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Bureau of Land Management

Environmental Assessment DOI-BLM-LLUTG01000-2010-0213
July 2011

Newfield's 27 Oil Well Project

Location:	**Duchesne County, Utah** **Sections 19, 20, 22 and 27 Township 8 South, Range 16 East**
Applicant/Address:	**Newfield Production Company** **Route #3 Box 3630** **Myton, Utah 84052**

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BLM

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CHAPTER 1
INTRODUCTION AND NEED FOR THE PROPOSED ACTION

INTRODUCTION

This Environmental Assessment (EA) has been prepared to analyze the potential impacts of Newfield Production Company's (Newfield) oil well drilling project in the Monument Butte area of Duchesne County, Utah. 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 1508.27.) An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI) statement. A Decision Record (DR), which includes a FONSI statement, is a document that briefly presents the reasons why implementation of the selected alternative would not result in "significant" environmental impacts (effects) beyond those already addressed in Vernal Field Office Resource Management Plan (BLM 2008). 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 DR may be signed for the EA approving the alternative selected.

Newfield proposes to drill 27 new oil wells as follows: Federal 15-19-8-16, Federal 16-19-8-16, Federal 14-19-8-16, Federal 13-19-8-16, Federal 9-20-8-16, Federal 5-22-8-16, Federal 1-22-8-16, Federal 10-22-8-16, Federal 12-22-8-16, Federal 9-22-8-16, Federal 2-22-8-16, Federal 7-22-8-16, Federal 14-22-8-16, Federal 11-22-8-16, Federal 6-22-8-16, Federal 4-22-8-16, Federal 3-22-8-16, Federal 8-22-8-16, Federal 1-27-8-16, Federal 2-27-8-16, Federal 4-27-8-16, Federal 5-27-8-16, Federal 6-27-8-16, Federal 7-27-8-16, Federal 11-27-8-16, Federal 12-27-8-16 and Federal 14-27-8-16, in Section 27, 22, 20, and 19 Township 8 South Range 16 East Duchesne County, Utah. These wells are part of Newfield's 40 acre well spacing program.

The proposed project area is located approximately 12.7 miles southwest of Myton, Utah. Approximately 11 miles of new road would be constructed to access the proposed wells. If the wells go into production, approximately 13 miles of gas lines would be laid next to the access roads, and approximately 13 miles of water lines would be buried next to the access roads. If dry, the wells would be plugged and abandoned as per BLM and State of Utah requirements.

PURPOSE AND NEED FOR THE PROPOSED ACTION

Private exploration and production from federal oil and gas leases is an integral part of the BLM oil and gas leasing program under authority of the Mineral Leasing Act of 1920, as amended by the Federal Land Policy and Management Act of 1976 and the Federal Onshore Oil and Gas Leasing Reform Act of 1987. The operator has a valid existing right to extract mineral resources from Federal Leases UTU-73088, 72848, 76561, 77339, 74868, SL-065914, 73089, and 73088 subject to the lease's terms and conditions. The BLM oil and gas leasing program encourages

development of domestic oil and gas reserves and the reduction of U.S. dependence on foreign energy sources. The BLM's purpose is to allow beneficial use of the applicant's lease in an environmentally sound manner.

The underlying need for the proposed action is for Newfield to develop the above leases by drilling the proposed wells, and if successful, to produce commercial quantities of oil from its federal oil and gas leases. There are known hydrocarbon-trapping mechanisms within Newfield's development program, based on previously drilled wells and reasoned geologic formation and mineral potential analysis.

CONFORMANCE WITH BLM LAND USE PLANS

The proposed wells(s) and related facilities would be in conformance with the Vernal Field Office RMP/ROD (October 31, 2008) and the terms of the lease. The RMP/ROD decision allows leasing of oil and gas while protecting or mitigating other resource values (RMP/ROD p. 97-99). The Minerals and Energy Resources Management Objectives encourage the drilling of oil and gas wells by private industry (RMP/ROD, p. 97). It has been determined that the proposed action and alternative(s) would not conflict with other decisions throughout the plan.

RELATIONSHIPS TO STATUTES, REGULATIONS, OR OTHER PLANS

The Proposed Action, Other Action Alternatives, and the No Action Alternative are consistent with federal, state, and local laws, regulations, and plans (see Sections below).

Utah's Standards for Rangeland Health (BLM 1997) address upland soils, riparian/wetlands, desired and native species, and water quality. These resources are analyzed later in this document or, if not affected, are listed in Appendix A.

Federal Laws and Statutes

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.

State and Local Laws and Statutes

There are no comprehensive State of Utah plans for the vicinity of the Proposed Action.

The proposed project 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 Proposed Action through the plan's emphasis on multiple-use public land management practices, responsible use and optimum utilization.

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 alternatives analyzed, except the No Action Alternative, are consistent with the objectives of the state.

CHAPTER 2
DESCRIPTION OF ALTERNATIVES

INTRODUCTION

This EA will focus primarily on the Proposed Action, and No Action Alternative. The No Action Alternative is considered and analyzed to provide a baseline for comparison of the impacts of the Proposed Action and the other Action Alternatives. One Alternative has been eliminated from further analysis based on feedback from Newfield Production Company and with the proposed action as stated would have a 30-40% reduction in actual surface disturbance would occur, which fits BLMs purpose and need to lessen surface disturbance and allow for development of the Newfield oil leases in an environmentally sound manner.

PROPOSED ACTION ALTERNATIVE

Newfield proposes to drill the 27, forty acre surface spaced oil wells as seen below (Table 2-1), all wells will be drilled vertically on a pad disturbance of approximately 2.0 acres per location, all roads, 3" surface gas lines and the 3-10" buried waterlines would utilize a single 60 foot width of disturbance as stated in the Newfield's APDs (Applications for Permit to Drill). The access roads will have a permanent 18 foot running surface utilizing the BLM approved Gold Book standard method. The 3-10" buried waterline will be placed as close to the access road as possible to help minimize surface disturbance and maximize area that can be reclaimed. The proposed locations fall within sections 27, 22, 20, and 19 in Township 8 South Range 16 East Duchesne County, Utah (see Appendix C for location map). The proposed project area is located approximately 12.7 miles southwest of Myton, Utah.

Table 2-1. Proposed Action Well Locations

Well Identification	Legal Location	Lease Number
8-22-8-16	SE/NE Sec. 22, T8S R16E	UTU-74868
3-22-8-16	NE/NW Sec. 22, T8S R16E	UTU-76561
4-22-8-16	NW/NW Sec. 22, T8S R16E	UTU-76561
6-22-8-16	SE/NW Sec. 22, T8S R16E	UTU-76561
11-22-8-16	NE/SW Sec. 22, T8S R16E	UTU-77339
14-22-8-16	SE/SW Sec. 22, T8S R16E	UTU-77339
7-22-8-16	SW/NE Sec. 22, T8S R16E	UTU-74868
2-22-8-16	NW/NE Sec. 22, T8S R16E	UTU-74868
9-22-8-16	NE/SE Sec. 22, T8S R16E	UTU-73088
12-22-8-16	NW/SW Sec. 22, T8S R16E	SL-065914
10-22-8-16	NW/SE Sec. 22, T8S R16E	UTU-73088

