

There are other regional modeling studies currently underway that will be able to better inform any future subsequent development on these leases, and these should be able to be used to further evaluate potential lease devolvement impacts on regional ozone formation in the Four Corners area once project specific proposals are made. These include the West Jump study, which will provide source apportionment estimates for ozone formation in the Four Corners area, and the BLM Utah Air Resources Management Strategy modeling study, which will evaluate future development scenarios across Utah.

To mitigate any potential impact oil and gas development emissions may have on regional ozone formation in the CIAA the following BMPs would be required through lease notice: UT-LN-99: Regional Ozone Formation Controls for any development projects related to this lease sale. To mitigate any potential impact from oil and gas development to air quality; lease notices UT-LN-96: Air Quality Mitigation Measures and UT-LN-102: Air Quality Analysis will apply to all lease parcels for this sale. Refer to **Appendix A** for the full text of these lease notices.

As previously discussed in **Section 3.3.1**, UDAQ conducts an EI every three years of pollutants released by all emissions sources in the state. At present, San Juan and Grand Counties are considered unclassified or in attainment for all NAAQS criteria pollutants.

Based on the modeling referenced in this section, and the application of these BMPs, it is not unlikely emissions from any subsequent development of the proposed leases would significantly contribute to regional ozone formation in the Four Corners area, nor is it likely to contribute or cause exceedances of NAAQS.

4.3.2 Greenhouse Gas/Climate Change

The BLM follows draft guidance released in December 2014 from the Council on Environmental Quality (CEQ) to determine the extent and adequacy of NEPA analysis related to the emissions of greenhouse gas (GHG) emissions and climate change impacts that could result from these emissions. The presentation of GHG emissions and climate

change analysis in this Lease EA is consistent with that guidance based on the following rational:

Rule of Reason

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 concept of proportionality is grounded in the fundamental 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.). In a leasing EA 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. Project-specific impacts from GHG's are by definition not project-area specific, but global in nature. While 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, that comparison related to potential impacts is crucial to an understanding on why project-specific GHG emissions can't be reasonably analyzed in a leasing EA. Any potential estimation of GHG emissions in a leasing EA will only represent a minute fraction of global GHG emissions, and by extension only represent an even smaller fraction of any potential impacts. It is not possible, nor reasonable, to try to calculate an exceedingly small fraction of potential impacts to some specific defined impact (e.g. average global temperature at X time in the future) using these metrics. What this means in practice is that a predication of a specific global impact based on project-specific GHG emissions estimations will invariably be so small as to be indistinguishable from no project-specific impact(i.e. no action alternative).

CEQ recommends that when an agency determines that evaluating the effects of GHG emissions from a proposed Federal action would not be useful to the decision-making process and the public to distinguish between the no-action and proposed alternatives and mitigations, the agency should document the rationale. This Lease EA discloses why additional analysis on GHG emissions and their relation to climate change is not possible, and is based on the relationship between project-specific emissions to potential predicted project-specific impacts. This rational is not a stand-alone reason for why no detailed analysis is possible, instead being part of a reasoned evaluation of the potential for the NEPA analysis to produce information useful to the decision-making process.

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. CEQ provides a reference point of 25,000 metric tons of CO2-e emissions on an annual basis below which a GHG emissions quantitative analysis is not warranted unless quantification below that reference point is easily accomplished. This is considered an appropriate reference point that would allow agencies to focus their attention on proposed projects with potentially large GHG emissions.

A leasing EA by its nature does not include input data necessary to develop a reasonably accurate estimate of potential GHG emissions. There are many factors that significantly impact the potential for GHG emissions estimates within specific lease sales: a lease could not be purchased so no GHG emissions likely; a lease could be purchased but never explored so again no GHG emissions; a lease could be purchased and an exploratory (or wildcat) well drilled that showed no development potential, so minimal GHG emissions; or a lease could be purchased, explored, and developed. If developed there are huge 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 company dynamics to name a few. Given the extremely wide variety of potential GHG emissions scenarios resulting from a lease sale it is not reasonable, nor good NEPA practice, to analyze all these outcomes. If a lease parcel is sold, explored, and developed a separate NEPA analysis will be required to implement a field development project. At that time more complete data will be available to analyze potential GHG emissions and their relationship to climate impacts.

Appropriate Level of Action for NEPA Review

CEQ recommends that an agency select the appropriate level of action for NEPA review at which to assess the effects of GHG emissions and climate change, either at a broad programmatic or landscape-scale level or at a project- specific level, and that the agency set forth a reasoned explanation for its approach. A specific example CEQ cited of a project- specific action that can benefit from a programmatic NEPA review is authorizing leases for oil and gas drilling. Given the aggregate nature of GHG contributions to global climate change, and the aggregate nature of climate change impacts to area-specific impacts analyzed in a field office NEPA document, analysis at this scale is not appropriate and would not provide meaningful information to inform the decision.

4.3.3 Lands with Wilderness Characteristics

The CIAA consists of the 14,768 acres of wilderness characteristics areas within the project area because impacts to wilderness characteristics within this area would not result in impacts to wilderness characteristics elsewhere.

No surface disturbance has resulted from past and present actions within the CIAA. No actions are reasonably foreseeable actions within the CIAA. It is possible that any lands leased for oil and gas within the CIAA would be impacted by exploration drilling and production activities, although such activities are more likely to occur in the portions of the lease parcel not identified as possessing wilderness characteristics (due to the very small footprint available within the CIAA). Because the identification of lands with wilderness characteristics is administrative and does not accompany a recommendation regarding wilderness or WSA designation, the right to explore and develop existing oil and gas leases on lands with wilderness characteristics remains valid.

Cumulative impacts likely would not result to the 3.27 acres of lands that exhibit wilderness characteristics inside the project area. Temporary impacts to lands with wilderness characteristics from project operations would not affect the criteria for which

the evaluation of such characteristics is made. No accumulation of impacts would occur. Under the Proposed Action, up to 3.27 acres of lands with wilderness characteristics in the Coyote Wash West area could be impacted if Parcel UT0216-064 were leased and developed. This represents 0.02% of the 14,768 acres in Coyote Wash West found by BLM to possess wilderness characteristics and only 0.26% of lease parcel UT0216-063.

4.3.4 Migratory Birds including Raptors

The CIAA for Migratory Birds is the CCDO area. Cumulative impacts to migratory birds were adequately analyzed in the MbFO RMP FEIS and are included in this EA by reference (MbFO PRMP Chapter 4.3.24.14, pgs. 4-515 and 516). Cumulative impacts include loss of their habitat, habitat fragmentation, and disruption or alteration of seasonal migration routes.

5.0 CONSULTATION AND COORDINATION

5.1 Introduction

The issue identification section of **Chapter 1** identifies those issues analyzed in detail in **Chapter 4**. The ID team checklist provides the rationale for issues that were considered but not analyzed further. The issues were identified through the public and agency involvement process described in **Section 5.2** and **Section 5.3** below.

5.2 Persons, Groups, and Agencies Consulted

Table 5-1 lists the persons, groups and agencies consulted for this EA.

Table 5-1: List of all Persons, Agencies and Organizations Consulted for Purposes of this EA

Name	Purpose & Authorities for Consultation or Coordination	Findings & Conclusions
Utah State Historic Preservation Office (SHPO)	Consultation as required by Section 106 of the NHPA.	On October 28, 2015, a consultation letter was sent to the SHPO asking for concurrence on the BLM's determintation of "no adverse affect on historic propoerites". Consultation is on-going.
Native American Tribes	Consultation as required by the American Indian Religious Freedom Act of 1978 (42 USC 1531) and NHPA (16 USC 1531)	Consultation letters were mailed on August 11, 2015. On August 24, 2015, the BLM received a response from the Hopi Tribe asking for a copy of the cultural analysis and the EA. On October 20, 2015, during a consultation meeting with the Northern Ute, Ute Moutain Ute, White Mesa Ute and Southern Ute Tribes, The Northern Ute and Southern Ute Tribes asked for a copy of the cultual assessment. These documents were mailed to the requesting Tribes on October 30, 2015. Refer to **Appendix H** for the consultation letter, a listing of Native American Tribes consulted. Consultation is on-going.
Old Spanish Trail Association	Interested Party Coordination	A consultation letter was mailed on August 10, 2015. Consultation is on-going.
BLM Old Spanish National Historic Trail Administrator	Interested Party Coordination	A consultation letter was mailed on August 10, 2015. Consultation is on-going.
National Park Service - National Trails Intermountain Region	Interested Party Coordination	A consultation letter was mailed on August 10, 2015. Consultation is on-going.
State of Utah, Public Lands Policy Coordination Office	Interested Party Coordination	UTSO BLM mailed a letter or memo with information and the preliminary list on May 21, 2015.

Name	Purpose & Authorities for Consultation or Coordination	Findings & Conclusions
		The State of Utah, Public Lands Policy Coordination Office has not responded identifying any concerns. Lack of response is interpreted by BLM as the party has no concerns relative to the Proposed Action.
State of Utah, School and Institutional Trust Lands Administration	Interested Party Coordination	UTSO BLM mailed a letter or memo with information and the preliminary list on May 21, 2015. The State of Utah, School and Institutional Trust Lands Administration has not responded identifying any concerns. Lack of response is interpreted by BLM as the party has no concerns relative to the Proposed Action.
Utah Division of Wildlife Resources	Interested Party Coordination	UTSO BLM mailed a letter or memo with information and the preliminary list on May 21, 2015. The UDWR provided scoping comments to the BLM via letter dated August 7, 2015 (letter received via email on August 3, 2015).
Bureau of Indian Affairs Navajo Regional Office	Consult BIA as a leasing program partner.	UTSO BLM mailed a letter or memo with information and the preliminary list on May 22, 2015. The BIA and Navajo Nation provided scoping comments to the BLM via letter received on August 7, 2015). The letter stated that the BIA and the Navajo Nation recommended that parcels UT0216-026, UT0216-037 and UT0216-038 be excluded (deferred) from the February 2016 lease sale.
U.S. Fish & Wildlife Service	Information on Consultation, under Section 7 of the Endangered Species Act (16 USC 1531)	UTSO BLM mailed a letter or memo with information and the preliminary list on May 21, 2015. The USFWS has not responded identifying any concerns. Lack of response is interpreted by BLM as the party has no concerns relative to the Proposed Action.
U.S. Forest Service	Consult the U.S. Forest Service as a leasing program partner.	UTSO BLM mailed a letter or memo with information and the preliminary list on May 21, 2015. The U.S. Forest Service has not responded identifying any concerns. Lack of response is interpreted by BLM as the party has no concerns relative to

Name	Purpose & Authorities for Consultation or Coordination	Findings & Conclusions
		the Proposed Action.
National Park Service	Consult the NPS as a leasing program partner.	UTSO BLM mailed a letter or memo with information and the preliminary list on May 21, 2015. The NPS has not responded identifying any concerns. Lack of response is interpreted by BLM as the party has no concerns relative to the Proposed Action.
San Juan County	Consulted San Juan County as a cooperating agency	Scoping comments and comments on the EA regarding leasing were provided by San Jua County
Split-Estate Private Surface Owners	Per IM No. 2010-117, *Oil and Gas Leasing Reform*; split-estate private surface owners will be notified of leasing activities.	The MbFO mailed letters with information and the preliminary list on May 22, 2015. On May 27, 2015, Ms. Erin Barry (surface owner of parcel UT0216-065) telephoned the MbFO to discuss the lease sale. The MbFO explained that parcel UT0216-065 is located within USFWS proposed Gunnison sage-grouse habitat and the parcel would be deferred from leasing. Similarly, on June 2, 2015, Mr. Robert Barry (surface owner of parcel UT0216-066) visited the MbFO to discuss the lease sale. The MbFO explained that parcel UT0216-066 is located within USFWS proposed Gunnison sage-grouse habitat and the parcel would be deferred from leasing. No comments were received from other private surface owners.

5.3 Summary of Public Participation

The BLM posted the Proposed Action on the BLM ePlanning NEPA Register (https://www.blm.gov/epl-front-office/eplanning) on May 28, 2015, to notify the public of the proposal and to accept scoping comments. The BLM also submitted a press release to the Moab *Times Independent* and the Monticello *San Juan Record* newspapers, which were published on June 4, 2015 and June 3, 2015, respectively. The 30-day public scoping period ended on June 27, 2015. Refer to **Appendix F** for a summary of the scoping comments and BLM response.

A letter received dated July 24, 2015 from the Bureau of Indian Affairs, Navajo Region Office that recommend the BLM remove three parcels with the McCracken Extension from the lease sale. These parcels are UT0216-26, UT0216-037, and UT0216-038. Copies of

correspondence with the Navajo Nation's Minerals Department were included. As result of this consultation, the BLM deferred these parcesl.

A letter received on June 29, 2015 from San Juan County expressed concerns regarding the lack of the number of parcels offered for lease within the County, and that parcels were deferred because they are within the Glen Canyon-San Juan River Master Leasing Plan area. The concern is that Any deferral of parcels from lease negatively affects San Juan County's tax base and lease revenues. The majority of County tax revenues come from centrally assessed properties of which oil and gas facilities are a major component. The County also receives revenue from oil and gas lease sales. If leases aren't sold, the County has no opportunity to collect this revenue.

A letter dated August 3, 2015 was received from the Public Lands Coordinating Offce that transferred comments from the Utah Division of Wildlife Resources. The comments focused on timing in Gunnison sage-grouse habitat, crucial deer and elk winter range, Rocky Mountain bighorn sheep habitat and provided recommendations for raptor and burrowing owl surveys prior to surface disturbing activities. The parcels located within Gunnison sage-grouse habitiat are deferred, until the rangewide EIS is completed. Lease notices are applied for timing limitations for crucial deer and elk winter range, the need for raptor surveys, timing for pronghorn fawning and white-tail and Gunnison prairie dog habitat. Refer to **Appendix A** for the this of a parcels and the stipulations and lease notices that are applied to them. The deferred parcel list can be found in **Appendix C**.

On August 10, 2015 consultation letters were sent to the National Park Service, the BLM Old Spanish Trail Adminstrator, and Old Spanish Trails Association to consult on the leasing proposal for the Old Spanish Trail. Consutlation is on-going at this time.

The BLM consulted with Indian tribes on a government-to-government basis in accordance with Executive Order 13175 and other policies. Consultation letters were mailed on August 11, 2015. On August 24, 2015, the BLM received a response from the Hopi Tribe asking for a copy of the cultural analysis and the EA for this lease sale. These documents were mailed to the Hopi Tribe on October 30, 2015. On October 20, 2015, during a consultation meeting with the Northern Ute, Ute Moutain Ute, White Mesa Ute and Southern Ute Tribes, The Northern Ute and Southern Ute Tribes asked for a copy of the cultural analysis for this lease sale. The cultural analysis was mailed to the Northern and Southern Ute Tribes on October 30, 2015. Tribal consultation is on-going at this time. See **Appendix H** for copies of the consultation letters.

On October 28, 2015 a Conulstation Letter was sent to the State Historic Preseravation Office. The determination of effect for the project is "no adverse effect on historic properties. Consultation is currently on-going.

5.3.1 Modifications Based on Public Comment and Internal Review

The internal review identified necessary corrections or clarifications to this EA. These modifications include:

1. The August 2015 date of the title page and at each page header was changed to November 2015 to distinguish from the August 2015 version of the EA.
2. Section 1.2 Background, item 2: The following language was added to address the comments made by San Juan County and PLPCO regarding the status of the Gunnison sage-grouse: *"The Gunnison sage-grouse was listed as threatened by the U. S. Fish and Wildlife Service (USFWS) on November 20, 2014. The Monticello Field Office is currently participating in the Gunnison Sage-grouse Resource Management Plan Amendment Enviromnetal Impact Statement (EIS) process. This EIS will assess the impacts of various actions on the Gunnison sage-grouse and will determine whether or not Monticello's Resource Management Plan will be amended."*
3. The word "proposed" was removed from the bullet list of resources on page 9 of the EA where it is associated with Gunnison sage-grouse habitiat.
4. The word proposed was removed from th bullet list providing rationale for deferral on page 11 of the EA, and in Appendix C the Deferred Parcel List.
5. In response to comments, Greenhouse gas/Climate change was added as an issue to analyze in the EA.
6. Based on the Cultural report, and in response to public comments, lease notice UT-LN-70 was added to parcel UT2016-001. Lease stipulation UT-S-322 was added to parcel UT2016-003
7. Section 5.2: San Juan County was added as a consulting party for the project in Table 5-1.
8. Section 5.3.1: Updates to the EA are captured here for ease of reference.
9. Section 5.3.2: Added to reflect summary of public comments.
10. Appendix I-Response to Comments was added to the end of the document.

5.3.2 Response to Public Comment

A 30-day public review and comment period for the EA and unsigned FONSI was offered from September 19, 2015 to October 19, 2015. The CCYD received eight (8) comment letters from individuals, government agencies and organizations as follows:

- Carbon County
- San Juan County
- Public Lands Policy Coordiating Office
- Diana and Steve Acerson
- Utah Rock Art Association
- Dave Naslund
- WildEarth Guardians
- Utah Public Lands Coordinating Office

The BLM acknowledges the support and concerns expressed by the public regarding the leasing of oil and gas resources on the public lands within the CCYD, including the subject lease parcels.

Information within the comments that is background or general in nature was reviewed; however, responses to or clarifications made to the EA from these items are not necessary. Likewise, expressions of position or opinion are acknowledged but do not cause a change in the analysis. As identified in the NEPA Handbook (H-1790-1, section 6.9.2.2 comment response), the BLM looked for modifications to the alternatives and the analysis as well as factual corrections while reviewing public comments.

Of the letters received, comments were focused primarily on cultural resources, greenhouse gase emissions/climate change,social cost of carbon, and lands with wilderness characteristics. **Section 5.3.1 Modifications Based on Public Comments and Internal Review** identifies changes to this EA that were made as a result of public comments. Public comments and the BLM responses are addressed in **Appendix I**.

