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Environmental Assessment
DOI-BLM-UT-G021-2015-0031-EA

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November 2015 Oil and Gas Lease Sale (Auction Date February 16, 2016)

Location: Price Field Office
Carbon County, Utah

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1.0 PURPOSE & NEED

Introduction

The Bureau of Land Management (BLM), Price Field Office, (PFO) prepared this Environmental Assessment (EA) to analyze the environmental consequences of the sale of 32 parcels, approximately 55,286 acres, during the November 2015 Competitive Oil and Gas Lease Sale. (The November 2015 Lease Sale was postponed, and the parcels were included with the February 2016 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). 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. A DR, including a FONSI statement, for this EA would document the reasons why implementation of the selected alternative would not result in significant environmental impacts (effects).

1.1 Background

Oil and gas leasing and potential development were analyzed and stipulations developed and approved in the Price Field Office Resource Management Plan (BLM, 2008).

On February 4, 2015, the BLM PFO received the preliminary oil and gas lease nominations from the BLM Utah State Office. These lands include 163 parcels (See Appendix B Maps 1-3, Appendix A Parcel List and Appendix D, Deferred Lands List). There were a total of 131 parcels and 4 partial parcels which were deferred out of the original 163 parcels. The details for the deferrals were 87 parcels and 2 partial parcels deferred in accordance with Washington Office (WO) Instruction Memorandum (IM) 2010-117 (Leasing Reform), Part III-A (parcel review timeframes); C.1 (gather and assess existing information). There were 21 full parcels and two partial parcels deferred based on State Director's discretion. There were 14 parcels with coal conflicts deferred, and nine parcels with Greater Sage-grouse habitat conflicts deferred. All the mineral rights and most of the surface for the 32 remaining parcels (Appendix B, Maps 1 and 2) are managed and administered by the BLM, PFO. See Appendix F for photographs from the onsite inspections of the 32 parcels.

If a parcel is not leased by competitive bidding, it may be leased by non-competitive sale for the two years following the auction date (43 CFR 3120.6). A lease may be issued for a primary term

of ten years (43 CFR 3120.2-1), after which the lease would expire unless oil or gas is produced in paying quantities. 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. 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 valid, nondiscretionary 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. In addition, lease operations would be subject to stipulations for surface disturbing activities prescribed in the 2008 PFO Record of Decision and Approved Resource Management Plan, as amended (2008 PFO ROD/RMP).

1.2 Purpose and Need of 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.

The need for continued leasing is necessary to maintain options for production of oil and gas as companies seek new areas for production, or attempt to locate and develop previously unidentified, inaccessible, or uneconomical reserves.

The sale of oil and gas leases is needed to meet the growing energy needs of the United States public. The BLM is required by law to review areas that have been nominated and there has been steady interest in oil and gas exploration in the PFO area. Utah is a major source of natural gas for heating and electrical energy production in the lower 48 states. Continued sale and issuance of lease parcels maintains options for production as oil and gas companies seek new areas for production or attempt to develop previously inaccessible or uneconomical reserves.

Oil and gas leasing is a principal use of the public lands as identified in Section 102(a)(12), 103(1) of the Federal Land Policy and Management Act of 1976 (FLPMA), and it is conducted to meet requirements of the Mineral Leasing Act of 1920, as amended, the Mining and Minerals Policy Act of 1970, and the Federal Onshore Oil and Gas Leasing Reform Act of 1987 (Reform Act). Leases would be issued pursuant to 43 CFR subpart 3100.

1.3 Conformance with BLM Land Use Plan

Within the PFO ROD/RMP (as maintained), Appendices R-3 (Stipulations for Surface Disturbing Activities), R-5 (Best Management Practices for Raptors and their Associated Habitats), and R-14 (Fluid Mineral Development Best Management Typical Practices) contain pertinent stipulations, lease notices and committed measures. The proposed action is in conformance with the applicable RMP because it is specifically provided for in the following decisions:

MLE-5 (Page 125 PFO ROD/RMP)

The BLM has identified leasing allocations for all lands within the Price Field Office. In addition, the RMP describes specific lease stipulations (Appendix R-3) that apply to a variety of different resources including raptors, greater sage grouse, and big game habitat, as well as program-related Best Management Practices (Appendix R-14) that may be applied on a case-by-case basis, site-specific basis to prevent, minimize, or mitigate resource impacts (Map R-8).

MLE-6 (Page 125 PFO ROD/RMP)

Review all lease parcels prior to lease sale. If the Price Field Office determines that new resource data information or circumstances relevant to the decision is available at the time of the lease review that warrants changing a leasing allocation or specific lease stipulation, the Price Field Office will make appropriate changes through the plan maintenance or amendment process. The Price Field Office may also apply appropriate conditions of approval at the permitting stage to ensure conformance with the LUP and all applicable laws, regulations, and policies.

MLE-9 (Page 126 PFO ROD/RMP)

Oil and gas leasing management will be conducted as shown on Map R-25a.

- Areas open to leasing subject to the standard terms and conditions of the lease form (1,161,000 acres)
- Areas open to leasing subject to moderate constraints (timing limitations; controlled surface use (CSU), and lease notices) (467,000 acres)
- Areas open to leasing subject to major constraints (no surface occupancy (NSO)) (282,000 acres)
- Areas unavailable to leasing (569,000 acres)

The combination of all restrictions on oil and gas development is shown on Map R-26a.

The proposed action is also consistent with PFO ROD/RMP decisions and objectives as they relate to the management of the following resources (including but not limited to): air quality, BLM natural areas, cultural resources, recreation, riparian, soils, water, vegetation, fish and wildlife, and Areas of Critical Environmental Concern (ACEC). Additional RMP decisions are specified in Chapter 3 or the ID team checklist. In addition, site visits were conducted on the proposed parcels to verify consistency with the PFO ROD/RMP.

1.4 Relationship to Statutes, Regulations, or Other Plans

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

- Federal Land Policy and Management Act (1976) as amended and associated regulations found at 43 CFR 2800
- Taylor Grazing Act (1934) as amended

- National Historic Preservation Act (1966), as amended and associated regulations at 36 CFR Part 800
- Bald and Golden Eagle Protection Act (1962)
- Endangered Species Act (1973), as amended
- Migratory Bird Treaty Act (1918)
- 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)
- Mineral Leasing Act (1920), as amended and supplemented and associated regulations found at 43 CFR 3100
- Utah Standards and Guidelines for Rangeland Health (1997)
- BLM Utah Riparian Management Policy (2005)
- BLM Manual 6840 - Special Status Species Management
- Oil and Gas Leasing Reform – Land Use Planning and Lease Parcel Reviews (BLM WO IM-2010-117)
- The Bureau Of Land Management, The Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers regarding the Manner in which the BLM Will Meet its Responsibilities Under the National Historic Preservation Act (February 2012),
- Programmatic Agreement Between the Advisory Council on Historic Preservation, the Bureau of Land Management-Utah and the Utah State Historic Preservation Office regarding National Historic Preservation Act Responsibilities for Small-Scale Undertakings (October 2014)
- MOU Among the USDA, USDI and EPA Regarding Air Quality Analysis and Mitigation for Federal Oil and Gas Decisions Through the NEPA Process (2011)
- Determining Conformity of Federal Actions to State or Federal Implementation Plans (40 CFR Part 93 Subpart E)
- Land Management Plan for Gordon Creek Wildlife Management Area
- BLM Manual 6310 - Conducting Wilderness Characteristics Inventory of BLM Lands
- BLM Manual 6320 - Considering Lands with Wilderness Characteristics in the BLM Land Use Planning Process
- BLM Manual 6250 – National Scenic and Historic Trail Administration

- The National Trails System, Memorandum of Understanding, 06-SU-11132424-196, Among The United States Department of the Interior, Bureau of Land Management, National Park Service, United States Fish and Wildlife Service; United States Department of Agriculture Forest Service; United States Department of the Army, Corps of Engineers; and The United States Department of Transportation Federal Highway Administration (2006)
- National Park Service, National Historic Trail Feasibility Study and Environmental Assessment, Old Spanish Trail (2001)
- National Scenic and Historic Trails Strategy and Work Plan, BLM-WO-GI-06-020-6250
- Green River District Reclamation Guidelines (21 May 2014)
- Price Field Office Surface Disturbance Weed Policy
- BLM Price Field Office Visual Resource Management Inventory (2011)

These documents and their associated analysis are hereby incorporated by reference, based on their use and consideration by various authors of this document. The attached Interdisciplinary Team (IDT) Checklist, Appendix C, was also developed after consideration of these documents and their contents. Each of these documents is available for review upon request from the PFO. 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 C.

1.5 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. They have associated RODs that explicitly apply to the proposed action, and this EA is tiered to those documents.

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

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.

1.6 Identification of Issues

The proposed action was reviewed by an IDT composed of resource specialists from the PFO. This team identified resources in the parcel areas which might be affected and considered potential impacts using current office records, geographic information system (GIS) data, and site visits. The results of the IDT review, including a list of all resources/issues that are analyzed in detail within this EA are contained in the Interdisciplinary Team Checklist, which is included as Appendix C.

Letters were sent to the private landowners on April 24, 2015, to solicit their comments and concerns about the pending lease sale.

On February 12, 2015, notice of the lease sale, parcel locations and an invitation to attend the site visit was provided to the National Park Service, the United States Fish and Wildlife Service and the State of Utah's Public Land Policy Coordination Office and the State Institutional Trust Land Administration Office. The IDT conducted site visits to the proposed parcels on April 1st, 2nd, 8th, and 14th, 2015, to validate existing data and gather new information in order to make an informed leasing recommendation. The Utah Division of Wildlife Resources participated in parcel visits on April 1st, 2nd, and 14th. None of the other outside agencies contacted the PFO expressing interest in attending the site visits.

The deadline for the public to nominate areas or otherwise submit Expressions of Interest (EOI) was January 5, 2015. In accordance with WO IM 2010-117 (Leasing Reform), public notification will be initiated by entering the project information on the Environmental Notification Bulletin Board (ENBB)¹, a BLM environmental information internet site on June 12, 2015. Periodic updates to ENBB will be made. Additional information for the public is maintained on the Utah BLM Oil and Gas Leasing Webpage.² Additional information on public participation is available in Section 5.3.

Issues brought forward for more detailed analysis are:

- Air Quality
- Greenhouse Gas Emissions/Climate Change
- Cultural Resources/Native American Religious Concerns
- Water Quality (drinking/ground)
- Hydrology
- Wetlands/Riparian Zones
- Soils
- Farmlands (Prime or Unique)
- Threatened, Endangered, Candidate or Sensitive Plants, Special Status Plants
- Non-WSA Lands with Wilderness Characteristics

¹ Accessed online at: <https://www.blm.gov/ut/enbb/index.php>

² Accessed online at: http://www.blm.gov/ut/st/en/prog/energy/oil_and_gas/oil_and_gas_lease.html

- Old Spanish National Historic Trail
- Areas of Critical Environmental Concern (ACECs)
- Recreation
- Visual Resource Management

1.7 Summary

This chapter has presented the purpose and need of the proposed project, as well as resources 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 THE PROPOSED ACTION

2.1 Introduction

This environmental assessment focuses on the Proposed Action and No Action alternatives. Other alternatives were not considered in detail because the issues identified during scoping did not indicate a need for additional alternatives or mitigation beyond those contained in the Proposed Action. The No Action alternative is considered and analyzed to provide a baseline for comparison of the potential impacts of the Proposed Action.

2.2 Alternative A – Proposed Action

Thirty-two nominated parcels, containing approximately 55,286 acres within the jurisdiction of the PFO have been proposed for sale in the November 2015 Utah BLM State Office Oil and Gas Lease Sale. The parcels would be offered with resource protection measures consistent with the 2008 PFO ROD/RMP. Legal descriptions of each parcel can be found in Appendix A, and maps of the parcels can be found in Appendix B, Maps 1 and 2.

2.3 Alternative B – No Action

Under the No Action alternative none of the nominated parcels would be offered for sale.

3.0 AFFECTED ENVIRONMENT

3.1 Introduction

This chapter describes the affected environment (i.e., the physical, biological, social, and economic values and resources). Only those aspects of the affected environment that are potentially impacted (PI) in the IDT checklist are described in detail. 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, under applicable leasing protective measures provided through the 2008 PFO ROD/RMP. Rationale as to why these resources or issues were not carried forward for analysis is also contained in the IDT checklist (Appendix C).

3.2 General Setting

The 32 parcels in the proposed action are located in Carbon and Emery County, Utah. Appendix A contains legal descriptions of these parcels. Appendix B, Maps 1 and 2 show the locations of the parcels. The project area is situated in the Colorado Plateau physiographic province.

The parcels are located in the central and southern regions of the PFO area which is made up of the San Rafael Swell, Book Cliffs - Roan Plateau, Wasatch Plateau, and Mancos Shale Lowland

sections of the Colorado Plateau (See Appendix B Map 4). These areas are south of the Uinta Basin where Upper Cretaceous and Lower Tertiary rocks rise upward from the north along the dip slopes of the basin to reach elevations of 8,000 to 10,000 feet. On the south end of the Uinta Basin the rocks are abruptly truncated in great erosional cliffs that descend to elevations around 5,000 feet in the Mancos Lowlands. The Book Cliffs are formed by Upper Cretaceous sandstones and shaly siltstones of the Mesaverde Group, including the Blackhawk Formation, Castlegate Sandstone, and the Price River Formation. To the northeast of the Book Cliffs, the Roan Cliffs are formed by the reddish-brown mudstone and sandstone beds of the Colton Formation (Paleocene-Eocene). Further to the northeast in Carbon County are other erosional rises, including the West Tavaputs Plateau and the Bad Land Cliffs that expose the Eocene Green River Formation. A dominant physical feature within the PFO is the San Rafael Swell occupying the majority of Emery County. This feature is a large northeast trending up warp approximately 75 miles long and 30 miles wide that is part of a much larger, double-plunging anticline structure. This large, regional fold exposes rocks of Pennsylvanian through Cretaceous age. Resistant beds of sandstone are exposed as hogbacks on the steeply upturned east flank of the anticline and are referred to locally as “reefs.” Three perennial rivers (the Muddy, San Rafael, and Price) flow eastward into the Green and Colorado River system. The majority of the parcels under analysis are located in the San Rafael Swell.

Bordering the San Rafael Swell on the north, west, and northeast sides is the Mancos Shale Lowland section, including Castle Valley and Clark Valley. The Upper Cretaceous Mancos Shale is an easily eroded rock formation and is exposed at the surface across much of this section, resulting in relatively low-lying areas. The landscape of the Mancos Lowlands is characterized by sloping, gravel-covered pediments, rugged badlands, and flat bottom alluvial valleys (Stokes 1986). Immediately southeast of the San Rafael Swell lies the Green River Desert Section of the Colorado Plateau characterized by Quaternary eolian deposits with scattered mesas and buttes of Jurassic bedrock exposed at the surface.

The PFO is located in central Utah, east of the Wasatch Mountains. The proximity of the Wasatch Mountains exerts a strong influence on the climatology and meteorology of the area. Areas east of the Wasatch Range are characterized by hot, dry summers and cold, dry winters. Air movement at this latitude is predominately from the west and northwest year-round.

The lower elevations receive less than 10 inches of precipitation annually. Higher elevations of the PFO receive more than 14 inches of precipitation annually. Snow amounts also are low east of the Wasatch Mountains. Average maximum temperatures in the area range from 97°F in July to 33°F in January. Average minimum temperatures range from 7°F in January to 58°F in July (BLM 1997, BLM 1999b).

3.3 Resources/Issues Brought Forward for Analysis

The IDT checklist, Appendix C, indicates which resources of concern are either not present in the project area, not impacted or may be potentially impacted to a degree that requires detailed analysis. Resources which could be impacted to a level requiring further analysis are described in this Chapter and potential impacts to these resources are analyzed in Chapter 4.

3.3.1 Air Quality and Greenhouse Gases

The Project Area is located adjacent to the Uinta Basin, a semiarid, mid-continental climate regime typified by dry, windy conditions and limited precipitation. The San Rafael Swell, located just south of the Uinta Basin, is subject to abundant sunshine and rapid nighttime cooling. Wide seasonal temperature variations typical of a mid-continental climate regime are also common. Existing point and area sources of air pollution in and around the Uinta Basin include the following:

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

The San Rafael Swell is designated as unclassified under the Clean Air Act, meaning that adequate air monitoring is not available to make an attainment determination. National Ambient Air Quality Standards (NAAQS) are standards that have been set for the purpose of protecting human health and welfare with an adequate margin of safety. Pollutants for which standards have been set include ground level ozone (O₃), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), and carbon monoxide (CO), and particulate matter less than 10 microns in diameter (PM₁₀) or 2.5 microns in diameter (PM_{2.5}). Airborne particulate matter (PM) consists of tiny coarse-mode (PM₁₀) or fine-mode (PM_{2.5}) particles or aerosols combined with dust, dirt, smoke, and liquid droplets. PM_{2.5} is derived primarily from the incomplete combustion of fuel sources and secondarily formed aerosols, whereas PM₁₀ is primarily from crushing, grinding, or abrasion of surfaces. Ground-level ozone (O₃) is a secondary pollutant that is formed by a chemical reaction between NO_x and VOCs in the presence of sunlight. Precursor sources of ozone include motor vehicle exhaust and industrial emissions, gasoline vapors, some tree species emissions, wood burning, and chemical solvents. Ozone is generally known as a summertime air pollutant. Ozone is a regional air quality issue because, along with its precursors, it transports hundreds of miles from its origins. Maximum ozone levels may occur at locations many miles downwind from the sources.

Active year-round ozone monitoring in the Uinta Basin began in the summer of 2009 south of Vernal at two monitoring sites: Red Wash and Ouray. Since that time numerous other monitoring stations have been established and/or operated in the Basin. These monitoring sites have recorded numerous exceedances of the 8-hour ozone standard during the winter months (January through March). High concentrations of ozone are being formed under an “inversion” process

whereby stagnate air conditions with very low mixing heights form under clear skies with snow-covered ground and abundant sunlight that, combined with area precursor emissions (NO_x and VOCs), create intense episodes of ozone. Based on the monitoring to date, these episodes occur only during the winter months (January through March). This phenomenon has also been observed in similar types of locations in Wyoming and has contributed to a proposed nonattainment designation for Sublette County.

Winter ozone formation is a newly recognized issue, and the methods of analyzing and managing this problem are still in development. Existing photochemical models are currently unable to replicate winter ozone formation satisfactorily, in part due to the very low mixing heights associated with the unique meteorology of these ambient conditions. Based on the emission inventories developed for Uintah County, the most likely dominant source of ozone precursors in the Uinta Basin are oil and gas operations in the vicinity of the monitors. While ozone precursors can be transported large distances, the meteorological condition under which this inversion ozone formation is occurring tends to preclude transport. At the current time ozone exceedances in this area seem to be confined to the winter months during periods of intense surface inversions and low mixing heights. Work still remains to be done to definitively identify the sources of ozone precursors contributing to the observed ozone concentrations. In particular, speciation of gaseous air samples collected during periods of high ozone is needed to determine which VOCs are present and what their likely sources are.

The complete EPA Ouray and Redwash monitoring data can be found at: <http://www.epa.gov/airexplorer/index.htm>

The complete NPS Dinosaur National Monument monitoring data can be found at: <http://www.nature.nps.gov/air/Monitoring/MonHist/index.cfm>

The Utah Division of Air Quality (UDAQ) conducted limited monitoring of PM_{2.5} in Vernal, Utah, in December 2006. During the 2006-2007 winter seasons, PM_{2.5} levels were measured at the Vernal monitoring station that were higher than the PM_{2.5} health standard that became effective in December 2006. The PM_{2.5} levels recorded in Vernal were similar to other areas in northern Utah that experience wintertime inversions. The sources of elevated PM_{2.5} concentrations during winter inversions in Vernal, Utah, haven't been identified as of yet. The most likely causes of elevated PM_{2.5} at the Vernal monitoring station are probably those common to other areas of the western U.S. (combustion and dust) plus nitrates and organics from oil and gas activities in the Basin. This conclusion is supported by results of recent studies ongoing in the Basin.

It should be noted that the San Rafael Swell will have different emissions and meteorological conditions than the Uinta Basin. We expect the small additions from oil and gas parcel leasing to have a negligible impact. Air Quality monitoring in Price, Utah, does not show exceedances like that of the Uinta Basin.

HAPs are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental impacts. The EPA has classified 187 air pollutants as HAPs. Examples of listed HAPs associated with the oil and

gas industry include formaldehyde, benzene, toluene, ethylbenzene, isomers of xylene (BTEX) compounds, and normal-hexane (n-hexane). There are no applicable Federal or State of Utah ambient air quality standards for assessing potential HAP impacts to human health.

Air quality meets the NAAQS per the Utah Department of Environmental Quality, Division of Air Quality Standards UDAW 2011 Annual Report.³ 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 2012 annual report includes a 2011 triennial emissions inventory (EI) by county (see table below).

Emissions Inventory (2011) Measured in Tons per Year (TPY).

• Pollutant	• Carbon	• Emery
• PM ₁₀	• 1010.979	• 1792.626
• PM _{2.5}	• 618.487	• 678.873
• SO _x	• 8370.740	• 7243.353
• NO _x	• 6132.159	• 21511.124
• VOC	• 16847.970	• 32123.164
• CO	• 8293.984	• 21686.845

Although not listed as a NAAQS criteria pollutant, volatile organic compounds (VOCs) are also considered in this EA as they, along with NO_x, 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 (PM₁₀), from heavy construction operations. PM₁₀ 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 PM₁₀. PM_{2.5} is converted from PM₁₀ by applying a conversion factor of 15%. This EA does not consider mobile on road emissions as they are dispersed, sporadic, temporary, and not likely to cause or contribute to an exceedance of the NAAQS.

3.3.1.1 Greenhouse Gases and Climate Change

According to National Oceanic and Atmospheric Administration (NOAA) and National Aeronautic and Space Administration (NASA) data, Earth's average surface temperature has

³ Accessed online on 6/6/13 from <http://www.airquality.utah.gov/Public-Interest/annual-report/pdf/2012Annual%20Report.pdf>

increased by approximately 1.2 to 1.4 °F 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 4° F to 10° 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.

3.3.2 Hydrology

Hydrologic Conditions

The lease areas have a varied landscape described as extreme slopes over 70% to flat valley floor, with many of the upper slopes being high soil production due to the character of the parent material. Soil type is a product of topography, climate, vegetation, and parent material. These factors vary widely in the parcels being considered. The topography varies from steep hill slopes of over 70% to flat valley floor. Elevations of over 7000 feet above mean sea level (MSL) are where the steeper slopes are found, to the lower elevations near 4400 feet above MSL where the valley floor is dominated by flatter lands that are commonly crossed by gullies. The valley floor is commonly interrupted by buttes. The higher elevations are in the northern to central locations and the lower elevations (valley floor) is spread throughout. In the center of the parcels and trending to the south is the feature known as the San Rafael Swell. This feature is a large anticline with landscape up to elevations of over 7000 feet above MSL and is bound by the San Rafael River to the East, the Dirty Devil River to the south, and Muddy Creek to the west.

The climate here is a dry almost sub-desert region. Rainfall varies throughout with annual precipitation of over 15 inches on the higher slopes in the northern parcels to less than 6 inches on the southern valley floors. Temperatures range from less than -20 degrees F on the higher locations in the winter to over 100 degrees F on the valley floor during the summer. Detailed climate and meteorological data can be found in the Final Air Quality Baseline and Analysis Report – Price Resource Management Plan (Booz Allen 2008).

Dominant vegetation types are pinyon-juniper on the upper slopes and high flats to salt desert shrub on the valley floor. The vegetation type is driven by climate, elevation, and soil type.

The parent material varies widely due to the geologic nature of the area's history. The exposed formations contribute a wide variety of texture and chemical characteristic soil types. These formations are described as modern and quaternary unconsolidated soils in the higher elevations, moving back to older sandstones, mud stones and down to the Mancos shale, a clay/silt saline formation created from salt ocean bottom, at the valley floor. There are some older exposed sandstones and shales below the Mancos. Combined with the varied elevations, many plant communities and the multiple climates, the area is rich in soil combinations. There are stable soils with high soil production, desert soils that are highly erodible, and various others that are

classified in between. The result is a complex landscape filled with a myriad of geomorphic experiments.

Water from winter snows and late summer monsoons create runoff patterns that cut small mountain canyons off the mountains and deep desert chasms and majestic canyons cutting through the flat lands pushed up by the San Rafael Swell, which is a large northeast trending anticline approximately 75 miles long and 30 miles wide that is part of a much larger, double-plunging anticline structure. This large, regional fold exposes rocks of the Pennsylvanian age through the Cretaceous age. Resistant beds of sandstone are exposed as hogbacks on the steeply upturned east flank of the anticline and are referred to locally as “reefs.” Three perennial rivers (i.e., Muddy, San Rafael, and Price) flow eastward into the Green and Colorado River system (see Price Field Office RMP Map 1-1). Rills and gullies are common. The desert environment typically transports storm and seasonal runoff through rills and gullies because there is little vegetation to retard overland flows due to the saline and sodic soils on the flat lands.

The watersheds upstream of existing towns in the PFO are in mixed ownership of federal, state, and private land. Some areas of public land are on steep terrain with clayey, stony, and shallow soils. These areas have high runoff potential, and surface-disturbing activities can change the duration and peaks of runoff events reaching the streams. Debris jams and channel bank erosion on these lands can cause flooding and sediment damage to private agricultural land, irrigation works, buildings, roads, and other structures. The structures most often affected by peak runoff events on public lands are water and erosion control structures, stock ponds, and roads, which often follow canyon floors and cross-stream channels.

The Lower Green River (within Hydrologic Unit Code [HUC] basin 14060008) and two of its major tributaries, the Price River (within HUC basin 14060007) and the San Rafael River (within HUC basin 14060009), are within the major watershed units in the PFO. Numerous smaller perennial, intermittent, or ephemeral stream channels, with an array of flow regimes and uses, are located throughout the PFO, with smaller segments located near springs or headwaters. The BLM manages approximately 1,200 stock watering reservoirs, most of which are filled with runoff via ephemeral channels.

3.3.3 Water Quality

Saline geologic formations and slight to highly saline soils are extensive in the PFO. Major salt-bearing formations in the PFO include the Summerville, Moenkopi, Carmel, Curtis, Morrison, Cedar Mountain, and Mancos (BLM 2008d). Badlands and gypsumlands are natural sources of sediment and salt. These areas lack vegetation, but they frequently have a thin mantle of hard shale, rock fragments, or soil crusts, which provides some stability and helps prevent surface erosion. Badlands occur mainly on exposures of the Morrison, Cedar Mountain, and Mancos Formations, whereas gypsumlands occur mainly on exposures of the Carmel and Summerville Formations. Present losses of sediment from badlands and gypsumlands are estimated at 5 to 50 tons per acre per year. These highly dissected areas, with their steep slopes and intricate drainage patterns, are little used by livestock because of the lack of forage and the complex terrain. They are, however, used by wild horses and burros and big game species (i.e., bighorn sheep, deer, and elk). The main areas containing gypsumlands and gypsiferous soils are on the west flank of the San Rafael Swell to the Coal Cliffs and Molen Reef, and southeast of San Rafael Reef near

Goblin Valley. Gypsumlands and gypsiferous soils occur with more stable soils in delineated areas, which make up more than half of the area (BLM 2008d).

Although they can inhibit vegetation growth, salts that are held deeper in the soil profile are generally not a major source of salinity to the Colorado River system, except along drainages where bank erosion or subsurface leaching occurs. However, several plants in the PFO (i.e., mat saltbrush, halogeton, wedgeleaf, saltbrush, salt cedar, shadescale, greasewood, and fourwing saltbush) concentrate salts in their tissues. The salts are available for transport to the drainage system in the form of plant litter.

Soils rated very high in salinity (have electrical conductivities (ECs) greater than 16 millimhos per centimeter [mMhos/cm]) are found mostly in eastern Emery County, with a few small areas scattered throughout eastern Carbon County (BLM 1997). Soils rated moderate to high in salinity (i.e., conductivities ranging from 4 to 16 mMhos/cm) occupy mostly the eastern half of the PFO (BLM 1997). Soils rated low in salinity (i.e., conductivities less than 2 mMhos/cm) are primarily found on the western half of the PFO at higher elevations (BLM 1997).

Surface Water Quality

Salt and sediment yield is of major concern in the Colorado River Basin, and erosion on public lands is one source of sediment and associated salts in the PFO. Most of this is natural or resulting from relatively stable conditions in a semiarid or arid climate regime with periodic, high-intensity storms. In the upper Colorado River Basin, salt enters the Colorado River and its tributaries from groundwater flows, surface runoff, and from other sources such as saline springs and flowing wells. Dissolution of geologic evaporate deposits results in highly saline groundwater that ultimately contributes a large amount of salt to the Colorado River system. Surface runoff from BLM-administered lands on the entire Colorado Plateau are estimated to contribute less than 15 percent of the total salt load, and the PFO would be a smaller portion of that total contribution. Controlling salinity in rangeland surface runoff is closely related to vegetation management and minimizing soil erosion, especially in areas that have saline or sodic soils.

On public lands in the Colorado River Basin, the primary factors affecting surface water quality are runoff events containing appreciable sediments and salts. Runoff from public lands tends to accumulate salts and sediment from surface soils and from saline soils in drainages and transport them into the main drainages during intense localized storms. Runoff adds to the salt content of the irrigation return flow carried by the Price River and San Rafael River. When the amount of runoff increases due to storms or snow melt, discharges into streams tend to be greater and of shorter duration, increasing channel cutting and sometimes flooding. The U.S. Geological Survey (USGS) and the State of Utah have established a gaging network on the San Rafael and Price Rivers and their major tributaries to monitor salt content and compliance with water-quality standards on major stream segments.

Water quality comprises the measured physical, chemical, and biological characteristics of the streams in the area. The target parameters are set by the State and federal regulations for particular stream segments or particular water uses. Pursuant to Section 303(d) of the Clean Water Act (CWA) as amended, each state is required to identify those water bodies for which existing pollution controls are not stringent enough to implement State water-quality standards. Thus, those water bodies not currently achieving or not expected to achieve those standards are

identified as “water quality limited.” A water body can be water quality limited because of point or non-point sources of pollution or both. In addition to common sources of pollutants, there can be pollutants resulting from habitat alterations or hydrologic modifications (UDWQ 2002).

A full list of streams located in the State of Utah that are impaired, partially impaired, and approved TMDL (total daily maximum load) Studies can be found in Utah’s Division of Water Quality Integrated Report, 2014 (UDWQ 2014)

Groundwater Quality

Groundwater quality is highly variable, depending on the formation in which the aquifer is located and on the well location. Groundwater contamination is a continuing concern.

Groundwater within the PFO is not considered a major water source for municipal water due to the high salt content. The PFO is nearly all underlain by a series of consolidated sedimentary formations. All the geologic units contain some water, but only five are considered to be major aquifers: Entrada, Navajo, Wingate Sandstones, Coconino Sandstone (including its equivalents in the Cutler Formation), and rocks of the Mississippian age. Several other formations are at least locally important, including the Carmel Formation, the Salt Wash Sandstone member of the Morrison Formation, the Curtis Formation, and the Moss Back Member of the Chinle Formation (BLM2008d). The formations are encountered at elevations ranging from surface outcrops to more than 2,000 feet below the surface.

Groundwater supplies are controlled more by recharge conditions than by use depletions. Precipitation is the ultimate recharge source. Areas with exposed permeable formations and regional fracture systems, where average annual precipitation is more than 12 inches, usually are recharge areas (BLM 1991a). Groundwater moves from these areas of recharge, discharges to stream valleys flowing from the Wasatch Plateau and Bookcliffs, and recharges the major aquifers underlying the PFO. Groundwater is a small part of the developed water supply for municipalities in the PFO. Price City, Helper, Wellington, and East Carbon all use some groundwater for portions of their municipal water supplies. The BLM also manages wells, which use water from perched aquifers. There are numerous private domestic wells within the region.

Groundwater disposal is a large aspect of coal bed natural gas development. Saline water pumped from coalbed natural gas wells throughout the PFO is re-injected into non-usable water-bearing zones because of its high total dissolved solids (TDS).

3.3.4 Springs and Riparian

Numerous springs are present throughout the project area. These springs generally are located in areas where a relatively permeable sandstone layer overlies a less-permeable siltstone or mudstone and outcrops into a canyon, where the bedrock is sufficiently fractured to allow percolation of water at the surface, or from alluvium along canyon bottoms and streambeds. The quality of water at these sources is variable, depending on the aquifer from which the spring water originates. Riparian zones occur along perennial streams sides, generally. There are some ephemeral streams that support a riparian area due to persistent wetness. Plant life found consists of, but is not limited to, buttercup, gooseberry, willow, ribes, rose, tamarisk, box elder, rosebush, cottonwood, current, juncus, and saltgrass.

3.3.5 Soils

General and detailed soils information for part of the PFO is contained in the Soil Survey of Carbon-Emery Area, Utah (USDA SCS 1970) and the Soil Survey of Carbon Area, Utah (USDA SCS 1988). These two surveys cover all of Carbon County and much of the private land in the northwestern portion of Emery County. Draft soil survey information exists for portions of the remaining BLM lands in Emery County.

Soils vary based on aspect, landform, geology, vegetation, and climate. They range from shallow, poorly developed, and rocky soils on plateaus, cliffs, and ridges to deeper, more productive soils on alluvial fans and in valley bottoms. The dry climate and parent materials also affect development and concentrations of carbonates, salts, and gypsum within the soils and rooting zones, in turn affecting plant growth and water movement. Some soils are extremely alkaline and have saline or sodic properties that affect their use and management. The Mancos Shale Lowlands are characterized by soils with distinctive features, including claypans and layers of gypsum, which contribute to their high erosion potential. The sandy parent materials to the southeast of the San Rafael Swell in the Green River Desert Section are characterized by deep, well-drained, fine sandy soils forming in stabilized and active dunes.

Information about existing soil condition, soil quality, and productivity exists in older soil vegetation inventory data, more recent rangeland health assessments, and big-game trend studies, as well as PFO records regarding the number of acres that have been developed for roads, recreation, and energy development, or have otherwise undergone various levels of surface disturbing activities. This information is used in conjunction with soil survey information in site-specific project analyses to design projects to minimize soil disturbance and maintain long-term soil health and productivity.

Some soils in the PFO have a high potential for contributing salt and sediment to drainages, high susceptibility to water or wind erosion when disturbed, and high runoff potential. Water erosion is a function of rainfall, soil erodibility, length of slope, percentage of slope, vegetation cover, soil conditions, and management practices. Bank erosion is accelerated in stream channels as a result of damming practices, improperly functioning riparian systems, and hydrologically unstable streams. Soils have natural erosion rates that are a function of inherent soil properties, slope, aspect and climate, which, in turn, also determine the ability of the site to support vegetation. Accelerated erosion occurs when the plant cover is depleted or soil surface conditions are degraded. Management activities that affect vegetation or compact soil surface can also lead to accelerated erosion (NRCS 2001a). Roads, railroads, paths, and trails form continuous flow paths that are capable of channelizing water. As overland flow of water and sediment concentrates in these channels, water runoff changes from “sheet” to channelized flow, increasing the energy of the erosional forces.

Soils with surface textures that are highly susceptible to water erosion generally have a high proportion of coarse to very fine sands, or silts, with little binding material such as clay or organic matter. Loams and silty clay loams intermixed with barren shale, rubbleland, or rock outcrop are found widely distributed throughout the PFO. When the vegetation or biologic crust on these soils is removed, such as by surface disturbance, fire, or heavy grazing pressure, the

soils become subject to accelerated erosion. Under good vegetation cover, soil loss is less than 1 ton per acre per year; with poor cover, soil loss can exceed 5 tons per acre per year. When these soils are disturbed, 10 tons per acre or more per year could be lost (BLM 1991a; NRCS 2001b; SCS 1970; SCS 1988).

Intense, often localized, convective storms from midsummer to early fall can flashflood dry washes and streams. This occurs most often in areas with high runoff potential, including extensive rock outcrop and badlands. These types of soils or miscellaneous land types occur in watersheds above the towns of Emery, Ferron, Castle Dale, Orangeville, and Huntington. The major stream channels throughout the PFO are subject to flooding from spring snowmelt at higher elevations. Soils are also subject to erosion along floodplains of major stream channels (BLM 1991a).

3.3.6 Prime and Unique Farmlands

The Farmland Protection Policy Act (FPPA) was passed by Congress as part of the Agriculture and Food Act of 1981 (Public Law 97-98). The FPPA is intended to minimize the impact Federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance.

Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion, as determined by the Secretary of Agriculture. It may include lands currently used to produce livestock and/or timber. Unique farmland is land other than prime farmland that is used for production of specific high-value food and fiber crops, as determined by the Secretary. Examples of such crops include citrus, tree nuts, olives, cranberries, fruits, and vegetables. Farmland that is of statewide or local importance other than prime or unique farmland is used for the production of food, feed, fiber, forage, or oilseed crops, as determined by the appropriate State or unit of local government agency or agencies, with the approval of the Secretary of Agriculture.

Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a Federal agency or with assistance from a Federal agency, including the National Resource Conservation Service (NRCS). NRCS must use the criteria provided in regulations found at 7 CFR Section 658.5 to identify and take into account the adverse effects of Federal programs on the protection of farmland. As well as evaluating the effects of our own actions upon farmland, NRCS must assist Federal agencies to consider alternative actions, as appropriate, that could lessen such adverse effects on farmland conversion to nonagricultural uses. NRCS uses a land evaluation and site assessment (LESA) system to establish a farmland conversion impact rating scores. This score is used as an indicator for the project sponsor to consider alternative sites if the potential adverse impacts on the farmland exceed the recommended allowable level.

Parcel #021 contains soils that if irrigated, can be considered Prime Farmlands.

Prime and Unique Farmlands at a Glance	
Problems / Indicators - Proposed farmland conversion	
Causes	Solutions
<ul style="list-style-type: none"> • Proposed land use changes/conversion of agricultural lands • Ground disturbing/land clearing activities • Construction of infrastructure projects • Exurban development 	<ul style="list-style-type: none"> • Conduct LESA for conversion impact score • Share result with cooperating Federal agency proposing action (normally for NEPA analysis) • Offer alternatives (relocation) for consideration if adverse impacts to prime, unique, or locally important agricultural lands.

The eastern-most portion of parcel 587, located in Section 5 of Township 8 South, Range 20 East (approximately 76 acres of 80 acres) lies on Natural Resource Conservation Service (NRCS) designated prime farmlands. This eastern most portion is located entirely on private land.

The remaining lease parcels are not located on designated prime farmlands. Unique farmlands are not found within any of the lease parcels following a review of NRCS GIS data.