Well Identification	Legal Location	Lease Number
1-22-8-16	NE/NE Sec. 22, T8S R16E	UTU-74868
5-22-8-16	SW/NW Sec. 22, T8S R16E	UTU-76561
14-27-8-16	SE/SW Sec. 27, T8S R16E	UTU-72848
1-27-8-16	NE/NE Sec. 27, T8S R16E	UTU-73088
2-27-8-16	NW/NE Sec. 27, T8S R16E	UTU-73088
4-27-8-16	NW/NW Sec. 27, T8S R16E	UTU-77339
5-27-8-16	SW/NW Sec. 27, T8S R16E	UTU-73088
6-27-8-16	SE/NW Sec. 27, T8S R16E	UTU-73088
7-27-8-16	SW/NE Sec. 27, T8S R16E	UTU-73088
11-27-8-16	NE/SW Sec. 27, T8S R16E	UTU-73088
12-27-8-16	NW/SW Sec. 27, T8S R16E	UTU-73088
15-19-8-16	SW/SE Sec. 19, T8S R16E	UTU-73089
16-19-8-16	SE/SE Sec. 19, T8S R16E	UTU-73089
14-19-8-16	SE/SW Sec. 19, T8S R16E	UTU-73089
13-19-8-16	SW/SW Sec. 19, T8S R16E	UTU-73089
9-20-8-16	NE/SE Sec. 19, T8S R16E	UTU-77339

Approximately 11.5 miles of new roads would be constructed to access the proposed wells. If the wells go into production, approximately 13.2 miles of gas poly surface lines would be laid along the surface next to the access roads and approximately 13.1 miles of water lines would be buried along the access roads. Table 2-2 lists the wells and their associated disturbance within the Proposed Action. Buried water line disturbance calculations are zero, because the waterline will utilize the same 60 foot width of potential disturbance as the road. If dry, the wells would be plugged and abandoned as per BLM and State of Utah requirements.

Table 2-2. Proposed Wells and Associated Pipeline Disturbances.

Well	Well Pad (acres)	Surface Gas Pipeline (feet)	Surface Gas Pipeline (acres)	Buried Water Pipeline (feet)	Buried Water Pipeline (acres)	Road (feet)	Road (acres)	Total Acres of Surface Disturbance*
1-27-8-16	1.5	1530	0	1530	0	1530	1.05	2.55
2-27-8-16	1.5	5250	0	5250	0	5250	3.62	5.12
4-27-8-16	1.5	890	0	890	0	4580	3.15	4.65
5-27-8-16	1.5	1860	0	1860	0	3560	2.45	3.95

Well	Well Pad (acres)	Surface Gas Pipeline (feet)	Surface Gas Pipeline (acres)	Buried Water Pipeline (feet)	Buried Water Pipeline (acres)	Road (feet)	Road (acres)	Total Acres of Surface Disturbance*
6-27-8-16	1.5	1100	0	1100	0	3590	2.47	3.97
7-27-8-16	1.5	140	0	140	0	3950	2.72	4.22
11-27-8-16	1.5	120	0	120	0	2600	1.79	3.29
12-27-8-16	1.5	810	0	810	0	1950	1.34	2.84
14-27-8-16	1.5	1280	0	1280	0	1280	0.88	2.38
8-22-8-16	1.5	530	0	530	0	530	0.37	1.87
3-22-8-16	1.5	1250	0	1250	0	1250	0.86	2.36
4-22-8-16	1.5	620	0	620	0	2360	1.63	3.13
6-22-8-16	1.5	1310	0	1310	0	1310	0.90	2.40
11-22-8-16	1.5	540	0	540	0	540	0.37	1.87
14-22-8-16	1.5	1230	0	1230	0	320	0.22	1.72
7-22-8-16	1.5	1670	0	1670	0	3430	2.36	3.86
2-22-8-16	1.5	1090	0	1090	0	2650	1.83	3.33
9-22-8-16	1.5	150	0	150	0	330	0.23	1.73
12-22-8-16	1.5	60	0	60	0	60	0.04	1.54
10-22-8-16	1.5	1940	0	1940	0	4140	2.85	4.35
1-22-8-16	1.5	1560	0	1560	0	1560	1.07	2.57
5-22-8-16	1.5	740	0	740	0	3200	2.20	3.7
9-20-8-16	1.5	1250	0	570	0	1250	0.86	2.36
3-19-8-16	1.5	34530	0	34530	0	280	0.19	47.19
14-19-8-16	1.5	130	0	130	0	130	0.09	1.59
16-19-8-16	1.5	1790	0	1790	0	1140	0.79	2.29
15-19-8-16	1.5	2930	0	2930	0	2930	2.02	3.52
TOTALS	**40.5**	**66300**	0	**65620**	0	**55700**	**38.35**	**124.40**

*does not include gas pipelines as no surface disturbance will occur
Gas line disturbance calculations are not actual, because the lines are laid on the surface.
n- Negligible surface disturbance.
3-19-8-16- has large acres of disturbance because tie in point for the pipelines is approximately 34,000 feet away from the well pad.

As shown in Table 2-2 the total surface disturbance for the Proposed Action would be approximately124 acres versus 248 acres as in the Alternative that was dropped from further analysis. This represents a 34% reduction in surface disturbance for the proposed project just by utilizing one single width of disturbance for the access roads and pipeline infrastructure.

Access

Existing and newly constructed roads would provide access to the 27 proposed wells. Approximately 11.5 miles of new road would be required to access the proposed locations. The total surface disturbance associated with the construction of access roads would be approximately 38 acres (see Table 2-1). A ROW would not be required in association with the construction of the roads to access the proposed wells, because the roads are with the Monument Butte Super Unit designation.