5.4 List of Preparers

Table 5-2 lists the preparers of this EA.

Table 5-2: List of Preparers

Name	Office	Responsible for the Following Section(s) of this Document or Determination and Rationale in the ID Team Checklist (Appendix D)
Kim Allison	MbFO	Livestock Grazing, Rangeland Health Standards, Vegetation Excluding USFWS Designated Species
Ann Marie Aubry	MbFO	Greenhouse Gas Emissions / Climate Change, Floodplains, Soils, Surface Water Resources / Quality, Wetlands / Riparian Zones
Jordan Davis	MbFO	Invasive Species / Noxious Weeds, Woodland / Forestry
Jan Denney	MbFO	Lands / Access
Rebecca Hunt-Foster	MbFO	Paleontology
Cliff Giffen	MtFO	MtFO Project Lead, Air Quality
Leonard Herr	UTSO	Air Quality, Greenhouse Gas Emissions / Climate Change
Don Montoya	MbFO	Cultural Resources, Native American Religious Concerns
Josh Relph	MbFO	Fuels / Fire Management
Pam Riddle	MbFO	Fish and Wildlife Excluding USFWS Designated Species, Migratory Birds / Raptors, Utah BLM Sensitive Species, Threatened, Endangered or Candidate Animal Species
Doug Rowles	MbFO	MbFO & CCDO Project Lead, Geology / Mineral Resources / Energy Production, Wastes (hazardous or solid), Groundwater Resources / Quality
Colin Schwartz	UTSO	Greenhouse Gas Emissions / Climate Change

Name	Office	Responsible for the Following Section(s) of this Document or Determination and Rationale in the ID Team Checklist (Appendix D)
Bill Stevens	MbFO	BLM Natural Areas, Environmental Justice, Socio-Economics, Wilderness / WSA, Lands with Wilderness Characteristics,
Katie Stevens	MbFO	Area of Critical Environmental Concern, Recreation, Wild and Scenic Rivers, Visual Resources
Dave Williams	MbFO	Threatened, Endangered or Candidate Plant Species

6.0 REFERENCES, ACRONYMS AND APPENDICIES

6.1 References Cited

Bureau of Land Management, 2005. Reasonable Foreseeable Development Scenario for Oil and Gas, Bureau of Land Management, Moab Field Office, Moab, Utah.

Bureau of Land Management, 2007. Final Vegetation Treatments on BLM Lands in 17 Western States Programmatic Environmental Impact Statement and Associated Record of Decision. USDI BLM. FES 07-21.

Bureau of Land Management, 2007b. Final Vegetation Treatments on BLM Lands in 17 Western States Programmatic Environmental Report. USDI BLM. FES 0721.

Bureau of Land Management, 2008a. Record of Decision and Approved Resource Management Plan (RMP), Bureau of Land Management, Moab Field Office, Moab, Utah. October, 2008.

Bureau of Land Management, 2008b. Moab Field Office Proposed Resource Management Plan and Final Environmental Impact Statement (FEIS), Bureau of Land Management, Utah State Office, Salt Lake City, Utah. Prepared by the Moab Field Office, August 2008.

Bureau of Land Management, 2008c. Record of Decision and Approved Resource Management Plan (RMP), Bureau of Land Management, Monticello Field Office, Moab, Utah. November, 2008.

Bureau of Land Management, 2008d. Monticello Field Office Proposed Resource Management Plan and Final Environmental Impact Statement (FEIS), Bureau of Land Management, Utah State Office, Salt Lake City, Utah. Prepared by the Monticello Field Office, August 2008.

Bureau of Land Management 2015 Utah Greater Sage Grouse Proposed Land Use Plan Amendment and Final Environmental Impact Statement Bureau of Land Management Utah State Office, Salt Lake City, Utah, September, 2015

Connelly, J. W., S. T. Knick, M. A. Schroeder, and S. J. Stiver. 2004. Conservation Assessment of Greater Sage-grouse and Sagebrush Habitats. Western Association of Fish and Wildlife Agencies. Unpublished Report. Cheyenne, Wyoming.

Environmental Protection Agency, 2008, National Ambient Air Quality Standards website accessed on September 10, 2011, website address: http://www.epa.gov/air/criteria.html

Environ International Corporation (EIC). 2009b. Air Quality Modeling Study For The Four Corners Region, Revised Report – August 2009.

Golder Associates Inc. (Golder). 2010. Cane Creek Air Quality Impact Assessment (letter report submitted to the BLM and NPS). Fort Collins, Colorado.

Intergovernmental Panel on Climate Change (IPCC) 2013 Summary for Policymakers. In: *Climate Change 2013: The Physical Science Basis. Contribution of Working*

Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boscung, Y. Xia, V. Bex, and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

McClure, Nothrup, Fouts, 2005, Reasonably Foreseeable Development Scenario (RFD) for Oil and Gas, Moab Planning area, Bureau of Land Management, Moab Field Office.

National Park Service, Air Resources Division. 2013. Air quality in national parks: trends (2000–2009) and conditions (2005–2009). Natural Resource Report NPS/NRSS/ARD/NRR—2013/683. National Park Service, Denver, Colorado.

Parrish, J. R., F. P. Howe, and R. Norvell. 2002. The Utah avian conservation strategy, version 2.0. Salt Lake City, UT: Utah Partners in Flight Program, Utah Division of Wildlife Resources.

Romin, Laura A. and James A. Muck, 2002, "Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances." U.S. Department of Interior, U.S. Fish and Wildlife Service, Utah Field Office, Salt Lake City, Utah.

State of Utah Department of Natural Resources, Division of Wildlife Resources, 2002, Strategic Management Plan for Sage-Grouse. Publication 02-20.

U.S. Fish and Wildlife Service. 2008. Birds of Conservation Concern 2008. United States Department of Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, Virginia. 85 pp. [Online version available at <http://www.fws.gov/migratorybirds/>]

U.S. Forest Service, National Park Service, and U.S. Fish and Wildlife Service. 2010. Federal land managers' air quality related values work group (FLAG): phase I report—revised (2010). Natural Resource Report NPS/NRPC/NRR—2010/232. National Park Service, Denver, Colorado.

U. S. Global Change Research Program (USGCRP) 2009 U. S. *Global Climate Change Impacts in the United States*, Thomas R. Karl, Jerry M. Melillo, and Thomas C. Peterson, (eds.).Cambridge University Press, 2009.

Utah Division of Air Quality, 2014, Annual Report for the Year 2014, Salt Lake City, Utah.

Utah Division of Wildlife Resource, 2015. Utah Conservation Data Center. State of Utah Department of Natural Resources, UDWR Salt Lake City, Utah. [Last accessed May 26, 2015.] Available at: http://dwrcdc.nr.utah.gov/ucdc.

6.2 List of Acronyms

ACEC	Areas of Critical Environmental Concern
APD	Application for Permit to Drill
AQRV	Air Quality Related Value
BCC	Birds of Conservation Concern
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BMP	Best Management Practice
CBL	Cement Bond Log
CCDO	Canyon Country District Office
CET	Cement Evaluation Tool
CFR	Code of Federal Regulations
CIAA	Cumulative Impact Analysis Area
COA	Conditions of Approval
CSU	Controlled Surface Use
DR	Decision Record
EA	Environmental Assessment
EI	Emissions Inventory
EIS	Environmental Impact Statement
EOI	Expressions of Interest
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FLPMA	Federal Land Policy and Management Act of 1976
FONSI	Finding of No Significant Impact
FOOGLRA	Federal Onshore Oil and Gas Leasing Reform Act
GAO	General Approval Order
ID	Interdisciplinary
IDPR	Interdisciplinary Parcel Review
IM	Instruction Memorandum
MBTA	Migratory Bird Treaty Act of 1918
MbFO	Moab BLM Field Office
MLA	Mineral Leasing Act
MLP	Master Leasing Plan
MtFO	Monticello BLM Field Office
MOU	Memorandum of Understanding
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NSO	No Surface Occupancy
ppb	Parts per Billion
PRMP	Proposed Resource Management Plan and Final Environmental Impact Statement
RFD	Reasonably Foreseeable Development
ROD	Record of Decision
RMP	Resource Management Plan

SHPO	State Historic Preservation Office
SMA	Surface Management Agency
SUWA	Southern Utah Wilderness Alliance
TL	Timing Limitation
tpy	Tons per Year
UDAQ	Utah Division of Air Quality
UDWR	Utah Division of Wildlife Resources
UPIF	Utah Partners in Flight
USFWS	United States Fish and Wildlife Service
UTSO	Utah State Office
VOC	Volatile Organic Compound
WO	Washington Office

Appendix A

Parcel List, Stipulations and Notices

List of Lands

UT0216 - 001
T. 21 S., R. 19 E., Salt Lake
Sec. 5: Lot 4;
Sec. 6: Lots 5, 6, 7, SESW, S2SE.
271.20 Acres
Grand County, Utah
Moab Field Office

STIPULATIONS

UT-S-01:	Air Quality
UT-S-108:	TL – 30% Slopes or Greater - Bookcliffs
UT-S-109:	TL – Fragile Soils/Slopes - Mancos Shale
UT-S-122:	NSO – Floodplains, Riparian Areas, Springs, and Public Water Resources
UT-S-229:	TL – Crucial Deer and Elk Winter Range
UT-S-272:	CSU/TL – Burrowing Owl and Ferruginous Hawk Nesting
UT-S-275:	CSU/TL – Bald Eagles
UT-S-298:	CSU – Kit Fox
UT-S-340:	CSU/TL – Mexican Spotted Owl Habitat and Nest Sites
UT-S-341:	CSU/TL – Southwestern Willow Flycatcher Habitat

NOTICES

UT-LN-15:	Pronghorn Fawning
UT-LN-21:	Bighorn Sheep Habitat
UT-LN-44:	Raptors
UT-LN-45:	Migratory Bird
UT-LN-49:	Utah Sensitive Species
UT-LN-67:	Historical and Cultural Resource Values
UT-LN-68:	Notification & Consultation Regarding Cultural Resources
UT-LN-70:	High Potential For Cultural Resource Occurrence
UT-LN-96:	Air Quality Mitigation Measures
UT-LN-99:	Regional Ozone Formation Controls
UT-LN-102:	Air Quality Analysis
T&E-6:	Mexican Spotted Owl
T&E-11:	California Condor

UT0216 - 002
T. 21 S., R. 19 E., Salt Lake
Sec. 7: Lots 1-8, S2NE, E2W2, SE;
Sec. 18: Lots 2-8, E2, E2W2;
Sec. 19: All.
2,161.48 Acres

Grand County, Utah
Moab Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-108: TL – 30% Slopes or Greater - Bookcliffs
UT-S-109: TL – Fragile Soils/Slopes - Mancos Shale
UT-S-122: NSO – Floodplains, Riparian Areas, Springs, and Public Water Resources
UT-S-229: TL – Crucial Deer and Elk Winter Range
UT-S-272: CSU/TL – Burrowing Owl and Ferruginous Hawk Nesting
UT-S-275: CSU/TL – Bald Eagles
UT-S-298: CSU – Kit Fox
UT-S-340: CSU/TL – Mexican Spotted Owl Habitat and Nest Sites
UT-S-341: CSU/TL – Southwestern Willow Flycatcher Habitat

NOTICES

UT-LN-15: Pronghorn Fawning
UT-LN-21: Bighorn Sheep Habitat
UT-LN-44: Raptors
UT-LN-45: Migratory Bird
UT-LN-49: Utah Sensitive Species
UT-LN-69: High Potential for Cultural Resources
UT-LN-70: High Potential for Cultural Resource Occurrence
UT-LN-72: High Potential Paleontological Resources
UT-LN-96: Air Quality Mitigation Measures
UT-LN-99: Regional Ozone Formation Controls
UT-LN-102: Air Quality Analysis
T&E-6: Mexican Spotted Owl
T&E-11: California Condor

UT0216 - 003

T. 21 S., R. 19 E., Salt Lake
Sec. 8: SWNW, W2SENW, SW, W2W2SE;
Sec. 9: E2NESE, E2SWSE, SESE;
Sec. 10: S2NE, E2SENW, S2;
Sec. 15: All.
1,400.00 Acres
Grand County, Utah
Moab Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-108: TL – 30% Slopes or Greater - Bookcliffs
UT-S-109: TL – Fragile Soils/Slopes - Mancos Shale
UT-S-122: NSO – Floodplains, Riparian Areas, Springs, and Public Water Resources

UT-S-229: TL – Crucial Deer and Elk Winter Range
UT-S-272: CSU/TL – Burrowing Owl and Ferruginous Hawk Nesting
UT-S-275: CSU/TL – Bald Eagles
UT-S-298: CSU – Kit Fox
UT-S-322: CSU – Cultural Resource (Sites, Structures, Objects, and Traditional Use Areas
UT-S-340: CSU/TL – Mexican Spotted Owl Habitat and Nest Sites
UT-S-341: CSU/TL – Southwestern Willow Flycatcher Habitat

NOTICES
UT-LN-15: Pronghorn Fawning
UT-LN-21: Bighorn Sheep Habitat
UT-LN-44: Raptors
UT-LN-45: Migratory Bird
UT-LN-49: Utah Sensitive Species
UT-LN-69: High Potential for Cultural Resources
UT-LN-70: High Potential for Cultural Resource Occurrence
UT-LN-72: High Potential Paleontological Resources
UT-LN-96: Air Quality Mitigation Measures
UT-LN-99: Regional Ozone Formation Controls
UT-LN-102: Air Quality Analysis
T&E-6: Mexican Spotted Owl
T&E-11: California Condor

UT0216 - 004
T. 21 S., R. 19 E., Salt Lake
Sec. 11: SWNW, W2SW;
Sec. 13: Lots 2-4, S2SW, W2SE;
Sec. 14: W2NW, SW, S2SE;
Sec. 17: S2SE.
799.83 Acres
Grand County, Utah
Moab Field Office

STIPULATIONS
UT-S-01: Air Quality
UT-S-108: TL – 30% Slopes or Greater - Bookcliffs
UT-S-109: TL – Fragile Soils/Slopes - Mancos Shale
UT-S-122: NSO – Floodplains, Riparian Areas, Springs, and Public Water Resources
UT-S-224: TL – Pronghorn Fawning Grounds
UT-S-229: TL – Crucial Deer and Elk Winter Range
UT-S-272: CSU/TL – Burrowing Owl and Ferruginous Hawk Nesting
UT-S-273: CSU/TL – Golden Eagle Nesting Sites and Territories
UT-S-275: CSU/TL – Bald Eagles
UT-S-298: CSU – Kit Fox
UT-S-317: Unit Joinder – Crescent Unit Agreement UTU88212X

UT-S-340: CSU/TL – Mexican Spotted Owl Habitat and Nest Sites

NOTICES

UT-LN-15: Pronghorn Fawning
UT-LN-21: Bighorn Sheep Habitat
UT-LN-25: White-Tailed and Gunnison Prairie Dog
UT-LN-44: Raptors
UT-LN-45: Migratory Bird
UT-LN-49: Utah Sensitive Species
UT-LN-67: Historical and Cultural Resource Values
UT-LN-68: Notification & Consultation Regarding Cultural Resources
UT-LN-96: Air Quality Mitigation Measures
UT-LN-99: Regional Ozone Formation Controls
UT-LN-102: Air Quality Analysis
T&E-6: Mexican Spotted Owl
T&E-11: California Condor

UT0216 - 005

T. 22 S., R. 19 E., Salt Lake
Sec. 21: W2;
Sec. 28: N2, NWSW.
680.00 Acres
Grand County, Utah
Moab Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-109: TL – Fragile Soils/Slopes - Mancos Shale
UT-S-122: NSO – Floodplains, Riparian Areas, Springs, and Public Water Resources
UT-S-167: CSU – Visual Resources - Scenic Driving Corridors
UT-S-272: CSU/TL – Burrowing Owl and Ferruginous Hawk Nesting
UT-S-298: CSU – Kit Fox

NOTICES

UT-LN-15: Pronghorn Fawning
UT-LN-44: Raptors
UT-LN-45: Migratory Bird
UT-LN-49: Utah Sensitive Species
UT-LN-67: Historical and Cultural Resource Values
UT-LN-68: Notification & Consultation Regarding Cultural Resources
UT-LN-72: High Potential Paleontological Resources
UT-LN-96: Air Quality Mitigation Measures
UT-LN-99: Regional Ozone Formation Controls
UT-LN-102: Air Quality Analysis
T&E-11: California Condor

UT0216 - 063
T. 30 S., R. 26 E., Salt Lake
Sec. 29: All;
Sec. 30: N2, N2S2, SESW, SESE;
Sec. 31: SWSW, SWSE.
1,280.00 Acres
San Juan County, Utah
Moab Field Office

STIPULATIONS

UT-S-01:	Air Quality
UT-S-122:	NSO – Floodplains, Riparian Areas, Springs, and Public Water Resources
UT-S-229:	TL – Crucial Deer and Elk Winter Range
UT-S-272:	CSU/TL – Burrowing Owl and Ferruginous Hawk Nesting
UT-S-275:	CSU/TL – Bald Eagles
UT-S-298:	CSU – Kit Fox
UT-S-329:	CSU – Slopes Greater than 30%
UT-S-340:	CSU/TL – Mexican Spotted Owl Habitat and Nest Sites

NOTICES

UT-LN-25:	White-Tailed and Gunnison Prairie Dog
UT-LN-44:	Raptors
UT-LN-45:	Migratory Bird
UT-LN-49:	Utah Sensitive Species
UT-LN-65:	Old Spanish Trail
UT-LN-69:	High Potential for Cultural Resources
UT-LN-70:	High Potential for Cultural Resource Occurrence
UT-LN-72:	High Potential Paleontological Resources
UT-LN-96:	Air Quality Mitigation Measures
UT-LN-99:	Regional Ozone Formation Controls
UT-LN-102:	Air Quality Analysis
T&E-6:	Mexican Spotted Owl
T&E-11:	California Condor

UT0216 - 064
T. 31 S., R. 26 E., Salt Lake
Secs. 4 and 5: All;
Sec. 6: Lots 1-3, S2SW.
1,528.71 Acres
San Juan County, Utah
Moab Field Office

STIPULATIONS

UT-S-01:	Air Quality
UT-S-109:	TL – Fragile Soils/Slopes - Mancos Shale

UT-S-122: NSO – Floodplains, Riparian Areas, Springs, and Public Water Resources
UT-S-229: TL – Crucial Deer and Elk Winter Range
UT-S-272: CSU/TL – Burrowing Owl and Ferruginous Hawk Nesting
UT-S-275: CSU/TL – Bald Eagles
UT-S-298: CSU – Kit Fox
UT-S-329: CSU – Slopes Greater than 30%
UT-S-340: CSU/TL – Mexican Spotted Owl Habitat and Nest Sites

NOTICES

UT-LN-25: White-Tailed and Gunnison Prairie Dog
UT-LN-44: Raptors
UT-LN-45: Migratory Bird
UT-LN-49: Utah Sensitive Species
UT-LN-65: Old Spanish Trail
UT-LN-69: High Potential for Cultural Resources
UT-LN-70: High Potential for Cultural Resource Occurrence
UT-LN-72: High Potential Paleontological Resources
UT-LN-96: Air Quality Mitigation Measures
UT-LN-99: Regional Ozone Formation Controls
UT-LN-102: Air Quality Analysis
T&E-6: Mexican Spotted Owl
T&E-11: California Condor

Stipulations and Lease Notices

The following stipulations will be attached to all parcels regardless of surface ownership:

1. In conformance with WO IM No. 2005-003: **Cultural Resources Stipulation**

   This lease may be found to contain historic properties and/or resources protected under the National Historic Preservation Act (NHPA), American Indian Religious Freedom Act, Native American Graves Protection and Repatriation Act, E.O. 13007, or other statutes and executive orders. The BLM will not approve any ground disturbing activities that may affect any such properties or resources until it completes its obligations under applicable requirements of the NHPA and other authorities. The BLM may require modification to exploration or development proposals to protect such properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized or mitigated.

