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Newfield Master Development Plan No. 6

Location: Section 7, 17, and 18,
Township 9 South, Range 17 East
Greater Monument Butte
Duchesne County, Utah

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1.0 INTRODUCTION

This Environmental Assessment (EA) has been prepared to analyze Newfield Production Company's (Newfield) proposed 20-acre infill development project within the Greater Monument Butte Unit (GMBU). The EA is a site-specific analysis of potential impacts that could result from the implementation of the Proposed Action or alternatives to the Proposed Action. The EA assists the Bureau of Land Management (BLM) in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any "significant" impacts could result from the analyzed actions. "Significance" is defined by NEPA and is found in regulation 40 CFR (Code of Federal Register) 1508.27. An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a statement of Finding of No Significant Impact (FONSI). A FONSI statement documents the reasons why implementation of the selected alternative would not result in "significant" environmental impacts (effects). 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) would be signed for the EA approving the selected alternative, whether the Proposed Action or another alternative.

Newfield proposes to directionally drill 14 wells from eight existing well pad locations located in Sections 7, 17 and 18, T9S, R17E. These Sections are located within Area 6 of Newfield's Greater Monument Butte Unit, located approximately 15 to 15.9 miles south of Myton, Utah (see Figures 1 and 2).

Surface disturbance associated with this proposal would be limited to reopening previously reclaimed reserve pits located on the eight existing well pads. Reopening each reserve pit would result in the total disturbance of 1.2 acres. In order to connect the existing well pad locations to future liquid gathering pipeline systems in Area 6, Newfield is proposing to install 8,439 feet of surface liquid gathering pipeline. As these pipelines would be placed on the surface, installation would not result in any soil disturbance.

Newfield's purpose for this project is to expand and fully develop oil and natural gas resources from their leases by increasing well density in the GMBU, while minimizing or mitigating to the extent possible the environmental impacts associated with such development. Oil and gas production in the GMBU comes from low permeability, tight sand formations. Production from these formations is hindered by the formations capability to allow oil and gas to flow to the wellbore. Therefore, to cost-effectively drain a reservoir, additional infill wells must be drilled in order to optimize recovery of oil and gas from these reservoirs. To meet this purpose, the Proposed Action includes utilizing directional drilling from existing well pads in the GMBU to attain 20-acre downhole well spacing. Specific requirements would include re-opening of reserve pits, and installing additional pipeline infrastructure so produced water and fluids can be transported to off-site storage facilities.

1.1 PURPOSE AND NEED

BLM's need for the project is to respond to the applicant's proposal. Mineral exploration and production are allowed on lands in the GMBU as long as they are in conformance with the terms and conditions of the subject lease. Development of oil and gas resources is consistent with the mission of the BLM. The Mineral Leasing Act of 1920 (MLA), as amended, provides that exploration and development of domestic oil and gas is in the best interest of the United States. The intent of the MLA and its implementing regulations are to allow, and essentially encourage, lessees or potential lessees to explore for oil and gas or other mineral reserves on Federally-administered lands. The Federal Land Policy and Management Act of 1976 (FLPMA) mandates that the BLM manage public lands on the basis of multiple use [43 U.S.C. § 1701(a)(7)]. Minerals are identified as one of the principal uses of public lands in Section 103 of FLPMA

[43 U.S.C. § 1702(c)]. The BLM is responsible for administering activities consistent with rights associated with valid existing leases.

BLM's purpose is to allow Newfield to develop its existing Federal leases in order to meet domestic demands for natural gas while also preventing unnecessary degradation to public land. The proposed development would exercise existing lease rights to drill for, extract, remove, and market commercial quantities of natural gas. The MLA and related regulations and policies, by which they are implemented, recognize the right of lease holders to develop Federal mineral resources to meet continuing needs and economic demands, so long as undue and unnecessary environmental degradation is not incurred. This includes the right to build and maintain necessary improvements, subject to lease terms and conditions. The lessee shall have the right to use as much of the leased lands as is necessary to explore and develop, and dispose of the leased resource (43 CFR 3101.1-2) subject to lease terms, conditions, and stipulations. The FLPMA mandates that these rights must be permitted in a manner that assures adequate protection of other resource values.

1.2 LAND USE PLAN CONFORMANCE

The management of BLM public lands and resources within the Project Area is directed and guided by the *Vernal Field Office Approved RMP and Record of Decision* (BLM 2008). The ROD and RMP allow for processing of Applications for Permit to Drill (APDs) and ROW grant applications in support of oil and gas leasing operations with the impacts of construction and operation activities to be analyzed on a case-by-case basis. The management objective of the RMP for energy resources is to meet local and national non-renewable and renewable energy needs, while protecting other resource values. In addition, The RMP recognizes valid existing rights, including oil and gas leases that were issued prior to completion of the existing ROD.

Implementation of the Proposed Action would respond to the management objective of the RMP by allowing Newfield to further develop oil and natural gas resources in the GMBU, while minimizing or avoiding the potential effects of construction and operational activities on natural resources. Implementation of the No Action Alternative would also be in conformance with the ROD and Approved RMP, as oil and gas development could be permitted on a case-by-case basis.

1.3 RELATION TO STATUTES, REGULATIONS, AND OTHER PLANS

Project Area lands were leased for oil or gas development under authority of the Mineral Leasing Act of 1920, as modified by the Federal Land Policy and Management Act of 1976, the Federal Onshore Oil and Gas Leasing Reform Act of 1987, and the Energy Policy Act of 2005. Noncompetitive leases are issued in accordance with 43 CFR §3110; competitive leases are issued in accordance with 43 CFR §3120. A lessee/operator has the right to explore for oil and gas on its leases as specified in 43 CFR §3101.1-2, and if a discovery is made, to produce oil and/or natural gas for economic gain, so long as those operations are conducted in conformance with the lease terms and conditions. All exploration and production operations would be conducted in accordance with 43 CFR §3160. All rights of way development would be conducted in compliance with 43 CFR §2800.

The Proposed Action is consistent with the Duchesne County General Plan (Duchesne County 2005), which encompasses the project area. The Duchesne County Plan contains specific policy statements addressing public lands (i.e. multiple-use, resource use and development, access, and wildlife management). In general, the Duchesne County Plan indicates support for development proposals, such as the Proposed Action, through its emphasis of multiple-use of public land management practices, responsible use, and optimum utilization of public land resources. The County, through its Plan, supports the development of natural resources as they become available or as new technology allows.

In May 1997 the Utah BLM published *Standards for Rangeland Health and Guidelines for Grazing Management for BLM Lands in Utah*. These standards for rangeland health were developed to ensure that various services, activities, and all renewable resources of the land are environmentally sustainable, and that non-renewable resources are recovered in ways that ensure the long-term health of the land managed by the BLM. The Proposed Action and alternatives carried through in this assessment are consistent with these standards. These standards cover upland soils, riparian systems, natural ecosystems, and water quality.

1.4 IDENTIFICATION OF ISSUES

BLM representatives reviewed Newfield's plan of development and conferred with other agencies and the public to assess the type and magnitude of potential impacts to the elements of the human environment and other resources. The potential issues listed below were identified by the BLM as areas of concern for BLM-administered surface (see **Appendix A** - Interdisciplinary Team Checklist). These potential issues are carried forward for analysis in the Environmental Consequences section (**Chapter 4**) of this EA. Those elements which were identified as "Not Impacted" (NI) by the Proposed Action or "Not Present" (NP) in the Project Area are not discussed in the text of this EA.

1.4.1 SOILS AND VEGETATION

- Issue 1: Directional drilling activities at the existing host location well pads will require the re-disturbance 1.2 acres of previously reclaimed areas.
- Issue 2: Installation of surface-laid pipeline could have short-term impacts on approximately 8,439 feet of vegetation.
- Issue 3: Project activities could increase the establishment of noxious weeds.

1.4.2 WILDLIFE

- Issue 1: Drilling and completion activities would result in temporary displacement of some wildlife species.
- Issue 2: Fresh water used for drilling, completion, and dust suppression activities would result in water depletions from the Colorado River basin.

1.4.3 AIR QUALITY

- Issue 1: 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 including greenhouse gases.

2.0 DESCRIPTION OF ALTERNATIVES

BLM resource specialists reviewed Newfield’s Proposed Action and assessed the type and magnitude of potential impacts to the Project Area. Based on this review, the following alternatives were developed for analysis in this EA:

Alternative A – Proposed Action: This alternative outlines the action Newfield proposes to take in order to drill 14 directional wells from eight existing well pads.

Alternative B – No Action Alternative: Analysis of this alternative is required by CEQ regulations.

These alternatives are discussed in detail in this chapter. Alternatives that were considered but eliminated from detailed analysis are also briefly summarized below.

2.1 ALTERNATIVE A - PROPOSED ACTION

Due to the extensive amount of pre-existing development via vertical drilling in the Project Area, Newfield has gained an intricate understanding of the sub-surface formations and associated pay zones. Based upon this knowledge, Newfield is able to target additional pay zones via directional drilling in a technically and economically feasible manner, with lower risks for missing these targets.

Specifically, Newfield’s Proposed Action includes the following primary components:

Directional drilling of up to 14 oil wells from eight existing well pads (reserve pits on existing well pads would be reopened resulting in 0.15 acre of disturbance per pad);

Construction and surface installation of 1.6 miles (8,439 feet) of an 8- to 16-inch outer diameter pre-insulated pipeline bundle that would contain 1 steel carrier pipeline and 2 heat traced pipelines;

Upon approval, Newfield would consecutively drill all 14 wells. Construction activities would follow guidelines described in the “Gold Book,” *Surface Operating Standards for Oil and Gas Extraction and Development 4th Edition* (Gold Book) (BLM and USFS 2007), as appropriate. **Table 2.1** below summarizes the proposed wells and their legal location.

Table 2.1 Proposed Wells

| Well Name | Well Legal Location | Host Location | Surface Legal Location |
|-----------|-------------------------|---------------|--------------------------|
| B-18-9-17 | NWNE Sec. 17, T9S, R17E | 44-7-9-17 | SESE Sec. 7, T9S, R17E |
| E-17-9-17 | NWNW Sec. 17, T9S, R17E | | |
| J-18-9-17 | NENE Sec. 18, T9S, R17E | 12-17-9-17 | SWNW Sec. 17, T9S, R17E |
| K-18-9-17 | NESE Sec. 18, T9S, R17E | | |
| R-17-9-17 | NESW Sec. 17, T9S, R17E | 15-17-9-17 | SWSE Sec. 17, T9S, R17E |
| S-17-9-17 | NESE Sec. 17, T9S, R17E | | |
| H-18-9-17 | NWNE Sec. 18, T9S, R17E | 6-18-9-17 | SWNE Sec. 18, T9S, R17E |
| M-18-8-17 | NWSE Sec. 18, T9S, R17E | | |
| I-18-9-17 | NWNE Sec. 18, T9S, R17E | 8-18-9-17 | SENE Sec. 18, T9S, R17E |
| L-18-9-17 | NWSE Sec. 18, T9S, R17E | | |
| R-18-9-17 | NESW Sec. 18, T9S, R17E | 15-18-9-17 | SWSE Sec. 18, T9S, R17E |
| S-18-9-17 | NESE Sec. 18, T9S, R17E | | |
| N-17-9-17 | SWNW Sec. 17, T9S, R17E | 23-17B-9-17 | NESW Sec. 17, T9S, R17E |
| Q-18-9-17 | NESW Sec. 18, T9S, R17E | 13-18-9-17 | Lot#4 Sec. 18, T9S, R17E |

2.1.1 WELL PAD CONSTRUCTION AND EXPANSION

As mentioned previously, Newfield plans to utilize eight existing well pads in order to drill 14 proposed wells. No well pad expansion would occur and surface disturbance would be limited to 0.15 acre per pad for the reopening of the reserve pits. Prior to digging each reserve pit, the existing topsoil and any existing vegetation would be cleared and topsoil would be stockpiled at predetermined storage sites (i.e., areas where original soil piles were located). Storage sites would be identified in the field with signage.

Prior to drilling operations, the reserve pit would be lined with 16-millimeter thick synthetic reinforced material. If rock is encountered during excavation, the pit would be lined with a felt liner pad to protect the liner from punctures. The pit liner would overlap the pit walls and be covered with dirt and/or rocks to secure it in place. The pit liner would be resistant to deterioration by hydrocarbons. The reserve pit would be fenced to prevent access by wildlife and unauthorized personnel. The reserve pit fencing would be installed on three sides during drilling operations and on the fourth side when the rig moves off location and until the pit is backfilled.

If the wells are productive, the reserve pit and other areas not required for production would be reclaimed, following the drilling of the last well. Topsoil previously stockpiled adjacent to the well pad would be re-spread across the disturbed areas, and each of these areas would then be seeded with a seed mixture approved by the BLM. If a well is unproductive, all areas not required for production of existing wells would be reclaimed following well plugging and abandonment. In the case of either a productive or unproductive well, reclamation activities would take place within 180 days of final drilling activities, weather permitting. Reclamation methodologies and determinations of reclamation success would follow the standards set by the *Green River District Reclamation Guidelines for Reclamation Plans* (BLM 2011).

2.1.2 ACCESS ROADS

Existing roads would be utilized to access the proposed drilling locations and no upgrades would be required. All County road maintenance activities implemented by Newfield would be coordinated with Duchesne County. Utilized roads would be maintained in good repair during all drilling, completion, and production operations. All required road upgrades would follow guidelines described in the Gold Book (BLM and USFS 2007).

2.1.3 DRILLING OPERATIONS

Once the reserve pit has been constructed drilling equipment would be moved onto the well pad. Wells would be drilled utilizing a conventional, mechanically-powered mobile drilling rig. The exact type and size of drilling rig would be dependent upon rig availability at the time of project implementation. Newfield anticipates that no more than one drilling rig would be operating in the Project Area at any one time. Each well would take approximately 5 days to drill and Newfield would likely drill all 14 wells consecutively.

The proposed wells would target sandstone intervals within the Green River Formation and the average depth of each well would be approximately 6,300 feet. Any shallow water zones encountered during drilling would be isolated by both casing and cement. All potentially productive hydrocarbon zones would be cemented and tested. The casing and cementing program would be designed to isolate and protect the shallower formations encountered in the well bore and to prohibit pressure communication or fluid migration between zones. In addition, the cement would protect the well by preventing formation pressure from damaging the casing and retarding corrosion by minimizing contact between the casing and formation fluids. The type of casing used and the depth to which it is set would depend upon the physical

characteristics of the formations that are drilled. Surface casing would be installed to protect near-surface aquifers. Production casing would subsequently be installed to the total depth. All casing would be new or reconditioned and tested in accordance with applicable regulations. Site-specific descriptions of drilling procedures are included in the APDs attached to this proposal.

2.1.4 WELL COMPLETION AND PRODUCTION

If drilled wells indicate economic potential, completion operations would commence. Completion operations would involve setting production casing to the total drilled depth and perforating the casing in target production zones, followed by hydraulically fracturing (fracing) the productive formation under high pressure. The fracing material would likely contain sand or other proppant material to keep the fractures open, thereby allowing hydrocarbons to flow more freely into the casing. The next phase would be to flow and test the well to determine rates of production. Completion and testing would take approximately 18 days per well.

Should testing suggest the potential for commercial production, facilities including a wellhead, pumping unit, separator, dehydrator, and condensate tanks would be installed at each location. All permanent (on site for 6 months or longer) structures constructed or installed would be painted a flat, non-reflective, earth tone color using one of the standard environmental colors, as determined by the BLM. All facilities would be painted within six months of installation.

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

2.1.5 NATURAL GAS AND WATER PIPELINES

No new natural gas or water pipelines would be installed.

2.1.6 LIQUID GATHERING LINES

Currently, produced water, condensate, and oil are decanted into external steel tanks that are located on each existing well pad. Containment dikes constructed either of compacted subsoil or metal barriers currently surround these facilities and can hold 110 percent of the capacity of the largest tank. Currently, each tank is periodically pumped as needed, and the fluids are transported to certified disposal sites, existing water injection wells within the GMBU, or sales sites located outside of the GMBU. In order to connect the existing well pad locations to future liquid gathering pipeline systems in Area 6, Newfield is proposing to install 8,439 feet of liquid gathering pipeline. Newfield's proposed liquid gathering pipelines would utilize "Rovanco Piping Systems" or similar systems consisting of 1 steel carrier pipeline and 2 heat traced pipelines bundled and pre-insulated. The diameter of the steel carrier pipe would range from 2- to 8-inch and the corresponding outside diameters would range from 8- to 16-inches. All liquid gathering pipeline bundles would be laid on the surface within a 30 foot ROW. As the proposed pipeline would be placed on the surface, no soil disturbance would occur as a result of pipeline installation.

2.1.7 WATER

Potential water sources for drilling, completion and dust abatement associated with the proposed project are displayed below in **Table 2.2**. Newfield anticipates that water would be used for dust suppression during construction and operational activities for a small percentage of the proposed project. Use of water for dust suppression would typically be performed under hot, windy, and/or dry conditions, and would depend on soil types and the moisture content of soils where activities are taking place. Dust suppression would most commonly be implemented during the summer months. Water-based dust abatement would be implemented using standard commercial water trucks, which hold approximately 130 bbls of water (0.016 acre-feet).

Newfield assumes that approximately 1,000 bbls (0.13 acre-feet) of water would be needed annually for dust suppression per well pad and associated access road during project operation. Based on these assumptions, Newfield would use approximately one acre-feet of water per year for dust abatement during project operations, or a total of 20 to 30 acre-feet of water for dust suppression during operations over the 20 to 30 year life of the project.

Typically 7,000 bbls (0.9 ac-ft) (42 gallons per barrel) of water would be required to drill and complete an individual Green River well; however, an average of 60 percent of this water can be recycled and transferred to subsequent drilling sites. Total water use for drilling and completion of all 14 wells would be about 12.6 acre-feet.

Table 2.2 Existing Water Sources for the Monument Butte Project

| Water Right Number | Filing Date | Expiration Date | Source | Location | Allowed Annual Withdrawal |
|--------------------|-------------|-----------------|---|---|---------------------------|
| 43-7478 | 4/29/1974 | None Listed | Underground Water Well (Johnson Water District) | N 500 ft. W 100 ft. from SE cor, Sec. 30, T2S, R2W, USBM; N 2,407 ft. W 705 ft. from SE cor, Sec. 30, T2S, R2W, USBM | 225.0 ac-ft |
| 47-1358 | 6/26/1963 | None Listed | Tributary to Pleasant Valley Wash (Maurice Harvey Pond) | N 1,410 ft. E 1,450 ft. from W4 cor, Sec. 07, T4S, R1W, USBM | 0.5 cfs ¹ |
| 41-3530 | 2/28/2000 | None Listed | Green River (Newfield Collector Well) | S 1,087 ft. E 1,020 ft. from N4 cor, Sec. 15, T2N, R22E, SLBM | 12,010.9 ² |

¹ cfs = cubic feet per second

² Annual withdrawal represents that portion of the water right permitted for oil and gas recovery. Total annual withdrawal, including all permitted uses, is 44,770.0 acre-feet.

2.1.8 DISTURBANCE SUMMARY

Table 2.3 summarizes initial surface disturbance estimates for the Proposed Action. In order to adequately consider all possible impacts of the Proposed Action, this EA assumes that all 14 proposed directional wells would be drilled. It also assumes that surface disturbance associated with reopening the reserve pits on the eight existing well pads would be 0.15 acre/well pad. The construction of the project components under the Proposed Action would initially result in approximately 1.2 acres of surface disturbance. All surface disturbances would consist of expansion of existing infrastructure and no additional habitat fragmentation would result from the proposed project.

As stated previously, 1.6 miles (8,439 feet) of proposed liquid gathering pipeline would be placed on the surface within or immediately adjacent to existing road and pipeline ROWs. Installation of these pipelines would not only consist of crushing of vegetation due to the placement of the pipeline. No soil disturbance would occur during this process.

Table 2.3 Summary of Surface Disturbance (Acres) for the Proposed Action

| Well | Well Pad (acres) | Surface Pipeline (feet) | Surface Pipeline (acres) | Buried Pipeline (feet) | Buried Pipeline (acres) | Road (feet) | Road (acres) | Total Acres of Surface Disturbance* |
|--------------|------------------|-------------------------|--------------------------|------------------------|-------------------------|-------------|--------------|-------------------------------------|
| B-18-9-17 | 0.15 | 101 | 0.0 | - | - | - | - | 0.15 |
| E-17-9-17 | 0.0 | - | - | - | - | - | - | 0.0 |
| N-17-9-17 | 0.15 | 1,333 | 0.0 | - | - | - | - | 0.15 |
| J-18-9-17 | 0.15 | - | - | - | - | - | - | 0.15 |
| K-18-9-17 | 0.0 | - | - | - | - | - | - | 0.0 |
| R-17-9-17 | 0.15 | - | - | - | - | - | - | 0.15 |
| S-17-9-17 | 0.0 | - | - | - | - | - | - | 0.0 |
| H-18-9-17 | 0.15 | 1,089 | 0.0 | - | - | - | - | 0.15 |
| M-18-8-17 | 0.0 | - | - | - | - | - | - | 0.0 |
| I-18-9-17 | 0.15 | 262 | 0.0 | - | - | - | - | 0.15 |
| L-18-9-17 | 0.0 | - | - | - | - | - | - | 0.0 |
| Q-18-9-17 | 0.15 | 133 | 0.0 | - | - | - | - | 0.15 |
| R-18-9-17 | 0.15 | 5,521 | 0.0 | - | - | - | - | 0.15 |
| S-18-9-17 | 0.0 | - | - | - | - | - | - | 0.0 |
| Total | 1.2 | 8,439 | 0 | - | - | - | - | 1.2 |

2.1.9 NOXIOUS WEED MANAGEMENT

Prior to construction, an invasive plants/noxious weeds inventory would be completed for all areas where surface disturbance would occur. A completed Weed Inventory form documenting any occurrences of invasive plants or noxious weeds would be submitted to the BLM Authorized Officer before surface disturbance would occur.

The operator would control noxious/invasive weeds along their roads, pipelines, well sites, or other applicable facilities by the application of herbicides or by mechanical removal until reclamation is considered to be successful by the authorized officer (AO) and the bond for the well is released. A list of noxious weeds would be obtained from the BLM or the appropriate county extension office. On BLM-administered land, the operator would submit a Pesticide Use Proposal and obtain approval prior to the application of herbicides, other pesticides, or possible hazardous chemicals.

