

## NOVEMBER 2013 STIPULATIONS AND NOTICES

<b>STIPULATIONS</b>	
<b>UT-S-01</b>	<p style="text-align: center;"><b>AIR QUALITY</b></p> <p>All 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 NOx per horsepower-hour.</p> <p><b>Exception:</b> This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.</p> <p><b>Modification:</b> None</p> <p><b>Waiver:</b> None</p> <p>AND</p> <p>All new and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gram of NOx per horsepower-hour.</p> <p><b>Exception:</b> None</p> <p><b>Modification:</b> None</p> <p><b>Waiver:</b> None</p>
<b>UT-S-10</b>	<p style="text-align: center;"><b>NO SURFACE OCCUPANCY – ROCK ART ACEC</b></p> <p>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.</p> <p><b>Exception:</b> None</p> <p><b>Modification:</b> None</p> <p><b>Waiver:</b> None</p>
<b>UT-S-23</b>	<p style="text-align: center;"><b>NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/ TIMING LIMITATIONS – NINE MILE CANYON ACEC</b></p> <p>No surface occupancy for oil and gas leasing within approximately 17,162 acres, and approximately 209 acres will be open to leasing subject to moderate constraints such as timing limitations and controlled surface use.</p> <p><b>Exception:</b> None</p> <p><b>Modification:</b> None</p> <p><b>Waiver:</b> None</p>
<b>UT-S-91</b>	<p style="text-align: center;"><b>NO SURFACE OCCUPANCY – OLD SPANISH NATIONAL HISTORIC TRAIL TRAIL SPRINGS/LOST SPRINGS WASH</b></p> <p>No surface occupancy within Trail Springs/Lost Springs Wash segment of the Old Spanish National Historic Trail to retain the historic character of the trail.</p> <p><b>Exception:</b> The authorized officer may grant an exception if an environmental analysis demonstrates that the action would not impair the historic character of the trail.</p> <p><b>Modification:</b> None</p> <p><b>Waiver:</b> None</p>

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<b>STIPULATIONS</b>	
<b>UT-S-96</b>	<p style="text-align: center;"><b>NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40%</b></p> <p>No surface occupancy for slopes greater than 40 percent.  <b>Exception:</b> If after an environment analysis the authorized officer determines that it would cause undue or unnecessary degradation to pursue other placement alternatives; surface occupancy in the NSO area may be authorized. Additionally a plan shall be submitted by the operator and approved by BLM prior to construction and maintenance and include:                      An erosion control strategy,                      GIS modeling, and                      Proper survey and design by a certified engineer.  <b>Modification:</b> Modifications also may be granted if a more detailed analysis, i.e. Order I, soil survey conducted by a qualified soil scientist finds that surface disturbance activities could occur on slopes greater than 40% while adequately protecting the area from accelerated erosion.  <b>Waiver:</b> None</p>
<b>UT-S-97</b>	<p style="text-align: center;"><b>NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES GREATER THAN 40 PERCENT</b></p> <p>No surface occupancy on slopes greater than 40 percent.  <b>Exception:</b> 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:</p> <ul style="list-style-type: none"> <li>• An erosion control strategy</li> <li>• GIS modeling</li> <li>• Proper survey and design by a certified engineer.</li> </ul> <p><b>Modification:</b> None  <b>Waiver:</b> None</p>
<b>UT-S-100</b>	<p style="text-align: center;"><b>CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)</b></p> <p>If surface-disturbing activities cannot be avoided on slopes from 21-40% a plan will be required. The plan will approved by BLM prior to construction and maintenance and include:                      An erosion control strategy,                      GIS modeling,                      Proper survey and design by a certified engineer.  <b>Exception:</b> None  <b>Modification:</b> None  <b>Waiver:</b> None</p>

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<b>UT-S-101</b>	<p style="text-align: center;"><b>CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES 20-40 PERCENT</b></p> <p>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.</p> <p><b>Exception:</b> 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:</p> <ul style="list-style-type: none"> <li>• An erosion control strategy</li> <li>• GIS modeling</li> <li>• Proper survey and design by a certified engineer.</li> </ul> <p><b>Modification:</b> 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.</p> <p><b>Waiver:</b> None</p>
<b>UT-S-123</b>	<p style="text-align: center;"><b>NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES</b></p> <p>No new surface-disturbing activities are allowed within active flood plains, wetlands, public water reserves, or 100 meters of riparian areas. Keep construction of new stream crossings to a minimum.</p> <p><b>Exception:</b> An exception could be authorized if: (a) there are no practical alternatives (b) impacts could be fully mitigated, or (c) the action is designed to enhance the riparian resources.</p> <p><b>Modification:</b> None</p> <p><b>Waiver:</b> None</p>
<b>UT-S-126</b>	<p style="text-align: center;"><b>NO SURFACE OCCUPANCY – NATURAL SPRINGS</b></p> <p>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.</p> <p><b>Exception:</b> An exception could be authorized if (a) there are no practical alternatives, (b) impacts could be fully mitigated, or (c) the action is designed to enhance the riparian resources.</p> <p><b>Modification:</b> None</p> <p><b>Waiver:</b> None</p>

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<b>STIPULATIONS</b>	
<b>UT-S-127</b>	<p><b>NO SURFACE OCCUPANCY – INTERMITTENT AND PERENNIAL STREAMS</b>            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.</p> <p><b>Exception:</b> 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.</p> <p><b>Modification:</b> None  <b>Waiver:</b> None</p>
<b>UT-S-156</b>	<p style="text-align: center;"><b>TIMING LIMITATION – HIGH-COUNTRY WATERSHED AREAS</b></p> <p>High-country watershed areas (above 7,000 feet) will be closed seasonally from <b>December 1 to April 15</b>.</p> <p><b>Exception:</b> 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.</p> <p><b>Modification:</b> Season may be adjusted depending on climatic and vegetation conditions.  <b>Waiver:</b> Activities may be allowed as long as all surface disturbing activities are conducted before seasonal closure.</p>
<b>UT-S-157</b>	<p style="text-align: center;"><b>NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE            TIMING LIMITATION – VISUAL RESOURCES</b></p> <p>Visual resource management activities will comply with BLM Handbook 8410-1. Within VRM Class I areas, very limited management activity will be allowed, with the objective of preserving the existing character of the landscape, allowing for natural ecological changes. The level of change to the landscape should be very low and shall not attract attention.</p> <p>Within VRM Class II areas, surface-disturbing activities will retain the existing character of the landscape. The level of change to the landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any change to the landscape shall repeat the basic elements of form, line, color and texture found in the predominant natural features of the characteristic landscape.</p> <p>Within VRM Class III areas, surface disturbing activities will partially retain the existing character of the landscape. The allowable level of change will be moderate, may attract attention, but should not dominate the view of the casual observer. Landscape changes should repeat the basic elements of form, line, color and texture found in the predominant natural features of the characteristic landscape.</p> <p>Within VRM Class IV areas, surface disturbing activities are allowed to dominate the view and the major focus of viewer attention. Major modifications to the existing character of the landscape are allowed. But every attempt should be made to minimize and mitigate the impacts.</p> <p><b>Exception:</b> Exempted are recognized utility corridors.  <b>Modification:</b> None  <b>Waiver:</b> None</p>