2. In conformance with WO IM No. 2002-174: **Endangered Species Act Section 7 Consultation Stipulation**:

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

3. As required by the Moab RMP (MIN-13, pg. 75) Air Quality Stipulation **UT-S-01**:

   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.
   Exception: This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.
   Modification: None
   Waiver: None
   AND
   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.
   Exception: None
   Modification: None
   Waiver: None

The following lease stipulations are required by RMPs and BLM policy requirements.

UT-S-01

AIR QUALITY

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 NO_x per horsepower-hour.

Exception: This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.

Modification: None

Waiver: None

AND

All new and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gram of NO_x per horsepower-hour.

Exception: None

Modification: None

Waiver: None

UT-S-108

TIMING LIMITATION – 30% SLOPES OR GREATER – BOOKCLIFFS

No surface-disturbing activities are allowed from **November 1 to April 30** where slopes are greater than 30% in the Bookcliffs to minimize watershed damage in fragile soils on steep slopes. This restriction includes heavy equipment traffic on existing roads associated with drilling operations.

Exception: An exception could be granted if the operator can provide a plan of development demonstrating that the Proposed Action would be properly designed and constructed to support the anticipated types and levels of use. Roads must be designed to meet BLM road standards for drainage control and surfaced to support heavy equipment and tractor trailers. Adjustments to the timing restriction could be considered by the authorized officer on a case-by-case basis, depending on current soil and weather conditions.

Modification: None

Waiver: None

UT-S-109

TIMING LIMITATION – FRAGILE SOILS – MANCOS SHALE

No surface-disturbing activities allowed during **December 1 to May 31** to minimize watershed damage including compaction, rutting, and topsoil loss on saline soils derived from the Mancos Shale. This restriction includes heavy equipment traffic on existing roads associated with drilling operations.

Exception: An exception could be granted if the operator can provide a plan of development demonstrating that the Proposed Action would be properly designed and constructed to support the anticipated types and levels of use. Roads must be designed to meet BLM road standards for drainage control and surfaced to support heavy equipment and tractor trailers. Adjustments to the timing restriction could be considered by the authorized officer on a case-by-case basis, depending on current soil and weather conditions.

Modification: None

Waiver: None

UT-S-122

NO SURFACE OCCUPANCY –

FLOODPLAINS, RIPARIAN AREAS, SPRINGS, AND PUBLIC WATER RESOURCES

No surface-disturbing activities within 100 year floodplains or within 100 meters of riparian areas. Also, no surface-disturbing activities within public water reserves or within 100 meters of springs.

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 benefit and enhance the resource values.

Modification: None

Waiver: None

UT-S-167

CONTROLLED SURFACE USE –

VRM II SCENIC DRIVING CORRIDORS HIGHWAYS 128, 279, 313, NORTH US 191; NEEDLES ANTICLINE AND KANE CREEK ROADS

Surface-disturbing activities within scenic driving corridors must meet VRM II class objectives within 0.5 miles of the scenic driving corridors.

Exception: An exception could be granted if: (a) a viewshed analysis indicates no impairment of the visual resources from the driving corridor or (b) the action is determined to be consistent and compatible with protection or enhancement of the resource values or the use would provide suitable opportunities for public enjoyment of these resources.

Modification: None

Waiver: None

UT-S-224

TIMING LIMITATION – PRONGHORN FAWNING GROUNDS

No surface-disturbing activities from **May 1 to June 15** within Cisco Desert and Hatch Point pronghorn fawning grounds to minimize stress and disturbance during critical pronghorn birthing time.

Exception: May be granted to these dates by the authorized officer if the operator submits a plan which demonstrates that impacts from the Proposed Action can be adequately mitigated or if it is determined the habitat is not being utilized for fawning in any given year.

Modification: The authorized officer may modify the boundaries of the stipulation area if a portion of the area is not being used as fawning grounds or if habitat is being utilized outside of stipulation boundaries as crucial fawning grounds and needs to be protected.

Waiver: May be granted if the fawning grounds are determined to be unsuitable or unoccupied and there is no reasonable likelihood of future use of the fawning grounds.

UT-S-229

TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE

No surface disturbing activities from **November 15 to April 15** within crucial deer and/or elk winter range to minimize stress and disturbance to deer and elk during critical winter months.

Exception: This stipulation does not apply to the maintenance and operation of existing and ongoing facilities. An exception may be granted by the authorized officer if the operator submits a plan which demonstrates that impacts from the Proposed Action can be adequately mitigated or it is determined the habitat is not being utilized during the winter period for any given year.

Modification: The authorized officer may modify the boundaries of the stipulation area (1) if a portion of the area is not being used as winter range by deer/elk or (2) if habitat is being utilized outside of stipulation boundaries as winter range and needs to be protected or (3) if the migration patterns have changed causing a difference in the season of use.

Waiver: May be granted if the winter range habitat is unsuitable or unoccupied during winter months by deer/elk and there is no reasonable likelihood of future winter range use.

UT-S-272
CONDITIONAL SURFACE USE/TIMING LIMITATION – BURROWING OWL AND FERRUGINOUS HAWK NESTING

No surface disturbances or occupancy will be conducted during the breeding and nesting season (March 1 to August 31 for burrowing owl and March 1 – August 1 for ferruginous hawk) within spatial buffers (0.25 mile for burrowing owl and 0.5 mile for ferruginous hawk) of known nesting sites.

Exception: An exception would be granted if protocol surveys determine that nesting sites, breeding territories, and winter roosting areas are not occupied.

Modification: The authorized officer may modify the boundaries of the stipulation area if portions of the area do not include habitat or are outside the current defined area, as determined by the BLM.

Waiver: May be granted if it is determined the habitat no longer exists or has been destroyed.

UT-S-273
CONDITIONAL SURFACE USE AND TIMING LIMITATION – GOLDEN EAGLE NESTING SITES AND TERRITORIES

No surface-disturbing activities will be allowed within a 0.5 miles radius of documented Golden Eagle nest sites within nesting territories from February 1 to July 15th or until fledgling and dispersal of young. Any access created by the action will be outside of nesting season and will be eliminated once action is complete.

Exception: An exception may be granted by the authorized officer if authorization is obtained from USFWS and UDWR. The authorized officer may also grant an exception if an environmental analysis indicates that the nature or the conduct of the actions, as proposed or conditioned, would not impair the primary constituent element determined necessary for the survival and recovery of the Golden Eagle.

Modification: The authorized officer may modify the boundaries of the stipulation area if an environmental analysis indicates and USFWS and UDWR determine a portion of the area is not being used as Golden Eagle nesting territories.

Waiver: A waiver may be granted if an individual Golden Eagle nest has been inactive (unoccupied) for at least a period of 3 years. Nest-monitoring data for a 3-year period would be required before the waiver could be granted.

UT-S-275
CONTROLLED SURFACE USE /TIMING LIMITATION – BALD EAGLES

Bald eagles would be protected as outlined in the Bald Eagle Protection Act of 1940 (16 U.S.C. 668-668d, 54 Stat. 250, as amended). Activities on BLM lands that contain nesting or winter roosting habitat for the Bald Eagle would be avoided or restricted, depending on the duration and timing of the activity. Bald eagles would be managed according to the Best Management Practices for Raptors and their Associated Habitats in Utah (BLM 2006c). These management requirements would include restrictions and avoidance measures, including required surveys prior to activity, possible monitoring during the

activity, implementation of seasonal and spatial buffers during the breeding season (January 1–August 31), and avoidance of disturbance in riparian areas unless impracticable. No future ground-disturbing activities would be authorized within a 1.0-mile radius of known Bald Eagle nest sites year-round. Deviations may be allowed only after appropriate levels of consultation and coordination with the USFWS/UDWR. In addition, no permanent above-ground structures would be allowed within a 0.50-mile radius of a winter roost site if the structure would result in the habitat becoming unsuitable for future winter roosting by Bald Eagles.

These requirements would help to mitigate the adverse impacts of human disturbance on Bald Eagles during breeding and roosting seasons.

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 would 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 O.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 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 direction drilling to avoid direct impacts to large cottonwood gallery riparian habitats. Ensure that such direction drilling does not intercept or degrade alluvial aquifers.
11. All areas of surface disturbance within riparian areas and/or adjacent uplands should be re-vegetated with native species.

Additional measures may also be employed to avoid or minimize effects to the species between the lease stage and lease development stage. These additional measures will be developed and implemented in coordination with the USFWS/UDWR to ensure continued compliance with the Bald Eagle Protection Act.

Exception: An exception may be granted by the authorized officer if authorization is obtained from USFWS/UDWR. The authorized officer may also grant an exception if an analysis indicates that the nature of the conduct of the actions, as proposed or conditioned, would not impair the habitat and physical requirements determined necessary for the survival of the Bald Eagles.

Modification: The authorized officer may modify the boundaries of the stipulation area if an analysis indicates, and USFWS/UDWR determines that a portion of the area is not being used as Bald Eagle nesting or roosting territories or if additional nesting or roosting territories are identified.

Waiver: May be granted if there is no reasonable likelihood of site occupancy over a minimum 10 year period.

UT-S-298

CONDITIONAL SURFACE USE – KIT FOX

No surface disturbances within 200 meters of a kit fox den.

Exception: An exception could be granted if protocol surveys determine that kit fox dens are not present.

Modification: The authorized officer may modify the stipulation area if portions of the area do not contain habitat.

Waiver: A waiver may be granted if it is determined that the habitat no longer exists.

UT-S-322

CONTROLLED SURFACE USE – CULTURAL RESOURCES

(Sites, Structures, Objects, and Traditional Use Areas)

Protective measures will be established and implemented for sites, structures, objects, and traditional use areas that are important to tribes with historical and cultural connections to the land, in order to maintain the view shed and intrinsic values, as well as the auditory, visual, and esthetic settings of the resources. Protection measures for undisturbed cultural resources and their natural settings will be developed in compliance with regulatory mandates and Native American consultation.

Purpose: Protect and preserve cultural resources, sites, structures, objects and traditional use areas of religious significance to Native Americans.

Exceptions: An exception could be granted if the BLM authorized officer determines that avoidance of direct and indirect impacts to historic properties is not feasible (e.g. avoidance may cause unacceptable damage to other public land resources or affect valid existing rights).

Modification: None

Waiver: None

UT-S-329

CONTROLLED SURFACE USE – SLOPES GREATER THAN 30%

No surface-disturbing activities are allowed on slopes greater than 30% to minimize watershed damage throughout the Moab Planning Area in fragile soils. This restriction includes heavy equipment traffic on existing roads associated with drilling operations.

Purpose: To minimize watershed damage in fragile soils on steep slopes.

Exception: An exception could be granted if the operator can provide a plan of development demonstrating that the Proposed Action would be properly designed and constructed to support the anticipated types and levels of use. Roads must be designed to meet BLM road standards for drainage control and surfaced to support heavy equipment and tractor trailers. Adjustments to the timing restriction could be considered by the Authorized Officer on a case-by-case basis, depending on current soil and weather conditions.

Modification: None

Waiver: None

UT-S-340

CONTROLLED SURFACE USE/TIMING LIMITATION – MEXICAN SPOTTED OWL HABITAT AND NEST SITES

In areas that contain suitable habitat for MSO or designated Critical Habitat, actions will be avoided or restricted that may cause stress and disturbance during nesting and rearing of their young. Appropriate measures will depend on whether the action is temporary or permanent and whether it occurs within or outside the owl nesting season. A temporary action is completed prior to the following breeding season

leaving no permanent structures and resulting in no permanent habitat loss. A permanent action continues for more than one breeding season and/or causes a loss of owl habitat or displaces owls through disturbances, i.e., creation of a permanent structure. Current avoidance and minimization measures include the following:

1. Surveys will be required prior to implementation of the Proposed Action. All surveys must be conducted by qualified individual(s) acceptable to the BLM.
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. Any activity that includes 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 MSO 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 from **March 1 through August 31**, and leaves no permanent structure or permanent habitat disturbance, the action can proceed without an occupancy survey.
    b. If the action will occur during a breeding season, a survey for owls is required prior to commencing the activity. If owls are found, the activity shall 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 disturbing actions will occur within 0.5 mile of an identified site. If nest site is unknown, no activity will occur within the designated current and historic Protected Activity Center (PAC).
    c. Avoid permanent structures within 0.5 mile 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 contingent upon 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 designated and/or approved routes.
    f. Limit new access routes created by the project.

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.

Modifications to the Surface Use Plan of Operations may be required in order to protect the MSO and/or habitat in accordance with Section 6 of the lease terms, the Endangered Species Act, and the regulations at 43 CFR 3101.1-2.

Exception: An exception may be granted by the Authorized Officer if authorization is obtained from USFWS (through applicable provisions of the ESA). The Authorized Officer may also grant an exception if an environmental analysis indicates that the nature or the conduct of the actions would not impair the primary constituent element determined necessary for the survival and recovery of the MSO and USFWS concurs with this determination.

Modification: The Authorized Officer may modify the boundaries of the stipulation area if an environmental analysis indicates and USFWS (through applicable provisions of the ESA) determines a portion of the area is not being used as Critical Habitat.

Waiver: A waiver may be granted if the MSO is de-listed and the Critical Habitat is determined by USFWS as not necessary for the survival and recovery of the MSO.

UT-S-341
CONTROLLED SURFACE USE/TIMING LIMITATION – SOUTHWESTERN WILLOW FLYCATCHER HABITAT

In areas that contain riparian habitat within the range for the Southwestern willow flycatcher, actions will be avoided or restricted that may cause stress and disturbance during nesting and rearing of their young. Appropriate measures will depend on whether the action is temporary or permanent, and whether it occurs within or outside the nesting season. A temporary action is completed prior to the following breeding season leaving no permanent structures and resulting in no permanent habitat loss. A permanent action continues for more than one breeding season and/or causes a loss of habitat or displaces flycatchers through disturbances, i.e., creation of a permanent structure. 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:

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. 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. 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.
5. Activities will maintain a 300 feet buffer from suitable riparian habitat year long.
6. Activities within 0.25 mile of occupied breeding habitat will not occur during the breeding season of **May 1 to August 15**.
7. Ensure that water extraction or disposal practices do not result in change of hydrologic regime that will result in loss or degradation of riparian habitat.
8. Re-vegetate with native species all areas of surface disturbance within riparian areas and/or adjacent land.

Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the USFWS between the lease sale stage and lease development stage to ensure

continued compliance with the ESA.
Exception: An exception may be granted by the Authorized Officer if authorization is obtained from USFWS (through applicable provisions of the ESA). The Authorized Officer may also grant an exception if an environmental analysis indicates that the nature of the conduct of the actions, as proposed or conditioned, will not impair the primary constituent element determined necessary for the survival and recovery of the southwestern willow flycatcher and USFWS concurs with this determination.
Modification: The Authorized Officer may modify the boundaries of the stipulation area if an environmental analysis indicates, and USFWS (through applicable provisions of the ESA) determines that a portion of the area is not being used as southwestern willow flycatcher habitat.
Waiver: May be granted if the southwestern willow flycatcher is de-listed and if USFWS determines it is not necessary for the survival and recovery of the southwestern willow flycatcher.

The following stipulation is applied to parcel UT0216-004 by BLM policy:

UT-S-317
UNIT JOINDER

The successful bidder will be required to join the Crescent Unit Agreement or show reason why a joinder should not be required.

The following lease notices will be attached to all parcels regardless of surface ownership:

1. **UT-LN-96** Air Quality Mitigation Measures:

   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, have 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.

   - *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 NOx/bhp-hr for engines <300HP; and 1g NOx/bhp-hr for engines >300HP.

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.