2.1.10 WASTE MANAGEMENT

As mentioned previously, all produced water would initially be stored in steel tanks located at each location. Following initial storage the water would be transported by company or contract trucks to the Ashley, Monument Butte, Jonah, and/or Beluga water injection facilities for treatment. Following treatment the produced water would then be injected into approved Class II wells to enhance Newfield's secondary recovery water flood project. Water not meeting water quality standards would be disposed of

at Newfield's Pariette No. 4 disposal well (Section 7, T9S R19E) or at State of Utah-approved surface disposal facilities (Newfield 2003).

Drilling fluids, including salts and chemicals, would be contained in the reserve pits. Upon termination of drilling and completion operations, the liquid contents of the reserve pits would be used at the next drill site or would be removed and disposed of at an approved waste disposal facility within 90 days, weather permitting. Upon well completion, any hydrocarbons in the pit would be removed in accordance with 43 CFR 3162.7-1. Alternatively, produced water would be stored in leak-proof tanks and could potentially be used in the field for well drilling and completion, unless prohibited by the EPA. Produced water and other byproducts would not be applied to roads or well pads for control of dust or weeds. Liquid hydrocarbons produced during completion operations would be placed in test tanks on the well locations and subsequently trucked offsite and sold or disposed of at a permitted disposal facility. Any spills of gas, salt water, or other hazardous fluids would be immediately cleaned up and removed to an approved disposal site.

Self-contained, chemical portable toilets would be provided for human waste disposal. Upon completion of operations, or as needed, the toilet holding tanks would be pumped and the contents disposed of in the nearest, approved, sewage disposal facility.

Garbage, trash, and other waste materials would be collected in portable, self-contained, fully enclosed trash cages during operations. Accumulated trash would be disposed of at an authorized sanitary landfill. Trash would not be burned on location.

All debris and other waste materials not contained in the trash cage would be cleaned up and removed from the location promptly after removal of the completion rig (weather permitting).

2.1.11 SPILL PROCEDURES

As each new well is completed, Newfield would update its master Spill Prevention Control and Countermeasure (SPCC) Plans for the existing host well pad locations in the Project Area. New SPCC plans would be developed for all proposed well pads. If spills of condensate, produced water, or other fluids were to occur in reportable amounts, as defined in BLM Notice to Lessees (NTL) 3A, Newfield or their contractors or sub-contractors would immediately contact the BLM and any other regulatory agencies (e.g., EPA National Response Center, State of Utah) as required by law or regulation. Strict cleanup efforts would be initiated immediately.

2.1.12 RECLAMATION

Site preparation and reclamation on BLM lands would follow the *Green River District Reclamation Guidelines for Reclamation Plans* (BLM 2011).

Construction Phase - Prior to expansion of existing well pads topsoil would be stripped and stockpiled separately from subsoil. Placement of the topsoil would be noted on the location plat attached to the site-specific APD. If previously utilized reserve pits have been reclaimed, topsoil salvaged from these areas would be removed and stockpiled separately near the reserve pit.

Production Phase - Upon well completion, the well locations and surrounding area(s) would be cleared of all unused tubing, materials, trash, and debris not required for production. In accordance with Onshore Order No. 1, the portion of the well pads not required for production, the reserve pits, and areas around pipelines would be reclaimed within six months of well completion, weather permitting, unless an agreement is made with the BLM (e.g., well pads from which multiple wells would be drilled).

Reclamation activities would take no more than 30 days. Prior to backfilling the reserve pits, the fence surrounding the pits and all debris in the pits would be removed. Before any dirt work associated with reserve pit restoration takes place, the reserve pits would be as dry as possible. The pit liners would be folded into the pit prior to backfilling. After backfilling, salvaged topsoil (if any) would be placed on top of the backfill material. After the reserve pits have been reclaimed, no large depressions in the soil covering the reserve pit would be allowed. The objective is to keep seasonal rainfall and runoff from standing or pooling over the reserve pit and seeping into the soil. Diversion ditches and water bars would be used to divert surface runoff from the reserve pit area, if needed.

Upon completion of backfilling and leveling, the stockpiled topsoil would be evenly spread over the portion of the well pads not required for production, the reserve pits, and access road cuts and shoulders. These disturbed areas would then be reseeded with the BLM-approved seed mixture. Seed mixtures would be selected based upon proximity to mountain plover core habitat. **Table 2.4.** display the seed mixtures and their recommended application rate and depth. All seed and mulch would be certified weed free. All rates are set for drill seeding and would need to be doubled if broadcast.

Table 2.4 Interim and Final Reclamation Seed Mixture for Proposed Locations within Mountain Plover Habitat

| Common Name | Latin Name | Pure Live Seed (lbs/acre) | Seed Planting Depth |
|-------------------------|-------------------------------|---------------------------|---------------------|
| Squirreltail grass | <i>Elymus elymoides</i> | 2.0 | ¼ - ½" |
| Needle and thread grass | <i>Hesperostipa comata</i> | 1.0 | ½" |
| Siberian wheatgrass | <i>Agropyron fragile</i> | 2.0 | ¼ - ½" |
| Shadscale saltbush | <i>Atriplex confertifolia</i> | 2.0 | ½" |
| Four-wing saltbush | <i>Atriplex canescens</i> | 2.0 | ½" |
| Gardner's saltbush | <i>Atriplex gardneri</i> | 2.0 | ½" |
| Blue flax (Lewis flax) | <i>Linum lewisii</i> | 1.0 | ⅛ - ¼" |

Reclamation methodologies and determinations of reclamation success would follow the standards set by the *Green River District Reclamation Guidelines for Reclamation Plans* (BLM 2009a) and *Newfield Exploration Company Castle Peak and Eight Mile Flat Reclamation and Weed Management Plan* (Newfield 2009).

Final Reclamation of Well Locations at the End of Project Life - For any dry holes, final reclamation of well locations and roads would take place within 180 days after the well is drilled, plugged, and abandoned (provided there are no other producing wells on the well pad). Road reclamation would be coordinated with the appropriate BLM. At the end of the productive lives of successful wells, all production equipment and surface pipeline would be removed and the well locations, access roads, and other disturbed areas would be restored to their approximate original condition.

At final abandonment, all well casings would be cut off and capped according to BLM requirements. The cap would be welded in place and the well location and identity would be permanently inscribed on the cap. The cap would also be constructed with a weep hole. If requested, GPS coordinates of the cap would be provided to the BLM.

Well locations, associated roads that would no longer be used, and other disturbed areas would be restored as near as practical to their original condition. All disturbed areas would be re-contoured to the approximate natural contours. Again, reclamation methodologies and determinations of reclamation success would follow the standards set by the *Green River District Reclamation Guidelines for Reclamation Plans* (BLM 2009a) and *Newfield Exploration Company Castle Peak and Eight Mile Flat Reclamation and Weed Management Plan* (Newfield 2009).

2.1.13 APPLICANT-COMMITTED ENVIRONMENTAL PROTECTION MEASURES

The following applicant-committed environmental protection measures (ACEPMs) would be applied to all activities on BLM lands within the Project Area. Implementation of these measures would be incorporated into the Decision Record, which then authorizes the BLM to enforce these measures to help avoid or minimize impacts to the environment.

2.1.13.1 Air Quality

- All internal combustion equipment would be kept in good working order.
- Water or other approved dust suppressants would be used at construction sites and along roads, as determined appropriate by the Authorized Officer.
- Open burning of garbage or refuse would not occur at well sites or other facilities.
- Drill rigs would be equipped with Tier II or better diesel engines.
- Vent emissions from stock tanks and natural gas TEG dehydrators would be controlled by routing the emissions to a flare or similar control device which would reduce emissions by 95% or greater.
- Low bleed 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.

2.1.13.2 Cultural Resources

- Class III pedestrian, cultural resource surveys have been completed at the eight host well pad locations (MOAC 2004 Report No. 04-94; MOAC 2010 Report No. 10-216; MOAC 2011 Report No. 10-215). No sites or artifacts were found at host well pads 44-7-9-17, 23-17B-9-17, 12-17-9-17, 15-17-9-17, 6-18-9-17, 8-18-9-17, 13-18-9-17, and 15-18-9-17. No additional Class III surveys are needed prior to liquid gathering line installation, drilling, or completion.
- Newfield would inform their employees, contractors, and subcontractors about relevant Federal regulations intended to protect archaeological and cultural resources. All personnel would be informed that collecting artifacts is a violation of Federal law and that employees engaged in this activity would be subject to disciplinary action.

2.1.13.3 Vegetation including Invasive or Noxious Weeds

- Removal and disturbance of vegetation would be kept to a minimum through construction site management (e.g., using previously disturbed areas and existing easements where feasible, placing pipelines adjacent to roads, limiting well pad expansion, etc.). In addition, all areas not utilized for the operational phase of the project would be reclaimed.
- Newfield has completed a CPF #5-wide noxious weed inventory (B&A 2010), which included the eight host well pad locations that would be used under this Proposed Action.

- In an effort to ensure that project activities do not increase the existence of invasive or noxious weeds in the Project Area, Newfield would prepare a Weed Control Plan.
- Following the construction phase and drilling phase for each well, all disturbed surface would be monitored annually for the presence of noxious weeds. If monitoring shows increases in the presence of noxious weeds, Newfield would be responsible for treating these areas. Noxious plant control measures (mechanical, cultural, chemical) would be conducted before seed set. Monitoring and treatment would be conducted annually until reclamation and weed ratification was deemed successful by the BLM.

2.1.13.4 Fish and Wildlife including Special Status Wildlife Species

- To minimize wildlife mortality due to vehicle collisions, Newfield would advise project personnel regarding appropriate speed limits in the Project Area. The Utah Division of Wildlife Resources (UDWR) would be contacted regarding the presence of carrion within or along roadways.
- Install hospital mufflers on new and existing pump jacks on host locations to reduce noise impacts to raptors, sage grouse and other species of wildlife.
- Employees and contractors would be educated about anti-poaching laws. If wildlife law violations are discovered, the offending employee would be subject to disciplinary action by Newfield.
- No leks have been documented within the Project Area. However, prior to surface disturbance or drilling activity between March 1 and June 15, Newfield should consult with the UDWR to determine if any new leks have been documented within the Project Area. If UDWR confirms that an active lek has been documented, no surface-disturbing, drilling, or completion activities would occur within 2 miles of the active lek from March 1 through June 15. The project area is sage grouse brooding habitat.
- As feasible, Newfield would minimize new surface disturbance within prairie dog colonies located near all eight host well pad locations and along proposed pipelines.
- If construction, drilling and completion is proposed at any of the eight host locations during the burrowing owl breeding season (approximately March 1 – August 31), any prairie dog colonies within 0.5 mile of the host location well pad would be surveyed for the presence of nesting burrowing owls. If burrowing owls are documented within 0.5 mile of the well pad, surface disturbing, drilling, or completion activities at that location would not commence until after August 31.
- All of the proposed projects are encompassed by designated mountain plover habitat. If construction, drilling and completion is proposed at any host well pad locations during the mountain plover breeding season (approximately May 1 – June 15), or within habitat, surveys would be conducted to determine presence/absence and nesting status. If nests are located, then construction would not occur in any mountain plover habitat until after June 15th.
- Prior to any surface-disturbing drilling, or completion activities between January 1 and September 31, a BLM-approved contracted biologist would conduct a raptor nest inventory of all areas within ½-mile of proposed surface disturbing activities. If occupied/active raptor nests are found, construction would not occur during the nesting season for that species within the species-specific buffer described in “Best Management Practices for Raptors and Their Associated Habitats in Utah.” As specified in these “guidelines”, and as determined by the BLM, modifications of these spatial and seasonal buffers would be permitted, so long as protection of

nesting raptors was ensured. If drilling, or completion activities are proposed between January 1 and August 31 a BLM biologist or a BLM-approved contracted biologist would conduct a raptor nest inventory during the months of April or May of all areas within ½-mile from the respective host location well pad and liquid gathering line corridor. If occupied/active raptor nests are found, construction would not occur during the nesting season for that species within the species-specific buffer described in “Utah Field Office guidelines for raptor protection from human land use disturbances.” As specified in these guidelines, and as determined by the BLM, modifications of these spatial and seasonal buffers may be permitted, so long as protection of nesting raptors was ensured (USFWS 2002).

- Screening would be placed on stacks and on other openings of heater-treaters or fired vessels to prevent entry by migratory birds.

2.1.13.5 Livestock Grazing

- Newfield would repair or replace any fences, cattleguards, gates, drift fences, and natural barriers that are damaged as a result of the Proposed Action. Cattleguards or gates would be installed for livestock control on road ROWs when fences are crossed and these structures would be maintained by Newfield for the life of the project.

2.1.13.6 Paleontological Resources

- Due to the potential for fossil resources to occur in the Uinta Formation in the Project Area, paleontological surveys have been conducted by a BLM-approved paleontologist prior to any surface disturbance (Miller 2004; Miller 2005; Miller 2010). No fossils were found.
- If fossils are encountered during excavation, construction would be suspended, and BLM would be notified. Construction would not resume until the fossils are assessed by the BLM, and appropriate mitigation measures are developed and implemented.

2.1.13.7 Soil Resources

- Areas used for soil storage would be stripped of topsoil before soil placement.
- Appropriate erosion control and revegetation measures would be employed. In areas with unstable soils where seeding alone may not adequately control erosion, grading would be used to minimize slopes and water bars or rip rap would be installed on disturbed slopes. Erosion control efforts would be monitored by Newfield and, if necessary, modifications would be made to control erosion.

2.1.13.8 Water Resources

- Newfield would inform their employees, contractors, and subcontractors of the potential impacts that can result from accidental spills, as well as the appropriate actions to take if a spill did occur.
- Newly constructed pipelines would be pressure tested to evaluate structural soundness and reduce the potential for leaks.

2.1.13.9 Health and Safety/Hazardous Materials

- Newfield would provide portable sanitation facilities at drill sites, place trash cages at each construction site to collect and store garbage and refuse, and ensure that all garbage and refuse is transported to a State-approved sanitary landfill for disposal.

2.2 ALTERNATIVE B - NO ACTION ALTERNATIVE

Under the No Action Alternative, the proposed infill project would not be approved. The existing environment would remain in its current condition and there would be no new environmental consequences as a result of selecting this alternative. However, the Project Area has already been leased to the proponent for oil and gas development. The proponent's leases grant them the exclusive right to explore for and produce any oil and gas resources that may be located within their lease area, including construction of facilities reasonably needed to conduct prudent exploration and production. Selection of this alternative would not preclude other oil and gas activities or proposals within the Project Area.

2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER ANALYSIS

2.3.1 VERTICAL DRILLING TO ATTAIN 20-ACRE SPACING

An alternative was considered that proposed additional well pad and road development in order to attain 20-acre well spacing using vertical drilling. As directional drilling has been proven to be a viable technology for the region and the objective of minimizing surface disturbance could not be accomplished by utilizing vertical drilling, this alternative was eliminated.

3.0 AFFECTED ENVIRONMENT

The affected environment of the Project Area was evaluated by a BLM interdisciplinary team, as documented in the Interdisciplinary Team Analysis Record Checklist (**Appendix A**). The checklist indicates which resources of concern are present, which resources would be affected by the alternatives and require analysis in the EA, and which resources are either not present in the Project Area or would not be affected to a degree that requires detailed analysis.

As previously discussed, the fourteen proposed wells would be located in the Greater Monument Butte Unit of the BLM's Vernal Field Office (VFO). Mineral extraction activities, transportation corridors, agricultural and ranching activities, livestock grazing, and erosion have historically affected the Project Area. The Project Area is defined as Sections 7, 17 and 18, T9S, R17E (see Figures 1 and 2). The Project Area, including all host well pad locations, has been previously disturbed by the construction of roads and well locations.

3.1 SOILS, VEGETATION, AND INVASIVE/NOXIOUS WEEDS

The vegetation in the Project Area consists of fairly short shrubs, grasses and some forbs. Species include Indian ricegrass (*Achnatherum hymenoides*), black sagebrush (*Artemisia nova*), shadscale (*Atriplex confertifolia*), mat saltbush (*Atriplex corrugata*), Gardner saltbush (*Atriplex gardneri*), rubber rabbitbrush (*Chrysothamnus nauseosus*), squirreltail (*Elymus elymoides*), needle and thread grass (*Hesperostipa comata*), prickly pear cactus sp. (*Opuntia sp.*), galleta grass (*Pleuraphis jamesii*), black greasewood (*Sarcobatus vermiculatus*), and scarlet globemallow (*Sphaeralcea coccinea*). The invasive species, cheat grass (*Bromus tectorum*), Russian thistle (*Salsola iberica*), and halogeton (*Halogeton glomeratus*) are present at these locations.

Of the eight host locations, two are located within the sagebrush vegetative community and six are located within the desert shrub community. The soils range from clay loam to sandy clay loam, with a number of rocky outcrops in some locations. Soils in the Project Area tend to be shallow and well drained.

3.2 WILDLIFE INCLUDING SPECIAL STATUS WILDLIFE SPECIES AND MIGRATORY BIRDS

3.2.1 WILDLIFE

3.2.1.1 Pronghorn (*Antilocapra americana*)

The UDWR has identified crucial value, year-long (fawning) habitat within the project area. Pronghorn that occupy the area are considered to be part of the Anthro subunit of the Nine Mile herd unit (Herd Unit #11a). UDWR population estimates and trend data suggest that, as of 2008, this herd subunit consisted of approximately 325 pronghorn and had exhibited a downward trend over the past 5 and 10 year benchmarks (UDWR 2009).

3.2.2 SPECIAL STATUS ANIMAL SPECIES

Special status species are those species for which state or federal agencies afford an additional level of protection by law, regulation, or policy. Included in this category are species federally listed as endangered or threatened, are considered as candidates for such listing by the FWS, or are petitioned for

listing under the ESA; species managed by the BLM to prevent listing under the ESA; and those species that are state-listed as threatened or endangered or designated as a state species of concern.

An endangered species is an animal or plant species listed under the Endangered Species Act that is in danger of extinction throughout all or a significant portion of its range. A threatened species is an animal or plant species listed under the Endangered Species Act that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. In accordance with Section 7 of the ESA, the lead federal agency in coordination with the FWS must ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of a federally listed threatened or endangered species or result in the adverse modification of the designated critical habitat of a federally listed species. There are no known threatened or endangered species present within the proposed project area(s), so these resources will not be brought forward for analysis.

3.2.2.1 *White-tailed Prairie Dog (Cynomys leucurus)*

The white-tailed prairie dog is a State of Utah and BLM Sensitive Species. Prairie dog colony surveys and burrow density estimates have not been completed within the Project Area. However, according to BLM field reviews active prairie dog colonies occur near or on all eight of the host well pad locations. Proximity ranges from only 12 meters to 0.3 mile away from the edge of a mapped colony. Host locations, 15-18-9-17, and 8-18-9-17 are located within a prairie dog colony.

3.2.2.2 *Colorado River Fish Species*

The USFWS has identified four federally listed fish species historically associated with the Upper Colorado River Basin, including the Green River: Colorado pikeminnow (*Ptychocheilus lucius*), humpback chub (*Gila cypha*), bonytail (*Gila elegans*), and razorback sucker (*Xyrauchen texanus*). These fish are federally and state-listed as endangered and have experienced severe population declines due to flow alterations, habitat loss or alteration, and introduction of non-native fish species. The Green River and its 100-year floodplain have been designated Critical Habitat for these four endangered fish species (USFWS 1994). The project area does not occur within critical habitat for the Colorado endangered fish species. The average downstream distance (following natural washes and drainages) from the host locations to razorback sucker and Colorado pikeminnow habitat within the Green River is 17 miles, and to humpback chub and bonytail chub habitat within the Green River is 51 miles.

Three additional species are endemic to the Colorado River Basin, including the Green River: roundtail chub (*Gila robusta*), flannelmouth sucker (*Catostomus latipinnis*), and bluehead sucker (*Catostomus discobolus*). The roundtail chub is a state-listed threatened species, while the two suckers are species of special concern due to declining population numbers and distribution.

3.2.2.3 *Greater Sage-Grouse (Centrocercus urophasianus)*

The greater sage grouse is a UDWR wildlife species of concern and listed as BLM sensitive because widespread habitat degradation/fragmentation has caused declines in population sizes and have limited species distribution within the state. Recently, the USFWS has listed the sage grouse as a candidate species. Winter and brooding habitat is designated by UDWR in the areas encompassed by the Proposed Action. No sage grouse leks are known to occur within five miles of the project area.

3.2.2.4 *Burrowing Owl (Athene cunicularia)*

The burrowing owl is a Utah State and BLM sensitive species.. In Utah, prairie dog burrows are the most important source of burrowing owl nest sites. As the range and abundance of these burrowing mammals have decreased, so too has the burrowing owl. According to BLM GIS map review, two host wells are in prairie dog colonies and the other wells range from 12 meters to 0.3 mile away from a colony.

3.2.2.5 *Mountain Plover (Charadrius montanus)*

The mountain plover is currently a Utah State and BLM sensitive species.. The only known breeding population of mountain plover in Utah is located on Myton Bench, which applies to the Project Area. None of the proposed locations are within core habitat for mountain plover; however, according to BLM GIS and field review all host well pad locations are within mountain plover habitat. Plover sightings were documented within 0.5 mile of three host well locations in 1997. The most recent mountain plover sighting on Myton Bench was documented in 2006.

3.2.3 MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) was implemented for the protection of migratory birds. Unless permitted by regulations, the MBTA makes it unlawful to pursue, hunt, kill, capture, possess, buy, sell, purchase, or barter any migratory bird, including the feathers or other parts, nests, eggs, or migratory bird products. In addition to the MBTA, Executive Order 13186 sets forth the responsibilities of Federal agencies to further implement the provisions of the MBTA by integrating bird conservation principles and practices into agency activities and by ensuring that Federal actions evaluate the effects of actions and agency plans on migratory birds.

The following migratory birds commonly associated with the sagebrush-steppe community may inhabit the Project Area. Those species classified as High-Priority birds by Utah Partners in Flight (Parrish et al 2002) are denoted by an asterisk (*). Without conducting comprehensive migratory bird surveys, it is not known if these species are present or not.

These species include: the mountain bluebird* (*Sialia currocoides*), grasshopper sparrow* (*Ammodramus savannarum*), Brewer's sparrow* (*Spizella breweri*), sage sparrow* (*Amphispiza belli*), sage thrasher* (*Oreoscoptes montanus*), green-tailed towhee* (*Pipilo chlorurus*), horned lark (*Eremophila alpestris*), loggerhead shrike (*Lanius ludovicianus*), western kingbird (*Tyrannus verticalis*), northern mockingbird (*Mimus polyglottos*), vesper sparrow (*Pooecetes gramineus*) and western meadowlark (*Sturnella neglecta*)(Parrish et al 2002).