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<b>UT-S-159</b>	<p style="text-align: center;"><b>CONTROLLED SURFACE USE – VISUAL RESOURCES - VRM II</b></p> <p>Within VRM II areas, surface-disturbing activities will retain the existing character of the landscape. The level of change to the landscape should be low. Management activities may be seen, but should not attract attention of the casual observer. Any change to the landscape must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.</p> <p><b>Exception:</b> Exempted are recognized utility corridors.</p> <p><b>Modification:</b> None</p> <p><b>Waiver:</b> None</p>
<b>UT-S-160</b>	<p style="text-align: center;"><b>CONTROLLED SURFACE USE – VISUAL RESOURCES - VRM II</b></p> <p>Within VRM II areas, surface disturbing activities will comply with BLM Manual Handbook 8431-1 to retain the existing character of the landscape.</p> <p><b>Exception:</b> Recognized utility corridors are exempt. Temporary exceedance may be allowed during initial development phases.</p> <p><b>Modification:</b> None</p> <p><b>Waiver:</b> None</p>
<b>UT-S-169</b>	<p style="text-align: center;"><b>CONTROLLED SURFACE USE – CULTURAL RESOURCE INVENTORIES</b></p> <p>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.</p> <p>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:</p> <ul style="list-style-type: none"> <li>• 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.)</li> <li>• 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.</li> <li>• 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.</li> <li>• Previous inventories must have been conducted according to current professionally acceptable standards.</li> <li>• Records are available and accurate and document the location, methods, and results of the inventory.</li> <li>• 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.</li> <li>• 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.</li> <li>• Natural environmental characteristics (such as recent landslides or rock falls) are</li> </ul>

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	<p>unfavorable to the presence of cultural properties.</p> <ul style="list-style-type: none"> <li>• The nature of the proposed action is such that no impact can be expected on significant cultural resources.</li> <li>• Conditions exist that could endanger the health or safety of personnel, such as the presence of hazardous materials, explosive ordnance, or unstable structures.</li> </ul>
<b>UT-S-176</b>	<p style="text-align: center;"><b>CONTROLLED SURFACE USE – FOSSIL RESOURCES (PRECONSTRUCTION SURVEYS)</b></p> <p>Preconstruction paleo surveys will be required prior to any surface disturbing activity in the Morrison, Cedar Mountain, Blackhawk, North Horn, or Chinle Formations.</p> <p><b>Exception:</b> The authorized officer may grant an exception if the area has previously been inventoried within the last three (3) years.</p> <p><b>Modification:</b> None</p> <p><b>Waiver:</b> None</p>
<b>UT-S-177</b>	<p style="text-align: center;"><b>CONTROLLED SURFACE USE – FOSSIL RESOURCES</b></p> <p>A BLM permitted paleontologist will be required to be onsite during surface disturbance in any Potential Fossil Yield Classification (PFYC) 4 or 5 areas.</p> <p><b>Exceptions:</b> None</p> <p><b>Modification:</b> None</p> <p><b>Waiver:</b> None</p>
<b>UT-S-218</b>	<p style="text-align: center;"><b>CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG</b></p> <p>No surface-disturbing activities within 660 feet of prairie dog colonies identified within prairie dog habitat. No permanent aboveground facilities are allowed within the 660 feet buffer.</p> <p><b>Exception:</b> An exception may be granted, by the authorized officer if the applicant submits a plan that indicates that impacts of the proposed action can be adequately mitigated or, if due to the size of the town, there is no reasonable location to develop a lease and avoid colonies the authorized officer will allow for loss of prairie dog colonies and/or habitat to satisfy terms and conditions of the lease.</p> <p><b>Modification:</b> 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.</p> <p><b>Waiver:</b> May be granted if in the leasehold it is determined that habitat no longer exists or has been destroyed.</p>
<b>UT-S-230</b>	<p style="text-align: center;"><b>TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE</b></p> <p>No surface disturbing activities in deer and elk crucial winter range from <b>December 1 - April 30</b>.</p> <p><b>Exception:</b> This restriction would not apply if and/or elk are not present, or if it is determined through analysis and coordination with UDWR that impacts could be mitigated. Factors to be considered would include snow depth, temperature, snow crusting, location of disturbance, forage quantity and quality, animal condition, and expected duration of disturbance.</p> <p><b>Modification:</b> The stipulation could be modified based on findings of collaborative monitoring and analysis. For example, the winter range configuration and time frames could be changed if current animal use patterns are determined to be inconsistent with the dates and boundaries established.</p> <p><b>Waiver:</b> This stipulation could be waived if it is determined through collaborative</p>