2. **UT-LN-99** Regional Ozone Formation Controls:
   To mitigate any potential impact oil and gas development emissions may have on regional ozone formation, the following Best Management Practices (BMPs) would be required for any development projects:
   a. Tier II or better drilling rig engines
   b. Stationary internal combustion engine standard of 2g NOx/bhp-hr for engines <300HP and 1g NOx/bhp-hr for engines >300HP
   c. Low bleed or no bleed pneumatic pump valves
   d. Dehydrator VOC emission controls to +95% efficiency
   e. Tank VOC emission controls to +95% efficiency

3. **UT-LN-102** Air Quality Analysis:

   The lessee/operator is given notice that prior to project-specific approval, additional air quality analyses may be required to comply with the National Environmental Policy Act, Federal Land Policy Management Act, and/or other applicable laws and regulations. Analyses may include dispersion modeling and/or photochemical modeling for deposition and visibility impacts analysis, control equipment determinations, and/or emission inventory development. These analyses may result in the imposition of additional project-specific air quality control measures.

The following lease notices are required by RMPs and BLM policy.

UT-LN-15
PRONGHORN FAWNING

The lessee/operator is given notice that lands in this lease have been identified as containing antelope fawning habitat. Exploration, drilling and other development activities may be restricted from May 1 through June 15 to protect antelope fawning. Modifications may be required in the Surface Use Plan of Operations including seasonal timing restrictions to protect the species and its habitat.

UT-LN-21
BIGHORN SHEEP HABITAT

The Lessee/Operator is given notice that the lands in this parcel contains habitat for desert bighorn sheep. Modifications to the surface use plan may be required in order to protect habitat from surface disturbing activities. These modifications may include such measures as timing restrictions to avoid surface use in bighorn sheep habitat during the crucial season (April 15 – June 15). Measure may also include avoidance of certain areas such as water sources and talus slopes.

UT-LN-25
WHITE-TAILED AND GUNNISON PRAIRIE DOG

The lessee/operator is given notice that this lease parcel has been identified as containing white-tailed or Gunnison prairie dog habitat. Modifications to the Surface Use Plan of Operations may be required in order to protect white-tailed or Gunnison prairie dog from surface disturbing activities in accordance with the Endangered Species Act and 43 CFR 3101.1-2.

UT-LN-44
RAPTORS

Appropriate seasonal and spatial buffers shall be placed on all known raptor nests in accordance with Utah Field Office Guidelines for Raptor Protection from Human and Land use Disturbances (USFWS 2002) and Best Management Practices for Raptors and their Associated Habitats in Utah (BLM 2006). All construction related activities will not occur within these buffers if pre-construction monitoring indicates the nests are active, unless a site specific evaluation for active nests is completed prior to construction and if a BLM wildlife biologist, in consultation with USFWS and UDWR, recommends that activities may be permitted within the buffer. The BLM will coordinate with the USFWS and UDWR and have a recommendation within 3-5 days of notification. Any construction activities authorized within a protective (spatial and seasonal) buffer for raptors will require an on-site monitor. Any indication that activities are adversely affecting the raptor and/or its' young the on-site monitor will suspend activities and contact the BLM Authorized Officer immediately. Construction may occur within the buffers of inactive nests. Construction activities may commence once monitoring of the active nest site determines that fledglings have left the nest and are no longer dependent on the nest site. Modifications to the Surface Use Plan of Operations may be required in accordance with section 6 of the lease terms and 43CFR3101.1-2.

UT-LN-45
MIGRATORY BIRD

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.

UT-LN-49
UTAH SENSITIVE SPECIES

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.

UT-LN-65
OLD SPANISH TRAIL

The lessee/operator is given notice that lands in this lease are crossed by the Old Spanish Trail National Historic Trail [Old Spanish Trail Recognition Act of 2002, (Old Spanish Trail PLO 107-325)].

Modifications to the Surface Use Plan of Operations may be required in order to protect the historic integrity of the trail. Coordination with the National Park Service may be necessary.

UT-LN-67

HISTORICAL AND CULTURAL RESOURCE VALUES

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.

UT-LN-68

NOTIFICATION AND CONSULTATION REGARDING CULTURAL RESOURCES

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.

UT-LN-69

HIGH POTENTIAL FOR CULTURAL RESOURCES

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.

UT-LN-70

HIGH POTENTIAL FOR CULTURAL RESOURCE OCCURRENCE

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.

UT-LN-72

HIGH POTENTIAL PALEONTOLOGICAL RESOURCES

The lessee/operator is given notice that lands in this lease have been identified as having high potential for paleontological resources. Planned projects should be consistent with BLM Manual and Handbook H8270-1, Chapter III (A) and III (B) to avoid areas where significant fossils are known or predicted to occur or to provide for other mitigation of possible adverse effects (RX, NF, ESR). Modifications to the

Surface Use Plan of Operations may be required in order to protect paleontological resources from surface disturbing activities in accordance with Section 6 of the lease terms and 43 CFR 3101.1-2.

T&E-6
MEXICAN SPOTTED OWL

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.

A temporary action is completed prior to the following breeding season leaving no permanent structures and resulting in no permanent habitat loss. A permanent action continues for more than one breeding season and/or causes a loss of owl habitat or displaces owls 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 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:

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.
    f. Limit new access routes created by the project.

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.

T&E-11
CALIFORNIA CONDOR

The Lessee/Operator is given notice that the lands located in this parcel contain potential habitat for the California Condor, a federally listed species. Avoidance or use restrictions may be placed on portions of the lease if the area is known or suspected to be used by condors. Application of appropriate measures will depend on whether the action is temporary or permanent, and whether it occurs within or outside potential habitat. A temporary action is completed prior to the following important season of use, leaving no permanent structures and resulting in no permanent habitat loss. This would include consideration for habitat functionality. A permanent action continues for more than one season of habitat use, and/or causes a loss of condor habitat function or displaces condors through continued disturbance (i.e. creation of a permanent structure requiring repetitious maintenance, or emits disruptive levels of noise).

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:

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) approved by the BLM, and must be conducted according to approved protocol.
2. If surveys result in positive identification of condor use, all lease activities will require monitoring throughout the duration of the project to ensure desired results of applied mitigation and protection. Minimization measures will be evaluated during development and, if necessary, Section 7 consultation may be reinitiated.
3. Temporary activities within 1.0 mile of nest sites will not occur during the breeding season.
4. Temporary activities within 0.5 miles of established roosting sites or areas will not occur during the season of use, August 1 to November 31, unless the area has been surveyed according to protocol and determined to be unoccupied.

5. No permanent infrastructure will be placed within 1.0 mile of nest sites.
6. No permanent infrastructure will be placed within 0.5 miles of established roosting sites or areas.
7. Remove big game carrion 100 feet from lease roadways occurring within foraging range.
8. 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 cottonwood gallery riparian habitats. Ensure that such directional drilling does not intercept or degrade alluvial aquifers.
9. Re-initiation of section 7 consultation with the Service will be sought immediately if mortality or disturbance to California condors 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 U.S. Fish and Wildlife Service to ensure continued compliance with the ESA.

Additional measures may also be employed to avoid or minimize effects to the species between the lease sale and lease development stages. These additional measures will be developed and implemented in consultation with the U.S. Fish and Wildlife Service to ensure continued compliance with the Endangered Species Act.

Appendix B

Maps

Appendix C

Deferred Parcel List

List of Lands Recommended for Deferral and Justification

Thirteen (13) lease parcels (approximately 11,007 acres) were originally included on the preliminary list and proposed for inclusion in the February 2016 Notice of Competitive Oil and Gas Lease Sale. Six (6) parcels totaling approximately 2,885.78 acres are recommended for deferral. The reasons for deferral are:

- Three parcels (UT0216-026, UT0216-037 and UT0216-038) are split-estate with the surface owned by the Navajo Nation and administered by the BIA. The Navajo Nation and BIA do not concur with leasing the parcels.
- Two parcels (UT0216-065 and UT0216-066) occur within USFWS critical Gunnison sage-grouse habitat.
- One parcel (UT0216-070) is located within the boundary of the San Juan MLP.

Parcel	Reason of Deferral
UT0216 - 026 T. 39 S., R. 22 E., Salt Lake Sec. 24: SESE (All Lands w/in Navajo Indian Reservation Wdl); Sec. 25: NE, E2NW, NESW, S2SW, SE (All Lands w/in Navajo Indian Res. Wdl). 356.52 Acres San Juan County, Utah Monticello Field Office	In a letter received on August 7, 2015, the Bureau of Indian Affairs and the Navajo Nation recommended that the parcels be excluded from the February 2016 lease sale.
UT0216 - 037 T. 38 S., R. 23 E., Salt Lake Sec. 33: All. 640.00 Acres San Juan County, Utah Monticello Field Office	In a letter received on August 7, 2015, the Bureau of Indian Affairs and the Navajo Nation recommended that the parcels be excluded from the February 2016 lease sale.
UT0216 - 038 T. 39 S., R. 23 E., Salt Lake Sec. 5: Lots 1, 2, S2NE, SE; Sec. 8: NE, S2. 799.31 Acres San Juan County, Utah Monticello Field Office	In a letter received on August 7, 2015, the Bureau of Indian Affairs and the Navajo Nation recommended that the parcels be excluded from the February 2016 lease sale.

Parcel	Reason of Deferral
UT0216 - 065 T. 34 S., R. 26 E., Salt Lake Sec. 3: S2NW; Sec. 5: Lot 4, S2NW; Sec. 9: N2NE; Sec. 10: NW; Sec. 11: All; Sec. 14: Lots 1, 2; Sec. 15: N2NE. 671.33 Acres San Juan County, Utah Monticello Field Office	Gunnison sage-grouse
UT0216 - 066 T. 34 S., R. 26 E., Salt Lake Sec. 19: N2SE; Sec. 20: NENE, SENW; Sec. 22: NESE; Sec. 35: Lot 1. 228.62 Acres San Juan County, Utah Monticello Field Office	Gunnison sage-grouse
UT0216 - 070 T. 36 S., R. 26 E., Salt Lake Sec. 10: Lot 1, NWNE, N2NW, SWNW. 190.00 Acres San Juan County, Utah Monticello Field Office	San Juan MLP

Appendix D

Interdisciplinary Team Checklist

INTERDISCIPLINARY TEAM CHECKLIST

Moab Field Office

Project Title: February 2016 Competitive Oil and Gas Lease Sale

NEPA Log Number: DOI-BLM-UT-Y010-2015-0186-EA

File/Serial Number: Not Applicable

Project Leader: Doug Rowles, Moab Field Office

DETERMINATION OF STAFF:

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.

RESOURCES AND ISSUES CONSIDERED (INCLUDES SUPPLEMENTAL AUTHORITIES APPENDIX 1 H-1790-1)

The following elements are not present in the Moab Field Office and have been removed from the checklist: Farmlands (Prime or Unique), Wild Horses and Burros.

Determi-nation	Resource	Rationale for Determination	Signature	Date
PI	Air Quality	The sale and issuance of an oil and gas lease is an administrative action that does not result in any surface disturbance. The lessee/operator would submit an APD when oil and gas exploration and development activities are proposed. The APD would be subject to site specific NEPA analysis. Both Grand and San Juan Counties are in attainment of the National Ambient Air Quality Standards (NAAQS) for all pollutants. Currently air quality in the area of the proposed leasing meets State Department of Environmental Quality Division of Air Quality Standards. Leasing would have no impact on air quality. However, there is some expectation that exploration could occur. Any ground disturbing activity would have to first be authorized as a lease operation but only through additional NEPA analysis. Activities which may be authorized on these parcels subsequent to the lease sale may produce emissions of regulated air pollutants and/or pollutants that could impact air quality related values in Class 1 areas. The construction, drilling, completion, testing, and production of an oil and gas well would result in emissions of pollutants that affect air quality. As required by the Moab RMP, lease stipulation UT-S-01 requiring engine emission standards would be attached to each lease. Lease notices UT-LN-96 (Air Quality Mitigation Measures), UT-LN-99 (ozone formation control) and UT-LN-102 (air quality analysis) will also be attached to each lease parcel. Impacts to air quality are analyzed in detail in Chapters 3	Cliff Giffen Leonard Herr	7/27/15

Determi-nation	Resource	Rationale for Determination	Signature	Date
		and 4 of this EA.		
NP	Areas of Critical Environmental Concern	The parcels do not occur within an ACEC. See 2008 RMP.	Katie Stevens	5/12/15
NP	BLM Natural Areas	The parcels are not within any areas designated by the RMP/EIS to be managed as BLM Natural Areas for their wilderness characteristics. See 2008 RMP.	Bill Stevens	5/12/15
NI	Cultural Resources	A Cultural Resource Inventory Analysis was conducted to take into account the potential effects that the undertaking may have on historic properties. The goal of the inventory and subsequent consultation was to identify historic properties potentially affected by the undertaking, to assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects on such properties. Thirteen (13) lease parcels were originally included on the preliminary list and proposed for inclusion in the lease sale. It was not known initially which parcels would be deferred and which would move forward for leasing; therefore, the BLM conducted an analysis for all 13 parcels initially proposed. The analysis consisted of an infield reconnaissance visit to each parcel, library records search, Geographic Information System (GIS) site density analysis, and a Site Density Probability Model analysis of each parcel within the proposed lease sale. The analysis examined the cultural use of the landscape by peoples prehistorically and historically, and considered each lease parcel with respect to the effects on historic properties as a result of leasing the parcels for oil and gas development. GIS was used to provide locational data for on-site visits and project and site records searches and analysis. The data was then used to evaluate the effects to historic properties. The search of recorded sites in the proposed lease areas shows that there is wide distribution of sites and site densities. The BLM made the decision to analyze previous inventories and cultural resources in each of the parcels. The parcels analyzed were looked at individually and in proximity to adjoining lease parcels with respect to their geophysical areas and intersection with GIS cultural data. The potential for adverse effect to historic properties varies with each proposed lease parcel and is based on the site density analysis, topography, cultural landscape, and the ability to avoid sites for development projects. In areas with anticipated low (<10 per sq/mi) to medium (>10-30< per sq/mi) site densities, and based on the ability to avoid cultural sites and lease stipulations, potential oil and gas	Don Montoya	8/12/15

Determi-nation	Resource	Rationale for Determination	Signature	Date
		wells and access routes could be located and developed without having an adverse effect to cultural resources. However, for lease parcels showing high (>30 per sq/mi) site densities, the ability to avoid sites is less likely and there is a higher probability of an adverse effect to historic properties. For parcels 001, 004, and 005 with low to medium site density, the determination for SHPO and consulting parties' consultation, the recommendation is "No Effect to Historic Properties" due to the ability to avoid cultural sites and applying lease notice stipulations (UT-LN-67, UT-LN-68) in leasing conditions of approval. For parcels 002, 003, 063, and 064, showing high site densities in portions of the parcels, the determination of effect was more difficult to assess. A more detailed analysis considering site typology, site distribution, topography, and National Register eligibility was considered. The results of the analysis of lease parcels with high site densities were to apply lease notice stipulations UT-LN-69 and UT-LN-70 that specifically address high site density probabilities. Parcel 063 has two (2) 40-acre portions of the lease parcel that are intersected by the Old Spanish National Historic Trail (Trail). Parcel 064 also has a portion of the parcel that intersects with the Trail. Lease notice UT-LN-65 applies to Parcels 063 and 064. Modifications to any Surface Use Plans of Operations may be required in order to protect the historic integrity of the Trail. Consultation and coordination with the Old Spanish Trail Association, National Park Service, and the BLM Trail Administrator may also be necessary. Add Stipulation UT-S-322 to parcel UT0216-003. Based on the Cultural Resource Inventory Analysis and the mitigation of impacts to cultural resources afforded by RMP lease stipulations, Utah Lease Notices, and cultural resources stipulation required by WO IM No. 2005-003, a NHPA determination of "No Adverse Effect to Historic Properties" is proposed for the undertaking. Cultural resources are not impacted to the degree that would require a detailed analysis in the EA. Consultation with consulting parties is ongoing.		
PI	Greenhouse Gas Emissions/Climate Change	Greenhouse gas emissions/Climate change should be discussed in the EA.	Ann Marie Aubry Leonard Herr	11/10/15

Determi-nation	Resource	Rationale for Determination	Signature	Date
NI	Environmental Justice	No EJ populations living in the vicinity of the project area.	Bill Stevens	5/12/15
NI	Fish and Wildlife Excluding USFWS Designated Species	Detailed information on the appropriate lease notices and stipulations are contained in the 2008 Moab RMP. The BLM works with Utah Division of Wildlife Resources along with others to develop the stipulations and notices as mitigation for the leasing stage. Further analysis and mitigation may be required at the project stage. Wildlife habitat and criteria were identified for these species from GIS data layers developed by the BLM, Utah Division of Wildlife Resources/Utah Natural Heritage Program data and field office records. These habitats are addressed in the RMP and provided certain protections through stipulations or notices. See Appendix A for the parcels containing appropriate lease notices and stipulations developed in the 2008 Moab RMP that have been applied to all appropriate parcels. The stipulations will adequately mitigate impacts from the Proposed Action to fish and wildlife resources, fish and wildlife resources will not be impacted to the degree that will require detailed analysis in the EA. Mule deer & elk crucial winter range – parcels 001,002,003,004, 063 & 064 (UT-S-229 Crucial mule deer and elk winter habitat) Yearlong bighorn sheep habitat –Parcels 001, 002, 003, 004 (UT-LN-21-Bighorm sheep habitat) Crucial Pronghorn antelope – parcels 001, 002, 003, 004 & 005 (UT-LN-15 –Pronghorn fawning)	Pamela Riddle	5/26/15
NI	Floodplains	The sale and issuance of an oil and gas lease is an administrative action that does not result in any surface disturbance. However, the issuance of a lease 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. The Proposed Action is predicted to account for less than 1 oil and gas well per year and cause surface disturbance of approximately 4 acres per year for 10 years, or 40 acres total over a 10 year period. The lessee/operator would submit an APD when oil and gas exploration and development activities are proposed. The APD would be subject to site specific NEPA analysis. An approved APD is subject to standard operating procedures (SOP) required by regulation, stipulations attached to the lease, best management practices (BMP) included in the APD submission, and conditions of	Ann Marie Aubry	7/27/15