3.3 AIR QUALITY

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

- Exhaust emissions (primarily CO, NO_x, PM_{2.5}, and HAPs) from existing natural gas fired compressor engines used in transportation of natural gas in pipelines;
- Natural gas dehydrator still-vent emissions of CO, NO_x, PM_{2.5}, and HAPs;
- Gasoline and diesel-fueled vehicle tailpipe emissions of VOCs, NO_x, CO, SO₂, PM₁₀, and PM_{2.5};
- Oxides of sulfur (SO_x), NO_x, 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 Uinta Basin is designated as attainment or unclassified under the Clean Air Act, meaning that the concentration of criteria pollutants in the ambient air is less than the National Ambient Air Quality Standards (NAAQS), or adequate air monitoring is not available to make an attainment determination. 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 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.

The Utah Division of Air Quality (UDAQ) estimates background air quality as guidance for regulatory modeling of permitted sources to insure NAAQS compliance. These background values are used in dispersion models to add to a proposed point sources emissions so that an evaluation can be made on whether the source will meet NAAQS. These background estimates are based on monitored values when possible, and on default factors when monitoring data does not exist. UDAQ does not estimate ozone and PM_{2.5} background values, as the models used to determine impacts from these pollutants estimate background as part of the overall modeling calculations. **Table 3-1** lists the latest regulatory background values from UDAQ for the Uinta Basin.

Table 3-1. Ambient Criteria Pollutant Concentrations in the Uinta Basin

| Pollutant | Averaging Period(s) | Uinta Basin Background Concentration (µg/m ³) | NAAQS (µg/m ³) |
|------------------|---------------------|---|----------------------------|
| SO ₂ | Annual | 5 | 80 |
| | 24-hour | 10 | 365 |
| | 3-hour | 20 | 1,300 |
| NO ₂ | Annual | 17 | 100 |
| PM ₁₀ | 24-hour | 28 | 150 |
| CO | 8-hour | 1,111 | 10,000 |
| CO | 1-hour | 1,111 | 40,000 |

NAAQS have also been set for ground-level ozone (O₃), which 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. Sunlight cause ground-level ozone to form. As a result, it 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.

The National Park Service operates an ozone monitor in Dinosaur National Monument during the summer months. No exceedences of the current ozone NAAQS have been recorded at this site. Active ozone monitoring in the Uinta Basin south of Vernal began in the summer of 2009 at two locations, one in Red Wash and one in Ouray. Both of these monitoring sites have recorded numerous exceedences of the 8 hour ozone standard during the winter months (January through March). While the monitors are not currently being operated to CFR standards, and as such are not considered adequate data to make a NAAQS determination, the data is considered viable and representative of the area. Apparently, high concentrations of ozone are being formed under a “cold pool” 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 conditions under which this cold pool ozone formation is occurring tends to preclude any transport. At the current time ozone exceedences 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 UDAQ conducted limited monitoring PM_{2.5} in Vernal, Utah that started in December 2006. During the 2006-2007 winter season, PM_{2.5} levels were measured at the Vernal monitoring station 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 US (combustion and dust) plus nitrates and organics from oil and gas activities in the Basin. PM_{2.5} monitoring that is ongoing at the Red Wash and Ouray monitors in the Uinta Basin have not recorded any exceedences of either the 24 hour or annual NAAQS.

Hazardous air pollutants (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.

Greenhouse gases keep the planet's surface warmer than it otherwise would be. But, as the concentrations of these gases continue to increase in the atmosphere, the Earth's temperature is climbing above past levels. According to NOAA and NASA data, the Earth's average surface temperature has increased by about 1.2 to 1.4° F in the last 100 years. The eight warmest years on record (since 1850) have all occurred since 1998, with the warmest year being 1998. However, according to the British Meteorological Office's Hadley Centre (BMO 2009), the United Kingdom's foremost climate change research center, the mean global temperature has been relatively constant for the past nine years after the warming trend from 1950 through 2000. So while scientists believe that Earth will continue to warm in the future, this warming has not occurred for the past ten years. Therefore, quantified or globally

accepted predictions on the ultimate outcome of global warming are still unknown. The warmest year on record was 1998, a year associated with the most intense El Nino global phenomena ever experienced. Most of the warming from 1950 through 2000 is speculated to be the result of human activities. Other aspects of the climate, such as rainfall patterns, snow and ice cover, and sea level, are also changing.

Summary

Based on the combination of methods available to estimate background air quality in the Uinta Basin some general and specific conclusions can be made regarding existing air quality in the project area. Ozone is the primary pollutant of concern, with a potential seasonal pattern the opposite of what is typically expected for ozone. Ozone concentrations during winter inversion events are being monitored well above the current ozone NAAQS. Summer ozone concentrations, while elevated above what would be considered normal background levels, are below the current NAAQS but may become an issue if EPA lowers the existing standard. PM_{2.5} at this time does not appear to be an issue in rural areas of the Uinta Basin, though concentrations in urban settings have been recorded above the NAAQS during winter inversion events. This is not an unusual occurrence, even in smaller rural communities, and is typically due to a combination of woodstoves and vehicle emissions (esp. diesel). Other criteria pollutants do not appear to be an issue at this time, and are anticipated to all be well below applicable NAAQS concentrations.

4.0 ENVIRONMENTAL CONSEQUENCES

The potential direct, indirect, and cumulative impacts from Alternative A (the Proposed Action) and Alternative B (the No Action Alternative) are discussed in the following sections.

4.1 DIRECT AND INDIRECT IMPACTS OF THE PROPOSED ACTION

4.1.1 SOILS, VEGETATION, AND INVASIVE/NOXIOUS WEEDS

No new surface disturbance would occur as a result of the Proposed Action, however the reclaimed reserve pits would be re-constructed and a surface pipeline bundle would be installed to transport fluids. Loss of native vegetation would be negligible because proposed surface disturbing activities would be contained within previously disturbed areas, however; there would be a small amount of new vegetation loss due to surface pipeline installation.

Potential impacts to soils from the Proposed Action include the increased susceptibility of the soils to wind and water erosion, mixing of soil horizons, soil compaction, contamination of soils with petroleum products, and loss of topsoil productivity. Appropriate erosion control and revegetation measures would be employed. In areas with unstable soils where seeding alone may not adequately control erosion, grading would be used to minimize slopes and water bars would be installed on disturbed slopes. Erosion control efforts would be monitored by Newfield and, if necessary, modifications would be made to control erosion (see Chapter 2).

Loss of soil/topsoil in disturbed areas would reduce the revegetation success of seeded native species due to increased competition by annual weed species. Annual weed species are adapted to disturbed conditions, and have less stringent moisture and soil nutrient requirements than do perennial native species. The severity of these invasions would depend on the success of reclamation and revegetation, and the degree and success of noxious weed control efforts. Monitoring and treatment would be conducted annually until reclamation and weed eradication was deemed successful by the BLM.

Reclamation of well pads would generally consist of backfilling reserve pits, re-grading the area to the approximate natural contours, spreading stockpiled soils over the disturbed area, and reseeding with the BLM-approved seed mixture (see **Section 2.1.12**).

4.1.2 WILDLIFE INCLUDING SPECIAL STATUS WILDLIFE SPECIES AND MIGRATORY BIRDS

4.1.2.1 *Wildlife*

Pronghorn

The Proposed Action would increase habitat loss from the reconstruction of the reserve pits. Drilling and completion activities at the existing well pads could result in temporary displacement of pronghorn. When displaced, pronghorn could move into less suitable habitats or into habitats where inter- and intra-specific competition for resources may occur. Displacement into inferior habitats, or habitats where competition occurs could result in deteriorated physical condition, decreased reproductive success, and increased general stress. Potential impacts from increased traffic and human activity include increased potential for harassment or poaching, and other disturbances which could lead to pronghorn avoiding active work areas and a reduction in pronghorn carrying capacity (UDWR 2009).

4.1.2.2 *Special Status Animal Species*

White-tailed Prairie Dog

The re-construction of the reserve pits would contribute to the loss of prairie dog habitat and could contribute to the loss of prairie dog burrows if the proposed action occurs within a prairie dog colony. Direct impacts to prairie dogs from the Proposed Action could include increased mortality due to prairie dog-vehicle collisions caused by vehicles traveling in/near colonies. As traffic volumes and/or project-related activities increase, adjacent habitats may be avoided due to human presence and noise. Increased traffic volumes in the Project Area would be temporary and restricted to the construction of the reserve pits, the drilling of the new wells, and the installation of the pipeline bundle. During production, traffic volumes would most likely return to pre-project levels of daily maintenance checks.

Habitat quality for these species could also be degraded by the introduction and spread of noxious and invasive weeds. Weed invasions may lead to a decrease in the amount of native perennials and bare ground, thereby degrading habitat and forage quality for prairie dogs. As vegetative cover decreases prairie dogs vulnerability to predators increases. Newfield would implement a weed control plan to deter the spread of invasive plants or noxious weeds in the Project Area.

Colorado River Fish Species

The proposed action would result in 12.6 acre-feet of water depletion from the Upper Colorado River Drainage System for construction and drilling operations. Water depletions reduce the ability of the river to create and maintain the primary constituent elements that define critical habitats. Water depletions from the Upper Colorado River Drainage System, along with a number of other factors, have resulted in such drastic reductions in the populations of the Colorado pikeminnow, humpback chub, bonytail, and razorback sucker that the Service has listed these species as endangered and has implemented programs to prevent them from becoming extinct.

Food supply, predation, and competition are also important elements of the biological environment. Food supply is a function of nutrient supply and productivity, which could be limited by reduction of high spring flows brought about by water depletions. Water depletions contribute to alterations in flow regimes that favor nonnative fishes. Predation and competition from nonnative fish species have been identified as factors in the decline of the endangered fishes.

The potential exists for water intake structures placed in the Upper Colorado River Drainage System (flowing rivers and streams) to result in mortality to eggs, larvae, young-of-the-year, and juvenile life stages. BLM and their applicants would minimize this potential by following the mitigation measures listed below.

Based on the above, the proposed action will have a “**may affect, likely to adversely affect**” determination for the endangered Colorado pikeminnow, humpback chub, bonytail, and razorback sucker. The Proposed Action may affect individuals of bluehead sucker, roundtail chub, and flannelmouth sucker, but will not result in a trend toward the listing of the species. The U.S. Fish and Wildlife Service has determined that this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat because reasonable and prudent alternatives would be implemented.

Mitigation:

1. The best method to avoid entrainment is to pump from an off-channel location – one that does not connect to the river during high spring flows. An infiltration gallery constructed in a Service approved location is best.
2. If the pump head is located in the river channel the following stipulations apply:
 - a. Do not situate the pump in a low-flow or no-flow area as these habitats tend to concentrate larval fishes.
 - b. Limit the amount of pumping, to the greatest extent possible, during that period of the year when larval fish may be present (see above).
 - c. Limit the amount of pumping, to the greatest extent possible, during the midnight hours (10pm to 2 am), as larval drift studies indicate that this is a period of greatest daily activity. Dusk is the preferred pumping time, as larval drift abundance is lowest during this time.
3. Screen all pump intakes with 3/32” mesh material.
4. Approach velocities for intake structures should follow the National Marine Fisheries Service's document "Fish Screening Criteria for Anadromous Salmonids". For projects with an in-stream intake that operate in stream reaches where larval fish may be present, the approach velocity should not exceed 0.33 feet per second (ft/s).
5. Report any fish impinged on the intake screen or entrained into irrigation canals to the Service (801.975.3330) or the Utah Division of Wildlife Resources: Northeastern Region, 152 East 100 North, Vernal, UT 84078. Phone: (435) 781-9453.

Greater Sage-Grouse

No leks have been documented within the Project Area. However, as discussed in **Section 2.1.13.4**, prior to surface disturbance or drilling activity between March 1 and June 15, Newfield would consult with the UDWR to determine if any new leks have been documented within the Project Area. If UDWR confirms that an active lek has been documented, no surface-disturbing, drilling, or completion activities would occur within 2 miles of the active lek between March 1- June 15. This ACEPM would prevent impacts to any future established leks within two miles of the host locations. Thus, impacts would be limited to potential for bird-vehicle collisions and the displacement of individuals from increase human activity. No fragmentation of brooding substantial habitat would occur from the Proposed Action since associated project disturbance is limited to re-disturbance of soils on existing well pads. Given the small amount of

disturbance associated with the re-construction of the reserve pits and the installation of the pipeline bundles, and the fact that there are no leks within 2 miles, the proposed action would not impact brooding habitat, but may impact foraging activity.

Burrowing Owl

Under the Proposed Action, surface-disturbing activities would include re-excavating the reserve pits and constructing the surface pipeline bundles which would minimally contribute to the loss of burrowing owl habitat. However, if prairie dog colonies exist on well pads and reserve pit reclamation areas, then burrowing owl habitat would be degraded and destroyed.

If breeding owls occur in the vicinity of construction activities between March 1 and August 31, the Proposed Action could result in disturbances to breeding, nesting, and fledgling success. Direct impacts on active burrowing owl nests would be limited based on the applicant committed measures. Indirect negative impacts could include displacement from foraging areas and reduction of prey species. The proposed action would continue to impact habitat and could result in further reductions in burrowing owl populations.

Mountain Plover

Under the Proposed Action, surface-disturbing activities would consist of re-excavation of the reserve pit and installation of the pipeline bundle which would minimally contribute to the loss of mountain plover habitat. Mountain plovers nest on open barren areas, but to date, no nests have been located near these host well locations. The potential impacts would include an increased risk of direct mortality from vehicle strikes, nest destruction, habitat degradation, and displacement. The applicant committed measures would reduce the potential for these impacts to occur. The proposed action would continue to degrade habitat and could result in further reductions in mountain plover populations.

4.1.2.3 *Migratory Birds*

Land management activities that reduce or fragment sagebrush/shrub-steppe communities negatively impact sagebrush/shrub-steppe obligate migratory bird species habitat through direct disturbance and weed invasion. Cheatgrass has come to dominate the grass-forb community of more than half the sagebrush region in the West, replacing native bunchgrasses. Reclamation, which sometimes includes reseeding using non-native grasses and forbs including crested wheatgrass, has further altered habitat in many areas of sagebrush shrub-steppe. However, impacts would be negligible because ground disturbing activities would focus on re-excavating reclaimed reserve pits and construction the surface pipeline bundles.

4.1.3 AIR QUALITY

The Proposed Action is considered to be a minor source under the Clean Air Act. Minor sources are not controlled by regulatory agencies responsible for implementing the Clean Air Act. In addition, control technology is not required by regulatory agencies at this point, since the Uinta Basin is considered to be unclassified/in attainment of the NAAQS. The Proposed Action will 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. Proposed Action Annual Emissions (tons/year) ¹

| Pollutant | Development | Production | Total |
|-------------------|-------------|------------|-------|
| NO _x | 48.61 | 13.31 | 61.92 |
| CO | 15.42 | 25.01 | 40.43 |
| VOC | 4.65 | 16.88 | 21.53 |
| SO ₂ | 0.25 | 0.04 | 0.29 |
| PM ₁₀ | 5.80 | 91.11 | 96.92 |
| PM _{2.5} | 1.44 | 9.89 | 11.33 |
| Benzene | 0.02 | 0.05 | 0.06 |
| Toluene | 0.01 | 0.02 | 0.03 |
| Ethylbenzene | 0.00 | 0.00 | 0.00 |
| Xylene | 0.00 | 0.01 | 0.01 |
| n-Hexane | 0.00 | 0.03 | 0.03 |
| Formaldehyde | 0.00 | 0.56 | 0.56 |

¹Emissions 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 61.92 tons/yr for NO_x, and 40.43 tons/yr of VOC (Table 4-1). Project emissions of ozone precursors would be dispersed and/ or diluted to the extent where any local ozone impacts from the Proposed Action would be indistinguishable from background conditions. The primary sources of HAPs are from oil storage tanks and smaller amounts from other production equipment. Small amounts of HAPs are emitted by construction equipment. However, these emissions are estimated to be less than 1 ton per year. Based on the negligible amount of project-specific emissions, the Proposed Action is not likely to violate, or otherwise contribute to any violation of any applicable air quality standard.

Mitigation:

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 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.

4.2 DIRECT AND INDIRECT IMPACTS OF THE NO ACTION

4.2.1 SOILS, VEGETATION, AND INVASIVE/NOXIOUS WEEDS

Under the No Action Alternative, the fourteen proposed wells would not be drilled. Thus, there would be no direct disturbance or indirect effects to soils and vegetation from surface-disturbing, drilling, or completion activities associated with these fourteen directionally drilled wells.

4.2.2 WILDLIFE INCLUDING SPECIAL STATUS WILDLIFE SPECIES AND MIGRATORY BIRDS

Under the No Action Alternative, the fourteen proposed wells would not be drilled. Thus, there would be no direct disturbance or indirect effects to pronghorn, white-tailed prairie dog, greater sage grouse, burrowing owl, mountain plover, and migratory birds, from drilling, or completion activities. Under the No Action Alternative, as with the Proposed Action, there would be no water depletions from the Upper Colorado River Drainage System associated with the construction and drilling of these wells.

4.2.3 AIR QUALITY

Under the No Action Alternative, the proposed gas well(s) would not be drilled and there would be no additional impacts to air quality. Effects on ambient air quality would continue at present levels from existing oil and gas development in the region and other emission producing sources.

4.3 CUMULATIVE IMPACT ANALYSIS

Cumulative impacts as described in NEPA are those impacts that result from the incremental impact of an action when added to other past, present, and reasonably foreseeable actions, regardless of which agency or person undertakes such other actions. Cumulative effects as described in the ESA include the effects of the future state, tribal, local, or private actions that are reasonably certain to occur in the project area. Future federal actions that are unrelated to the Proposed Action are not considered as cumulative impacts under the ESA because they require separate consultation pursuant to Section 7 of the ESA. However, future federal cumulative actions are included in all sections below in order to comply with NEPA.

As discussed in Section 1.5, because the Proposed Action is limited to the directional drilling of fourteen new wells from eight existing, host location well pads, potential impacts to the human environment, and thus potential contributions to cumulative effects, are expected to be limited or even negligible. For most resources, there would no direct or indirect effects from the project (see IDT checklist – Appendix A), and thus, there would be no cumulative effect to these resources either. Therefore, cumulative impact discussions are limited to soils, vegetation, wildlife, and air resources.

4.3.1 SOILS, VEGETATION, AND INVASIVE/NOXIOUS WEEDS

The cumulative impacts analysis area (CIAA) for soils, vegetation, and invasive plants/noxious weeds is defined as the boundary of the Castle Peak and Eight Mile Flat Oil and Gas Expansion Project EIS (BLM 2005) which is located in the Monument Butte/Myton Bench Oil and Gas Field in Duchesne and Uintah Counties, Utah.

The boundary of the Castle Peak and Eight Mile Flat Oil and Gas Expansion Project EIS contains approximately 64,000 acres. The current past, present, and foreseeable activity for the Castle Peak and Eight Mile Flat Oil and Gas Expansion Project EIS Area is 778 oil and gas wells. Assuming 2.5 acres of disturbance for well pad and pit and 1.0 acre of disturbance for pipelines and roads per well, the past, present, and future total area of disturbance due to oil and gas activity for the Castle Peak and Eight Mile Flat Oil and Gas Expansion Project EIS is approximately 2,723 acres.

Each acre of disturbance adds to a cumulative effect by increasing erosion and destroying native vegetation, and through the invasion of undesired plant species. In general, soils in the Uinta Basin are very thin, slow to develop, and difficult to reclaim because of the arid climate and lack of organic material. The Proposed Action would add 1.2 acres of surface disturbance. The No Action alternative would not result in cumulative impacts.

4.3.2 WILDLIFE INCLUDING SPECIAL STATUS WILDLIFE SPECIES AND MIGRATORY BIRDS

Declines in the abundance or range of many wildlife species have been attributed to various human activities on federal, state, and private lands, such as human population expansion and associated infrastructure development; diversion, or dewatering of springs, wetlands, or streams; off-road vehicle activity; grazing activities, including alteration or clearing of native habitats for domestic animals or crops; and introductions of non-native plant, wildlife, or fish or other aquatic species, which can alter native habitats or out-compete or prey upon native species. Many of these activities are expected to continue on federal, state and private lands within the range of the various wildlife and fish species and could contribute to cumulative impacts within the project area. Species with small population sizes, endemic locations, or slow reproductive rates, or species that primarily occur on non-federal lands where landholders may not participate in recovery efforts, would generally be highly susceptible to cumulative effects.

The cumulative impacts analysis area (CIAA) for wildlife is defined as the boundary of the Castle Peak and Eight Mile Flat Oil and Gas Expansion Project EIS (BLM 2005) which is located in the Monument Butte/Myton Bench Oil and Gas Field in Duchesne and Uintah Counties, Utah.

The boundary of the Castle Peak and Eight Mile Flat Oil and Gas Expansion Project EIS contains approximately 64,000 acres. The current past, present, and foreseeable activity for the Castle Peak and Eight Mile Flat Oil and Gas Expansion Project EIS Area is 778 oil and gas wells. Assuming 2.5 acres of disturbance for well pad and pit and 1.0 acre of disturbance for pipelines and roads per well, the past, present, and future total area of disturbance due to oil and gas activity for the Castle Peak and Eight Mile Flat Oil and Gas Expansion Project EIS is approximately 2,723 acres.

4.3.2.1 *Wildlife*

Ongoing and planned oil and gas activities would impact pronghorn by further reducing the amount of available cover, foraging opportunities, and fawning areas. Well drilling and other human activities (both directly and indirectly associated with these projects) would incrementally reduce the productivity of the habitats affected and increase the amount of human presence. Additional development could preclude species from using areas of more intensive human activity. In general, the severity of the cumulative effects would depend on factors such as the sensitivity of the species affected, seasonal intensity of use, type of project activity, and physical parameters (e.g., topography, forage, and cover availability). The Proposed Action would add 1.2 acres of surface disturbance. The No Action alternative would not result in cumulative impacts.