3.3.7 Threatened, Endangered, Candidate or Sensitive Plants

Under Section 7 of the Endangered Species Act (ESA), the BLM is required to consult with the U.S. Fish and Wildlife Service (USFWS) on any proposed action which may affect federally listed threatened or endangered species or species proposed for listing. Section 7 consultation efforts [a Biological Assessment (BA) by BLM and subsequent Biological Opinion (BO) by the USFWS] covering a wide variety of actions, including oil and gas leasing, associated with the current BLM land use plans in Utah was completed October 2008 (BLM 2008c). The BO includes species-specific lease notices that were developed during the Section 7 process. Informal consultation is conducted before each lease sale to ensure the appropriate lease notices from the BO are attached to the lease parcels. When habitat is thought to be present, these lease notices are to be attached to oil and gas leases offered in Utah.

Washington Office (WO) Instruction Memorandum (IM)-2002-174 and the BO from the 2008 Price RMP, directs that the BLM attach an ESA stipulation to leases to protect threatened and endangered plants, animals, or their habitats along with other special status species. According to this stipulation, the BLM will not approve any ground-disturbing activity until obligations under applicable requirements of the ESA have been fulfilled, including completion of any required procedure for formal or informal conference or consultation.

43 CFR 3162.1(a) provides the BLM with broad authority to ensure compliance of lessees with orders of the authorized officer issued for the protection of the environment. Conservation measures (lease notices and stipulations) as discussed above increase the likelihood that the BLM and by association, the lessee, will not have to complete formal Section 7 consultation at the project level; however it should be noted that BLM may be required to reinstate Section 7 consultation at the project-level, as necessary, to ensure proper management of listed species in the future. Site-specific effects cannot be analyzed until an exploration or development application is received, after leasing has occurred. Until there is a site-specific proposal, there is no action directly or indirectly causing modifications to the land, water, or air.

San Rafael Cactus (Pediocactus despainii)

The San Rafael Cactus is federally listed as endangered. San Rafael cacti occur primarily on BLM administered lands managed by the PFO. However, no critical habitat is designated for this species. It is a small sub-globose cactus. The species is usually solitary stemmed, 3.8-6.0 centimeters (cm) tall and 3.0 to 9.5 cm in diameter. Habitat descriptions for this cactus vary. Typically the San Rafael cacti grows in fine textured, mildly alkaline soils rich in calcium derived from limestone substrates of the Carmel Formation and the Sinbad member of the Moenkopi formation and on shale barrens of the Brushy Basin member of the Morrison, Carmel and Dakota geologic formation. The vegetation community is characterized by open woodlands of scattered Utah juniper and piñon pine with an understory of shrubs and grasses. Much of the year cacti shrink underground or back to ground surface, defending themselves against an annual cycle of extreme heat, drought and cold. Resurfacing in the spring appears to be dependent on winter and spring moisture. Flowering occurs from March to May with fruiting from May to June. Reproduction, seedling ecology and the overall effects of natural factors, such as disease, parasitism, grazing by native species, natural erosion and potential of vegetative competition on the viability of the species is still largely unknown. Potential, suitable, and/or occupied habitat for the species has been identified in parcels UT1115-091, 092, 093, 095, 096, 097, 098, 100, 101, 112, 151, 152, and 156.

Wrights fishhook cactus (Sclerocactus wrightiae)

Wright's fishhook cactus is a perennial herb and a member of the cactus family. It is federally listed as endangered. Populations of Wright fishhook cactus occur primarily on lands managed by the BLM out of the Price and Richfield Field Offices and by the National Park Service at Capitol Reef National Park. However, no critical habitat has been designated for the species. Wright fishhook cactus typically grows as a single plant with a branched taproot. The stems are 1 to 8 cm long and 4 to 8 cm in diameter. Flowering occurs from early April through May and fruits are set in June. The stamens have magenta filaments with anthers that are yellow. The ecological amplitude of Wright fishhook cactus is wide, being found from clay badlands up to the pinyon-juniper habitat. Typically it is found on semi-barren sites in salt desert shrub, piñon/juniper woodlands, mixed grassland, and mixed desert shrub communities at elevations of 4200 and 7600 feet. The species occurs on a variety of geologic formations. However, it is most commonly found on the Curtis, Mancos Shale and Summerville Formations. Potential, suitable, and/or occupied habitat for the species has been identified in parcels UT1115 -071, 086, 087, 089, 090, 091, 092, 093, 094, 095, 096, 097, 098, 100 and 101.

Last Chance Townsendia (Townsendia aprica)

Last Chance Townsendia is a member of the sunflower family; this species is a stemless perennial herb with flower heads submersed in its ground-level leaves. It is federally listed as threatened. Populations of last chance townsendia occur primarily on lands managed by the BLM out of the Price and Richfield Field Offices and by the National Park Service at Capitol Reef National Park. However, no critical habitat has been designated for the species. Although found association with several geological formations, it is limited to a small band within the shale derived soils of these formations, and has a very restricted distribution. Most known populations grow in soils derived from shale lens, that have a very fine silt texture and very high

alkalinities and occur at the surface in small, isolated pockets. The flowers bloom in late April and May, and have yellow to golden petals. Potential, suitable and/or occupied habitat for the species has been identified in parcels UT1115 – 069, 071, 086, 087, 089, 090, 091, 092 and 093.

Mussentuchit gilia (Aliciella tenuis)

Mussentuchit gilia is a perennial herb growing up to 15 centimeters tall and is a Utah BLM sensitive plant species. The basal leaves are divided into lobes. The herbage is coated in glandular hairs that often have sand stuck to them. The flowers are pale blue and appear in May through July. This species grows in rocky, sandy habitat, such as sandstone outcrops and talus slopes at elevations of 5,000 to 7,000 feet.

Based on appropriate geology and elevation and nearby known locations there is potential habitat in parcels UT-1115-094 and 095.

Psoralea globemallow (Sphaeralcea psoraloides)

Psoralea globemallow is a Utah BLM sensitive plant species. This member of the mallow family is a perennial herb with distinct yellow green foliage. The plant produces orange flowers. It is found in salt and mixed desert shrub communities and pinyon/juniper communities. Substrates are typically clayey, silty, sandy and gravelly semi-barrens that are alkaline. The species can be found at elevations of 4,000 to 6,300 feet.

Based on appropriate geology and elevation and nearby known locations there is potential habitat in parcels UT-1115-087, 091 and 092.

3.3.8 Non-WSA Lands with Wilderness Characteristics

Non-Wilderness Study Area (WSA) lands with wilderness characteristics are defined as areas having at least 5,000 acres in a natural or undisturbed condition that provide an outstanding opportunity for solitude and/or primitive forms of recreation. Many of these areas are adjacent to or contiguous with WSAs. Detailed information about non-WSA lands with wilderness characteristics is part of the administrative record for the Price ROD RMP/EIS (October 2008). The following records are incorporated by reference: (1) 1999 Utah Wilderness Inventory; (2) 1999 Utah Wilderness Inventory Revision Document for the Price Field Office; (3) 1999 Utah Wilderness Inventory case files for the Vernal Field Office; (4) Reasonable Probability Determinations for the Price Field Office; and (5) Documentation of Wilderness Characteristics Review for the Price Field Office. (Table 3-22 of the Proposed RMP/Final EIS).

The Price ROD RMP/EIS identified “BLM Natural Areas”, non-WSA lands with wilderness characteristics that would be managed for the protection of their wilderness values, as well as non-WSA lands with wilderness characteristics that, based upon the analysis in the Price RMP/EIS, would not be managed for their wilderness characteristics.

The proposed lease parcels intersect non-WSA lands with wilderness characteristics within five distinct wilderness inventory areas (WIA). Specifically, the non-WSA lands with wilderness characteristics analyzed for this lease sale include are within the Mussentuchit Badland, Rock Canyon, Molen Reef, Upper Muddy Creek, and Limestone Cliffs. (See Appendix B Map 4).

The Price ROD RMP/EIS (pages 35-36) made the determination that all of the non-WSA lands with wilderness characteristics within the proposed lease parcels would not be managed for those characteristics. There are no BLM Natural Areas present within the subject parcels.

Limestone Cliffs WIA

The unit is approximately 23,800 acres and is located in Sevier County with a small amount in Emery County. This unit is located in a remote and rugged terrain in pinyon and juniper habitat. This unit's topographic and vegetative screening offers outstanding opportunities for solitude within this seldom-visited region. Four parcels are located within the WIA: 089, 090, 093, and 095.

Mussentuchit Badland WIA

The unit is approximately 23,900 acres and is located in the extreme southwestern corner of Emery County approximately six miles south of Interstate 70. The inventory unit is barren, sparse vegetation, mostly desert shrubs and grasses cover much of the landscape. The unit's topography is relatively flat with rolling hills and extensive badlands topography. Eleven parcels are located within this WIA: 089, 090, 091, 092, 093, 094, 095, 096, 097, 098, and 100.

Molen Reef WIA

The area is approximately 33,396 acres in size. The WIA is located in Emery County, east of the town of Emery and north of Interstate 70. The vegetation consists of scattered pinyon-juniper woodlands and open grasslands at higher elevations, while shrublands containing blackbrush, rabbitbrush, and various grasses are found at lower elevations. One parcel is located within this WIA: 071.

Rock Canyon WIA

Five parcels are within this WIA: 086, 087, 089, and 090. This unit is located in Emery and Sevier Counties. This unit provides outstanding opportunities for solitude due to the screening offered by the cliffs of the canyon walls, shifting slopes, and clusters of pinyon-juniper growing along the rim.

Upper Muddy Creek WIA

One parcel is located in Upper Muddy Creek WIA: 087. This unit is located south of Interstate 70 in Emery County. Most of the unit includes varied, broken landscape features, including long mesas, buttes, ridges, and colorful badland formations cut by numerous drainages.

3.3.9 Cultural Resources and Native American Religious Concerns

Cultural resources are locations of human activity, occupation, or use identifiable through field inventory (survey), historical documentation, or oral history. The term includes archaeological, historic, and architectural sites, structures, and places with important public and scientific uses, and may include locations (sites or places) of traditional, religious, and cultural importance to specified social and/or cultural groups. Cultural resources are material places and things that are

located, classified, ranked, and managed through the system of identifying, protecting, and utilizing for public benefit.

Regulatory Background

Historic Properties

Protection and management of cultural resources on Bureau of Land Management (BLM) administered land is mandated by the Antiquities Act of 1906 (P.L. 59-209; 34 Stat. 225; 16 U.S.C. 432, 433); National Historic Preservation Act of 1966 (P.L. 89-665 as amended by P.L. 96-515; 80 Stat. 915; 54 U.S.C. 300101; “NHPA”), as amended; National Environmental Policy Act of 1969 (P.L. 91-190; 83 Stat. 852; 42 U.S.C. 4321; “NEPA”); Executive Order 11593 (“Protection and Enhancement of the Cultural Environment,” 36F.R. 8921, May 13, 1971); Federal Land Policy and Management Act of 1976 (P.L. 94-579; 90 Stat. 2743; 43 U.S.C.1701; “FLPMA”); American Indian Religious Freedom Act of 1978 (P.L. 95-431; 92 Stat. 469; 42 U.S.C.1996); Executive Order 13007 (“Indian Sacred Sites,” 61 F.R. 104, May 24, 1996); and Executive Order 13287 (“Preserve America” 68 F.R. 43, March 5, 2003). In addition, the Bureau of Land Management has developed alternative procedures, in the form of *Programmatic Agreement Among The Bureau Of Land Management, The Advisory Council On Historic Preservation, And The National Conference Of State Historic Preservation Officers Regarding The Manner In Which BLM Will Meet Its Responsibilities Under The National Historic Preservation Act*. NEPA states that federal agencies shall take into consideration impacts to the environment with respect to an array of resources, and that alternatives must be considered. The NHPA of 1966, as amended, established the Advisory Council on Historic Properties (ACHP) and the National Register of Historic Places (NRHP), and mandates that federal agencies consider an undertaking’s effects on cultural resources that are listed or eligible for listing on the NRHP. Cultural resources listed on or eligible for inclusion on the NRHP are referred to as historic properties. It should be noted that unevaluated cultural resources or those requiring additional data are treated as eligible for inclusion on the NRHP until final eligibility is determined. For the purposes of this EA, the term “historic properties” will be used to be consistent with historic preservation laws and regulations.

Cultural Overview

The prehistory of the PFO can be divided into eight time periods, some of which have associated phases. These periods are: Paleoindian (ca. 11,000-8,000 B.P.); Early Archaic (ca. 8,000-5,000 B.P.); Middle Archaic (ca. 5,000-3,000 B.P.); Late Archaic (ca. 3,000-2,000 B.P.); Terminal Archaic (ca. 2,000-1,500 B.P.); Formative (ca. 1,500-800 B.P. including both the Fremont Complex [ca. 1,500-800 B.P.] and Virgin River Anasazi Complex [ca. 1,600-800 B.P.]); and Late Prehistoric (ca. 800-200 B.P. including the Protohistoric Phase [ca. 500-150 B.P.]; during which there was an expansion of Numic-speaking peoples [Ute, Shoshone, Paiute] into the region from the Mojave Desert area). The historic period include those resources related to the Euro-American exploration, settlement, and development of the West. Common historic period site types might include debris scatters, railroads, roads, canals and ditches, homesteads, mining sites, and telegraph lines. Notable historic sites in the analysis area include, but are not limited to the Old Spanish Trail.

Old Spanish National Historic Trail (OST)

The Old Spanish Trail is a National Historic Trail (NHT) that was established in the early 1800's as a trade, transportation, and communication corridor between Santa Fe, NM and Los Angeles, CA. Multiple variants of the trail allowed travelers to take alternative routes or shortcuts based on the time of year, weather, size of the traveler's caravan, or the traveler's preference. Other notable travel routes in the project vicinity include the Rivera Expedition of 1765 and the Dominguez-Escalante expedition that crossed the Uintah Basin and continued through southwest Utah in 1776. The Price Field Office (PFO) Resource Management Plan (RMP) states on page 4 Appendix R-3 "NSO within Trail Springs/Lost Springs Wash segment of the Old Spanish National Historic Trail to retain the historic character of the trail." Several management prescriptions are contained in the Approved PFO RMP:

Page 143 "Manage the Old Spanish Trail National Historic Trail (OST) for long-term heritage, recreational, and educational values. Manage National Landmarks to maintain or enhance the values for which they were designated."

Page 144 "Old Spanish Trail: Lost Springs Wash/Trail Springs Wash Segment (13 miles total, 11 miles on BLM) Preserve the historic character of the landscape much as it existed at the time the trail was in use (1829–1848) while providing for recreation opportunities and other resources values. Manage this segment as follows: Oil and gas will be open to leasing subject to major constraints (NSO)."

Page 144 and 145 "Old Spanish Trail: Green River Crossing (via Cottonwood Wash) to Big Flat Segment (43 miles total, 31 miles on BLM). Preserve the historic character of the landscape much as it existed at the time the trail was in use (1829–1848) while providing for recreation opportunities and other resources values. Manage this segment as follows: Oil and gas will be open to leasing subject to minor constraints (timing limitations, CSU, lease notices)."

Area of Potential Effect (APE)

Under 36 CFR 800, the Regulations for Section 106 of the NHPA define the APE as "those areas in which impacts are planned or are likely to occur. Specifically, the APE is defined as the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist. Additionally, the APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking (36 CFR 800.16[d])." The proposed APE for the 2015 O & G lease parcel sale affected environment (baseline description) include fifty-three parcels, and the associated values that have a potential to be affected by the direct, indirect and cumulative effects associated with leasing. The APE for direct effect is defined by the boundary of each proposed lease parcel. There would be no direct affect to cultural resources as a result of leasing. The APE for potential indirect effects on historic properties considers visual, audible, and atmospheric elements that could diminish the integrity of properties for which setting, feeling, and/or association are qualifying characteristics of NRHP eligibility. The indirect APE for the proposed Project buffers each lease parcel by 2.5 miles. Where the indirect APE includes TCPs, NHLs, NHTs, or other classes of historic properties for which setting contributes to eligibility,

additional analyses and consultation would be required and the indirect APE may need to be modified accordingly when effects are determined to extend beyond the 2.5-mile convention. Where the proposed indirect APE would encompass a 2.5 mile view shed to ensure the quality of significance for cultural resources located therein, there could be associated indirect and cumulative effects to cultural resources from leasing.

Affected Environment

As a result of the files search, 134 previously recorded sites were identified. See table 1 below for a summary.

Parcel #	Project Number	Site Number
2	N/A	N/A
3	U88SC**0424, U83LA0557, U94SJ0416, U94AF0556, U05SC0073, U07MQ0663	42CB2633
6	U78AF0498, U79AF0475, U80UA0703, U81UB0739, U81UB0954, U82NH0845, U86AS0817, U10ST0882b	42CB1264
21	U81UB0739, U81NJ0878, U09HO0507	N/A
14	U80UB0704, U81UB0739, U81UB0954, U82NC0836, U83AK0799, U84NJ0024, U84AS0365, U84AS0492, U85BC0575, U95JB0578, U96BS0186, U97SC0448, U98SC0700, U99SC0134, U01MQ0367, U06MQ0030, U09SC0065	42CB354, 42CB449, 42CB493, 42CB494, 42CB496, 42CB521, 42CB840, 42CB1331, 42CB1332, 42CB2704,
15	U80UB0704, U81UB0920, U81UB0985, U86BL0751, U92NP0576, U00ST0740, U00ST0332	42CB550, 42CB842, 42CB1330, 42CB1335, 42CB1826, 42CB2733
16	U83LA0557, U06SC1777, U08MQ0833	42CB2614
182	U97JB0747, U09BS0388	42EM2445, 42EM2491
151	U77UA0318, U79AF0507, U80AF0658, U81UB0426, U81UB0739, U81NJ0878, U83BC0813, U83BC0822, U91BL0658, U93NP0341, U13MQ0973	42EM272, 42EM1646, 42EM2056, 42EM2077, 42EM2359, 42EM2358
152	U81UB1000, U83BC0822, U97MQ0507, U86AS0251, U90MM0546, U13BL0034	42EM2433, 42EM3349
112	U84BE0928, U00BS0468, U13BL0034	42EM1956, 42EM2063, 42EM2546
115	U99MQ0085, U06MQ0914	42EM2277, 42EM2657
116	N/A	N/A
156	U00BS0468, U13BL0034	42EM1073, 42EM1074, 42EM1075, 42EM1076, 42EM1965

68	U89AS0664, U94AS0068, U02MQ0447, U03UM0039, U07SC1117, U10MQ0847	42EM49, 42EM50, 42EM51, 42EM220, 42EM2201, 42EM2275, 42EM2277, 42EM2906, 42EM2910, 42EM2911, 42EM2962, 42EM2964, 42EM2966, 42EM2967, 42EM2971, 42EM2972, 42EM2973, 42EM3867, 42EM3869, 42EM3870, 42EM3871
69	U96MQ0248, U10MQ0847	42EM50, 42EM1625, 42EM2068, 42EM2069, 42EM2070, 42EM2071, 42EM2072, 42EM2073, 42EM2078, 42EM2079, 42EM2080, 42EM2973, 42EM4331
71	U79AF0503, U02MQ0341	42EM258, 42EM259, 42EM650, 42EM651, 42EM652, 42EM728, 42EM729, 42EM730, 42EM731, 42EM732, 42EM733, 42EM1079, 42EM1279, 42EM1392, 42EM1393, 42EM1482, 42EM1483, 42EM1484, 42EM1485, 42EM1580, 42EM2973 42EM2490
86	U76AF0065, U79AF0502, U80AF0727, U84AS0310, U96BL0295, U98MQ0328	42EM606, 42EM657, 42EM659, 42EM673, 42EM675, 42EM1238, 42EM1239, 42EM1282, 42EM1283, 42EM1284, 42EM1285, 42EM1440, 42EM1441, 42EM1444, 42EM1445, 42EM1446, 42EM1447, 42EM1448, 42EM1449, 42EM1472, 42EM2506
87	U79AF0502, U80AF0727, U85PD0726	42EM1212, 42EM1860, 42EM1861
89	U79AF0502, U80AF0727, U97BL0671	42EM165, 42EM201, 42EM1254, 42EM1255, 42EM2008, 42EM2016, 42EM2035, 42EM2036
90	U80AF0727, U97BL0671	42EM1253
91	U00BL0524	N/A
92	N/A	N/A
93	U80AF0727	42EM956
94	U13BL0392	N/A
95	U91BL0657, U97BL0671, U13BL392	42EM975, 42EM2257
96	N/A	N/A
97	U80AF0727	N/A
98	U80AF0727, U03BL0046	N/A
99	U80AF0727, U81UB0133, U81UB0990	42EM63
100	U90BL0281	N/A
101	U89GB0250, U90BL0281	42EM2211
153	U04BT860	N/A

Table 1.

Also included in the project analysis area is the Rock Art ACEC which is a collection of rock art sites. These sites represent some of the best examples of prehistoric rock art in the Colorado

Plateau. In addition to rock art, cultural sites such as granaries, ancient village sites, pit houses, rock shelters, settlers’ cabins, and ranches also have been identified within the project area. To date no TCPs have been identified by the Tribes.

Native American Consultation

It is the responsibility of all federal agencies to comply with the requirements of Section 106 of the NHPA and the Advisory Council on Historic Preservation (ACHP) regulations when planning and carrying out their undertakings. In doing so, they are required to consult with Native American Tribes depending on the specifics of the undertaking. Such consultation with Native American Tribes is central to the Section 106 process. Consultation is defined in the ACHP regulations as “the process of seeking, discussing, and considering the views of other participants, and, where feasible, seeking agreement with them regarding matters arising in the Section 106 process” [36 CFR 800.16(f)]. Please see below for a list of contacted Tribes. Consultation is ongoing.

<ul style="list-style-type: none"> • Paiute Indian Tribe of Utah 	<ul style="list-style-type: none"> • Ute Mountain Ute Tribe 	<ul style="list-style-type: none"> • Eastern Shoshone Tribe
<ul style="list-style-type: none"> • Navajo Nation 	<ul style="list-style-type: none"> • Pueblo of Zuni 	
<ul style="list-style-type: none"> • Ute Indian Tribe 	<ul style="list-style-type: none"> • Pueblo of Jemez 	
<ul style="list-style-type: none"> • Hopi Tribe 	<ul style="list-style-type: none"> • Shoshone-Bannock Tribe 	
<ul style="list-style-type: none"> • Northwestern Band of Shoshone Nation 	<ul style="list-style-type: none"> • Southern Ute Tribe 	

3.3.10 Areas of Critical Environmental Concern

After review of the GIS/RMP data, it has been determined that lease parcel #091 contain portions of the Sand Cove- Rock Art ACEC. It is said that these sites are some of the best examples of prehistoric rock art in the Colorado Plateau. PFO RMP states this ACEC will be maintained and will be managed in accordance with the IMP, where the IMP is more restrictive than the prescriptions below (ACEC-6, pp 133-134):

- Archaeological inventories and test excavations will be required before site improvements or a designated route decision.

Management with the following special management prescriptions:

- Oil and gas will be open to leasing subject to major constraints (NSO)
- Closed to disposal of mineral materials
- Recommended for withdrawal from locatable mineral entry
- Excluded for ROW grants

On page 47 of the PFO RMP it states: “Of the 569,000 acres that are unavailable to oil and gas leasing, only 39,000 acres are outside WSAs and are a planning decision. These 39,000 acres are unavailable to oil and gas leasing by a discretionary decision because it is not reasonable to apply a no surface occupancy (NSO) stipulation because the areas are too large to reach the oil and gas mineral through directional drilling. The discretionary unavailable areas include non-WSA lands with wilderness characteristics and the Big Flat Tops and Cleveland-Lloyd Dinosaur Quarry ACECs.” The remainders of the parcels are not found to be inside any ACEC.

3.3.11 Recreation

All parcels are located in an Extensive Recreation Management Area (ERMA).

Page 37, PFO/RMP. “Visitors come from all over the nation, as well as the world, to specifically enjoy the attractions in the PFO. Visitors engage in an array of non-motorized and motorized recreation activities, many of which conflict with each other. Recreational activities include camping, scenic driving, enjoying natural and cultural features, hiking, backpacking, mountain biking, horseback riding, hunting, rock climbing, boating (rafting, canoeing, and kayaking), and OHVing, among others.”

Price RMP Table R9-11 Management objectives are to Manage this ERMA to provide opportunities for a wide variety of motorized, mechanized, non-motorized, and non-mechanized recreational activities largely free from heavily restrictive regulations and management constraints in a variety of settings ranging from slot canyons, open landscapes with broad scenic vistas, slick rock expanses and slopes, badlands, rangelands, woodlands, forests, and wildland/urban interface. Route designations would allow visitors to access most terrain by motorized vehicle, while leaving large expanses of undeveloped back country in which to “lose oneself.” Implement criteria for SRPs to ensure that visitor safety is protected and resource conditions are maintained while providing for readily available recreational opportunities.

REC-67 Portions of the PFO not identified as a SRMA will be identified as an ERMA. ERMAs will receive only custodial management (which addresses only activity opportunities) of visitor health and safety, user conflict, and resource protection issues with no activity-level planning. Therefore, actions within ERMAs will generally be implemented directly from LUP decisions, such as Special Recreation Permits (SRP) or OHV management decisions. See Appendix R-9 for additional specific recreation management objectives for the PFO ERMA.

3.3.12 Visual Resource Management

The BLM is directed to manage public lands in a manner that will protect the quality of the visual (scenic) values in accordance with Section 102(a)(8) of FLPMA. The BLM Visual Resource Management (VRM) system provides the BLM with a methodological approach to identify visual (scenic) values; establish objectives for managing those values through the RMP process; and provide timely input into proposed surface-disturbing projects to ensure that the assigned objectives are met or intrusions are sufficiently mitigated (see table below). The VRM inventory process considers the scenic quality of the landscape, the sensitivity of the viewer, and the distance from the viewer to the landscape. Based upon these characteristics, the BLM

assigns a VRM class to the lands under their jurisdiction, the objectives are as follows:

VRM Class Objectives

VRM Class	Objective
I	To preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.
II	To retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.
III	To partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.
IV	To provide for management activities that requires major modification to the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repetition of the basic elements.

The BLM has applied the VRM system on the public lands under their management with the overall objective being to minimize impacts resulting from human activities. The proposed Oil and Gas lease sale occurs within Federal lands designated as VRM Class II, III, IV. See Map 10. Thus, the BLM's objective for the Project Area with parcels 007, 017, 019, 074, 085, 086, 087 and 089 have portions that fall in the VRM Class II. Class II management directive is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape. The remaining parcels have portions that fall in the VRM class III and class IV.

VRM Class III is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape. The remainder and including some areas of the above listed parcels fall within VRM class IV. VRM Class IV is to provide for management activities that require major modification of the existing character of the

landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repetition of the basic elements.

The *BLM Price Field Office Visual Resource Management Inventory* (BLM 2011) establishes visual resource inventory (VRI) classes, which are used to assess visual values for the RMP. Visual management objectives are developed through the BLM's resource management planning process and reflect the resource-allocation decisions made in the RMP. According to *BLM Manual H-1601-1, Land Use Planning*, implementation decisions must be designed to achieve VRM objectives within each VRM class. VRM classes may reflect VRI classes, but they may not necessarily do so since management objectives for other resources as determined in the planning process may require different visual management needs. While the VRM system was used to inventory and classify the scenic (visual) resources for the Project Area, the VRI identifies the scenic quality, sensitivity levels, and distance zones and determines the VRI class, according to the VRM manual. The Project Area has been classified as a VRI class II, III and IV which serves as baseline information for assessing potential effects to visual resources.

Sensitivity Levels

The evaluation of sensitivity levels in the VRM process provides a measure and an indication of the public's concern for scenic quality. Factors that contribute to the public's overall concern, as identified in *BLM Manual H-8410-1*, include the following:

- Types of Users – Visual sensitivity will vary with the type of users. Recreational sightseers may be highly sensitive to any changes in visual quality, whereas workers who pass through the area on a regular basis may not be as sensitive to change.
- Amount of Use – Areas seen and used by large numbers of people are potentially more sensitive. Protection of visual values usually becomes more important as the number of viewers increase.
- Public Interest – Visual quality of an area may be of concern to local, state, or national groups. Indicators of this concern are usually expressed in public meetings, letters, newspaper or magazine articles, newsletters, land-use plans, etc. Public controversy created in response to proposed activities that would change the landscape character should also be considered.
- Adjacent Land Uses – Interrelationship with land uses in adjacent lands can affect the visual sensitivity of an area. For example, an area within the view shed of a residential area may be very sensitive, whereas an area surrounded by commercially developed lands may not be visually sensitive.
- Special Areas – Management objectives for special areas such as natural areas, wilderness areas or WSAs, wild and scenic rivers, scenic areas, scenic roads or trails, and ACECs frequently require special consideration for the protection of the visual values. This does not necessarily mean that these areas are scenic but rather that one

of the management objectives may be to preserve the natural landscape setting. The management objectives for these areas may be used as a basis for assigning sensitivity levels. Other factors include other information, such as research or studies, that includes indicators of visual sensitivity should also be considered when assigning sensitivity levels to an area.

While sensitivity levels can be based on physical attributes along with a thorough understanding of the sensitivity factors, distance zones can play an important role because sensitivity to changes in the visual landscape can be moderated by the level of detail or visibility of a potential change.

The *BLM Price Field Office Visual Resource Management Inventory* (BLM 2011) has identified the Oil & Gas Lease Sale Project Area as having a low sensitivity level for areas adjacent to Highway 6 and moderate sensitivity level for the remainder of the project area. This level of sensitivity has been recognized and has resulted in the designation of the various rock art SCRMA's; designated because of its remoteness and the large number of pristine, undisturbed rock art sites. This SCRMA also contains limited access, scenic enjoyment, remoteness, and historic sensitivities.

Delineation of Distance Zones

The analysis of distance zones in the VRM process considers the distance from which the area is generally viewed but does not take into account every possible viewing location. According to *BLM Manual H-8410-1*, landscape areas are generally subdivided into three distance zones based on their relative visibility from travel routes or other observation points:

- Foreground-Middle Ground Zone – Areas that are seen from major highways and other primary travel ways, rivers, trails, or other viewing locations that are less than 3 to 5 miles away. Management activities and proposed projects may be viewed in more detail in this zone.
- Background Zone – Areas that are seen beyond the foreground-middle ground zone to a distance of about 15 miles away. Activities and changes to the landscape in this zone would be generally less visible.
- Seldom-Seen Zone – Areas that are beyond the background zone, more than about 15 miles away from the viewing locations. Seldom seen areas also may not be visible within the foreground-middle ground or background zones or are generally hidden from view from those distances.

The viewing distances and sense of scale in this landscape are dependent upon the location of the viewer and include longer unobstructed views from the ridge tops, limited abrupt views toward the canyon walls, longer views framed and bordered by the canyon walls, and views associated with moving through a narrow canyon corridor. Widths of canyons vary, creating areas of various spatial proportions on the canyon floor. Some of these areas are narrow and constricted with very focused and framed views; whereas others are more open with broad views of expansive ridges.

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 and occur later or farther away from the resource but are still reasonably foreseeable. 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 resource topics that were carried forward for analysis in Chapter 3.

4.2 General Analysis Assumptions and Guidelines

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 an NSO stipulation. Potential oil and gas exploration and production activities, committed to in a lease sale, could impact resources and uses in the planning area. Direct, indirect, or cumulative effects to resources and uses could result from as yet undetermined and uncertain future levels of lease exploration or development. In order to provide a basis for analysis, the Reasonably Foreseeable Development (RFD) scenario is applied to each of the alternatives analyzed in detail. The RFD scenario is a long term projection of oil and gas exploration, development, production, and reclamation activity in a defined area for a specified period of time and serves as an analytical baseline for identifying and quantifying direct, indirect, and cumulative effects of oil and gas activity, under standard lease terms and conditions, on all potentially productive areas open to oil and gas leasing, and forms the foundation for the analysis of the effects of oil and gas management decisions.

In general, the BLM Utah State Office (USO) conducts a quarterly competitive lease sale to sell available oil and gas lease parcels in the state. In the process of preparing a lease sale, the BLM USO compiles a list of lands nominated and legally available for leasing, and sends a draft parcel list to the appropriate District Office where the parcels are located. District and field office staff then review and verify that the parcels are in areas open to leasing; that any new information that

has become available, or any circumstances that have changed, are assessed to determine what level of analysis is required; that appropriate stipulations and notices can be included; that appropriate consultations have been conducted, when necessary; and that any special resource conditions are identified for potential bidders.

The field office then either determines that existing analyses 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 WO IM 2010-117. The EA results in a list of available lease parcels and stipulations or notices as part of the analysis. The EA and unsigned FONSI are then made available to the public for a 30-day public comment period on the BLM web page and ENBB and/or ePlanning. After analyzing and incorporating all comments received during the public comment period, changes to the document and/or lease list parcels are made as necessary. The EA and unsigned FONSI are posted again when the Notice of Competitive Lease Sale (NCLS), a list of available lease parcels and stipulations is issued. The NCLS initiates the protest period (30 days) on the parcel list. The protest period ends 60 days before the scheduled lease sale. Lease stipulations and notices applicable to each parcel are specified in the sale notice. It is unknown when, where, or if future well sites or roads might be proposed on any leased parcel. Although no site-specific activities are specified, analysis of projected surface disturbance impacts, should a lease be developed, was estimated based on the RFD in the PFO Record of Decision and Approved Resource Management Plan and its associated Final Environmental Impact Statement.

This EA would be 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. If leases are offered, purchased, and issued, typical subsequent developments may include the construction of drill pads, access roads, and other ancillary facilities. Detailed site-specific analysis of individual wells, roads, and facilities would occur when a lease holder submits an APD. Under all alternatives, continued interdisciplinary support and consideration would be required to ensure on-the-ground implementation of planning objectives, including the proper implementation of stipulations, lease notices, Best Management Practices (BMPs) and required consultation through the APD process.

Standard lease terms provide for reasonable measures to minimize adverse impacts to specific resource values, land uses, or users (Standard Lease Terms are contained in Form 3100-11, Offer to Lease and Lease for Oil and Gas, U.S. Department of the Interior, BLM, October 2008 or later edition). Although once the lease has been issued, subject to lease stipulations 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, 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 valid, nondiscretionary 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 (CWA), Clean Air Act (CAA), Endangered Species Act (ESA), National Historic Preservation Act (NHPA), and FLPMA,

which are applicable to all actions on federal lands even though they may not be reflected in the oil and gas stipulations in the RMP(s) and would be applied to all potential leases regardless of their category. Also included in all leases are the two mandatory stipulations for the statutory protection of cultural resources (WO IM-2005-03, Cultural Resources and Tribal Consultation for Fluid Minerals Leasing) and threatened, endangered and special status species (WO IM-2002-174, Endangered Species Act Section 7 Consultation). BLM would also encourage industry to consider participating in the Environmental Protection Agency's (EPA's) Natural Gas STAR program under all alternatives. 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.

For purposes of the effects analysis, the RFD and the primary construction, operations, and abandonment elements described below would be similar for the Proposed Action and No Action alternatives.

4.2.1 Reasonably Foreseeable Development

The RFD scenario serves as an analytical baseline for identifying and quantifying direct, indirect, and cumulative effects of oil and gas activity and forms the foundation for the analysis of the effects of oil and gas management decisions in planning and environmental documents. The PFO Proposed Resource Management Plan and Final Environmental Impact Statement (RMP EIS) Appendix M describes in detail fluid mineral RFD scenarios for PFO area. In those analyses it was estimated based on the occurrence potential and past exploration and development activities that the BLM believes that future exploration and development are most likely to occur on the Wasatch (Emery/Book Cliffs CBNG Plays) which primarily run along highways 6 and 10; and the Tavaputs Plateau in the far northeast area of the field office.

The PFO Proposed RMP/Final EIS, Appendix M, states that the initial surface disturbance impacts from oil and gas activity for the Proposed RMP are 15,210 acres over 20 years. The long-term surface disturbance impacts from oil and gas activity for the Proposed RMP are 5,620 acres over 20 years. Impacts from past and present activity are estimated at 3,200 acres (after reclamation), and when added to projected future activity, the estimate is about 18,500 acres in total disturbance. Future initial impacts will be reduced from 7.9 to 2.8 acres per well pad through reclamation, resulting in a net total disturbance of approximately 8,800 acres. Application of BMPs and revised mitigation resulting from improved technologies and adaptive management processes are expected to further reduce impacts in the future. For analysis purposes, this EA assumes that one well and associated facilities could be developed on each lease.

4.2.2 Well Pad and Road Construction

Equipment for well pad construction would consist of dozers, scrapers, and graders. Topsoil from each well pad would be stripped to depth and stockpiled for future reclamation. The topsoil would be seeded with native species of plants and left in place for the life of the well, then used during the final reclamation process. Disturbance for each well pad would be estimated at an area

of approximately 175 feet by 250 feet (one acre), including topsoil piles. For this analysis, it was assumed that disturbance for well pads could be as high as six acres per well to account for any access roads and well pad construction. Disturbed land would be seeded with a mixture and rate as recommended or required by the BLM.

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. Construction of new roads or upgrades to existing roads would require a 30-foot wide right-of-way (ROW) and would be constructed of native material. It is not possible to determine the distance of road that would be required because the location of the wells would not be known until the APD stage. However, for purposes of analyses it is assumed that disturbance from access roads would be similar to development in other areas (five acres of disturbance). All operations would be conducted following the “Gold Book” Surface Operating Standards for Oil and Gas Exploration and Development, Fourth Edition (2007). The Gold Book was developed to assist operators by providing information on the requirements for conducting environmentally responsible oil and gas operations on federal lands. The Gold Book provides operators with a combination of guidance and standards for ensuring compliance with agency policies and operating requirements, such as those found at 43 CFR 3000 and 36 CFR 228 Subpart E; Onshore Oil and Gas Orders (Onshore Orders); and Notices to Lessees. Included in the Gold Book are environmental BMPs; these measures are designed to provide for safe and efficient operations while minimizing undesirable impacts to the environment.

Proper planning and consultation, along with the proactive incorporation of these BMPs into the APD Surface Use Plan of Operations (SUPO) by the operator, will typically result in a more efficient APD and environmental review process, increased operating efficiency, reduced long-term operating costs, reduced final reclamation needs, and less impact to the environment.

4.2.3 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. 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 FFO.

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.

4.2.4 Produced Water Handling

Produced water is often associated with either oil or natural gas recovery. Water is separated out of the production stream and can be temporarily stored in the reserve pit for 90 days. Permanent disposal options include surface discharge pits or underground injection. Handling of produced water is addressed in Onshore Oil and Gas Order No. 7, which prescribes measures required for the protection of surface and ground water sources.

4.2.5 Plugging and Abandonment

If the wells do not produce economic quantities of oil or gas, the well would be plugged and abandoned. The wells would be plugged and abandoned following specifications from a BLM Petroleum Engineer, which would include requiring cement plugs at strategic positions in the well bores. All fluids in the reserve pit would be allowed to dry prior to reclamation work. After fluids have evaporated from the reserve pit, sub-soil would be backfilled and compacted within 90 days. If the fluids within the reserve pit have not evaporated within 90 days, the fluid would be pumped from the pit and disposed of in accordance with applicable regulations. The well pad would be recontoured, and topsoil would be replaced, scarified, and seeded within 180 days of the plugging the well. All reclamation efforts would be coordinated closely with the project lead

in the PFO. Reclamation would meet the objectives described in the Green River District Reclamation Guidelines (IM UTG000-2014-004).