Determi-nation	Resource	Rationale for Determination	Signature	Date
		approval (COA) developed during the NEPA analysis and documentation process. These SOPs, BMPs, and COAs mitigate impacts to other resources and users from oil and gas exploration and development activities. To protect floodplains, application of stipulation UT-S-122 to all parcels is warranted. Stipulation UT-S-122 does not allow surface disturbing activities within 100- year floodplains. Parcels # UT0216-001, UT0216-002, UT0216-003, UT0216-063, UT0216-064 have large floodplains that are addressed by stipulation UT-S-122. The SOPs, BMPs, COAs and stipulations will adequately mitigate impacts from the Proposed Action to floodplain resources. Thereby, for reasons listed above, floodplains will not be affected to a degree that detailed analysis is required.		
NI	Fuels/Fire Management	The sale and issuance of an oil and gas lease is an administrative action that does not result in any surface disturbance. However, the issuance of a lease 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. The Proposed Action in the Moab Field Office is estimated to account for less than 1 oil and gas well per year and cause surface disturbance of approximately 4 acres per year for 10 years, or 40 acres total over a 10 year period. The lessee/operator would submit an APD when oil and gas exploration and development activities are proposed. The APD would be subject to site specific NEPA analysis. Appropriate measures contained in the APD or developed during the NEPA process would mitigate impacts to fuels and fire management. Fuels and fire management is not impacted to the degree that would require detailed analysis in the EA.	Josh Relph	5/19/15
NI	Geology/Mineral Resources/Energy Production	The Proposed Action is predicted to account for less than 1 oil and gas well per year and cause surface disturbance of approximately 4 acres per year for 10 years, or 40 acres total over a 10 year period. Depending on the success of future oil and gas drilling, non-renewable oil and/or natural gas may be extracted from productive wells and delivered to market. Production of oil and/or gas would result in the irretrievable loss of these resources. Environmental impacts of the RFD were analyzed and are documented in the Moab Field Office PRMP/FEIS. The Proposed Action would not exceed the level of activity predicted in the RFD. The FEIS adequately addresses the impacts of oil and gas leasing. The RFD	Doug Rowles	5/21/15

Determi-nation	Resource	Rationale for Determination	Signature	Date
		remains valid. Potential geologic hazards caused by hydraulic fracturing 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." In the past several years induced seismic events related to energy development projects have drawn heightened public attention. 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. The Proposed Action does not include disposal of waste water via injection wells. Additionally, the potential for induced seismicity cannot be made at the leasing stage; as such, it will be evaluated at the APD stage should the parcel be sold/issued, and a development proposal submitted. Therefore, Geology/Mineral Resources/Energy Production will not be analyzed in further detail in the EA.		
NI	Invasive Species/Noxious Weeds (EO 13112)	No known noxious plants occur within the lease parcels. Invasive plants that occur throughout these parcels in isolated pockets are cheatgrass (Bromus tectorum), Russian thistle (Salsola kali), and halogeton (Halogeton glomeratus). The sale and issuance of an oil and gas lease is an administrative action that does not result in any surface disturbance. However, the issuance of a lease 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. The Proposed Action in the Moab Field Office is estimated to account for less than 1 oil and gas well per year and cause surface disturbance of approximately 4 acres per year for 10 years, or 40 acres total over a 10 year period. The lessee/operator would submit an APD when oil and gas exploration and development activities are proposed. The APD would be subject to site specific NEPA analysis.	Jordan Davis	5/12/15

Determi-nation	Resource	Rationale for Determination	Signature	Date
		An approved APD is subject to standard operation procedures (SOP) required by regulation, stipulations attached to the lease, best management practices (BMP) included in the APD submission, and conditions of approval (COA) developed during the NEPA analysis and documentation process. These SOPs, BMPs, and COAs, mitigate impacts to other resources and users from oil and gas exploration and development activities. At the development stage, mitigation measures and BMPs would be incorporated to avoid the spread of undesirable non-native plant species. These BMPs/COAs include such activities as pressure washing earth moving equipment prior to moving onto a new construction location, and treatment and control of weeds using integrated pest management techniques according to BLM protocols. Invasive species/noxious weeds will not be impacted to the degree that will require detailed analysis in the EA.		
NI	Lands/Access	Impacts to individual ROW/holders would be determined at the time a specific development proposal is received and any required modification or mitigation would be included in the authorization. Many, but not all, parcels are accessed by designated transportation routes. Any new road construction in a future site specific proposal, would likely originate from a designated transportation route, and could occur upon BLM lands within the lease, adjacent BLM lands, private lands or other split estate owned lands. Issuance of a lease does not provide for access across adjacent private lands. The operator would be required to negotiate access to the lease parcels. Impacts to lands/access would be analyzed in project specific NEPA documentation and modification and/or mitigation included in the project specific approved APD. Lands/Access is not impacted to the degree that would require detailed analysis in the EA.	Jan Denney	5/12/15
NI	Livestock Grazing	The sale and issuance of an oil and gas lease is an administrative action that does not result in any surface disturbance. The lessee/operator would submit an APD when oil and gas exploration and development activities are proposed. The APD would be subject to site specific NEPA analysis. An approved APD is subject to standard operating procedures (SOP) required by regulation, stipulations attached to the lease, best management practices (BMP) included in the APD submission, and conditions of approval (COA) developed during the NEPA	Kim Allison	6/10/15

Determi-nation	Resource	Rationale for Determination	Signature	Date
		analysis and documentation process. These SOPs, BMPs, and COAs, mitigate impacts to other resources and users from oil and gas exploration and development activities. Standard terms of the lease agreements include the ability to move the well 200 meters, which would avoid most range improvements and rangeland trend studies. Changes to grazing permit terms and conditions, exchange of use agreements or assignments of range improvements would not occur as a result leasing or exploration. For reasons listed above, there are no affects to livestock grazing to a degree that detailed analysis is required.		
PI	Migratory Birds/Raptors	The following documents are incorporated: Utah Comprehensive Wildlife Conservation Strategy (CWCS), Utah Partners in Flight Avian Conservation Strategy Version 2.0. (2002), 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), and Utah Supplemental Planning Guidance: Raptor Best Management Practices (Moab RMP, Appendix R). Migratory birds are present within all of the proposed parcels. Migratory birds would not be impacted by the act of leasing itself but it implies that development may follow which may have an impact on migratory birds. Lease notice (UT-LN-45) for migratory birds is warranted for all parcels. Raptors habitat, either foraging or nesting, may be found on all of the parcels. Raptors would not be impacted by the act of leasing itself but it implies that development may follow which may have an impact on raptors; therefore a raptor habitat lease notice (UT-LN-44) has been attached to all of the leases to notify the lessee of the possible presence of raptor habitats and nesting at the leasing stage. UT-LN-44 requires breeding season surveys. If nesting raptors are located within project areas, surface disturbing activities will not occur during nesting season, eliminate impacts & disturbances to raptors and golden eagles during nesting season. Permanent facilities may be re-located to avoid long disturbances to active raptor/eagle nests. The above mentioned lease notices and mitigation measures may reduce impacts but residual impacts to migratory birds and raptors will be further analyzed. Additionally there is a known Golden Eagle nest within	Pamela Riddle	5/26/15

Determi-nation	Resource	Rationale for Determination	Signature	Date
		parcel 004; therefore a stipulation for Golden Eagles will be attached to this lease. UT-S-273 - Conditional Surface Use And Timing Limitation – Golden Eagle Nesting Sites And Territories.		
NI	Utah BLM Sensitive Species	Detailed information on the inclusion of the appropriate lease notices and stipulations are contained in the 2008 Moab RMP. Sensitive species habitat and criteria were identified for these species from GIS data layers developed by the BLM, Utah Division of Wildlife Resources/Utah Natural Heritage Program data and field office records. These habitats are addressed in the RMP and provided needed protections through stipulations or notices. Stipulations for burrowing owl and ferruginous hawk. (Stipulation UT-S-272-CSU/TL Burrowing Owl and Ferruginous Hawk Nesting) are attached to 001, 002, 003, 004, 005, 063 & 064. Kit fox habitat can be found throughout the field office, though a draft model developed by the Richfield BLM has allowed us to identify the most likely habitats. Stipulation UT-S-298 (Kit Fox) is used to protect kit fox in parcels 001, 002, 003, 004, 005, 063 & 064. All parcels will have UT-LN-49 attached to notify the lessee of the potential for sensitive species habitat that will include kit fox. White-tailed prairie dog habitat survey information and models supplied by the DWR indicate white-tailed prairie dog and or Gunnison prairie dog habitat may be found on parcels 004, 063 & 064. Lease notice UT-LN-25 CSU will be applied to these parcels. This notice is used to notify the lessee of the possible presence of prairie dogs at the leasing stage. Other sensitive species may also be found on all leases; therefore the Utah Sensitive Species lease notice (UT-LN-49) has been attached to all parcels to notify the lessee of the potential for sensitive species habitat. For each of the named species addressed above site-specific effects cannot be analyzed until an exploration or development application is received, after leasing has occurred. The stipulations and lease notices will adequately mitigate impacts from the Proposed Action to sensitive species. Sensitive species will not be impacted to the degree that will require detailed analysis in the EA.	Pamela Riddle	5/26/15
NI	Native American	The issuance of leases would not directly impact Native American Religious Concerns. However, the issuance of a	Don Montoya	8/12/15

Determi-nation	Resource	Rationale for Determination	Signature	Date
	Religious Concerns	lease 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. The Proposed Action in the Moab Field Office is estimated to account for less than 1 oil and gas well per year and cause surface disturbance of approximately 4 acres per year for 10 years, or 40 acres total over a 10 year period. Project-specific impacts relating to future authorizations cannot be analyzed until an exploration or development application is received. At that time, site specific surveys and further consultation would be completed. Native American Consultation was conducted regarding the Proposed Action. The BLM consultation letter, the list of Native American Tribes consulted, and responses are contained in Appendix G of the EA. Native American consultation is on-going.		
NI	Paleontology	The sale and issuance of an oil and gas lease is an administrative action that does not result in any surface disturbance. However, the issuance of a lease 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. The Proposed Action is predicted to account for less than 1 oil and gas well per year and cause surface disturbance of approximately 4 acres per year for 10 years, or 40 acres total over a 10 year period. The lessee/operator would submit an APD when oil and gas exploration and development activities are proposed. The APD would be subject to site specific NEPA analysis. RMP Stipulations and lease notices pertain to BLM surface only. Some lease parcels with BLM surface contain areas of high potential for paleontological resources. The Monticello and Moab RMP contains management decisions to protect paleontological resources (Monticello RMP – PAL-10, p. 87; Moab RMP – PAL-10, p. 80). GIS was used to determine the potential fossil yield classification (PFYC) for each parcel. It was determined that all parcels with BLM surface had PFYC of 3, 4, or 5. Therefore, lease notice UT-LN-72: High Potential Paleontological Resources will be attached to all parcels with BLM surface. This lease notice notifies the lessee that if they develop their lease, they may have to conduct paleontological surveys. Attachment of this lease notice will adequately mitigate	Rebecca Hunt Foster	5/14/15

Determi-nation	Resource	Rationale for Determination	Signature	Date
		impacts to paleontological resources. Paleontology is not impacted to the degree that would require detailed analysis in the EA.		
NI	Rangeland Health Standards	The sale and issuance of an oil and gas lease is an administrative action that does not result in any surface disturbance. However, the issuance of a lease 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. The Proposed Action is predicted to account for less than 1 oil and gas well per year and cause surface disturbance of approximately 4 acres per year for 10 years, or 40 acres total over a 10 year period. The lessee/operator would submit an APD when oil and gas exploration and development activities are proposed. The APD would be subject to site specific NEPA analysis. An approved APD is subject to standard operating procedures (SOP) required by regulation, stipulations attached to the lease, best management practices (BMP) included in the APD submission, and conditions of approval (COA) developed during the NEPA analysis and documentation process. These SOPs, BMPs, and COAs, including reclamation standards, mitigate impacts to rangeland health standards from oil and gas exploration and development activities. The standards for rangeland health (#1-soils, #2-riparian, #3-wildlife/vegetation, #4-water quality) are addressed individually as separate resources for determination of impacts in this checklist. Thereby, for reasons listed above, Rangeland Health Standards as a whole are not affected to a degree that detailed analysis is required.	Kim Allison	6/10/15
NI	Recreation	Parcels with BLM surface are in areas used for dispersed recreation such as hunting and hiking. This use is not intensive. Recreation is not impacted to the degree that would require detailed analysis in the EA.	Katie Stevens	5/12/15
NI	Socio-Economics	Even if leases were developed, very small effect relative to the overall economies of the two counties involved.	Bill Stevens	5/12/15
NI	Soils (including biological soil crusts)	The sale and issuance of an oil and gas lease in as administrative action that does not result in any surface disturbance. However, the issuance of a lease is considered to be an irretrievable commitment of resources because the BLM generally cannot deny all surface use of	Ann Marie Aubry	7/27/15

Determi-nation	Resource	Rationale for Determination	Signature	Date
		a lease unless the lease is issued with a no surface occupancy stipulation. The Proposed Action in the Moab Field Office is estimated to account for less than 1 oil and gas well per year and cause surface disturbance of approximately 4 acres per year for 10 years or 40 acres total over a 10 year period. The lessee/operator would submit an APD when oil and gas exploration and development activities are proposed. The APD would be subject to site specific NEPA analysis. An approved APD is subject to standard operation procedures (SOP) required by regulation, stipulations attached to the lease, best management practices (BMP) included in the APD submission, and conditions of approval (COA) developed during the NEPA analysis and documentation process. These SOPS, BMPs and COAs mitigate impacts to soils from oil and gas exploration and development activities. BMPs and SOPs to protect soil resources are defined in the Gold Book and in the Moab RMP. Site specific design features and reclamation requirements would be applied at the APD stage as COAs. Parcels # UT0216-001, UT0216-002, UT0216-003, UT0216-004, UT0216-005, UT0216-064 have moderately saline soils that are addressed by stipulation UT-S-109. Parcels # UT0216-001, UT0216-002, UT0216-003, UT0216-004 contain areas with steep slopes over 30%, these resources are addressed by stipulation UT-S-108. Parcels # UT0216-063, UT0216-064 contain areas with steep slopes over 30%, these resources are addressed by stipulation UT-S-329. The SOPS, BMPs, COAs, stipulations and lease notices will adequately mitigate impacts from the Proposed Action to soil resources. Soils will not be impacted to the degree that will require detailed analysis in the EA.		
NI	Threatened, Endangered or Candidate Plant Species	The sale and issuance of an oil and gas lease is an administrative action that does not result in any surface disturbance. However, the issuance of a lease 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. The lessee/operator would submit an APD when oil and gas exploration and development activities are proposed. The APD would be subject to site specific NEPA analysis.	Dave Williams	7/20/15

Determi-nation	Resource	Rationale for Determination	Signature	Date
		An approved APD is subject to standard operating procedures (SOP) required by regulation, stipulations attached to the lease, best management practices (BMP) includes in the APD submission, and conditions of approval (COA) developed during the NEPA analysis and documentation process. These SOPs, BMPs, COAs, including plans to reclaim and restore habitat on areas of surface disturbance, mitigate impacts to other resources and users from oil and gas exploration and development activities. There are two threatened plant species within the Moab Field Office. Lease parcels 001, 002, 003, 004, 005 have no habitat for Jones Cycladenia and Navajo Sedge plant species. Portions of lease parcels 063 and 064 have potential habitat for Jones Cycladenia and Navajo Sedge. There are no known species occupancy within the vicinity of lease parcels 063 and 064. Other BLM Sensitive Species and/or habitat may occur within all the lease parcels. In addition to the "Threatened and Endangered Species Act Stipulation" (WO IM No 2002-174) that will be attached to all lease parcels, lease notice UT-LN-49 (Utah Sensitive Species) will be attached to lease parcels containing BLM surface. RMP stipulations and lease notices pertain to BLM surface only. The stipulation and notice will ensure compliance with the ESA and will adequately mitigate impacts to T&E species/habitat. T&E plant species is not impacted to the degree that would require detailed analysis in this EA.		
NI	Threatened, Endangered or Candidate Animal Species	For all parcels with Federal surface ownership, by applying the appropriate USWFS Lease Notices developed in the 2008 RMP, potential impacts to these species will be mitigated to a 'not likely to adversely impact' determination. See appendix A for the parcels containing USWFS Lease Notices. USFWS T&E Lease Notice for California Condor (T&E-11) will be applied to every parcel and UT-S-340: CSU/TL – Mexican Spotted Owl Habitat and Nest Sites will be applied to 001, 002, 003, 004, 063 & 064. The stipulations will adequately mitigate impacts from the Proposed Action to T&E, endangered or candidate animal species. T&E, Endangered or candidate animal species will not be impacted to the degree that will require detailed analysis in the EA.	Pamela Riddle	5/26/15
NI	Wastes (hazardous or solid)	The sale and issuance of an oil and gas lease is an administrative action that does not result in any surface disturbance. However, the issuance of a lease is considered to be an irretrievable commitment of resources	Doug Rowles	7/7/15