4.3.2.2 *Special Status Animal Species*

Declines in the abundance and variety of many special status animal species, including white-tailed prairie dog, greater sage grouse, mountain plover, and burrowing owls have been attributed to various past, present, and reasonably foreseeable human activities on federal, state, and private lands, such as infrastructure development; water retention, diversion, or dewatering of springs, wetlands, and streams; off-road vehicle activity; oil and gas exploration; and introduction of non-native plants, wildlife, or fish or other aquatic species, which can alter native habitats or out-compete or prey upon native species. Many of these activities are expected to continue on federal, state and private lands within the range of the various special status wildlife, fish, and plant species, and would contribute to cumulative effects for the species within the action area of the Proposed Actions. Species with small population sizes, endemic locations, or slow reproductive rates, or species that primarily occur on non-federal lands where landholders may not participate in recovery efforts, would generally be more susceptible to cumulative effects. Long-term impacts to wildlife would extend through the life of projects and beyond until supporting capabilities of that habitat are fully restored.

Colorado River Fish Species

Reasonably foreseeable future activities that may affect the seven special status fish include oil and gas exploration and development, irrigation, urban development, recreational activities, and activities associated with the Upper Colorado River Endangered Fish Recovery Program. Implementation of all or any of these projects has affected and continues to affect the environment including, but not limited to, water quality, water rights, socioeconomic, and wildlife resources.

Cumulative effects to this species would include the following types of impacts:

- Changes in land use patterns that would further fragment, modify, or destroy potential spawning sites or designated critical habitat;
- Shoreline recreational activities and encroachment of human development that would remove upland or riparian/wetland vegetation and potentially degrade water quality;
- Competition with, and predation by, exotic fish species introduced by anglers or other sources.

The Proposed Action would add 12.8 acre-feet of water depletion. The No Action alternative would not result in cumulative impacts.

4.3.2.3 *Migratory Birds*

Ongoing and planned oil and gas activities would impact migratory bird habitat by further reducing the amount of available cover, foraging opportunities, and breeding areas. Well drilling and other human activities (both directly and indirectly associated with these projects) would incrementally reduce the productivity of the habitats affected. Increased traffic and associated noise could impact migratory birds (including burrowing owls and mountain plover) by vehicle collisions and flushing which could reveal nest site locations and opportunities for predation. In general, the severity of the cumulative effects would depend on factors such as the sensitivity of the species affected, seasonal intensity of use, type of project activity, and physical parameters (e.g., topography, forage, and cover availability). The Proposed Action would add 1.2 acres of surface disturbance. The No Action alternative would not result in cumulative impacts.

4.3.3 AIR QUALITY

The CIAA for air quality is the Uinta Basin. Cumulative air quality impacts are defined as the combination of emissions resulting from the Proposed Action, existing nearby permitted sources, and Reasonably Foreseeable Development (RFD) within the region. Cumulative impacts are incorporated by reference to the Uinta Basin Air Quality Study (UBAQS), the Greater Natural Buttes air quality study, and the Gasco air quality study. The increase in emissions associated with the Proposed Action would be localized, in some cases temporary (well development phase), and on a much smaller scale in comparison with regional emissions.

Table 4-2. Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison

| Species | Proposed ^a Action Production Emissions (ton/yr) | WRAP Phase III 2012 Uinta Basin Emission Inventory ^b (ton/yr) | Percentage of Proposed Action to WRAP Phase III |
|-----------------|--|--|---|
| NO _x | 36.72 | 16,547 | 0.22% |
| VOC | 92.04 | 127,495 | 0.07% |

^a see Table 4-2

^b http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html Uinta Basin Data

As shown in Table 4-2, the WRAP Phase III baseline inventory for the Uinta Basin for VOC emissions in 2006 was 71,546 tons/yr. For 2012, the NO_x and VOC emissions are projected at 16,547 and 127,495 ton/yr, respectively. Potential VOC emissions from the Proposed Action represent 0.22% of the total 2012 VOC estimated emissions for the region, and potential NO_x emissions from the Proposed Action represent 0.07% of the total 2012 VOC estimated emissions for the region.

Based on the magnitude of the projected increase in VOC emissions for the Uinta Basin from 2006 to 2012, and the inconsequential contribution that would be emitted from the Proposed Action, an accurate analysis of potential ozone impacts from the Proposed Action is not feasible. 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. Thus the potential cumulative ozone impact from the Proposed Action cannot be modeled with any accuracy due to the level of the emissions from the Proposed Action, the size of the project, and the lack of model sensitivity. When compared to regional emissions inventories, the amounts of ozone precursors emitted from the Proposed Action are not expected to have a measurable contribution or effect on regional ozone formation. The No Action alternative would not result in an accumulation of impacts.

The assessment of GHG emissions and climate change is still in its earliest stages of formulation. At present, under current scientific data and models, 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. The inconsistency in results of scientific models used to predict climate change at the global scale, combined with the lack of scientific models designed to predict climate change on regional or local levels, prohibits the ability to quantify potential future impacts of decisions made at the local level, particularly for small scale projects such as the Proposed Action. However, drilling and development activities from the Proposed Action are anticipated to release a negligible amount of emissions, including GHGs, into the local airshed. The No Action alternative would not result in an accumulation of impacts.

5.0 CONSULTATION AND COORDINATION

5.1 SECTION 7 CONSULTATION UNDER THE ESA

Water for drilling the fourteen proposed wells would come from an underground water well (Johnson Water District - Water Right 43-10136), Neil Moon Pond (Water Right 43-11787), Tributary to Pleasant Valley Wash (Maurice Harvey Pond - Water Right 43-1358), or the Green River (Newfield Collector Well - Water Right 41-1817) (Newfield Collector Well). The Maurice Harvey Pond and Johnson Water District are historic depletions (permitted prior to January 1988). The USFWS address's new and historic depletions differently under the Section 7 agreement of March 11, 1993. Historic depletions, regardless of size, do not pay a depletion fee to the Recovery Program. Also, Section 7 consultation for historic depletions was conducted in association with that 1993 agreement. The Neil Moon Pond and Newfield Collector Well were consulted on during formal Section 7 Consultation completed for the Castle Peak Eight Mile Flat Oil and Gas Expansion Project Environmental Impact Statement (USFWS 2005). Thus, no additional consultation under Section 7 of the ESA is needed for depletion related to this project, and consultation is considered to be closed.

5.2 SECTION 106 CONSULTATION UNDER THE NHPA

Class III pedestrian, cultural resource surveys have been completed at the eight host well pad locations (MOAC 2004 Report No. 04-94; MOAC 2010 Report No. 10-216; MOAC 2011 Report No. 10-215). No sites or artifacts were found at host well pads 44-7-9-17, 23-17B-9-17, 12-17-9-17, 15-17-9-17, 6-18-9-17, 8-18-9-17, 13-18-9-17, 15-18-9-17. Copies of the cultural resource report were provided by the BLM to the State Historical Preservation Office, along with a request to consult under Section 106 of the National Historic Preservation Act. The BLM received a concurrence determination of "no historic properties affected" from the SHPO on February 16, March 05, and March 29, 2011. Consultation is considered to be closed.

5.3 TRIBAL CONSULTATION

A request for tribal concurrence regarding Native American religious was sent to the 13 tribes with historic ties to the Uinta Basin. No responses were received within 30 days. Consultation is considered to be closed.

5.4 SUMMARY OF PUBLIC PARTICIPATION

This EA has posted to the Utah BLM's Environmental Notification Bulletin Board. A 15-day public comment period was held from August 3, 2011 through August 18, 2011. Three public comments were received, one from Utah Public Lands Policy Coordination Office, one from Duchesne County, and one from Southern Utah Wilderness Alliance (SUWA). Responses to substantive comments are as follows:

| Name | Comment | Response |
|------|---|--|
| Utah | Because fugitive dust may be generated during soil disturbance, the proposed project will be subject to Air Quality Rule R307-205-5 for Fugitive Dust. These rules apply to construction activities that disturb and area greater than 1.4 acre in size. A permit, known as an Approval Order, is | Section 2.1.7 states that water will be used to control fugitive dust. |

| | | |
|-----------------|--|--|
| | not required from the Executive Secretary of the Air Quality Board, but steps need to be taken to minimize fugitive dust, such as water and/or chemical stabilization, providing vegetative or synthetic cover or windbreaks. | |
| Utah | The State recommends the following BMPs as standard operating procedures: 1 – Emission standards for Stationary Internal Combustion Engines of 2 g/bhp-hr of NO _x for engines less than 300 HP (Tier 3) and 1 g/bhp-hr of NO _x for engines over 300 HP (Tier 3). 2 – No or low bleed controllers for Pneumatic Pumps, Actuators, and other Pneumatic devices. 3 – Green completion or controlled VOC emission methods with 90% efficiency for Oil or Gas Atmospheric Storage Tanks, VOC Venting controls or flaring, Well Completion, Re Completion, Venting, and Planned Blowdown Emissions. | The measures requested are included in either Section 2.1.13.1 or 4.1.3. |
| Utah | If compressors or pump stations are constructed at the site, a permit application, known as a Notice of Intent, should be submitted to the Executive Secretary. | No compressors or pump stations are proposed. |
| Duchesne County | We note one error on page 15 of the EA. The first line of the second paragraph in Section 3.0 should refer to 14 rather than 9 proposed wells | Change made as noted. |
| SUWA | The BLM has not considered the cumulative impacts of this project combined with all other ongoing and reasonably foreseeable activity in the Uinta Basin to analyze how those activities will impact ozone levels. | The EA incorporates three regional air quality models, UBAQS, Gasco, and Greater Natural Buttes, into the analysis by reference. All three models analyzed the impacts of ozone in the Basin on a regional cumulative level. |
| SUWA | The Uinta Basin is properly categorized as “unclassifiable/attainment”, not “attainment. | Section 4.1.3 has been updated to reflect the unclassified category of the Uinta Basin. |
| SUWA | The EA minimizes the high levels of wintertime ozone, and attempts to waive away the incremental increase that this proposed project will produce by suggesting that it would be undetectable by a model or monitor. However, the project will clearly produce ozone precursors, VOCs and NO _x , thus the project will contribute some ozone. Though the amount may be small in relation to all other ozone precursor emissions in the Uinta Basin, it is a contribution. Without ozone modeling, the EA cannot conclude that ambient air quality standards will not be violated. | In Section 3.3, the EA explains that photochemical models are unable to replicate winter ozone formation. In Section 4.3.3, the EA explains that the project cannot be modeled with accuracy due to the level of emissions from the Proposed Action, the size of the project, and the lack of model sensitivity, so it is not possible to conclude through modeling whether NAAQS will be violated by the implementation of this project. The formation of ozone from its component parts (VOC and NO _x) is a non-linear photo-reactive process, so it is not possible to predict how much ozone will result from the implementation of this project. However, the EA did disclose in Section 4.3.3 the contribution of VOCs and NO _x from this project, as well as the total NO _x and VOC emissions as estimated in the WRAP Phase III 2012 |

| | | |
|------|--|---|
| | | Uinta Basin Emission Inventory. |
| SUWA | While the BLM's EA does refer to some reasonably foreseeable development, it has failed to conduct the quantitative and qualitative analysis of the impacts of these actions that NEPA requires. In addition, BLM has failed to assess the total impacts of the project added to other existing and future ones. | Section 4.3 of the EA includes quantified estimates of cumulative impacts (surface disturbance as well as air quality impacts) to each resource potentially impacted. It also discloses the incremental addition of the proposed project and the no action alternative. |
| SUWA | The EA failed to include any analysis of the impacts to air quality in the region resulting from ozone pollution generated by vehicles traveling on roads in the area. | The proposed action emissions inventory (Table 4-1) included all estimated emissions from the proposed action for the development and production phases of the project, including vehicles used during those phases. Please note that vehicles emit ozone precursors, not ozone itself, which is a secondarily formed pollutant from VOCs and NOx in the presence of sunlight, as disclosed in Section 3.3. |
| SUWA | There is no record support for the EA's contention that this project is small and unlikely to have an impact on ozone pollution. It has never adequately modeled ozone pollution from this project or from any activity in the Uinta Basin and ozone-formation is non-linear. It may not simply ignore winter pollution either because it does not lend itself to easy modeling. Instead the BLM may implement steps for qualitatively describing the winter problem and evaluation how the project may be changed to avoid exacerbating this issue. | Section 3.3 qualitatively described winter ozone formation and monitoring results. In addition, the applicant has agreed to implement several air quality measures (Section 2.1.13.11) which will result in reduced ozone precursor (VOC and NOx) emissions. |
| SUWA | The EA fails to fully acknowledge that this project, as well as others in the region, will increase air pollution, including pollutants subject to NAAQS standards, and to analyze how that pollution will concentrate or disperse in the atmosphere. | The emissions anticipated from this project are disclosed in Table 4-1. Qualitative analysis of air quality impacts is included in Section 4.3. |
| SUWA | The EA cites three different air quality studies for cumulative impacts analysis to air quality: the UBAQS, the Greater Natural Buttes, and the Gasco studies. None of these studies provides satisfactory analysis and it is improper for the BLM to attempt to rely on them now. | Each of these studies was a cutting edge study at the time they were developed. The Greater Natural Buttes, which is the latest study, contains the most complete and accurate information available at this time. |

5.5 LIST OF BLM REVIEWERS

| Name | Title | Responsible for Reviewing the Following Section(s) of this Document |
|------------------|---|---|
| Janna Simonsen | Natural Resource Specialist/Environmental Scientist | Soils and vegetation |
| Suzanne Grayson | Wildlife Biologist | Special status fish and wildlife, Migratory birds |
| Stephanie Howard | Environmental Coordinator | Air quality |

5.6 LIST OF NON-BLM PREPARERS

| Name | Title | Responsible for Preparing the Following Section(s) of this Document/Tasks: |
|----------------------------|---|--|
| Kirby Carroll, Kleinfelder | Principal Professional/NEPA Project Manager | Chapters 1 and 2 |
| Dawn Martin, Kleinfelder | Principal Professional/NEPA Program Manager | Document Compilation, Appendix A, Technical Review and Editing |
| Karin McShea, Kleinfelder | Assistant Project Manager/Ecologist | Compilation and review of resource reports needed for issue identification, Appendix A, and Chapters 3 - 5 |
| Andy Antipas | NEPA Project Manager | Ch 2 and Appendix A descriptions for cultural resources and paleontology |
| Dan Soucy, Kleinfelder | Staff Professional II/Biologist | Ch 3 – 5, Soils, Vegetation, and Wildlife |
| Nicole Peace, Kleinfelder | GIS Analyst II/Coordinator | GIS |

6.0 REFERENCES

- Bureau of Land Management (BLM). 2005. Final Environmental Impact Statement and Record of Decision for the Castle Peak and Eight Mile Flat Oil and Gas Expansion Project, Newfield Rocky Mountains, Inc., Uintah and Duchesne Counties, Utah. U.S. Department of the Interior, Bureau of Land Management, Vernal District Office.
- Bureau of Land Management (BLM). 2008. Vernal Field Office Approved Resource Management Plan and Record of Decision. October 2008. U.S. Department of the Interior, Bureau of Land Management, Vernal District Office.
- Bureau of Land Management (BLM). 2011. Green River District Reclamation Guidelines for Reclamation Plans. Revised February 2011.
- Bureau of Land Management and U.S. Forest Service (BLM and USFS). 2007. Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development. The Gold Book. Revised 2007.
- Duchesne County. 2005. Duchesne County General Plan, County Policies, Objectives and Action Steps. Amended Winter 2005
- Miller, W.E. 2004. Paleontological Field Survey of Proposed Production Development Areas, Duchesne & Uintah Counties, Utah. Prepared by Wade E. Miller, Consulting Paleontologist. July 9, 2004.
- Miller, W.E. 2005. Paleontological Field Survey of Proposed Production Development Areas, Duchesne County, Utah. Prepared by Wade E. Miller, Consulting Paleontologist. May 11, 2005.
- Miller, W.E. 2010. Paleontological Field Survey of Proposed Production Development Areas, Duchesne & Uintah Counties, Utah. Proposed Site and Pipeline Tie-ins Survey. Prepared by Wade E. Miller, Consulting Paleontologist. October 22, 2010.
- Montgomery Archaeological Consultants, (MOAC). 2004. Cultural Resource Inventory of Inland Resources Six Block Parcels T8S R17E, Sec. 20, 33, 34; T9S, R16E, Sec. 15; T9S, R17E, Sec. 17 and 20; T9S, R18E, Sec. 7, Duchesne and Uintah Counties, Utah.
- Montgomery Archaeological Consultants, (MOAC). 2010. Cultural Resource Inventory of Newfield Exploration's Nineteen Proposed Well Locations with Pipelines (T9S, R17E, Sections 16, 17, and 18), Uintah County, Utah. MOAC Report No. 10-216. November 1, 2010.
- Montgomery Archaeological Consultants, (MOAC). 2011. Cultural Resource Inventory of Newfield Exploration's Nineteen Proposed Well Locations with Pipelines B-12-9-16, B-7-9-17, J-7-9-17, H-7-9-17, K-7-9-17, L-7-9-17, S-7-9-17, M-7-9-17, R-7-9-17, B-18-9-17, E-17-9-17, and N-8-9-17 (T9S, R16E, Sec. 12; T9S, R17E, Sec. 7 and 8), Duchesne County, Utah. MOAC Report No. 10-215. January 10, 2011.
- Newfield Production Company (Newfield). 2003. Standard Operating Procedures, Uintah and Duchesne Counties, Utah. Newfield Production Company.

- Parrish, J.R., F.P. Howe and R.E. Norvell. 2002. Utah Partners in Flight Avian Conservation Strategy Version 2.0. Utah Partners in Flight Program, Utah Division of Wildlife Resources, 1594 West North Temple, Salt Lake City, Utah 84116. UDWR Publication Number 02-27. i - xiv + 302 pp.
- Utah Division of Wildlife Resources (UDWR). 2002. Strategic Management Plan for Sage-Grouse. Publication 02-20.
- Utah Division of Wildlife Resources. (UDWR). 2006. Sage Grouse brooding use areas in Utah as determined by UDWR field biologists in spring 1999. In May 2006 the dataset was converted from a Critical, High, Substantial and Limited value system to a Crucial/Substantial value system.
- Utah Division of Wildlife Resources (UDWR). 2009. Statewide Management Plan for Pronghorn. Available at: http://wildlife.utah.gov/hunting/biggame/pdf/Statewide_prong_mgmt_2009.pdf Accessed January 2011
- U.S. Fish and Wildlife Service (USFWS). 1994. Final Rule: Determination of critical habitat for the Colorado River endangered fishes: Razorback sucker, Colorado squawfish, humpback chub, and bonytail chub. Federal Register 59: 13375-13400.
- U.S. Fish and Wildlife Service (USFWS). 2005. Final Biological Opinion for the Castle Peak and Eight Mile Flat Oil and Gas Expansion Project Environmental Impact Statement, Newfield Rocky Mountains, Inc., Uintah and Duchesne Counties, Utah.
- U.S. Fish & Wildlife Service. July 28, 2006. Programmatic Water Depletion Biological Opinion for Oil and Gas Development Administered or Permitted by the Bureau of Land Management.

APPENDIX A – INTERDISCIPLINARY TEAM CHECKLIST

Newfield Production Company's Proposal to Directionally Drill Fourteen Wells from Eight Existing Well Pads,

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

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

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

PI = present with potential for 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 C of the DNA form.

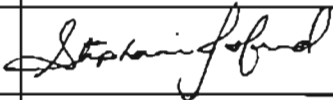
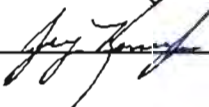
| Determination | Resource | Rationale for Determination* | Signature | Date |
|--|---|--|------------------|------------------------------------|
| RESOURCES AND ISSUES CONSIDERED (INCLUDES SUPPLEMENTAL AUTHORITIES APPENDIX 1 H-1790-1) | | | | |
| PI | Air Quality | Emissions from earth-moving equipment, vehicle traffic, drilling and completion activities, separators, oil storage tanks, dehydration units, and daily tailpipe and fugitive dust emissions could adversely affect air quality. | Stephanie Howard | 6/6/2011 |
| NP | ACECs | None present as per 2008 Vernal RMP and ROD/GIS layer review | Janna Simonsen | 4/28/2011 |
| NP | BLM Natural Areas | None present as per 2008 Vernal RMP and ROD/GIS layer review | Janna Simonsen | 4/28/2011 |
| NI | Cultural Resources | Class I and Class III cultural resource inventories (MOAC 2004; MOAC 2010; MOAC 2011) were completed for Newfield Exploration's eight host well pad locations and the proposed liquid gathering line corridors for proposed wells B-18-9-17, E-17-9-17, N-17-9-17, J-18-9-17, K-18-9-17, R-17,9-17, S-17-9-17, H-18-9-17, M-18-9-17, I-18-9-17, L-18-9-17, Q-18-9-17, R-18-9-17, S-18-9-17. The archaeologist's recommendation is of "no historic properties" pursuant to Section 106 of 36 CFR 800 for the proposed wells. No impacts to cultural resources are anticipated as a result of the proposed action. | Kathie Davies | 2/16/2011 3/29/2011 4/5/2011 |
| NP | Environmental Justice | No minority or economically disadvantaged communities or populations would be disproportionately adversely affected by the Proposed Action or alternatives. | Janna Simonsen | 4/28/2011 |
| NP | Farmlands (Prime or Unique) | A soil survey has not been completed by the NRCS for Duchesne County so prime or unique farmlands exist in the Project Area. | Janna Simonsen | 4/28/2011 |
| PI | Fish and Wildlife Excluding USFW Designated Species | The project area contains yearlong habitat for pronghorn; and designated white-tailed prairie dog habitat | Suzanne Grayson | 11/15/2010 |
| NI | Floodplains | The fourteen proposed wells would be drilled from eight existing well pads sites that did not directly impact HUD inventoried floodplains. Non-HUD inventoried floodplain were crossed by the existing access roads but were previously analyzed and not considered to be negatively impacting floodplains. No new surface disturbance is proposed outside the opening of previously disturbed reserve pits. The proposed project would not be of concern under Executive Order for Flood Plain Management. | Stan Olmstead | 5/24/2011 |
| NI | Fuels / Fire Management | No fuel management activities planned for the Project Area. The proposed project would not conflict with fire | Janna Simonsen | 4/28/2011 |