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	monitoring and analysis that the area is not crucial winter range or that timing restrictions are unnecessary.
<b>UT-S-231</b>	<p style="text-align: center;"><b>CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE</b></p> <p>Within crucial deer winter range, no more than 10% of such habitat will be subject to surface disturbance and remain un-reclaimed at any given time.</p> <p><b>Exception:</b> This stipulation may be excepted if either the resource values change or the lessee/operator demonstrates to BLMs satisfaction that impacts can be mitigated.</p> <p><b>Modification:</b> None</p> <p><b>Waiver:</b> None</p>
<b>UT-S-232</b>	<p style="text-align: center;"><b>TIMING LIMITATION – MULE DEER AND ELK CRUCIAL WINTER RANGE</b></p> <p>No surface disturbing or otherwise disruptive activities within mule deer and elk crucial winter range from <b>December 1 to April 15</b>.</p> <p><b>Exception:</b> 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.</p> <p><b>Modification:</b> Season may be adjusted depending on climatic and range conditions.</p> <p style="padding-left: 40px;"><b>Waiver:</b> 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>
<b>UT-S-247</b>	<p style="text-align: center;"><b>TIMING LIMITATION – CRUCIAL ELK CALVING AND DEER FAWNING HABITAT</b></p> <p>In order to protect crucial elk calving and deer fawning habitat exploration, drilling, and other development activity will not be allowed from <b>May 15 - June 30</b>.</p> <p><b>Exception:</b> This restriction would not apply to maintenance and operation of existing facilities. This stipulation may be excepted if either the resource values change or the lessee/operator demonstrates to BLMs satisfaction that adverse impact can be mitigated.</p> <p><b>Modification:</b> None</p> <p><b>Waiver:</b> None</p>
<b>UT-S-248</b>	<p style="text-align: center;"><b>TIMING LIMITATION – MULE DEER FAWNING AND ELK CALVING AREAS</b></p> <p>No surface disturbing or otherwise disruptive activities within mule deer fawning and elk calving areas from <b>May 15 to July 5</b>.</p> <p><b>Exception:</b> 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.</p> <p><b>Modification:</b> Season may be adjusted depending on climatic and range conditions.</p> <p><b>Waiver:</b> 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>

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<b>UT-S-260</b>	<p style="text-align: center;"><b>TIMING LIMITATION – RAPTOR HABITAT</b></p> <p>Raptor nesting complexes and known raptor nest sites will be closed seasonally from <b>February 1 to July 15</b> within ½ mile of occupied nests.</p> <p><b>Exception:</b> The authorized officer may grant an exception if the raptor nest in question is deemed to be inactive by May 31 and if the proposed activity would not result in a permanent structure or facility that would cause the subject nest to become unsuitable for nesting in future years.</p> <p><b>Modification:</b> Season may be adjusted depending on climatic and range conditions. Distance may be adjusted if natural features provide adequate visual screening.</p> <p><b>Waiver:</b> This stipulation may be waived if, in cooperation with the UDWR, it is determined that the site has been permanently abandoned or unoccupied for a minimum of 3 years.</p>
<b>UT-S-261</b>	<p style="text-align: center;"><b>TIMING LIMITATION – RAPTOR BUFFERS</b></p> <p>Raptor management will be guided by the use of "Best Management Practices for Raptors and Their Associated Habitats in Utah" (Utah BLM, 2006, Appendix A), utilizing seasonal and spatial buffers, as well as mitigation, to maintain and enhance raptor nesting and foraging habitat, while allowing other resource uses.</p> <p><b>Exception:</b> None</p> <p><b>Modification:</b> Criteria that would need to be met, prior to implementing modifications to the spatial and seasonal buffers in the “<i>Raptor BMPs</i>”, would include the following:  Completion of a site-specific assessment by a wildlife biologist or other qualified individual. See example (Attachment 1 of the Raptor BMPs in Appendix A)  Written documentation by the BLM Field Office Wildlife Biologist, identifying the proposed modification and affirming that implementation of the proposed modification(s) would not affect nest success or the suitability of the site for future nesting. Modification of the “BMPs” would not be recommended if it is determined that adverse impacts to nesting raptors would occur or that the suitability of the site for future nesting would be compromised.</p> <p>Development of a monitoring and mitigation strategy by a BLM biologist, or other raptor biologist. Impacts of authorized activities would be documented to determine if the modifications were implemented as described in the environmental documentation or Conditions of Approval, and were adequate to protect the nest site. Should adverse impacts be identified during monitoring of an activity, BLM would follow an appropriate course of action, which may include cessation or modification of activities that would avoid, minimize or mitigate the impact, or, with the approval of UDWR and the USFWS, BLM could allow the activity to continue while requiring monitoring to determine the full impact of the activity on the affected raptor nest. A monitoring report would be completed and forwarded to UDWR for incorporation into the Natural Heritage Program (NHP) raptor database.</p> <p><b>Waiver:</b> None</p>

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<b>STIPULATIONS</b>	
<b>UT-S-269</b>	<p style="text-align: center;"><b>NO SURFACE OCCUPANCY – MEXICAN SPOTTED OWL NESTS</b></p> <p>No surface occupancy within 1/2 mile of known Mexican Spotted Owl (MSO) nests.</p> <p><b>Exception:</b> 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.</p> <p><b>Modification:</b> 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.</p> <p><b>Waiver:</b> 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>
<b>UT-S-305</b>	<p style="text-align: center;"><b>CONTROLLED SURFACE USE – NOXIOUS WEED</b></p> <p>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.</p> <p><b>Exception:</b> None</p> <p><b>Modification:</b> None</p> <p><b>Waiver:</b> None</p>

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### 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:

1. Surveys will be required prior to operations unless species occupancy and distribution information is complete and available. All surveys must be conducted by qualified individual(s).
2. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.
3. Water production will be managed to ensure maintenance or enhancement of riparian habitat.
4. Avoid loss or disturbance of riparian habitats.
5. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in suitable riparian habitat. Ensure that such directional drilling does not intercept or degrade alluvial aquifers.
6. Conduct watershed analysis for leases in designated critical habitat and overlapping major tributaries in order to determine toxicity risk from permanent facilities.
7. Implement Appendix B (Hydrologic Considerations for Pipeline Crossing Stream Channels, Technical Note 423).
8. Drilling will not occur within 100 year floodplains of rivers or tributaries to rivers that contain listed fish species or critical habitat.
9. In areas adjacent to 100-year flood plains, particularly in systems prone to flash floods, analyze the risk for flash floods to impact facilities, and use closed loop drilling, and pipeline burial or suspension according to Appendix B (Hydrologic Considerations for Pipeline Crossing Stream Channels, Technical Note 423, to minimize the potential for equipment damage and resulting leaks or spills.

Water depletions from *any* portion of the Upper Colorado River drainage basin above Lake Powell are considered to adversely affect or adversely modify the critical habitat of the four resident endangered fish species, and must be evaluated with regard to the criteria described in the Upper Colorado River Endangered Fish Recovery Program. Formal consultation with USFWS is required for all depletions. All 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.