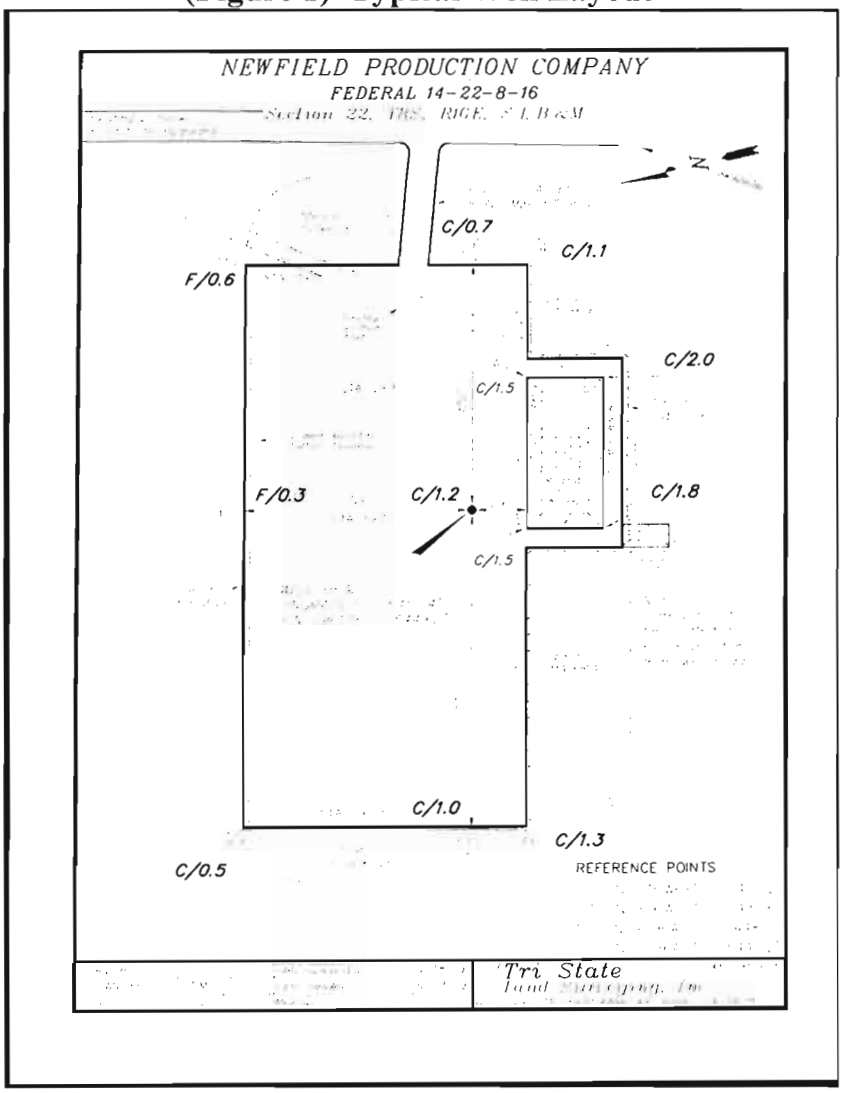
Well Site Layout

The average well site disturbance for the wells, including cuts, fills, and spoil piles, would be approximately 249 × 350 feet, including a reserve pit measuring 100 × 50 feet (see example 1below). Each drill site would disturb on average of about 2.00 acres of land. The total acreage of each well is shown in Table 2-1. Collectively, approximately 40 acres of land for the well sites would be disturbed by the proposed action. Topsoil stockpiled would be stripped to a depth of 6 inches and placed on individually determined sites for each well. The topsoil piles would be signed for identification, to prevent the usage of the topsoil on or in other areas of the proposed project area. The topsoil on wells that are to be producing and not subject to other construction projects within a year would then be re-spread over the entire location as soon as completion operations have been finished and prior to setting the production equipment. The areas of the location not needed for production operations, including the reserve pits, would then be recontoured and seeded with the recommended seed mix, and left in place for the life of the well.

The reserve pit would be fenced on three sides prior to drilling activity and closed off on the fourth side after drilling is finished (Newfield 2003). The reserve pits for all proposed wells would be lined with a 16 ml felt liner, maintaining 2 feet of freeboard around the edges of the pits.

A dike would be constructed around those production facilities that contain fluids. The dikes would be constructed of compacted subsoil or artificial material (corrugated steel). They would be impervious, hold 10 percent more than the capacity of the largest tank, and be independent of the back cut (Newfield 2003). Also, secondary containment around other tanks that hold liquids to prevent environmental degradation.

(Figure 1) Typical Well Layout



Surface Facilities

The proposed project would include the construction of a wellhead and pumping unit, two storage tanks; spoil dirt stockpile(s), surface material stockpile(s) (topsoil), gas and water pipelines, and a reserve pit at each of the proposed well sites. All permanent (meaning on site for six months or longer) structures would be painted Covert Green to match the surrounding landscape color unless otherwise authorized. This would include all facilities except those required to comply with Occupational Safety and Health Act (OSHA) regulations.

Pipelines

Approximately 13 miles of gas lines would be laid on the surface along the access roads. No clearing or grading for pipeline installation would be required, since they lay on the surface.

Approximately 13 miles of 3"-10" steel water lines would be buried next to the proposed access roads; these would be utilizing the same single 60 foot width of disturbance for the proposed access roads and surface gas lines. The proposed water lines would be buried steel water injection lines and buried poly water return lines.

A ROW would not be required for the construction of proposed surface gas lines and buried water lines since they occur within the Monument Butte Super Unit designation.

Invasive Plants and Noxious Weeds

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/invasive 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. Also, an inventory of the weeds and plants in the area is to be completed prior to drilling the locations.

Water Supply and Disposal

Water for drilling the subject well would come from the Johnson Water District (Water Right 43-10136), Neil Moon Pond (Water Right 43-11787), Maurice Harvey Pond (Water Right 47-1358), or Newfield Collector Well (Water Right 41-3530). Water would be hauled by a licensed trucking company. Water wells will not be drilled on the lease.

On January 21–22, 1988, the Secretary of the Interior; the Governors of Wyoming, Colorado, and Utah; and the Administrator of the Western Area Power Administration were cosigners of a cooperative agreement to implement the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (USFWS 1987). An objective of the Recovery Program was to identify reasonable and prudent alternatives that would ensure the survival and recovery of the four endangered Colorado River fish species, while providing for new water development in the Upper Colorado River Drainage Basin.

The Neil Moon Pond and Maurice Harvey Pond are historic depletions (permitted prior to January 1988). The U.S. Fish and Wildlife Service address's new and historic depletions differently under the Section 7 agreement of March 11, 1993 (USFWS 1994). Historic depletions, regardless of size, do not pay a depletion fee to the Recovery Program. Also, consultation for historic depletions was conducted in association with that 1993 agreement.

Two sources, the Johnson Water District, and the Newfield Collector Well, are considered to be nonhistoric depletions. The BLM is required to keep track of all uses of the programmatic Water Depletion consultation (USFWS 2006) and submit a report to FWS on Oct. 31 of each year.

Table 2-3 Water Depletion Information

Project name and or applicant name	Newfield Production Company
Permit numbers and/or special use authorization	Federal 15-19-8-16, Federal 16-19-8-16, Federal 14-19-8-16, Federal 3-19-8-16, Federal 9-20-8-16, Federal 5-22-8-16, Federal 1-22-8-16, Federal 10-22-8-16, Federal 12-22-8-16, Federal 9-22-8-16, Federal 2-22-8-16, Federal 7-22-8-16, Federal 14-22-8-16, Federal 11-22-8-16, Federal 6-22-8-16, Federal 4-22-8-16, Federal 3-22-8-16, Federal 8-22-8-16, Federal 1-27-8-16, Federal 2-27-8-16, Federal 4-27-8-16, Federal 5-27-8-16, Federal 6-27-8-16, Federal 7-27-8-16, Federal 11-27-8-16, Federal 12-27-8-16 and Federal 14-27-8-16.
Lease Numbers	UTU-73088, 72848, 76561, 77339, 74868, SL-065914, 73089, and 73088
Water Right Number & Location	See narrative above
General well location and legal description	Sections 27, 22, 20, and 19 Township 8 South, Range 16 East, Duchesne County, Utah
Depletion amount in acre feet	1.75 acre feet per well
Timing of depletion	unknown
Identify if new or historic depletion	New/current
Sub-total water depletion (acre-feet) for each applicant	47.25
Total depletion for the entire year in acre-feet	Unknown at this time
Total number of APD's approved	28
Total number of wells spudded	0
Depletion assessment covered by development document	None

Waste Disposal

Upon completion as a producible well, all produced water would be confined to a steel storage tank. If the production water meets quality guidelines, it would then be transported to the Ashley, Monument Butte, Jonah, and Beluga water injection facilities by company or contract trucks. The produced water would then be injected into approved Class II wells to enhance Newfield's secondary recovery project. Water not meeting quality criteria would be disposed at Newfield's Pariette No. 4 disposal well (Section 7, T9S R19E) or at State of Utah–approved surface disposal facilities (Newfield 2003).