| Determination | Resource | Rationale for Determination* | Signature | Date |
|---------------|---|---|------------------|---|
| | | management activities due to the use of existing well pads. | | |
| NI | Geology / Mineral Resources / Energy Production | <p>Natural gas, oil, gilsonite, oil shale, and tar sand are the only mineral resources that could be impacted by the project. Production of natural gas or oil would deplete reserves, but the proposed project allows for the recovery of natural gas and oil per 43 CFR 3162.1(a), under the existing Federal lease. Compliance with "Onshore Oil and Gas Order No. 2, Drilling Operations" will assure that the project will not adversely affect gilsonite, oil shale, or tar sand deposits. Due to the state-of-the-art drilling and wells completion techniques, the possibility of adverse degradation of tar sand or oil shale deposits by the Proposed Action will be negligible.</p> <p>Well completion must be accomplished in compliance with "Onshore Oil and Gas Order No. 2, Drilling Operations." These guidelines specify the following: <i>proposed casing and cementing programs shall be conducted as approved to protect and/or isolate all usable water zones, potentially productive zones, lost circulation zones, abnormally pressured zones, and any prospectively valuable deposits of minerals. Any isolating medium other than cement shall receive approval prior to use.</i>³</p> | Elizabeth Gamber | 1/4/2011 1/21/2011 2/2/2011 2/3/2011 |
| PI | Greenhouse Gas Emissions | 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. | Stephanie Howard | 6/6/2011 |
| NI | Hydrologic Conditions (stormwater) | No new surface disturbance is proposed for any of the fourteen new wells. The eight existing pads from which these wells would be drilled have SPCC and SWMP plans in place. As such, the alternatives would not alter surface water flow patterns or cause negative impacts to storm water events and would not warrant Section 402 of the Clean Water Act for stormwater issues. | Stan Olmstead | 5/24/2011 |
| PI | Invasive Plants / Noxious Weeds | As discussed in Section 2.1.9, Newfield would control invasive species along roads, pipeline corridors, and on well pads, as discussed in Chapter 2. Invasive species, halogeton, cheatgrass, and Russian thistle are addressed in chapters 3 and 4. Based on Newfield's commitment to monitor and control noxious weeds (see Section 2.1.9), directional drilling from the existing host location well pads should not increase weed infestations within the Project Area, but an increase in infestations of invasive plants/ noxious weeds is possible, even with mitigation measures in place. | Janna Simonsen | 4/28/2011 |
| NI | Lands / Access | The proposed area is located within the Vernal Field Office Resource Management Plan area which allows for oil and gas development with associated road and pipeline right-of-ways. Current land uses, within the area identified in the Proposed Action and adjacent lands, consist of existing oil and gas development, gilsonite mining, wildlife habitat, recreational use, and sheep and cattle ranching. No existing land uses would be changed or modified by the implementation of the Proposed Action; therefore there would be no adverse effect. | Janna Simonsen | 4/28/2011 |
| NI | Livestock Grazing | The proposed project is located within the Antelope Powers allotment. Surface disturbance associated with the Proposed Action would equal approximately 1.2 acres; however, this disturbance would occur on area of previously reclaimed reserve pits. Directional drilling and completion activities | Stan Olmstead | 5/24/2011 |

| Determination | Resource | Rationale for Determination* | Signature | Date |
|---------------|--|--|------------------|---|
| | | from the existing host locations would result in temporary increases in industrial traffic, but given the existing level of industrial traffic in Project Area, would have a negligible or no impact on grazing activities or livestock operations. This added work activity is consistent with multiple use of public land and other energy development occurring on the Vernal Field Office. | | |
| PI | Migratory Birds | The area is encompassed by designated mountain plover, and sage-grouse brooding habitat. Sage obligate migratory birds may inhabit the project areas, depending on the time of year. | Suzanne Grayson | 11/15/2010 |
| NP | Native American Religious Concerns | A request for tribal concurrence regarding Native American religious was sent to the requisite tribes; no responses were received within 30 days. There are no religious concerns as per cultural reports. | Kathie Davies | 2/16/2011 3/29/2011 4/5/2011 |
| NP | Non-WSA Lands with Wilderness Characteristics | None Present as per 2008 Vernal RMP ROD and GIS layer review. | Janna Simonsen | 4/28/2011 |
| NI | Paleontology | Paleontological surveys were conducted at the eight host well pad locations and are documented in three reports (Miller 2004; Miller 2005; Miller 2010). No fossils were documented. No impacts to fossils are anticipated as a result of the proposed action. | Elizabeth Gamber | 1/4/2011 1/21/2011 2/2/2011 2/3/2011 |
| NI | Rangeland Health Standards | No new surface disturbance would occur under the Alternatives, thus there would be no impact on rangeland standards. However increased industrial activity can cause slight impacts to vegetation from non-compliance impacts and fugitive dust to vegetation. Monitoring for energy inspection and rangeland operation would identify concerns before rangeland health is negatively impacted. | Stan Olmstead | 5/24/2011 |
| NI | Recreation | The proposed project takes place in the Vernal Extensive Recreation Management Area, currently the VFO does not track quantifiable visitor use data within the Project Area. Limited recreation has been observed within the Project Area from field visits, with predominate activity destination based on driving to Pariette wetlands which is in the vicinity, however not within the project proposal. | Jason West | 4/29/2011 |
| NI | Socio-economics | No impact to the social or economic status of the county or nearby communities would occur from this project due to its small size in relation to ongoing development throughout the basin. | Janna Simonsen | 4/28/2011 |
| PI | Soils | Under the Proposed Action, soil disturbance would be limited to 1.2 acres of previously disturbed areas. Soils would be re-graded and reseeded after abandonment during reclamation. | Janna Simonsen | 4/28/2011 |
| PI | Threatened, Endangered or Candidate Animal Species | GIS layers and field data was reviewed and found no federally listed species and / or habitat within the project area. However, sage grouse brooding habitat has been designated by UDWR. There are no known leks within 4 miles. Water for drilling the proposed wells would come from an underground water well (Johnson Water District - Water Right 43-10136), Neil Moon Pond (Water Right 43-11787), Tributary to Pleasant Valley Wash (Maurice Harvey Pond - Water Right 43-1358), or the Green River (Newfield Collector Well - Water Right 41-1817) (Newfield Collector Well). | Suzanne Grayson | 4/28/2011 |
| NI | Threatened, Endangered or Candidate Plant Species | The proposed wells occur outside the USFWS-defined potential habitat polygon for <i>Sclerocactus brevispinus</i> . and <i>S. wetlandicus</i> . There is no proposed surface disturbance within 300 feet of any potential cactus habitat or individuals. | Aaron Roe | 8/1/2011 |

| Determination | Resource | Rationale for Determination* | Signature | Date |
|-------------------------------|---|---|--|----------------------------|
| SSPS: NI Veg: NI | Vegetation Excluding USFWS Designated Species | SSPS: There may be potential habitat for <i>Yucca sterilis</i> in the vicinity of the proposed project. However, surface disturbance is limited to reopening the reserve pit and therefore there will be no loss potential habitat. Vegetation disturbance would be limited to 1.2 acres which would occur on previously disturbed areas. | Aaron Roe Janna Simonsen | 8/1/11 4/28/2011 |
| NI | Visual Resources | Based on the proposed action and associated design features and objectives for the project area, the project is in conformance with VRM class IV requirements and will not be carried forward for analysis. | Janna Simonsen | 4/28/2011 |
| NI | Wastes (hazardous or solid) | No chemicals subject to reporting under SARA Title III in amounts greater than 10,000 pounds would be used, produced, stored, transported, or disposed of annually in association with the project. Trash and other waste materials would be cleaned up and removed immediately after completion of operations. | Janna Simonsen | 4/28/2011 |
| NP | Waters of the U S | The proposed 14 wells would be located on 8 existing well pads and directionally drilled and would not impact the waters of the U.S. Access roads also would not negatively impact any ephemeral drainages considered Waters of the U.S. | Stan Olmstead | 5/24/2011 |
| Surface: NI Ground: NI | Water Resources/Quality (surface/ground) | Surface Water: The 1.2 acres of surface disturbance and the added use of chemicals to develop and produce the wells have a potential to negatively impact water quality. However the Project Area is more than 8 miles from perennial waters and other oil & gas activities in the Project Area have not shown to be negative to surface water quality concerns. Ground Water: Ground water is likely present at a depth of over 100 ft below ground surface. Surface disturbances would not have any effect. Drilling at depth will require notifying BLM of any ground water occurrences and taking appropriate steps to protect it. | Surface: Stan Olmstead Ground: Elizabeth Gamber | 5/24/2011 4/29/2011 |
| NP | Wetlands / Riparian Zones | No inventoried or known riparian areas are located at or near the Project Area. | Janna Simonsen | 4/28/2011 |
| NP | Wild and Scenic Rivers | None present as per 2008 Vernal RMP/ROD and GIS layer review | Janna Simonsen | 4/28/2011 |
| NP | Wild Horses and Burros | No herd areas or herd management areas are present in the Project Area per BLM GIS database. | Janna Simonsen | 4/28/2011 |
| NP | Wilderness/WSA | None Present as per 2008 Vernal RMP/ROD and GIS layer review | Janna Simonsen | 4/28/2011 |
| NP | Woodland / Forestry | None Present as per Vernal Field Office RMP/ROD and GIS database. | Janna Simonsen | 4/28/2011 |

FINAL REVIEW:

| Reviewer Title | Signature | Date | Comments |
|----------------------------------|---|----------|----------|
| NEPA / Environmental Coordinator |  | 8/26/11 | |
| Authorized Officer |  | 9-1-2011 | |

APPENDIX B - SPECIAL STATUS ANIMAL SPECIES LIST

| Species | Status | Habitat Association | Habitat/Species present within the Proposed Project Area and Cumulative Effects Area | Eliminated From Detailed Analysis (Yes/No) |
|---|------------|--|--|--|
| Bonytail <i>Gila elegans</i> | FE | Is endemic to the Colorado River system within main channels of large rivers, and favor swift currents. | This species occurs in the Green River. Habitat is not present within the project area; however, water depletion will occur. | No |
| Colorado pikeminnow <i>Ptychocheilus lucius</i> | FE | Known from the Colorado River system. Uses large swift rivers. | This species occurs in the Green and White Rivers. Habitat is not present within the project area; however, water depletion will occur. | No |
| Humpback chub <i>Gila cypha</i> | FE | Is endemic to the Colorado River System within deep, swift-running rivers, with canyon shaded environments. | This species occurs in the Green River. Habitat is not present within the project area; however, water depletion will occur. | No |
| Razorback sucker <i>Xyrauchen texanus</i> | FE | Endemic to large rivers of the Colorado River system. | This species occurs in the Green and White Rivers. Habitat is not present within the project area; however, water depletion will occur. | No |
| Black-footed ferret <i>Mustela nigripes</i> | FE | Semi-arid grasslands and mountain basins. It is found primarily in association with active prairie dog colonies that contain suitable burrow densities and colonies that are of sufficient size. | The distribution of this species is limited to a nonessential experimental population reintroduced into Coyote Basin, Uintah County starting in 1999. Habitat is not present within the proposed project area. | Yes |
| Canada Lynx <i>Lynx lynx canadensis</i> | FT | Primarily occurs in Douglas-fir, Spruce-fir, and subalpine forests at elevations above 7,800 feet amsl. The lynx uses large woody debris, such as downed logs and windfalls. | If extant in Utah, this species most likely occurs in montane forests in the Uinta Mountains. Habitat is not present within the proposed project area. | Yes |
| Mexican spotted owl <i>Strix occidentalis lucida</i> | FT; PIF | In Utah, found primarily in rocky canyons. Nests in caves or crevices. Roosts on ledges or in trees in canyons. The species prefers mesic (moister/cooler) canyons with mixed conifer or riparian components. Breeding and nesting season: March through August. | There is no habitat present. | Yes |

| Species | Status | Habitat Association | Habitat/Species present within the Proposed Project Area and Cumulative Effects Area | Eliminated From Detailed Analysis (Yes/No) |
|---|---------------------|---|---|--|
| Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i> | FC; PIF BLM-S | Riparian obligate and usually occurs in large tracts of cottonwood/willow habitats. However, this species also has been documented in lowland deciduous woodlands, alder thickets, deserted farmlands, and orchards. Breeding season: late June through July. | Species is known to occur along the Green River and the Ouray National Wildlife Refuge. Habitat is not present within the proposed project area. | Yes |
| Bluehead sucker <i>Catostomus discobolus</i> | CAS | Occupies a wide range of aquatic habitats ranging from cold, clear mountain streams to warm, turbid rivers. | The Bluehead sucker is native in parts of Utah. The species occurs in the upper Colorado River system. Habitat is not present within the project area; however, water depletion will occur. | No |
| Flannelmouth sucker <i>Catostomus latipinnis</i> | CAS | Adults occur in riffles, runs, and pools in streams and large rivers, with the highest densities usually in pool habitat. Young live in slow to moderately swift waters near the shoreline areas. | The Flannelmouth sucker is native in Utah. The species occurs in the Colorado River system. Habitat is not present within the project area; however, water depletion will occur. | No |
| Roundtail chub <i>Gila robusta</i> | CAS | Adults inhabit low to high flow areas in the Green River; young occur in shallow areas with minimal flow. | The Roundtail chub is native in Utah. The species occurs in the Colorado River system. Habitat is not present within the project area; however, water depletion will occur. | No |
| Colorado River Cutthroat trout <i>Oncorhynchus clarkii pleuriticus</i> | CAS | Requires cool, clear water and well-vegetated stream banks for cover and bank stability; in stream cover in the form of deep pools and boulders and logs also is important; adapted to relatively cold water, thrives at high elevations. Most remaining populations are fluvial or resident. Occurs also in lakes. | None. Habitat is not present within the proposed project area. | Yes |
| Northern Goshawk <i>Accipiter gentilis</i> | CAS BLM-S | Generally found in a wide variety of forest types including deciduous, coniferous, and mixed forests. Typically mature and old growth forests and generally selects larger tracts of forest over | Prefers old-growth forests near or within large drainage systems. Habitat is not present within the proposed project area. | Yes |

| Species | Status | Habitat Association | Habitat/Species present within the Proposed Project Area and Cumulative Effects Area | Eliminated From Detailed Analysis (Yes/No) |
|--|--------------------------------|--|--|--|
| | | smaller tracts. In the western U.S., characteristically nests in coniferous forests including those dominated by ponderosa pine, lodge pole, or in mixed forests dominated by various coniferous species including, Douglas-fir, cedar, hemlock, spruce, and larch. Western birds also nest in deciduous forests dominated by aspen, paper birch, or willow. | | |
| Bald eagle <i>Haliaeetus leucocephalus</i> | WSC BLM- S | In Utah, breeding occurrences are limited to 10 locations within four counties (Carbon, Daggett, Duchesne, Grand, and Salt Lake counties). Winter habitat typically includes areas of open water, adequate food sources, and sufficient diurnal perches and night roosts. | Bald eagles utilize ungulate winter ranges that provide carrion, and areas of open water such as the Green River. Roosting or nesting habitat does not occur within the proposed project area. | Yes |
| American white pelican <i>Pelecanus erythrorhynchos</i> | WSC; PIF BLM- S | Inhabits areas of open water including large rivers, lakes, ponds, and reservoirs with surrounding habitats ranging from barren to heavily vegetated sites. Typically nests on isolated islands in lakes or reservoirs. | Known to nest on islands associated with Great Salt and Utah Lakes. In northeastern Utah, the species occurs as a transient on larger water bodies. Habitat is not present within the proposed project area. | Yes |
| Greater Sage-grouse <i>Centrocercus urophasianus</i> | FC WSC; PIF BLM- S | Inhabits upland sagebrush habitat in rolling hills and benches. Breeding occurs on open leks (or strutting grounds) and nesting and brooding occurs in upland areas and meadows in proximity to water and generally within a 2-mile radius of the lek. During winter, sagebrush habitats at submontane elevations commonly are used. | The species is declining, with extant populations in Uintah and Duchesne counties. Brooding habitat is present within the proposed project area. | No |
| Ferruginous hawk <i>Buteo regalis</i> | WSC; PIF BLM- S | Resides mainly in lowland open desert terrain characterized by barren cliffs and bluffs, pinion-juniper woodlands, sagebrush- | This species is known to occur in the West Desert and the Uinta Basin as a summer resident and a common migrant. Within the Uinta | No |

| Species | Status | Habitat Association | Habitat/Species present within the Proposed Project Area and Cumulative Effects Area | Eliminated From Detailed Analysis (Yes/No) |
|---|------------------|--|--|--|
| | | rabbit brush, and cold desert shrub. Nesting habitat includes promontory points and rocky outcrops. | Basin, the species is more associated with prairie dog colonies as the main prey base. There are documented Ferruginous hawk nests within ½ mile of the proposed project area present. | |
| Burrowing owl <i>Athene cunicularia</i> | WSC BLM- S | Inhabits desert, semi-desert shrubland, grasslands, and agriculture areas. Nesting habitat primarily consists of flat, dry, and relatively open terrain; short vegetation; and abandoned mammal burrows (within northeastern Utah primarily in association with prairie dog complexes) for nesting and shelter. | Known to occur in Uintah and Duchesne counties. Nesting and foraging habitat is present within the proposed project area. | No |
| Mountain plover <i>Charadrius montanus</i> | WSC; PIF | In the Uintah Basin, small mountain plover populations breed in shrub-steppe habitat where vegetation is sparse and sagebrush communities are dominated by <i>Artemisia</i> spp. with components of black sage and grasses. Nest locations also vary with respect to topography (nests were located on flat, open ground; on the top or at the base of slopes; or very close to large rocky outcroppings). | The only known breeding population of mountain plover in Utah is located on Myton Bench. Habitat is present within the proposed project area. | No |
| White-tailed prairie dog <i>Cynomys leucurus</i> | WSC BLM- S | Inhabits grasslands, plateaus, plains and desert shrub habitats. White-tailed prairie dogs form colonies or “towns” and spend much of their time in underground burrows and hibernating during the winter months. | Prairie dogs are an obligate species to several other state-sensitive species, such as Ferruginous hawk, mountain plover, and Burrowing owl, in that these species depend on them for food, shelter, and nesting habitat or habitat manipulation. Habitat is present within the proposed project area. | No |
| Short-eared owl <i>Asio flammeus</i> | WSC BLM- S | Inhabits arid grasslands, agricultural areas, marshes, and occasionally open woodlands. In Utah, cold desert shrub and sagebrush-rabbit brush habitats | Known to occur in Uintah County, with occurrence probable in Duchesne County. Habitat may be present within the proposed project area. | Yes |

| Species | Status | Habitat Association | Habitat/Species present within the Proposed Project Area and Cumulative Effects Area | Eliminated From Detailed Analysis (Yes/No) |
|--|----------------------|---|--|--|
| | | also are utilized. Typically a ground nester. | | |
| Lewis's Woodpecker <i>Melanerpes lewis</i> | WSC; PIF BLM-S | Inhabits open habitats including pine forests, riparian areas, and pinion-juniper woodlands. Breeding habitat typically includes ponderosa pines and cottonwoods in stream bottoms and farm areas. The species inhabits agricultural lands and urban parks, montane and desert riparian woodlands, and submontane shrub habitats. | In Utah, the species is widespread, but is an uncommon nester along the Green River. Breeding by this species has been observed in Ouray and Uintah counties, and along Pariette Wash. Habitat is not present within the proposed project area. | Yes |
| Three-toed Woodpecker <i>Picoides tridactylus</i> | WSC; PIF BLM-S | Prefers coniferous forest, primarily spruce and balsam fir. It inhabits areas where dead timber remains after fires or logging. It is found less frequently in mixed forest, and occasionally in Willow thickets along streams. Also found in high elevation aspen groves, bogs, and swamps. | In Utah, the species is widespread but no habitat exists within the Project area. The Three-toed woodpecker is associated more with spruce trees and not pinion pine or Doug-fir. Habitat is not present within the proposed project area. | Yes |
| Grasshopper sparrow <i>Ammodramus savannarum</i> | WSC; PIF BLM-S | Prefers grasslands of intermediate height and are often associated with clumped vegetation interspersed with patches of bare ground. Other habitat requirements include moderately deep litter and sparse coverage of woody vegetation. | In Utah, the species is widespread and has been known to breed in Uintah, Duchesne, and Daggett counties. Habitat may be present within the proposed project area. | Yes |
| Long-billed Curlew <i>Numenius americanus</i> | WSC; PIF BLM-S | Inhabits shortgrass prairies, alpine meadows, riparian woodlands, and reservoir habitats. Breeding habitat includes upland areas of shortgrass prairie or grassy meadows with bare ground components, usually near water. | Widespread migrant in Utah. Breeding birds are fairly common but localized, primarily in central and northwestern Utah. Potential nesting has been reported in Uintah County, but has not been confirmed. Habitat is not present within the proposed project area. | Yes |
| Bobolink <i>Dolichonyx oryzivorus</i> | WSC; PIF BLM-S | Inhabits mesic and irrigated meadows, riparian woodlands, and subalpine marshes at lower elevations (2,800 to 5,000 feet amsl). Suitable breeding habitat | The species breeds in isolated areas of Utah, primarily in the northern half of the state. Breeding and winter habitat have been documented throughout Uintah, | Yes |

| Species | Status | Habitat Association | Habitat/Species present within the Proposed Project Area and Cumulative Effects Area | Eliminated From Detailed Analysis (Yes/No) |
|--|------------------|--|---|--|
| | | for this ground nester includes tall grass, flooded meadows, prairies, and agricultural fields; forbs and perch sites also are required. | Duchesne, and Daggett counties. Habitat is not present within the proposed project area. | |
| Big free-tailed bat <i>Nyctinomops macrotis</i> | WSC BLM- S | Rocky areas in rugged country. The species has been observed in lowlands of river floodplain-arroyo association; also in shrub desert and woodland habitats. Roosts in rock crevices (vertical or horizontal) in cliffs; also in buildings caves, and occasionally tree holes. Winter habits unknown. | The species has been documented in northeastern part of the state from Daggett County into Wyoming. Foraging habitat for this species may be present within the proposed project area. | Yes |
| Fringed myotis <i>Myotis thysanodes</i> | WSC BLM- S | The species is widely distributed throughout Utah, but is not very common in the state. The Fringed myotis inhabits caves, mines, and buildings, most often in desert and woodland areas. | High value and substantial value habitat exists for the species in southern Utah in lower elevations; however, the species has had a couple documented sightings along the White River. Habitat is not present within the proposed project area. | Yes |
| Spotted bat <i>Euderma maculatum</i> | WSC BLM- S | Inhabits desert shrub, sagebrush-rabbit brush, piñon-juniper woodland, and ponderosa pine and montane forest habitats. The species also uses lowland riparian and montane grassland habitats. Suitable cliff habitat typically appears to be necessary for roosts/hibernacula. Spotted bats typically do not migrate and use hibernacula that maintain a constant temperature above freezing from September through May. | The species potentially occurs throughout Utah; however, no occurrence records exist for the extreme northern or western parts of the state. Known occurrences have been reported in northeastern Uintah County. Habitat may be present within the proposed project area. | Yes |
| Townsend's big-eared bat <i>Corynorhinus townsendii</i> | WSC BLM- S | Inhabits a wide range of habitats from semidesert shrublands and piñon-juniper woodlands to open montane forests. Roosting occurs in mines and caves, in abandoned buildings, on rock cliffs, and | The species occurs throughout much of Utah including Duchesne and Uintah counties. One individual was collected at the Ouray National Wildlife Refuge in 1980. Roosting habitat for this | Yes |