4.3 Direct and Indirect Impacts

4.3.1 Alternative A – Proposed Action

This section analyzes the impacts of the proposed action to those potentially impacting resources described in the affected environment Chapter 3 above.

4.3.1.1 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. Prior to authorizing specific proposed projects on the subject lease parcels quantitative computer modeling using project specific emission factors and planned development parameters (including specific emission source locations) may need to be

conducted to adequately analyze direct and indirect potential air quality impacts. Air quality dispersion modeling which may be required includes 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).

The Proposed Action may result in different emission sources associated with two project phases: well development and well production. Annual estimated emissions from the Proposed Action are summarized in Table 4.1.

Well development includes emissions from earth-moving equipment, vehicle traffic, drilling, and completion activities. NO_x, SO₂, and CO would be emitted from vehicle tailpipes. Fugitive dust concentrations would increase with additional vehicle traffic on unpaved roads and from wind erosion in areas of soil disturbance. Drill rig and fracturing engine operations would result mainly in NO_x and CO emissions, with lesser amounts of SO₂. These temporary emissions would be short-term during the drilling and completion times.

During well production there are continuous emissions from separators, condensate storage tanks, and daily tailpipe and fugitive dust emissions from operations traffic. During the operational phase of the Proposed Action, NO_x, CO, VOC, and HAP emissions would result from the long-term operation of condensate storage tank vents, and well pad separators. Additionally, road dust (PM₁₀ and PM_{2.5}) would be produced by vehicles servicing the wells.

Table 4.1. Anticipated Emissions ¹

Pollutant	Development	Production	Total
NO _x	14.2	2.2	16.4
CO	3.2	3.2	6.4
VOC	2.5	6.5	9.0
SO ₂	0.	9 0	0.9
PM ₁₀	0.7	0.03	0.73
PM _{2.5}	0.3	0.01	0.31
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 1 producing well and associated operations traffic during the year in which the project is developed

Emissions of NO_x and VOC, ozone precursors, are estimated to be 16.4 tons/yr for NO_x, and 9.0 tons/yr of VOC (Table 4.1) per well. 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. However, these emissions are estimated to be less than 1 ton

per year. The typical oil and gas well EI is estimated for the purpose of this analysis and is based on the following analysis assumptions:

- Each oil and gas well would cause 6 acres of surface disturbance. This acreage is divided into 5 acres for road and pipeline construction and 1 acre for well pad construction.
- Construction activity for each well is assumed to be 10 days. It is further assumed that, based on the acreage disturbed, 4.5 days would be spent in well pad construction and 5.5 days would be spent in road and pipeline construction.
- Control efficiency of 25% for dust suppression would be achieved as a result of compliance with Utah Air Quality regulation R307-205.
- Post construction particulate matter (dust) emissions are likely to occur on a short term basis due to loss of vegetation within the construction and staging areas. Assuming appropriate interim reclamation, these emissions are likely to be minimal to negligible and will not be considered in this EA.
- Drilling operations would require 14 days.
- Completions and testing operations would require 3 days.
- Off road mobile exhaust emissions from heavy equipment during construction activities and on road mobile emissions will not be considered as they are dispersed, sporadic, temporary, and not likely to cause or contribute to exceedence of the National Ambient Air Quality Standards.
- The estimated EI for the typical well includes particulate matter of less than 10 micrometers in diameter (PM₁₀), nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC). Emissions of sulfur dioxide (SO₂) and lead (Pb) from oil and gas development activities are insignificant and are not included.

Lease stipulation UT-S-01 Air Quality, which regulates the amounts of NO_x emission per horsepower hour based on internal combustion engine size, would be attached to all parcels.

- New and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 grams of NO_x per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower-hour.
- All new and replacement internal combustion gas field engines of greater than 300 design-rated horsepower must not emit more than 1.0 grams of NO_x per horsepower-hour.

Additional air impact mitigation strategies have recently been developed in the Uinta Basin. The BLM in coordination with the EPA and the UDAQ, among others, developed the following air quality mitigation measures. Integration of and adherence to these measures may help minimize adverse local or regional air quality impacts from activities carried out during oil and gas development (including but not limited to construction, drilling, and production). As per the West Tavaputs Plateau FEIS/ROD and the Greater Natural Buttes DEIS, as supplemented, the

following avoidance and minimization measures should be considered in the Plan of Development (UT-LN-96):

- Electric compression, where feasible.
- Emission controls having a control efficiency of 95 percent on existing condensate tanks with a potential to emit of greater 20 tpy, and on new condensate tanks with a potential to emit of 5 tpy VOCs.
- Green completions for all well completion activities.
- Tier II drill rig engines by 2012, with phase-in of Tier IV engines or equivalent emission reduction technology as soon as possible thereafter, but no later than 2018.
- Lean burn natural gas-fired stationary compressor engines or equipment with equivalent emission rates.
- Catalyst on all natural gas-fired compressor engines to reduce the emissions of CO and VOCs.
- Dry seals on new centrifugal compressors.
- An annual inspection and maintenance program to reduce VOC emissions, including:
 - Performing inspections of thief hatch seals and Enardo pressure relief valves to ensure proper operations.
 - Reviewing gathering system pressures to evaluate any areas where gathering pressure may be reduced, resulting in lower flash losses from the condensate storage tanks.
 - 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 pneumatics would be installed on separator dump valves and other controllers. The use of low bleed pneumatics would result in a lower emission of VOCs.
 - 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.

Additional site-specific measures may also be employed to avoid or minimize effects to local or regional air quality. These additional measures would be developed and implemented in coordination with the EPA, the UDAQ, and other agencies with expertise or jurisdiction as appropriate (UT-LN-97).

Regional ozone formation controls (UT-LN-99) and additional air quality analysis (UT-LN-102) notices would also be applied to each parcel.

Application of these lease notices to each of 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.

4.3.1.1.1 Greenhouse Gases and Climate Change

Direct/Indirect Impacts

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.

4.3.1.2 Hydrology

Hydrologic Conditions

The associated surface disturbance from oil and gas development on the proposed leases would have the potential to interrupt surface flow patterns which could create new channeling of surface runoff from storms and spring snow melt. The construction of well pads, roads and pipelines could interrupt surface runoff and create paths for concentrated surface flow. Impacts to hydrologic conditions could increase sediment loading and associated dissolved solids into streams. Application of Stipulations UT-S-97, UT-S-101, UT-S-126, UT-S-127, and UT-S-156 is warranted.

Drill pads would have the potential to interrupt surface flow patterns which could create new channeling of surface runoff from storms and spring snow melt. Flow patterns moving onto the pads and around them would have reduced vegetation to slow flows and filter sediments. Berm placement around the well pads and proper placement of the drill pads would mitigate these impacts.

The installation of service roads to well pads would create possibility of concentrated flows along those roadways. Crowning and ditching is required on all roads to mitigate this impact. The observance of Gold Book Standards would reduce this effect.

4.3.1.3 Water Quality

Maintenance and refueling of equipment could impact surface or shallow groundwater quality from spills and releases. However, standard protocols should minimize the possibility of spills and releases.

Surface Water Quality

Eroded materials could impact streams through runoff creating increased sediment impacting surface water quality. Crowning and ditching of roads would reduce this impact to negligible.

Construction of facilities could impact springs and streams through increased runoff and soil erosion, reducing water quality. No surface disturbance or occupancy would be maintained within 660 feet of any natural springs to protect the water quality of the spring. No new disturbance will be allowed in areas equal to the 100-year floodplain or 100 meters on either side of the center line of any stream, stream reach, or riparian area, whichever distance is greater. Lease Stipulations UT-S-126 and UT-S-127 are attached to all affected parcels (Natural Springs, and Floodplains, Riparian Areas, Springs and Public Water Reserves).

Drill pads and road construction during winter months could create increased soil erosion in elevations above 7,000 feet. Lease Stipulation UT-S-156 is applied all parcels above 7,000 feet (High Country Watershed).

Groundwater Quality

There is a potential for impacts to groundwater levels and groundwater quality, but Standard Operating Procedures (SOPs) for casing and cementing through the groundwater zones should mitigate impacts. In addition, a BLM petroleum engineer and geologist will utilize UT IM No. 2010-055 (Protection of Ground Water Associated with Oil and Gas Leasing, Exploration and Development) to review each APD's casing and cementing program to ensure all of BLM's requirements for resource protection, including groundwater protection are met.

During lease parcel review no Drinking Water Source Protection Zones (DWSPZs) were found to be underlying any lease parcel offered for sale.

EPA stated in the draft June 2015, *Assessment of the Potential Impacts of Hydraulic Fracturing for Oil and Gas on Drinking Water Resources* ("EPA Draft" <http://cfpub.epa.gov/ncea/hfstudy/recordisplay.cfm?deid=244651>), that "We did not find evidence that these mechanisms have led to widespread, systemic impacts on drinking water resources in the United States....The number of identified cases where drinking water resources were impacted are small relative to the number of hydraulically fractured wells....There is insufficient pre- and post-hydraulic fracturing data on the quality of drinking water resources. This inhibits a determination of the frequency of impacts. Other limiting factors include the presence of other causes of contamination, the short duration of existing studies, and inaccessible information related to hydraulic fracturing activities." See EPA Draft at ES-23.

4.3.1.4 Springs and Riparian

Many parcels contain springs, seeps, and riparian. Any surface disturbance is to be avoided on these portions of land. No surface disturbance or occupancy would be maintained within 660 feet of any natural springs to protect the water quality of the spring. No new disturbance will be allowed in areas equal to the 100 year floodplain or 100 meters on either side of the center line (whichever is greater) of any stream, stream reach, or riparian area.

4.3.1.5 Soils

All soils with high erosion potential need care to prevent accelerated erosion that could be transported to streams that are already listed on the 303d list. This will be accomplished by careful placement of drill pads and access routes. Regular maintenance on roads and pads in highly erosive soils will be required.

Construction of well pads on steep slopes could create increased erosion. No Surface occupancy is applied on slopes greater than 40%. In surface disturbing proposals regarding construction on slopes of 20 percent to 40 percent, proponent would include an approved erosion control strategy and topsoil segregation/restoration plan. Such construction must be properly surveyed and designed by a certified engineer and approved by the BLM prior to project implementation, construction, or maintenance. Other standard operating procedures, best management practices and site-specific mitigation applied at the APD stage including reclamation, as conditions of approval will address soil resource issues not already analyzed in the PFO Proposed RMP/Final EIS. Care in placement of drill pads and access routes is required. On steep slopes, stipulations UT-S-97 and UT-S-101 would minimize erosion of soil. BLM would not allow construction on slopes that could not be properly mitigated.

4.3.1.6 Prime and Unique Farmlands

Natural Resource Conservation Service (NRCS) requires regulations found in 7 CFR 658.5 to identify and take into account the adverse effects of Federal Programs on the protection of prime and Unique Farmlands. NRCS uses a land evaluation and site assessment (LESA) system to establish a farmland conservation impact rating score on actions affecting federally administered lands. This score is used as an indicator for the project sponsor to consider alternative sites if there is a potential for adverse impacts on the farmland. In order to avoid these impacts, NRCS must be consulted before construction activities are performed in parcel 021.

4.3.1.7 Threatened, Endangered, Candidate or Sensitive Plant Species

Surface disturbance associated with drill pads, roads and other associated activities could impact habitat. The issuance of leases would not directly impact threatened, endangered, candidate or sensitive plant species on the parcels. However, as the BLM generally cannot deny all surface use of a lease unless the lease is issued as a No Surface Occupancy stipulation, the issuance of leases does convey an expectation that drilling and development would occur. Chapter 3 identifies species that could be impacted through future actions on leased parcels. Beyond the potential loss or damage to individuals these impacts include direct dispersed and indirect impacts including: the loss of suitable habitat for the species and its pollinators; increased competition for space, light, and nutrients with invasive and noxious weed species introduced

and spread due to surface disturbing activities; accidental spray or drift of herbicides used during invasive plant control; altered photosynthesis, respiration, and transpiration due to increased fugitive dust resulting from the surface disturbance and project related traffic.

Application of the appropriate species-specific lease notices and T&E-05, 14, 15, 17 (Listed Plant Species) to each of the identified parcels on federal surface would be adequate for the leasing stage to disclose potential restrictions against future authorizations. The mandatory ESA stipulation attached to each parcel (listed above) would also protect special status plant species. Impacts to the identified species and their respective habitats resulting from future authorizations connected to the proposed leases cannot be analyzed until an exploration or development application is received, individual species surveys are completed, and necessary avoidance and mitigation incorporated into the plan of development or applied to the application as a condition of approval. Future development of parcels may require consultation with the U. S. Fish and Wildlife Service.

4.3.1.8 Non-WSA Lands with Wilderness Characteristics

Potential impacts of leasing and future development activities on 14 of the parcels would result in direct and indirect impacts to the wilderness characteristics including: loss of size, loss of naturalness, loss of outstanding opportunities for solitude, and loss of outstanding opportunities for primitive and unconfined recreation.

WIA Name	Total WIA Acres	WIA Acres overlaying parcels	Parcel #
Limestone Cliffs	23,800	1,117	89, 90, 93, and 95
Mussentuchit Badland	23,900	19,607	89, 90, 91, 92, 93, 94, 95, 96, 97, 98, , and 100
Molen Reef	33,396	241	71
Rock Canyon	18,000	6,291	86, 87, 89, and 90
Upper Muddy Creek	18,100	7	87
Total		27,263	

Where development would occur within parcel is currently unknown; also whether development would be proposed within the area of the parcel overlapping the WIA is currently unknown. If fluid mineral resources were developed, it is anticipated that at a minimum approximately six acres would be disturbed within the parcel as the result of the placement of a single well pad and access road. Regardless of the number of wells that may be established on the parcel, it is expected that the wilderness characteristic of naturalness will be directly lost at the pad and

along the access road. Acreage within the unit that is not directly affected by drilling activity and road construction will retain its natural character. This is because topography and vegetative screening can disrupt the visual and auditory impacts from drilling activity. Other indirect impacts to the wilderness characteristic of outstanding opportunity for solitude will occur within the immediate vicinity of the drilling activity (visual and auditory impacts) and would extend beyond the areas of direct disturbance.

4.3.1.9 Cultural Resources, Native American Concerns, and the Old Spanish National Historic Trail (OST)

Potential Impacts to Historic Properties and Sites of Native American Concern

Potential effects would be quantified when possible. Where quantitative data are unavailable, professional judgment or qualitative assessments would be used to describe potential impacts. A combination of inventory and consultation would be used to determine the presence of historic properties within the APE in the event that a proposed lease parcel is identified for development. Some parcels may have a potential to contain heritage resources sensitive to audio, visual and atmospheric impacts. In these instances, a Geographic Information System viewshed analysis should be conducted to determine if there would be an adverse effect to heritage resources sensitive to these concerns. In recognition of their particular expertise, Native American Tribes and their designated representatives would be consulted to establish the locations and significance of properties of traditional religious and cultural importance to the Tribes. The BLM would be responsible for reviewing the results of the inventories, determine NRHP eligibility, assess effects, and seek resolution of potential adverse effects in consultation with consulting parties or interested stakeholders.

Resolution of Potential Indirect and Cumulative Effects

The following mitigations could be used to reduce potential impacts to historic properties if any are found.

Potential on-site and off-site mitigation to compensate specifically for potential cumulative impacts, as well as potential indirect adverse effects to the Old Spanish National Historic Trail in the project area, as directed in the National Trails System Act (NTSA). Mitigation may include development of interpretive material; signage and protection for the trail; and development of education materials that may include support for the Project Archaeology: Investigating Migration curriculum context and an Old Spanish NHT module for Utah.

- Potential on-site and off-site mitigation to compensate specifically for potential cumulative impacts, as well as potential unavoidable indirect adverse effects. Mitigation might include support for tribal involvement in mitigation efforts; interpretation of the archaeological site; and development of educational materials regarding the archaeological site. Future discussion with potential consulting parties will provide further mitigation guidance.
- Potential on-site and off-site mitigation to compensate for potential adverse cumulative impacts under NHPA to the Old Spanish NHT Trail, located in the BLM-PFO administrative area mitigation may include, and is not limited to, development of

interpretive material; signage and protection for the trail; and development of educational materials to include support for the Project Archaeology: Investigating Migration curriculum context and modules for each affected resource. Future discussions with potential consulting parties would provide further mitigation guidance.

- Potential on-site and off-site mitigation to compensate for potential indirect adverse effects located in the project area. Potential consulting parties would provide further mitigation guidance.

4.3.1.10 Areas of Critical Environmental Concern

Resource values contained within the ACECs (Parcel 91) would be directly and indirectly affected by the proposed oil and gas leasing because leasing sets the stage for future surface-disturbing activities.

A No Surface Occupancy (NSO) stipulation can reduce and minimize potential impacts to cultural biological and scenic values within the ACECs but there would be residual effects from dust and other construction activities.

Potential impacts from the oil and gas lease sale and future development to ACECs would be found in parcel 091 which contain portions of Sand Cove - Rock Art ACEC. These impacts will vary within the parcels due to the unknown area containing mineable products and whether development of any found mineable products would take place in these parcels.

Impacts to resource is unknown at this stage of oil and gas leasing because leasing in itself does not require site-specific, surface-disturbing operations. If the subject lands are leased, a location-specific exploration or development plans will be required.

Future oil and gas exploration operations will be addressed and analyzed in a site-specific NEPA document which will mitigate impacts to identified resources resulting from a location-specific and defined operational plan.

4.3.1.11 Recreation

Recreation values contained would be directly and indirectly affected by the proposed oil and gas leasing because leasing sets the stage for future surface-disturbing activities associated with exploration and development of the hydrocarbon resources.

Changes to recreation due to oil and gas development could potentially negatively affect the recreation experience for many user groups while it would increase access and availability to others.

The Musenttouchit area contains a variety of trail types and trail systems for recreationists. Current trends show that OHV use is increasing and will continue to do so. Therefore, in order to continue to provide for this recreational opportunity BLM made the decision to provide for OHV recreational use. The trail systems in this area are unique with travel being limited to OHV, motorcycles, mountain bikes and some jeep roads. Future development will likely use the

existing disturbances and designated routes found in the area to minimize disturbances to the land. If development was to take place in this area it would change the experiences the recreationalists have on these routes.

Where development would occur within parcels is currently unknown. Development of fluid mineral resources would likely affect at a minimum approximately six acres that would be disturbed within the parcel as the result of the placement of a single well pad and access road. Regardless of the number of wells that may be established on the parcel, it is expected that the visitors experience on the trails and routes will be negatively affected and reduced recreation opportunities at the pad and along the access roads.

4.3.1.12 Visual Resource Management

BLM defines scenic quality as the measure of the visual appeal of the landscape. The BLM's visual resource inventory (VRI) process is based on the assumption that while all lands have some level of scenic value, the areas with the greatest variety and most harmonious composition have the greatest scenic value. Although scenic quality is evaluated in relation to the natural landscape, this does not mean that human-made features necessarily detract from the scenic value of the landscape. In fact, human-made features may actually enhance the scenic value. Direct impacts associated with visual resource management (VRM) would be the change to the scenic quality of the various parcel areas throughout the field office due to possible exploration and development from the lease sale. Location of future exploration and development within the parcels is currently unknown. Any future exploration and development within the parcels would be a change to the scenic quality of that area and further NEPA analysis would need to be analyzed in a site specific NEPA document.

4.3.2 Alternative B – No Action

This alternative would not offer any of the nominated parcels for sale. No oil and gas exploration or development would occur on the nominated parcels associated with this lease sale would occur.

4.3.2.1 Air Quality and Greenhouse Gases

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

4.3.2.1.1 Greenhouse Gases and Climate Change

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

4.3.2.2 Hydrology

The No Action alternative would prevent future potential impacts relating to lease operations (exploration and development). Although drilling and production activities on federal land

surfaces are restricted to leased parcels, oil and gas exploration may also be authorized on non-leased 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 parcels.

4.3.2.3 Water Quality

Under the no action alternative, no impacts would occur due to leasing activities. 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 parcels.

4.3.2.4 Springs and Riparian

Under the no action alternative, no impacts would occur due to leasing activities. 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 parcels.

4.3.2.5 Soils

Under the no action alternative, no impacts would occur due to leasing activities. 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 parcels.

4.3.2.6 Prime and Unique Farmlands

Under the no action alternative, no impacts would occur due to leasing activities. 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 parcels.

4.3.2.7 Threatened, Endangered, Candidate or Sensitive Plants

The No Action alternative would prevent future potential impacts relating to lease operations. 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 parcels.

4.3.2.8 Non-WSA Lands with Wilderness Characteristics

The No Action Alternative would prevent future potential impacts relating to lease operations within the Non-WSA lands with wilderness characteristics. Impacts to Non-WSA lands with wilderness characteristics would continue at present levels from existing oil and gas development.

4.3.2.9 Cultural Resources, Native American Concerns, and the Old Spanish National Historic Trail (OST)

The No Action alternative would result in no potential impacts to Cultural Resources, Native American Concerns, and the Old Spanish National Historic Trail because the parcels would not be leased or developed.

4.3.2.10 Areas of Critical Environmental Concern

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

4.3.2.11 Recreation

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

4.3.2.12 Visual Resource Management

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

4.3.3 Cumulative Impacts Analysis

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

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

4.3.3.1.1 Air Quality Greenhouse Gases and Climate Change

Air Quality

The cumulative impact area for air quality is the Uinta Basin, plus all regional Class I areas and other environmentally sensitive areas (e.g., national parks and monuments, wilderness areas, etc.) near the Uinta Basin. The Air Resource Management Strategy (ARMS) Modeling Project is a cumulative assessment of potential future air quality impacts associated with predicted oil and gas activity in the Uinta Basin (BLM, 2011). Consequently, past, present and reasonably foreseeable wells in the Uinta Basin are a part of the cumulative actions considered in this analysis. The ARMS is incorporated by reference and summarized below.

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

- Ozone
 - The highest modeled ozone occurs in the Uinta Basin study area regardless of model scenario, and all scenarios predict exceedences of the ozone NAAQS and state AAQS in the Uinta Basin.
 - In the Uinta Basin, the ozone concentrations are highest during the winter period. In Class I and Class II areas outside the Uinta Basin study area, ozone concentrations are highest during the summer period.
 - During non-winter months in the Uinta Basin the model predicts that ozone may exceed the NAAQS and state AAQS (Ambient Air Quality Standards); however, model-adjusted results from the MATS tool (which accounts for model performance biases) indicate that non-winter ozone concentrations are below the NAAQS and state AAQS for all monitors and areas analyzed. Also, the 2021 scenarios have minimal effect on model-predicted ozone

- concentrations during non-winter months.
- 2021 Scenario 2 tends to have the lowest 8-hour ozone concentration relative to all other 2021 scenarios (4th highest daily maximum is 3 ppb lower compared to the 2021 OTB Scenario). When comparing Scenario 2 to the OTB Scenario, a potential reduction in ozone concentrations occurs in the vicinity of the Ouray site (where the concentrations are already largest). There is no predicted ozone disbenefit associated with Scenario 2 mitigation measures (i.e., there is no area with predicted ozone increases relative to the OTB Scenario). This supports the assessment that peak ozone impacts are in VOC-limited areas.
 - 2021 Scenarios 1 and 3 are predicted to have higher ozone impacts than either the 2010 Typical year and the 2021 OTB Scenario. Both scenarios predict a relatively large increase in ozone concentrations within the vicinity of Ouray indicating potential ozone disbenefits associated with NO_x control mitigation measures.
 - NO₂, CO, SO₂, PM_{2.5}, and PM₁₀
 - There are seven monitoring stations within the 4- km domain with daily PM_{2.5} concentrations that exceed the NAAQS and state AAQS in the baseline emissions inventory.
 - All modeled NO₂, CO, SO₂, PM_{2.5}, and PM₁₀ values are well below the NAAQS and state AAQS in the Uinta Basin.
 - The model-predicted PM_{2.5} and PM₁₀ concentrations may underestimate future impacts due to a negative model bias throughout the year in the 4-km domain with the largest bias occurring in summer (AECOM and STI 2014).
 - Results from the MATS tool (which accounts for model performance biases) indicate that PM_{2.5} concentrations may exceed the NAAQS and state AAQS for select monitors and assessment areas in the 2010 Typical year. All 2021 scenarios predict that only one of these monitoring station would continue to exceed the NAAQS and state AAQS.
 - No monitoring stations within the 4-km domain exceed the annual PM_{2.5} NAAQS and state AAQS during the 2010 typical or 2021 Scenarios.
 - Two unmonitored areas within the Uinta Basin exceed the annual PM_{2.5} NAAQS and state AAQS during the 2010 typical year, and impacts in these areas tend to increase under 2021 Scenarios 1 and 2. Under 2021 Scenario 3, the annual PM₂ impacts decrease in the Uinta Basin due to combustion control measures.
 - The 2021 scenarios generally have lower NO₂, CO, SO₂, PM_{2.5}, and PM₁₀ concentrations than the 2010 Typical Year scenario, except for within the Uinta Basin.
 - Under the 2021 scenarios, all assessment areas are within the PSD (Prevention of Significant Deterioration) increments for annual NO₂, 3-hour SO₂, annual SO₂, and annual PM₁₀.
 - Under the 2021 scenarios, most assessment areas exceed the 24-hour PM_{2.5} PSD increment.
 - Visibility
 - Visibility conditions in Class I and sensitive Class II areas generally show improvement in the 2021 Scenarios relative to the 2010 Typical Year.
 - There also are no substantial differences in the 20th percentile best and worst visibility days between the 2021 Scenarios.
 - Deposition and Acid Neutralizing Capacity
 - Results generally show a decrease in deposition for the 2021 Scenarios relative to the 2010 Typical Year.
 - The differences in estimated deposition between the 2021 Scenarios are generally very small.
 - Acid Neutralizing Capacity change at all seven sensitive lakes exceeds the 10 percent limit of acceptable change for all model scenarios.

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

Greenhouse Gases and 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 rationale:

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 rationale 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.

4.3.3.2 Hydrology

The associated surface disturbance should oil and gas development occur on the proposed leases would have the potential to interrupt surface flow patterns which could create new channeling of surface runoff from storms and spring snow melt. Should facilities be developed close to or crossing waterways on the proposed parcels, the likelihood of project impacts would increase. These impacts could include increased sedimentation; increased salt loading; contamination by petroleum products, chemicals, or produced waters; and flow alterations. Impacts to hydrologic conditions could increase sediment loading and associated dissolved solids into streams. Impacts

can be reduced or avoided through proper project design, construction, maintenance activities, and implementation of best management practices.

Specific locations, development techniques, and mitigation procedures are not included in the proposed action; therefore, specific descriptions of potential effects are unattainable at this time. Authorization of proposed projects would require full compliance with BLM directives and stipulations that relate to hydrologic conditions.

4.3.3.3 Water Quality

The CIAA for surface water quality would be the project area and extending along the streams. Little additional activities occur around the project area that would affect surface water quality. Therefore, no additional cumulative impacts are expected to occur that are not discussed in Section 4.3.1.3 above.

The CIAA for groundwater quality would be the groundwater under the project area. Little activity occurs in or around the project area that affects groundwater. Therefore, no additional cumulative impacts would be expected to occur that were not discussed in Section 4.3.1.3 above.

4.3.3.4 Springs and Riparian

The CIAA for springs and riparian would be the project area. Springs and riparian are protected by stipulations such that no measurable impacts related to drilling would occur. Therefore, no additional cumulative impacts would be reasonably expected.

4.3.3.5 Soils

The CIAA for soils would be the project area. In addition to oil and gas development activities, other activities which may increase soil erosion in the CIAA include grazing, recreation, and road construction. Grazing and other agricultural activities contribute to the loss of vegetation that would impair soil function through diminished ability of the soils to recycle nutrients and regulate water. Increased competition for available forage may result if allocated AUMs are not decreased according to loss of forage from increased construction activities.

The use of existing and newly constructed roads would increase access throughout the CIAA, possibly providing new access opportunities for recreationists. Although road densities contribute to the magnitude of erosion, construction of all-weather roads would reduce sediment loss. OHV use may also contribute to increased erosion and sediment yield in the CIAA.

4.3.3.6 Prime and Unique Farmlands

The CIAA for prime and unique farmlands would be parcel 587. Prime and unique farmlands are protected by statute and therefore no cumulative impacts are expected.

4.3.3.7 Threatened, Endangered, Candidate or Sensitive Plant Species

The CIA for Threatened, Endangered or Candidate Plant Species includes the PFO planning area. However, as suitable and occupied habitats have not been completely mapped and

population estimates are largely unknown, accurate disturbance estimates for the CIA cannot be precisely quantified.

Cumulative impacts to Threatened, Endangered or Candidate Plant Species is directly associated with their ongoing habitat losses, sensitivity to disturbance, and declining population numbers, these species would be more sensitive than other, more common species to impacts related to development within the CIA. Past, present, and reasonably foreseeable surface-disturbing land uses have reduced, and will likely continue to reduce, the quality and quantity of suitable and occupied habitats in the CIA for Threatened, Endangered or Candidate Plant Species.

Based on direct and indirect cumulative impacts, ongoing and future oil and gas development and other land uses such as OHV travel, forage utilization by livestock and wildlife, and noxious weed encroachment and management in the CIA could cumulatively and incrementally reduce and fragment habitats for Threatened, Endangered or Candidate Plant Species.

4.3.3.8 Non-WSA Lands with Wilderness Characteristics

Cumulative impacts to lands with wilderness characteristics were considered in detail within the PFO RMP/ROD. Cumulative impacts resulting from other past, present and reasonably foreseeable actions, including oil and gas development include loss of size, loss of naturalness, loss of outstanding opportunities for solitude, and loss of outstanding opportunities for primitive and unconfined recreation. During the PFO land use planning process, Limestone Cliffs, Molen Reef, Mussentuchit Badland, Rock Canyon, and Upper Muddy Creek non-WSA lands with wilderness characteristics units were considered and thoroughly analyzed for the protection, preservation, and maintenance of those wilderness characteristics as well as for the impacts that could occur if other resource developments and uses were allowed. The Approved Resource Management Plan, October 2008, Record of Decision, determined that the non-WSA lands with wilderness characteristics would not be managed for those characteristics because those lands were found to have resource uses that would conflict with protection, preservation, or maintenance of the wilderness characteristics (BLM, 2008b). Limestone Cliffs, Molen Reef, Mussentuchit Badland, Rock Canyon, and Upper Muddy Creek Units fall within that determination.

4.3.3.9 Cultural Resources and Native American Religious Concerns

Potential cumulative effects include reasonably foreseeable impacts caused by the proposed project that may occur later in time, be farther removed in distance or be cumulative (36 CFR Part 800.5(a)(1)). For the purposes of this EA, the proposed APE for cumulative effects is the same as described for direct and indirect effects. Impacts to historic properties, including TCPs and properties of traditional religious and cultural importance to Native Americans, would be evaluated for each alternative using the following methods: The analysis of potential indirect impacts is based on review of existing files and information obtained from the BLM-Utah PFO and Utah SHPO and by review of GLO maps. Cumulative impacts would be considered and addressed during project specific development.

During the PFO land use planning process, trail segments were analyzed for the protection, preservation, and maintenance of those historical characteristics as well as for the impacts that could occur if other resource developments and uses were allowed. The Approved Resource Management Plan, October 2008, Record of Decision, determined that historical characteristics of the trail would be preserved. With the NSO stipulation for the Trail Springs/Lost Springs Wash segment and the other CSU stipulations in the land use plan, there should be no cumulative impacts to the Old Spanish Trail.

4.3.3.10 Areas of Critical Environmental Concern

Cumulative impacts to ACECs located in the proposed lease areas could have negative impacts to the rock art ACECs. The impacts range from increased visitor use due to development of roads and trails, to damages that may come from dust and human destruction. As roads get constructed for oil and gas leases the development of the roads for exploration and possible mineral extraction increases access that historically was not provided for in the area.

4.3.3.11 Recreation

Cumulative impacts from development of oil and gas in Emery and Carbon Counties have displaced the opportunity for recreational use in Emery and Carbon County. The significantly noticeable changes that have and are taking place such as, removal of OHV recreation use in Nine Mile Canyon and the Carbon county area by developing all the old Jeep trails, OHV routes and existing linear features into developed and annually maintained roads. This development has changed the various types of trail systems into a road system which has limited the recreation opportunities for those who are seeking various types of OHV use, mountain biking or back road hiking. We currently are being asked by Carbon and Emery County to build trails and provide areas for various types of recreation use that have been displaced due to development of oil and gas roads. The future development of oil and gas could change the settings in the Chimney Rock/ Lost Springs Wash OHV trail system, and negatively affect the trail systems currently in place.

4.3.3.12 Visual Resources Management

The PFO has a history of mining throughout the field offices which contain varying levels of disturbance. Although this disturbance was a past action, it still has repercussions we are managing today. Currently we have visible impact that can enhance or detract from the visuals located in the office, while some of these activities that took place decades ago are still visible today.

Cumulative impacts from the development of past present and future oil and gas sites located in the Price field office have changed, are changing and will change the view sheds in many areas. Careful consideration and placement of developed sites need to be managed to minimize the effects that will take place if development continues.

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 Interdisciplinary 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 sections 5.2 and 5.3 below.

5.2 Persons, Groups, and Agencies Consulted

Name	Purpose & Authorities for Consultation or Coordination	Findings & Conclusions
U.S. National Park Service	Consult with the NPS on the Old Spanish Trail.	Coordination is ongoing.
U.S. Fish & Wildlife Service	Information on Consultation, under Section 7 of the Endangered Species Act (16 USC 1531)	Coordination is ongoing.
Utah State Historic Preservation Office	Consultation for undertakings, as required by the National Historic Preservation Act (NHPA) (16 USC 470)	Coordination is ongoing. SHPO concurrence was received on November 16, 2015 in a determination of “no adverse affect”.
Utah Division of Wildlife Resources	Coordination with UDWR as the agency with expertise on wildlife species.	Coordination is ongoing.
U. S. Forest Service	Consult USFS as a leasing program partner.	Coordination is ongoing.
School and Institutional Trust Lands Administration	Coordinated with as leasing program partner.	Coordination is ongoing.
Public Lands Policy Coordination Office	Coordinated with as leasing program partner.	Coordination is ongoing.
Paiute Tribe of Utah (PITU), Ute Indian Tribe, Hopi Tribe, Zuni Tribe, Navaho Nation, Ute Mountain Tribe, Southern Ute Tribe, Northwestern Band of Shoshone Nation, Shoshone-Bannock Tribes, and Eastern Shoshone Tribe	Consultation as required by the American Indian Religious Freedom Act of 1978 (42 USC 1531) and NHPA (16 USC 1531)	Coordination is ongoing. Also see section 5.3 for tribal participation in consulting party process.
Private Landowners	Coordination as outlined by WO IM 2010-117 and NEPA.	Letters sent to private surface estate owners on 4/24/15. One surface estate owner contacted the PFO with general inquiries into the sale process. Individuals were informed of the pending EA comment period and protest provisions of the NCLS.

5.3 Summary of Public Participation

In order to meet the intent of the CEQ regulations that require an “early and open process for determining the scope of issues to be addressed and for identifying issues related to a Proposed Action” (40 CFR 1501.7) several actions were taken to involve the public.

BLM utilized and coordinates the NEPA public participation requirements to assist the agency in satisfying the public involvement requirements under Section 106 of the National Historic Preservation Act (NHPA) (16 U.S.C. 470(f) pursuant to 36 CFR 800.2(d)(3). The information about historic and cultural resources within the area potentially affected by the proposed project/action/approval will assist the BLM in identifying and evaluating impacts to such resources in the context of both NEPA and Section 106 of the NHPA. BLM consulted with Indian tribes on a government-to-government basis in accordance with Executive Order 13175 and other policies. Tribal concerns, including impacts on Indian trust assets and potential impacts to cultural resources, were given due consideration. Federal, State, and local agencies, along with tribes and other stakeholders that may be interested in or affected by the proposed project/action/approval were invited to participate in the scoping process.

On June 12, 2015, the public was notified of the proposed action by posting on the Utah BLM Environmental Notification Bulletin Board. The process used to involve the public also included a 30-day public review and comment period for the EA and unsigned FONSI from June 12, 2015 to July 13, 2015. In addition to the ENBB, the EA and unsigned FONSI were posted on the BLM Utah’s Oil and Gas Lease Sale webpage.

In April 2015 the BLM PFO mailed Tribal consultation letters stating that the BLM PFO would be drafting an Environmental Assessment (EA) for the November 2015 Oil and Gas Lease Parcel sale. Comments were received from the Hopi Tribe in May 2015. At this time they requested a copy of the EA and the Class I report (Intensive Literature Review and Records Search) for cultural resources. The BLM PFO mailed copies of the EA and draft cultural resources intensive literature and records review for the 2015 Oil & Gas Lease Sale to them in September. The BLM PFO received a response from the Hopi in September requesting that any parcel south of I-70 be removed from this year’s lease sale.

On June 16, 2015 the BLM PFO posted the EA for the November 2015 Oil and Gas Lease Sale for a thirty day public comment period. Public comments with regard to cultural resources were received from the Southern Utah Wilderness Alliance (SUWA) and the Utah Rock Art Research Association (URARA). At this time SUWA requested consulting party status. The PFO invited SUWA and URARA as consulting parties in September 2015. A draft copy of the Cultural Resources Intensive Literature and Records Review for the 2015 Oil & Gas Lease Sale, BLM-Utah Price Field Office, Carbon and Emery Counties, Utah for their review and comment. Comments from the consulting parties were received on October 2, 2015. Pursuant to 36 CFR § 800.5(c)(2)(i) a conference call was scheduled on October 19, 2015 to resolve any

potential disagreements. Consulting parties offered unsubstantiated information about the potential occurrence of “geo-glyphs” south of I-70. To date, no information has been made available to the BLM to confirm, nor deny this claim. SHPO concurrence was received on November 16, 2015 in a determination of “no adverse affect” for the November 2015 Oil and Gas lease sale.

All the information related to this EA is maintained on the identified websites (ENBB and Oil and Gas Leasing).

5.3.1 Modifications Based on Public Comment and Internal Review

- Clarification was given for the reasons that parcels were not carried forward.
- Corrected the total acres for the 32 analyzed parcels to 55,286.
- Stipulations UT-S-176 and UT-S-177 have been added to the following parcels 087, 090, 091, 092, 094, 095,096, 097, 098.
- Stipulation UT-S-317 has been added to parcel 016.
- Chapters 3 & 4 have been updated with current language for greenhouse gases and climate change.
- Section 4.3.1.9 has had clarification added.
- Section 4.3.1.10 has the parcel number being discussed added.
- Section 5.2 updated.
- Section 5.3 updated.
- Section 6.1 updated
- Appendix C IDAT Check list page 11 has had the reference to TCP’s deleted. There are no TCPs.
- Appendix E Comment response 1. Clarification added.
- Appendix E Comment Response 2. Clarification added.
- Appendix E Comment Response 3. Clarification added.
- Appendix E Comment Response 15. Clarification added.
- Appendix E Comment Response 16. Clarification added.
- Appendix E Comment Response 19. Clarification added.