Determi-nation	Resource	Rationale for Determination	Signature	Date
		because the BLM generally cannot deny all surface use of a lease unless the lease is issued with a no surface occupancy stipulation. The Proposed Action is predicted to account for less than 1 oil and gas well per year and cause surface disturbance of approximately 4 acres per year for 10 years, or 40 acres total over a 10 year period. The lessee/operator would submit an APD when oil and gas exploration and development activities are proposed. The APD would be subject to site specific NEPA analysis. An approved APD is subject to standard operating procedures (SOP) required by regulation, stipulations attached to the lease, best management practices (BMP) included in the APD submission, and conditions of approval (COA) developed during the NEPA analysis and documentation process. These SOPs, BMPs, and COAs, mitigate impacts to other resources and users from oil and gas exploration and development activities. The construction, drilling, completion, testing, and production of an oil and gas well would produce waste products including drilling and completion fluids and produced water. SOP, BMPs, and COAs will mitigate impacts and ensure proper containment and disposal of wastes generated from oil and gas activities. Wastes will not cause impacts to the degree that would require detailed analysis in the EA.		
NI	Groundwater Resources/Quality	The sale and issuance of an oil and gas lease is an administrative action that does not result in any subsurface disturbance. However, the issuance of a lease is considered to be an irretrievable commitment of resources because the BLM generally cannot deny all sub-surface use of a lease. The Proposed Action in the Moab Field Office is estimated to account for less than 1 oil and gas well per year over a 10 year period. Potential site-specific impacts relating to future authorizations will be analyzed when an APD is received. Prior to approving an APD, Hydrologic and Engineering reviews would be conducted on all proposed down-hole activities, including hydraulic fracturing (if proposed). All appropriate regulatory and mitigation measures would be included in the approved APDs and all potential impacts would be identified and addressed during the site-specific NEPA process. Groundwater quality protection for oil and gas leasing, exploration and development is outlined in Instruction Memorandum (IM) No. UT 2010-055: Protection of Ground Water Associated with Oil and Gas Leasing,	Doug Rowles	7/27/15

Determi-nation	Resource	Rationale for Determination	Signature	Date
		Exploration and Development- Utah BLM. The purpose of this IM is to clarify the process for the protection of usable ground water zones (≤ 10,000 mg/L as defined in Onshore Oil and Gas Order No. 2) associated with oil and gas exploration and development activities. All potential usable water aquifers would be cased and cemented. Well casings would be pressure tested to ensure integrity. The lease parcels are not within nor do they contain any Sole Source Aquifers or Public Drinking Water Source Protection Zones. Parcels UT0216-002 and UT0216-003 contain Public Water Reserves. Moab RMP Stipulation UT-S-122: NSO Riparian, Floodplains, and Public Water Reserves will be attached to these parcels. Parcels UT0216-063 and UT0216-064 contain water wells. The requirements for oil and gas drilling operations are described in Onshore Oil and gas Order (OOGO) No. 2 and the requirements for disposal of produced water from oil and gas activities are contained in OOGO No. 7. Adherence to these regulatory requirements will adequately mitigate impacts from the Proposed Action to groundwater resources. Groundwater resources will not be impacted to the degree that would require detailed analysis in the EA.		
NI	Surface Water Resources/Quality	The sale and issuance of an oil and gas lease in as administrative action that does not result in any surface disturbance. However, the issuance of a lease 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. The Proposed Action in the Moab Field Office is estimated to account for less than 1 oil and gas well per year and cause surface disturbance of approximately 4 acres per year for 10 years or 40 acres total over a 10 year period. The lessee/operator would submit an APD when oil and gas exploration and development activities are proposed. The APD would be subject to site specific NEPA analysis. An approved APD is subject to standard operation procedures (SOP) required by regulation, stipulations attached to the lease, best management practices (BMP) included in the APD submission, and conditions of approval (COA) developed during the NEPA analysis and documentation process. These SOPS, BMPs and COAs mitigate impacts to water resources from oil and gas exploration and development activities. Standard operating procedures including interim and final reclamation are required and site specific APD approvals	Ann Marie Aubry	7/27/15

Determi-nation	Resource	Rationale for Determination	Signature	Date
		would provide mitigation for potential direct and indirect impacts to surface water quality. Surface water quality could be impacted by surface disturbance (APD stage-well pads, roads and pipelines) in or near perennial or intermittent streams or springs. The Moab RMP provides for the protection of surface water resources with Management Decision SOL-WAT-5 which states "allow no surface occupancy and preclude surface disturbing activities within 100-year floodplains, within 100 meters of a natural spring or within public water reserves" (ROD p. 102). To protect surface water resources, application of stipulation UT-S0-122 to all parcels is warranted. Stipulation UT-S-122 does not allow surface disturbing activity within the 100-year floodplain or within 100 meters of riparian areas. Parcels # UT0216-001 and UT0216-003 contain springs and streams, these resources are addressed by stipulation UT-S-122. Parcels # UT0216-002 and UT0216-003 contain Public Water Reserves, these resources are addressed by stipulation UT-S-122. The SOPs, BMPs, COAs and stipulations will adequately mitigate impacts from the Proposed Action to surface water resources. Surface water resources will not be impacted to the degree that will require detailed analysis in the EA.		
NI	Wetlands/Riparian Zones	The sale and issuance of an oil and gas lease in as administrative action that does not result in any surface disturbance. However, the issuance of a lease 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. The Proposed Action in the Moab Field Office is estimated to account for less than 1 oil and gas well per year and cause surface disturbance of approximately 4 acres per year for 10 years or 40 acres total over a 10 year period. The lessee/ operator would submit an APD when oil and gas exploration and development activities are proposed. The APD would be subject to site specific NEPA analysis. An approved APD is subject to standard operation procedures (SOP) required by regulation, stipulations attached to the lease, best management practices (BMP) included in the APD submission, and conditions of approval (COA) developed during the NEPA analysis and documentation process. These SOPS, BMPs and COAs mitigate impacts to wetlands/ riparian resources from oil	Ann Marie Aubry	7/27/15

Determi-nation	Resource	Rationale for Determination	Signature	Date
		and gas exploration and development activities. The Moab RMP Management decision RIP-7 states "preclude surface disturbing activities within 100- year floodplains and within 100 meters of riparian areas, public water reserves and springs" (ROD p. 100). Standard operating procedures including interim and final reclamation are required, and site specific APD approvals would provide mitigation for potential direct and indirect impacts to wetlands/riparian resources. To protect wetlands/riparian resources, application of stipulation UT-S-122 is warranted on all parcels. Stipulation UT-S-122 does not allow surface disturbing activities within the 100-year floodplain or within 100 meters of riparian resources. Parcels # UT0216-001, UT0216-002, UT0216-003 contain riparian resources, these resources are addressed by stipulation UT-S-122. The SOPS, BMPs, COAs, stipulations and lease notices will adequately mitigate impacts from the Proposed Action to wetland/ riparian resources. Wetlands/ riparian resources will not be impacted to the degree that will require detailed analysis in the EA.		
NP	Wild and Scenic Rivers	There are no designated wild and scenic river segments within the parcels. See 2008 RMP.	Katie Stevens	5/12/15
NP	Wilderness/WSA	The parcels are not within any designated BLM Wilderness Study Areas (WSA) or designated wilderness areas. See 2008 RMP.	Bill Stevens	5/12/15
NI	Woodland / Forestry	The sale and issuance of an oil and gas lease is an administrative action that does not result in any surface disturbance. However, the issuance of a lease 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. The Proposed Action in the Moab Field Office is estimated to account for less than 1 oil and gas well per year and cause surface disturbance of approximately 4 acres per year for 10 years, or 40 acres total over a 10 year period. The lessee/operator would submit an APD when oil and gas exploration and development activities are proposed. The APD would be subject to site specific NEPA analysis. An approved APD is subject to standard operation procedures (SOP) required by regulation, stipulations	Jordan Davis	5/12/15

Determi-nation	Resource	Rationale for Determination	Signature	Date
		attached to the lease, best management practices (BMP) included in the APD submission, and conditions of approval (COA) developed during the NEPA analysis and documentation process. These SOPs, BMPs, and COAs, including reclamation standards, mitigate impacts to woodlands/forestry from oil and gas exploration and development activities. Woodland/forestry resources will not be impacted to the degree that will require detailed analysis in the EA.		
NI	Vegetation Excluding USFWS Designated Species	This is an administrative action, which would not result in any surface disturbance at this time. However, the issuance of a lease 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. The Proposed Action in the Moab Field Office is estimated to account for less than 1 oil and gas well per year and cause surface disturbance of approximately 4 acres per year for 10 years, or 40 acres total over a 10 year period. The lessee/operator would submit an APD when oil and gas exploration and development activities are proposed. The APD would be subject to site specific NEPA analysis. An approved APD is subject to standard operation procedures (SOP) required by regulation, stipulations attached to the lease, best management practices (BMP) included in the APD submission, and conditions of approval (COA) developed during the NEPA analysis and documentation process. These SOPs, BMPs, and COAs, including reclamation standards, mitigate impacts to vegetation from oil and gas exploration and development activities. Vegetation resources will not be impacted to the degree that will require detailed analysis in the EA.	Kim Allison	6/10/15
NI	Visual Resources	The construction, drilling, completion, testing, and production of an oil and gas well would cause impacts to visual resources. The Moab RMP designates the parcels with BLM surface as VRM Class IV as having no special VRM stipulations required. Class IV VRM is to provide for management activities such as oil and gas exploration and development that require major modifications to the existing character of the landscape. Visual resources would be analyzed in a future site specific NEPA analysis and modifications may be required to the APD to meet VRM objectives. Visual Resources is not impacted to the degree that would require detailed analysis in the EA.	Katie Stevens	5/12/15

Determi-nation	Resource	Rationale for Determination	Signature	Date
PI	Lands with Wilderness Characteristics	Approximately 3.44 acres located in the north center of Parcel 64 (just above the San Juan County "B" road) are in an area (Coyote Wash) identified as possessing wilderness characteristics.	Bill Stevens	5/12/15

FINAL REVIEW:

Reviewer Title	Signature	Date	Comments
Environmental Coordinator			
Authorized Officer			

Appendix E

Agency Participation (Stakeholders) Responses

Appendix F

Response to Scoping Comments

Scoping Comments

Notes:

1. In order to capture the nature of the comment, BLM has either extracted statements in their entirety, brought forward portions of the statements or has summarized the statement for presentation in this table.
2. A number of comments expressed opinions or the commenter was unidentifiable. These comments are not listed in this table.

Comment Number	Resource	Name/Organization	Comment Text	BLM Response
1	Cultural Resources	Baker, Pamela and Quentin	Portions of parcel 003 contain documented historic and prehistoric sites and should be deferred.	Parcel 003 will have lease notices UT-LN-67, UT-LN-68, UT-LN-69, and UT-LN-70 attached to the parcel informing the lessee that modifications to the surface use plan may be required to protect the historic integrity of the resources.
2	NEPA Process	SUWA, Southern Utah Wilderness Alliance - Landon Newell, Staff Attorney	The BLM must conduct environmental analysis at the leasing stage while the agency still retains full discretion regarding its management decisions.	The BLM is in the process of preparing an EA for the Canyon Country District February 2016 Competitive Oil and Gas Lease Sale.
3	Multiple Resources	SUWA, Southern Utah Wilderness Alliance - Landon Newell, Staff Attorney	SUWA expressed concern regarding resource issues of air quality, surface water quality, lands with wilderness characteristics, wildlife/migratory birds/raptors, Gunnison sage-grouse, ACECs, and historic trails.	All of these resource issues are addressed in the EA as appropriate after review by BLM resource specialists and documented in the ID team checklist.
4	BLM Policy Compliance	SUWA, Southern Utah Wilderness Alliance - Landon Newell, Staff Attorney	SUWA expressed concerns regarding: BLM compliance with WO IM No. 2010-117; VRM inventories under preparation.	The NEPA process currently underway complies with the WO IM No. 2010-117. Updated VRM inventories have been completed in the MbFO area and are in progress in the MtFO area. BLM management decisions are not guided by these updated VRM inventories. BLM management decisions are guided by the management decisions in the respective RMPs.
5	BLM Policy Compliance	SUWA, Southern Utah Wilderness Alliance - Landon Newell, Staff Attorney	SUWA express concerns regarding leasing of parcels within the San Juan Master Leasing Plan area.	One parcel, UT0216-070, is located within the boundary of the San Juan MLP boundary; therefore, parcel 070 is deferred.
6	Wildlife	Utah, State of	Multiple recommendations regarding protection of big game, species of concern, and wildlife habitat.	The BLM has reviewed these recommendations and, when different from the BLM stipulation and lease notice information, has applied appropriate lease notices to parcels. These include lease notices regarding raptors, migratory birds, deer and elk winter range, and pronghorn and bighorn sheep habitat.

Comment Number	Resource	Name/Organization	Comment Text	BLM Response
7		San Juan County	… we understand that some nominated parcels have been deferred due to a proposed adjustment to the Glen Canyon-San Juan River Master Leasing Plan boundary. We encourage reconsideration and inclusion of any parcels which may have previously been deferred from preliminary listing for lease.	The commenter is correct; many parcels were not included in the preliminary list due to a proposed change in the master leasing plan area boundary. BLM cannot reconsider including parcels within the proposed master leasing plan boundary adjustment area without violating current Washington and Utah State Office policy. In accordance with current BLM leasing policy (WO IM No. 2010-117) and the BLM Utah State Office OIL AND GAS LEASING REFORM IMPLEMENTATION PLAN, Where MLPs are considered and determined to be necessary at this time, parcel-specific NEPA analysis will be not undertaken to consider EOIs and other proposals to lease
8		The Navajo Tribe	The Navajo Nation recommends excluding the following tracts from the referenced lease sale due to continuing controversies regarding the status of the lands in the McCracken Extension: UT0216-026; UT0216-037; and UT0216-038.	The BLM will not offer these lease parcels for sale without the concurrence of the Navajo Tribe. Therefore, these parcels are recommended for deferral.
9		Holland and Hart	With no explanation, the BLM failed to offer several parcels nominated for leasing-including nominated parcels bordering the few parcels now proposed for leasing in the southern section of the Monticello Field Office… The BLM's regulations state that oil and gas in public domain lands ... are subject to lease under the Mineral Leasing Act of 1920, as amended." 43 C.F.R. § 3100.0-3(a). All of the nominated lands are designated for oil and gas leasing, with standard stipulations, by the Monticello Field Office Resource Management Plan	Many nominated parcels were not included on the preliminary parcel list because they are located within the proposed master leasing plan boundary adjustment area. BLM cannot lease in master leasing plan areas without violating current leasing policy (see comment 7). 43 CFR 3101.7–2(b) also states: "… the Secretary has the final authority and discretion to decide to issue a lease." The commenter is correct, the Monticello FO RMP does designate the nominated lands as available for oil and gas leasing subject to standard terms and conditions. However, BLM has determined that additional planning and analysis may be necessary prior to new oil and gas leasing within the proposed master leasing plan boundary adjustment area because of changing circumstances, updated policies, and new information. (See also comment #7)

APPENDIX G

Lands with Wilderness Character Inventory

Appendix H

Native American and SHPO Consultation

Appendix I

Response to Public Comments

APPENDIX I: RESPONSE TO PUBLIC COMMENTS

COMMENT #	COMMENT SOURCE	RESOURCE	COMMENT	RESPONSE
1	Carbon County	General	On behalf of the Board of Commissioners of Carbon County, Utah we support BLM's lease Sale and further the Exploration, Inventorying and production of Energy and Minerals from Federal lands. These lands are held in Trust by the Congress of the United States and managed by the Department of Interior for the purpose of promoting the health, safety and welfare of the citizens of this country. We believe that this action directly supports your Congressional directives.	The commenter does not raise a concern that requires changes to the analysis in the EA. The commenter supports the leasing proposal. No BLM action required.
2	Carbon County	General	The need for energy in this country is growing daily and in fact even with non-renewable resources for energy growing, the growing need for electricity is out pacing this technology exponentially.	The commenter does not raise a concern that requires changes to the analysis in the EA. No BLM action required.
3	Carbon County	General	Environmentally, the ground disturbance of oil and gas and	The commenter does not raise a concern that requires changes to the analysis in the EA. No BLM action

COMMENT #	COMMENT SOURCE	RESOURCE	COMMENT	RESPONSE
			coal production compared to renewable resources such as solar is much less and is more sustainable and reliable. The foot print for a solar plant that produces 5,000 K/W of electricity is more than 20,000 acres while it takes less than 40 acres for a coal or gas operated generation facility. This clearly shows one major reason that energy from non-renewable sources still commands by far the majority of the energy production in our Country and world-wide.	required.
4	Carbon County	General	The jobs and royalty from the production of oil and gas will add to the economic stability of the local area benefiting the citizens of the area in many ways. Nationally, the security of our nation by not having to depend on foreign sources of energy for our needs adds to our self-reliance.	The commenter does not raise a concern that requires changes to the analysis in the EA. No BLM action required.
5	Steven and Diana Acerson	Cultural Resources:	In reading the Draft Environmental Assessment, we	The commenter expresses general undefined concerns related to petroglyph and pictograph sites

COMMENT #	COMMENT SOURCE	RESOURCE	COMMENT	RESPONSE
		Deferral of Parcels	are concerned that certain requested parcel sections have not been pulled from the upcoming February 2016 Oil & Gas Sale. We are seriously concerned that many petroglyph and pictograph sites are threatened by the sale of certain parcels.	located within some of the parcels and these parcels have not been deferred. A standard lease stipulation regarding cultural resources is applied to each parcel. The cultural analysis for the proposal, notes a site density within the parcels proposed for the lease sale and that cultural resources could be avoided at the time an Application to Drill is evaluated. Lease Stipulation UT-S-322 has been applied to parcel number UT0216-003. This stipulation is a controlled surface use stipulation and applies to Cultural Resources; specifically, sites, structures, objects, and traditional use areas. Cultural resource lease notices are applied to all parcels that are proposed for leasing. An additional lease notice, UT-LN-70 was added to UT2016-001. This notifies the potential lessee of a High Potential for Cultural Resource Occurrence.
6	Steven and Diana Acerson	Cultural Resources: Deferral of Parcels	We are requesting the following parcels be pulled from the lease sale. Specifically: Township 21S, Range 19E UT0216-001 section 6 UT0216-002 section 7 and 18 UT0216-003 section 10 We know from our visits there that these parcel sections include the drainages of Floy and	The commenter expresses general undefined concerns related to petroglyph and pictograph sites located within some of the parcels and identifies portions of parcels that they would like to see deferred. A standard lease stipulation regarding cultural resources is applied to each parcel. The cultural analysis for the proposal does note a high site density within parcels UT0216-001 UT0216-002 and UT0216-003. The following recommendation is made in the analysis to do the following: It is the recommendation from this analysis

COMMENT #	COMMENT SOURCE	RESOURCE	COMMENT	RESPONSE
			Crescent Canyons. Crescent Canyon contains the documented historic and prehistoric sites already recorded by the Utah Rock Art Research Association and the BLM.	to apply Lease Notices UT-LN-69 and UT-LN-70 to parcels 1, 2, 4 and to include lease stipulation UT-S-322 to Parcel 3 (**See Appendix B of the EA**). Based on the ability to avoid cultural sites and lease notice stipulations potential oil and gas wells and access routes could be located and developed on portions of the lease parcels not in the high site density areas. By applying the lease notices and statutory guidance a determination of no effect or no adverse effect to cultural resources could be achieved for these parcels. As a result of this analysis. Lease Notice LN-70 was added to Parcel UT0216-01, and the lease stipulation UT-S-322 was added to parcel UT0216-03.
7	Steven and Diana Acerson	Cultural Resources	We were part of the documentation of Crescent Canyon as URARA members. The project was done as a joint effort with the BLM Moab Field Office and other URARA members. We located, photographed, and only sites we identified on Parcel UT0216-003 were drawn and IMACs forms completed. We did not do a systematic survey of the entire section at that time, but the intent is there. We have the GPS coordinates of these sites as well	Please see response to comments 5 and 6.