| Species | Status | Habitat Association | Habitat/Species present within the Proposed Project Area and Cumulative Effects Area | Eliminated From Detailed Analysis (Yes/No) |
|--|------------------|---|--|--|
| | | occasionally in tree cavities. Foraging occurs well after dark over water, along margins of vegetation, and over sagebrush. | species potentially could occur in areas where rock cliffs and caves are present. Habitat may be present within the proposed project area. | |
| Western (Boreal) toad <i>Bufo boreas</i> | WSC BLM- S | Commonly found throughout most of Utah and can be found in a variety of habitats, including slow moving streams, wetlands, desert springs, ponds, lakes meadows, and woodlands. | The species is commonly spread throughout central and northern Utah. The only known occurrence in the basin exists within the northwest portion of Uintah County which has substantial value habitat for the species. Habitat is not present within the proposed project area. | Yes |
| Corn snake <i>Elaphe guttata</i> | WSC BLM- S | Habitat includes pine woodlands, brushy fields, open hardwood forests, mangrove thickets, barnyards, and abandoned buildings, areas near springs, old trash dumps, and caves. | Occurs in Uintah County. The species have been identified at Ouray National Wildlife Refuge. Habitat is not present within the proposed project area. | Yes |
| Smooth green snake <i>Opheodrys vernalis</i> | WSC BLM- S | Habitat includes meadows, grassy marshes, and moist grassy fields at forest edges, mountain shrublands, stream borders, bogs, open moist woodland, abandoned farmland, and vacant lots. | Although not commonly seen throughout Utah the species has been documented in the northern section of Uintah County in lower elevations. Habitat is not present within the proposed project area. | Yes |
| Prairie falcon <i>Falco mexicanus</i> | PIF | Habitat includes alpine, cliff, cropland/hedgegrow, desert, and grassland/herbaceous areas. | Foraging and nesting habitat may be present within the proposed project area. | Yes |
| Swainson's hawk <i>Buteo swainsonii</i> | PIF | Inhabits grasslands, deserts, agricultural areas, shrublands, marshlands, and riparian forests. Nest in trees in or near open areas. Breeding season: April 1 – July 15. | Foraging and nesting habitat may be present within the proposed project area. | Yes |
| Black-chinned hummingbird <i>Archilochus alexandri</i> | PIF | Habitat includes dry lowlands and foothills with pinion-juniper woodlands. | Habitat is not present within the proposed project area. | Yes |
| Broad-tailed hummingbird <i>Selasphorus platycercus</i> | PIF | Habitat includes open woodland, especially pinion-juniper, pine-oak, and conifer-aspen association; brushy hillsides; montane scrub | Habitat is not present within the proposed project area. | Yes |

| Species | Status | Habitat Association | Habitat/Species present within the Proposed Project Area and Cumulative Effects Area | Eliminated From Detailed Analysis (Yes/No) |
|---|--------|---|--|--|
| | | and thickets. | | |
| Brewer's sparrow <i>Spizella breweri</i> | PIF | Habitat includes desert and shrubland/chaparral. | Habitat may be present within the proposed project area. | Yes |
| Cassin's finch <i>Carpodacus cassinii</i> | PIF | Habitat includes open coniferous forest; in migration and winter also in deciduous woodland, secondary growth, scrub, brushy areas, partly open situations with scattered trees. | Habitat is not present within the proposed project area. | Yes |
| Cassin's kingbird <i>Tyrannus vociferans</i> | PIF | Habitat includes sparse woods and dry scrub areas. | Habitat is not present within the proposed project area. | Yes |
| Clark's nutcracker <i>Nucifraga columbiana</i> | PIF | Habitat includes open coniferous forest, forest edge and clearings, primarily in mountains, but wandering into various habitats; in winter also in lowlands. | Habitat is not present within the proposed project area. | Yes |
| Gray flycatcher <i>Empidonax wrightii</i> | PIF | Habitat includes arid areas of sagebrush or pinion-juniper woodlands. | Habitat is not present within the proposed project area. | Yes |
| Gray vireo <i>Vireo vicinior</i> | PIF | Habitat includes dry shrubby areas, chaparral, and sparse woodlands. | Habitat is not present within the proposed project area. | Yes |
| Green-tailed towhee <i>Pipilo chlorurus</i> | PIF | Habitat is usually low shrubs, sometimes interspersed with trees; avoids typical forest, other than open pinion-juniper woodlands. In pinion-juniper, associated with sagebrush (<i>Artemisia</i> spp.) dominated openings with high shrub species richness. | Habitat is not present within the proposed project area. | Yes |
| Juniper titmouse <i>Parus inornatus</i> | PIF | Habitat includes sparse pinion-juniper and oak woodlands. | Habitat is not present within the proposed project area. | Yes |
| Mountain bluebird <i>Sialia currucoides</i> | PIF | Habitat includes subalpine meadows, grasslands, shrub-steppe, savanna, and pinion-juniper woodlands; in south usually at elevations above 1500 | Habitat may be present within the proposed project area. | Yes |

| Species | Status | Habitat Association | Habitat/Species present within the Proposed Project Area and Cumulative Effects Area | Eliminated From Detailed Analysis (Yes/No) |
|---|--------|--|--|--|
| | | m (4900 ft.). In winter and migration also inhabits desert, brushy areas and agricultural lands. | | |
| Pinion jay <i>Gymnorhinus cyanocephalus</i> | PIF | Habitat includes semi-arid foothills with pinion-juniper woodlands. | Habitat is not present within the proposed project area. | Yes |
| Sage sparrow <i>Amphispiza belli</i> | PIF | Habitat includes dry sagebrush/scrublands with sparse vegetation. | Habitat may be present within the proposed project area. | Yes |
| Sage thrasher <i>Oreoscoptes montanus</i> | PIF | Habitat includes desert and shrubland/chaparral. | Habitat may be present within the proposed project area. | Yes |
| Virginia's warbler <i>Vermivora virginiae</i> | PIF | Habitat includes dry woodlands, scrub oak brushlands, canyons and ravines. | Habitat is not present within the proposed project area. | Yes |
| White-throated swift <i>Aeronautes saxatalis</i> | PIF | Habitat includes cliffs and canyons. | Habitat is not present within the proposed project area. | Yes |
| Wilson's phalarope <i>Phalaropus tricolor</i> | PIF | Habitat includes grassland/herbaceous riparian and wetlands. | Habitat is not present within the proposed project area. | Yes |

APPENDIX C - SPECIAL STATUS PLANT SPECIES LIST

Appendix C: Special Status Plant Species Eliminated from Detailed Analysis

| Species | Status | Habitat | Potential for and/or Occurrence |
|--|-----------|--|--|
| Goodrich's columbine <i>Aquilegia scopulorum</i> var. <i>goodrichii</i> | Sensitive | Green River shale ridges in association with Bristle cone pine, limber pine, Salina wildrye, mountain mahogany, pinyon, and Douglas fir communities. 7,400-9400 ft | None – No populations, potential or suitable habitat occurs for this species in this area. |
| park rock cress <i>Arabis vivariensis</i> | Sensitive | Sandstone and limestone outcrops in mixed desert shrub and pinyon-juniper communities. 5000-6000 ft. | None – No populations, potential or suitable habitat occurs for this species in this area. |
| horseshoe milkvetch <i>Astragalus equisolensis</i> | Sensitive | Duchesne River Formation in sagebrush, shadscale, horsebrush and other mixed desert shrub communities. 4800-5200 ft. | None – No populations, potential or suitable habitat occurs for this species in this area. |
| Hamilton milkvetch <i>Astragalus hamiltonii</i> | Sensitive | Duchesne River, Wasatch, and less commonly Mowry Shale, Dakota and other formations in pinyon-juniper and desert shrub communities. 530-6200 ft | None – No populations, potential or suitable habitat occurs for this species in this area. |
| Goodrich's cleomella <i>Cleomella Palmeriana</i> var. <i>goodrichii</i> | Sensitive | Mancos Shale, Tropic Shale and Morrison formations. On eroded slopes of heavy clay in salt desert communities. 4000-6000 ft. | None – No populations, potential or suitable habitat occurs for this species in this area. |

Appendix C: Special Status Plant Species Eliminated from Detailed Analysis

| Species | Status | Habitat | Potential for and/or Occurrence |
|--|-----------|--|--|
| Barneby's catseye <i>Cryptantha barnebyi</i> | Sensitive | White semi-barren shale knolls of the Green River Formation in shadscale, rabbitbrush, sagebrush, and pinyon-juniper communities. 6000-7900 ft | None – No populations, potential or suitable habitat occurs for this species in this area. |
| Graham's catseye <i>Cryptantha grahamii</i> | Sensitive | Green River Shale in mixed desert shrub, sagebrush, pinyon-juniper, and mountain brush communities. 5000-7400 ft | None – No populations, potential or suitable habitat occurs for this species in this area. |
| Untermann fleabane <i>Erigeron untermannii</i> | Sensitive | Calcareous shales and sandstones of the Uinta and Green River formations in pinyon-juniper, mountain mahogany, limber and bristlecone pine, and sagebrush communities. 7000-9400 ft. | None – No populations, potential or suitable habitat occurs for this species in this area. |
| Ackerman's frasera <i>Frasera ackermaniae</i> | Sensitive | Semibarren yellowish clay soils of the Chinle and Nugget formations in pinyon-juniper and desert shrub communities. 5000-6000 ft | None – No populations, potential or suitable habitat occurs for this species in this area. |
| Rock bitterweed <i>Hymenoxys lapidicola</i> | Sensitive | Pinyon-juniper and ponderosa pine-manzanita communities, often in rock crevices. 6000-8100 ft. | None – No populations, potential or suitable habitat occurs for this species in this area. |

Appendix C: Special Status Plant Species Eliminated from Detailed Analysis

| Species | Status | Habitat | Potential for and/or Occurrence |
|---|------------|--|--|
| Barneby's ridgecress <i>Lepidium barnebyanum</i> | Endangered | White Shale outcrops mainly on ridge crests. 6200-6500 ft. | None – No populations, potential or suitable habitat occurs for this species in this area. |
| Huber pepperplant <i>Lepidium huberi</i> | Sensitive | Sand or silty sands derived from the Chinle formation, and on the Park City and Weber Sandstone formations in sagebrush, snowberry, mountain mahogany, ponderosa pine, Douglas fir, lodgepole pine, and spruce-fir communities. 7300-9700 ft | None – No populations, potential or suitable habitat occurs for this species in this area. |
| Goodrich blazingstar <i>Mentzelia goodrichii</i> | Sensitive | Steep, white, marly calciferous shale outcrops of the Green River formation with scattered limber pine, pinyon pine, Douglas fir, mountain mahogany, and rabbitbrush. 8100-8800 ft | None – No populations, potential or suitable habitat occurs for this species in this area. |
| Stemless penstemon <i>Penstemon acaulis</i> var. <i>acaulis</i> | Sensitive | Semibarren substrates in pinyon-juniper and sagebrush-grass communities. 5900-8200 ft. | None – No populations, potential or suitable habitat occurs for this species in this area. |
| Gibben's penstemon <i>Penstemon gibbensii</i> | Sensitive | Shaly slopes and bluffs with mixed desert shrubs and scattered juniper 5500-5600 ft. | None – No populations, potential or suitable habitat occurs for this species in this area. |

Appendix C: Special Status Plant Species Eliminated from Detailed Analysis

| Species | Status | Habitat | Potential for and/or Occurrence |
|---|-----------|--|--|
| Goodrich's penstemon <i>Penstemon goodrichii</i> | Sensitive | Blue gray to reddish, clay-impregnated badlands of the Duchesne River Formation in shadscale and juniper-mountain mahogany communities 5600-6205ft. | None – No populations, potential or suitable habitat occurs for this species in this area. |
| Graham beardtongue <i>Penstemon grahamii</i> | Proposed | Shale ledges and talus of the Green River Formation growing in sparsly vegetated shadscale, <i>Eriogonum</i> , horsebrush, rygrass, and pinyon-juniper communities. 4600-6800 ft | None – No populations, potential or suitable habitat occurs for this species in this area. |
| White River penstemon <i>Penstemon scariosus</i> var. <i>albifluvis</i> | Candidate | Sparsely vegetated pale tan, shale slopes of the Green River formation in shadscale, rabbitbrush, ricegrass, rygrass, sagebrush, Barneby's thistle, and pinyon-juniper communities. 5000-6800 ft.. | None – No populations, potential or suitable habitat occurs for this species in this area. |
| Argyle Canyon phacelia <i>Phacelia argylensis</i> | Sensitive | Sandy-silty soil in wash bottoms on the Green River shale in pinyon-juniper, serviceberry, and Douglas Fir communities. Around 7600 ft. | None – No populations, potential or suitable habitat occurs for this species in this area. None. |

Appendix C: Special Status Plant Species Eliminated from Detailed Analysis

| Species | Status | Habitat | Potential for and/or Occurrence |
|---|------------|--|--|
| <p>Clay thelopody <i>Schoenocrambe argillacea</i></p> | Threatened | On the lower Uinta and upper Green River formations in shadscale, Indian ricegrass, pygmy sagebrush, and other mixed desert shrub communities. 4800-5600 ft. | None – No populations, potential or suitable habitat occurs for this species in this area. |
| <p>Shrubby reed-mustard <i>Schoenocrambe suffrutescens</i></p> | Endangered | Calcareous shale of the Green River formation in shadscale, pygmy sagebrush, mountain mahogany, juniper and mixed desert shrub communities. 5400-6000ft. | None – No populations, potential or suitable habitat occurs for this species in this area. |
| <p>Wagonhound cactus <i>Sclerocactus brevispinus</i></p> | Threatened | Pedimental gravels (desert pavement) over Uinta Formation within Pariette Draw, Castle Peak Draw, and the surrounding benches. Growing in association with shadscale and sagebrush. 4700-5200ft. | None – No populations, potential or suitable habitat occurs for this species in this area. |
| <p>Uinta Basin hookless cactus <i>Sclerocactus wetlandicus</i></p> | Threatened | Typically gravelly terraces and benchlands. Also found in locations with desert pavement, shale outcrops, and mudstone deposits. 4500-6000ft. | The proposed project is located outside of the USFWS potential habitat polygon and there will be no new surface disturbance associated with the project. |

Appendix C: Special Status Plant Species Eliminated from Detailed Analysis

| Species | Status | Habitat | Potential for and/or Occurrence |
|---|------------|--|--|
| Ute lady's tresses <i>Spiranthes diluvialis</i> | Threatened | Wet meadows, stream banks, abandoned oxbow meanders, marshes, and raised bogs. 4500-6850ft. | The proposed project is located outside of the USFWS potential habitat polygon and there will be no new surface disturbance associated with the project. |
| Uinta greenthread <i>Thelesperma caespitosum</i> | Sensitive | White shale benches and windswept slopes of the Green River and Uinta formation with pinyon and mountain mahogany. 5900-8400 ft, | None – No populations, potential or suitable habitat occurs for this species in this area. |
| Strigose townsendia <i>Townsendia strigosa</i> var. <i>prolix</i> | Sensitive | Mixed desert shrub communities | None – No populations, potential or suitable habitat occurs for this species in this area. |
| Sterile yucca <i>Yucca sterilis</i> | Sensitive | Salt and mixed desert shrub communities growing in sandy soils. 4800-5800 ft. | Potential habitat for the species may be present in the vicinity of the proposed project. However, the proposed project will result in no new surface disturbance. |

APPENDIX D - MAPS

FINDING OF NO SIGNIFICANT IMPACT

Environmental Assessment

DOI-BLM-LLUTG01000-2011-0246

Newfield Production Company Proposes to Directionally Drill Fourteen New Oil Wells from Eight Existing Well Pads, Greater Monument Butte Unit, Duchesne County, Utah

FINDING OF NO SIGNIFICANT IMPACT:

“Based on the analysis of potential environmental impacts contained in the attached environmental assessment, and considering the significance criteria in 40 CFR 1508.27, I have determined that Newfield Production Company Proposes to Directionally Drill Nine New Oil Wells from Six Existing Well Pads, Greater Monument Butte Unit, Duchesne County, Utah, as described in the proposed action alternative of DOI-BLM-LLUTG01000-2011-0246-EA will not have a significant effect on the human environment. An environmental impact statement is therefore not required.”



Authorized Officer

Date

SEP 01 2011

DECISION RECORD

Environmental Assessment

DOI-BLM-LLUTG01000-2011-0246

Newfield Production Company Proposes to Directionally Drill Fourteen New Oil Wells from Eight Existing Well Pads, Greater Monument Butte Unit, Duchesne County, Utah

DECISION RECORD:

It is my decision to authorize Newfield Production Company Proposes to Directionally Drill Fourteen New Oil Wells from Eight Existing Well Pads, Greater Monument Butte Unit, Duchesne County, Utah, as described in the proposed action alternative of DOI-BLM-LLUTG01000-2011-0246-EA.

This decision is contingent on meeting all stipulations and monitoring requirements listed below, which were designed to minimize and/or avoid impacts.

Summary of the Selected Alternative:

- Newfield will directionally drill fourteen wells off eight existing well pads: Greater Monument Butte B-18-9-17, E-17-9-17, H-18-9-17, I-18-9-17, J-18-9-17, K-18-9-17, L-18-9-17, M-18-9-17, N-17-9-17, Q-18-9-17, R-17-9-17, R-18-9-17, S-17-9-17, and S-18-9-17, in Section 7, 17 and 18, Township 9 South, Range 17 East, Duchesne County, Utah. The proposed project area is located approximately 15 to 15.9 miles southwest of Myton, Utah.
- The construction of the wells will result in approximately 1.2 acres of surface disturbance by reopening the previously reclaimed reserve pits. In addition, 8,439 feet of pipeline will rest on the surface, causing minimal and temporary damage to vegetation.
- The reserve pit will be fenced on three sides prior to drilling activity and closed off on the fourth side after drilling is finished. The reserve pits for the wells will be lined with a 16 ml liner with felt.
- A dike will be constructed around those production facilities that contain fluids. The dikes will be constructed of compacted subsoil. They will be impervious, hold 10 percent more than the capacity of the largest tank, and be independent of the back cut.
- The project will include the construction/installation of a wellhead and pumping unit, two storage tanks; spoil dirt stockpile(s), surface material stockpile(s), gas and water pipelines, and a reserve pit at each well site.
- All permanent (meaning on site for six months or longer) structures will be painted Covert Green to match the surrounding landscape color unless otherwise authorized. This will include all facilities except those required to comply with Occupational Safety and Health Act (OSHA) regulations.
- If dry, the wells will be plugged and abandoned as per BLM and State of Utah requirements.

- Existing access roads will be utilized. No new access roads will be constructed.
- Existing gas gathering lines are currently in place at the host well pad locations, no new natural gas lines will be installed.
- Approximately 8,439 feet of new surface flow lines will be required. The liquid gathering pipeline systems will consist of 1 steel carrier pipeline and 2 heat traced pipelines bundled and pre-insulated. The diameter of the steel carrier pipe will range be 3 inches and the corresponding outside diameters will be 14 inches. All liquid gathering pipeline bundles will be laid on the surface within a 30 foot width corridor. No additional surface disturbance will be necessary for liquid gathering line installation.
- All surface flow lines are within the Greater Monument Butte unit; therefore, a BLM ROW will not be required.
- The operator will control noxious/invasive weeds along their roads, pipelines, well sites, or other applicable facilities by the application of herbicides or by mechanical removal until reclamation is considered to be successful by the authorized officer (AO) and the bond for the well is released. A list of noxious weeds will be obtained from the BLM or the appropriate county extension office. On BLM-administered land, the operator will submit a Pesticide Use Proposal and obtain approval prior to the application of herbicides, other pesticides, or possible hazardous chemicals.
- Immediately upon well completion, the location and surrounding area shall be cleared of all unused tubing, equipment, debris, materials, and trash. Any hydrocarbons in the pit will be removed in accordance with 43 CFR 3162.7-1.
- Newfield will educate its contractors and employees about the relevant federal regulations intended to protect cultural and paleontological resources. All vehicular traffic, personnel movement, construction and restoration activities shall be confined to areas cleared by the site inventory and to existing roads. In the event historic, archaeological or paleontological resources are uncovered during construction, work will stop immediately and the appropriate BLM AO will be notified.

Reclamation

- The reserve pit and the portion of the well not needed for production facilities/operations shall be recontoured to the approximate natural contours. The reserve pit will be reclaimed within 120 days from the date of well completion, or as soon as environmental conditions allow. The stockpiled pit topsoil will then be spread over the pit area and broadcast-seeded/drill seeded (preferred method) with the interim seed mixture listed in the table below after August 15th and prior to winter freezing of the soil. The seed mixture shall be worked into the topsoil with a drill seeder, bulldozer or other heavy equipment. If initial seeding is not successful, reseeding may be required.
- Once the well is plugged and facilities are removed and abandoned, the topsoil shall be stripped and stockpiled off of the location, and the well site, pipelines, and access roads will be returned to natural contours. The topsoil shall be respread, and the location seeded with the mixture shown in the table below. The seed mixture shall be worked into the topsoil with a drill seeder, bulldozer or other heavy equipment.

- Interim reclamation, final reclamation, and monitoring of reclaimed areas will be completed in accordance with the Newfield Exploration Company Castle Peak and Eight Mile Flat Reclamation and Weed Management Plan (Newfield 2009) on file with the Vernal Field Office of the BLM.