T&E-03

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### LISTED PLANT SPECIES

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

1. Site inventories:
  - a. Must be conducted to determine habitat suitability,
  - b. Are required in known or potential habitat for all areas proposed for surface disturbance prior to initiation of project activities, at a time when the plant can be detected, and during appropriate flowering periods,
  - c. Documentation should include, but not be limited to individual plant locations and suitable habitat distributions, and
  - d. All surveys must be conducted by qualified individuals.
2. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.
3. Project activities must be designed to avoid direct disturbance to populations and to individual plants:
  - a. Designs will avoid concentrating water flows or sediments into plant occupied habitat.
  - b. Construction will occur down slope of plants and populations where feasible; if well pads and roads must be sited upslope, buffers of 300 feet minimum between surface disturbances and plants and populations will be incorporated.
  - c. Where populations occur within 300 ft. of well pads, establish a buffer or fence the individuals or groups of individuals during and post-construction.
  - d. Areas for avoidance will be visually identifiable in the field, e.g., flagging, temporary fencing, rebar, etc.
  - e. For surface pipelines, use a 10 foot buffer from any plant locations:
    - i. If on a slope, use stabilizing construction techniques to ensure the pipelines don't move towards the population.
4. For riparian/wetland-associated species, e.g. Ute ladies-tresses, avoid loss or disturbance of riparian habitats.
5. Ensure that water extraction or disposal practices do not result in change of hydrologic regime.
6. Limit disturbances to and within suitable habitat by staying on designated routes.
7. Limit new access routes created by the project.
8. Place signing to limit ATV travel in sensitive areas.
9. Implement dust abatement practices near occupied plant habitat.
10. All disturbed areas will be re-vegetated with native species comprised of species indigenous to the area.
11. Post construction monitoring for invasive species will be required.
12. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in plant habitat. Ensure that such directional drilling does not intercept or degrade alluvial aquifers.
13. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.

**T&E-05**

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	<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>
<b>T&amp;E-06</b>	<p style="text-align: center;"><b>MEXICAN SPOTTED OWL</b></p> <p>The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for Mexican spotted owl, a federally listed species. The Lessee/Operator is given notice that the lands in this lease contain Designated Critical Habitat for the Mexican spotted owl, a federally listed species. Critical habitat was designated for the Mexican spotted owl on August 31, 2004 (69 FR 53181-53298). Avoidance or use restrictions may be placed on portions of the lease. Application of appropriate measures will depend whether the action is temporary or permanent, and whether it occurs within or outside the owl nesting season.</p> <p>A <u>temporary</u> action is completed prior to the following breeding season leaving no permanent structures and resulting in no permanent habitat loss. A <u>permanent</u> action continues for more than one breeding season and/or causes a loss of owl habitat or displaces owls through disturbances, i.e. creation of a permanent structure.</p> <p>The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the Endangered Species Act. Integration of, and adherence to these measures, will facilitate review and analysis of any submitted permits under the authority of this lease. Following these measures could reduce the scope of Endangered Species Act, Section 7 consultation at the permit stage. Current avoidance and minimization measures include the following:</p> <ol style="list-style-type: none"> <li>1. Surveys will be required prior to operations unless species occupancy and distribution information is complete and available. All Surveys must be conducted by qualified individual(s).</li> <li>2. Assess habitat suitability for both nesting and foraging using accepted habitat models in conjunction with field reviews. Apply the conservation measures below if project activities occur within 0.5 mile of suitable owl habitat. Determine potential effects of actions to owls and their habitat.             <ol style="list-style-type: none"> <li>a. Document type of activity, acreage and location of direct habitat impacts, type and extent of indirect impacts relative to location of suitable owl habitat.</li> <li>b. Document if action is temporary or permanent.</li> </ol> </li> <li>3. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.</li> <li>4. Water production will be managed to ensure maintenance or enhancement of riparian habitat.</li> <li>5. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in canyon habitat suitable for Mexican spotted owl nesting.</li> <li>6. For all temporary actions that may impact owls or suitable habitat:             <ol style="list-style-type: none"> <li>a. If the action occurs entirely outside of the owl breeding season (March 1 – August 31), and leaves no permanent structure or permanent habitat disturbance, action can proceed without an occupancy survey.</li> <li>b. If action will occur during a breeding season, survey for owls prior to commencing activity. If owls are found, activity must be delayed until outside of</li> </ol> </li> </ol>

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	<p>the breeding season.</p> <p>c. Rehabilitate access routes created by the project through such means as raking out scars, re-vegetation, gating access points, etc.</p> <p>7. For all permanent actions that may impact owls or suitable habitat:</p> <p>a. Survey two consecutive years for owls according to accepted protocol prior to commencing activities.</p> <p>b. If owls are found, no actions will occur within 0.5 mile of identified nest site. If nest site is unknown, no activity will occur within the designated Protected Activity Center (PAC).</p> <p>c. Avoid drilling and permanent structures within 0.5 mi of suitable habitat unless surveyed and not occupied.</p> <p>d. Reduce noise emissions (e.g., use hospital-grade mufflers) to 45 dBA at 0.5 mile from suitable habitat, including canyon rims. Placement of permanent noise-generating facilities should be determined by a noise analysis to ensure noise does not encroach upon a 0.5 mile buffer for suitable habitat, including canyon rims.</p> <p>e. Limit disturbances to and within suitable habitat by staying on approved routes.</p> <p>f. Limit new access routes created by the project.</p> <p>Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the U.S. Fish and Wildlife Service between the lease sale stage and lease development stage to ensure continued compliance with the Endangered Species Act.</p>
<b>T&amp;E-12</b>	<p align="center"><b>PARIETTE CACTUS (<i>SCLEROCACTUS BREVISPINUS</i>) AND UINTA BASIN HOOKLESS CACTUS [<i>SCLEROCACTUS GLAUCUS (BREVISPINUS AND WETLANDICUS)</i>]</b></p> <p>The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for the Pariette cactus and Uinta Basin hookless cactus, under the Endangered Species Act (ESA). The following avoidance and minimization measures have been developed to facilitate review and analysis of any submitted permits under the authority of this lease.</p> <p>In order to minimize effects to the federally threatened Pariette cactus and Uinta Basin hookless cactus, the BLM in coordination with the USFWS, developed the following avoidance and minimization measures. Integration of and adherence to these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance) are in compliance with the ESA. For the purposes of this document, the following terms are so defined: Potential habitat is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment. Suitable habitat is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain Uinta Basin hookless cactus. Habitat descriptions can be found in the U.S. Fish and Wildlife Service’s 1990 Recovery Plan and Federal Register Notices for the Uinta Basin hookless cactus (<a href="http://www.fws.gov/endangered/wildlife.html">http://www.fws.gov/endangered/wildlife.html</a>). Occupied habitat is defined as areas currently or historically known to support Uinta Basin hookless cactus; synonymous with “known habitat.” The following avoidance and minimization measures should be included in the Plan of Development:</p> <p>1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat prior to any ground disturbing activities to determine if suitable Pariette cactus and Uinta Basin hookless cactus habitat is</p>