- Appendix E Comment Response 20. Clarification added.

5.3.2 Response to Public Comment – See Appendix E

5.4 List of Preparers

Name	Office	Title	Responsible for the Following Section(s) of this Document
Don Stephens / Anita Jones	PFO	Natural Resource Specialists	Project Leads
Leonard Herr / Colin Schwartz	USO	Air Quality Specialists	Air Quality; Climate Change
Amber Koski	PFO	Archaeologist	Cultural Resources; Native American Religious Concerns; Old Spanish Trail
Jeffrey Brower	PFO	Hydrologist	Hydrology; Wetland/Riparian Zones; Soils
Karl Ivory	PFO	Range Specialist	Threatened, Endangered or Candidate or Sensitive Plant Species
Jared Reese	PFO	Wildlife Biologist	Fish and Wildlife Excluding USFWS Listed Species and BLM Sensitive Species, e.g. Migratory Birds; BLM Sensitive Species; ESA Candidate Animal Species
Matt Blocker	PFO	Recreation Specialist	Non-WSA Lands with Wilderness Characteristics; Old Spanish Trail
Josh Winkler	PFO	Recreation Specialist	Recreation; Areas of Critical Environmental Concern (ACECs); Visual Resource Management
Tyler Nelson	PFO	GIS Specialist	GIS / Maps
Kelly Buckner	GRD	NEPA	NEPA

6.0 REFERENCES, GLOSSARY AND ACRONYMS

6.1 References Cited

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BLM Price Field Office Visual Resource Management Inventory (BLM 2011)

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BLM Manual 6250 – National Scenic and Historic Trail Administration

BLM Manual 6310 - Conducting Wilderness Characteristics Inventory of BLM Lands

BLM Manual 6840 - Special Status Species Management

BLM Utah Riparian Management Policy (2005)

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Biological Opinion – USFWS October 27, 2008.

Determining Conformity of Federal Actions to State or Federal Implementation Plans (40 CFR Part 93 Subpart E)

Federal Land Policy and Management Act (1976) as amended and associated regulations found at 43 CFR 2800

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Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 1535 pp.

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Mineral Leasing Act (1920), as amended and supplemented and associated regulations found at 43 CFR 3100

The National Trails System, Memorandum of Understanding, 06-SU-11132424-196, Among The United States Department of the Interior, Bureau of Land Management, National Park Service, United States Fish and Wildlife Service; United States Department of Agriculture Forest Service; United States Department of the Army, Corps of Engineers; and The United States Department of Transportation Federal Highway Administration (2006)

National Park Service, National Historic Trail Feasibility Study and Environmental Assessment, Old Spanish Trail (2001)

National Scenic and Historic Trails Strategy and Work Plan, BLM-WO-GI-06-020-6250

BLM Price Field Office Visual Resource Management Inventory (2011)

NatureServe, 2005. NatureServe Explorer: An online encyclopedia of life [web application]. Version 4.6. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. Accessed (August 2005–May 2006).

National Historic Preservation Act (1966), as amended and associated regulations at 36 CFR Part 800

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NRCS, 2001b. Soil Quality Institute, Grazing Lands Technology Institute, and National Soil Survey Center, Natural Resources Conservation Service, USDA: and the Bureau of Land Management, USDI, Internet: <http://www.soils.usda.gov/sqi/files/RSQIS9.pdf>.

BLM Price Field Office Visual Resource Management Inventory (2011)

Programmatic Agreement Between The U.S.D.I. Bureau Of Land Management, Utah, The Utah State Historic Preservation Officer, The Advisory Council On Historic Preservation, The State Of Utah School And Institutional Trust Lands Administration, Carbon And Duchesne Counties, And Bill Barrett Corporation Regarding The West Tavaputs Plateau Natural Gas Full Field Development Plan In Carbon And Duchesne Counties, Utah.2010

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SCS, 1970. United States Department of Agriculture, Soil Conservation Service. Soil Survey of Carbon-Emery Area, Utah.

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WO IM 2010-117 Oil and Gas Leasing Reform – Land Use Planning and Lease Parcel Reviews, May 2010.

BLM Price Field Office Visual Resource Management Inventory (2011)

6.2 List of Acronyms

APD	Application for Permit to Drill
ACEC	Area of Critical Environmental Concern
BLM	Bureau of Land Management
BMP	Best Management Practices
CBNG	Coalbed Natural Gas
CFR	Code of Federal Regulations
CIAA	Cumulative Impact Analysis Area
CSU	Conditional Surface Use
DR	Decision Record
EA	Environmental Assessment
EIS	Environmental Impact Statement
ENBB	Environmental Notification Bulletin Board
EOI	Expression of Interest

ESA	Endangered Species Act
FLPMA	Federal Land Policy and Management Act of 1976
FONSI	Finding of No Significant Impact
GIS	Geographic Information System
IDPR	Interdisciplinary Parcel Review
IM	Instruction Memorandum
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NCLS	Notice of Competitive Lease Sale
NEPA	National Environmental Policy Act
NNL	National Natural Landmark
NHPA	National Historic Preservation Act
NPS	National Park Service
NSO	No Surface Occupancy
PFO RMP	Price Field Office Resource Management Plan
PLPCO	Public Land Policy Coordination Office
RMP	ROD Resource Management Plan Record of Decision
RMP	Resource Management Plan
RFD	Reasonably Foreseeable Development
ROD	Record of Decision
SHPO	State Historic Preservation Office
SITLA	School and Institutional Trust Lands Administration
TDS	Total Dissolved Solids
UDAW	Utah Department of Environmental Quality, Division of Air Quality
UDWR	Utah Division of Wildlife Resources
USDI	United States Department of the Interior
USO	Utah State Office
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
WO	Washington Office
WSA	Wilderness Study Area
WTP EIS	West Tavaputs Plateau Natural Gas Full Field Development Plan Environment Impact Statement
WTP EIS ROD	West Tavaputs Plateau Natural Gas Full Field Development Plan Environmental Impact Statement Record of Decision

6.3 APPENDICES

APPENDIX A, NOVEMBER 2015 PRELIMINARY OIL AND GAS LEASE SALE LIST, LEASE STIPULATIONS AND LEASE NOTICES

APPENDIX B, MAP OF PARCELS

APPENDIX C, INTERDISCIPLINARY TEAM CHECKLIST

APPENDIX D, DEFERRED LANDS LIST

APPENDIX E, COMMENT RESPONSES (RESERVED)

APPENDIX F, PARCEL PICTURES

APPENDIX A, PRELIMINARY OIL AND GAS LEASE SALE LIST

UT1115 – 002

T. 13 S., R. 10 E., Salt Lake
Sec. 7: Lot 11, E2SW;
Sec. 17: S2NW;
Sec. 18: Lots 1, 2, S2NE, E2NW.
440.34 Acres
Carbon County, Utah
Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-97: No Surface Occupancy – Fragile Soils/Slopes Greater than 40 Percent
UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent
UT-S-126: No Surface Occupancy – Natural Springs
UT-S-127: No Surface Occupancy – Intermittent and Perennial Streams
UT-S-156: Timing Limitation – High-Country Watershed Areas
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-248: Timing Limitation – Mule Deer Fawning and Elk Calving Areas
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-44: Raptors
UT-LN-49: Utah Sensitive Species
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
UT-LN-120: Abandoned Mine Workings

UT1115 - 003

T. 13 S., R. 10 E., Salt Lake
Sec. 13: Lots 1-4, NW;
Sec. 14: NENE, S2NE;
Sec. 15: W2NE, NW.
702.68 Acres
Carbon County, Utah
Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-97: No Surface Occupancy – Fragile Soils/Slopes Greater than 40 Percent
UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent
UT-S-126: No Surface Occupancy – Natural Springs
UT-S-127: No Surface Occupancy – Intermittent and Perennial Streams
UT-S-156: Timing Limitation – High-Country Watershed Areas
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-232: Timing Limitation – Mule Deer and Elk Crucial Winter Range

UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-44: Raptors
UT-LN-49: Utah Sensitive Species
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis

UT1115 - 006

T. 14 S., R. 11 E., Salt Lake
Sec. 26: All;
Sec. 27: E2, E2NW, NESW;
Sec. 34: E2;
Sec. 35: All.
2,040.00 Acres
Carbon County, Utah
Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-127: No Surface Occupancy – Intermittent and Perennial Streams
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-218: Controlled Surface Use – White-tailed Prairie Dogs
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-15: Pronghorn Fawning
UT-LN-44: Raptors
UT-LN-49: Utah Sensitive Species
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
UT-LN-104: Burrowing Owl Habitat
T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin

UT1115 - 014

T. 15 S., R. 12 E., Salt Lake
Sec. 1: Lots 1, 3-7, S2NW, SWSE;
Sec. 3: Lots 1, 2, S2NE, SE;
Sec. 11: All;
Sec. 12: Lots 3, 4, SW, W2SE;
Sec. 13: All.
2,285.98 Acres
Carbon County, Utah
Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent
UT-S-126: No Surface Occupancy – Natural Springs
UT-S-127: No Surface Occupancy – Intermittent and Perennial Streams
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-218: Controlled Surface Use – White-tailed Prairie Dogs
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-15: Pronghorn Fawning
UT-LN-44: Raptors
UT-LN-49: Utah Sensitive Species
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
UT-LN-104: Burrowing Owl Habitat
T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin

UT1115 - 015

T. 15 S., R. 12 E., Salt Lake

Sec. 14: All;
Sec. 22: SE;
Sec. 23: All;
Sec. 24: W2NE, W2;
Sec. 26: W2SW;
Sec. 27: E2.

2,240.00 Acres
Carbon County, Utah
Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent
UT-S-126: No Surface Occupancy – Natural Springs
UT-S-127: No Surface Occupancy – Intermittent and Perennial Streams
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-218: Controlled Surface Use – White-tailed Prairie Dogs
UT-S-285: Timing Limitation – Migratory Bird Nesting
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-15: Pronghorn Fawning
UT-LN-44: Raptors
UT-LN-45: Migratory Birds
UT-LN-49: Utah Sensitive Species
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
UT-LN-104: Burrowing Owl Habitat

UT1115 - 016

T. 15 S., R. 12 E., Salt Lake

Sec. 19: Lots 3 and 4;

Sec. 21: W2NE, W2;

Sec. 28: NW;

Sec. 29: N2;

Sec. 30: Lots 1, 2, NE, E2NW.

1,288.50 Acres

Carbon County, Utah

Price Field Office

STIPULATIONS

UT-S-01: Air Quality

UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent

UT-S-126: No Surface Occupancy – Natural Springs

UT-S-127: No Surface Occupancy – Intermittent and Perennial Streams

UT-S-169: Controlled Surface Use – Cultural Resource Inventories

UT-S-218: Controlled Surface Use – White-tailed Prairie Dogs

UT-S-285: Timing Limitation – Migratory Bird Nesting

UT-S-305: Controlled Surface Use – Noxious Weed

UT-S-317: Unit Joinder – Clark Valley Unit U85363X

WO IM-2002-174 Endangered Species Act

WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-15: Pronghorn Fawning

UT-LN-44: Raptors

UT-LN-45: Migratory Birds

UT-LN-49: Utah Sensitive Species

UT-LN-99: Regional Ozone Formations Controls

UT-LN-102: Air Quality Analysis

UT-LN-104: Burrowing Owl Habitat

T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin

UT1115 - 021

T. 14 S., R. 13 E., Salt Lake

Secs. 7 and 19: All;

Sec. 30: Lot 1, E2, E2NW, E2SW.

1,813.60 Acres

Carbon County, Utah

Price Field Office

STIPULATIONS

UT-S-01: Air Quality

UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent

UT-S-127: No Surface Occupancy – Intermittent and Perennial Streams

UT-S-169: Controlled Surface Use – Cultural Resource Inventories

UT-S-218: Controlled Surface Use – White-tailed Prairie Dogs

UT-S-232: Timing Limitation – Mule Deer and Elk Crucial Winter Range

UT-S-305: Controlled Surface Use – Noxious Weed

WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-15: Pronghorn Fawning
UT-LN-44: Raptors
UT-LN-49: Utah Sensitive Species
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
UT-LN-104: Burrowing Owl Habitat
UT-LN-121: NSO – PL 97-98 – Prime Soils of Statewide Significance

UT1115 - 068

T. 21 S., R. 6 E., Salt Lake
Sec. 26: E2SW;
Sec. 34: S2SE;
Sec. 35: SWSW.

200.00 Acres
Emery County, Utah
Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-97: No Surface Occupancy – Fragile Soils/Slopes Greater than 40 Percent
UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent
UT-S-127: No Surface Occupancy – Intermittent and Perennial Streams
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-218: Controlled Surface Use – White-tailed Prairie Dogs
UT-S-232: Timing Limitation – Mule Deer and Elk Crucial Winter Range
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-44: Raptors
UT-LN-49: Utah Sensitive Species
UT-LN-65: Old Spanish Trail
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
UT-LN-104: Burrowing Owl Habitat

UT1115 - 069

T. 21 S., R. 6 E., Salt Lake
Sec. 27: Lots 1-6, W2NE, E2SW;
Secs. 28 and 29: All;
Sec. 33: Lots 1-10, N2NE, W2SE, SESE;
Sec. 34: NWNW.

2,310.15 Acres
Emery County, Utah
Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-97: No Surface Occupancy – Fragile Soils/Slopes Greater than 40 Percent
UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent
UT-S-127: No Surface Occupancy – Intermittent and Perennial Streams
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-218: Controlled Surface Use – White-tailed Prairie Dogs
UT-S-232: Timing Limitation – Mule Deer and Elk Crucial Winter Range
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-44: Raptors
UT-LN-49: Utah Sensitive Species
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
UT-LN-104: Burrowing Owl Habitat
T&E-05: Listed Plant Species
T&E-14: Last Chance *Townsendia* (*Townsendia aprica*)

UT1115 - 071

T. 22 S., R. 6 E., Salt Lake
Sec. 1: Lot 2, S2NE, N2SE, SWSE;
Sec. 11: NENE, SENW, E2SE;
Sec. 12: W2NE, SENE, SW, N2SE, SWSE;
Sec. 14: Lot 1, NWSW;
Sec. 15: Lot 1.

925.17 Acres
Emery County, Utah
Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-97: No Surface Occupancy – Fragile Soils/Slopes Greater than 40 Percent
UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent
UT-S-127: No Surface Occupancy – Intermittent and Perennial Streams
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-218: Controlled Surface Use – White-tailed Prairie Dogs
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-44: Raptors
UT-LN-49: Utah Sensitive Species
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
UT-LN-104: Burrowing Owl Habitat
T&E-05: Listed Plant Species
T&E-15: Wright Fishhook Cactus (*Sclerocactus wrightiae*)

UT1115 - 086

T. 24 S., R. 6 E., Salt Lake
Secs. 5, 6 and 7: All.
2,382.50 Acres
Emery County, Utah
Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-97: No Surface Occupancy – Fragile Soils/Slopes Greater than 40 Percent
UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent
UT-S-160: Controlled Surface Use – Visual Resources - VRM II
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-269: No Surface Occupancy – Mexican Spotted Owl Nests
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-44: Raptors
UT-LN-49: Utah Sensitive Species
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
T&E-05: Listed Plant Species
T&E-06: Mexican Spotted Owl
T&E-14: Last Chance *Townsendia aprica*
T&E-15: Wright Fishhook Cactus (*Sclerocactus wrightiae*)
T&E-17: San Rafael Cactus (*Pediocactus despainii*)

UT1115 - 087

T. 24 S., R. 6 E., Salt Lake
Secs. 8, 9, and 10: All.
Sec. 11: W2NE, SENE, W2, SE.
2,520.00 Acres
Emery County, Utah
Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-97: No Surface Occupancy – Fragile Soils/Slopes Greater than 40 Percent
UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent
UT-S-126: No Surface Occupancy – Natural Springs
UT-S-160: Controlled Surface Use – Visual Resources - VRM II
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-176: Controlled Surface Use – Fossil Resources (Preconstruction Surveys)
UT-S-177: Controlled Surface Use – Fossil Resources
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-44: Raptors
UT-LN-49: Utah Sensitive Species
UT-LN-51: Special Status Plants: Not Federally Listed
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
T&E-05: Listed Plant Species
T&E-14: Last Chance Townsendia (*Townsendia aprica*)
T&E-15: Wright Fishhook Cactus (*Sclerocactus wrightiae*)
T&E-17: San Rafael Cactus (*Pediocactus despainii*)

UT1115 - 089

T. 24 S., R. 6 E., Salt Lake
Secs. 17, 18 and 19: All.
2,008.79 Acres
Emery County, Utah
Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-97: No Surface Occupancy – Fragile Soils/Slopes Greater than 40 Percent
UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent
UT-S-160: Controlled Surface Use – Visual Resources - VRM II
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-232: Timing Limitation – Mule Deer and Elk Crucial Winter Range
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-44: Raptors
UT-LN-49: Utah Sensitive Species
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
T&E-05: Listed Plant Species
T&E-14: Last Chance Townsendia (*Townsendia aprica*)
T&E-15: Wright Fishhook Cactus (*Sclerocactus wrightiae*)
T&E-17: San Rafael Cactus (*Pediocactus despainii*)

UT1115 - 090

T. 24 S., R. 6 E., Salt Lake
Secs. 20, 21, 22 and 23: All.
2,560.00 Acres
Emery County, Utah
Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-97: No Surface Occupancy – Fragile Soils/Slopes Greater than 40 Percent

UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-176: Controlled Surface Use – Fossil Resources (Preconstruction Surveys)
UT-S-177: Controlled Surface Use – Fossil Resources
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-44: Raptors
UT-LN-49: Utah Sensitive Species
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
T&E-05: Listed Plant Species
T&E-14: Last Chance Townsendia (*Townsendia aprica*)
T&E-15: Wright Fishhook Cactus (*Sclerocactus wrightiae*)
T&E-17: San Rafael Cactus (*Pediocactus despainii*)

UT1115 - 091

T. 24 S., R. 6 E., Salt Lake
Secs. 24, 25, 26 and 27: All.
2,560.00 Acres
Emery County, Utah
Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-10: No Surface Occupancy – Rock Art ACEC
UT-S-97: No Surface Occupancy – Fragile Soils/Slopes Greater than 40 Percent
UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-176: Controlled Surface Use – Fossil Resources (Preconstruction Surveys)
UT-S-177: Controlled Surface Use – Fossil Resources
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-44: Raptors
UT-LN-49: Utah Sensitive Species
UT-LN-51: Special Status Plants: Not Federally Listed
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
T&E-05: Listed Plant Species
T&E-14: Last Chance Townsendia (*Townsendia aprica*)
T&E-15: Wright Fishhook Cactus (*Sclerocactus wrightiae*)
T&E-17: San Rafael Cactus (*Pediocactus despainii*)

UT1115 - 092

T. 24 S., R. 6 E., Salt Lake
Secs. 28, 33, 34 and 35: All.

2,560.00 Acres
Emery County, Utah
Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-97: No Surface Occupancy – Fragile Soils/Slopes Greater than 40 Percent
UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-176: Controlled Surface Use – Fossil Resources (Preconstruction Surveys)
UT-S-177: Controlled Surface Use – Fossil Resources
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-44: Raptors
UT-LN-49: Utah Sensitive Species
UT-LN-51: Special Status Plants: Not Federally Listed
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
T&E-05: Listed Plant Species
T&E-14: Last Chance Townsendia (*Townsendia aprica*)
T&E-15: Wright Fishhook Cactus (*Sclerocactus wrightiae*)
T&E-17: San Rafael Cactus (*Pediocactus despainii*)

UT1115 - 093

T. 24 S., R. 6 E., Salt Lake
Secs. 29, 30 and 31: All.
2,010.24 Acres
Emery County, Utah
Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-97: No Surface Occupancy – Fragile Soils/Slopes Greater than 40 Percent
UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-232: Timing Limitation – Mule Deer and Elk Crucial Winter Range
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-44: Raptors
UT-LN-49: Utah Sensitive Species
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
T&E-05: Listed Plant Species

- T&E-14: Last Chance Townsendia (*Townsendia aprica*)
T&E-15: Wright Fishhook Cactus (*Sclerocactus wrightiae*)
T&E-17: San Rafael Cactus (*Pediocactus despainii*)

UT1115 - 094

T. 25 S., R. 6 E., Salt Lake
Secs. 1, 3, 4 and 5: All.
2,506.92 Acres
Emery County, Utah
Price Field Office

STIPULATIONS

- UT-S-01: Air Quality
UT-S-97: No Surface Occupancy – Fragile Soils/Slopes Greater than 40 Percent
UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-176: Controlled Surface Use – Fossil Resources (Preconstruction Surveys)
UT-S-177: Controlled Surface Use – Fossil Resources
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

- UT-LN-44: Raptors
UT-LN-49: Utah Sensitive Species
UT-LN-51: Special Status Plants: Not Federally Listed
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
T&E-05: Listed Plant Species
T&E-15: Wright Fishhook Cactus (*Sclerocactus wrightiae*)
T&E-17: San Rafael Cactus (*Pediocactus despainii*)

UT1115 - 095

T. 25 S., R. 6 E., Salt Lake
Secs. 6, 7, 8 and 9: All.
2,540.63 Acres
Emery County, Utah, Price Field Office

STIPULATIONS

- UT-S-01: Air Quality
UT-S-97: No Surface Occupancy – Fragile Soils/Slopes Greater than 40 Percent
UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-176: Controlled Surface Use – Fossil Resources (Preconstruction Surveys)
UT-S-177: Controlled Surface Use – Fossil Resources
UT-S-232: Timing Limitation – Mule Deer and Elk Crucial Winter Range
UT-S-305: Controlled Surface Use – Noxious Weed

WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-44: Raptors
UT-LN-49: Utah Sensitive Species
UT-LN-51: Special Status Plants: Not Federally Listed
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
T&E-05: Listed Plant Species
T&E-15: Wright Fishhook Cactus (*Sclerocactus wrightiae*)
T&E-17: San Rafael Cactus (*Pediocactus despainii*)

UT1115 - 096

T. 25 S., R. 6 E., Salt Lake
Secs. 10, 11, 12 and 13: All.
2,560.00 Acres
Emery County, Utah
Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-97: No Surface Occupancy – Fragile Soils/Slopes Greater than 40 Percent
UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-176: Controlled Surface Use – Fossil Resources (Preconstruction Surveys)
UT-S-177: Controlled Surface Use – Fossil Resources
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-44: Raptors
UT-LN-49: Utah Sensitive Species
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
T&E-05: Listed Plant Species
T&E-15: Wright Fishhook Cactus (*Sclerocactus wrightiae*)
T&E-17: San Rafael Cactus (*Pediocactus despainii*)

UT1115 - 097

T. 25 S., R. 6 E., Salt Lake
Secs. 14, 15, 17 and 18: All.
2,557.84 Acres
Emery County, Utah
Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-97: No Surface Occupancy – Fragile Soils/Slopes Greater than 40 Percent
UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent

UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-176: Controlled Surface Use – Fossil Resources (Preconstruction Surveys)
UT-S-177: Controlled Surface Use – Fossil Resources
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-44: Raptors
UT-LN-49: Utah Sensitive Species
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
T&E-05: Listed Plant Species
T&E-15: Wright Fishhook Cactus (*Sclerocactus wrightiae*)
T&E-17: San Rafael Cactus (*Pediocactus despainii*)

UT1115 - 098

T. 25 S., R. 6 E., Salt Lake
Secs. 19, 20, 21 and 22: All.
2,558.28 Acres
Emery County, Utah
Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-97: No Surface Occupancy – Fragile Soils/Slopes Greater than 40 Percent
UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-176: Controlled Surface Use – Fossil Resources (Preconstruction Surveys)
UT-S-177: Controlled Surface Use – Fossil Resources
UT-S-269: No Surface Occupancy – Mexican Spotted Owl Nests
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-44: Raptors
UT-LN-49: Utah Sensitive Species
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
T&E-05: Listed Plant Species
T&E-06: Mexican Spotted Owl
T&E-15: Wright Fishhook Cactus (*Sclerocactus wrightiae*)
T&E-17: San Rafael Cactus (*Pediocactus despainii*)

UT1115 - 100

T. 25 S., R. 6 E., Salt Lake
Secs. 27, 28, 29 and 30: All.
2,558.96 Acres
Emery County, Utah

Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-97: No Surface Occupancy – Fragile Soils/Slopes Greater than 40 Percent
UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-44: Raptors
UT-LN-49: Utah Sensitive Species
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
T&E-05: Listed Plant Species
T&E-15: Wright Fishhook Cactus (*Sclerocactus wrightiae*)
T&E-17: San Rafael Cactus (*Pediocactus despainii*)

UT1115 - 101

T. 25 S., R. 6 E., Salt Lake
Secs. 31, 33 and 34: All;
Sec. 35: S2NW, S2.

2,319.64 Acres

Emery County, Utah
Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-97: No Surface Occupancy – Fragile Soils/Slopes Greater than 40 Percent
UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-44: Raptors
UT-LN-49: Utah Sensitive Species
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
T&E-05: Listed Plant Species
T&E-15: Wright Fishhook Cactus (*Sclerocactus wrightiae*)
T&E-17: San Rafael Cactus (*Pediocactus despainii*)

UT1115 - 112

T. 20 S., R. 7 E., Salt Lake
Sec. 1: Lots 1-4, S2N2, NESE;
Sec. 12: SWNE, NWSE.

438.80 Acres

Emery County, Utah
Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent
UT-S-127: No Surface Occupancy – Intermittent and Perennial Streams
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-218: Controlled Surface Use – White-tailed Prairie Dogs
UT-S-285: Timing Limitation – Migratory Bird Nesting
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-44: Raptors
UT-LN-45: Migratory Birds
UT-LN-49: Utah Sensitive Species
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
UT-LN-104: Burrowing Owl Habitat
T&E-05: Listed Plant Species
T&E-17: San Rafael Cactus (*Pediocactus despainii*)

UT1115 - 115

T. 20 S., R. 7 E., Salt Lake
Sec. 21: SWSW;
Sec. 27: NWNW;
Sec. 28: S2NW;
Sec. 29: E2SE;
Sec. 33: W2W2.

400.00 Acres

Emery County, Utah
Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-97: No Surface Occupancy – Fragile Soils/Slopes Greater than 40 Percent
UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent
UT-S-126: No Surface Occupancy – Natural Springs
UT-S-127: No Surface Occupancy – Intermittent and Perennial Streams
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-269: No Surface Occupancy – Mexican Spotted Owl Nests
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-44: Raptors
UT-LN-49: Utah Sensitive Species
UT-LN-99: Regional Ozone Formations Controls

UT-LN-102: Air Quality Analysis
T&E-06: Mexican Spotted Owl

UT1115 - 116

T. 20 S., R. 7 E., Salt Lake
Secs. 30 and 31: All.
1,305.00 Acres
Emery County, Utah
Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-97: No Surface Occupancy – Fragile Soils/Slopes Greater than 40 Percent
UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent
UT-S-127: No Surface Occupancy – Intermittent and Perennial Streams
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-269: No Surface Occupancy – Mexican Spotted Owl Nests
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-44: Raptors
UT-LN-49: Utah Sensitive Species
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
T&E-06: Mexican Spotted Owl

UT1115 - 151

T. 19 S., R. 8 E., Salt Lake
Sec. 1: Lots 2, 3, 5, 6, S2NE, SENW, SW, S2SE;
Sec. 3: SESE;
Sec. 11: E2NE, SESW, SE;
Sec. 12: All;
Sec. 13: N2NE, SWNE, NENW, SW, W2SE, SESE;
Sec. 14: S2NE, S2.

2,316.22 Acres
Emery County, Utah
Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-127: No Surface Occupancy – Intermittent and Perennial Streams
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-218: Controlled Surface Use – White-tailed Prairie Dogs
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-44: Raptors

UT-LN-49: Utah Sensitive Species
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
UT-LN-104: Burrowing Owl Habitat
T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin
T&E-05: Listed Plant Species
T&E-17: San Rafael Cactus (*Pediocactus despainii*)

UT1115 - 152

T. 19 S., R. 8 E., Salt Lake
Sec. 7: Lots 2-4, E2SW, SWSE;
Sec. 17: NWNW, E2SW;
Sec. 18: Lots 1, 2, W2NE, E2NW;
Sec. 19: Lots 3, 4, NESW;
Sec. 31: Lot 4, N2NE, SENE, E2SW, SE.
1,125.54 Acres
Emery County, Utah
Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-127: No Surface Occupancy – Intermittent and Perennial Streams
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-218: Controlled Surface Use – White-tailed Prairie Dogs
UT-S-285: Timing Limitation – Migratory Bird Nesting
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-44: Raptors
UT-LN-45: Migratory Birds
UT-LN-49: Utah Sensitive Species
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
UT-LN-104: Burrowing Owl Habitat
T&E-05: Listed Plant Species
T&E-17: San Rafael Cactus (*Pediocactus despainii*)

UT1115 - 153

T. 19 S., R. 8 E., Salt Lake
Sec. 20: Lots 1-4, NESW.
209.17 Acres
Emery County, Utah
Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent
UT-S-126: No Surface Occupancy – Natural Springs

UT-S-127: No Surface Occupancy – Intermittent and Perennial Streams
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-218: Controlled Surface Use – White-tailed Prairie Dogs
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-44: Raptors
UT-LN-49: Utah Sensitive Species
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
UT-LN-104: Burrowing Owl Habitat

UT1115 - 156

T. 20 S., R. 8 E., Salt Lake
Sec. 5: Lot 2-4, S2NW, N2SW;
Sec. 6: Lots 1-6, S2NE, SENW, E2SW, N2SE, SWSE;
Sec. 7: W2NE, NENW.
961.23 Acres
Emery County, Utah
Price Field Office

STIPULATIONS

UT-S-01: Air Quality
UT-S-101: Controlled Surface Use – Fragile Soils/Slopes 20-40 Percent
UT-S-127: No Surface Occupancy – Intermittent and Perennial Streams
UT-S-169: Controlled Surface Use – Cultural Resource Inventories
UT-S-218: Controlled Surface Use – White-tailed Prairie Dogs
UT-S-285: Timing Limitation – Migratory Bird Nesting
UT-S-305: Controlled Surface Use – Noxious Weed
WO IM-2002-174 Endangered Species Act
WO IM 2005-003: Cultural Resources

LEASE NOTICES

UT-LN-44: Raptors
UT-LN-45: Migratory Birds
UT-LN-49: Utah Sensitive Species
UT-LN-99: Regional Ozone Formations Controls
UT-LN-102: Air Quality Analysis
UT-LN-104: Burrowing Owl Habitat
T&E-05: Listed Plant Species
T&E-17: San Rafael Cactus (*Pediocactus despainii*)

UT1115 - 182

T. 17 S., R. 10 E., Salt Lake
Sec. 19: SESW, SWSE.
80.00 Acres
Emery County, Utah
Price Field Office

STIPULATIONS

- UT-S-01: Air Quality
- UT-S-127: No Surface Occupancy – Intermittent and Perennial Streams
- UT-S-169: Controlled Surface Use – Cultural Resource Inventories
- UT-S-218: Controlled Surface Use – White-tailed Prairie Dogs
- UT-S-305: Controlled Surface Use – Noxious Weed
- WO IM-2002-174 Endangered Species Act
- WO IM 2005-003: Cultural Resources

LEASE NOTICES

- UT-LN-44: Raptors
- UT-LN-49: Utah Sensitive Species
- UT-LN-99: Regional Ozone Formations Controls
- UT-LN-102: Air Quality Analysis
- UT-LN-104: Burrowing Owl Habitat

LEASE STIPULATIONS SUMMARY

WO IM 2005-003	<p>CULTURAL RESOURCES</p> <p>This lease may be found to contain historic properties and/or resources protected under the National Historic Preservation Act, American Indian Religious Freedom Act, Native American Graves Protection and Repatriation Act, E.O. 13007, or other statutes and executive orders. The BLM will not approve any ground disturbing activities that may affect any such properties or resources until it completes its obligations under applicable requirements of the NHPA and other authorities. The BLM may require modification to exploration or development proposals to protect such properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized or mitigated.</p>
WO IM 2002-174	<p>ENDANGERED SPECIES ACT</p> <p>The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that would contribute to a need to list such 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 until it completes its obligations under applicable requirements of the ESA as amended, 16 United States Code (USC) 1531 et seq. including completion of any required procedure for conference or consultation.</p>

<p>UT-S-01 2008 RMPs Only</p>	<p>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</p>
<p>UT-S-10 PRICE</p>	<p>NO SURFACE OCCUPANCY – ROCK ART ACEC NSO for cultural values within Rock Art ACEC and to retain the cultural character of some of the best examples of prehistoric rock art in the Colorado Plateau. The Rock Art ACEC's are: Black Dragon, Head of Sinbad, Rochester/Muddy Petroglyphs, Lone Warrior, Sand Cove Spring, King's Crown, Short Creek, Dry Wash, North Salt Wash, Molen Seep, Big Hole, Cottonwood Canyon, Wild Horse Canyon, and Grassy Trail. Exception: None Modification: None Waiver: None</p>
<p>UT-S-97 PRICE</p>	<p>NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40 PERCENT No surface occupancy on slopes greater than 40 percent. Exception: If after an environment analysis the authorized officer determines that it would cause undue or unnecessary degradation to pursue other placement alternatives; surface occupancy in the area may be authorized. In addition, a plan from the operator and BLM's approval of the plan shall be required before construction and maintenance could begin. The plan would have to include: An erosion control strategy GIS modeling Proper survey and design by a certified engineer. Modification: None Waiver: None</p>

<p>UT-S-101 PRICE</p>	<p>CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES 20-40 PERCENT In surface disturbing proposals regarding construction on slopes of 20 percent to 40 percent, include an approved erosion control strategy and topsoil segregation/restoration plan. Such construction must be properly surveyed and designed by a certified engineer and approved by the BLM prior to project implementation, construction, or maintenance. Exception: If after an environment analysis the authorized officer determines that it would cause undue or unnecessary degradation to pursue other placement alternatives; surface occupancy in the area may be authorized. In addition, a plan from the operator and BLM’s approval of the plan would be required before construction and maintenance could begin. The plan must include: An erosion control strategy GIS modeling Proper survey and design by a certified engineer. Modification: Modifications also may be granted if a more detailed analysis is conducted and shows that impacts can be mitigated, e.g., Order I soil survey conducted by a qualified soil scientist, finds that surface disturbance activities could occur on slopes between 20 and 40 percent while adequately protecting areas from accelerated erosion. Waiver: None</p>
<p>UT-S-317 Price</p>	<p>UNIT JOINDER The successful bidder will be required to join the Clark Valley Unit Agreement or show reason why a joinder should not be required.</p>
<p>UT-S-126 PRICE</p>	<p>NO SURFACE OCCUPANCY – NATURAL SPRINGS No surface disturbance or occupancy will be maintained around natural springs to protect the water quality of the spring. The distance would be based on geophysical, riparian, and other factors necessary to protect the water quality of the springs. If these factors cannot be determined, a 660-foot buffer zone would be maintained. Exception: An exception could be authorized if (a) there are no practical alternatives, (b) impacts could be fully mitigated, or (c) the action is designed to enhance the riparian resources. Modification: None Waiver: None</p>
<p>UT-S-127 PRICE</p>	<p>NO SURFACE OCCUPANCY – INTERMITTENT AND PERENNIAL STREAMS No new surface disturbance (excluding fence lines) will be allowed in areas within the 100-year floodplain or 100 meters (330 feet) on either side from the centerline, whichever is greater, along all perennial and intermittent streams, streams with perennial reaches, and riparian areas. Exception: The authorized officer could authorize an exception if it could be shown that the project as mitigated eliminated the need for the restriction. An exception could be authorized if (a) there are no practical alternatives, (b) impacts could be fully mitigated, or (c) the action is designed to enhance the riparian resources. Modification: None Waiver: None</p>

<p>UT-S-156 PRICE</p>	<p>TIMING LIMITATION – HIGH-COUNTRY WATERSHED AREAS High-country watershed areas (above 7,000 feet) will be closed seasonally from December 1 to April 15. Exception: Upon review and monitoring, the authorized officer may grant exceptions because of climatic conditions if activities would not cause undue damage to soils or roads. Modification: Season may be adjusted depending on climatic and vegetation conditions. Waiver: Activities may be allowed as long as all surface disturbing activities are conducted before seasonal closure.</p>
<p>UT-S-160 PRICE</p>	<p>CONTROLLED SURFACE USE – VISUAL RESOURCES - VRM II Within VRM II areas, surface disturbing activities will comply with BLM Manual Handbook 8431-1 to retain the existing character of the landscape. Exception: Recognized utility corridors are exempt. Temporary exceedance may be allowed during initial development phases. Modification: None Waiver: None</p>
<p>UT-S-169 PRICE</p>	<p>CONTROLLED SURFACE USE – CULTURAL RESOURCE INVENTORIES Cultural resources inventories (including point, area, and linear features) will be required for all federal undertakings that could affect cultural resources or historic properties in areas of both direct and indirect impacts. Waiver of Inventory: Although complete Class III inventories will be performed for most land use actions, an authorized officer could waive inventory for any part of an Area of Potential Effect when one or more of the following conditions exist: Previous natural ground disturbance has modified the surface so extensively that the likelihood of finding cultural properties is negligible. (Note: This is not the same as being able to document that any existing sites may have been affected by surface disturbance; ground disturbance must have been so extensive as to reasonably preclude the location of any such sites.) Human activity within the last 50 years has created a new land surface to such an extent as to eradicate locatable traces of cultural properties. Existing Class II or equivalent inventory data are sufficient to indicate that the specific environmental situation did not support human occupation or use to a degree that would make further inventory information useful or meaningful. Previous inventories must have been conducted according to current professionally acceptable standards. Records are available and accurate and document the location, methods, and results of the inventory. Class II “equivalent inventory data” includes an adequate amount of acreage distributed across the same specific environmental situation that is located within the study area. Inventory at the Class III level has previously been performed, and records documenting the location, methods, and results of the inventory are available. Such inventories must have been conducted according to current professionally acceptable standards. Natural environmental characteristics (such as recent landslides or rock falls) are unfavorable to the presence of cultural properties. The nature of the proposed action is such that no impact can be expected on significant cultural resources. Conditions exist that could endanger the health or safety of personnel, such as the presence of hazardous materials, explosive ordnance, or unstable structures.</p>