Interim and Final Reclamation Seed Mixture for Proposed Locations Outside Mountain Plover Core Habitat

| Common Name | Latin Name | Pure Live Seed (lbs/acre) | Seed Planting Depth |
|----------------------|--------------------------------|---------------------------|---------------------|
| Squirreltail grass | <i>Elymus elymoides</i> | 2.0 | ¼ - ½" |
| Bluebunch wheatgrass | <i>Pseudoroegneria spicata</i> | 3.0 | ½" |
| Shadscale saltbush | <i>Atriplex confertifolia</i> | 2.0 | ½" |
| Four-wing saltbush | <i>Atriplex canescens</i> | 2.0 | ½" |
| Gardner's saltbush | <i>Atriplex gardneri</i> | 2.0 | ½" |
| Scarlet globemallow | <i>Sphaeralcea coccinea</i> | 1.0 | ⅛ - ¼" |

Interim and Final Reclamation Seed Mixture for Proposed Locations within Mountain Plover Habitat

| Common Name | Latin Name | Pure Live Seed (lbs/acre) | Seed Planting Depth |
|-------------------------|-------------------------------|---------------------------|---------------------|
| Squirreltail grass | <i>Elymus elymoides</i> | 2.0 | ¼ - ½" |
| Needle and thread grass | <i>Hesperostipa comata</i> | 2.0 | ½" |
| Siberian Wheatgrass | <i>Agropyron fragile</i> | 2.0 | ½" |
| Shadscale saltbush | <i>Atriplex confertifolia</i> | 2.0 | ½" |
| Four-wing saltbush | <i>Atriplex canescens</i> | 2.0 | ½" |
| Gardner's saltbush | <i>Atriplex gardneri</i> | 2.0 | ½" |
| Blue flax (Lewis flax) | <i>Linum lewisii</i> | 1.0 | ⅛ - ¼" |

- Actual seed mixes used during reclamation will be subject to change based on site-specific BLM requirements (i.e., BLM will have the discretion to modify seed mixes as needed). All seed and mulch will be certified weed free. All rates are set for drill seeding and will need to be doubled if broadcast.
- Prior to any surface disturbance, vegetative monitoring locations and reference sites will be identified by Newfield and approved by the BLM Authorized Officer (AO). Vegetation monitoring protocol will be developed by Newfield and approved by the BLM AO prior to implementation of revegetation techniques and will be designed to monitor % basal vegetative cover.
- Revegetated areas will be inspected annually and monitored to document location and extent of areas with successful revegetation, and areas needing further reclamation (for a

period of 5 years after construction completion). A reclamation report will be submitted to the AO by March 31 of each year.

Wildlife

- To minimize wildlife mortality due to vehicle collisions, Newfield will advise project personnel regarding appropriate speed limits in the Project Area. The Utah Division of Wildlife Resources (UDWR) will be contacted regarding the presence of carrion within or along roadways.
- Employees and contractors will be educated about anti-poaching laws. If wildlife law violations are discovered, the offending employee will be subject to disciplinary action by Newfield.
- All well locations are within designated sage grouse brooding habitat. No leks have been documented within the Project Area. However, prior to surface disturbance or drilling activity between March 1 and June 15, Newfield will consult with the UDWR to determine if any new leks have been documented within the Project Area. If UDWR confirms that an active lek has been documented, no surface-disturbing, drilling, or completion activities will occur within 2 miles of the active lek between March 1- June 15. All well locations are within designated sage grouse brooding habitat.
- Newfield will minimize new surface disturbance within prairie dog colonies located near the all host well pad locations and associated liquid gathering line corridor. Two wells are in prairie dog colonies and the other wells range from 12 meters to 0.4 miles away from a colony. All wells are in the white-tailed prairie dog CSU (Controlled Surface Unit).
- If construction, drilling and completion is proposed during the burrowing owl breeding season (approximately March 1 – August 31), any prairie dog colonies within 0.5 miles of the host location well pad and liquid gathering line corridor will be surveyed for the presence of nesting burrowing owls. If burrowing owls are documented within 0.5 miles of the well pad, water lines, or liquid gathering line corridor, surface disturbing, drilling, or completion activities at that location will not commence until after August 31. Burrowing owls are known to occur near 3 wells, ranging from 0.70, 1, and 1.4 miles.
- If drilling and completion is proposed at the host well pad locations or liquid gathering line corridors during the mountain plover breeding season (approximately May 1 – June 15), or within habitat, surveys will be conducted to determine presence/absence and nesting status. If nests are located, then construction will not occur in any mountain plover habitat until after June 15th. Plover sightings were documented at all host well locations ranging from 0.3 to 1.4 miles, however, this was recorded in 1997.
- If drilling, or completion activities are proposed between January 1 and August 31 a BLM biologist or a BLM-approved contractor will conduct a raptor nest inventory during the months of April or May of all areas within ½-mile from the respective host location well pad and liquid gathering line corridor. If occupied/active raptor nests are found, construction will not occur during the nesting season for that species within the species-specific buffer described in “Utah Field Office guidelines for raptor protection from human land use disturbances.” As specified in these guidelines, and as determined by the

BLM, modifications of these spatial and seasonal buffers may be permitted, so long as protection of nesting raptors is ensured. BLM GIS layers indicate that all host well pads has inactive nests approximately 1-mile away.

- Screening will be placed on stacks and on other openings of heater-treaters or fired vessels to prevent entry by migratory birds.
- For any water pumped from the river channel, the following measures will be implemented:
- Newfield will not situate the pump in a low-flow or no-flow areas as these habitats tend to concentrate larval fishes;
- Newfield will limit the amount of pumping to the greatest extent possible, during that period of the year when larval fish may be present (see above); and
- Newfield will limit the amount of pumping, to the greatest extent possible; during the pre-dawn hours as larval drift studies indicate that this is a period of greatest daily activity.
- Newfield will screen all pump intakes with ¼ inch mesh material.
- Newfield will report any fish impinged on the intake screen to the U.S. Fish and Wildlife Service (USFWS) (801-975-3330) and the Utah Division of Wildlife Resources (435-781-9453).
- A hospital muffler will be used on new and existing pump-jacks upon completion in order to reduce noise levels for nesting raptors in the area.

Rationale for the Decision:

The selected alternative is in conformance with the Vernal Field Office Resource Management Plan and Record of Decision (BLM 2008).

The subject lands were leased for oil or gas development under authority of the Mineral Leasing Act of 1920, as modified by the Federal Land Policy and Management Act of 1976, and the Federal Onshore Oil and Gas Leasing Reform Act of 1987. The lessee/operator has the right to explore for oil and gas on the lease as specified in 43 CFR 3103.1-2, and if a discovery is made, to produce oil and/or natural gas for economic gain.

The selected alternative is consistent with the *Duchesne County Public Land Use Plan* (County Plan) (published in spring 1997 and amended winter 1998 and winter 2005) that encompasses the location of the proposed wells. In general, the plan indicates support for development proposals such as the selected alternative through the plan's emphasis of multiple-use public land management practices, responsible use and optimum utilization.

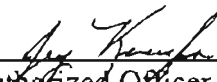
There are no comprehensive State of Utah plans for the vicinity of the selected alternative. However, the State of Utah School and Institutional Trust Lands Administration (SITLA) have leased much of the nearby state land for oil and gas production. Because the objectives of SITLA are to produce funding for the state school system, and because production on federal leases could further interest in drilling on state leases in the area, it is assumed that the selected alternative is consistent with the objectives of the State.

The selected alternative meets the BLM's need to acknowledge and allow development of valid existing leases. The BLM objective to reduce impacts is met by the imposing of mitigation measures to protect other resource values.

Onsite visits were conducted by Vernal Field Office Personnel. The onsite inspection reports do not indicate that any other locations be proposed for analysis.

Summary of Public Involvement Efforts and Public Response

The Proposed Action was posted to the Utah BLM's Environmental Notification Bulletin Board on March 22, 2011. A 15-day public comment period was held from August 3, 2011 through August 18, 2011. Two public comments were received, one from Duchesne County and one from Southern Utah Wilderness Alliance (SUWA).



Authorized Officer

SEP 01 2011

Date

Appeals:

This decision is effective upon the date it is signed by the authorized officer. The decision is subject to appeal. Under BLM regulation, this decision is subject to administrative review in accordance with 43 CFR 3165. Any request for administrative review of this decision must include information required under 43 CFR 3165.3(b) (State Director Review), including all supporting documentation. Such a request must be filed in writing with the State Director, Bureau of Land Management, Utah State Office, P.O. Box 45155, Salt Lake City, Utah, 84145-0155, within 20 business days of the date this Decision is received or considered to have been received.

If you wish to file a petition for stay, the petition for stay should accompany your notice of appeal and shall show sufficient justification based on the following standards:

- (1) The relative harm to the parties if the stay is granted or denied;
 - (2) The likelihood of the appellant's success on the merits;
 - (3) The likelihood of irreparable harm to the appellant or resources if the stay is not granted;
- And,
- (4) Whether the public interest favors granting the stay.

ATTACHMENT 1 –

STIPULATIONS / CONDITIONS OF APPROVAL

Company/Operator: Newfield Production Company
Well Name & Number: Greater Monument Butte S-17-9-17
Surface Ownership: BLM
Lease Number: UTU-72106
Onsite Date: 10/6/2010
Location: SW/SE Sec. 17, T9S R17E (Host Well 15-17-9-17)
Date APD Received: 11/23/2010

CONDITIONS OF APPROVAL:

- Prior to any surface disturbing activities between March 1st and August 31st, a BLM biologist or a BLM-approved contractor will survey all areas during April or May within a range of a half-mile from proposed surface disturbances for active raptor nests. If occupied/ active raptor nests are found, construction will not occur during the nesting season for that species within the half-mile buffer.
- White-tailed prairie dog burrows and animals sighted will be recorded/ mapped while conducting burrowing owl surveys. These should be conducted according to protocol.
- Mountain plover surveys will be conducted to protocol by a professional environmental consulting firm biologist prior to any ground disturbing activities. Reports from survey results must be reviewed by a BLM authorized officer prior to proceeding with the project.
- After cessation of drilling and completion operations, any visible or measurable layer of oil must be removed from the surface of the reserve pit and the pit kept free of oil.
- Pits must be free of oil and other liquid and solid wastes prior to filling. Pit liners must not be breached (cut) or filled (squeezed) while still containing fluids. The pit liner must be removed to the solids level or treated to prevent its reemergence to the surface or its interference with long-term successful revegetation.

Reclamation

- Reclamation will be completed in accordance with the Newfield Exploration Company Castle Peak and Eight Mile Flat Reclamation Plan on file with the Vernal Field Office of the BLM.
- The reclamation seed mix will incorporate low growing grasses, instead of crested wheatgrass, which negatively impacts mountain plover habitat.
- Appropriate erosion control and revegetation measures will be employed. In areas with unstable soils where seeding alone may not adequately control erosion, grading will be used to minimize slopes and water bars will be installed on disturbed slopes. Erosion

control efforts will be monitored by Newfield and, if necessary, modifications will be made to control erosion.

Seed Mix (Interim and Final Reclamation)

| Common Name | Latin Name | Pure Live Seed (lbs/acre) | Seed Planting Depth |
|-------------------------|-------------------------------|---------------------------|---------------------|
| Squirreltail grass | <i>Elymus elymoides</i> | 2.0 | ¼ - ½" |
| Needle and thread grass | <i>Hesperostipa comata</i> | 2.0 | ½" |
| Siberian Wheatgrass | <i>Agropyron fragile</i> | 2.0 | ½" |
| Shadscale saltbush | <i>Atriplex confertifolia</i> | 2.0 | ½" |
| Four-wing saltbush | <i>Atriplex canescens</i> | 2.0 | ½" |
| Gardner's saltbush | <i>Atriplex gardneri</i> | 2.0 | ½" |
| Blue flax (Lewis flax) | <i>Linum lewisii</i> | 1.0 | ⅛ - ¼" |

- All pounds are pure live seed.
- All seed and mulch will be certified weed free.
- Rates are set for drill seeding; double rate if broadcasting.

Monitoring and Reporting

- The operator shall submit a Sundry Notice (Form 3160-5) to the BLM Authorized Officer (AO) that designates the proposed site-specific monitoring and reference sites chosen for the location. A description of the proposed sites shall be included, as well as a map showing the locations of the proposed sites.
- The operator shall submit a Sundry Notice (Form 3160-5) to the BLM Authorized Officer (AO) 3 growing seasons after reclamation efforts have occurred evaluating the status of the reclaimed areas in order to determine whether the BLM standards set forth in the Green River District Reclamation Guidelines have been met (30% or greater basal cover).

ATTACHMENT 1 –

STIPULATIONS / CONDITIONS OF APPROVAL

Company/Operator: Newfield Production Company

Well Name & Number: Greater Monument Butte R-17-9-17

Surface Ownership: BLM

Lease Number: UTU-72106

Onsite Date: 10/6/2010

Location: SW/SE Sec. 17, T9S R17E (Host Well 15-17-9-17)

Date APD Received: 11/23/2010

CONDITIONS OF APPROVAL:

- Prior to any surface disturbing activities between March 1st and August 31st, a BLM biologist or a BLM-approved contractor will survey all areas during April or May within a range of a half-mile from proposed surface disturbances for active raptor nests. If occupied/ active raptor nests are found, construction will not occur during the nesting season for that species within the half-mile buffer.
- White-tailed prairie dog burrows and animals sighted will be recorded/ mapped while conducting burrowing owl surveys. These should be conducted according to protocol.
- Mountain plover surveys will be conducted to protocol by a professional environmental consulting firm biologist prior to any ground disturbing activities. Reports from survey results must be reviewed by a BLM authorized officer prior to proceeding with the project.

Reclamation

- Reclamation will be completed in accordance with the Newfield Exploration Company Castle Peak and Eight Mile Flat Reclamation Plan on file with the Vernal Field Office of the BLM.
- The reclamation seed mix will incorporate low growing grasses, instead of crested wheatgrass, which negatively impacts mountain plover habitat.
- Appropriate erosion control and revegetation measures will be employed. In areas with unstable soils where seeding alone may not adequately control erosion, grading will be used to minimize slopes and water bars will be installed on disturbed slopes. Erosion control efforts will be monitored by Newfield and, if necessary, modifications will be made to control erosion.

Seed Mix (Interim and Final Reclamation)

| Common Name | Latin Name | Pure Live Seed (lbs/acre) | Seed Planting Depth |
|-------------------------|-------------------------------|---------------------------|---------------------|
| Squirreltail grass | <i>Elymus elymoides</i> | 2.0 | 1/4 - 1/2" |
| Needle and thread grass | <i>Hesperostipa comata</i> | 2.0 | 1/2" |
| Siberian Wheatgrass | <i>Agropyron fragile</i> | 2.0 | 1/2" |
| Shadscale saltbush | <i>Atriplex confertifolia</i> | 2.0 | 1/2" |
| Four-wing saltbush | <i>Atriplex canescens</i> | 2.0 | 1/2" |
| Gardner's saltbush | <i>Atriplex gardneri</i> | 2.0 | 1/2" |
| Blue flax (Lewis flax) | <i>Linum lewisii</i> | 1.0 | 1/8 - 1/4" |

- All pounds are pure live seed.
- All seed and mulch will be certified weed free.
- Rates are set for drill seeding; double rate if broadcasting.

Monitoring and Reporting

- The operator shall submit a Sundry Notice (Form 3160-5) to the BLM Authorized Officer (AO) that designates the proposed site-specific monitoring and reference sites chosen for the location. A description of the proposed sites shall be included, as well as a map showing the locations of the proposed sites.
- The operator shall submit a Sundry Notice (Form 3160-5) to the BLM Authorized Officer (AO) 3 growing seasons after reclamation efforts have occurred evaluating the status of the reclaimed areas in order to determine whether the BLM standards set forth in the Green River District Reclamation Guidelines have been met (30% or greater basal cover).

ATTACHMENT 1 –

STIPULATIONS / CONDITIONS OF APPROVAL

Company/Operator: Newfield Production Company

Well Name & Number: Greater Monument Butte E-17-9-17

Surface Ownership: BLM

Lease Number: UTU-72106

Onsite Date: 10/6/2010

Location: SW/NW Sec. 17, T9S R17E (Host Well 44-7-9-17)

Date APD Received: 11/23/2010

CONDITIONS OF APPROVAL:

- Prior to any surface disturbing activities between March 1st and August 31st, a BLM biologist or a BLM-approved contractor will survey all areas during April or May within a range of a half-mile from proposed surface disturbances for active raptor (ferruginous likely) nests. If occupied/ active raptor nests are found, construction will not occur during the nesting season for that species within the half-mile buffer.
- White-tailed prairie dog burrows and animals sighted will be recorded/ mapped while conducting burrowing owl surveys. These should be conducted according to protocol.
- Mountain plover surveys will be conducted to protocol by a professional environmental consulting firm biologist prior to any ground disturbing activities. Reports from survey results must be reviewed by a BLM authorized officer prior to proceeding with the project.

Reclamation

- Reclamation will be completed in accordance with the Newfield Exploration Company Castle Peak and Eight Mile Flat Reclamation Plan on file with the Vernal Field Office of the BLM.
- The reclamation seed mix will incorporate low growing grasses, instead of crested wheatgrass, which negatively impacts mountain plover habitat.
- Appropriate erosion control and revegetation measures will be employed. In areas with unstable soils where seeding alone may not adequately control erosion, grading will be used to minimize slopes and water bars will be installed on disturbed slopes. Erosion control efforts will be monitored by Newfield and, if necessary, modifications will be made to control erosion.

Seed Mix (Interim and Final Reclamation)

| Common Name | Latin Name | Pure Live Seed (lbs/acre) | Seed Planting Depth |
|-------------------------|-------------------------------|---------------------------|---------------------|
| Squirreltail grass | <i>Elymus elymoides</i> | 2.0 | ¼ - ½" |
| Needle and thread grass | <i>Hesperostipa comata</i> | 2.0 | ½" |
| Siberian Wheatgrass | <i>Agropyron fragile</i> | 2.0 | ½" |
| Shadscale saltbush | <i>Atriplex confertifolia</i> | 2.0 | ½" |
| Four-wing saltbush | <i>Atriplex canescens</i> | 2.0 | ½" |
| Gardner's saltbush | <i>Atriplex gardneri</i> | 2.0 | ½" |
| Blue flax (Lewis flax) | <i>Linum lewisii</i> | 1.0 | ⅛ - ¼" |

- All pounds are pure live seed.
- All seed and mulch will be certified weed free.
- Rates are set for drill seeding; double rate if broadcasting.

Monitoring and Reporting

- The operator shall submit a Sundry Notice (Form 3160-5) to the BLM Authorized Officer (AO) that designates the proposed site-specific monitoring and reference sites chosen for the location. A description of the proposed sites shall be included, as well as a map showing the locations of the proposed sites.
- The operator shall submit a Sundry Notice (Form 3160-5) to the BLM Authorized Officer (AO) 3 growing seasons after reclamation efforts have occurred evaluating the status of the reclaimed areas in order to determine whether the BLM standards set forth in the Green River District Reclamation Guidelines have been met (30% or greater basal cover).

ATTACHMENT 1 –

STIPULATIONS / CONDITIONS OF APPROVAL

Company/Operator: Newfield Production Company

Well Name & Number: Greater Monument Butte B-18-9-17

Surface Ownership: BLM

Lease Number: UTU-72106

Onsite Date: 10/6/2010

Location: SW/NW Sec. 17, T9S R17E (Host Well 44-7-9-17)

Date APD Received: 11/23/2010

CONDITIONS OF APPROVAL:

- Prior to any surface disturbing activities between March 1st and August 31st, a BLM biologist or a BLM-approved contractor will survey all areas during April or May within a range of a half-mile from proposed surface disturbances for active raptor (ferruginous likely) nests. If occupied/ active raptor nests are found, construction will not occur during the nesting season for that species within the half-mile buffer.
- White-tailed prairie dog burrows and animals sighted will be recorded/ mapped while conducting burrowing owl surveys. These should be conducted according to protocol.
- Mountain plover surveys will be conducted to protocol by a professional environmental consulting firm biologist prior to any ground disturbing activities. Reports from survey results must be reviewed by a BLM authorized officer prior to proceeding with the project.

Reclamation

- Reclamation will be completed in accordance with the Newfield Exploration Company Castle Peak and Eight Mile Flat Reclamation Plan on file with the Vernal Field Office of the BLM.
- The reclamation seed mix will incorporate low growing grasses, instead of crested wheatgrass, which negatively impacts mountain plover habitat.
- Appropriate erosion control and revegetation measures will be employed. In areas with unstable soils where seeding alone may not adequately control erosion, grading will be used to minimize slopes and water bars will be installed on disturbed slopes. Erosion control efforts will be monitored by Newfield and, if necessary, modifications will be made to control erosion.

Seed Mix (Interim and Final Reclamation)

| Common Name | Latin Name | Pure Live Seed (lbs/acre) | Seed Planting Depth |
|-------------------------|-------------------------------|---------------------------|---------------------|
| Squirreltail grass | <i>Elymus elymoides</i> | 2.0 | ¼ - ½" |
| Needle and thread grass | <i>Hesperostipa comata</i> | 2.0 | ½" |
| Siberian Wheatgrass | <i>Agropyron fragile</i> | 2.0 | ½" |
| Shadscale saltbush | <i>Atriplex confertifolia</i> | 2.0 | ½" |
| Four-wing saltbush | <i>Atriplex canescens</i> | 2.0 | ½" |
| Gardner's saltbush | <i>Atriplex gardneri</i> | 2.0 | ½" |
| Blue flax (Lewis flax) | <i>Linum lewisii</i> | 1.0 | ⅛ - ¼" |

- All pounds are pure live seed.
- All seed and mulch will be certified weed free.
- Rates are set for drill seeding; double rate if broadcasting.

Monitoring and Reporting

- The operator shall submit a Sundry Notice (Form 3160-5) to the BLM Authorized Officer (AO) that designates the proposed site-specific monitoring and reference sites chosen for the location. A description of the proposed sites shall be included, as well as a map showing the locations of the proposed sites.
- The operator shall submit a Sundry Notice (Form 3160-5) to the BLM Authorized Officer (AO) 3 growing seasons after reclamation efforts have occurred evaluating the status of the reclaimed areas in order to determine whether the BLM standards set forth in the Green River District Reclamation Guidelines have been met (30% or greater basal cover).

ATTACHMENT 1 –

STIPULATIONS / CONDITIONS OF APPROVAL

Company/Operator: Newfield Production Company

Well Name & Number: Greater Monument Butte H-18-9-17

Surface Ownership: BLM

Lease Number: UTU-72106

Onsite Date: 10/6/2010

Location: SE/NW Sec. 18, T9S R17E (Host Well 6-18-9-17)

Date APD Received: 11/29/2010

CONDITIONS OF APPROVAL:

- Prior to any surface disturbing activities between March 1st and August 31st, a BLM biologist or a BLM-approved contractor will survey all areas during April or May within a range of a half-mile from proposed surface disturbances for active raptor (ferruginous likely) nests. If occupied/ active raptor nests are found, construction will not occur during the nesting season for that species within the half-mile buffer.
- White-tailed prairie dog burrows and animals sighted will be recorded/ mapped while conducting burrowing owl surveys. These should be conducted according to protocol.
- Mountain plover surveys will be conducted to protocol by a professional environmental consulting firm biologist prior to any ground disturbing activities. Reports from survey results must be reviewed by a BLM authorized officer prior to proceeding with the project.