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- present.
2. Within suitable habitat, site inventories will be conducted to determine occupancy. Inventories:
    - a. Must be conducted by qualified individual(s) and according to BLM and Service accepted survey protocols,
    - b. Will be conducted in suitable and occupied habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected, and during appropriate flowering periods:
      - i. *Sclerocactus brevispinus* surveys should be conducted March 15<sup>th</sup> to June 30<sup>th</sup>, unless extended by the BLM
      - ii. *Sclerocactus wetlandicus* surveys can be done any time of the year, provided there is no snow cover,
    - c. Will occur within 300' from the edge of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad,
    - d. Will include, but not be limited to, plant species lists and habitat characteristics, and
    - e. Will be valid until March 15<sup>th</sup> the following year for *Sclerocactus brevispinus* and one year from the survey date for *Sclerocactus wetlandicus*.
  3. Design project infrastructure to minimize impacts within suitable habitat<sup>2</sup>:
    - a. Reduce well pad size to the minimum needed, without compromising safety,
    - b. Limit new access routes created by the project,
    - c. Roads and utilities should share common right-of-ways where possible,
    - d. Reduce width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat,
    - e. Place signing to limit off-road travel in sensitive areas,
    - f. Stay on designated routes and other cleared/approved areas, and
    - g. All disturbed areas will be re-vegetated with native species comprised of species indigenous to the area and non-native species that are not likely to invade other areas.
  4. Within occupied habitat<sup>3</sup>, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
    - a. Follow the above (#3) recommendations for project design within suitable habitats,
    - b. Buffers of 300 feet minimum between the edge of the right of way (roads and surface pipelines) or surface disturbance (well pads) and plants and populations will be incorporated,
    - c. Surface pipelines will be laid such that a 300 foot buffer exists between the edge of the right of way and the plants, use stabilizing and anchoring techniques when the pipeline crosses the habitat to ensure the pipelines don't move towards the population,
    - d. Before and during construction, areas for avoidance should be visually identifiable in the field (e.g., flagging, temporary fencing, rebar, etc.),
    - e. Where technically and economically feasible, use directional drilling or multiple wells from the same pad,
    - f. Designs will avoid concentrating water flows or sediments into occupied habitat,
    - g. Place produced oil, water, or condensate tanks in centralized locations, away

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	<p>from occupied habitat, and</p> <p>h. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.</p> <p>5. Occupied Pariette cactus and Uinta Basin hookless cactus habitats within 300’ of the edge of the surface pipelines’ right-of-ways, 300’ of the edge of the roads’ right-of-ways, and 100’ from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the USFWS. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the USFWS.</p> <p>6. Re-initiation of Section 7 consultation with the USFWS will be sought immediately if any loss of plants or occupied habitat for the Pariette cactus and Uinta Basin hookless cactus is anticipated as a result of project activities.</p> <p>Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the USFWS to ensure continued compliance with the ESA.</p>
<b>T&amp;E-14</b>	<p align="center"><b>LAST CHANCE TOWNSENDIA (<i>TOWNSENDIA APRICA</i>)</b></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 &lt;<a href="http://www.fws.gov/endangered/wildlife.html">http://www.fws.gov/endangered/wildlife.html</a>&gt;. <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> <ol style="list-style-type: none"> <li>1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat<sup>1</sup> prior to any ground disturbing activities (including ATV use) to determine if suitable Last Chance Townsendia habitat is present.</li> <li>2. Site inventories will be conducted within suitable habitat to determine occupancy. Where standard surveys are technically infeasible and otherwise hazardous due to topography, slope, etc. suitable habitat will be assessed and mapped for avoidance (hereafter, “avoidance areas”); in such cases, in general, 300’ buffers will be maintained between surface disturbance and avoidance areas. However, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat. Where conditions allow, inventories:             <ol style="list-style-type: none"> <li>a. Must be conducted by qualified individuals(s) and according to BLM and Service</li> </ol> </li> </ol>

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- accept survey protocols,
- b. Will be conducted in suitable and occupied habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (usually April 15<sup>th</sup> to June 5<sup>th</sup>, however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known population is in flower),
  - c. Will occur within 300' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad,
  - d. Will include, but not be limited to, plant species lists and habitat characteristics, and
  - e. Will be valid until April 15<sup>th</sup> the following year.
3. Design project infrastructure to minimize impacts within suitable habitat:
- a. 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,
  - b. Reduce well pad size to the minimum needed, without compromising safety,
  - c. Where technically and economically feasible, use directional drilling or multiple wells from the same pad,
  - d. Limit new access routes created by the project,
  - e. Roads and utilities should share common right-of-ways where possible,
  - f. 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,
  - g. Place signing to limit off-road travel in sensitive areas, and
  - h. Stay on designated routes and other cleared/approved areas,
  - i. 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.
4. Within occupied habitat, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
- a. Follow the above recommendations (#3) for project design within suitable habitats,
  - b. 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,
  - c. 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,
  - d. Roads will be graveled with occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from April 15<sup>th</sup> to June 5<sup>th</sup> (flowering period); dust abatement applications will be comprised of water only,
  - e. 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,
  - f. 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

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	<p>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>g. Construction activities will not occur from April 15<sup>th</sup> through June 5<sup>th</sup> within occupied habitat,</p> <p>h. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging temporary fencing, rebar, etc.,</p> <p>i. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and</p> <p>j. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.</p> <p>5. Occupied Last Chance Townsendia 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.</p> <p>6. Re-initiation of section 7 consultation with the Service will be sought immediately if any loss of plants or occupied habitat for the Last Chance Townsendia 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>
<b>T&amp;E-15</b>	<p style="text-align: center;"><b>WRIGHT FISHHOOK CACTUS (<i>SCLEROCACTUS WRIGHTIAE</i>)</b></p> <p>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 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 &lt;<a href="http://www.fws.gov/endangered/wildlife.html">http://www.fws.gov/endangered/wildlife.html</a>&gt;. <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> <ol style="list-style-type: none"> <li>1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat<sup>1</sup> prior to any ground disturbing activities (including ATV use) to determine if suitable Wright Fishhook Cactus habitat is present.</li> <li>2. Site inventories will be conducted within suitable habitat to determine occupancy.</li> </ol>

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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:

- a. Must be conducted by qualified individuals(s) and according to BLM and Service accept survey protocols,
  - b. Will be conducted in suitable and occupied habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (usually April 15<sup>th</sup> to June 5<sup>th</sup>, however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known population is in flower),
  - c. Will occur within 300' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad,
  - d. Will include, but not be limited to, plant species lists and habitat characteristics, and
  - e. Will be valid until April 15<sup>th</sup> the following year.
3. Design project infrastructure to minimize impacts within suitable habitat:
- a. 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,
  - b. Reduce well pad size to the minimum needed, without compromising safety,
  - c. Where technically and economically feasible, use directional drilling or multiple wells from the same pad,
  - d. Limit new access routes created by the project,
  - e. Roads and utilities should share common right-of-ways where possible,
  - f. 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,
  - g. Place signing to limit off-road travel in sensitive areas, and
  - h. Stay on designated routes and other cleared/approved areas,
  - i. 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.
4. Within occupied habitat, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
- a. Follow the above recommendations (#3) for project design within suitable habitats,
  - b. 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,
  - c. 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,
  - d. Roads will be graveled with occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from April 15<sup>th</sup> to June 5<sup>th</sup> (flowering

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	<p>period); dust abatement applications will be comprised of water only,</p> <ol style="list-style-type: none"> <li>e. 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,</li> <li>f. 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,</li> <li>g. Construction activities will not occur from April 15<sup>th</sup> through June 5<sup>th</sup> within occupied habitat,</li> <li>h. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging temporary fencing, rebar, etc.,</li> <li>i. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and</li> <li>j. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.</li> </ol> <ol style="list-style-type: none"> <li>5. 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.</li> <li>6. 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.</li> </ol>
<b>T&amp;E-17</b>	<p style="text-align: center;"><b>SAN RAFAEL CACTUS (<i>PEDIOCACTUS DESPAINII</i>)</b></p> <p>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 &lt;<a href="http://www.fws.gov/endangered/wildlife.html">http://www.fws.gov/endangered/wildlife.html</a>&gt;. <i>Occupied habitat</i> is defined as</p>

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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:

1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat<sup>1</sup> prior to any ground disturbing activities (including ATV use) to determine if suitable San Rafael Cactus habitat is present.
2. Site inventories will be conducted within suitable habitat to determine occupancy. Where standard surveys are technically infeasible and otherwise hazardous due to topography, slope, etc. suitable habitat will be assessed and mapped for avoidance (hereafter, “avoidance areas”); in such cases, in general, 300’ 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:
  - a. Must be conducted by qualified individuals(s) and according to BLM and Service accept survey protocols,
  - b. Will be conducted in suitable and occupied habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (usually April 15<sup>th</sup> to June 5<sup>th</sup>, however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known population is in flower),
  - c. Will occur within 300’ from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300’ from the perimeter of disturbance for the proposed well pad including the well pad,
  - d. Will include, but not be limited to, plant species lists and habitat characteristics, and
  - e. Will be valid until April 15<sup>th</sup> the following year.
3. Design project infrastructure to minimize impacts within suitable habitat:
  - a. 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,
  - b. Reduce well pad size to the minimum needed, without compromising safety,
  - c. Where technically and economically feasible, use directional drilling or multiple wells from the same pad,
  - d. Limit new access routes created by the project,
  - e. Roads and utilities should share common right-of-ways where possible,
  - f. 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,
  - g. Place signing to limit off-road travel in sensitive areas, and
  - h. Stay on designated routes and other cleared/approved areas,
  - i. 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.
4. Within occupied habitat, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
  - a. Follow the above recommendations (#3) for project design within suitable

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	<p>habitats,</p> <ul style="list-style-type: none"> <li>b. 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,</li> <li>c. 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,</li> <li>d. Roads will be graveled with occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from April 15<sup>th</sup> to June 5<sup>th</sup> (flowering period); dust abatement applications will be comprised of water only,</li> <li>e. 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,</li> <li>f. 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,</li> <li>g. Construction activities will not occur from April 15<sup>th</sup> through June 5<sup>th</sup> within occupied habitat,</li> <li>h. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging temporary fencing, rebar, etc.,</li> <li>i. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and</li> <li>j. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.</li> </ul> <p>5. 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.</p> <p>6. Re-initiation of section 7 consultation with the Service will be sought immediately if any loss of plants or occupied habitat for the 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>
<b>T&amp;E-21</b>	<p><b>SHRUBBY REED - MUSTARD (<i>SCHOENOCRAMBE SUFFRUTESCENS</i>)</b></p> <p>The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for shrubby reed-mustard under the Endangered Species Act. The following avoidance and minimization measures have been developed to facilitate review and analysis of any submitted permits under the authority of this lease.</p> <p>In order to minimize effects to the federally endangered shrubby reed-mustard, the Bureau</p>

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of Land Management (BLM) in coordination with the U.S. Fish and Wildlife Service (Service) developed the following avoidance and minimization measures. Integration of and adherence to these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance) are in compliance with the Endangered Species Act (ESA). For the purposes of this document, the following terms are so defined: Potential habitat is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment. Suitable habitat is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain shrubby reed-mustard; habitat descriptions can be found in the Federal Register 52(193):37416-37420 and in the U.S. Fish and Wildlife Service's 1994 Utah Reed-Mustards Recovery Plan (<http://www.fws.gov/endangered/wildlife.html>). Occupied habitat is defined as areas currently or historically known to support shrubby reed-mustard; synonymous with "known habitat." The following avoidance and minimization measures should be included in the Plan of Development:

1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat prior to any ground disturbing activities to determine if suitable shrubby reed-mustard habitat is present.
2. Within suitable habitat, site inventories will be conducted to determine occupancy. Inventories:
  - a. Must be conducted by qualified individual(s) and according to BLM and Service accepted survey protocols,
  - b. Will be conducted in suitable and occupied habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (April 15<sup>th</sup> to August 1<sup>st</sup>, unless extended by the BLM),
  - c. Will occur within 300 feet from the edge of the proposed right-of-way for surface pipelines or roads; and within 300 feet from the perimeter of disturbance for the proposed well pad including the well pad,
  - d. Will include, but not be limited to, plant species lists and habitat characteristics, and
  - e. Will be valid until April 15<sup>th</sup> the following year.
3. Design project infrastructure to minimize impacts within suitable habitat:
  - a. Reduce well pad size to the minimum needed, without compromising safety,
  - b. Limit new access routes created by the project,
  - c. Roads and utilities should share common right-of-ways where possible,
  - d. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat,
  - e. Place signing to limit off-road travel in sensitive areas, and
  - f. Stay on designated routes and other cleared/approved areas.
4. Within occupied habitat, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
  - a. Follow the above (#3) recommendations for project design within suitable habitats,
  - b. Construction of roads will occur such that the edge of the right of way is at least 300' from any plant,