COMMENT #	COMMENT SOURCE	RESOURCE	COMMENT	RESPONSE
			and will disclose them at the proper time.	
8	Steven and Diana Acerson	Cultural Resources	Due to the large concentration of rock art sites in these areas, we assume it was most likely used as a travel corridor by the ancient Americans. It is probable that many more surface sites may also be discovered in these parcels as activity increases in the area. There are rock art panels located on the cliff faces on both sides of the canyon creek drainages. The current road up Crescent Canyon runs above the drainage area. The road up Floy Canyon runs into the drainage area, we are thinking on the west edge of parcel UT0216-002. Knowing these areas as we do, it concerns us that the areas of potential effect from impacts due to oil and gas activity could be extensive. How is this area being mitigated?	Please refer to comments 5 and 6.
9	Steven and Diana Acerson	Cultural Resources: Deferral of	Thank you for not including these parcel sections in the February 2016 Lease Sale.	Comment is noted by the BLM. See response to comments 5 and 6.

COMMENT #	COMMENT SOURCE	RESOURCE	COMMENT	RESPONSE
		Parcels		
10	San Juan County	General	As noted in our June 25, 2015, letter with scoping comments, we are concerned with the small number of parcels to be offered in the next lease sale. We realize that nominations of parcels to be included in a sale come from the public and industry, a process over which you have no influence. Furthermore, continued deferral of nominated parcels is a concern due to the impact, large or small, that deferral has on potential tax revenues that could accrue to the County. Any deferrals are inconsistent with County Master Plan mineral policy ('Achieve and maintain a continuing yield of mineral resources at the highest reasonably sustainable levels.") and H. B. 393, Energy Zone Amendments, referenced below. That being said, San Juan County supports those parcels that will be offered.	The comments are noted. The commenter is correct that, the BLM does not control the number and location of Expressions of Interest for any give lease sale. That is driven by industry and the public. The reasons for the deferral of parcels are described on pages 2 and 3 of the EA under **Section 1.2 Background.**
11	San Juan County	General	We concur with the analysis in	The commenter agrees with the analysis in the EA.

COMMENT #	COMMENT SOURCE	RESOURCE	COMMENT	RESPONSE
			the Environmental Assessment and with the stipulations that would be attached to leases in accordance with the Monticello and Moab RMPs. We offer the following comments on the EA.	No BLM action required.
12	San Juan County	Gunnison Sage Grouse	The narrative on page two appears to have been written prior to the listing of the Gunnison sage-grouse as a threatened species (effective December 22, 20 14). Tills section should be updated to reflect the current situation and to note that RMPs are currently being revised to develop management prescriptions for grouse habitat. Until these RMPs are revised, any leases in grouse habitat will be deferred.	The commenter is correct. In accordance with WO IM Instruction Memorandum No. 2014-100 which provides interim guidance to BLM Utah and Colorado for protecting important habitat across the range of the Gunnison sage-grouse (GUSG), any nominations of interest to lease within GUSG habitat are to be deferred. The following language has been added to **Section 1.2 Background**, item 2, on page 3 of the EA. "The Gunnison sage-grouse was listed as threatened by the U. S. Fish and Wildlife Service (USFWS) on November 12, 2014. The Monticello Field Office is currently participating in the Gunnison Sage-grouse Resource Management Plan Amendment Environmental Impact Statement (EIS) process. This EIS will assess the impacts of various actions on the Gunnison sage-grouse and will determine whether or not Monticello's Resource Management Plan will be amended. " Also the word "proposed" was taken out of the bullet list of resources on page 9 of the EA, the bullet list providing rationale for deferral on page 11 of the EA,

COMMENT #	COMMENT SOURCE	RESOURCE	COMMENT	RESPONSE
				and in Appendix C the Deferred Parcel List. The word proposed was not removed from Table 5-1; List of all Persons, Agencies and Organizations Consulted for Purposes of this EA under consultation with Ms. Erin Barry and Mr. Robert Barry, because the table documents what they were told by telephone and in the field respectively. To change the language here would be an inaccurate documentation of conversations held.
13	San Juan County	Statutes, Regulations, Other Plans	Section 1.6, Relationship to Statutes, Regulations or Other Plans should also list Utah H.B. 393, Energy Zone Amendments. Tills legislation, signed by the Governor on March 23, 2015, established an Energy Zone (primarily the eastern half of San Juan County including the deferred and offered lease parcels) in which energy and mineral exploration and production would be emphasized and expedited.	This information has been added to **Section 1.6** of the EA

COMMENT #	COMMENT SOURCE	RESOURCE	COMMENT	RESPONSE
14	San Juan County	General	Since San Juan County's letter of June 25, 2015, is displayed in Appendix E, Agency Participation, shouldn't San Juan County also be listed in section 5.2, Persons, Groups and Agencies Consulted?	San Juan County has been added to the table in **Section 5.2** as an agency that provided comments to the BLM.
15	Steve Acerson-Utah Rock Art Association	Cultural Resources: Deferral of Parcels	Reviewing the Draft EA, we have determined the need to again ask that certain parcels be removed from consideration in the upcoming February 2016 Oil & Gas Sale.	See response to comments 5and 6.
16	Steve Acerson-Utah Rock Art Association	Cultural Resources: Deferral of Parcels	URARA (Utah Rock Art Research Association) requests the following parcels or sections be pulled from the lease sale. Specifically in Township 21S, Range 19E, UT0216-001 section 6, UT0216-002 section 7 and 18, and UT0216-003 section 10. These parcels include the drainages that contain documented historic and prehistoric sites.	See response to comments 5and 6.
17	Steve Acerson-		The documentation was done as a	See response to comments 5and 6.

COMMENT #	COMMENT SOURCE	RESOURCE	COMMENT	RESPONSE
	Utah Rock Art Association		joint project with the BLM Moab Field Office and URARA members. Due to URARA's specific interest in the petroglyph and pictograph resources, only rock art panels and their immediate sites were located, photographed, and those on Parcel UT0216-003 were drawn, and IMACs forms completed. No systematic survey of the entire section was undertaken.	
18	Steve Acerson-Utah Rock Art Association	Cultural Resources	Due to the large concentration of rock art sites in these areas, we assume it was most likely used as a travel corridor prehistorically. It would be presumable therefore, that many surface sites may also be discovered as activity increases in the area. There are rock art panels located on the cliff faces on both sides of the creek drainages. The current road up one canyon runs above the drainage area. The road in the other canyon of concern, runs	See response to comments 5and 6. The cumulative impacts of a pipeline, access road would be analyzed at the Application for Permit to Drill stage. At that time, cultural resources would be evaluated and an effects determination would be made. Any mitigation to cultural resources would be assessed and determined at that time. If adverse effects are identified, the mitigation would be established through the Section 106 process.

COMMENT #	COMMENT SOURCE	RESOURCE	COMMENT	RESPONSE
			into the drainage area most likely on the west edge of parcel UT0216- 002. The areas of potential effect from impacts due to oil and gas activity could be extensive. Mitigation from increased visitation, dust, and other impacts is a concern. The cumulative impact of oil and gas development within these areas including transportation routes, pipelines, exploration strategies, associated airborne particles etc. will likely impact a highly significant site and other nearby sites.	
19	Steve Acerson-Utah Rock Art Association	Cultural Resources	Also note that areas currently closed to vehicular traffic should not be opened for any activities oil and gas traffic and that oil and gas traffic be limited to the current road. At the least we request no surface occupancy (NSO) be included in the lease parcels. Another option would be to request NSO for at least 500 meters surrounding any cultural resources which are eligible for the national registry.	Access is authorized at the Application for Permit to Drill stage. The area is open for oil and gas leasing with special stipulations and open for surface occupancy. The application of a No Surface Occupancy in an area that is open for surface occupancy would require a resource management plan amendment which is beyond the scope of this EA.

COMMENT #	COMMENT SOURCE	RESOURCE	COMMENT	RESPONSE
20	Steve Acerson-Utah Rock Art Association	Cultural Resources: Deferral of Parcels	As explained above, the Utah Rock Art Research Association (URARA) hopes you will consider seriously our request. We encourage you to defer and not include these parcels in the proposed lease sale area.	Comment is noted by the BLM. See response to comments 5 and 6.
21	Dave Naslund	General	1) Due to the historically inadequate protections the BLM and Forest Service have lent to their lands and the other public lands like national parks and monuments we strongly reject any notion in the Area to grant further leasing for oil and gas exploration.	Commenter does not bring forward any information that changes the analysis in the EA. No BLM Action required.
22	Dave Naslund	Visual Resources	a) These viewsheds are spectacular and can only be damaged, particularly at night, by flaring and related drilling activities	In the EA, the visual resource management class stipulation (VRM II) was applied to UT-0216-005, because a portion of this parcel is within a scenic driving corridor. The other parcels proposed to be offered in this lease sale are in VRM class III or IV which have fewer visual restrictions. Visual resources are taken into account when an Application for Permit to Drill (APD) is processed by the Field Office. The proposal addresses leasing and not activities associated with site specific activities of an APD.

COMMENT #	COMMENT SOURCE	RESOURCE	COMMENT	RESPONSE
23	Dave Naslund	Roads	b) the road infrastructure is already overburdened with mineral and O & G related activities and would further reduce the extremely beneficial experience the tourists to the areas derive when they visit.	The commenter is not specific on which road infrastructure is overburdened with mineral and oil and gas related activities and states a general opinion
24	Dave Naslund	Watershed Degradation	c) The ongoing problems with watershed degradation are particularly harmful due to fracking. Experience recently the Gold King mine disaster, the ongoing lack of adequate clean up of over 13000 abandoned coal mines, as well as the inexcusable tragedy of the operations and abandonment of the uranium mines in the area in question and surrounding areas, particularly the Dine(Navajo) reservation is nothing less that a crime in progress.	Hydraulic fracturing would be addressed at the APD stage. There is no documentation in Utah that hydraulic fracturing has impacted a watershed. Abandoned hardrock and coal mines are outside of the scope of this EA.
25	Dave Naslund	Bonds	d) As has been pointed out by a former long term BLM employee, the total inadequacy of requiring time AND ADEQUATE bonding (the bonding regs go back to the 1950's and remain totally insufficient amounting to nothing	Bonding is evaluated at the Application to Drill stage and is outside the scope of the EA.

COMMENT #	COMMENT SOURCE	RESOURCE	COMMENT	RESPONSE
			more than a gigantic subsidy to these extractive industries). Any project going to bid must obtain measureable and financially adequate bonding and reclamation rules to avoid further degradation in these lands of little rain and already polluted aquifers.	
26	Dave Naslund	1872 Mining Law	Due to the grossly inadequate protection of the past we fully intend to overcome any further expansion of these destructive and unneeded activities. We will support strengthening bonding levels in Congress as well as ask Senator Heinrich of NM and Senator Mark Udall of NM to amend the antiquated 1872 mining law and use royalties charged to cover complete restoration of affected lands.	Actions related to the General Mining Law of 1872 are outside the scope of this EA.
27	WildEarth Guardians	General	For quite a few years, it has been Standard business practice inside And outside government to produce documents in pdf format that are rendered and searchable. BLM Utah has failed to do so	Comment is noted. The problem has been corrected and a rendered EA has been posted on ePlanning. Future documents will be in rendered text.

COMMENT #	COMMENT SOURCE	RESOURCE	COMMENT	RESPONSE
			here. This Means that the EA in electronic form cannot searched for key terms, cannot be highlighted in electronic form, and text from the document cannot be electronically copied. This Makes the document extremely difficult to use by the public. Nearly All government offices, including most BLM offices, regularly produce rendered documents. While Some members of the public have software that allows them to render documents after the fact, my up---to---date computer and software crashed numerous times when I Attempted to do so. If BLM Utah Is interested in facilitating public comments, it would be useful in the future to produce documents in this standard, modern form.	
28	WildEarth Guardians	General	Second, BLM has failed to provide a correct email address for comments on its website and in fact, provided an address that fails to deliver comments. I Am merely guessing that BLM Utah	The email address will be corrected for future actions regarding the lease sale. The comment period is not re-opened for another30-days because commenters may submit comments via standard mail and by Fax.

COMMENT #	COMMENT SOURCE	RESOURCE	COMMENT	RESPONSE
			Has misspelled the address it meant to provide. I am providing comments to an address that is merely guessed. BLM Has no way of knowing how many commenters attempted to provide timely comments to the useless email address provided. For this reason, BLM must provide public notice of a new 30---day Comment period sometime in the future and reopen the comment period. Failure to do so would again demonstrate BLM's general desire to prevent Public opposition to its oil and gas leasing program.	
29	WildEarth Guardians	Climate Change: Greenhouse Gas	In this EA and throughout the agency's work the BLM fails to recognize the already existing federal coal, oil, and gas leases, if fully developed, will result in climate emissions that far exceed a safe and livable global temperature rise and will render our oceans too acidic for much marine life. With every new set of leases, like the ones proposed her, BLM further breaks the	Greenhouse gas/climate change has been added as an issue to the EA. See Section 1.7, Section 3.3 and Section 4.0 of the EA.

COMMENT #	COMMENT SOURCE	RESOURCE	COMMENT	RESPONSE
			global carbon budget, signals that other countries can behave just as irresponsibly, and increases the intensity of current and future catastrophic climate impacts. See The Potential Greenhouse Gas Emissions of U.S. Federal Fossil Fuels, Ecoshyft (August 2015) Ex 1.	
30	WildEarth Guardians	Climate Change: Greenhouse Gas	The lack of climate analysis in this long-range energy EA demonstrates that the Utah office, along with other state offices as demonstrated in other recent oil and gas leasing EAs, is incapable of unwilling to undertake adequate review of greenhouse gas (“GHG”)a emissions or climate change effects. This is exactly why the CEQ Guidance is correct in calling for a programmatic analysis of climate emissions and effects for programs like the BLM oil and gas leasing program.	Please see response to comment 29.
31	WildEarth Guardians	Climate Change: Emissions	BLM does not have the discretion to ignore existing	Please see response to comment 29.

COMMENT #	COMMENT SOURCE	RESOURCE	COMMENT	RESPONSE
			information and tools and simply wave away emissions as insignificant. BLM should heed CEQ's advice that providing climate change analysis will not only satisfy the critically important mandates of NEPA, but will also reduce the risk of litigation.	
32	WildEarth Guardians	Climate Change: Emissions	The core of any climate change NEPA analysis is an actual analysis of emissions. BLM fails here to provide one. Actual estimates of emissions are required even when they are uncertain and can at best be "projected. Here, BLM has failed to estimate emissions and failed to document its rationale for that failure.	Please see response to comment 29.
33	WildEarth Guardians	Climate Change: Social Cost of Carbon	Estimates of climate emissions need to be put in context and the social cost of carbon is an appropriate tool for doing so.	Please see response to comment 29. The BLM acknowledges that climate change is happening and that it is affected by human activity. In this analysis, the BLM presents a *qualitative* discussion of the environmental effects ofclimate change and their socioeconomic consequences. Consistent with the revised CEQ draft guidance from December 2014, the BLM has used estimated greenhouse gas (GHG) emissions

COMMENT #	COMMENT SOURCE	RESOURCE	COMMENT	RESPONSE
				associated with the proposed action as a reasonable proxy for the effects of climate change in its NEPA analysis for the protested Oil and Gas Lease Sale. The BLM has placed those emissions in the context of relevant state emissions. In addition, the BLM has considered and disclosed the projected effects of climate change on the resources within the project areas area. The BLM also has acknowledged that climate science does not allow a precise connection between project-specific GHG emissions and specific environmental effects of climate change. This approach is consistent with the approach that federal courts have upheld when considering NEPA challenges to BLM federal coal leasing decisions. *West Antelope II*, 738 F.3d at 309; *WildEarth Guardians v. BLM*, Civ. Case No. 1:11-cv-1481 (RJL) (D.D.C. filed Mar. 31, 2014). However, the BLM finds that including monetary estimates of the Social Cost of Carbon (SCC) in its NEPA analysis for this proposed action, which is not a rulemaking, would not be useful. There is no court case or existing guidance requiring the inclusion of SCC in the NEPA context. A federal Interagency Working Group on the Social Cost of Carbon (IWG), convened by the Office of Management and Budget, developed an SCC protocol for use in the context of federal agency rulemaking. The IWG issued estimates of the SCC, which reflect the monetary costincurred by the emission of one additional metric ton of carbon dioxide (CO2). Estimating SCC is challenging because it is intended to model effects on the welfare of future generations at a global scale caused by

COMMENT #	COMMENT SOURCE	RESOURCE	COMMENT	RESPONSE
				additional carbon emissions occurring in the present. For this project, there are several challenges involved in attempting to apply SCC to the analysis. For example: 1. Given the global nature of climate change, estimating SCC of an individual project requires assessing the impact of the project on the global market for the commodity in question. 2. Monetizing only certain benefits or costs can lead to an unbalanced assessment. A regional economic impact analysis is often used to estimate impacts on economic activity, expressed as projected changes in employment, personal income, or economic output. Such estimates are not benefits or costs, and are not part of a benefit costanalysis. 3. The SCC estimates developed by the IWG can only be applied to CO2 emissions, not other GHG emissions such as methane. Again, monetizing only certain effects can lead to an unbalanced assessment.
34	WildEarth Guardians	Climate Change: Greenhouse Gas	BLM Fails to Analyze Climate Emissions or Their Impacts	Please see response to comment 29.