Drill cuttings would be contained and buried in the reserve pit. Drilling fluids, including salts and chemicals, would be contained in the reserve pit. Upon termination of drilling and completion operations, the liquid contents of the reserve pit would be used at the next drill site or would be removed and disposed of at an approved waste disposal facility within 120 days after

drilling is terminated. Immediately upon well completion, any hydrocarbons in the pit would be removed in accordance with 43 CFR 3162.7-1 (Newfield SOP 2003).

Any oil, gas, saltwater, or other noxious fluid spills would be immediately removed and transported to an approved disposal site (Newfield SOP 2003).

No hazardous wastes (as defined in 40 CFR 355 or subject to reporting under SARA Title III) would be used, produced, stored, transported, or disposed of annually in association with the drilling, testing, or completing of this well (Newfield SOP 2003).

Trash would be confined in a covered container and hauled to an approved landfill. No waste or oil would be burned. Human waste would be contained and disposed of at an approved sewage treatment facility (Newfield SOP 2003).

Reclamation

Producing Location

Immediately upon well completion, the location and surrounding area would be cleared of all unused tubing, equipment, debris, materials, human waste and trash. Any hydrocarbons in the pit would be removed in accordance with 43 CFR 3162.7-1.

Topsoil

Topsoil storage areas would be identified with appropriate signage, segregated from the subsoil (without mixing the two soil types), topsoil will be stockpiled separately from other soil materials (subsoil's), and maintained for future use in rehabilitating the locations. After pipeline installation is complete, salvaged topsoil would be re-distributed evenly over disturbed surfaces. Topsoil piles stored beyond one growing season would be stabilized and seeded to prevent erosion.

Interim Reclamation

Interim reclamation of the surface environment would take place immediately after drilling and completion of the well. The reserve pit and the portions of the well pad not needed for production facilities/operations would be recontoured to the approximate natural contours that occurred prior to surface disturbance. The reserve pit would be reclaimed within 120 days from the date of well completion, or as soon as environmental conditions allow. After the pit is dry and free of hydrocarbons and trash, it will be backfilled, the stockpiled pit topsoil would then be spread over the pit area and broadcast-seeded/drill seeded (preferred method) with the interim seed mixture listed in Table 2-4 after August 15th and prior to winter freezing of the soil. The seed mixture would be worked into the topsoil with a drill seeder, bulldozer or other heavy equipment (Newfield 2003). If initial seeding is not successful, reseeding may be required.

Table 2-4. Interim Reclamation Seed Mixture

Common name	Latin name	lbs/acre	Recommended seed planting depth
Squirreltail grass	*Elymus elymoides*	3.0	¼ - ½"
Bluebunch wheatgrass	*Pseudorogeneria spicata*	3.0	½"
Lewis Flax	*Linum lewisii*	2.0	½"
Shadscale saltbush	*Atriplex confertifolia*	2.0	½"
Four-wing saltbush	*Atriplex canescens*	2.0	½"
Gardner's saltbush	*Atriplex gardneri*	2.0	½"
Scarlet globemallow	*Sphaeralcea coccinea*	1.0	⅛ – ¼"

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

Pipeline Reclamation

Following pipeline installation activities, all disturbed areas would be re-contoured back to the original contour or a contour that corresponds with the surrounding landforms. Salvaged topsoil would be re-distributed evenly, and to pre-disturbance depths, over the surfaces to be revegetated. The soil surface would be prepared to provide a seedbed for re-establishment of desirable vegetation, utilizing the same seed mix above.

Site preparation may include gouging, scarifying, dozer track-walking, mulching, or soil additives. The seedbed preparations would be determined by the appropriate surface managing agency (SMA) at the time of final reclamation. Soil compaction would be reduced to the anticipated root depth of the desired plant species (usually 18 to 24 inches in a cross hatch manner where practicable). Disking may be necessary to eliminate large soil clumps or clods.

Methods such as hydro-mulching, straw mat application on steeper slopes, soil analysis to determine the need for fertilizer, seed-bed preparation, contour furrowing, watering, terracing, water barring, and the replacement of topsoil would be implemented as directed by the SMA.

After pipeline installation is complete, all disturbed areas would be reseeded. The seed mixtures to be used would be similar to the vegetation of the surrounding areas and may consist of grasses, forbs, or shrubs. The seeding contractor would provide all seed tags to the appropriate SMA prior to seeding efforts. Seeding would occur after August 15st and prior to winter freezing of the soil. Drill seeding would be used except in areas where topography or substrate composition (rock) precludes the use of the drill. If drill seeding is not possible, broadcast seeding would be implemented. If the broadcast method is used (such as on slopes of 40 percent or greater), the seed rates established for drill seeding would be doubled and seed would be immediately covered to prevent seed desiccation or predation by birds or rodents. The seeds may be covered in several ways including spreading and crimping straw over the seeded area, raking the area by hand, or dragging a chain or chain-linked fence over the seeded area.

Dry Hole/Abandoned Location

Abandoned well sites, roads and other disturbed areas would be restored as near as practical to their natural condition. Stockpiled topsoil would be spread across the recontoured area then

seeded with the seed mixture shown in Table 2-5. Seed application will follow all guidelines in the interim seed mix bullet statement above, and in Green River Reclamation Guidelines (BLM 2009). If reclamation seeding should take place using the broadcast method, the seed at a minimum will be walked into the soil with a dozer or other heavy equipment immediately after the seeding is completed. Reclamation of the well pad and access road would be done within six months, weather permitting, after final abandonment.

Table 2-5. Final Reclamation Seed Mixture

Common name	Latin name	lbs/acre	Recommended seed planting depth
Squirreltail grass	*Elymus elymoides*	3.0	¼ - ½"
Bluebunch wheatgrass	*Pseudorogeneria spicata*	3.0	½"
Lewis Flax	*Linum lewisii*	2.0	½"
Shadscale saltbush	*Atriplex confertifolia*	2.0	½"
Four-wing saltbush	*Atriplex canescens*	2.0	½"
Gardner's saltbush	*Atriplex gardneri*	2.0	½"
Scarlet globemallow	*Sphaeralcea coccinea*	1.0	⅛ – ¼"

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

Monitoring

Prior to any surface disturbance or after the well goes into production, vegetative monitoring locations and reference sites would be identified by Newfield and approved by the BLM Authorized Officer. Vegetation monitoring protocol would be developed by Newfield and approved by the BLM Authorized Officer prior to implementation of revegetation techniques and would be designed to monitor % basal vegetative cover. Revegetated areas would be inspected annually and monitored to document location and extent of areas with successful revegetation, and areas needing further reclamation. A reclamation report would be submitted to the Authorized Officer by March 31st of each year. On Federal lands, the reclamation objective would be a vegetation community that within 5 years is comprised of desired and/or seeded species, and where the basal vegetative cover is 75 percent of a similar undisturbed adjacent native vegetation community. If after 3 years basal cover is less than 30 percent, then additional seeding and reclamation efforts may be required. For detailed information on Newfield Monitoring program see their approved reclamation plan on file at Vernal BLM field office.

Applicant-Committed Environmental Protection Measures (ACEPMs)

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.