<p>UT-S-176 Price</p>	<p>CONTROLLED SURFACE USE – FOSSIL RESOURCES (PRECONSTRUCTION SURVEYS) Preconstruction paleo surveys will be required prior to any surface disturbing activity in the Morrison, Cedar Mountain, Blackhawk, North Horn, or Chinle Formations. Exception: The authorized officer may grant an exception if the area has previously been inventoried within the last three (3) years. Modification: None Waiver: None</p>
<p>UT-S-177 Price</p>	<p>CONTROLLED SURFACE USE – FOSSIL RESOURCES A BLM permitted paleontologist will be required to be onsite during surface disturbance in any Potential Fossil Yield Classification (PFYC) 4 or 5 areas. Exceptions: None Modification: None Waiver: None</p>
<p>UT-S-218 MOAB, VERNAL & PRICE</p>	<p>CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG No surface-disturbing activities within 660 feet of prairie dog colonies identified within prairie dog habitat. No permanent aboveground facilities are allowed within the 660 feet buffer. Exception: An exception may be granted by the authorized officer if the applicant submits a plan that indicates that impacts of the proposed action can be adequately mitigated or, if due to the size of the town, there is no reasonable location to develop a lease and avoid colonies the authorized officer will allow for loss of prairie dog colonies and/or habitat to satisfy terms and conditions of the lease. Modification: The authorized officer may modify the boundaries of the stipulation area if portions of the area does not include prairie dog habitat or <i>active</i> colonies are found outside current defined area, as determined by BLM. Waiver: May be granted if in the leasehold if it is determined that habitat no longer exists or has been destroyed.</p>
<p>UT-S-232 PRICE</p>	<p>TIMING LIMITATION – MULE DEER AND ELK CRUCIAL WINTER RANGE No surface disturbing or otherwise disruptive activities within mule deer and elk crucial winter range from December 1 to April 15. Exception: Upon review and monitoring, the authorized officer may grant exceptions because of climatic and/or range conditions if certain criteria are met and if activities would not cause undue stress to deer and/or elk populations or habitats. Modification: Season may be adjusted depending on climatic and range conditions. Waiver: A waiver may be granted if the winter range habitat is unsuitable for or unoccupied during winter months by deer/elk and there is no reasonable likelihood of future winter range use.</p>

<p>UT-S-248 PRICE</p>	<p>TIMING LIMITATION – MULE DEER FAWNING AND ELK CALVING AREAS No surface disturbing or otherwise disruptive activities within mule deer fawning and elk calving areas from May 15 to July 5. Exception: Upon review and monitoring, the authorized officer may grant exceptions because of climatic and/or range conditions if certain criteria are met and if activities would not cause undue stress to deer and elk populations or habitats. Modification: Season may be adjusted depending on climatic and range conditions. Waiver: A waiver may be granted if the fawning and calving habitat is unsuitable or unoccupied by deer/elk and there is no reasonable likelihood of future use.</p>
<p>UT-S-269 PRICE</p>	<p>NO SURFACE OCCUPANCY – MEXICAN SPOTTED OWL NESTS No surface occupancy within 1/2 mile of known Mexican Spotted Owl (MSO) nests. Exception: The authorized officers may grant an exception if an environmental analysis demonstrates that the action would not impair the function or utility of the site for nesting or other owl-sustaining activities. Modification: The authorized officers may modify the NSO area in extent if an environmental analysis finds that a portion of the area is nonessential to site utility or function or if natural features provide adequate visual or auditory screening. Waiver: A waiver may be granted if the MSO is de-listed and the area is determined as not necessary for the survival and recovery of the MSO.</p>
<p>UT-S-285 PRICE</p>	<p>TIMING LIMITATION – MIGRATORY BIRD NESTING Migratory bird nesting areas will be closed seasonally from April 15 to August 1. Areas with migratory birds designated as BLM Special Status Species will have the highest priority.</p> <p>Exception: Upon review and monitoring, the authorized officer may grant exceptions because of climatic and/or habitat conditions if activities would not cause undue stress to migratory bird populations.</p> <p>Modification: Season may be adjusted depending on climatic and range conditions. Distance may be adjusted if natural features provide adequate visual screening.</p> <p>Waiver: None</p>
<p>UT-S-305 PRICE</p>	<p>CONTROLLED SURFACE USE – NOXIOUS WEED Continue implementation of noxious weed and invasive species control actions in accordance with national guidance and local weed management plans, in cooperation with State, federal, affected counties, adjoining private land owners, and other partners or interests directly affected. Implement Standard Operating Procedures and Mitigation Measures for herbicide use as well as prevention measures for noxious and invasive plants identified in the Record of Decision Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States PEIS and associated documents. Exception: None Modification: None Waiver: None</p>

UT-S-317 Statewide	UNIT JOINDER The applicant will be required to join the Clark Valley Unit Agreement or show reason why a joinder should not be required.
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LEASE NOTICES SUMMARY

<p>UT-LN-15 MOAB, PRICE, MONTICELLO</p>	<p>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.</p>
<p>UT-LN-44 ALL OFFICES</p>	<p>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.</p>
<p>UT-LN-45 ALL OFFICES</p>	<p>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.</p>
<p>UT-LN-49 ALL OFFICES</p>	<p>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.</p>

<p>UT-LN-51 ALL OFFICES</p>	<p>SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED The lessee/operator is given notice that lands in this lease have been identified as containing special status plants, not federally listed, and their habitats. Modifications to the Surface Use Plan of Operations may be required in order to protect the special status plants and/or habitat from surface disturbing activities in accordance with Section 6 of the lease terms, Endangered Species Act, and 43 CFR 3101.1-2.</p>
<p>UT-LN-65 PRICE MOAB</p>	<p>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.</p>
<p>UT-LN-99 STATEWIDE</p>	<p>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: Tier II or better drilling rig engines Stationary internal combustion engine standard of 2g NOx/bhp-hr for engines <300HP and 1g NOx/bhp-hr for engines >300HP Low bleed or no bleed pneumatic pump valves Dehydrator VOC emission controls to +95% efficiency Tank VOC emission controls to +95% efficiency</p>
<p>UT-LN-102 ALL OFFICES</p>	<p>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 for deposition and visibility impacts analysis, control equipment determinations, and/or emission inventory development. These analyses may result in the imposition of additional project-specific air quality control measures.</p>
<p>UT-LN-104 PRICE</p>	<p>BURROWING OWL HABITAT The lessee/operator is given notice that lands in this lease have been identified as containing Burrowing Owl Habitat. Modification to the Surface Use Plan of Operations may be required in order to protect the Burrowing Owl and/or habitat from surface disturbing activities in accordance with Section 6 of the lease terms, Endangered Species Act, and 43 CFR 3101.1-2.</p>
<p>UT-LN-120</p>	<p>ABANDONED MINE WORKINGS Abandoned Mine Working may be present in this lease parcel.</p>
<p>UT-LN-121</p>	<p>NSO – PL 97-98 – Prime Soils of Statewide Significance</p>
<p>UT-LN-128</p>	<p>FEDERAL FLOOD RISK MANAGEMENT STANDARD To mitigate potential impacts to floodplains, activities would be limited or precluded within the 500 year base flood level (area subject to flooding by the 0.2 percent annual chance flood) or the 100 year base flood elevation plus 3 feet. (Executive Order 13690 amending Executive Order 11988).</p>

Number	Utah's Threatened & Endangered Species Notices
T&E-03 Price Vernal	<p>ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN The Lessee/Operator is given notice that the lands in this parcel contain Critical Habitat for the Colorado River fish (bonytail, humpback chub, Colorado pike minnow, and razorback sucker) listed as endangered under the Endangered Species Act, or these parcels have watersheds that are tributary to designated habitat. Critical habitat was designated for the four endangered Colorado River fishes on March 21, 1994(59 FR 13374-13400). Designated critical habitat for all the endangered fishes includes those portions of the 100-year floodplain that contain primary constituent elements necessary for survival of the species. Avoidance or use restrictions may be placed on portions of the lease. The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the Endangered Species Act. Integration of and adherence to these measures will facilitate review and analysis of any submitted permits under the authority of this lease. Following these measures could reduce the scope of Endangered Species Act, Section 7 consultation at the permit stage. Current avoidance and minimization measures include the following: 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). 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. Water production will be managed to ensure maintenance or enhancement of riparian habitat. Avoid loss or disturbance of riparian habitats. 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. Conduct watershed analysis for leases in designated critical habitat and overlapping major tributaries in order to determine toxicity risk from permanent facilities. Implement Appendix B (Hydrologic Considerations for Pipeline Crossing Stream Channels, Technical Note 423). Drilling will not occur within 100 year floodplains of rivers or tributaries to rivers that contain listed fish species or critical habitat. In areas adjacent to 100-year flood plains, particularly in systems prone to flash floods, analyze the risk for flash floods to impact facilities, and use closed loop drilling, and pipeline burial or suspension according to Appendix B (Hydrologic Considerations for Pipeline Crossing Stream Channels, Technical Note 423, to minimize the potential for equipment damage and resulting leaks or spills. Water depletions from <i>any</i> portion of the Upper Colorado River drainage basin above Lake Powell are considered to adversely affect or adversely modify the critical habitat of the four resident endangered fish species, and must be evaluated with regard to the criteria described in the Upper Colorado River Endangered Fish Recovery Program. Formal consultation with USFWS is required for all depletions. All depletion amounts must be reported to BLM. Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the U.S. Fish and Wildlife Service between the lease sale stage and lease development stage to ensure continued compliance with the ESA.</p>

Number	Utah's Threatened & Endangered Species Notices
T&E-05	<p>LISTED PLANT SPECIES</p> <p>The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for federally listed plant species under the Endangered Species Act. The following avoidance and minimization measures have been developed to facilitate review and analysis of any submitted permits under the authority of this lease</p> <p>Site inventories:</p> <ul style="list-style-type: none"> Must be conducted to determine habitat suitability, Are required in known or potential habitat for all areas proposed for surface disturbance prior to initiation of project activities, at a time when the plant can be detected, and during appropriate flowering periods, Documentation should include, but not be limited to individual plant locations and suitable habitat distributions, and All surveys must be conducted by qualified individuals. <p>Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.</p> <p>Project activities must be designed to avoid direct disturbance to populations and to individual plants:</p> <ul style="list-style-type: none"> Designs will avoid concentrating water flows or sediments into plant occupied habitat. Construction will occur down slope of plants and populations where feasible; if well pads and roads must be sited upslope, buffers of 300 feet minimum between surface disturbances and plants and populations will be incorporated. Where populations occur within 300 ft. of well pads, establish a buffer or fence the individuals or groups of individuals during and post-construction. <p>Areas for avoidance will be visually identifiable in the field, e.g., flagging, temporary fencing, rebar, etc.</p> <ul style="list-style-type: none"> For surface pipelines, use a 10 foot buffer from any plant locations: If on a slope, use stabilizing construction techniques to ensure the pipelines don't move towards the population. For riparian/wetland-associated species, e.g. Ute ladies-tresses, avoid loss or disturbance of riparian habitats. Ensure that water extraction or disposal practices do not result in change of hydrologic regime. Limit disturbances to and within suitable habitat by staying on designated routes. Limit new access routes created by the project. Place signing to limit ATV travel in sensitive areas. Implement dust abatement practices near occupied plant habitat. All disturbed areas will be re-vegetated with native species comprised of species indigenous to the area. Post construction monitoring for invasive species will be required. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in plant habitat. Ensure that such directional drilling does not intercept or degrade alluvial aquifers. <p>Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.</p> <p>Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the U.S. Fish and Wildlife Service between the lease sale stage and lease development stage to ensure continued compliance with the Endangered Species Act.</p>
T&E-06	<p>MEXICAN SPOTTED OWL</p> <p>The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for Mexican spotted owl, a federally listed species. The Lessee/Operator is given notice that the lands in this lease contain Designated Critical Habitat for the Mexican spotted owl, a</p>

Number	Utah's Threatened & Endangered Species Notices
	<p>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 <u>temporary</u> action is completed prior to the following breeding season leaving no permanent structures and resulting in no permanent habitat loss. A <u>permanent</u> action continues for more than one breeding season and/or causes a loss of owl habitat or displaces owls through disturbances, i.e. creation of a permanent structure.</p> <p>The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the Endangered Species Act. Integration of, and adherence to these measures, will facilitate review and analysis of any submitted permits under the authority of this lease. Following these measures could reduce the scope of Endangered Species Act, Section 7 consultation at the permit stage. Current avoidance and minimization measures include the following:</p> <p>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).</p> <p>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.</p> <p>Document type of activity, acreage and location of direct habitat impacts, type and extent of indirect impacts relative to location of suitable owl habitat.</p> <p>Document if action is temporary or permanent.</p> <p>Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.</p> <p>Water production will be managed to ensure maintenance or enhancement of riparian habitat. 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.</p> <p>For all temporary actions that may impact owls or suitable habitat:</p> <p>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.</p> <p>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.</p> <p>Rehabilitate access routes created by the project through such means as raking out scars, re-vegetation, gating access points, etc.</p> <p>For all permanent actions that may impact owls or suitable habitat:</p> <p>Survey two consecutive years for owls according to accepted protocol prior to commencing activities.</p> <p>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).</p> <p>Avoid drilling and permanent structures within 0.5 mi of suitable habitat unless surveyed and not occupied.</p> <p>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.</p> <p>Limit disturbances to and within suitable habitat by staying on approved routes.</p> <p>Limit new access routes created by the project.</p> <p>Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the U.S. Fish and Wildlife Service between the lease sale</p>

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	stage and lease development stage to ensure continued compliance with the Endangered Species Act.
T&E-14	<p>LAST CHANCE TOWNSENDIA (<i>TOWNSENDIA APRICA</i>)</p> <p>In order to minimize effects to the federally threatened Last Chance Townsendia, the Bureau of Land Management (BLM), in coordination with the U.S. Fish and Wildlife Service (Service), has developed the following avoidance and minimization measures. Implementation of these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance operations) are in compliance with the endangered Species Act (ESA). For the purposes of this document, the following terms are so defined: <i>Potential habitat</i> is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment. <i>Suitable habitat</i> is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain Last Chance Townsendia; habitat descriptions can be found in Federal Register Notice and species recovery plan links at <http://www.fws.gov/endangered/wildlife.html>. <i>Occupied habitat</i> is defined as areas currently or historically known to support Last Chance Townsendia; synonymous with "known habitat." The following avoidance and minimization measures should be included in the Plan of Development:</p> <p>Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat¹ prior to any ground disturbing activities (including ATV use) to determine if suitable Last Chance Townsendia habitat is present.</p> <p>Site inventories will be conducted within suitable habitat to determine occupancy. Where standard surveys are technically infeasible and otherwise hazardous due to topography, slope, etc. suitable habitat will be assessed and mapped for avoidance (hereafter, "avoidance areas"); in such cases, in general, 300' buffers will be maintained between surface disturbance and avoidance areas. However, site-specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat. Where conditions allow, inventories:</p> <ul style="list-style-type: none"> Must be conducted by qualified individuals(s) and according to BLM and Service accept survey protocols, Will be conducted in suitable and occupied habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (usually April 15th to June 5th, however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known population is in flower), Will occur within 300' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad, Will include, but not be limited to, plant species lists and habitat characteristics, and Will be valid until April 15th the following year. <p>Design project infrastructure to minimize impacts within suitable habitat:</p> <ul style="list-style-type: none"> Where standard surveys are technically infeasible, infrastructure and activities will avoid all suitable habitat (voidance areas) and incorporate 300' buffers, in general; however, site-specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat, Reduce well pad size to the minimum needed, without compromising safety, Where technically and economically feasible, use directional drilling or multiple wells from the same pad, Limit new access routes created by the project, Roads and utilities should share common right-of-ways where possible, Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat, Place signing to limit off-road travel in sensitive areas, and

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	<p>Stay on designated routes and other cleared/approved areas, All disturbed areas will be re-vegetated with native species comprised of species indigenous to the area and non-native species that are not likely to invade other areas. Within occupied habitat, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants: Follow the above recommendations (#3) for project design within suitable habitats, To avoid water flow and/or sedimentation into occupied habitat and avoidance areas, silt fences, hay bales, and similar structures or practices will be incorporated into the project design; appropriate placement of fill is encouraged, Construction of roads will occur such that the edge of the right of way is at least 300' from any plant and 300' from avoidance areas, Roads will be graveled with occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from April 15th to June 5th (flowering period); dust abatement applications will be comprised of water only, The edge of the well pad should be located at least 300' away from plants and avoidance areas, in general; however, site-specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat, Surface pipelines will be laid such that a 300' buffer exists between the edge of the right of way and plants and 300' between the edge of right of way and avoidance areas; use stabilizing and anchoring techniques when the pipeline crossed suitable habitat to ensure pipelines don't move towards the population; site-specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat, Construction activities will not occur from April 15th through June 5th within occupied habitat, Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging temporary fencing, rebar, etc., Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible. Occupied Last Chance <i>Townsendia</i> habitats within 300' of the edge of the surface pipelines' right-of-ways, 300' of the edge of the roads' right-of-ways, and 300' from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the Service. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service. Re-initiation of section 7 consultation with the Service will be sought immediately if any loss of plants or occupied habitat for the Last Chance <i>Townsendia</i> 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.</p>
T&E-15	<p>WRIGHT FISHHOOK CACTUS (<i>SCLEROCACTUS WRIGHTIAE</i>) In order to minimize effects to the federally threatened Wright Fishhook Cactus, the Bureau of Land Management (BLM), in coordination with the U.S. Fish and Wildlife Service (Service), has developed the following avoidance and minimization measures. Implementation of these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance operations) are in compliance with the endangered Species Act (ESA). For the purposes of this document, the following terms are so defined: <i>Potential habitat</i> is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment. <i>Suitable habitat</i> is defined as areas which contain or</p>

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	<p>exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain Wright Fishhook Cactus; habitat descriptions can be found in Federal Register Notice and species recovery plan links at http://www.fws.gov/endangered/wildlife.html. <i>Occupied habitat</i> is defined as areas currently or historically known to support Wright Fishhook Cactus; synonymous with "known habitat." The following avoidance and minimization measures should be included in the Plan of Development:</p> <p>Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat¹ prior to any ground disturbing activities (including ATV use) to determine if suitable Wright Fishhook Cactus habitat is present.</p> <p>Site inventories will be conducted within suitable habitat to determine occupancy. Where standard surveys are technically infeasible and otherwise hazardous due to topography, slope, etc. suitable habitat will be assessed and mapped for avoidance (hereafter, "avoidance areas"); in such cases, in general, 300' buffers will be maintained between surface disturbance and avoidance areas. However, site-specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat. Where conditions allow, inventories:</p> <ul style="list-style-type: none"> Must be conducted by qualified individuals(s) and according to BLM and Service accept survey protocols, Will be conducted in suitable and occupied habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (usually April 15th to June 5th, however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known population is in flower), Will occur within 300' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad, Will include, but not be limited to, plant species lists and habitat characteristics, and Will be valid until April 15th the following year. <p>Design project infrastructure to minimize impacts within suitable habitat:</p> <ul style="list-style-type: none"> Where standard surveys are technically infeasible, infrastructure and activities will avoid all suitable habitat (voidance areas) and incorporate 300' buffers, in general; however, site-specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat, Reduce well pad size to the minimum needed, without compromising safety, Where technically and economically feasible, use directional drilling or multiple wells from the samepad, Limit new access routes created by the project, Roads and utilities should share common right-of-ways where possible, Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat, Place signing to limit off-road travel in sensitive areas, and Stay on designated routes and other cleared/approved areas, All disturbed areas will be revegetated with native species comprised of species indigenous to the area and non-native species that are not likely to invade other areas. <p>Within occupied habitat, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:</p> <ul style="list-style-type: none"> Follow the above recommendations (#3) for project design within suitable habitats, To avoid water flow and/or sedimentation into occupied habitat and avoidance areas, silt fences, hay bales, and similar structures or practices will be incorporated into the project design; appropriate placement of fill is encouraged, Construction of roads will occur such that the edge of the right of way is at least 300' from any plant and 300' from avoidance areas, Roads will be graveled with occupied habitat; the operator is encouraged to apply water for

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	<p>dust abatement to such areas from April 15th to June 5th (flowering period); dust abatement applications will be comprised of water only, The edge of the well pad should be located at least 300' away from plants and avoidance areas, in general; however, site-specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat, Surface pipelines will be laid such that a 300' buffer exists between the edge of the right of way and plants and 300' between the edge of right of way and avoidance areas; use stabilizing and anchoring techniques when the pipeline crossed suitable habitat to ensure pipelines don't move towards the population; site-specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat, Construction activities will not occur from April 15th through June 5th within occupied habitat, Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging temporary fencing, rebar, etc., Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible. Occupied Wright Fishhook Cactus habitats within 300' of the edge of the surface pipelines' right-of-ways, 300' of the edge of the roads' right-of-ways, and 300' from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the Service. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service. Re-initiation of section 7 consultation with the Service will be sought immediately if any loss of plants or occupied habitat for the Wright Fishhook Cactus 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.</p>
T&E-17	<p>SAN RAFAEL CACTUS (<i>PEDIOCACTUS DESPAINII</i>) In order to minimize effects to the federally threatened San Rafael Cactus, the Bureau of Land Management (BLM), in coordination with the U.S. Fish and Wildlife Service (Service), has developed the following avoidance and minimization measures. Implementation of these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance operations) are in compliance with the endangered Species Act (ESA). For the purposes of this document, the following terms are so defined: <i>Potential habitat</i> is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment. <i>Suitable habitat</i> is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain San Rafael Cactus; habitat descriptions can be found in Federal Register Notice and species recovery plan links at <http://www.fws.gov/endangered/wildlife.html>. <i>Occupied habitat</i> is defined as areas currently or historically known to support San Rafael Cactus; synonymous with "known habitat." The following avoidance and minimization measures should be included in the Plan of Development: Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat¹ prior to any ground disturbing activities (including ATV use) to determine if suitable San Rafael Cactus habitat is present. Site inventories will be conducted within suitable habitat to determine occupancy. Where standard surveys are technically infeasible and otherwise hazardous due to topography, slope, etc. suitable habitat will be assessed and mapped for avoidance (hereafter, "avoidance</p>

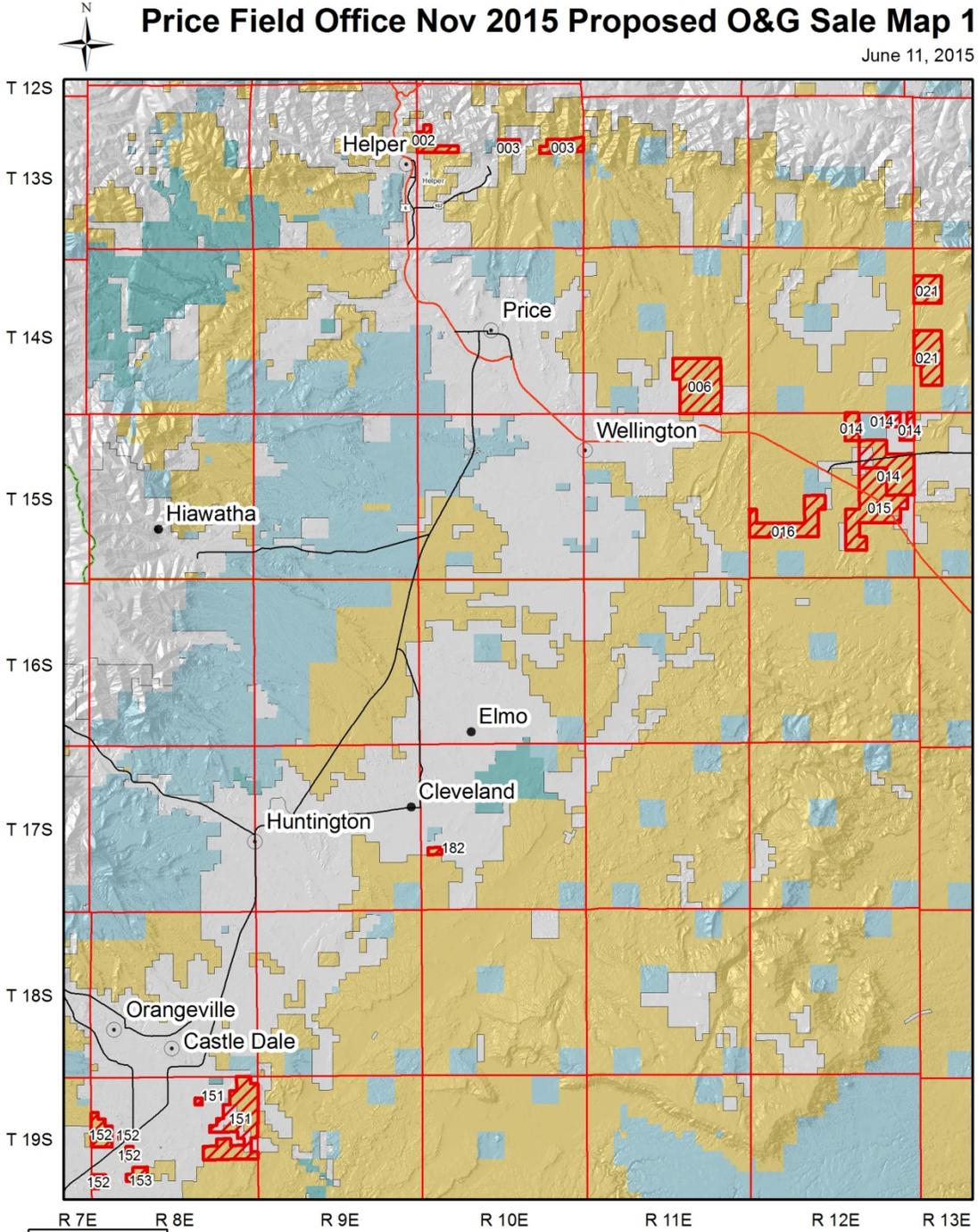
Number	Utah's Threatened & Endangered Species Notices
	<p>areas"); in such cases, in general, 300' buffers will be maintained between surface disturbance and avoidance areas. However, site-specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat. Where conditions allow, inventories:</p> <p>Must be conducted by qualified individuals(s) and according to BLM and Service accept survey protocols,</p> <p>Will be conducted in suitable and occupied habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (usually April 15th to June 5th, however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known population is in flower),</p> <p>Will occur within 300' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad,</p> <p>Will include, but not be limited to, plant species lists and habitat characteristics, and</p> <p>Will be valid until April 15th the following year.</p> <p>Design project infrastructure to minimize impacts within suitable habitat:</p> <p>Where standard surveys are technically infeasible, infrastructure and activities will avoid all suitable habitat (avoidance areas) and incorporate 300' buffers, in general; however, site-specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,</p> <p>Reduce well pad size to the minimum needed, without compromising safety,</p> <p>Where technically and economically feasible, use directional drilling or multiple wells from the same pad,</p> <p>Limit new access routes created by the project,</p> <p>Roads and utilities should share common right-of-ways where possible,</p> <p>Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat,</p> <p>Place signing to limit off-road travel in sensitive areas, and</p> <p>Stay on designated routes and other cleared/approved areas,</p> <p>All disturbed areas will be re-vegetated with native species comprised of species indigenous to the area and non-native species that are not likely to invade other areas.</p> <p>Within occupied habitat, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:</p> <p>Follow the above recommendations (#3) for project design within suitable habitats,</p> <p>To avoid water flow and/or sedimentation into occupied habitat and avoidance areas, silt fences, hay bales, and similar structures or practices will be incorporated into the project design; appropriate placement of fill is encouraged,</p> <p>Construction of roads will occur such that the edge of the right of way is at least 300' from any plant and 300' from avoidance areas,</p> <p>Roads will be graveled with occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from April 15th to June 5th (flowering period); dust abatement applications will be comprised of water only,</p> <p>The edge of the well pad should be located at least 300' away from plants and avoidance areas, in general; however, site-specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,</p> <p>Surface pipelines will be laid such that a 300' buffer exists between the edge of the right of way and plants and 300' between the edge of right of way and avoidance areas; use stabilizing and anchoring techniques when the pipeline crossed suitable habitat to ensure pipelines don't move towards the population; site-specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,</p> <p>Construction activities will not occur from April 15th through June 5th within occupied habitat,</p> <p>Before and during construction, areas for avoidance should be visually identifiable in the</p>

Number	Utah's Threatened & Endangered Species Notices
	<p>field, e.g., flagging temporary fencing, rebar, etc., Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible. Occupied San Rafael Cactus habitats within 300' of the edge of the surface pipelines' right-of-ways, 300' of the edge of the roads' right-of-ways, and 300' from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the Service. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service. Re-initiation of section 7 consultation with the Service will be sought immediately if any loss of plants or occupied habitat for the San Rafael Cactus 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.</p>

Appendix B – Maps

Price Field Office Nov 2015 Proposed O&G Sale Map 1

June 11, 2015



Legend

- PLSStownship
- OG Parcels

Land Status

- Bureau of Land Management (BLM)

- Private
- State Wildlife Reserve/Management Area
- State

0 2 4 8 Miles

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.



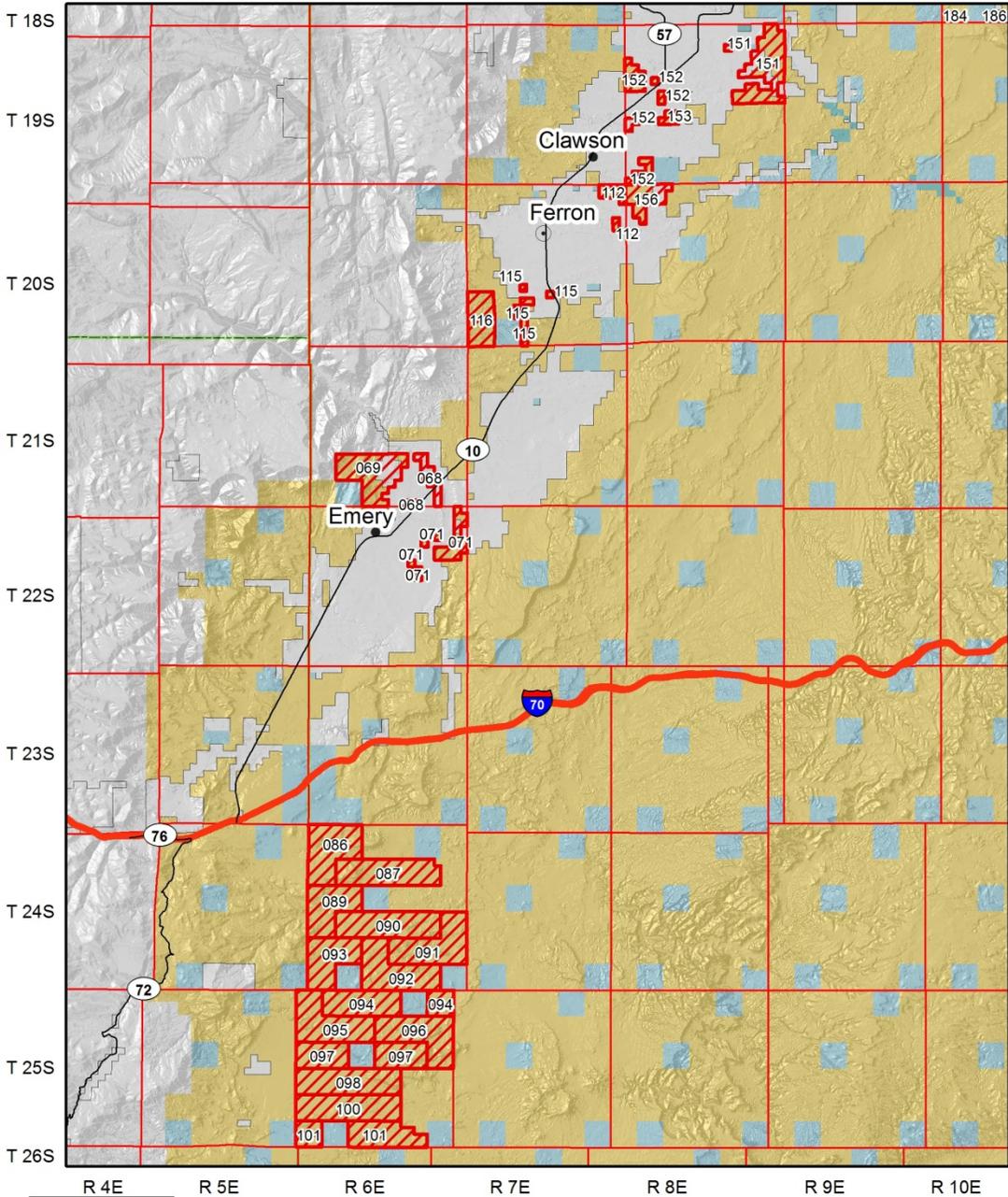
PRICE FIELD OFFICE

BLM



Price Field Office Nov 2015 Proposed O&G Sale Map 2

August 10, 2015



Legend

PLSStownship

OG Parcels

Land Status

Bureau of Land Management (BLM)

Private

State Wildlife Reserve/Management Area

State

0 2.25 4.5 9 Miles

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

BLM

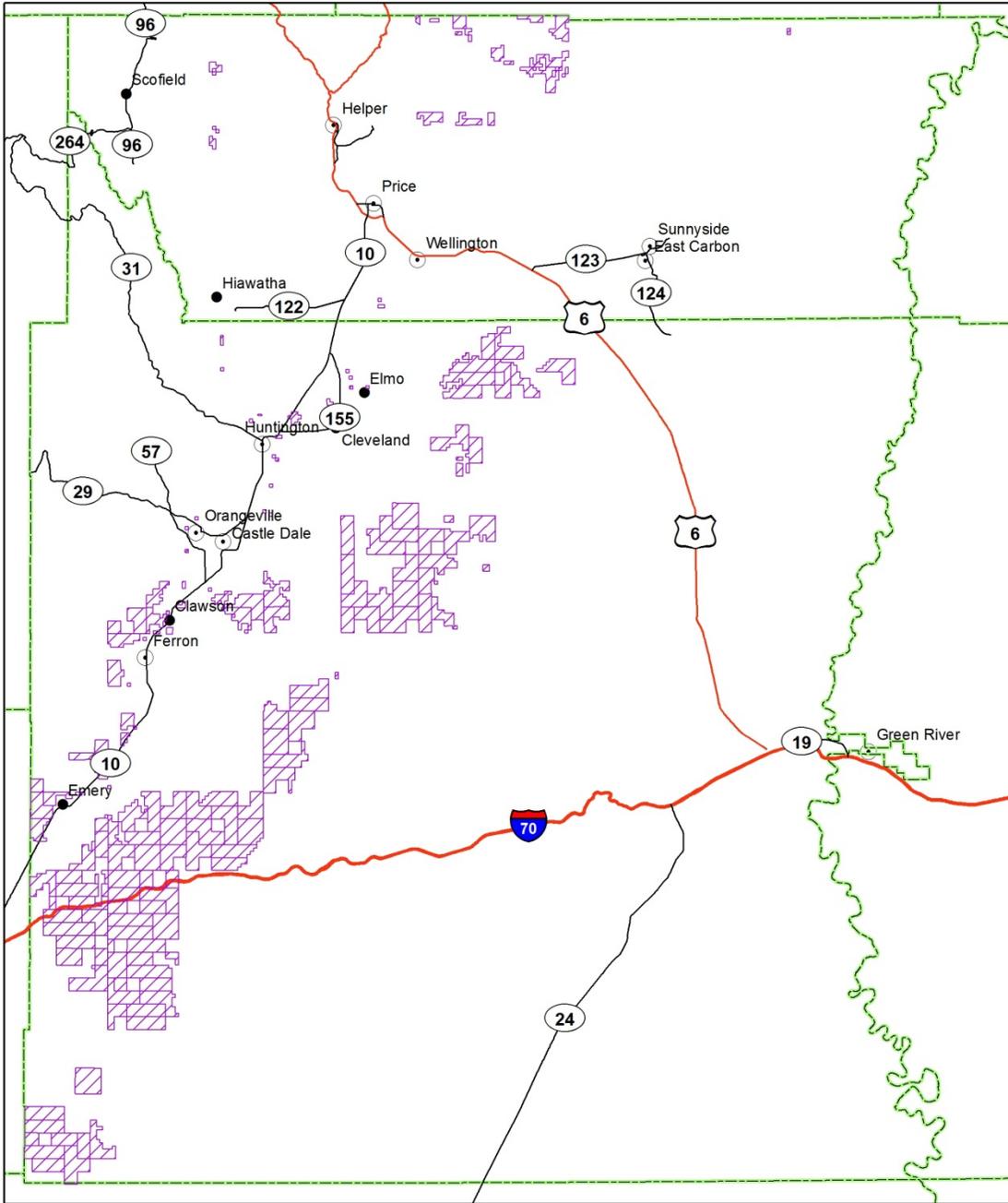
PRICE FIELD OFFICE



Preliminary Parcels Not Included in Nov 2015 OG Sale Map 3

August 10, 2015

BLM



PRICE FIELD OFFICE



Legend

 Preliminary Parcels Not Included

0 4.5 9 18 Miles

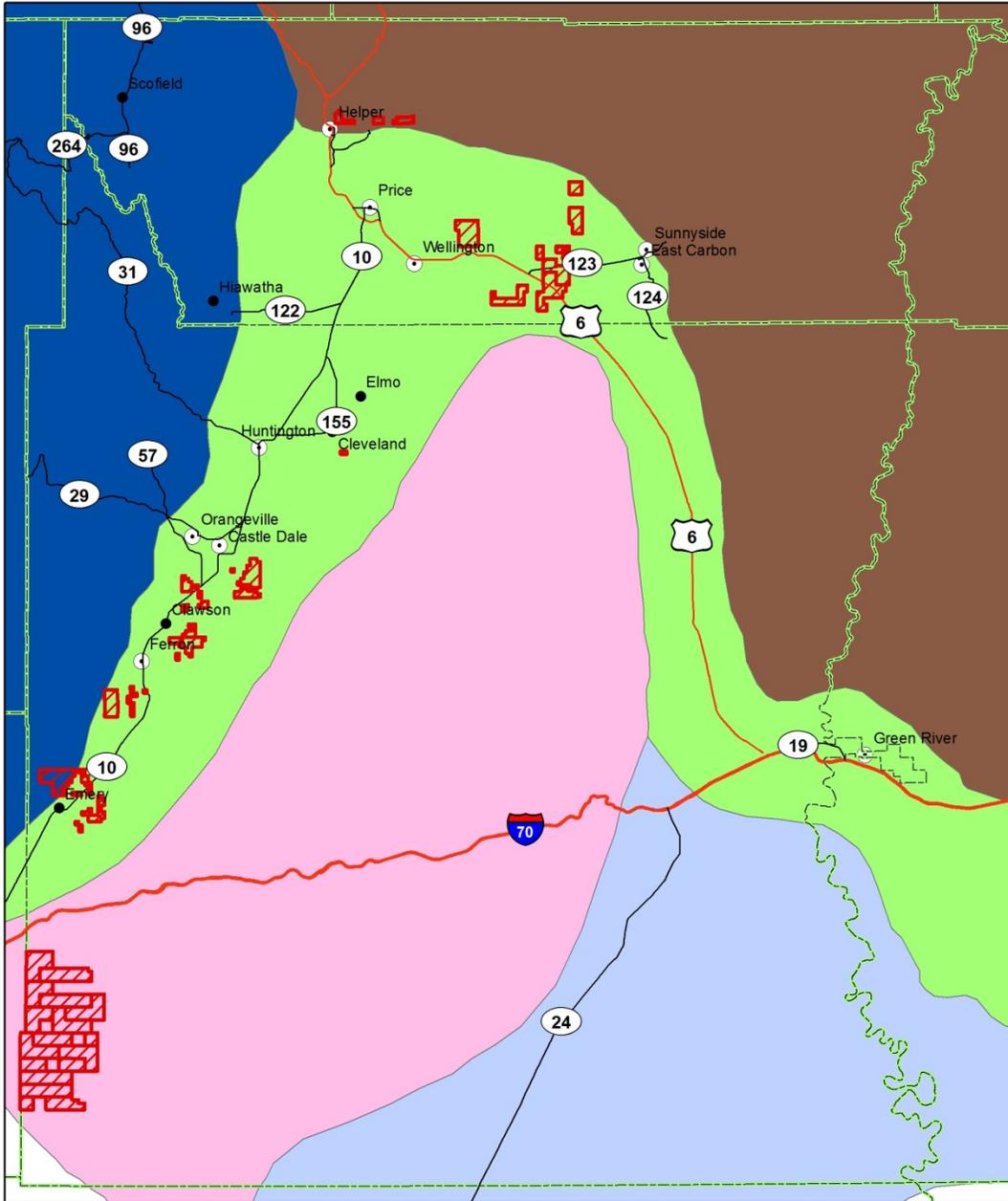


No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Nov 2015 O&G Sale Parcels: Physiographic Subdivisions Map 4