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	<p>c. Roads will be graveled within occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from April 15<sup>th</sup> to May 30<sup>th</sup> (flowering period); dust abatement applications will be comprised of water only,</p> <p>d. The edge of the well pad should be located at least 300 feet away from plants,</p> <p>e. Surface pipelines will be laid such that a 300-foot buffer exists between the edge of the right of way and the plants, use stabilizing and anchoring techniques when the pipeline crosses the white shale strata to ensure the pipelines don't move towards the population,</p> <p>f. Construction activities will not occur from April 15<sup>th</sup> through May 30<sup>th</sup> within occupied habitat,</p> <p>g. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging, temporary fencing, rebar, etc.,</p> <p>h. Where technically and economically feasible, use directional drilling or multiple wells from the same pad,</p> <p>i. Designs will avoid concentrating water flows or sediments into occupied habitat,</p> <p>j. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and</p> <p>k. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.</p> <p>5. Occupied shrubby reed-mustard habitats within 300 feet of the edge of the surface pipeline right of ways, 300 feet of the edge of the road right of ways, and 300 feet from the edge of well pads shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the Service. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.</p> <p>6. Re-initiation of section 7 consultation with the Service will be sought immediately if any loss of plants or occupied habitat for the shrubby reed-mustard is anticipated as a result of project activities.</p> <p>Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the U.S. Fish and Wildlife Service to ensure continued compliance with the ESA.</p>
<b>UT-LN-17</b>	<p style="text-align: center;"><b>CRUCIAL PRONGHORN FAWNING HABITAT</b></p> <p>The lessee/operator is given notice that lands in this lease have been identified as containing crucial antelope fawning habitat. Exploration, drilling and other development activities would be restricted from April 15 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>

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<b>UT-LN-45</b>	<p style="text-align: center;"><b>MIGRATORY BIRD</b></p> <p>The lessee/operator is given notice that surveys for nesting migratory birds may be required during migratory bird breeding season whenever surface disturbances and/or occupancy is proposed in association with fluid mineral exploration and development within priority habitats. Surveys should focus on identified priority bird species in Utah. Field surveys will be conducted as determined by the 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>
<b>UT-LN-49</b>	<p style="text-align: center;"><b>UTAH SENSITIVE SPECIES</b></p> <p>The lessee/operator is given notice that no surface use or otherwise disruptive activity would be allowed that would result in direct disturbance to populations or individual special status plant and animal species, including those listed on the BLM sensitive species list and the Utah sensitive species list. The lessee/operator is also given notice that lands in this parcel have been identified as containing potential habitat for species on the Utah Sensitive Species List. Modifications to the Surface Use Plan of Operations may be required in order to protect these resources from surface disturbing activities in accordance with Section 6 of the lease terms, Endangered Species Act, Migratory Bird Treaty Act and 43 CFR 3101.1-2.</p>
<b>UT-LN-51</b>	<p style="text-align: center;"><b>SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED</b></p> <p>The lessee/operator is given notice that lands in this lease have been identified as containing special status plants, not federally listed, and their habitats. Modifications to the Surface Use Plan of Operations may be required in order to protect the special status plants and/or habitat from surface disturbing activities in accordance with Section 6 of the lease terms, Endangered Species Act, and 43 CFR 3101.1-2.</p>
<b>UT-LN-53</b>	<p style="text-align: center;"><b>RIPARIAN AREAS</b></p> <p>The lessee/operator is given notice that this lease has been identified as containing riparian areas. No surface use or otherwise disruptive activity allowed within 100 meters of riparian areas unless it can be shown that (1) there is no practicable alternative; (2) that all long-term impacts are fully mitigated; or (3) that the construction is an enhancement to the riparian areas. Modifications to the Surface Use Plan of Operations may be required in accordance with section 6 of the lease terms and 43CFR3101.1-2.</p>
<b>UT-LN-65</b>	<p style="text-align: center;"><b>OLD SPANISH TRAIL</b></p> <p>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>
<b>UT-LN-72</b>	<p style="text-align: center;"><b>HIGH POTENTIAL PALEONTOLOGICAL RESOURCES</b></p> <p>The lessee/operator is given notice that lands in this lease have been identified as having high potential for paleontological resources. Planned projects should be consistent with BLM Manual and Handbook H8270-1, Chapter III (A) and III (B) to avoid areas where significant fossils are known or predicted to occur or to provide for other mitigation of possible adverse effects (RX, NF, ESR). Modifications to the Surface Use Plan of Operations may be required in order to protect paleontological resources from surface disturbing activities in accordance with Section 6 of the lease terms and 43 CFR 3101.1-2.</p>

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<b>UT-LN-87</b>	<p align="center"><b>EXISTING UNPLUGGED WELL</b></p> <p>The lessee/operator is given notice that an existing unplugged well is located in ____ Sec.____, T____, R____ (API# _____). An oil and gas bond adequate to cover plugging costs will be required prior to lease issuance. The well is in need of immediate attention, and the successful bidder should plan to perform work on the well soon after lease issuance.</p>
<b>UT-LN-90</b>	<p align="center"><b>GRAHAM’S BEARDTONGUE (<i>PENSTEMON GRAHAMII</i>)</b></p> <p>In order to minimize effects to the federally proposed Graham’s beardtongue, the Bureau of Land Management (BLM) in coordination with the U.S. Fish and Wildlife Service (Service) developed the following avoidance and minimization measures. The following avoidance and minimization measures should be included in the Plan of Development:</p> <ol style="list-style-type: none"> <li>1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat<sup>1</sup> prior to any ground disturbing activities to determine if suitable Graham’s beardtongue habitat is present.</li> <li>2. Within suitable habitat<sup>3</sup>, site inventories will be conducted to determine occupancy. Inventories:             <ol style="list-style-type: none"> <li>a. Must be conducted by qualified individual(s) and according to BLM and Service accepted survey protocols,</li> <li>b. Will be conducted in suitable and occupied habitat<sup>4</sup> 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 15<sup>th</sup> to May 20<sup>th</sup> in the Uintah Basin; however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known population is in flower),</li> <li>c. Will occur within 300’ from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300’ from the perimeter of disturbance for the proposed well pad including the well pad,</li> <li>d. Will include, but not be limited to, plant species lists and habitat characteristics, and</li> <li>e. Will be valid until April 15<sup>th</sup> the following year.</li> </ol> </li> <li>3. Design project infrastructure to minimize impacts within suitable habitat<sup>2</sup>:             <ol style="list-style-type: none"> <li>a. Reduce well pad size to the minimum needed, without compromising safety,</li> <li>b. Limit new access routes created by the project,</li> <li>c. Roads and utilities should share common right-of-ways where possible,</li> <li>d. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat,</li> <li>e. Place signing to limit off-road travel in sensitive areas, and</li> <li>f. Stay on designated routes and other cleared/approved areas.</li> </ol> </li> <li>4. Within occupied habitat<sup>4</sup>, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:             <ol style="list-style-type: none"> <li>a. Follow the above (#3) recommendations for project design within suitable habitats,</li> <li>b. Construction of roads will occur such that the edge of the right of way is at least 300’ from any plant,</li> </ol> </li> </ol>