Cultural Resources

A cultural resources survey was conducted on all areas where surface disturbance would occur (i.e., well locations, access roads, and pipelines). 5 Sites were identified inside Section 22 T8S R16E, the 42Dc2555, 42Dc2557, 42Dc2556, 42Dc2558, and the 42Dc2554 (MOAC 08-295). Also 1 site was identified in Section 27 T8S R16E, the 42Dc535 (MOAC 08-302). Newfield would educate its contractors and employees about the relevant federal regulations intended to protect cultural resources. All vehicular traffic, personnel movement, construction and restoration activities would be confined to areas cleared by the site inventory and to existing roads approved proposed access roads. In the event historic or archaeological resources are uncovered during construction, work would stop immediately and the appropriate BLM AO would be notified.

Paleontological Resources

A paleontological survey was conducted on all areas where surface disturbance would occur (i.e., well locations, access roads, and pipelines). A paleontological survey reported no significant paleontological resources are present in the project area (Miller 2008). Newfield would educate its contractors and employees about the relevant federal regulations intended to protect paleontological resources. All vehicular traffic, personnel movement, construction, and restoration activities would be confined to areas cleared by the site inventory and to existing roads. If any potential paleontological resources are uncovered during construction, work would stop immediately in the area and the appropriate BLM AO would be notified.

Special Status Wildlife Species

Newfield would reduce some adverse impacts to special status wildlife species during the breeding season by adhering to the temporal limitations shown in Table 2-6. If new construction or surface-disturbing activities are scheduled during the nesting season for mountain plover a qualified biologist acceptable to the BLM would conduct presence/absence surveys using scientifically accepted survey protocols.

Table 2-6. Temporal Limitations for Special Status Wildlife as Outlined in the Vernal Field Office RMP

Species	Timing Constraints
Mountain Plover	May 1 – June 15
Burrowing Owl	March 1 – August 31
Golden Eagle	January 1 – August 31

NO ACTION ALTERNATIVE

Under the No Action Alternative, Newfield would not drill the 27 oil wells. However, other oil and gas development in the area would be expected to continue. Other current resource trends and land use practices would also continue. The BLM's authority to implement the No Action Alternative may be limited because oil and gas leases allow drilling in the lease area subject to the stipulations of the specific lease agreement. The BLM can deny the application for permit to drill (APD) if the proposal would violate lease stipulations and applicable laws and/or regulations. The BLM can also impose conditions of approval to prevent undue or unnecessary environmental degradation. If the BLM were to deny the APD, the applicant could attempt to reverse the BLM's decision through administrative appeals, seek to exchange its lease for leases in other locations, or seek compensation from the federal government. The outcome of these actions is beyond the scope of this EA because they cannot be projected or meaningfully analyzed at this time.

ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER ANALYSIS

There was one action alternative identified aside from the Proposed Action and No Action Alternatives that would meet the purpose and need of this project, but was eliminated from further analysis, because of the overall reduction to surface impacts on soils and vegetation by 30% by utilizing the one 60 foot width of disturbance for the whole Proposed Action infrastructure rather than three separate widths for each of the proposed infrastructures for the Proposed Action. The operator agreed to the change and submitted amendments to each of the 27 APDs (Application for Permit to Drill); to reflect the single disturbance width of 60 feet rather than the 130 feet as previously submitted for the project proposal.

CHAPTER 3
AFFECTED ENVIRONMENT

Introduction

The affected environment of the Proposed Action and No Action Alternatives were considered and analyzed by an interdisciplinary team, as documented in the Interdisciplinary Team Analysis Record Checklist (Appendix A). The checklist indicates which resources of concern are present, would be affected by the action, and would require analysis in the EA, or are either not present in the project area or would not be affected to a degree that requires detailed analysis.

General Setting

The proposed 27 wells would be located in the Monument Butte area 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 19, 20, 22, and 27 of Township 8 South, Range 16 East, which is approximately a total of 124 acres of total disturbance for the 27 wells and infrastructure. The project boundary has been previously disturbed by the construction of roads and well locations.

Resources and issues brought forward for analysis

Air Quality

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

- Exhaust emissions (primarily CO, NOx, PM2.5, 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, NOx, PM2.5, and HAPs;
- Gasoline and diesel-fueled vehicle tailpipe emissions of VOCs, NOx, CO, SO2, PM10, and PM2.5;
- Oxides of sulfur (SOx), NOx, and fugitive dust emissions from coal-fired power plants and coal mining and processing;
- Fugitive dust (in the form of PM10 and PM2.5) 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 (SO_2), nitrogen dioxide (NO_2), and carbon monoxide (CO), and particulate matter less than 10 microns in diameter (PM_{10}) or 2.5 microns in diameter ($PM_{2.5}$). Airborne particulate matter (PM) consists of tiny coarse-mode (PM_{10}) 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 PM_{10} is primarily from crushing, grinding, or abrasion of surfaces.

NAAQS have also been set for ground-level ozone (O_3), which is a secondary pollutant that is formed by a chemical reaction between NO_X and VOCs in the presence of heat and sunlight. Precursor sources of ozone include motor vehicle exhaust and industrial emissions, gasoline vapors, some tree species emissions, wood burning, and chemical solvents. Sunlight and hot weather 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 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 which need a background value 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 PM2.5 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 ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
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

Active ozone monitoring in the Uinta Basin began in the summer of 2009. 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. The National Park Service also 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.

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. The monitors are located in remote areas where impacts from other human activities are unlikely to be significantly contributing to this ozone formation. While ozone precursors can be transported large distances, the meteorological conditions under which this cold pool ozone formation is occurring tends to preclude any significant 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. Significant 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 VOC s 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. PM2.5 monitoring that has been conducted in the vicinity of oil and gas operations in the Uinta Basin have not recorded any exceedences of either the 24 hour or annual NAAQS. Monitoring for PM2.5 is currently ongoing in the Uinta Basin.

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 centre, the mean global temperature has been relatively constant for the past nine years after the warming trend from 1950 through 2000. So while most 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.

Air Quality 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 considered 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.

Cultural Resources

The project area is located along Wells Draw, southwest of Myton, Utah. The Uinta Basin ecosystem is located within the Green River drainage, the northern most extension of the Colorado Plateau. The area has steep-sided narrow ridges and benches dissected by intermittent drainages (MOAC 08-295). "Specifically, the inventory area is situated in canyons and along ridges, which flank both sides of Wells Draw" (MOAC 08-295). The project lies within the Upper Sonoran life zone, dominated by a juniper-sagebrush vegetation community along with shadscale, greasewood, prickly pear cactus, and various native grasses.

Fish and Wildlife Excluding USFWS Designated Species

Golden Eagle

The golden eagle is a USFWS Bird of Conservation Concern and is quite common in Utah. Golden eagles are protected under the Bald Eagle and Golden Eagle Protection Act. Typically this eagle is found in open country, especially in mountainous regions. There is an inactive nest located just approximately ¼ mile from the 8-22-8-16 well and its corresponding infrastructure. Timing restraints outlined on page 13 for construction will apply for this location.

Mountain Plover
The mountain plover is a Utah State and BLM species of concern. Nesting habitat includes high plains/short grass prairies and desert tablelands, commonly prairie dog towns in some areas. Nesting areas are characterized by very short vegetation, significant areas of bare ground (typically >30%, which may be the minimum requirement), and flat or gentle slopes (<5%). Nests are on the ground in shallow depressions that may be lined with plant material. Preferred winter habitat consists of short-grass plains and fields, plowed fields, and sandy deserts. The only known breeding population of mountain plover in Utah is located on Myton Bench, which encompasses the project area; however, no incidences of mountain plover have been documented in the last six years (pers. comm. with Brian O'Hearn, Rana Environmental Consulting Firm).