August 10, 2015

BLM



PRICE FIELD OFFICE



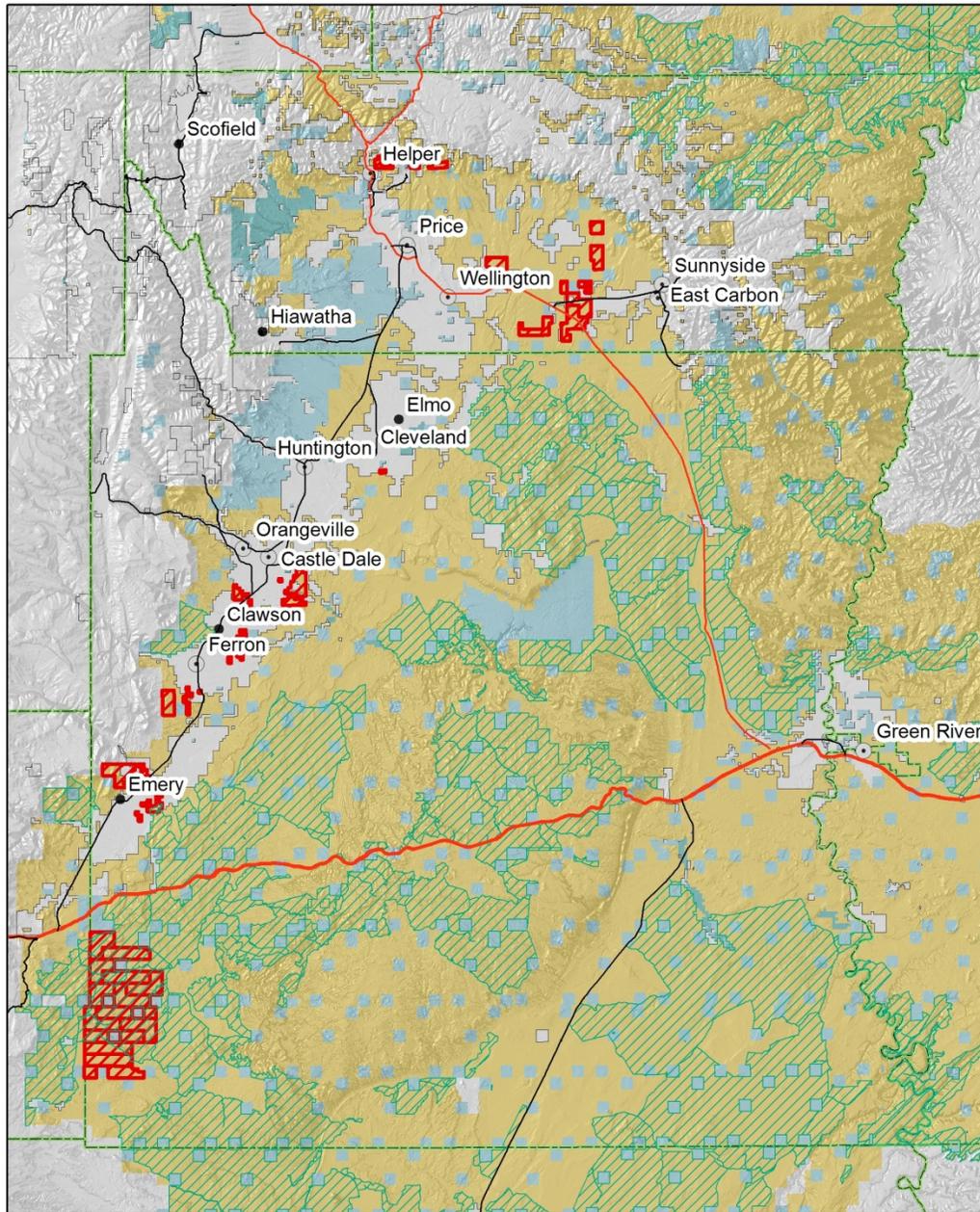
- Legend**
-  FieldOfficeReview2015
 - PhysiographicSubdivisions**
 -  Book Cliffs - Roan Plateau
 -  Green River Desert

-  Mancos Shale Lowland
 -  San Rafael Swell
 -  Wasatch Plateau
- 0 4.5 9 18 Miles
- 
- 
- No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Price Field Office Nov 2015 LWC O&G Sale Map 5

August 10, 2015

BLM



PRICE FIELD OFFICE



- Legend**
- Wilderness Characteristics
 - OG Parcels

- Land Status**
- Bureau of Land Management (BLM)
 - Private
 - State Wildlife Reserve/Management Area
 - State

0 5 10 20 Miles



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Appendix C – Interdisciplinary Team Checklist

INTERDISCIPLINARY TEAM ANALYSIS RECORD CHECKLIST

Project Title: November 2015 Competitive Oil and Gas Lease Sale

NEPA Log Number: DOI-BLM-UT-G021-2015-0031-EA

File/Serial Number: Not Applicable

Project Leaders: Don Stephens

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 significant impact analyzed in detail in the EA; or identified in a DNA as requiring further analysis

NC = (DNAs only) actions and impacts not changed from those disclosed in the existing NEPA documents cited in Section D of the DNA form.

Determination	Resource	Rationale for Determination	Signature	Date
RESOURCES AND ISSUES CONSIDERED (INCLUDES SUPPLEMENTAL AUTHORITIES APPENDIX 1 H-1790-1)				
PI	Air Quality	Emissions from earth-moving equipment, vehicle traffic, drilling and completion activities, separators, oil storage tanks, dehydration units, and daily tailpipe and fugitive dust emissions could adversely affect air quality. Application of Stipulation UT-S-01 and Lease Notices UT-LN-99 and UT-LN-102 is warranted for all parcels.	Leonard Herr / Colin Schwartz	5/12/2015

Determination	Resource	Rationale for Determination	Signature	Date
PI	Greenhouse Gas Emissions / Climate Change	<p>Determining GHG emissions, their relationship to global climatic patterns, and the resulting impacts is an ongoing scientific process. The BLM does not have the ability to associate a BLM action's contribution to climate change with impacts in any particular area. The technology to be able to do so is not yet available. The inconsistency in results of scientific models used to predict climate change at the global scale coupled with the lack of scientific models designed to predict climate change on regional or local scales, limits the ability to quantify potential future impacts of decisions made at this level and determining the significance of any discrete amount of GHG emissions is beyond the limits of existing science. When further information on the impacts to climate change is known, such information would be incorporated into the BLM's planning and NEPA documents as appropriate.</p> <p>It is currently not feasible to know with certainty the net impacts from leasing and any potential exploration on climate. While BLM actions may contribute to the climate change phenomenon, the specific effects of those actions on global climate are speculative given the current state of the science. Leasing the subject parcels would have no direct impacts on climate as a result of GHG emissions. There is an assumption; however that leasing the parcels would lead to some type of exploration that would have indirect effects on global climate through GHG emissions. However, those effects on global climate change cannot be determined. It is unknown whether the petroleum resources specific to these parcels are gas or oil or a combination thereof. Since these types of data as well as other data are unavailable at this time, it is also unreasonable to quantify GHG emission levels.</p>	Leonard Herr / Colin Schwartz	5/12/2015
PI	Areas of Critical Environmental Concern (ACECs)	<p>After review of GIS information and the approved RMP, Parcel #091 has a Rock Art ACEC (Sand Cove Spring) located within the proposed area. The remaining parcels contain no ACECs.</p>	Josh Winkler	5/4/2015

Determination	Resource	Rationale for Determination	Signature	Date
NI	BLM Sensitive Animal Species	<p>There are documented observations and potential habitat for white-tailed prairie dogs and possibly burrowing owls within some of the parcels nominated for leasing. Lease stipulations and notices would be added to those parcels therefore no impacts to these species are anticipated.</p> <p>Stipulation UT-S-218 (White-tailed Prairie dogs) and Lease Notice UT-LN-104 (Burrowing Owl Habitat) are attached to parcels 006, 014, 015, 016, 021, 068, 069, 071, 112, 151, 152, 153, 156, 182, and 193.</p> <p>Lease Notice UT-LN-49 is attached to all parcels (BLM Sensitive Species).</p>	Jared Reese	4/22/2015
PI	Cultural Resources	<p>The BLM proposed Area of Potential Effect for cultural resources include those parcels proposed for the 2015 O & G lease sale. The indirect APE would include each parcels associated viewshed as it relates to site integrity, and where applicable, as defined by the PFO Resource Management Plan (2008) in instances of identified sensitive cultural areas, archaeological sites that have been previously determined as eligible for the National Register of Historic Places (NHPA) and through ongoing consultation with the Utah State Historic Preservation Office (SHPO).</p> <p>After consideration of cultural resource information and other general data including: the applicable Price Field Office Resource Management Plan (RMP) and associated Environmental Impact Statement (EIS); oil and gas activity NEPA documents; specific data relating to the individual proposed parcels such as topography and soils; as well as personal knowledge and experience of the lands at issue, The potential for locating additional cultural resources within the proposed lease parcels is medium to high based on available cultural resource data, therefore it has been determined that there is a potential for an indirect and cumulative effect to cultural resources that may be eligible for the National Register of Historic Places (NRHP).</p> <p>The BLM will not approve any ground-disturbing activities that may affect such properties or resources until it completes its obligations under applicable requirements of the NHPA and other authorities. The</p>	Amber	4/16/2015

Determination	Resource	Rationale for Determination	Signature	Date
		BLM may require modification to exploration or development proposals to protect properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized or mitigated. Application of stipulations UT-S-169 (cultural resources inventory) and WO IM 2005-003 is warranted for all parcels.		
NI	Environmental Justice	The ethnic composition and economic situation of residents of Carbon and Emery Counties indicate that no minority or low-income populations are experiencing disproportionately high or adverse effects from current management actions (RMP EIS). Leasing would not adversely or disproportionately affect minority, low income or disadvantaged groups.	Don Stephens	4/16/2015
PI	Farmlands (Prime or Unique)	Parcel #021 contains soils that if irrigated can be considered as prime farmlands. These soil units are to be avoided no surface occupancy unless authorized by National Resource Conservation Service by permit (PL 97-98).	Jeffrey Brower	4/17/2015
NP	Floodplains	After review of USGS 7.5 min. maps of the project areas, no floodplain as defined by EO 13690, FEMA, or Corps of Engineers is found on or near the project area. All other floodplains stipulations are covered in the water quality section as UT-S-127.	Jeffrey Brower	4/17/2015
NI	Invasive, Non-native Species (EO 13112)	Stipulation UT-S-305 is attached to all parcels (Noxious Weeds). Noxious weeds are present within all the parcels. Musk thistle, houndstongue, hoary cress, black henbane & Dyer's woad is present in parcels 002, 003 & 021. Musk thistle & Russian knapweed is present in parcel 021. Musk thistle is present in parcels 014 & 015. Hoary cress is present in parcel 071. Salt Cedar & Russian olive (County listed noxious weed) is the present within all parcels. Halogeton, Russian thistle and cheatgrass are invasive species that occurs within all the parcels. APD leasing will not have an impact to invasive species/noxious weeds at this time because no ground disturbance will occur. If development of the leased parcels occur then site-specific analysis needs to be completed prior to ground disturbance.	Stephanie Bauer	4/27/2015

Determination	Resource	Rationale for Determination	Signature	Date
PI	Native American Religious Concerns	<p>Consultation ongoing.</p> <p>Letters containing notification of this lease sale, location maps and legal descriptions of the offered parcels were sent to the Tribes on April 24, 2015. The letters detailed the leasing proposal and requested comments and concerns.</p>	Amber Koski	5/14/2015
PI	Threatened, Endangered or Candidate Plant Species	<p>After review of BLM records and site visits, there are known populations or potential habitat within the proposed leased parcels. Application of the appropriate species-specific lease notices and T&E-05, 14, 15, 17 (Listed Plant Species) to each of the identified parcels on federal surface would be adequate for the leasing stage to disclose potential restrictions.</p>	Karl Ivory	5/7/2015
NI	Threatened, Endangered or Proposed Animal Species	<p>Some of the parcels nominated for leasing contain a portion of or are a tributary to rivers that have been identified as containing T&E fish species associated with the Upper Colorado River Drainage Basin.</p> <p>In addition, there is modeled potential habitat for Mexican Spotted Owls on some of the parcels, based upon Willey's 2000 GIS model.</p> <p>No other listed or proposed species would be expected to be potentially on these sites. Lease stipulations and notices should be added to those parcels to reduce any future project's impacts. Site-specific effects cannot be analyzed until an exploration or development application is received, after leasing has occurred. Until there is a site-specific proposal, there is no action directly or indirectly causing modifications to the land, water, or air, therefore "no effect" on any listed animal species or designated critical habitat.</p> <p>Each lease would be issued with the mandatory WO IM-2002-174 endangered species act stipulation.</p> <p>Notice T&E-03 is applied to parcels 006, 014, 016, and 151 (Upper Colorado River Drainage Basin Fish).</p> <p>Stipulation S-269 and Notice T&E-06 are applied to parcels 086, 098, 115, and 116 (MSO).</p>	Jared Reese	4/22/2015

Determination	Resource	Rationale for Determination	Signature	Date
NI	ESA Candidate Animal Species	All or portions of the parcels located within Greater Sage-grouse habitat are being deferred until the BLM finalizes and approves the new Utah Greater-Sage-grouse Management Plan due out later this year (2014). The reason behind the BLM's decision to defer is so that when the plan is completed the BLM can apply all the necessary new stipulations and regulations to further protect and enhance sage-grouse habitat. Appendix D identifies those parcels (all or portion) that are being deferred for Greater Sage-grouse.	Jared Reese	4/22/2015
NI	Wastes (hazardous or solid)	No chemicals subject to reporting under SARA Title III will be used, produced, stored, transported, or disposed of annually in association with the project. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in association with the project. Trash would be confined in a covered container and disposed of in an approved landfill. No burning of any waste will occur due to this project. Human waste will be disposed of in an appropriate manner in an approved sewage treatment center.	Jeffrey Brower	4/17/2015
PI	Water Quality (drinking / ground)	The lease parcels do not occur within any Sole Source Aquifers. Compliance with IM UT 2010-055 would be completed prior to APD approval. Maintenance and refueling of equipment could impact water quality. However, standard protocols would minimize possibility of releases. Drill holes will be cased to an elevation below 4000 feet or when groundwater is encountered. No surface disturbance or occupancy would be maintained within 660 feet of any natural springs to protect the water quality of the spring. No new disturbance will be allowed in areas equal to the 100 year floodplain plus 3 feet in elevation to estimate the level of the 500 year flood plain as established by EO 13690, January 30, 2015 or 100 meters on either side of the center line of any stream, stream reach, or riparian area (whichever is greatest). At the time of development, drilling operators will conform to the provisions of the operational regulations and Onshore Oil & Gas Order Number 2, which requires the protection and isolation of all useable quality waters. High Country Watershed areas would be closed	Jeffrey Brower	4/17/2015

Determination	Resource	Rationale for Determination	Signature	Date
		<p>seasonally from December 1 to April 15 to surface disturbing activity at elevations above 7,000 feet. Lease Stipulations UT-S-126 and UT-S-127 are attached to all parcels containing natural springs, and floodplains, riparian areas, springs and public water reserves. Lease Stipulation UT-S-156 is applied to parcels with elevations above 7,000 feet (High Country Watershed).</p> <p>All soils with high erosion potential need care to prevent accelerated erosion that could be transported to streams that are already listed on the 303d list. This will be accomplished by careful placement of drill pads and access routes. Regular maintenance on roads and pads in highly erosive soils will be required.</p> <p><u>Parcels with stipulations:</u> 002: UT-S-97, UT-S-101, UT-S-126, UT-S-127, UT-S-156 003: UT-S-97, UT-S-101, UT-S-126, UT-S-127, UT-S-156 006: UT-S-127 014: UT-S-101, UT-S-126, UT-S-127 015: UT-S-101, UT-S-126, UT-S-127 016: UT-S-101, UT-S-126, UT-S-127 021: UT-S-101, UT-S-127 068: UT-S-97, UT-S-101, UT-S-127 069: UT-S-97, UT-S-101, UT-S-127 071: UT-S-97, UT-S-101, UT-S-127 086: UT-S-97, UT-S-101 087: UT-S-97, UT-S-101, UT-S-126 089: UT-S-97, UT-S-101 090: UT-S-97, UT-S-101 091: UT-S-97, UT-S-101 092: UT-S-97, UT-S-101 093: UT-S-97, UT-S-101 094: UT-S-97, UT-S-101 095: UT-S-97, UT-S-101 096: UT-S-97, UT-S-101 097: UT-S-97, UT-S-101 098: UT-S-97, UT-S-101 100: UT-S-97, UT-S-101 101: UT-S-97, UT-S-101 112: UT-S-101, UT-S-127 115: UT-S-97, UT-S-101, UT-S-126, UT-S-127 116: UT-S-97, UT-S-101, UT-S-127 151: UT-S-127</p>		

Determination	Resource	Rationale for Determination	Signature	Date
		152: UT-S-127 153: UT-S-101, UT-S-126, UT-S-127 156: UT-S-101, UT-S-127		
PI	Hydrologic Conditions	The associated surface disturbance from oil and gas development on the proposed leases would have the potential to interrupt surface flow patterns which could create new channeling of surface runoff from storms and spring snow melt. The construction of well pads, roads and pipelines could interrupt surface runoff and create paths for concentrated surface flow. Impacts to hydrologic conditions could increase sediment loading and associated dissolved solids into streams. As described in water quality above, application of Stipulations UT-S-126, UT-S-127, and UT-S-156 is warranted on all parcels with elevations greater than 7,000 feet in elevation. (see Water Quality (drinking / ground) for individual stipulations).	Jeffrey Brower	4/17/2015
PI	Wetlands / Riparian Zones	Some parcels contain streams, springs and seeps. Stipulations are listed in water quality section.	Jeffrey Brower	4/17/2015
NP	Wild and Scenic Rivers	There are no Wild and Scenic Rivers within this project area as per RMP/GIS review.	Matt Blocker	5/11/2015
NP	Wilderness & Wilderness Study Areas	There are no Wilderness/WSAs within this project area as per RMP/GIS review.	Matt Blocker	4/20/2015
NI	Rangeland Health Standards and Guidelines	Water quality, soils, vegetation, Threatened & Endangered Species habitat and other components of ecological conditions that are considered in Rangeland Health Standards and Guides have been analyzed in the Price RMP. Given the degree of anticipated exploration and development and application of standard operating procedures, best management practices and mitigation applied at the APD stage as conditions of approval it is concluded that Rangeland Health Standards would continue to be met.	Karl Ivory	5/7/2015
NI	Livestock Grazing	Standard operating procedures, best management practices and site-specific mitigation applied at the APD stage as conditions of approval will address livestock grazing resource issues not already	Karl Ivory	5/7/2015

Determination	Resource	Rationale for Determination	Signature	Date
		<p>analyzed in the Price RMP.</p> <p>Any range improvements such as fences and cattle-guards that would be affected would be replaced or repaired by the applicant. The applicant would replace any barriers to livestock that are removed through field development.</p>		
NI	Woodland / Forestry	<p>Standard operating procedures, best management practices and site-specific mitigation applied at the APD stage as conditions of approval will address woodland and forest resources issues not already analyzed in the PFO Proposed RMP/Final EIS. Public wood gathering: Parcel 021 is within public fuel wood/Christmas tree harvest areas. APD leasing will not have an impact to woodland/forestry at this time because no ground disturbance will occur. If development of the leased parcels occur then site-specific analysis needs to be completed prior to ground disturbance.</p>	Stephanie Bauer	4/27/2015
PI	Vegetation including Special Status Plant Species other than FWS candidate or listed species	<p>Standard operating procedures, best management practices and site-specific mitigation applied at the APD stage as conditions of approval will address vegetation.</p> <p>After review of BLM records and site visits, there are known populations or potential habitat for special status species within the proposed leased parcels.</p>	Karl Ivory	5/7/2015
NI	Fish and Wildlife, excluding USFWS Listed Species and BLM Sensitive Species, e.g. Migratory birds	<p>The lease parcels contain pinyon-juniper, high cliffs, cottonwoods, riparian, and sagebrush areas, which are important habitats for many species such as mule deer, elk, bighorn sheep, antelope, raptors, and migratory birds.</p> <p>Some of the parcels are used as crucial wintering habitat for deer and elk, crucial year-long habitat for elk and deer, and crucial year-long habitat for pronghorn antelope according to the maps prepared by UDWR.</p> <p>In addition, there are several raptor nest locations and migratory bird breeding habitats within selected parcels. Lease stipulations and notices should be added to those parcels to reduce any future project's impacts. Site-specific effects cannot be analyzed until an exploration or development application is</p>	Jared Reese	4/22/2015

Determination	Resource	Rationale for Determination	Signature	Date
		<p>received, after leasing has occurred.</p> <p>Stipulation UT-S-232 is attached to the following parcels 002, 003, 021, 068, 069, 089, 093, and 095 (Mule Deer and Elk Crucial Winter Range).</p> <p>Stipulation UT-S-285 and Lease Notice UT-LN-45 are attached to the following parcels 015, 016, 112, 152 and 156 (Migratory Bird Habitat).</p> <p>Lease Notice UT-LN-44 is attached to all parcels (Raptors).</p> <p>Lease Notice UT-LN-15 is attached to the following parcels 006, 014, 015, 016, and 021 (Pronghorn Fawning Habitat).</p>		
PI	Soils	<p>SOPs, BMPs and site-specific design features including reclamation would be applied at the APD stage as COAs. Leasing and exploration would have minimal impact to soil resources.</p> <p>Lease Stipulations UT-S-97 and UT-S-101 are applied to all parcels with slopes greater than 40%, and controlled surface use on slopes 20 – 40%.</p> <p>Many parcels include soils that have moderate to high erosion potential. Surface disturbance in these soils could create increased soil erosion. Care in placement of drill pads and access routes is required. All surface disturbance will be approved by the Authorized Officer before work commences.</p> <p>Stipulations are listed in water quality section.</p>	Jeffrey Brower	4/17/2015
PI	Recreation	<p>Areas in the proposed action are located within an ERMA (Extensive Recreation Management Area) where recreation opportunities and problems are limited and explicit recreation management is not required. Minimal management actions related to the BLM's stewardship responsibilities are adequate in these areas. Parcels located in the ERMA at the leasing sale level create no impacts to recreation but the expectation to develop the area's leased will create an impact to recreation at the APD level as proposals for future development come from the lease sale.</p>	Josh Winkler	5/5/2015

Determination	Resource	Rationale for Determination	Signature	Date
PI	Visual Resources	<p>The Visual Resource Management (VRM) classes within the proposed action are found to be within a VRM class II, III and IV of the proposed sites.</p> <p>VRM Class II proposals consist of parcels 086, 087 and 089. VRM II management directives are to retain the existing character of the landscape. The level of change to the characteristic landscape should be low.</p> <p>The remainders of the proposals are located in VRM class III and IV, which allows for the level of change to the characteristic of the landscape to be moderate to high. The objectives are to provide for management activities which require moderate to major modification of the existing character of the landscape.</p> <p>Implementation of the proposed project may have an impact to the landscape but will not exceed the Visual Resource Management Class III or IV objectives.</p>	Josh Winkler	5/5/2015
NI	Geology / Mineral Resources / Energy Production	<p>The 2008 RMP FEIS adequately address the impacts of oil and gas leasing. Oil and gas exploration could lead to an increased understanding of the geologic setting, as subsurface data obtained through lease operations may become public record. This information promotes an understanding of mineral resources as well as geologic interpretation. While conflicts could arise between oil and gas operations and other mineral operations, these could generally be mitigated under the regulations 3101.1-2, where proposed oil and gas operations may be moved up to 200 meters or delayed by 60 days and also under the standard lease terms (Sec. 6) where siting and design of facilities may be modified to protect other resources.</p> <p>Mining claims were been checked on 5/6/2015 and several claims were found to be associated with these lease parcels; however, claims that are present or staked prior to drilling activities can be accommodated by the proposed action. Prior to ground disturbing activities a mining claim search should be conducted.</p> <p>Solid minerals, including coal, were also considered.</p>	Don Stephens/ Chris Conrad	5/6/2015

Determination	Resource	Rationale for Determination	Signature	Date
		<p>Oil and gas lease parcels that conflicted with solid mineral resources were removed from consideration. In conclusion, there will be no negative affects to mineral resources.</p>		
		<p>The underground injection of 'fracking waste water' in Utah presents little potential for inducing seismic activity. The majority of fracking waste 'fluids' are recycled and reused for future frack jobs. There have been no reported earthquakes in Utah that were suspected of being produced (induced) from injecting fluids into oil and gas disposal wells. (Personal communication from Brad Rogers, Utah Division of Oil, Gas and Mining ("UDOGM"), August 10, 2015). This fluid is predominantly produced water with a high salt brine content. As stated above in order to analyze and predict the potential for earthquakes associated with oil and gas disposal wells three kinds of data will be necessary: (1) seismic data: high-quality, real-time earthquake locations, which require dense seismic instrumentation; (2) geologic data: hydrological parameters, orientation and magnitude of the stress field, and the location and orientation of known faults; and (3) industrial data: injection rates and downhole pressures sampled and reported frequently. This data is not currently available, with the exception of industrial injection data reported to UDOGM, with which to do the analysis.</p>	Mike McKinley	2/29/2016
NI	Paleontology	<p>The Morrison and Cedar Mountain Formations, Potential Fossil Yield Classification System - Class 5 formations, have surface exposure on several of the proposed lease parcels. Class 5 formations are defined as geologic units that are highly fossiliferous and consistently and predictably produce vertebrate fossils. The PFO RMP ROD Management Decisions PAL-1 and PAL-4 for paleontologic resources requires that a BLM-permitted paleontologist be on site prior to and during any surface disturbing activities. This includes roads, pads, pump stations, pipelines, etc. A pre-work survey by a paleontologist will be necessary. Mitigation can be avoidance or</p>	Michael Leschin	4/29/2015

Determination	Resource	Rationale for Determination	Signature	Date
		excavation by BLM-permitted paleontologists. Stipulations UT-S-176 & UT-S-177 are attached to the following parcels 087, 090, 091, 092, 094, 095, 096, 097, 098.		
NI	Lands / Access	As described, the proposed action would not affect access to public land. Off-lease ancillary facilities that cross public land, if any, may require separate authorizations. Subsequent projects should coordinate with existing ROW holders and apply operating procedures and site-specific mitigation at the APD stage that would ensure protection of existing rights.	Connie Leschin / Amanda Harrington	4/16/2015
NI	Fuels / Fire Management	At this stage (lease sale) there are no impacts to Fuels/Fire Management. Impacts (both direct and indirect) would occur when the lease is developed in the future. The potential impacts would be analyzed on a site-specific basis at the APD stage prior to development. Fuels vary from lease to lease but generally consist of Ponderosa Pine, Pinyon Juniper, Sage Brush, small shrubs and forbs and grasses.	Josh Relph	5/1/2015
NI	Socio-economics	The nominated parcels are located in rural areas with no commercial and minimal residential development. No impacts to socio-economics are expected to occur as a result of the proposed action.	Don Stephens	4/16/2015
NI	Wild Horses and Burros	As per review of GIS and RMP maps, several of the identified parcels lie within Wild Horse or Burro Herd Management Area (HMA) Boundaries managed by the Price Field Office. Specifically parcels 086 through 101 lies within the Muddy Creek Wild Horse HMA. However being within Rock Canyon and Limestone Benches, it is within a portion of the HMA that is inhabited by horses but not frequented often.	Mike Tweddell	5/1/2015
NP	BLM Natural Areas	There are no BLM Natural Areas within this project area as per RMP/GIS review.	Matt Blocker	4/20/2015
NI	Coal	The proposed action will not negatively affect coal resources. Parcels with oil/gas and coal conflicts were withdrawn from consideration in preference to coal production. Parcel #002 is located above mined-out coal resources and companies and operators should consider the challenges when drilling in these areas. This parcel has been identified in the coal lease	Chris Conrad	4/20/2015

Determination	Resource	Rationale for Determination	Signature	Date
		stipulations.		
PI	Non-WSA Lands with Wilderness Characteristics	Approximately 27,263 acres within 14 of the proposed parcels are located within previously inventoried Non-WSA Lands with Wilderness Characteristics units, which possess wilderness character.	Matt Blocker	5/11/2015
NI	National Historic Trails-VRM	NI-Parcel #068 crosses the Big Flat to Walker Flat segment of the Old Spanish Trail (OST). For this segment the RMP states "Manage for VRM objectives in areas open to oil and gas leasing subject to minor constraints (these areas of overlap are VRM Class III)." If parcel is leased, stipulations will be applied to preserve the recreation experience of the OST.	Matt Blocker	5/11/15
PI	National Historic Trails Heritage Resources	Impacts to the OST would be associated with setting and integrity and would be analyzed in the indirect and cumulative sections of the EA.	Amber Koski	5/14/2015

FINAL REVIEW:

Reviewer Title	Signature	Date	Comments
Environmental Coordinator	<i>Kelly Buckner</i>	6/12/2015	----
Authorized Officer	<i>Ahmed Mohsen</i>	6/12/2015	----

Appendix D – Deferred Lands List

UT1115 – 001

T. 12 S., R. 8 E., Salt Lake
 Sec. 28: S2NE, NW, NWSW, SESW, N2SE.
 400.00 Acres
 Carbon County, Utah
 Price Field Office

Sage-grouse

UT1115 – 005

T. 13 S., R. 11 E., Salt Lake
 Sec. 13: E2;
 Sec. 14: S2;
 Sec. 15: NWNE, E2NW, NESW, S2SW, SE;
 Sec. 17: N2, N2SW, N2SE;
 Sec. 18: Lots 1, 2, E2, NENW;
 1,965.95 Acres
 Carbon County, Utah
 Price Field Office

Coal

UT1115 - 007

T. 16 S., R. 11 E., Salt Lake
 Sec. 12: NE, S2NW, S2;
 Sec. 13: All.
 1,200.00 Acres
 Emery County, Utah
 Price Field Office

State Director's discretion

UT1115 - 008

T. 16 S., R. 11 E., Salt Lake
 Sec. 14: SESW, SWSE;
 Sec. 15: NESE, S2SE;
 Sec. 21: SENE, NESE, S2SE;
 Sec. 22: S2NE, NWNW, S2NW, S2;
 Secs. 23 and 24: All.
 2,160.00 Acres
 Emery County, Utah
 Price Field Office

State Director's discretion

UT1115 - 009

T. 16 S., R. 11 E., Salt Lake
 Secs. 25 and 26: All;
 Sec. 27: N2, NWSW, SE;
 Sec. 28: NE, S2NW, N2SW, SWSW, N2SE;
 Sec. 29: SESE;
 Sec. 33: NWNW.
 2,320.00 Acres
 Emery County, Utah
 Price Field Office

State Director's discretion

UT1115 - 010

T. 16 S., R. 11 E., Salt Lake
Sec. 33: NENE, S2NE, S2;
Sec. 34: NE, NENW, S2NW, S2;
Sec. 35: All.
1,680.00 Acres
Emery County, Utah
Price Field Office

State Director's discretion

UT1115 - 011

PRESALE U91032

T. 17 S., R. 11 E., Salt Lake
Secs. 15 and 20: All;
Sec. 21: N2, N2SW, SWSW;
Sec. 22: N2, SE.
2,289.00 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 012

PRESALE U91032

T. 17 S., R. 11 E., Salt Lake
Secs. 23 and 26: All;
Sec. 27: SENE, N2SW.
1,439.66 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 -013

PRESALE U91032

T. 17 S., R. 11 E., Salt Lake
Sec. 34: E2NE, W2, NESE.
440.00 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 017

T. 16 S., R. 12 E., Salt Lake
Sec. 6: Lots 8, 11, E2SW, SE;
Sec. 7: Lots 1-7;
Secs. 17 and 18: All.
1,981.78 Acres
Emery County, Utah
Price Field Office

State Director's discretion

UT1115 - 018

T. 16 S., R. 12 E., Salt Lake
Sec. 19: Lots 1-8, S2NE, SENW, E2SW, SE;
Sec. 30: E2;
Sec. 31: All.
1,754.44 Acres
Emery County, Utah
Price Field Office

State Director's discretion

UT1115 - 019

T. 16 S., R. 12 E., Salt Lake
Sec. 20: SWNW, SW;
Sec. 28: SW;
Sec. 29: W2NE, W2, SE;
Sec. 33: W2NE, SENE, W2, SE;
Sec. 34: W2SW.
1,600.00 Acres
Emery County, Utah
Price Field Office

State Director's discretion

UT1115 - 020

T. 16 S., R. 12 E., Salt Lake
Sec. 22: SENE, S2SW, SE;
Secs. 23, 24 and 25: All.
2,200.00 Acres
Emery County, Utah
Price Field Office

State Director's discretion

UT1115 - 067

T. 21 S., R. 6 E., Salt Lake
Sec. 13: All;
Sec. 22: Lots 1-8;
Sec. 23: Lots 1-4, NE;
Sec. 24: All;
Sec. 25: N2, E2SW, SE.
2,486.30 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 070

T. 21 S., R. 6 E., Salt Lake
Sec. 31: All.
618.85 Acres
Emery County, Utah
Price Field Office

Coal

UT1115 - 071 Partial

T. 22 S., R. 6 E., Salt Lake
Sec. 12: SESE.
40 Acres
Emery County, Utah
Price Field Office

State Director's discretion

UT1115 - 072

T. 22 S., R. 6 E., Salt Lake
Sec. 3: Lots 1, 2, SWNW;
Sec. 4: Lots 1-4, SENE;
Sec. 5: All.
1,001.45 Acres
Emery County, Utah
Price Field Office

Coal

UT1115 - 073

T. 22 S., R. 6 E., Salt Lake
Secs. 6 and 7: All;
Sec. 8: Lots 2-8, SWNE, E2SW, W2SE.
1,769.21 Acres
Emery County, Utah
Price Field Office

Coal

UT1115 - 074

T. 22 S., R. 6 E., Salt Lake
Sec. 13: E2, N2NW, SENW, NESW, S2SW;
Secs. 24 and 25: All.
1,840.00 Acres
Emery County, Utah
Price Field Office

State Director's discretion

UT1115 - 075

T. 22 S., R. 6 E., Salt Lake
Sec. 17: N2NW, SWNW;
Sec. 18: All;
Sec. 19: Lots 1, 2, NE, E2NW, NESW, N2SE;
Sec. 20: NWSW.
1,244.49 Acres
Emery County, Utah
Price Field Office

Coal

UT1115 – 076 **Coal**
 T. 22 S., R. 6 E., Salt Lake
 Sec. 23: SESE;
 Sec. 26: E2NE, W2, SE;
 Sec. 34: S2;
 Sec. 35: All.
 1,560.00 Acres
 Emery County, Utah
 Price Field Office

UT1115 – 077 **Coal**
 T. 23 S., R. 6 E., Salt Lake
 Sec. 1: Lots 1, 2, SENE, SWNW, W2SW, E2SE;
 Secs. 3 and 4: All.
 1,621.40 Acres
 Emery County, Utah
 Price Field Office

UT1115 – 078 **Coal**
 T. 23 S., R. 6 E., Salt Lake
 Sec. 5: Lots 1-3, S2N2, S2;
 Sec. 6: Lots 6, 7, S2NE, E2SW, SE;
 Sec. 7: Lots 1-4, NE, E2W2;
 Sec. 8: E2.
 1,802.21 Acres
 Emery County, Utah
 Price Field Office

UT1115 – 079 **Coal**
 T. 23 S., R. 6 E., Salt Lake
 Secs. 9, 10 and 11: All;
 Sec. 12: E2, W2W2.
 2,400.00 Acres
 Emery County, Utah
 Price Field Office

UT1115 – 080 **Coal**
 T. 23 S., R. 6 E., Salt Lake
 Sec. 13: E2, W2SW, SESW;
 Secs. 14 and 15: All;
 Sec. 17: E2.
 2,040.00 Acres
 Emery County, Utah
 Price Field Office

UT1115 - 081 **Workload**
 T. 23 S., R. 6 E., Salt Lake
 Secs. 20, 21 and 22: All.
 1,961.60 Acres
 Emery County, Utah
 Price Field Office

UT1115 - 082

T. 23 S., R. 6 E., Salt Lake
Secs. 23, 24 and 25: All.
1,947.92 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 083

T. 23 S., R. 6 E., Salt Lake
Secs. 26, 27, 28 and 29: All.
2,560.00 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 084

T. 23 S., R. 6 E., Salt Lake
Secs. 33, 34 and 35: All.
1,920.00 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 085

T. 24 S., R. 6 E., Salt Lake
Secs. 1, 3 and 4: All.
2,509.20 Acres
Emery County, Utah
Price Field Office

State Director's discretion

UT1115 - 087 Partial

T. 24 S., R. 6 E., Salt Lake
Sec. 11: NENE.
40 Acres
Emery County, Utah
Price Field Office

State Director's discretion

UT1115 - 088

T. 24 S., R. 6 E., Salt Lake
Secs. 12, 13, 14 and 15: All.
2,560.00 Acres
Emery County, Utah
Price Field Office

State Director's discretion

UT1115 - 099

T. 25 S., R. 6 E., Salt Lake
Secs. 23, 24, 25 and 26: All.
2,560.00 Acres
Emery County, Utah
Price Field Office

State Director's discretion

UT1115 - 102

T. 26 S., R. 6 E., Salt Lake
Protraction Block 38: unsurveyed;
Protraction Block 39: unsurveyed;
Protraction Block 40: unsurveyed;
Protraction Block 41: unsurveyed.
2,052.00 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 103

T. 26 S., R. 6 E., Salt Lake
Protraction Block 42: unsurveyed;
Protraction Block 43: unsurveyed;
Protraction Block 44: unsurveyed;
Protraction Block 45: unsurveyed.
1,983.00 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 104

T. 26 S., R. 6 E., Salt Lake
Protraction Block 49: unsurveyed;
Protraction Block 57: unsurveyed.
1,278.00 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 105

T. 26 S., R. 6 E., Salt Lake
Sec. 14: All;
Protraction Block 50: unsurveyed;
Protraction Block 51: unsurveyed;
Protraction Block 52: unsurveyed.
1,981.00 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 106

T. 26 S., R. 6 E., Salt Lake
Protraction Block 53: unsurveyed;
Protraction Block 54: unsurveyed;
Protraction Block 55: unsurveyed;
Protraction Block 56: unsurveyed.
1,979.00 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 107

T. 26 S., R. 6 E., Salt Lake
 Sec. 23: All;
 Protraction Block 58: unsurveyed;
 Protraction Block 59: unsurveyed;
 Protraction Block 67: unsurveyed.
 2,558.00 Acres
 Emery County, Utah
 Price Field Office

Workload

UT1115 - 108

T. 26 S., R. 6 E., Salt Lake
 Protraction Block 60: unsurveyed;
 Protraction Block 61: unsurveyed;
 Protraction Block 62: unsurveyed.
 1,608.00 Acres
 Emery County, Utah
 Price Field Office

Workload

UT1115 - 109

T. 19 S., R. 7 E., Salt Lake
 Sec. 13: E2NE;
 Sec. 14: Lots 1-4, NWNE, W2SW;
 Sec. 15: Lots 3, 4, W2SE;
 Sec. 22: Lots 1-10, E2SW, N2SE;
 Sec. 23: SWNW.
 1,105.20 Acres
 Emery County, Utah
 Price Field Office

Workload

UT1115 - 110

T. 19 S., R. 7 E., Salt Lake
 Sec. 24: SESW, NESE, S2SE;
 Sec. 26: Lots 1, 2, SWNE, NESW;
 Sec. 27: Lots 1-11, NESE;
 Sec. 34: N2N2, SWNW, W2SW, S2SE;
 Sec. 35: W2NW, SE.
 1,431.64 Acres
 Emery County, Utah
 Price Field Office

Workload

UT1115 - 111

T. 19 S., R. 7 E., Salt Lake
 Sec. 28: All;
 Sec. 29: E2;
 Secs. 31 and 33: All.
 2,254.12 Acres
 Emery County, Utah
 Price Field Office

Sage-grouse

UT1115 – 113

Sage-grouse

T. 20 S., R. 7 E., Salt Lake

Sec. 4: Lots 3, 4, SENE, S2NW;

Sec. 5: Lots 1-8, S2NE, NESW, N2SE, Excluding ROW U14858;

Sec. 6: Lots 1-6, 8-10, S2NE, SENW, NESW, N2SE.