COMMENT #	COMMENT SOURCE	RESOURCE	COMMENT	RESPONSE
35	WildEarth Guardians	Climate Change: Greenhouse Gas	An analysis of climate emissions and impacts is required regardless of the CEQ Guidance. Here, BLM has identified Ann Marie Aubry and Collin Schwartz as the "preparers" of the sections of this EA that deal with "Greenhouse Gas Emissions/Climate Change." EA at 41-42. This is incredible, as the EA fails to even mention the existence of climate change or any greenhouse gas emissions associated with this project except in an Appendix where they are described as negligible without any true analysis.	Please see response to comment 29.
36	WildEarth Guardians	Climate Change	The EA must be supplemented to include an analysis of climate change and project effects on climate change using the best available science and following agency and government-wide guidance and the law.	Please see response to comment 29.
37	Wild Earth	Climate Change	The EA did not consider the	Please see response to comment 29.

COMMENT #	COMMENT SOURCE	RESOURCE	COMMENT	RESPONSE
	Guardians		potential effect of the proposed action on climate change and fails to provide quantitative or qualitative analysis to inform the public or the decision-maker.	
38	WildEarth Guardians	Climate Change: Social Cost of Carbon	The social cost of carbon has been ignored.	Please see response to comment response 33.
39	WildEarth Guardians	Climate Change: Social Cost of Carbon	BLM's EA for the February 2016 Oil and Gas Lease Parcel Sale violates NEPA. BLM fails to draw the necessary connection between the proposed project and increased climate impacts and costs. BLM improperly declines to assess the impacts of climate change, promising to assess them at some unknown time in the future. This violates NEPA's hard look doctrine.	Please see response to comment responses 33.
40	WildEarth Guardians	Climate Change: Social Cost of Carbon	The EA must be modified to analyze the social cost of carbon.	Please see response to comment response 33.
41	Wild Earth Guardians	Hydraulic Fracturing and	The EA must analyze impacts from fracking waste water,	Injection of fluids associated with oil and gas production has caused induced seismic events.

COMMENT #	COMMENT SOURCE	RESOURCE	COMMENT	RESPONSE
		Produced Water Injection	including the possibility of earthquakes produced by underground injection	However, the underground injection of hydraulic fracturing (fracking) of waste water in Utah presents little potential for inducing seismic activity. The majority of fracking waste 'fluids' are recycled and reused for future hydraulic frackturing 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 the website noted below this table [a]). However this data is not currently available, with the exception of industrial injection data reported to DOGM, to do the analysis.
42	Public Land Policy Coordinating Office (PLPCO)	Gunnison Sage-grouse	Initially, the state notes that two parcels were deferred from the nomination list due to the "pending determination" related to the listing of the Gunnison	The language in the EA has been changed to reflect the listing of the Gunnison Sage-grouse. Please see response to comment 12.

COMMENT #	COMMENT SOURCE	RESOURCE	COMMENT	RESPONSE
			sage-grouse under the provisions of the Endangered Species Act. The Environmental Assessment (EA) repeatedly refers to the "possible" listing. BLM should update this and similar analyses to reference the recent decision by the U.S. Fish and Wildlife Service to, in fact, list the Gunnison sagegrouse	
43	Public Land Policy Coordinating Office (PLPCO)	Lands with Wilderness Characteristics	While the state has some concerns about the paucity of lease offerings by BLM in recent years, in terms of this particular proposed lease offering, the state objects to the BLM making any decision concerning suitability or availability for leasing based upon the 2014 Coyote Wash Wilderness Characteristic Review, as it is described in Appendix G to the EA, without further work to amend the Moab Field Office Resource Management Plan (RMP).	The results of the inventory were posted on the BLM website, which specifically states that BLM will provide additional detailed background information upon request. The size of the underlying files makes general posting on the website impractical. Manual 6310 states that BLM will inform the public of its findings (which we have), as well as the proponent (in this case, Southern Utah Wilderness Alliance). The Manual contains no requirement to provide detailed documentation to any other entity (including the State), but we are happy to do so upon request. BLM will provide the State with the complete Coyote Wash file, and will respond to future requests. As far as the lease sale is concerned, BLM assessed the (minor) impacts to wilderness characteristics on 3+ acres, but did not exclude this acreage from the sale. The decision reached in this EA is unaffected by the 2014 inventory.
44	Public	Lands with	The state has two concerns related to	Manual 6310 requires the BLM to keep its inventory of all

COMMENT #	COMMENT SOURCE	RESOURCE	COMMENT	RESPONSE
	Land Policy Coordinating Office (PLPCO)	Wilderness Characteristics	this inventory. Based upon the factors noted in the attached technical comments, the state has concerns about the veracity and completeness of the review. In addition, however, the state also has serious concerns that the inventory, once it is accurately completed, will not subjected, as required by law, to review under the RMP amendment procedures, including the Governor's Consistency Review, before it can be employed as a decisional factor within the Record of Decision or any other approval document for this proposed lease offering, or any other project approval. Since the Coyote Wash Area encloses several sections of state lands, the state will be materially affected by this new inventory of wilderness characteristics, should it be employed in any decision-making process without full public review.	resources, including Lands with Wilderness Character, current, and does not represent a decision on how to manage those lands. Management decisions are entirely separate, but BLM still must reveal the impacts, as we have done here in the lease sale EA. The resources outlined by the state, including minerals development potential, would be analyzed as part of the land use planning process, which the 2014 inventory does not represent.
45	Public Land Policy Coordinating Office (PLPCO)	Lands with Wilderness Characteristics	The EA is inconsistent with the Record of Decision for the Moab Resource Management Plan (RMP) because it employs the Coyote Wash Wilderness Characteristics Review (2014)	Manual 6310 requires the BLM to keep its inventory of all resources, including Lands with Wilderness Character, current, and does not represent a decision on how to manage those lands. Management decisions are entirely separate, but BLM still must reveal the impacts, as we have done here in the lease sale EA. The resources outlined by the state, including minerals development

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			without subjecting the review to the full NEPA analysis required before the inventory may be employed in a decision-making process. This new inventory materially differs from the Record of Decision, which guides management in the Moab Field Office region, concerning management of the Coyote Wash area. The state requests that the Coyote Wash Wilderness Characteristics Review (2014) not be employed in the final decision unless and until it is subject to full NEPA analysis in a RMP amendment process.	potential, would be analyzed as part of the land use planning process, which the 2014 inventory does not represent.
46	Public Land Policy Coordinating Office (PLPCO) letter	Lands with Wilderness Characteristics	The state and any affected industries, such as the recreation or extraction industries, are entitled to a standardized and consistent FLPMA process that allows collaboration and consultation, and NEPA review, before inventory results can become part of the RMP. As it stands, the state has been denied the full review of the inventory, the formulation of alternatives,	The results of the inventory were posted on the BLM website, which specifically states that BLM will provide additional detailed background information upon request. The size of the underlying files makes general posting on the website impractical. Manual 6310 states that BLM will inform the public of its findings (which we have), as well as the proponent (in this case, SUWA). The Manual contains no requirement to provide detailed documentation to any other entity (including the State), but we are happy to do so upon request. BLM will provide the State with the complete Coyote Wash file, and will respond to future requests.

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			the estimation of effects of alternatives, and the consistency review required by law.	
47	Public Land Policy Coordinating Office (PLPCO) Technical Review	Lands with Wilderness Characteristics	The Environmental Assessment (EA) includes a review of wilderness characteristics for what is labeled as the Coyote Wash area. This review was conducted in 2014 and employed the standards outlined in recently adopted BLM Manual 6310. Such reviews are to be made available to the public as soon as practicable after their completion, and certainly before the inventory data is used to inform decisions such as those within this lease sale decision. The state received no such prior notice.	The results of the inventory were posted on the BLM website, which specifically states that BLM will provide additional detailed background information upon request. The size of the underlying files makes general posting on the website impractical. Manual 6310 states that BLM will inform the public of its findings (which we have), as well as the proponent (in this case, SUWA). The Manual contains no requirement to provide detailed documentation to any other entity (including the State), but we are happy to do so upon request. BLM will provide the State with the complete Coyote Wash file, and will respond to future requests. As far as the lease sale is concerned, BLM assessed the (minor) impacts to wilderness characteristics on 3+ acres, but did not exclude this acreage from the sale. The decision reached in this EA is unaffected by the 2014 inventory.
48	Public Land Policy Coordinating Office (PLPCO) Technical Review	Lands with Wilderness Characteristics	The Coyote Wash wilderness characteristics analysis is in error for including parts of active oil and gas producing units and a four-inch natural gas pipeline right-of-way as part of the area designated as having LWC. Specifically, the LWC lands identified in sections 17 and 18, T. 29 S., R. 26 E., and sections 11, 23, and 24, T. 30 S., R. 25 E. are parts of	BLM could not locate the 4” pipeline identified by the State as lying with the area determined to possess WC, and welcomes additional information. The fact that this are (or any area) lies within a DOGM unit is not relevant to the WVC inventory, unless there are either current wells (there are none), or past well pads that lack apparent naturalness from the perspective of the average visitor.

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			operating units/fields identified by the Utah Division of Oil, Gas, and Mining on their interactive oil and gas web map page.	
49	Public Land Policy Coordinating Office (PLPCO) Technical Review	Lands with Wilderness Characteristics	Moreover, there is one active producing well located in the NW, SW section 24, T. 30 S., R. 25 E. within the alleged LWC area. BLM approved the application for a permit to drill that well in January 2013. The BLM's inability to manage lands within active producing oil and gas units/fields for wilderness characteristics and naturalness should have precluded a WC determination.	This well was permitted, and its impact on wilderness character (a loss of naturalness in the affected area) was fully documented in the accompanying EA. As is the case in the current EA, the finding of wilderness characteristics had no effect on the decision to permit the well; BLM simply addressed the impact on the resource.
50	Public Land Policy Coordinating Office (PLPCO) Technical Review	Lands with Wilderness Characteristics	This demonstrates the lack of a complete inventory of resources, which was employed in the original intent for wilderness review outlined within the Wilderness Act and the Federal Land Policy and Management Act. Areas with high energy and mineral development potential, such as actively producing oil and gas units/fields, were to be considered as part of the balance of resource uses. Absent authority to create further wilderness study areas, BLM must now make such a	Manual 6310 requires the BLM to keep its inventory of all resources, including land with wilderness character, current, and does not represent a decision on how to manage those lands. Management decisions are entirely separate, but BLM still must reveal the impacts, as we have done here. The resources outlined by the state, including minerals development potential, would be analyzed as part of the land use planning process, which the 2014 inventory does not represent. BLM's inventory is not a decision to manage for wilderness character, let alone grant this unit "protective status". That decision is completely separate within the parameters of the land use planning process, in which full

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			determination of balance within the RMP process.	public participation is required and encouraged. Included in the files that BLM will provide the state is a GIS file of possible impacts gleaned from satellite imagery. Some of these potential impacts turned out to be natural features. Others were substantially unnoticeable impacts on apparent naturalness to the average visitor. Still others were "cherry-stemmed and removed from the areas deemed to possess apparent naturalness.
51	Public Land Policy Coordinating Office (PLPCO) Technical Review	Lands with Wilderness Characteristics	The EA LWC analysis should provide the public with Route Analysis (Appendix C) and Photo Log (Appendix D) forms used by BLM in determining the boundary of the proposed Coyote Wash wilderness characteristics area. The EA must make available to the public, Field Maps A-D, a copy of the proposal for the review for wilderness characteristics, a copy of a map illustrating the route numbering system used by the BLM on the analysis forms, such as Routes 1, 6, 7-9, 17-17, and 20, as mentioned on the forms.	Please see our earlier comment; we are happy to provide this information on request, as our website makes clear.
52	Public Land Policy Coordinating Office (PLPCO) Technical Review	Lands with Wilderness Characteristics	BLM Form 2 asserts the Coyote Wash East WC appears to be natural. However, the BLM also states that the area contains "numerous scars from past mining activities." The BLM further asserts	BLM's inventory is not a decision to manage for wilderness character, let alone grant this unit "protective status". That decision is completely separate within the parameters of the land use planning process, in which full public participation is required and encouraged. Included in the files that BLM will provide the state is a GIS file of

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			that “most of these [mining scars] are substantially unnoticeable on the ground to the average user.” The state requests a map of the locations of these scars, so that it can make an independent judgment concerning the veracity of this assertion as part of a review of the appropriateness of protective status for the Coyote Wash East WC area within the required RMP process.	possible impacts gleaned from satellite imagery. Some of these potential impacts turned out to be natural features. Others were substantially unnoticeable impacts on apparent naturalness to the average visitor. Still others were “cherry-stemmed and removed from the areas deemed to possess apparent naturalness. The “average visitor” described in Manual 6310 typically would observe features at ground level, and not from satellite imagery (which typically shows much more than is apparent on the ground).
53	Public Land Policy Coordinating Office (PLPCO) Technical Review	Lands with Wilderness Characteristics	Finally, a quick review of Google Maps imagery of the Coyote Wash Area confirms that the BLM erred in classifying many of the mesa tops of the Coyote Wash Area as appearing natural and lacking the impacts of past human disturbances. The imagery shows an extensive network of roads and trails. The BLM analysis itself acknowledges that opportunities for solitude “are present primarily in the canyon bottoms, rather than on the mesa tops.” “The mesa tops typically have existing roads, usually on a relatively straight line to the edge of the mesa.” BLM further states that “the canyon bottoms are substantially natural.” BLM’s admission sets up reasonable doubts	While information from the public is valuable to BLM's inventory process, the Bureau bears the sole responsibility for determining and documenting the presence or absence of wilderness characteristics on BLM-administered public lands. The comment provided by PLPCO does not meet the BLM's minimum standards for review of new information. Such information does not indicate a significant change in actions, circumstances or information relative to the conditions present when BLM conducted the original wilderness inventory or when the agency updated the wilderness inventory for this unit in 2014. BLM specialists have verified that no changes are present that affect the size, naturalness, or outstanding opportunities for solitude or primitive and unconfined recreation. As such, the submitted information represents a disagreement with BLM’s findings rather than new information warranting re-evaluation of our inventory analysis and conclusions. The Coyote Wash inventory documents the BLM's

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			about the soundness and completeness of WC analysis of "naturalness" for the proposed Coyote Wash WC Area.	detailed, on-the-ground analysis conducted over multiple days in the field and using the best available data. Careful application of Manual 6310 - *Conducting Wilderness Characteristics Inventory on BLM Lands* ensured that the Coyote Wash inventory unit boundary excluded wilderness roads and substantial impacts to apparent naturalness to the average visitor when observed at ground level, as directed by BLM policy. Additionally, in response to PLPCO's comment regarding determinations on outstanding opportunities for solitude, Manual 6310 states, "Determine if the area has outstanding opportunities for solitude or a primitive and unconfined type of recreation. The word "or" in this sentence means that an area only has to possess one or the other. The area does not have to possess outstanding opportunities for both elements, nor does it need to have outstanding opportunities on every acre...Do not disqualify an area based on a finding that outstanding opportunities exist in only a portion of the area" (page 7). Finally, Coyote Wash does not represent a "proposed WC area"; it is simply an area documented to contain the wilderness characteristics resource and reflects no land use planning decisions.
54	Pamela and Quentin Baker	Cultural Resources	We would like to express our continued concern with the proposed lease of parcel **UT0216-003** in T.21S, R.19E, Section 10. The notices suggested to be attached to the parcel mention "This parcel is located in an area of	S Stipulation UT-S-322 has been applied to parcel number UT0216-003. This stipulation is a controlled surface use stipulation and applies to Cultural Resources; specifically, sites, structures, objects, and traditional use areas.

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			high concentrations of cultural resources" (UT -LN-69) and "The lessee/operator is given notice that lands in this lease contain significant Cultural Resources" (UT-LN-70). We agree. As we stated in our earlier letter we were involved in documenting several of the sites in Crescent Canyon. With the acknowledged presence of significant cultural resources, this parcel should be deferred, not leased with a warning. Due to the nature of gatherhunter use of any area, cultural sites will be scattered in the surrounding area.	
55	Pamela and Quentin Baker	Cultural Resources	This parcel contains a prehistoric and an historic travel corridor. The documented presence of resources in the drainage demonstrates this (sites 42GR4838, 4839, 4940, 4841, and 4842). The uplands above have yet to be intensively inventoried and this should occur prior to any lease being issued. The diffuse nature of mobile land use prehistorically needs to be acknowledged, recorded, and analyzed.	Please see response to comment 54.
56	Pamela and	Cultural	In addition, Steve and Diana Acerson of the Utah Rock Art	Please see responses to comments 5 and 6.

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	Quentin Baker	Resources	Research Association have located prehistoric sites on **UT0216-001 Section 6** as well as on parcel **UT0216-002 sections 7 and 18.** How would you propose to mitigate an area that was so extensively used prehistorically by mobile populations who left a very light signature across the landscape?	

[a]https://profile.usgs.gov/myscience/upload_folder/ci2015Jun1012005755600Induced_EQs_Review.pdf