Burrowing Owl
The burrowing owl is a Utah State and BLM species of concern. In Utah, prairie dog burrows are the most important source of burrowing owl nest sites. Burrowing owl use of abandoned prairie dog towns is minimal, and active dog towns are the primary habitat for the owls (Butts, 1973). As the range and abundance of these burrowing mammals have decreased, so too has the numbers of burrowing owls occurring in the area. Potential habitat exists adjacent to the proposed project area.

White-tailed Prairie Dog
The white-tailed prairie dog is a Utah State Sensitive Species. Prairie dog colony surveys and burrow density estimates have not been completed within the surrounding areas; however, according to a field review it is determined that prairie dog colonies are scattered throughout the drainages within some of the proposed project areas.

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.

Those migratory bird species that are BLM sensitive or are otherwise of special interest that may occupy the project area are addressed below. This section identifies all other migratory birds that may inhabit the Project Area, including those species classified as High-Priority birds by Utah Partners in Flight (Parrish et al. 2002). High-Priority species are denoted by an asterisk (*).

Sagebrush-Steppe
Migratory bird species commonly associated with the sagebrush-steppe community within the project area 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).

Soils and Vegetation Excluding USFWS Designated Species

The vegetation in the project area includes black sagebrush (*Artemisia nova*), four-wing saltbush *(Atriplex canescens)*, shadscale (*Atriplex confertifolia*), Gardner saltbush *(Atriplex gardneri)*, cheat grass (*Bromus tectorum*), rubber rabbitbrush (*Chrysothamnus nauseosus*), squirreltail *(Elymus elymoides)*, spiny hopsage *(Grayia spinosa)*, broom snakeweed *(Gutierrizia sarothrae)*, halogeton *(Halogeton glomeratus),* winterfat *(Krascheninnikovia lanata),* prickly pear cactus sp. (*Opuntia sp.*), scorpion weed *(Phacelia sp.)*, budsage *(Picrothamnus desertorum)*, galleta grass *(Pleuraphis jamesii)*, Russian thistle *(Salsola iberica)*, horsebrush sp. (*Tetradymia sp.)*, and scarlet globemallow (*Sphaeralcea coccinea*). The soils are a mixture of sandy clay loams, with moderate rocky surfaces in some of the proposed locations.

Threatened, Endangered or Candidate Animal Species

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, as being within the project area: 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).

CHAPTER 4
ENVIRONMENTAL IMPACTS

Introduction

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 of Chapter 4.

Direct and Indirect Impacts Alternative A – Proposed Action

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 of Chapter 4.

Air Quality and Greenhouse Gas Emissions

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 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, SO_2, 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 SO_2. 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 (PM_{10} 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	25.67	22.43	48.10
CO	9.07	43.15	52.21
VOC	4.14	28.50	32.64
SO_2	0.16	0.00	0.16
PM_{10}	34.70	9.48	44.18
$PM_{2.5}$	4.27	1.99	6.26
Benzene	0.01	0.09	0.10
Toluene	0.01	0.04	0.05
Ethylbenzene	0	0.00	0.00
Xylene	0	0.01	0.01
n-Hexane	0	0.03	0.03
Formaldehyde	1.11E-03	1.07	1.08

[1] Emissions include 27 producing well and associated operations traffic during the year in which the project is developed.

Emissions of NOx and VOC, ozone precursors, are 48.10 tons/yr for NOx, and 32.64 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, and may only contribute a small amount to any projected future potential exceedance of any applicable air quality standards.

MITIGATION:

- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horse power must not emit more than 2 grams of NOx 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 NOx per horsepower-hour.

Cultural Resources

Under the Proposed Action Alternative a cultural resources survey was conducted on all areas where surface disturbance would occur (i.e., well locations, access roads, and pipelines). 6 Sites were identified the: 42Dc2555, 42Dc2557, 42Dc2556, 42Dc2558, and the 42Dc2554 (MOAC

08-295). An additional site was identified in another cultural survey the 42Dc535 (MOAC 08-302). All vehicular traffic, personnel movement, construction and restoration activities would be confined to areas cleared by the site inventory and to existing roads approved proposed access roads. All sites indicated above would be avoided. In the event historic or archaeological resources are uncovered during construction, work would stop immediately and the appropriate BLM AO would be notified.

For the 6 sites identified it has been recommended by BLM archeologists that those sites be monitored and avoided during any and all surface disturbance actions.

The No Action Alternative would not result in an accumulation of impacts to cultural resources.

Fish and Wildlife Excluding USFWS Designated Species

Golden Eagle

BLM records and onsite investigations document a golden eagle nest approximately ¼ mile from one of the proposed projects. Potential effects of the Proposed Action on raptor species include direct loss or degradation of potential nesting and foraging habitats and indirect disturbance from human activity (including harassment, displacement, and noise). However, as mitigation measures will be applied to the proposed project area direct/indirect would be minimized.

Mitigation: (Applies to the following well: 8-22-8-16)

- Construction and drilling is not allowed from January 1 – August 31 to minimize impacts during golden eagle nesting. If it is anticipated that construction or drilling will occur during the given timing restriction, a BLM qualified biologist will be notified so surveys can be conducted. Depending upon the results of the surveys, permission to proceed may or may not be recommended or granted by the BLM biologist.

Mountain Plover

The potential impacts would include a direct loss of habitat, an increased risk of direct mortality from vehicle collisions, habitat fragmentation and degradation. Habitat loss would be considered long-term, direct impacts. Mountain plover have been found to concentrate around areas that have been disturbed or areas with short vegetation not in high abundance (Nature Serve 2008). Management should focus on maintaining short, sparse vegetation through protection of prairie dog towns.

Mitigation that applies to the following well locations: 15-22-8-16, 8-22-8-16, 3-22-8-16,4-22-8-16, 6-22-8-16, 4-27-8-16, 16-22-8-16, 1-27-8-16, 2-27-8-16, 9-20-8-16, 14-27-8-16, 10-22-8-16, 1-22-8-16, 5-22-8-16, 9-22-8-16, 2-22-8-16, 7-22-8-16, 12-27-8-16, 11-27-8-16, 7-27-8-16, 6-27-8-16, 5-27-8-16, 14-22-8-16, 12-22-8-16, 11-22-8-16, 16-19-8-16, 15-19-8-16.

- Construction and drilling is not allowed from May 1 – June 15 to minimize impacts during mountain plover nesting. If it is anticipated that construction or drilling will occur

during the given timing restriction, a BLM or qualified biologist will be notified so surveys can be conducted. Depending upon the results of the surveys, permission to proceed may or may not be granted by the BLM Authorized Officer.

The No Action alternative would not result in an accumulation of impacts.

Burrowing Owl

Under the Proposed Action, surface-disturbing activities would result in the loss of approximately 70 acres of burrowing owl habitat in the proposed project area.

If breeding owls occur in the vicinity of construction activities between March 1 and August 31, the Proposed Action would result in disturbances to breeding, nesting, and fledgling success. Direct impacts on active burrowing owl nests would be limited based on the required mitigation measures below. Indirect negative impacts could include displacement from foraging areas and reduction of prey species.