1,332.79 Acres

Emery County, Utah

Price Field Office

UT1115 - 114

Workload

T. 20 S., R. 7 E., Salt Lake

Sec. 17: SWSW;

Secs. 18 and 19: All;

Sec. 20: NWNW, SWSE.

1,414.98 Acres

Emery County, Utah

Price Field Office

UT1115 - 117

Workload

T. 21 S., R. 7 E., Salt Lake

Sec. 5: All, Excluding ROW SL033612;

Sec. 8: N2NW, SW, NWSE excluding ROW SL033612;

Sec. 9: NWNW excluding ROW SL033612;

Sec. 17: N2NW, SWNW.

1,081.48 Acres

Emery County, Utah

Price Field Office

UT1115 - 118

Workload

T. 21 S., R. 7 E., Salt Lake

Sec. 30: Lots 1-3, NENW, Excluding ROW SL033612;

Sec. 31: Lot 3.

200.49 Acres

Emery County, Utah

Price Field Office

UT1115 - 119

Workload

T. 22 S., R. 7 E., Salt Lake

Secs. 1, 11 and 12: All.

1,984.84 Acres

Emery County, Utah

Price Field Office

UT1115 - 120

Workload

T. 22 S., R. 7 E., Salt Lake

Sec. 3: All;

Sec. 4: Lots 1, 2, SENE, E2SE;

Secs. 10 and 15: All.

2,219.64 Acres

Emery County, Utah

Price Field Office

UT1115 – 121

Coal

T. 22 S., R. 7 E., Salt Lake
Sec. 4: W2SW;
Sec. 5: SESE;
Sec. 7: E2SE;
Sec. 8: NE, E2NW, S2;
Sec. 9: SENE, W2, SE;
Sec. 17: All;
Sec. 18: NENE.

1,960.00 Acres
Emery County, Utah
Price Field Office

UT1115 – 122

Coal

T. 22 S., R. 7 E., Salt Lake
Sec. 7: Lot 4;
Sec. 18: Lots 1-4, SWNE, SENW, E2SW, W2SE;
Sec. 19: Lots 1-4, NWNE, E2W2, W2SE, SESE.

1,022.97 Acres
Emery County, Utah
Price Field Office

UT1115 - 123

Workload

T. 22 S., R. 7 E., Salt Lake
Secs. 13, 14, 23 and 24: All.

2,560.00 Acres
Emery County, Utah
Price Field Office

UT1115 – 124

Coal

T. 22 S., R. 7 E., Salt Lake
Sec. 20: E2, E2NW, NESW;
Secs. 21 and 22: All.

1,720.00 Acres
Emery County, Utah
Price Field Office

UT1115 - 125

Workload

T. 22 S., R. 7 E., Salt Lake
Secs. 25, 26 and 35: All.

1,920.00 Acres
Emery County, Utah
Price Field Office

UT1115 - 126

Workload

T. 22 S., R. 7 E., Salt Lake
Secs. 27, 28, 33 and 34: All.

2,560.00 Acres
Emery County, Utah
Price Field Office

UT1115 – 127

T. 22 S., R. 7 E., Salt Lake
Secs. 29, 30 and 31: All.
2,002.84 Acres
Emery County, Utah
Price Field Office

Coal

UT1115 - 128

T. 23 S., R. 7 E., Salt Lake
Secs. 1 and 3: All.
1,732.16 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 129

T. 23 S., R. 7 E., Salt Lake
Secs. 4, 5 and 6: All.
2,152.47 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 130

T. 23 S., R. 7 E., Salt Lake
Secs. 7, 8 and 9: All.
1,591.32 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 131

T. 23 S., R. 7 E., Salt Lake
Secs. 10, 11, 12 and 13: All.
2,560.00 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 132

T. 23 S., R. 7 E., Salt Lake
Secs. 14, 15, 17 and 18: All.
2,232.16 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 133

T. 23 S., R. 7 E., Salt Lake
Secs. 19, 20, 21 and 22: All.
2,232.88 Acres
Emery County, Utah
Price Field Office

Workload

<p>UT1115 - 134 T. 23 S., R. 7 E., Salt Lake Secs. 23, 24, 25 and 26: All. 2,560.00 Acres Emery County, Utah Price Field Office</p>	<p>Workload</p>
<p>UT1115 - 135 T. 23 S., R. 7 E., Salt Lake Secs. 27, 28, 29 and 30: All. 2,233.24 Acres Emery County, Utah Price Field Office</p>	<p>Workload</p>
<p>UT1115 - 136 T. 23 S., R. 7 E., Salt Lake Secs. 31, 33, 34 and 35: All. 2,233.44 Acres Emery County, Utah Price Field Office</p>	<p>Workload</p>
<p>UT1115 - 137 T. 24 S., R. 7 E., Salt Lake Sec. 1: Lots 1-4, S2N2, E2SE; Secs. 3 and 4: All. 1,690.00 Acres Emery County, Utah Price Field Office</p>	<p>Workload</p>
<p>UT1115 - 138 T. 24 S., R. 7 E., Salt Lake Secs. 5, 6, 7 and 8: All. 1,917.46 Acres Emery County, Utah Price Field Office</p>	<p>Workload</p>
<p>UT1115 - 139 T. 24 S., R. 7 E., Salt Lake Secs. 9, 10 and 11: All; Sec. 12: W2NW, SENW, SW. 2,200.00 Acres Emery County, Utah Price Field Office</p>	<p>Workload</p>
<p>UT1115 - 140 T. 24 S., R. 7 E., Salt Lake Sec. 13: W2; Secs. 14, 15 and 17: All. 2,240.00 Acres Emery County, Utah Price Field Office</p>	<p>Workload</p>

UT1115 - 141

T. 24 S., R. 7 E., Salt Lake
Secs. 18, 19, 20 and 21: All.
1,905.16 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 142

T. 24 S., R. 7 E., Salt Lake
Secs. 22 and 23: All;
Sec. 24: SWNE, W2;
Sec. 25: SWNE, W2, W2SE, SESE.
2,120.00 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 143

T. 24 S., R. 7 E., Salt Lake
Secs. 26, 27 and 28: All.
1,920.00 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 144

T. 24 S., R. 7 E., Salt Lake
Secs. 29, 30 and 31: All.
1,267.96 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 145

T. 24 S., R. 7 E., Salt Lake
Secs. 33, 34 and 35: All.
1,920.00 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 146

T. 26 S., R. 7 E., Salt Lake
Sec. 7: W2, N2SE;
Sec. 18: W2, W2SE, SESE;
Sec. 19: All;
Sec. 20: NENE, S2N2, S2.
1,951.00 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 – 147

Sage-grouse

T. 13 S., R. 8 E., Salt Lake
 Sec. 21: SWNE, NENW, SWSW;
 Sec. 28: NW, NESW.

320.00 Acres
 Carbon County, Utah
 Price Field Office

UT1115 - 148

Workload

T. 16 S., R. 8 E., Salt Lake
 Sec. 9: E2NE, NESE;
 Sec. 21: NESE.

160.00 Acres
 Emery County, Utah
 Price Field Office

UT1115 - 149

Workload

T. 17 S., R. 8 E., Salt Lake
 Sec. 12: SWNENE, W2SENE, SESENE, E2SENE, NWSW.

62.50 Acres
 Emery County, Utah
 Price Field Office

UT1115 - 150

Workload

T. 18 S., R. 8 E., Salt Lake
 Sec. 19: Lot 4, NENE;
 Sec. 31: Lot 3.

119.43 Acres
 Emery County, Utah
 Price Field Office

UT1115 - 152 partial

Workload

T. 19 S., R. 8 E., Salt Lake
~~Sec. 7: Lots 2-4, E2SW, SWSE;~~
~~Sec. 17: NWNW, E2SW, NESE;~~
~~Sec. 18: Lots 1, 2, W2NE, E2NW;~~
~~Sec. 19: Lots 3, 4, NESW;~~
~~Sec. 31: Lot 4, N2NE, SENE, E2SW, SE.~~

40.00 Acres
 Emery County, Utah
 Price Field Office

UT1115 – 153 partial

Workload

T. 19 S., R. 8 E., Salt Lake
 Sec. 15: S2SW;
~~Sec. 20: Lots 1-4, NESW;~~
 Sec. 21: NE, NENW, S2NW, NESW, NESE;
 Sec. 22: Lots 1 and 2.

524.03 Acres
 Emery County, Utah
 Price Field Office

UT1115 - 154

Workload

T. 19 S., R. 8 E., Salt Lake
Sec. 22: Lots 3-6, S2SW;
Secs. 23, 24 and 25: All.
2,169.13 Acres
Emery County, Utah
Price Field Office

UT1115 - 155

Workload

T. 19 S., R. 8 E., Salt Lake
Sec. 26: All;
Sec. 27: N2, NESE, S2SE;
Sec. 28: Lot 1;
Sec. 35: N2NE, SENE, N2NW, SWNW, NWSW, NESE, SWSE.
1,482.46 Acres
Emery County, Utah
Price Field Office

UT1115 - 157

Workload

T. 22 S., R. 8 E., Salt Lake
Secs. 1, 11 and 12: All.
1,984.88 Acres
Emery County, Utah
Price Field Office

UT1115 - 158

Workload

T. 22 S., R. 8 E., Salt Lake
Secs. 3 and 4: All;
Sec. 5: Lot 8, S2NE, NESW, S2SW, SE.
1,813.88 Acres
Emery County, Utah
Price Field Office

UT1115 - 159

Workload

T. 22 S., R. 8 E., Salt Lake
Secs. 6, 7 and 8: All.
1,951.10 Acres
Emery County, Utah
Price Field Office

UT1115 - 160

Workload

T. 22 S., R. 8 E., Salt Lake
Secs. 9, 10, 15 and 22: All.
2,560.00 Acres
Emery County, Utah
Price Field Office

UT1115 - 161

Workload

T. 22 S., R. 8 E., Salt Lake
Secs. 13, 14 and 23: ALL;
Sec. 24: N2, SW, NWSE.
2,440.00 Acres
Emery County, Utah
Price Field Office

UT1115 - 162

Workload

T. 22 S., R. 8 E., Salt Lake
Secs. 17, 18, 20 and 21: All.
2,545.76 Acres
Emery County, Utah
Price Field Office

UT1115 - 163

Workload

T. 22 S., R. 8 E., Salt Lake
Secs. 19, 29, 30 and 31: All.
2,527.20 Acres
Emery County, Utah
Price Field Office

UT1115 - 164

Workload

T. 22 S., R. 8 E., Salt Lake
Sec. 25: N2NW, SWNW;
Sec. 26: N2, SW, N2SE, SWSE;
Secs. 27 and 28: All.
2,000.00 Acres
Emery County, Utah
Price Field Office

UT1115 - 165

Workload

T. 22 S., R. 8 E., Salt Lake
Secs. 33 and 34: All;
Sec. 35: W2NE, NW, NWSW.
1,560.00 Acres
Emery County, Utah
Price Field Office

UT1115 - 166

Workload

T. 17 S., R. 9 E., Salt Lake
Sec. 1: Lot 4, S2NW;
Sec. 9: W2NE, SENE, NENW, S2NW, E2SW, NWSE.
480.68 Acres
Emery County, Utah
Price Field Office

UT1115 - 167

Workload

T. 17 S., R. 9 E., Salt Lake
Sec. 17: S2SW;
Sec. 29: NWSW;
Sec. 30: SENE.

160.00 Acres
Emery County, Utah
Price Field Office

UT1115 - 168

Workload

T. 18 S., R. 9 E., Salt Lake
Sec. 6: NWSE;
Sec. 18: Lot 3, SWSE.

120.39 Acres
Emery County, Utah
Price Field Office

UT1115 - 169

Workload

T. 19 S., R. 9 E., Salt Lake
Sec. 7: Lots 2-4, SESW;
Sec. 17: NE, NENW, S2NW, W2SW, N2SE;
Sec. 18: Lots 4, 5, W2NE, SENE, NENW, SESW, NESE, S2SE;
Sec. 19: All;
Sec. 20: SWNE, W2, SE.

2,162.59 Acres
Emery County, Utah
Price Field Office

UT1115 - 170

Workload

T. 19 S., R. 9 E., Salt Lake
Sec. 29: N2, N2SW, SESW, SE;
Sec. 30: Lots 1-4, NE, E2W2, N2SE, SWSE;
Sec. 31: Lots 1-4, W2NE, E2W2, SE.

1,757.60 Acres
Emery County, Utah
Price Field Office

UT1115 - 171

Workload

T. 20 S., R. 9 E., Salt Lake
Sec. 23: E2SW, SE;
Sec. 24: W2NE;
Secs. 26, 27 and 28: All.

2,240.00 Acres
Emery County, Utah
Price Field Office

UT1115 - 172

T. 20 S., R. 9 E., Salt Lake
Secs. 33, 34 and 35: All.
1,920.00 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 173

T. 20 S., R. 9 E., Salt Lake
Sec. 31: Lots 3, 4, SENW, E2SW, SE;
T. 21 S., R. 9 E., Salt Lake
Secs. 5 and 6: All.
2,089.00 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 174

T. 21 S., R. 9 E., Salt Lake
Secs. 3, 4 and 9: All.
2,394.00 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 175

T. 21 S., R. 9 E., Salt Lake
Secs. 7, 8, 17 and 18: All.
2,518.00 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 176

T. 21 S., R. 9 E., Salt Lake
Sec. 15: W2W2;
Secs. 19, 20 and 21: All;
Sec. 22: NW.
2,220.00 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 177

T. 21 S., R. 9 E., Salt Lake
Sec. 28: W2;
Secs. 29, 30 and 31: All;
Sec. 33: W2W2.
2,361.00 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 180

T. 15 S., R. 10 E., Salt Lake
Sec. 27: SWNW, S2SW.
120.00 Acres
Carbon County, Utah
Price Field Office

Workload

UT1115 - 181

T. 16 S., R. 10 E., Salt Lake
Sec. 19: SWSE;
Sec. 30: SENE;
Sec. 31: NENE;
Sec. 33: NWNW.
160.00 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 183

T. 18 S., R. 10 E., Salt Lake
Secs. 13, 14, 23 and 24: All.
2,560.00 Acres
Emery County, Utah
Price Field Office

State Director's discretion

UT1115 - 184

T. 18 S., R. 10 E., Salt Lake
Secs. 19, 30 and 31: All.
1,942.66 Acres
Emery County, Utah
Price Field Office

State Director's discretion

UT1115 - 185

T. 18 S., R. 10 E., Salt Lake
Secs. 22, 25, 26 and 27: All.
2,560.00 Acres
Emery County, Utah
Price Field Office

State Director's discretion

UT1115 - 186

T. 18 S., R. 10 E., Salt Lake
Sec. 28: N2, E2SW, SE;
Sec. 33: NE, E2NW, S2;
Secs. 34 and 35: All.
2,400.00 Acres
Emery County, Utah
Price Field Office

State Director's discretion

<p>UT1115 - 187 T. 19 S., R. 10 E., Salt Lake Secs. 1, 11 and 12: All. 1,959.12 Acres Emery County, Utah Price Field Office</p>	<p>Workload</p>
<p>UT1115 - 188 T. 19 S., R. 10 E., Salt Lake Secs. 6, 7 and 18: All. 1,984.45 Acres Emery County, Utah Price Field Office</p>	<p>Workload</p>
<p>UT1115 - 189 T. 19 S., R. 10 E., Salt Lake Secs. 13, 14, 23 and 24: All. 2,560.00 Acres Emery County, Utah Price Field Office</p>	<p>Workload</p>
<p>UT1115 - 190 T. 19 S., R. 10 E., Salt Lake Sec. 15: SW; Secs. 21, 22 and 27: All. 2,080.00 Acres Emery County, Utah Price Field Office</p>	<p>Workload</p>
<p>UT1115 - 191 T. 19 S., R. 10 E., Salt Lake Secs. 17, 19 and 20: All. 1,929.56 Acres Emery County, Utah Price Field Office</p>	<p>Workload</p>
<p>UT1115 - 192 T. 19 S., R. 10 E., Salt Lake Secs. 25, 26, 34 and 35: All. 2,560.00 Acres Emery County, Utah Price Field Office</p>	<p>Workload</p>
<p>UT1115 - 193 T. 19 S., R. 10 E., Salt Lake Secs. 28, 29 and 33: All. 1,920.00 Acres Emery County, Utah Price Field Office</p>	<p>Workload</p>

UT1115 - 194

T. 19 S., R. 10 E., Salt Lake
Secs. 30 and 31: All.
1,301.20 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 – 195

T. 12 S., R. 11 E., Salt Lake
Sec. 3: All;
Sec. 10: SWNE, SENW;
Sec. 11: N2NW, SWNW, E2SW.
932.69 Acres
Carbon County, Utah
Price Field Office

Sage-grouse

UT1115 – 196

T. 12 S., R. 11 E., Salt Lake
Sec. 5: Lots 6-8;
Sec. 6: Lots 7, 8 and 10.
237.14 Acres
Carbon County, Utah
Price Field Office

Sage-grouse

UT1115 - 197

T. 18 S., R. 11 E., Salt Lake
Sec. 21: W2NE, NW;
Sec. 27: S2N2, S2;
Sec. 28: S2NE, W2, SE;
Sec. 33: All.
1,920.00 Acres
Emery County, Utah
Price Field Office

State Director's discretion

UT1115 - 198

T. 18 S., R. 11 E., Salt Lake
Secs. 23 and 24: All;
Sec. 25: N2, E2SW, SE;
Sec. 26: N2, NWSW, E2SE.
2,280.00 Acres
Emery County, Utah
Price Field Office

State Director's discretion

UT1115 - 199

T. 18 S., R. 11 E., Salt Lake
Secs. 29, 30 and 31: All.
1,901.20 Acres
Emery County, Utah
Price Field Office

State Director's discretion

UT1115 - 200

T. 19 S., R. 11 E., Salt Lake
 Sec. 1: S2SW;
 Sec. 12: N2NW.
160.00 Acres
Emery County, Utah
Price Field Office

State Director's discretion

UT1115 - 201

T. 19 S., R. 11 E., Salt Lake
 Sec. 4: Lot 4, SWNE, S2NW, S2;
 Secs. 5 and 6: All;
 Sec. 8: NE.
1,998.52 Acres
Emery County, Utah
Price Field Office

State Director's discretion

UT1115 - 202

T. 19 S., R. 11 E., Salt Lake
 Sec. 7: All;
 Sec. 8: W2W2;
 Sec. 17: NENW;
 Sec. 18: All.
1,464.16 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 203

T. 19 S., R. 11 E., Salt Lake
 Secs. 19, 30 and 31: All.
1,902.40 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 204

T. 19 S., R. 11 E., Salt Lake
 Sec. 20: S2NW, SW;
 Sec. 28: SW, W2SE;
 Sec. 29: S2NE, W2, SE;
 Sec. 33: W2NE, NW, NESE, E2NWSE.
1,340.00 Acres
Emery County, Utah
Price Field Office

Workload

UT1115 - 205

Workload

T. 12 S., R. 12 E., Salt Lake
Sec. 1: Lots 1-5, SWNE, S2NW, SW, W2SE;
Sec. 11: N2NE, SENE;
Sec. 12: Lots 1-10, SE.
1,247.15 Acres
Carbon County, Utah
Price Field Office

UT1115 - 206

Workload

T. 12 S., R. 12 E., Salt Lake
Sec. 3: Lots 1-4, S2N2;
Sec. 4: Lots 1-4.
530.48 Acres
Carbon County, Utah
Price Field Office

UT1115 – 207

Sage-grouse

T. 12 S., R. 12 E., Salt Lake
Sec. 13: S2SE;
Sec. 22: N2NE, SWNE, SWNW, W2SW, SESW, W2SE, SESE;
Sec. 23: SENE, N2NW, SENW, E2SW, SE;
Sec. 24: N2NE, SWNE, S2NW, SW.
1,240.00 Acres
Carbon County, Utah
Price Field Office

UT1115 – 208

Sage-grouse

T. 12 S., R. 12 E., Salt Lake
Sec. 18: Lots 3, 4, SENE, E2SW, SE;
Sec. 19: Lot 1, N2NE, SWNE, E2NW;
Sec. 20: N2SW, NWSE.
710.84 Acres
Carbon County, Utah
Price Field Office

UT1115 – 209

Sage-grouse

T. 12 S., R. 12 E., Salt Lake
Sec. 25: E2NE, NENW, SWNW, W2SW, NWSE;
Sec. 26: N2NE, SWNE, NENW, S2NW, E2SW, W2SE, SESE;
Sec. 27: W2NE, SENE, W2NW, SENW, NWSW;
Sec. 28: N2NE, SENE, NENW;
Sec. 35: E2, E2W2.
1,640.00 Acres
Carbon County, Utah
Price Field Office

UT1115 - 211

T. 12 S., R. 15 E., Salt Lake

Sec. 11: E2NE.

80.00 Acres

Carbon County, Utah

Price Field Office

Workload

ACQUIRED LANDS

UT1115 - 223

T. 19 S., R. 8 E., Salt Lake

Sec. 27: NWSE.

40.00 Acres

Emery County, Utah

Price Field Office

Workload

Appendix E – Comments and Responses

2015

APPENDIX E, COMMENTS AND RESPONSES

Copies of the comment letters are available at the Price Field Office for review.

SUWA Comment 1: “BLM has failed “to make a reasonable and good faith effort” to identify cultural resources that may be affected by this undertaking....BLM also failed to take a hard look at the project’s effects to cultural resources, as required by NEPA.... The Advisory Council on Historic Preservation defines area of potential effect as “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist.”.... The BLM alleges to have conducted a Class I cultural inventory and site density analysis... The preparation of this Class I inventory or literature review does not satisfy BLM’s obligation “to make a reasonable and good faith effort” to identify cultural resources at risk from this undertaking.... In the present case, BLM states that it identified 134 previously recorded cultural sites, as the result of a “files search.” Moreover, the EA mentions only the indirect effects to these identified sites...The files search does not satisfy BLM’s obligation under the NHPA and the lack of analysis regarding the direct and cumulative impacts to cultural resources violates the NHPA and NEPA. Nor does it comply with BLM Manual 8110... BLM does not discuss the extent and nature of these sites or why additional inventories were not conducted. The EA does not analyze the direct, indirect, or cumulative impacts that oil and gas development may have to the cultural sites located in these parcels... The EA acknowledges that leasing may result in “cumulative effects to cultural resources,”... the EA does not disclose whether there will be “no historic properties affected,” ...or whether there may be adverse effects...SUWA maintains that even with these stipulations the sale of non-NSO leases *may* result in adverse effects to cultural resources. Thus, BLM is required to assess and disclose adverse effects now... and work with the SHPO, Native American tribes, and consulting parties to resolve those adverse effects.... The plain language of the referenced stipulations makes clear that subsequent undertakings may be approved even if they result in “minimized” adverse effects. Because BLM admits that it may allow subsequent undertakings to proceed if adverse effects are “minimized” or “mitigated,” the agency’s “no adverse effects” determination is baseless.

BLM Response to Comment 1: Pending concurrence from the State Historic Preservation Office and Tribal Historic Preservation Office (SHPO and THPO) in consultation from identified interested stake holders, the proposed Area of Potential Direct Effect (APE) for the 2015 Lease Sale is defined by each parcel’s geographic boundary. An intensive records and literature search was conducted to determine the likely nature and extent of cultural resources located within the proposed APE. The Bureau of Land Management (BLM) Price Field Office (PFO) consulted with interested Tribes to determine if undocumented historic properties or sites of religious and cultural significance were located within the APE. The BLM PFO received SHPO concurrence in a determination of no adverse effect on November 16, 2015. The BLM would require additional information about the nature and extent of archaeological resources located within the APE to determine effects to cultural resources in the event that ground disturbance was imminent. Where there is no ground disturbance associated with this

undertaking, the BLM would not require an Intensive Pedestrian Inventory for the APE at this time.

SUWA Comment 2: It is unclear ...whether BLM received concurrence from SHPO...SHPO's concurrence ... does not excuse BLM from complying with the NHPA...There is nothing in the NHPA or Section 106 that excuses the BLM's failure to comply with the other procedures based on a concurrence from the SHPO...Hopi Tribe has requested, but BLM has not yet provided, copies of the Class I inventory. The NHPA requires that BLM provide Native American tribes, such as the Hopi Tribe, "a reasonable opportunity to identify its concerns about historic properties, advise on the identification and evaluation of historic properties . . . articulate its views on the undertaking's effects on such properties, and participate in resolution of adverse effects."

BLM Response to Comment 2:

In April 2015 the BLM PFO mailed Tribal consultation letters stating that the BLM PFO would be drafting an Environmental Assessment (EA) for the November 2015 Oil and Gas Lease Parcel sale. Comments were received from the Hopi Tribe in May 2015. At this time they requested a copy of the EA and the Class I report (Intensive Literature Review and Records Search) for cultural resources. The BLM PFO mailed copies of the EA and draft cultural resources intensive literature and records review for the 2015 Oil & Gas Lease Sale to them in September. The BLM PFO received a response from the Hopi in September requesting that any parcel south of I-70 be removed from this year's lease sale.

On June 16, 2015 the BLM PFO posted the EA for the November 2015 Oil and Gas Lease Sale for a thirty day public comment period. Public comments with regard to cultural resources were received from the Southern Utah Wilderness Alliance (SUWA) and the Utah Rock Art Research Association (URARA). At this time SUWA requested consulting party status. The PFO invited SUWA and URARA as consulting parties in September 2015. A draft copy of the Cultural Resources Intensive Literature and Records Review for the 2015 Oil & Gas Lease Sale, BLM-Utah Price Field Office, Carbon and Emery Counties, Utah for their review and comment. Comments from the consulting parties were received on October 2, 2015. Pursuant to 36 CFR § 800.5(c)(2)(i) a conference call was scheduled on October 19, 2015 to resolve any potential disagreements. Consulting parties offered unsubstantiated information about the potential occurrence of "geo-glyphs" south of I-70. To date, no information has been made available to the BLM to confirm, nor deny this claim. SHPO concurrence was received on November 16, 2015 in a determination of "no adverse affect" for the November 2015 Oil and Gas lease sale.

SUWA Comment 3: SUWA requests to participate as a consulting party for this undertaking and that BLM provide it with a copy of this Class I Cultural Inventory and reserves the right to supplement these comments upon review of this document.

BLM Response to Comment 3: Please see above response to comment (2).

SUWA Comment 4: The EA fails to take a hard look at the indirect, direct, and cumulative impact on local, regional, and national climate change from leasing the parcels... While stating that oil and gas exploration and development activity is a large contributor of GHGs, the EA does not even attempt to analyze – quantitatively or qualitatively – the potential impacts of such emissions...

BLM Response to Comment 4: *As a report from the National Academy of Sciences states “[i]t is now more certain than ever, based on many lines of evidence, that humans are changing Earth’s climate.” Accordingly, the BLM believes that an assessment under NEPA must address, in an appropriate way, the GHG emissions from a proposed action and the effects of those emissions on the environment. In the protested EA, the BLM presents qualitative discussions of the environmental effects of climate change and their socioeconomic consequences. The EAs also quantitatively discusses the potential contribution of the proposed actions’ emissions in relation to state and national GHG emissions (Section 4.3.3.1).*

While the EA calculated potential GHG emission using a generic calculator to place potential emission into a regional and national context, determining GHG impacts for a specific project, their relationship to global climatic patterns, and the resulting impacts is still an ongoing and developing scientific process. What is known is that increasing concentrations of GHGs are likely to accelerate the rate of climate change. Further, while leasing the subject parcels, by itself, would not authorize any surface-disturbing or GHG emitting oil and gas operations and would have no direct impacts on the climate, there is an assumption that leasing the parcels would lead to some type of exploration and/or development actions that would have indirect effects on global climate through GHG emissions. However, even with that assumption, it is not possible in this instance to quantify or identify specific projects potential impacts.

Currently, specific information on the location and methods for oil and gas development operations that may be proposed on the subject lease parcels is not known. The development potential of the oil and gas resource in the area of the leases is still speculative at this time based on the lack of any proven productive wells in the vicinity of the offered lease parcels. At this time the area is considered to be exploratory in nature and the number and location of any future drilling sites, if any, are unpredictable. It is also unknown whether the petroleum resources specific to these parcels are gas or oil or a combination thereof. Since these types of data are unavailable, it would be entirely speculative, and therefore not useful, to quantify potential GHG emissions impacts at this time. Since information regarding the location, extent, and operating procedures and technologies that might be utilized for oil and/or gas development operations on the subject parcels is not currently known, it is currently not feasible to speculate about the net impacts to climate that might result from leasing and any future oil and gas development operations on the proposed lease parcels.

SUWA Comment 5: [The BLM’s CHG] conclusion is arbitrary and capricious. The CEQ has stated that “[c]limate change is a fundamental environmental issue, and the relation of Federal actions to it falls squarely within NEPA’s focus. Focused and effective consideration of climate change in NEPA reviews will allow agencies to improve the quality of their decisions.”... This consideration should include “observations, interpretive assessments, predictive modeling, scenarios, and other empirical evidence.”... [t]he analysis of impacts on the affected

environment should focus on those aspects of the global atmospheric GHG concentrations that collectively have a huge impact...Lease Sale EA at 51 (“Any cumulative ozone impacts from the Proposed Action would be indistinguishable from, and dwarfed by, the margin of uncertainty associated with the regional cumulative VOC and NOx emission inventory.”). “When assessing the potential significance of the climate change impacts of their proposed actions, agencies should consider both context and intensity, as they do for all other impacts.” CEQ Climate Change Guidance at 10 (citing 40 C.F.R. §§ 1508.27(a), 1508.27(b)). Third, it is technically feasible to estimate GHG emissions due to scientific models and tools that are, according to CEQ, “widely available,” and “already in broad use not only in the Federal sector, but also in the private sector by state and local governments, and globally.” CEQ Climate Change Guidance at 15. Furthermore, “[t]hese widely available tools address GHG emissions, including emissions from fossil fuel combustion and other activities.” *Id.* Thus, the EA’s inaccurate statement regarding “the lack of scientific models designed to predict climate change” is arbitrary and capricious and unsupported by the facts

BLM Response to Comment 5: See BLM Response to Comment 4

SUWA Comment 6: Finally, the proposed action will release more than 25,000 metric tons of CO₂-e emissions – the threshold point designated by CEQ to trigger the need to analyze climate change impacts – and thus, quantitative analysis is necessary. *See* CEQ Climate Change Guidance at 18; *see also* Lease Sale EA at 52 (proposed action may “release 66,552.34 Metric Tons of CO₂(e)”). This threshold point allows BLM “to focus [its] attention on proposed projects with potentially large GHG emissions.” CEQ Climate Change Guidance at 18.2 In other words, as determined by CEQ...The 25,000 metric tons of CO₂-e emissions threshold is *not* a substitute for BLM’s determination of significance under NEPA; rather, “[t]he ultimate determination of significance the Lease Sale will result in “potentially large GHG emissions,” a factor that must be analyzed by BLM. In the present case, BLM failed to take a hard look at climate change, despite it being a factor that is “squarely within” the realm of NEPA. *See, e.g.,* 42 U.S.C. §§ 4321, 4331. Instead, the agency claims that analysis regarding the context and intensity of the proposed action “is not technically feasible” at this time. This argument has been soundly rejected by courts in the Tenth Circuit. *See, e.g., High Country Conserv. Advocates v. U.S. Forest Service*, 52 F.Supp.3d 1174, 1190 (D. Colo. 2014) (rejecting the Forest Service’s argument that analysis of GHG / climate change “was not possible at this time”); *Dine Citizens Against Ruining Our Environment v. U.S. Office of Surface Mining, Reclamation and Enforcement*, 2015 WL 996605 at *8-9 (OSM failed to consider the GHG / climate change effects of proposed mine expansion); *WildEarth Guardians v. U.S. Office of Surface Mining, Reclamation and Enforcement*, 2015 WL 2207834 *15 (“[Plaintiff] rightly insists that [federal agencies] must take into account the effects of [GHG emissions] when determining whether there will be a significant impact on the environment.”). The CEQ has conclusively determined that it is technically feasible for BLM to calculate GHG emissions and their direct, indirect, and cumulative impact to climate change due to “widely available” tools that are in “broad use” by federal agencies. Therefore, the EA failed to take a hard look at the impacts to local, regional, and national climate change from the proposed action.

BLM Response to Comment 6: See BLM Response to Comment 4

SUWA Comment 7: The EA failed to take a hard look at the social cost of carbon from leasing the parcels at issue. CEQ has instructed federal agencies, including the BLM, to consider the social cost of carbon when reviewing proposed actions under NEPA. *See* CEQ Climate Change Guidance at 16. While developed initially to assess the costs and benefits of alternatives in rulemaking, the social cost of carbon “offers a harmonized interagency metric that can provide decision makers and the public with some context for meaningful NEPA review.” Courts have also recognized the need for federal agencies to consider the social cost of carbon during their NEPA review... Calculating the social cost of carbon is an important element of NEPA, because it allows BLM to quantitatively and/or qualitatively determine the costs of authorizing a proposed action, such as social, environmental, and economic. This tool “was expressly designed to assist agencies in cost-benefit analyses.” *High Country Conserv. Advocates*, 52 F.Supp.3d at 1190. While NEPA may not require a cost-benefit analysis, it is “arbitrary and capricious to quantify the benefits of [a proposed action] and then explain that a similar analysis of the costs was impossible when such analysis was in fact possible.” *Id.* at 1191 (referring to the tool for calculating the social cost of carbon). BLM cannot merely ignore the social cost of carbon formula on account of it being “imprecise,” “inaccurate,” or because there is disagreement as to the cost of GHG emissions... In the present case, BLM states that the proposed action will have net economic benefits, including meeting “the growing energy needs of the United States public,” and helping “to maintain options for production of oil and gas as companies seek new areas for production, or attempt to locate and develop previously unidentified, inaccessible, or uneconomical reserves.” EA at 2. In contrast, the EA ignores any attempt to quantify the costs of such activity. Even more, the EA effectively zeros out the costs in its quantitative analysis by concluding – incorrectly – that “it is not technically feasible to know with any certainty the net impacts to climate due to global emissions, let alone regional or local emissions.” There is no record evidence to support this conclusion. This conclusion is stated even though (1) the EA provides an approximate GHG emission spectrum (66,523.34 metric tons of CO₂-e), which offers, at a minimum, BLM with a starting point from which to begin its calculations, and (2) the agency is well aware – or at least should be aware – of the “widely available” tools, such as the social cost of carbon that “would contribute to a more informed assessment.”