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	<p>c. Roads will be graveled within occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from April 15<sup>th</sup> to May 20<sup>th</sup> (flowering period); dust abatement applications will be comprised of water only,</p> <p>d. The edge of the well pad should be located at least 300' away from plants,</p> <p>e. Surface pipelines will be laid such that a 300 foot buffer exists between the edge of the right of way and the plants, use stabilizing and anchoring techniques when the pipeline crosses the habitat (exposed raw shale knolls and slopes derived from the Parachute Creek and Evacuation Creek members of the geologic Green River Formation) to ensure pipelines don't move towards the population,</p> <p>f. Construction activities will not occur from April 15<sup>th</sup> through May 30<sup>th</sup> within occupied habitat,</p> <p>g. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging, temporary fencing, rebar, etc.,</p> <p>h. Where technically and economically feasible, use directional drilling or multiple wells from the same pad,</p> <p>i. Designs will avoid concentrating water flows or sediments into occupied habitat,</p> <p>j. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and</p> <p>k. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.</p> <p>5. Occupied Graham's beardtongue habitats within 300' of the edge of the surface pipelines' right-of-ways, 300' of the edge of the roads' right-of-ways, and 300' from the edge of well pads shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the Service. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.</p> <p>Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the U.S. Fish and Wildlife Service to ensure continued conservation of the species.</p>
<b>UT-LN-96</b>	<p style="text-align: center;"><b>AIR QUALITY</b></p> <p>The lessee is given notice that the Bureau of Land Management (BLM) in coordination with the U.S. Environmental Protection Agency and the Utah Department of Air Quality, among others, have developed the following air quality mitigation measures that may be applied to any development proposed on this lease. Integration of and adherence to these measures may help minimize adverse local or regional air quality impacts from oil and gas development (including but not limited to construction, drilling, and production) on regional ozone formation.</p> <ul style="list-style-type: none"> <li>• All internal combustion equipment would be kept in good working order.</li> <li>• Water or other approved dust suppressants would be used at construction sites and along roads, as determined appropriate by the Authorized Officer.</li> <li>• Open burning of garbage or refuse would not occur at well sites or other facilities.</li> <li>• Drill rigs would be equipped with Tier II or better diesel engines.</li> <li>• Vent emissions from stock tanks and natural gas TEG dehydrators would be</li> </ul>

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	<p>controlled by routing the emissions to a flare or similar control device which would reduce emissions by 95% or greater.</p> <ul style="list-style-type: none"> <li>• Low bleed or no bleed pneumatics would be installed on separator dump valves and other controllers.</li> <li>• During completion, flaring would be limited as much as possible. Production equipment and gathering lines would be installed as soon as possible.</li> <li>• Well site telemetry would be utilized as feasible for production operations.</li> <li>• Stationary internal combustion engine would comply with the following standards: 2g NOx/bhp-hr for engines &lt;300HP; and 1g NOx/bhp-hr for engines &gt;300HP.</li> </ul> <p>Additional site-specific measures may also be employed to avoid or minimize effects to local or regional air quality. These additional measures will be developed and implemented in coordination with the U.S. Environmental Protection Agency, the Utah Department of Air Quality, and other agencies with expertise or jurisdiction as appropriate based on the size of the project and magnitude of emissions.</p>
<b>UT-LN-99</b>	<p style="text-align: center;"><b>REGIONAL OZONE FORMATION CONTROLS</b></p> <p>To mitigate any potential impact oil and gas development emissions may have on regional ozone formation, the following Best Management Practices (BMPs) would be required for any development projects:</p> <ul style="list-style-type: none"> <li>• Tier II or better drilling rig engines</li> <li>• Stationary internal combustion engine standard of 2g NOx/bhp-hr for engines &lt;300HP and 1g NOx/bhp-hr for engines &gt;300HP</li> <li>• Low bleed or no bleed pneumatic pump valves</li> <li>• Dehydrator VOC emission controls to +95% efficiency</li> </ul> <p>Tank VOC emission controls to +95% efficiency</p>
<b>UT-LN-102</b>	<p style="text-align: center;"><b>AIR QUALITY ANALYSIS</b></p> <p>The lessee/operator is given notice that prior to project-specific approval, additional air quality analyses may be required to comply with the National Environmental Policy Act, Federal Land Policy Management Act, and/or other applicable laws and regulations. Analyses may include dispersion modeling and/or photochemical modeling for deposition and visibility impacts analysis, control equipment determinations, and/or emission inventory development. These analyses may result in the imposition of additional project-specific air quality control measures.</p>
<b>UT-LN-115</b>	<p style="text-align: center;"><b>LIGHT AND SOUND</b></p> <p>In accordance with the Vernal RMP Decision MIN-5, the BLM will seek to minimize light and sound pollution within the project area using the best available technology such as installation of multi-cylinder pumps, hospital sound reducing mufflers, and placement of exhaust systems to direct noise away from noise sensitive areas (e.g., sensitive habitat, campgrounds, river corridors, and Dinosaur National Monument)). Light pollution will be mitigated by using methods such as limiting height of light poles, timing of lighting operations (meaning limiting lighting to times of darkness associated with drilling and work over or maintenance operations), limiting wattage intensity, and constructing light shields. If a determination is made that natural barriers or view sheds will meet these mitigation objectives, the above requirements may not apply.</p>