Mitigation that applies to the following well locations: 15-22-8-16, 8-22-8-16, 3-22-8-16,4-22-8-16, 6-22-8-16, 4-27-8-16, 16-22-8-16, 1-27-8-16, 2-27-8-16, 9-20-8-16, 14-27-8-16, 10-22-8-16, 1-22-8-16, 5-22-8-16, 9-22-8-16, 2-22-8-16, 7-22-8-16, 12-27-8-16, 11-27-8-16, 7-27-8-16, 6-27-8-16, 5-27-8-16, 14-22-8-16, 12-22-8-16, 11-22-8-16, 16-19-8-16, 15-19-8-16, 14-19-8-16, 13-19-8-16.

- Construction and drilling is not allowed from March 1 – August 31 to minimize impacts during burrowing owl nesting. If it is anticipated that construction or drilling will occur during the given timing restriction, a BLM or qualified biologist will be notified so surveys can be conducted. Depending upon the results of the surveys, permission to proceed may or may not be granted by the BLM Authorized Officer

The No Action alternative would not result in an accumulation of impacts.

White-tailed Prairie Dog

Direct and indirect impacts are anticipated as surface disturbance is proposed within and adjacent to active prairie dog colonies. Implementation of the Proposed Action could alter potential prairie dog habitat, making it less suitable for the establishment of colonies. As traffic volumes and/or project-related activities increase, adjacent habitats may be avoided due to human presence, noise, and the potential influx of invasive weeds. Although prairie dogs are often found on or near roadways, prairie dog colonies are typically fragmented by road development or other permanent structures. Habitat quality for these species would be degraded by the introduction of noxious and invasive weeds. Weed invasions will lead to a decrease in the amount of native perennials and bare ground, thereby degrading habitat for prairie dogs by decreasing visibility, forage quality, and burrow development.

Under the Proposed Action, surface-disturbing activities would result in the loss of approximately 70 acres of prairie dog habitat. Surface-disturbing activities within 660 feet of

identified active prairie dog colonies are not allowed under the Vernal Land Use Plan (BLM 2008) as well as no permanent aboveground facilities within a 660 feet buffer. However, the Proposed Action does not support a 660 feet buffer from a known active colony. The Proposed Action avoids the main colony; however, scattered burrows do exist within the project area at the following well locations: 15-22-8-16, 8-22-8-16, 3-22-8-16,4-22-8-16, 6-22-8-16, 4-27-8-16, 16-22-8-16, 1-27-8-16, 2-27-8-16, 9-20-8-16, 14-27-8-16, 10-22-8-16, 1-22-8-16, 5-22-8-16, 9-22-8-16, 2-22-8-16, 7-22-8-16, 12-27-8-16, 11-27-8-16, 7-27-8-16, 6-27-8-16, 5-27-8-16, 14-22-8-16, 12-22-8-16, 11-22-8-16, 16-19-8-16, 15-19-8-16, 14-19-8-16, 13-19-8-16.

There is no other reasonable alternative to avoid the active colonies to the full extent of the buffer; however, since the Proposed Action would maintain a 660 feet buffer from the main colony no timing restrictions or mitigation measures would be applied.

The No Action alternative would not result in an accumulation of impacts.

Soils and Vegetation Excluding USFWS Designated Species

The Proposed Action would disturb approximately 124 acres of soils and vegetation. Of this total, approximately 31 acres would be subject to interim reclamation. If interim reclamation is successful, direct long-term impacts to vegetation would occur on the remaining 93 acres. If interim reclamation is not successful, the entire 124 acres could remain disturbed for the long term. Long-term impacts to vegetation are expected for the life of the well (an average of 25 years or until reclamation is successful).

The project would contribute an estimated additional 3.0 tons of soil per acre per year above the current natural erosion rate for the first year of development. After the first year, the soil erosion attributed to the project would reduce to 1.5 tons per acre per year until the access roads and well pads are fully reclaimed. Erosion rates are higher during the first year due to disturbance during construction.

Direct impacts to soils and vegetation in the following analyses are described as short-term and long-term impacts. In areas where interim reclamation is implemented, ground cover by herbaceous and woody species could be re-established to approximately 75 percent of initial basal cover within five years following seeding of native plant species and diligent weed control efforts. These reclaimed areas are categorized as short-term disturbance. However, it is important to note that recent BLM monitoring has documented that reclamation efforts for oil and gas development have largely been unsuccessful at re-establishing soil stability, vegetation, and subsequent forage for wildlife and livestock. Possible drought lag response issues, coupled with the area's poor soil reclamation potential, have made successful reclamation efforts challenging. BLM field inspections indicate that short-term impacts may be more accurately portrayed as long-term impacts. Thus, while the following analyses distinguish between short-term and long-term soil and vegetation losses, it is important to note that surface disturbance proposed under the alternatives could remain as long-term impacts on the landscape if reclamation efforts are not successful. However, most of these issues should be addressed in the companies' reclamation plan for the proposed locations that is required by the Vernal Field Office.

Direct impacts to soils include mixing of soil horizons, soil compaction, short-term loss of topsoil and site productivity, and loss of soil/topsoil through wind and water erosion. 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.

Additional direct impacts to vegetation are primarily associated with clearing of vegetation during construction. Indirect impacts to vegetation resources include the invasion and establishment of introduced, undesired plant 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.

Impacts to soils and vegetation would be partially mitigated by reclamation of disturbed areas with native vegetation and control of noxious and invasive weeds by mechanical and chemical treatment (see Chapter 2). Under the Proposed Action, reclamation would occur on approximately 25 percent of the well pad upon completion of drilling. The remaining 75 percent of the well pad would be revegetated after abandonment of the well (approximately 25 years).

Threatened, Endangered or Candidate Animal Species

Colorado River Fish Species:

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.

Water depletions reduce the ability of the river to create and maintain the primary constituent elements that define critical habitats. Food supply, predation, and competition are important elements of the biological environment. Food supply is a function of nutrient supply and productivity, which could be limited by reduction of high spring flows brought about by water depletions. Predation and competition from nonnative fish species have been identified as factors in the decline of the endangered fishes. Water depletions contribute to alterations in flow regimes that favor nonnative 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 applicant committed conservation measures (listed below and in Chapter 2). Key habitat components for foraging or cover may be removed or altered due to equipment, including decreased water quantity for aquatic species from dewatering during low flow periods.

The proposed action would result in water depletion from removal of water from the Upper Colorado River Drainage System for construction and drilling operations. Therefore, the proposed action will have a "***may affect, likely to adversely affect***" determination for the endangered Colorado pikeminnow, humpback chub, bonytail, and razorback sucker (USFWS and BLM. 2006). Water depletion has already gone through section 7 consultation with the USFWS see chapter 5 for information.

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 BLM and Service approved location is best.
2. If the pump head is located in a river channel where larval fish are known to occur, the following measures apply:
    a. do not situate the pump in a low-flow or no-flow areas 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); and
    c. 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.
3. Screen all pump intakes with 3/32 inch mesh material.
4. Report any fish impinged on the intake screen to the Service (801-975-3330) and the Utah Division of Wildlife Resources:

    Northeastern Region
    152 East 100 North, Vernal, UT 84078
    Phone: (435)781-9453

Migratory birds

The proposed action would result in degrading approximately 124 acres of habitat for migratory birds. Direct impacts to nesting and breeding migratory birds may occur, depending upon the time of construction and drilling. If development occurs in the spring, during the nesting season for most migratory birds, impacts would be greater than if development occurred between late summer and late winter. Impacts to birds during the spring could include nest abandonment, reproductive failure, displacement, and destruction of nests. Construction and drilling would likely have a greater impact on Utah Partners in Flight high-priority migratory bird species that may be utilizing the project area due to their smaller population sizes and limited distribution.