BLM Response to Comment 7: *With respect to estimating the SCC, the BLM finds that including monetary estimates of the SCC in its NEPA analysis for this proposed action, which is not a rulemaking action, would not be useful or appropriate. A federal Interagency Working Group on the Social Cost of Carbon (IWG), convened by the Office of Management and Budget, developed an SCC protocol to develop estimates of the SCC, which reflects the monetary cost incurred by the emission of one additional metric ton of CO₂. The SCC was developed specifically for regulatory impact analyses, and provides potential methodology for cost-benefit analysis. The BLM finds it would not be appropriate to incorporate SCC as there is no legal mandate or existing guidance requiring the inclusion of the SCC in the NEPA context.*

SUWA comment 8: The EA does not comply with Instruction Memorandum No. 2010-117, Oil and Gas, Planning, and National Environmental Policy Act (NEPA) (May 17, 2010) (“IM 2010-117”) (attached). Specifically, the EA does not analyze alternative(s) in which oil and gas lease parcels are not offered in BLM-identified LWCs. Compare Lease Sale EA at 23-24 (lease

parcels overlap with five BLM-identified LWCs), with *id.* at 8 (the EA analyzes only the proposed action and no action alternative). Such an alternative and its associated analysis are required by IM 2010-117: IM 2010-117 § III.E (emphases added); see also *id.* § III.C.4 (an oil and gas leasing EA must consider “other considerations” such as whether “[i]n undeveloped areas, non-mineral resource values are greater than potential mineral development values”). However, the EA does not consider an alternative which addresses unresolved resource conflicts, such as BLM-identified LWCs. See, e.g., Lease Sale EA at 8, 23-24, 45-46, 50 (analyzing only the proposed action and no action alternatives with regards to “Non-WSA Lands with Wilderness Characteristics”).⁵ of Secretarial Order 3310. Following this policy would require no expenditure of money here and it would not entail the designation of Wild Lands, therefore it does not run afoul of the spending limitations or the Secretary’s June 1 memo. This is entirely consistent with BLM’s authority to manage and protect wilderness characteristics under FLPMA and BLM’s Land Use Planning Handbook. See 43 U.S.C. § 1702(c); H-1601-1, App. C at 12-13; see also BLM, 6310

BLM Response to Comment 8: *While the BLM no longer implements Secretarial Order 3310 pursuant to the Consolidated Appropriation Act of 2014 (PL 113-76), the BLM avoids impacts to lands with wilderness characteristics consistent with the 2008 RMP and BLM Manual 6310. The fact that there are LWCs does not prevent these lands being made available for leasing unless specifically identified in the RMP. In the RMP, there are protections put in place such as timing limitations, CSU, and/or NSO to protect wilderness character. All parcels nominated in any lease sale are identified, analyzed and evaluate in the Leasing EA. Any associated RMP stipulations are added to the lease. See Appendix R-3 (Price RMP-ROD). The Price RMP-ROD did not allocate these lands to be managed for their wilderness characteristics therefore an alternative is not required by IM 2010-117 to address unresolved resource conflicts. See BLM Response to Comment 9.*

SUWA comment 9: Second, there is no record evidence that BLM took into account “other considerations,” including whether “non-mineral resource values are greater than potential mineral development” in “undeveloped areas,” such as BLM-identified LWCs. IM 2010-117 § III.C.4. The BLM-identified LWCs at issue here each have considerable “non-mineral resource values,” including wilderness characteristics, watershed, viewshed, and important cultural values. See, e.g., Price RMP at 3-27 (“The historic cultural resources of [the BLM Price field office] represent a variety of American, European, and religious influences – arguably the most diverse assemblage of cultural influences anywhere in the State of Utah.”). These values vis`a vis mineral values were not considered in the EA.⁶

BLM Response to Comment 9: *BLM took a hard look at the direct and indirect cumulative effects on lands with wilderness characteristics during the land use planning process. The Price Field Office 2008 Resource Management Plan Record of Decision (RMP-ROD) decision for Non-WSA lands with Wilderness Characteristics states that five areas with wilderness characteristics will be managed for their wilderness attributes. As stated in the RMP-ROD, areas with wilderness characteristics outside of these five areas could be developed for other uses, such as oil and gas production. None of the proposed leases are within areas that the*

Price RMP protects for their wilderness attributes. Refer to the ID team checklist. For any activity requiring NEPA, the BLM analyzes all potentially impacted resources.

SUWA comment 10: Third, there is no record evidence that BLM ever evaluated whether (1) oil and gas management decisions – such as the decision to not manage the LWCs at issue here for protection of their wilderness values – made in the Price RMP/ROD are still appropriate or provide adequate protection for resources values, or (2) new lease stipulations need to be developed or existing stipulations updated. See IM 2010-117 § III.C.2 (requiring such analysis). If the Price RMP/ROD no longer is adequate in this regard, a plan amendment is required and “the parcel(s) should be withheld from leasing” until such amendment is completed.

***BLM Response to Comment 10:** The Price Field Office is operating under the 2008 Price RMP-ROD and will do so until a new RMP is approved or the current 2008 RMP-ROD is amended. The BLM continually evaluates whether the RMP is adequate to manage the resources.*

SUWA comment 11: Finally, there is also no record evidence that the BLM Price field office coordinated and/or consulted on the parcel review and NEPA analysis with stakeholders that may be affected by the leasing decision, such as the BLM Richfield field office and National Park Service (“NPS”). Compare IM 2010-117 § III.C.6 (requiring such action), with EA 56 (persons, groups, and agencies consulted). Parcels 086, 089, 093, 095, 097, 098, 100, and 101, are located adjacent to the BLM Richfield field office boundary as well as Capitol Reef National Park...lease parcels 071, 087, 090-092, 094, and 096-097, are located “close”...from the BLM Richfield field office boundary as well as Capitol Reef National Park...Management of the affected landscapes, such as airsheds, viewsheds, watersheds, and soundscapes, is shared by all three entities... IM 2010-117 requires BLM to “coordinate and/or consult on the parcel review and NEPA analysis.”... Specifically, BLM will do so with neighboring BLM field office “if lease nominations span or close to administrative boundaries.” In the present case, BLM failed to consult with the BLM Richfield field office whose boundary touches and/or is within a few miles of the lease parcels listed above. See EA 56 (list of stakeholders and interested parties consulted); MAP_Boundary-Viewshed-ACEC. NPS was consulted but only in regards to the Old Spanish Trail and not, for example, regarding impacts to the aesthetic enjoyment of Capitol Reef National Park visitors who can see many, if not all, of the landscapes impacted by development on the relevant lease parcels from within the Park boundary....

***BLM Response to Comment 11:** BLM consulted with the National Park Service on the lease sale via a letter dated February 12, 2015. BLM received the National Park Service response on February 26, 2015. They had no comments regarding air quality, viewsheds, watersheds and soundscapes for Capitol Reef National Park. The closest parcels to the Richfield Field Office boundary are approximately 6 miles away. Consequently it was not deemed necessary to contact their office.*

SUWA comment 12: The EA failed to take a hard look at the direct, indirect, and cumulative effects to the potential Mussentuchit Badlands ACEC from leasing parcels 089-098 and 100...The Mussentuchit Badlands ACEC was identified by BLM as a potential ACEC in the Price RMP due to its relevant and important cultural resource values. See Price RMP at 3-90; id.

Map 2-48. The ACEC's relevant values include "significant geological features," such as "igneous lava dikes and other volcanic intrusions." Price RMP, Appendix L at L-18. It also includes "prehistoric quarrying areas [that] are important for the study of local prehistoric economies, and the stone material is distinctive enough to be studied as part of regional trading systems." *Id.* The area's important values include the igneous lava dikes and fins which are unique within the Colorado Plateau region of Utah. Under FLPMA and NEPA, BLM must protect these identified relevant and important values and analyze the impacts to such values, respectively. The EA fails to do so. The EA *does not even mention* the Mussentuchit Badlands ACEC, let alone analyze impacts to its identified relevant and important values from oil and gas leasing...The impact to these values will be significant...

BLM Response to Comment 12: *Mussentuchit Badlands was not selected to be in an ACEC in the approved RMP-ROD. The Price Field Office manages this area per the 2008 RMP-ROD. Refer to page 46 in the PFO RMP. Parcel 091 is within Sand Cove Rock Art ACEC and has a No Surface Occupancy (NSO) stipulation attached.*

SUWA comment 13: Furthermore, oil and gas leasing, with its associated surface disturbing activities such as roads, will facilitate access to previously inaccessible areas, including those with high cultural resource density... This may result in damage to identified relevant and important cultural values...To ensure protection of the Mussentuchit Badlands ACEC's identified values, the EA must recognize that new roads and trails constructed (whether legally or illegally) as a result of oil and gas leasing will open up the area to potential vandalism and abuse. See Price RMP, Appendix L at L-18 ("Lack of vegetation in the [Mussentuchit Badlands ACEC] makes [its cultural resources] very visible and vulnerable.") (emphasis added). This factor must be addressed in the EA.

BLM Response to Comment 13: *A Route-by-Route analysis has not been completed for this area. The Travel and Transportation planning is underway and is not complete. There are numerous roads and linear features in this area which is currently being analyzed for purpose and need (Refer 2008 RMP-ROD OHV 7, OHV 9 page 114).*

The Price RMP-ROD considered all lands within the PFO and made the following leasing decisions:

Within the PFO ROD/RMP (as maintained), Appendices R-3 (Stipulations for Surface Disturbing Activities), R-5 (Best Management Practices for Raptors and their Associated Habitats), and R-14 (Fluid Mineral Development Best Management Typical Practices) contain pertinent stipulations, lease notices and committed measures. The proposed action is in conformance with the applicable Land Use Plan (LUP) because it is specifically provided for in the following decisions:

MLE-5 (page 125 PFO ROD/RMP)

The BLM has identified LUP leasing allocations for all lands within the Price Field Office. In addition, the Proposed RMP describes specific lease stipulations (Appendix R-3) that apply to a variety of different resources including raptors, greater sage grouse, and big game habitat, as well as program-related Best Management Practices (Appendix R-14) that may be applied on a

case-by-case basis, site-specific basis to prevent, minimize, or mitigate resource impacts (Map R-8).

MLE-6 (page 125 PFO ROD/RMP)

Review all lease parcels prior to lease sale. If the Price Field Office determines that new resource data information or circumstances relevant to the decision is available at the time of the lease review that warrants changing a leasing allocation or specific lease stipulation, the Price Field Office will make appropriate changes through the plan maintenance or amendment process. The Price Field Office may also apply appropriate conditions of approval at the permitting stage to ensure conformance with the LUP and all applicable law, regulation, and policies. (Department of the Interior, 2008).

MLE-9 (page 126 PFO ROD/RMP)

Oil and gas leasing management will be conducted as shown on Map R-25a.

- *Areas open to leasing subject to the standard terms and conditions of the lease form (1,161,000 acres)*
- *Areas open to leasing subject to moderate constraints (timing limitations; CSU, and lease notices) (467,000 acres)*
- *Areas open to leasing subject to major constraints (NSO) (282,000 acres)*
- *Areas unavailable to leasing (569,000 acres)*

The combination of all restrictions on oil and gas development is shown on Map R-26a.

The proposed action is also consistent with PFO ROD/RMP decisions and objectives as they relate to the management of the following resources (including but not limited to): air quality, BLM natural areas, cultural resources, recreation, riparian, soils, water, vegetation, fish and wildlife, and Areas of Critical Environmental Concern (ACEC). Additional RMP decisions are specified in Chapter 3 of the EA or the ID team checklist. In addition, site visits were conducted on the proposed parcels to verify consistency with the PFO ROD/RMP.

In addition through the EA process stipulations and lease notices were added to parcels to mitigate potential impacts of oil and gas leasing. The Gold Book and Onshore Order #1 standards are required in all oil and gas activities to ensure that oil & gas construction and reclamation are done in an environmentally sound manner.

SUWA comment 14: There is no analysis in the EA regarding potential impacts to paleontological resources from the leasing of parcels 071, 086-087, 089-098, 100, and 101. See EA, Appendix C at 18 (concluding that this resource is “present, but not affected to a degree that detailed analysis is required”). This decision is arbitrary and capricious in light of BLM’s conflicting statements that the Mussentuchit Badlands – where the majority of these parcels are located – (1) “offer a wealth of fossils, including dinosaur, invertebrate, and plant fossils,” (2) lack vegetative cover which “makes these resources very visible and vulnerable,” and (3) and that paleontological resources in this area will be “directly and indirectly affected . . . because leasing sets the stage for future surface-disturbing activities.” ... Thus, there is significant evidence that BLM’s decision is unsupported and otherwise arbitrary and capricious. Finally, if

BLM chooses to proceed with the leasing of these parcels it should attach NSO stipulations to each or, at a minimum, attach stipulations UT-S-176 and -177, as required by the Price ROD. See Price ROD at 76; but see Lease Sale EA, Appendix A at 61-84 (UT-S-176 and -177 not listed or attached to any parcel

BLM Response to Comment 14: *The following parcels 087, 090, 091, 092, 094-098 are in the Cedar Mountain and/or Morrison Formation. The BLM will add RMP stipulations UT-S-176 and UT-S-177 to these parcels. Surface-disturbing activities will trigger the need for either a pre-work survey and/or a paleontological monitor during the surface-disturbing activity. Leasing actions by their nature do not involve disturbance of paleontological resources. Once specific development plans are proposed adequate paleontological analysis will be conducted and appropriate mitigation applied. (RMP-ROD, Appendix R-3, Page 9).*

SUWA comment 15: Lease parcels 071, 086-087, 089-098, 100, and 101, overlap with lands that are the subject of on-going negotiations that are taking place between numerous interested parties, including SUWA, as part of the Public Lands Initiative (“PLI”). The PLI began more than two years ago motivated by the need to “build consensus among stakeholders in eastern Utah to designate lands for conservation and development.” U.S. Congressman Rob Bishop, Public Lands ...Leasing these parcels at this time will only serve to complicate negotiations and derail good-faith efforts made by all interested parties to reach consensus as to how these exact lands should be managed in the future.

BLM Response to Comment 15: *The BLM deferred the portions of parcels that are located within the Public Lands Initiative.*

Utah Rock Art Research Association comment 16: Lease 071

This lease is within a half mile of the famous Rochester Creek rock art site and within 250 yards of other cultural resources. In addition the EA lists 22 known cultural sites within the parcel. Much of the lease overlaps the road used to access the Rochester Creek rock art site. We are concerned that the cumulative impact of oil and gas development within this area including transportation routes, pipelines, exploration strategies, associated airborne particles etc. will likely impact a highly significant site and other nearby sites. We recommend that lease 071 be withdrawn.

BLM Response to Comment 16: *The Price RMP-ROD designated lands that are open to leasing and subject to constraints such as No Surface Occupancy (NSO) and controlled surface use. The proposed parcels are located within BLM managed lands that the Price RMP designated as open for oil and gas leasing. After review of parcel 071 by the PFO and SO archaeologist(s) it was determined that the Rochester Rock art panel is located outside of the sites viewshed, and that audible and atmospheric considerations could be mitigated prior to development.*

Utah Rock Art Research Association comment 17: Lease 151... We request that this lease be withdrawn due to important cultural sites within the lease boundaries.

BLM Response to Comment 17: *The Price RMP-ROD designated lands that are open to leasing and subject to constraints such as No Surface Occupancy (NSO) and controlled surface use. The proposed parcels are located within BLM managed lands that the Price RMP designated as open for oil and gas leasing.*

The Proposed Area of Potential Direct Effect (APE) for the 2015 Lease Sale is defined by each parcels geographic boundary.

The BLM would require additional information about the nature and extent of archaeological resources located within the APE to determine effects to cultural resources in the event that ground disturbance was imminent. Where there is no ground disturbance associated with this undertaking, the BLM would not require an Intensive Pedestrian Inventory for the APE at this time.

Utah Rock Art Research Association comment 18: Mussentuchit Region

While we have not done extensive research in the Mussentuchit region we are aware of important cultural sites within leases or within the 250 yard buffer of leases in the northern half of these lease blocks. The sites we have found lead us to believe there is additional cultural material in the area. We recommend that Leases 94 and 95 all other leases north to Interstate 70 be removed from the lease sale and that no transportation routes to facilitate development of the leases in the southern section, which don't currently exist, be permitted in this same region.

BLM Response to Comment 18: *The Price RMP-ROD designated lands that are open to leasing and subject to constraints such as No Surface Occupancy (NSO) and controlled surface use. The proposed parcels are located within BLM managed lands that the Price RMP designated as open for oil and gas leasing.*

Utah Rock Art Research Association comment 19: Area of Potential Effect (APE)

We have reviewed your definition of the APE for the proposed undertaking and believe that it does not anticipate all cumulative/indirect effects. We believe, it is important to include travel routes associated with the development of a lease parcel. During the development of the West Tavaputs Environmental Impact Statement the Bureau of Land Management (BLM) determined that dust, vibration, and increased visitation were negative effects of the proposed oil and gas development associated with travel that would be required for the development of the leases. The subsequent programmatic agreement identified APE boundaries along travel routes that might impact cultural resources that were distant from the actual oil and gas leases.

We believe that the BLM must consider cultural resources along potential travel routes to the proposed leases, not just cultural resources within the lease boundaries, in assessing whether a lease should be offered.

BLM Response to Comment 19: *The BLM would require additional information about the nature and extent of archaeological resources located within the APE to determine effects to cultural resources in the event that ground disturbance was imminent. Where there is no ground*

disturbance associated with this undertaking, the BLM would not require an Intensive Pedestrian Inventory for the APE at this time. If ground disturbance is proposed, cultural sites would be avoided or potential impacts mitigated prior to construction activities.

Utah Rock Art Research Association comment 20: Data Sufficiency in Leasing Decisions

A lease sale confers a right to the purchaser to perform an undertaking on BLM property. If exercised, the undertaking will include drilling and may include transportation routes where they don't currently exist, gathering pipelines, exploration, dust, vibration, and increased visitation. Both the transportation routes and visitation have a potential to lead to vandalism and theft of cultural materials in the area.

As a result, we believe that the BLM has a responsibility to make leasing decisions based on actual site information, not on unknown site information. Class I surveys (literature reviews) are useless when on-the-ground surveys have not been undertaken. We recommend that all proposed lease parcels have enough data provided by Class II or Class III surveys to adequately predict the nature of cultural resources within any parcel proposed for leasing.

***BLM Response to Comment 20:** Please see BLM response to comment (2). The BLM is committed to mitigating potential impacts to cultural resources.*

Wildearth Guardians comment 21: BLM fails to recognize that already existing federal coal, oil, and gas leases will result in climate emissions that far exceed a safe and livable global temperature rise and will render our oceans too acidic for much existing marine life. With every new set of leases...BLM further breaks the global carbon budget and increases the chances of catastrophic climate impacts...NEPA analyses are so pervasive that BLM...adopt the no action alternatives...NEPA analyses are so inadequate they cannot support project approvals without supplemental analyses.

***BLM Response to Comment 21:** As a report from the National Academy of Sciences states “[i]t is now more certain than ever, based on many lines of evidence, that humans are changing Earth’s climate.” Accordingly, the BLM believes that an assessment under NEPA must address, in an appropriate way, the GHG emissions from a proposed action and the effects of those emissions on the environment. In the protested EA, the BLM presents qualitative discussions of the environmental effects of climate change and their socioeconomic consequences. The EAs also quantitatively discuss the potential contribution of the proposed actions’ emissions in relation to state and national GHG emissions (Section 4.3.3.1).*

While the EA calculated potential GHG emission using a generic calculator to place potential emission into a regional and national context, determining GHG impacts for a specific project, their relationship to global climatic patterns, and the resulting impacts is still an ongoing and developing scientific process. What is known is that increasing concentrations of GHGs are likely to accelerate the rate of climate change. Further, while leasing the subject parcels, by itself, would not authorize any surface-disturbing or GHG emitting oil and gas operations and would have no direct impacts on the climate, there is an assumption that leasing the parcels would lead to some type of exploration and/or development actions that would have indirect

effects on global climate through GHG emissions. However, even with that assumption, it is not possible in this instance to quantify or identify specific projects potential impacts.

Currently, specific information on the location and methods for oil and gas development operations that may be proposed on the subject lease parcels is not known. The development potential of the oil and gas resource in the area of the leases is still speculative at this time based on the lack of any proven productive wells in the vicinity of the offered lease parcels. At this time the area is considered to be exploratory in nature and the number and location of any future drilling sites, if any, are unpredictable. It is also unknown whether the petroleum resources specific to these parcels are gas or oil or a combination thereof. Since these types of data are unavailable, it would be entirely speculative, and therefore not useful, to quantify potential GHG emissions impacts at this time. Since information regarding the location, extent, and operating procedures and technologies that might be utilized for oil and/or gas development operations on the subject parcels is not currently known, it is currently not feasible to speculate about the net impacts to climate that might result from leasing and any future oil and gas development operations on the proposed lease.

Wildearth Guardians comment 22: BLM Fails to Analyze Climate Emissions or Their Impacts.

BLM policy make clear that climate impacts from this project must be assessed and presented to the public and the decision maker. Such impacts, at minimum, include an estimate of project emissions and an estimate of the social costs of carbon...EAs reflect outdated and incorrect science in several places. BLM Utah states that NOAA and NASA believe 1998 to be the warmest year on record. Price EA at 14. That is incorrect. The warmest year on record was last year, 2014, undermining the climate--denier position that there is some kind of pause in global warming...On December 18, 2014, the Council on Environmental Quality released a Revised Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts... EAs ...did not consider the potential effects of the proposed action on climate change. The EAs ... ignore the implications of climate change for the environmental effects of the proposed action. The EAs fail to provide quantitative or qualitative analytical methods or analysis to ensure useful information is available to inform the public or the decision--maker in distinguishing between alternatives and ... ignore mitigations. These projects will each certainly release more than 25,000 metric tons of annual carbon dioxide equivalent emissions, but quantitative analysis of the impacts of those emissions is completely absent... The EAs further violate NEPA's mandate to assess impacts at the earliest opportunity...The EA must be supplemented to include an analysis of climate change and project effects on climate change in the Environmental Impacts or Environmental Effects sections of the EAs using the best available science and following agency and government--wide guidance.

BLM Response to Comment 22: See BLM Response to Comment 21

Wildearth Guardians comment 23: The EA Fails to Estimates Project Emissions

The EAs do not estimate climate emissions. To justify the failure to analyze this critical

problem, BLM baldly claims that “[t]he act of leasing would not result in changes to air quality.” Vernal EA at 33, Price EA at 39. BLM states that leasing “does not *directly* cause environmental consequences.” Vernal EA at 9, Price EA at 35 (emphasis added). This, however, is no justification for failing to analyze impacts. BLM clearly acknowledges in the same paragraph that its analysis cannot be limited to direct consequences, but must also include indirect effects. Further, BLM is leasing parcels that have been nominated for leasing. It is reasonably foreseeable that some if not all of the parcels nominated will be bind on by those who nominated them and that a significant percentage of those will be developed. BLM acknowledges that “[o]nce the lease has been issued, the lessee has the right to . . . remove and dispose of oil and gas deposits located under the leased lands . . .” (Vernal EA at 3.)

Instead of using its own Reasonably Foreseeable Development Scenarios for oil and gas development, as it claimed it would do, Price EA at 35, BLM pretends that emissions are not reasonably foreseeable. While BLM cannot estimate climate emissions, it nonetheless asserts, without justification, that such emissions are “negligible.” Vernal EA at 45. Price EA at 52.

The Price Field Office however goes on to state that the “highest end of the GHG emission spectrum,” is exactly 66,527.34 tons of carbon dioxide equivalent (“CO₂e”). Price EA at 52. This remarkably precise estimate, down to an uncertainty of about 20 pounds, is stated without identifying any assumptions or calculations. Thus, despite all assertions earlier to the contrary, BLM does appear to have the ability to estimate maximum emissions from this project.² That is good to hear, but not enough to satisfy NEPA. BLM must state how it arrived at this calculation and include emissions from construction, extraction, leakage, and ultimate burning of the product extracted. Presumably, these emissions are annual. BLM must say so. BLM must identify which conversion factors it used to equate emissions of different pollutants.

BLM may believe that providing such information to the public and the decision maker is unnecessary because it has come to the conclusion that such emissions are negligible relative to Utah’s annual emissions. This conclusion is in apropos for several reasons. First, BLM DC has instructed BLM field offices to provide quantitative analysis when emissions have the potential to exceed 25,000 tons per year of CO₂e. That is clearly the case here. Second, without providing the public with its algorithms and assumptions, there is no way to know whether emissions might, as we suspect, be far, far higher than BLM has thus far admitted. Finally, every single well and every single lease sale BLM has ever approved represent a small amount of emissions compared to the annual emissions of a state like Utah. Using BLM’s logic, every fossil fuel project in the world is “negligible.” It is with just such neglect that BLM drives us deeper into an irretrievable commitment to an unlivable world.

In fact, BLM seems to want to believe that leasing public minerals for extraction and burning has nothing to do with climate emissions. All previously leased coal, oil and gas are ignored when BLM asserts that the largest contributor to climate change from BLM Utah activities is from the “combustion of fossil fuels for on--road and off--road vehicles, engines, and construction equipment.” Price EA at 14. The emissions from those activities easily pale in comparison to BLM Utah’s federal leasing of fossil fuels, but the agency seems unable to accept that responsibility.

The BLM must supplement its EAs with valid estimates of emissions from construction and operation of wells, including both emissions produced onsite and those created from the burning of the oil and gas likely to be produced. Both carbon dioxide and methane emissions must be included. BLM must also use past production to estimate future emissions that will result from production from this agency action. These all must be included in a supplement to the EAs before project approval can proceed.

BLM Response to Comment 23: See BLM Response to Comment 21

Wildearth Guardians comment 24: The Social Cost of Carbon Has Been Ignored

BLM Response to Comment 24: With respect to estimating the SCC, the BLM finds that including monetary estimates of the SCC in its NEPA analysis for this proposed action, which is not a rulemaking action, would not be useful or appropriate. A federal Interagency Working Group on the Social Cost of Carbon (IWG), convened by the Office of Management and Budget, developed an SCC protocol to develop estimates of the SCC, which reflects the monetary cost incurred by the emission of one additional metric ton of CO₂. The SCC was developed specifically for regulatory impact analyses, and provides potential methodology for cost-benefit analysis. The BLM finds it would not be appropriate to incorporate SCC as there is no legal mandate or existing guidance requiring the inclusion of the SCC in the NEPA context.

Wildearth Guardians comment 25: Global warming is responsible for extreme costs to society already, and it will only get worse in the future.

The burning of coal, oil, and gas is the principle source of the largest contributor to global warming, carbon dioxide. *Id.*; see also AR5 summary at 13. At this time, approximately 25% of the carbon dioxide from fossil fuels produced in the U.S. comes from public lands leases. Ex. 5, Greenhouse Gas Emissions from Fossil Energy Extracted from Federal Lands and Waters, Stratus Consulting (February 1, 2012) at 15; see also, Ex. 6, Sales of Fossil Fuels Produced from Federal and Indian Lands – FY 2003 through FY 2013, U.S. Energy Information Administration (June 2014) at 2. Fossil fuels extracted from public lands release more than one and one-half billion metric tons of carbon dioxide equivalent per year. *Id.* at 12. That is the equivalent of more than 31 million passenger cars' annual climate pollution, just from producing and burning fossil fuels from our public lands alone. Greenhouse Gas Equivalencies Calculator, U.S. Environmental Protection Agency at <http://www.epa.gov/cleanenergy/energy-resources/calculator.html> (last checked July, 9 2015).

BLM manages federal mineral rights, including the leasing and approval of extraction of public lands fossil fuels, on all federal lands. Therefore, BLM decision makers play a critical role in determining how much more climate pollution the U.S. will emit to the atmosphere, the extent that that pollution will exacerbate global warming, and the extent that society and future generations will have to bear the myriad related social costs of those decisions.

Global warming is exacting costs on society in numerous ways. Agricultural productivity, including crops, livestock, and fisheries have been negatively impacted by global warming. National Climate Assessment – Overview. This has resulted from extreme weather events, changes in temperature and precipitation, and increasing pressure from pests and pathogens. *Id.* Both water quality and water quantity are being affected by global warming. *Id.* The degradation has resulted from changes in snowpack, extreme weather events, coastal flooding affecting aquifers, and from changes in temperature and precipitation. *Id.* Heat-related deaths and illnesses have grown and are growing. *Id.* Impacts to forest resources from increased forest fires and the resulting impacts to air quality put additional costs on society. *Id.* A wide variety of critical ecosystem functions are degraded by global warming, including habitat for fish and wildlife, drinking water storage, soils, and coastal barriers. *Id.* Carbon dioxide pollution is also responsible for increasing ocean acidification. This list represents only a subset of the social costs of carbon pollution from burning fossil fuels extracted from our public lands. Nonetheless, “[l]ower emissions of heat-trapping gases and particles mean less future warming and less-severe impacts; higher emissions mean more warming and more severe impacts.” *Id.*

BLM Response to Comment 25: See BLM Response to Comment 21

Wildearth Guardians comment 26: BLM decision makers must consider the social cost of carbon from all proposed land management projects.

...Analysis of site-specific impacts must take place at the lease stage and cannot merely be deferred until after receiving applications to drill...Any NEPA analysis of a fossil fuel development project that fails to use the government-wide protocol for assessing the costs to society of carbon emissions from the proposed action has failed to take the legally required “hard look.”... the SCC is an appropriate tool for quantifying the impacts of project-level emissions.

BLM Response to Comment 26: See BLM Response to Comment 21

Wildearth Guardians comment 27: The social cost of carbon will be significant whenever fossil fuel leasing, or mining, or drilling is proposed.

...it would be incorrect to assert that the social cost of carbon cannot be calculated for a project that represents a tiny fraction of global or even a tiny fraction of U.S. emissions. Estimates of the social cost of carbon are designed to do exactly that. In fact, the social cost of carbon is generally expressed in terms of the costs tolled by emitting or the benefits realized by avoiding a single ton of carbon dioxide emissions...any application of the current social cost of carbon protocol is very likely a significant underestimate of the true cost of carbon pollution.

The BLM has also utilized the social cost of carbon protocol in the context of oil and gas leasing. In recent Environmental Assessments for oil and gas leasing, the agency estimated “the annual SCC [social cost of carbon] associated with potential development on lease sale parcels.” Ex. 12, BLM, “Environmental Assessment DOI-BLM-MT-C020-2014-0091-EA, Oil and Gas Lease Parcel, October 21, 2014 Sale” (May 19, 2014) at 76. In conducting its

analysis, the BLM used a “3 percent average discount rate and year 2020 values,” presuming social costs of carbon to be \$46 per metric ton. *Id.* Based on its estimate of greenhouse gas emissions, the agency estimated total carbon costs to be “\$38,499 (in 2011 dollars).” *Id.*

...the social cost of carbon protocol...is a legitimate tool for performing a thorough and honest assessment of both costs and benefits of proposed actions as required under NEPA and E.O. 13514...

BLM Response to Comment 27: See BLM Response to Comment 21

Wildearth Guardians comment 28: BLM’s EA for the November 2015 Oil and Gas Lease Parcel Sale violates NEPA

BLM fails to draw the necessary connection between these projects 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...BLM must address the social costs of carbon that are likely to result from these projects.

BLM Response to Comment 28: See BLM Response to Comment 21

Wildearth Guardians comment 29: The EAs must analyze the possibility of earthquakes produced by underground injection of fracking waste water.

The EAs acknowledge that waste water from the project might be disposed of through underground injection wells. Price EA at 38...That practice is known or suspected of causing earthquakes in Oklahoma, Texas, Ohio, Pennsylvania, and California and has been restricted for just that reason in some of those areas. BLM must analyze the likelihood of such impacts in Utah before they occur.

Saline, produced water from wells, when injected into deeper sedimentary formations, appears to lubricate active fault lines...In some areas with previously rare earthquake activity, rates have increased ten--fold. It appears that the likelihood of induced seismicity is directly related to the rate of injection. High--rate injection is associated with the increase in U.S. mid--continent seismicity...

The EAs do not attempt to analyze the degree or frequency of waste water injection. Likewise, no stipulations on such practices are included in the proposed leases. This possible impact must be studied and appropriate stipulations included to prevent these impacts in Utah.

BLM Response to Comment 29: Comment 29, in essence, has three parts: 1) BLM needs to analyze the likelihood of earthquakes stemming from the injection of fracking waste water, 2) BLM needs to analyze the degree or frequency of authorizing waste water injection facilities, and 3) stipulations should be included to prevent these potential earthquake impacts.

First, there are more than 150,000 Class II injection wells in the United States and less than 1/3 (40,000) of these are waste-water disposal wells used for oil and gas operations. Of these wells only a small fraction has ever induced an earthquake (<http://www.usgs.gov/faq/categories/9833/3424>), although the media may suggest otherwise. Second, according to the USGS, “there are no methods available,” to anticipate whether a planned wastewater disposal well will trigger earthquakes that are large enough to be of concern (<http://www.usgs.gov/faq/categories/9833/3417>). The parameters required to initiate a seismic event large enough to be of concern are: proximal faulting, un-relieved tectonic stress, and a pathway for the extra injection pressure to interact with the fault. Faulting and differential stresses are reviewed in the down-hole geology analysis performed at the APD stage and again when a well is converted to an injection well, but these parameters are reviewed for reasons other than to predict seismic events. Precautions are already in effect that precludes the injection of fluids into fault zones but those processes are overseen by the Utah Division of Oil, Gas, and Mining.

Regarding the assertion that the BLM should analyze the degree or frequency of waste water injections sites or facilities, the State of Utah (under the direction of the EPA) has primacy over wastewater injection wells, not the Bureau of Land Management. In Utah, the governing body is the Department of Oil, Gas, and Mining (UDOGM). They require an extensive amount of information as part of their Injection Well Permit, see: http://oilgas.ogm.utah.gov/Quick_Refs/qref_permits.htm. They review well spacing, formation pressures, water quality parameters, and more before issuing a permit. Moreover, UDOGM’s decision to authorize an injection well goes out for public comment prior to issuing a permit. This would be an appropriate time to voice your specific concerns.

Regarding part three of your statement: stipulations should be included to prevent earthquake impacts. It has already been stated by the USGS that predicting the extent or even the potential to cause earthquakes is not possible at this time; thus without the ability to predict the intensity or magnitude of a possible earthquake associated with injecting fluids into the subsurface, it is equally impossible to create stipulations to mitigate an action which cannot be predicted and which may never occur. Perhaps the technology will be available in the future. There are several seismographs in the area, and to the best of our knowledge, there have been no earthquakes due to the injecting of waste water into the subsurface in the Price Field Office area.

Wildearth Guardians comment 30: The EAs must acknowledge BLM Utah’s dismal record of failing to plug abandoned wells and must analyze impacts from the likely continuation of that practice.

The EAs flatly state that wells that do not produce will be promptly plugged. Price EA at 38... This conclusion is not borne out by the evidence before the agency.

BLM Utah has a dismal record of reclaiming or forcing industry to reclaim wells that are not producing. A recent report by a retired BLM Utah employee, using BLM’s own records, estimates that there are more than 2000 acres of unreclaimed wellsites and hundreds of wells that have remained unplugged for more than 10 years on the Vernal and Price Field Office

areas...Abandoned wellsites can affect water quality, wildlife, climate emissions, air pollution and have other impacts. These impacts must be assessed in light of clear evidence that shows some of the wells leased through this project will fail to be plugged and reclaimed as claimed.

BLM Response to Comment 30: *Without specific well information, it is impossible to know the status of the wells in question. However, the PFO has been and is currently conducting an active reclamation program for abandoned wells per the WO Instruction Memorandum No. 2012-181. It is important to understand the terminology for plugged and abandoned wells as used by the BLM. Once the well is plugged (downhole), the well is identified as abandoned and because it is properly abandoned the well is no longer capable of production. Immediately after the well is abandoned, final surface reclamation begins. Once the surface reclamation meets BLM standards, the well is considered Plugged and Abandoned (P&A), the lessee is released from all future liability for the well and well-pad, and their bond is released. In the PFO, surface reclamation can last as long as 10 years or as short as 5 years due to the climate. The BLM mandates a 75 percent basal coverage for a successful reclamation and for approval of releasing liability from the lessee (Refer IM UTG000-2014-004, dated May 21, 2014, Green River District Reclamation Guidelines). The PFO will not relinquish the liability from the lessee early or due to the number of years in abandonment status regardless if it is 5, 10, 20 or 25 years. The BLM deems reclamation has been completed, if no other surface or vegetation work is needed and the site (including access roads) has 75 percent basal vegetation.*

Wildearth Guardians comment 31: ... BLM should withdraw both EAs and either supplement them or forgo leasing altogether. It is now clear that the extraction of fossil fuels from public lands is inconsistent with a livable world in the future. The sooner BLM transitions away from this activity, the better it will be for the land it manages and for the American people.

BLM Response to Comment 31: *The Price RMP-ROD (refer to page 18-19) addressed closing the field office to oil and gas leasing; however, this was eliminated from further consideration. "Leasing of Public lands for oil and gas exploration and production is required by the 1920 Mineral Leasing Act...A field office-wide "No Leasing Alternative" would be an unnecessarily restrictive alternative for mineral exploration and production on the public lands."*

The Price RMP-ROD considered all lands within the PFO and made the following leasing decisions:

Within the PFO ROD/RMP (as maintained), Appendices R-3 (Stipulations for Surface Disturbing Activities), R-5 (Best Management Practices for Raptors and their Associated Habitats), and R-14 (Fluid Mineral Development Best Management Typical Practices) contain pertinent stipulations, lease notices and committed measures. The proposed action is in conformance with the applicable Land Use Plan (LUP) because it is specifically provided for in the following decisions:

MLE-5 (page 125 PFO ROD/RMP)

The BLM has identified LUP leasing allocations for all lands within the Price Field Office. In addition, the Proposed RMP describes specific lease stipulations (Appendix R-3) that apply to a variety of different resources including raptors, greater sage grouse, and big game habitat, as well as program-related Best Management Practices (Appendix R-14) that may be applied on a case-by-case basis, site-specific basis to prevent, minimize, or mitigate resource impacts (Map R-8).

MLE-6 (page 125 PFO ROD/RMP)

Review all lease parcels prior to lease sale. If the Price Field Office determines that new resource data information or circumstances relevant to the decision is available at the time of the lease review that warrants changing a leasing allocation or specific lease stipulation, the Price Field Office will make appropriate changes through the plan maintenance or amendment process. The Price Field Office may also apply appropriate conditions of approval at the permitting stage to ensure conformance with the LUP and all applicable law, regulation, and policies. (Department of the Interior, 2008).

MLE-9 (page 126 PFO ROD/RMP)

Oil and gas leasing management will be conducted as shown on Map R-25a.

- *Areas open to leasing subject to the standard terms and conditions of the lease form (1,161,000 acres)*
- *Areas open to leasing subject to moderate constraints (timing limitations; CSU, and lease notices) (467,000 acres)*
- *Areas open to leasing subject to major constraints (NSO) (282,000 acres)*
- *Areas unavailable to leasing (569,000 acres)*

The combination of all restrictions on oil and gas development is shown on Map R-26a.

The proposed action is also consistent with PFO ROD/RMP decisions and objectives as they relate to the management of the following resources (including but not limited to): air quality, BLM natural areas, cultural resources, recreation, riparian, soils, water, vegetation, fish and wildlife, and Areas of Critical Environmental Concern (ACEC). Additional RMP decisions are specified in Chapter 3 of the EA or the ID team checklist. In addition, site visits were conducted on the proposed parcels to verify consistency with the PFO ROD/RMP.

In addition through the EA process stipulations and lease notices were added to parcels to mitigate potential impacts of oil and gas leasing. The Gold Book and Onshore Order #1 standards are required in all oil and gas activities to ensure that oil & gas construction and reclamation are done in an environmentally sound manner.

State Of Utah comment 32: ...the state is disappointed with this small lease sale offering as it undermines industry's ability to meet ongoing energy needs of the United States.

Of the 163 parcels that were nominated by industry for lease, of which 23 were immediately removed by BLM for consideration of coal and sage-grouse resources, BLM only chose to analyze 32 of the 140 remaining tracts. The reasons for this short list are due to BLM's lack of time and resources. BLM provided no explanation of the process for the selection of the specific 32 parcels analyzed. The selection process appears to have had no regard to resource potential, level of industry interest, or geographical clustering that might have expedited analysis of tracts with common geographic features. BLM is short changing industry's request for timely and orderly offering of oil and gas lease parcels by limiting the analysis to less than 25% of the requested parcels.

BLM's parcel selection process should be transparent to ensure that the parcels selected produce the best advantage and desired result for industry and the state. It is the policy of the Bureau of Land Management (BLM) to provide mineral resources available for use and encourage development of mineral resources to meet national, regional and local needs.

BLM Response to Comment 32: Refer to Appendix D in the EA for BLM's explanation of why some parcels were not carried forward for analysis. Time and Resources are a factor for the amount of parcels that can be included in the leasing EA.

Appendix F – Parcel Pictures