Reclamation

- Reclamation will be completed in accordance with the Newfield Exploration Company Castle Peak and Eight Mile Flat Reclamation Plan on file with the Vernal Field Office of the BLM.
- The reclamation seed mix will incorporate low growing grasses, instead of crested wheatgrass, which negatively impacts mountain plover habitat.
- Appropriate erosion control and revegetation measures will be employed. In areas with unstable soils where seeding alone may not adequately control erosion, grading will be used to minimize slopes and water bars will be installed on disturbed slopes. Erosion control efforts will be monitored by Newfield and, if necessary, modifications will be made to control erosion.

Seed Mix (Interim and Final Reclamation)

| Common Name | Latin Name | Pure Live Seed (lbs/acre) | Seed Planting Depth |
|-------------------------|-------------------------------|---------------------------|---------------------|
| Squirreltail grass | <i>Elymus elymoides</i> | 2.0 | 1/4 - 1/2" |
| Needle and thread grass | <i>Hesperostipa comata</i> | 2.0 | 1/2" |
| Siberian Wheatgrass | <i>Agropyron fragile</i> | 2.0 | 1/2" |
| Shadscale saltbush | <i>Atriplex confertifolia</i> | 2.0 | 1/2" |
| Four-wing saltbush | <i>Atriplex canescens</i> | 2.0 | 1/2" |
| Gardner's saltbush | <i>Atriplex gardneri</i> | 2.0 | 1/2" |
| Blue flax (Lewis flax) | <i>Linum lewisii</i> | 1.0 | 1/8 - 1/4" |

- All pounds are pure live seed.
- All seed and mulch will be certified weed free.
- Rates are set for drill seeding; double rate if broadcasting.

Monitoring and Reporting

- The operator shall submit a Sundry Notice (Form 3160-5) to the BLM Authorized Officer (AO) that designates the proposed site-specific monitoring and reference sites chosen for the location. A description of the proposed sites shall be included, as well as a map showing the locations of the proposed sites.
- The operator shall submit a Sundry Notice (Form 3160-5) to the BLM Authorized Officer (AO) 3 growing seasons after reclamation efforts have occurred evaluating the status of the reclaimed areas in order to determine whether the BLM standards set forth in the Green River District Reclamation Guidelines have been met (30% or greater basal cover).

ATTACHMENT 1 –

STIPULATIONS / CONDITIONS OF APPROVAL

Company/Operator: Newfield Production Company
Well Name & Number: Greater Monument Butte I-18-9-17
Surface Ownership: BLM
Lease Number: UTU-72106
Onsite Date: 10/6/2010
Location: SE/NE Sec. 18, T9S R17E (Host Well 8-18-9-17)
Date APD Received: 11/29/2010

CONDITIONS OF APPROVAL:

- Prior to any surface disturbing activities between March 1st and August 31st, a BLM biologist or a BLM-approved contractor will survey all areas during April or May within a range of a half-mile from proposed surface disturbances for active raptor (ferruginous likely) nests. If occupied/ active raptor nests are found, construction will not occur during the nesting season for that species within the half-mile buffer.
- White-tailed prairie dog burrows and animals sighted will be recorded/ mapped while conducting burrowing owl surveys. These should be conducted according to protocol.
- Mountain plover surveys will be conducted to protocol by a professional environmental consulting firm biologist prior to any ground disturbing activities. Reports from survey results must be reviewed by a BLM authorized officer prior to proceeding with the project.

Reclamation

- Reclamation will be completed in accordance with the Newfield Exploration Company Castle Peak and Eight Mile Flat Reclamation Plan on file with the Vernal Field Office of the BLM.
- The reclamation seed mix will incorporate low growing grasses, instead of crested wheatgrass, which negatively impacts mountain plover habitat.
- Appropriate erosion control and revegetation measures will be employed. In areas with unstable soils where seeding alone may not adequately control erosion, grading will be used to minimize slopes and water bars will be installed on disturbed slopes. Erosion control efforts will be monitored by Newfield and, if necessary, modifications will be made to control erosion.

Seed Mix (Interim and Final Reclamation)

| Common Name | Latin Name | Pure Live Seed (lbs/acre) | Seed Planting Depth |
|-------------------------|-------------------------------|---------------------------|---------------------|
| Squirreltail grass | <i>Elymus elymoides</i> | 2.0 | 1/4 - 1/2" |
| Needle and thread grass | <i>Hesperostipa comata</i> | 2.0 | 1/2" |
| Siberian Wheatgrass | <i>Agropyron fragile</i> | 2.0 | 1/2" |
| Shadscale saltbush | <i>Atriplex confertifolia</i> | 2.0 | 1/2" |
| Four-wing saltbush | <i>Atriplex canescens</i> | 2.0 | 1/2" |
| Gardner's saltbush | <i>Atriplex gardneri</i> | 2.0 | 1/2" |
| Blue flax (Lewis flax) | <i>Linum lewisii</i> | 1.0 | 1/8 - 1/4" |

- All pounds are pure live seed.
- All seed and mulch will be certified weed free.
- Rates are set for drill seeding; double rate if broadcasting.

Monitoring and Reporting

- The operator shall submit a Sundry Notice (Form 3160-5) to the BLM Authorized Officer (AO) that designates the proposed site-specific monitoring and reference sites chosen for the location. A description of the proposed sites shall be included, as well as a map showing the locations of the proposed sites.
- The operator shall submit a Sundry Notice (Form 3160-5) to the BLM Authorized Officer (AO) 3 growing seasons after reclamation efforts have occurred evaluating the status of the reclaimed areas in order to determine whether the BLM standards set forth in the Green River District Reclamation Guidelines have been met (30% or greater basal cover).

ATTACHMENT 1 –

STIPULATIONS / CONDITIONS OF APPROVAL

Company/Operator: Newfield Production Company

Well Name & Number: Greater Monument Butte J-18-9-17

Surface Ownership: BLM

Lease Number: UTU-72106

Onsite Date: 10/6/2010

Location: SW/NW Sec. 17, T9S R17E (Host Well 12-17-9-17)

Date APD Received: 11/29/2010

CONDITIONS OF APPROVAL:

- Prior to any surface disturbing activities between March 1st and August 31st, a BLM biologist or a BLM-approved contractor will survey all areas during April or May within a range of a half-mile from proposed surface disturbances for active raptor (ferruginous likely) nests. If occupied/ active raptor nests are found, construction will not occur during the nesting season for that species within the half-mile buffer.
- White-tailed prairie dog burrows and animals sighted will be recorded/ mapped while conducting burrowing owl surveys. These should be conducted according to protocol.
- Mountain plover surveys will be conducted to protocol by a professional environmental consulting firm biologist prior to any ground disturbing activities. Reports from survey results must be reviewed by a BLM authorized officer prior to proceeding with the project.

Reclamation

- Reclamation will be completed in accordance with the Newfield Exploration Company Castle Peak and Eight Mile Flat Reclamation Plan on file with the Vernal Field Office of the BLM.
- The reclamation seed mix will incorporate low growing grasses, instead of crested wheatgrass, which negatively impacts mountain plover habitat.
- Appropriate erosion control and revegetation measures will be employed. In areas with unstable soils where seeding alone may not adequately control erosion, grading will be used to minimize slopes and water bars will be installed on disturbed slopes. Erosion control efforts will be monitored by Newfield and, if necessary, modifications will be made to control erosion.

Seed Mix (Interim and Final Reclamation)

| Common Name | Latin Name | Pure Live Seed (lbs/acre) | Seed Planting Depth |
|-------------------------|-------------------------------|---------------------------|---------------------|
| Squirreltail grass | <i>Elymus elymoides</i> | 2.0 | 1/4 - 1/2" |
| Needle and thread grass | <i>Hesperostipa comata</i> | 2.0 | 1/2" |
| Siberian Wheatgrass | <i>Agropyron fragile</i> | 2.0 | 1/2" |
| Shadscale saltbush | <i>Atriplex confertifolia</i> | 2.0 | 1/2" |
| Four-wing saltbush | <i>Atriplex canescens</i> | 2.0 | 1/2" |
| Gardner's saltbush | <i>Atriplex gardneri</i> | 2.0 | 1/2" |
| Blue flax (Lewis flax) | <i>Linum lewisii</i> | 1.0 | 1/8 - 1/4" |

- All pounds are pure live seed.
- All seed and mulch will be certified weed free.
- Rates are set for drill seeding; double rate if broadcasting.

Monitoring and Reporting

- The operator shall submit a Sundry Notice (Form 3160-5) to the BLM Authorized Officer (AO) that designates the proposed site-specific monitoring and reference sites chosen for the location. A description of the proposed sites shall be included, as well as a map showing the locations of the proposed sites.
- The operator shall submit a Sundry Notice (Form 3160-5) to the BLM Authorized Officer (AO) 3 growing seasons after reclamation efforts have occurred evaluating the status of the reclaimed areas in order to determine whether the BLM standards set forth in the Green River District Reclamation Guidelines have been met (30% or greater basal cover).

ATTACHMENT 1 –

STIPULATIONS / CONDITIONS OF APPROVAL

Company/Operator: Newfield Production Company
Well Name & Number: Greater Monument Butte K-18-9-17
Surface Ownership: BLM
Lease Number: UTU-72106
Onsite Date: 10/6/2010
Location: SW/NW Sec. 17, T9S R17E (Host Well 12-17-9-17)
Date APD Received: 11/29/2010

CONDITIONS OF APPROVAL:

- Prior to any surface disturbing activities between March 1st and August 31st, a BLM biologist or a BLM-approved contractor will survey all areas during April or May within a range of a half-mile from proposed surface disturbances for active raptor (ferruginous likely) nests. If occupied/ active raptor nests are found, construction will not occur during the nesting season for that species within the half-mile buffer.
- White-tailed prairie dog burrows and animals sighted will be recorded/ mapped while conducting burrowing owl surveys. These should be conducted according to protocol.
- Mountain plover surveys will be conducted to protocol by a professional environmental consulting firm biologist prior to any ground disturbing activities. Reports from survey results must be reviewed by a BLM authorized officer prior to proceeding with the project.

Reclamation

- Reclamation will be completed in accordance with the Newfield Exploration Company Castle Peak and Eight Mile Flat Reclamation Plan on file with the Vernal Field Office of the BLM.
- The reclamation seed mix will incorporate low growing grasses, instead of crested wheatgrass, which negatively impacts mountain plover habitat.
- Appropriate erosion control and revegetation measures will be employed. In areas with unstable soils where seeding alone may not adequately control erosion, grading will be used to minimize slopes and water bars will be installed on disturbed slopes. Erosion control efforts will be monitored by Newfield and, if necessary, modifications will be made to control erosion.

Seed Mix (Interim and Final Reclamation)

| Common Name | Latin Name | Pure Live Seed (lbs/acre) | Seed Planting Depth |
|-------------------------|-------------------------------|---------------------------|---------------------|
| Squirreltail grass | <i>Elymus elymoides</i> | 2.0 | 1/4 - 1/2" |
| Needle and thread grass | <i>Hesperostipa comata</i> | 2.0 | 1/2" |
| Siberian Wheatgrass | <i>Agropyron fragile</i> | 2.0 | 1/2" |
| Shadscale saltbush | <i>Atriplex confertifolia</i> | 2.0 | 1/2" |
| Four-wing saltbush | <i>Atriplex canescens</i> | 2.0 | 1/2" |
| Gardner's saltbush | <i>Atriplex gardneri</i> | 2.0 | 1/2" |
| Blue flax (Lewis flax) | <i>Linum lewisii</i> | 1.0 | 1/8 - 1/4" |

- All pounds are pure live seed.
- All seed and mulch will be certified weed free.
- Rates are set for drill seeding; double rate if broadcasting.

Monitoring and Reporting

- The operator shall submit a Sundry Notice (Form 3160-5) to the BLM Authorized Officer (AO) that designates the proposed site-specific monitoring and reference sites chosen for the location. A description of the proposed sites shall be included, as well as a map showing the locations of the proposed sites.
- The operator shall submit a Sundry Notice (Form 3160-5) to the BLM Authorized Officer (AO) 3 growing seasons after reclamation efforts have occurred evaluating the status of the reclaimed areas in order to determine whether the BLM standards set forth in the Green River District Reclamation Guidelines have been met (30% or greater basal cover).

ATTACHMENT 1 –

STIPULATIONS / CONDITIONS OF APPROVAL

Company/Operator: Newfield Production Company
Well Name & Number: Greater Monument Butte L-18-9-17
Surface Ownership: BLM
Lease Number: UTU-72106
Onsite Date: 10/6/2010
Location: SE/NE Sec. 18, T9S R17E (Host Well 8-18-9-17)
Date APD Received: 11/29/2010

CONDITIONS OF APPROVAL:

- Prior to any surface disturbing activities between March 1st and August 31st, a BLM biologist or a BLM-approved contractor will survey all areas during April or May within a range of a half-mile from proposed surface disturbances for active raptor (ferruginous likely) nests. If occupied/ active raptor nests are found, construction will not occur during the nesting season for that species within the half-mile buffer.
- White-tailed prairie dog burrows and animals sighted will be recorded/ mapped while conducting burrowing owl surveys. These should be conducted according to protocol.
- Mountain plover surveys will be conducted to protocol by a professional environmental consulting firm biologist prior to any ground disturbing activities. Reports from survey results must be reviewed by a BLM authorized officer prior to proceeding with the project.

Reclamation

- Reclamation will be completed in accordance with the Newfield Exploration Company Castle Peak and Eight Mile Flat Reclamation Plan on file with the Vernal Field Office of the BLM.
- The reclamation seed mix will incorporate low growing grasses, instead of crested wheatgrass, which negatively impacts mountain plover habitat.
- Appropriate erosion control and revegetation measures will be employed. In areas with unstable soils where seeding alone may not adequately control erosion, grading will be used to minimize slopes and water bars will be installed on disturbed slopes. Erosion control efforts will be monitored by Newfield and, if necessary, modifications will be made to control erosion.

Seed Mix (Interim and Final Reclamation)

| Common Name | Latin Name | Pure Live Seed (lbs/acre) | Seed Planting Depth |
|-------------------------|-------------------------------|---------------------------|---------------------|
| Squirreltail grass | <i>Elymus elymoides</i> | 2.0 | 1/4 - 1/2" |
| Needle and thread grass | <i>Hesperostipa comata</i> | 2.0 | 1/2" |
| Siberian Wheatgrass | <i>Agropyron fragile</i> | 2.0 | 1/2" |
| Shadscale saltbush | <i>Atriplex confertifolia</i> | 2.0 | 1/2" |
| Four-wing saltbush | <i>Atriplex canescens</i> | 2.0 | 1/2" |
| Gardner's saltbush | <i>Atriplex gardneri</i> | 2.0 | 1/2" |
| Blue flax (Lewis flax) | <i>Linum lewisii</i> | 1.0 | 1/8 - 1/4" |

- All pounds are pure live seed.
- All seed and mulch will be certified weed free.
- Rates are set for drill seeding; double rate if broadcasting.

Monitoring and Reporting

- The operator shall submit a Sundry Notice (Form 3160-5) to the BLM Authorized Officer (AO) that designates the proposed site-specific monitoring and reference sites chosen for the location. A description of the proposed sites shall be included, as well as a map showing the locations of the proposed sites.
- The operator shall submit a Sundry Notice (Form 3160-5) to the BLM Authorized Officer (AO) 3 growing seasons after reclamation efforts have occurred evaluating the status of the reclaimed areas in order to determine whether the BLM standards set forth in the Green River District Reclamation Guidelines have been met (30% or greater basal cover).

ATTACHMENT 1 –

STIPULATIONS / CONDITIONS OF APPROVAL

Company/Operator: Newfield Production Company

Well Name & Number: Greater Monument Butte M-18-9-17

Surface Ownership: BLM

Lease Number: UTU-72106

Onsite Date: 10/6/2010

Location: SE/NW Sec. 18, T9S R17E (Host Well 6-18-9-17)

Date APD Received: 11/29/2010

CONDITIONS OF APPROVAL:

- Prior to any surface disturbing activities between March 1st and August 31st, a BLM biologist or a BLM-approved contractor will survey all areas during April or May within a range of a half-mile from proposed surface disturbances for active raptor (ferruginous likely) nests. If occupied/ active raptor nests are found, construction will not occur during the nesting season for that species within the half-mile buffer.
- White-tailed prairie dog burrows and animals sighted will be recorded/ mapped while conducting burrowing owl surveys. These should be conducted according to protocol.
- Mountain plover surveys will be conducted to protocol by a professional environmental consulting firm biologist prior to any ground disturbing activities. Reports from survey results must be reviewed by a BLM authorized officer prior to proceeding with the project.

Reclamation

- Reclamation will be completed in accordance with the Newfield Exploration Company Castle Peak and Eight Mile Flat Reclamation Plan on file with the Vernal Field Office of the BLM.
- The reclamation seed mix will incorporate low growing grasses, instead of crested wheatgrass, which negatively impacts mountain plover habitat.
- Appropriate erosion control and revegetation measures will be employed. In areas with unstable soils where seeding alone may not adequately control erosion, grading will be used to minimize slopes and water bars will be installed on disturbed slopes. Erosion control efforts will be monitored by Newfield and, if necessary, modifications will be made to control erosion.

Seed Mix (Interim and Final Reclamation)

| Common Name | Latin Name | Pure Live Seed (lbs/acre) | Seed Planting Depth |
|-------------------------|-------------------------------|---------------------------|---------------------|
| Squirreltail grass | <i>Elymus elymoides</i> | 2.0 | 1/4 - 1/2" |
| Needle and thread grass | <i>Hesperostipa comata</i> | 2.0 | 1/2" |
| Siberian Wheatgrass | <i>Agropyron fragile</i> | 2.0 | 1/2" |
| Shadscale saltbush | <i>Atriplex confertifolia</i> | 2.0 | 1/2" |
| Four-wing saltbush | <i>Atriplex canescens</i> | 2.0 | 1/2" |
| Gardner's saltbush | <i>Atriplex gardneri</i> | 2.0 | 1/2" |
| Blue flax (Lewis flax) | <i>Linum lewisii</i> | 1.0 | 1/8 - 1/4" |

- All pounds are pure live seed.
- All seed and mulch will be certified weed free.
- Rates are set for drill seeding; double rate if broadcasting.

Monitoring and Reporting

- The operator shall submit a Sundry Notice (Form 3160-5) to the BLM Authorized Officer (AO) that designates the proposed site-specific monitoring and reference sites chosen for the location. A description of the proposed sites shall be included, as well as a map showing the locations of the proposed sites.
- The operator shall submit a Sundry Notice (Form 3160-5) to the BLM Authorized Officer (AO) 3 growing seasons after reclamation efforts have occurred evaluating the status of the reclaimed areas in order to determine whether the BLM standards set forth in the Green River District Reclamation Guidelines have been met (30% or greater basal cover).

ATTACHMENT 1 –

STIPULATIONS / CONDITIONS OF APPROVAL

Company/Operator: Newfield Production Company
Well Name & Number: Greater Monument Butte N-17-9-17
Surface Ownership: BLM
Lease Number: UTU-74108
Onsite Date: 10/6/2010
Location: NE/SW Sec. 17, T9S R17E (Host Well 23-17-9-17B)
Date APD Received: 11/23/2010

CONDITIONS OF APPROVAL:

- Prior to any surface disturbing activities between March 1st and August 31st, a BLM biologist or a BLM-approved contractor will survey all areas during April or May within a range of a half-mile from proposed surface disturbances for active raptor (ferruginous likely) nests. If occupied/ active raptor nests are found, construction will not occur during the nesting season for that species within the half-mile buffer.
- White-tailed prairie dog burrows and animals sighted will be recorded/ mapped while conducting burrowing owl surveys. These should be conducted according to protocol.
- Mountain plover surveys will be conducted to protocol by a professional environmental consulting firm biologist prior to any ground disturbing activities. Reports from survey results must be reviewed by a BLM authorized officer prior to proceeding with the project.

Reclamation

- Reclamation will be completed in accordance with the Newfield Exploration Company Castle Peak and Eight Mile Flat Reclamation Plan on file with the Vernal Field Office of the BLM.
- The reclamation seed mix will incorporate low growing grasses, instead of crested wheatgrass, which negatively impacts mountain plover habitat.
- Appropriate erosion control and revegetation measures will be employed. In areas with unstable soils where seeding alone may not adequately control erosion, grading will be used to minimize slopes and water bars will be installed on disturbed slopes. Erosion control efforts will be monitored by Newfield and, if necessary, modifications will be made to control erosion.

Seed Mix (Interim and Final Reclamation)

| Common Name | Latin Name | Pure Live Seed (lbs/acre) | Seed Planting Depth |
|-------------------------|-------------------------------|---------------------------|---------------------|
| Squirreltail grass | <i>Elymus elymoides</i> | 2.0 | ¼ - ½" |
| Needle and thread grass | <i>Hesperostipa comata</i> | 2.0 | ½" |
| Siberian Wheatgrass | <i>Agropyron fragile</i> | 2.0 | ½" |
| Shadscale saltbush | <i>Atriplex confertifolia</i> | 2.0 | ½" |
| Four-wing saltbush | <i>Atriplex canescens</i> | 2.0 | ½" |
| Gardner's saltbush | <i>Atriplex gardneri</i> | 2.0 | ½" |
| Blue flax (Lewis flax) | <i>Linum lewisii</i> | 1.0 | ⅛ - ¼" |

- All pounds are pure live seed.
- All seed and mulch will be certified weed free.
- Rates are set for drill seeding; double rate if broadcasting.

Monitoring and Reporting

- The operator shall submit a Sundry Notice (Form 3160-5) to the BLM Authorized Officer (AO) that designates the proposed site-specific monitoring and reference sites chosen for the location. A description of the proposed sites shall be included, as well as a map showing the locations of the proposed sites.
- The operator shall submit a Sundry Notice (Form 3160-5) to the BLM Authorized Officer (AO) 3 growing seasons after reclamation efforts have occurred evaluating the status of the reclaimed areas in order to determine whether the BLM standards set forth in the Green River District Reclamation Guidelines have been met (30% or greater basal cover).