Successful reclamation as defined in Green River District Reclamation Guidelines would return disturbed habitats to pre-disturbance levels and loss of vegetation would be a temporary (1-5 years) impact to migratory bird habitat. Thus, direct and indirect impacts to migratory bird species occurring in the project area would be reduced.

The No Action alternative would not result in an accumulation of impacts.

Reasonably Foreseeable Development and Cumulative Impacts Analysis

Cumulative Impacts

Cumulative impacts 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. The cumulative impacts analysis area (CIAA) for the resources impacted will be defined as the boundary of the Monument Butte-Myton Bench

Waterflood EA project area which is located approximately 6 miles southwest of Myton, west of the Green River (BLM 1997a).

The boundary of the Monument Butte-Myton Bench Waterflood EA contains approximately 27,096 acres. According to the Utah Division of Oil and Gas Mining the current past, present, and foreseeable activity for the Monument Butte-Myton Bench Waterflood EA project area is 636 oil and gas wells. Assuming 2.5 acres of disturbance for well pad and pit and 1.0 acre of disturbance for pipelines, per well, the past, present, and future total area of disturbance due to oil and gas activity for the Monument Butte-Myton Bench EA is approximately 2,226 acres.

Fish and Wildlife Excluding USFWS Designated Species

Golden Eagle

Ongoing and planned oil and gas activities would further reduce the amount of available cover, foraging opportunities, and breeding areas for golden eagle. 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 and use of the region for, at a minimum, the lives of the projects (approximately 25 years). Additional development could preclude golden eagle 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, seasonal intensity of use, type of project activity, and physical parameters (e.g., topography, forage, and cover availability).

The number of additional wells and acres of disturbance proposed for the project area provides a rough index of the cumulative direct and indirect impacts to Golden eagle from oil and gas development. Past, current, and reasonably foreseeable gas field development would disturb an estimated 2,226 acres of potential golden eagle habitat within the CIAA. Direct impacts would produce loss of habitat until project closures and successful reclamation (approximately 25 years). More difficult to assess but also important to consider are the areas indirectly affected by increased human activity where these projects occur. Surface disturbance within the CIAA would be approximately 2,226 acres of golden eagle habitat. The Proposed Action would add 124 acres of new surface disturbance. The No Action alternative would not result in an accumulation of impacts.

Mountain Plover

Ongoing and planned oil and gas activities would further reduce the amount of available cover, foraging opportunities, and breeding areas for mountain plover. 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 and use of the region for, at a minimum, the lives of the projects (approximately 25 years). Additional development could preclude mountain plover 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, seasonal intensity of use, type of project activity, and physical parameters (e.g., topography, forage, and cover availability).

The number of additional wells and acres of disturbance proposed for the project area provides a rough index of the cumulative direct and indirect impacts to mountain plover from oil and gas development. Past, current, and reasonably foreseeable gas field development would disturb an estimated 2,226 acres of potential mountain plover habitat within the CIAA. Direct impacts would produce loss of habitat until project closures and successful reclamation (approximately 25 years). More difficult to assess but also important to consider are the areas indirectly affected by increased human activity where these projects occur. Surface disturbance within the CIAA would be approximately 2,226 acres of potential mountain plover habitat. The Proposed Action would add 124 acres of new surface disturbance. The No Action alternative would not result in an accumulation of impacts.

Burrowing Owl

Ongoing and planned oil and gas activities would further reduce the amount of suitable habitat, foraging opportunities, and breeding areas for burrowing owls. 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 and use of the region for, at a minimum, the lives of the projects (approximately 25 years). Additional development could preclude burrowing owls 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, seasonal intensity of use, type of project activity, and physical parameters (e.g., topography, forage, and habitat availability).

The number of additional wells and acres of disturbance proposed for the project area provides a rough index of the cumulative direct and indirect impacts to burrowing owls from oil and gas development. Past, current, and reasonably foreseeable gas field development would disturb an estimated 2,226 acres of potential burrowing owl habitat within the CIAA. Direct impacts would produce loss of habitat until project closures and successful reclamation (approximately 25 years). More difficult to assess but also important to consider are the areas indirectly affected by increased human activity where these projects occur. Surface disturbance within the CIAA would be approximately 2,226 acres of potential burrowing owl habitat. The Proposed Action would add 124 acres of new surface disturbance. The No Action alternative would not result in an accumulation of impacts.

White-tailed Prairie Dog

Ongoing and planned oil and gas activities would further reduce the amount of habitat suitable for the establishment of prairie dog colonies. 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 and use of the region for, at a minimum, the lives of the projects (approximately 25 years). Additional development could preclude White-tailed prairie dog 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, the introduction of noxious and invasive weeds, type of project activity, and physical parameters (e.g., visibility, forage quality, and noise presence).

The number of additional wells and acres of disturbance proposed for the project area provides a rough index of the cumulative direct and indirect impacts to White-tailed prairie dog from oil and gas development. Past, current, and reasonably foreseeable gas field development would disturb an estimated 2,226 acres of potential White-tailed prairie dog habitat within the CIAA. Direct impacts would produce loss of habitat until project closures and successful reclamation (approximately 25 years). More difficult to assess but also important to consider are the areas indirectly affected by increased human activity where these projects occur. Surface disturbance within the CIAA would be approximately 2,226 acres of potential White-tailed prairie dog habitat. The Proposed Action would add 124 acres of new surface disturbance. The No Action alternative would not result in an accumulation of impacts.

Soils and Vegetation Excluding USFWS Designated Species

Soil erosion would be increased due to the disturbance associated with oil and gas activities in the area. 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.

Direct surface disturbances to vegetation indicated by past, present, and reasonably foreseeable developments are primarily attributable to oil and gas development and vegetation management by various federal agencies. Oil and gas development, however, would continue to degrade local habitat by direct disturbance and slow reclamation of disturbed areas. Surface disturbance within the CIAA would be approximately 2,226 acres. The Proposed Action would add 124 acres of new surface disturbance. The No Action alternative would not result in an accumulation of impacts.

Threatened, Endangered or Candidate Animal Species

Special Status Fish and Wildlife Species

Cumulative effects include the effects of the future state, tribal, local, or private actions that are reasonably certain to occur in the project area. Future actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to Section 7 of the Endangered Species Act.

Declines in the abundance or range of many special status species have been attributed to various human activities on federal, state, and private lands, such as human population expansion and associated infrastructure development; construction and operation of dams along major waterways; water retention, diversion, or dewatering of springs, wetlands, or streams; recreation, including off-road vehicle activity; expansion of agricultural or 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 state and private lands within the range of the various special status wildlife, fish, and plant species, and could contribute to cumulative effects to the species 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 be highly susceptible to cumulative effects.

Colorado River Fish Species

Reasonably foreseeable future activities that may affect river-related resources in the area 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.

Migratory birds

Ongoing and planned oil and gas activities would further reduce the amount of available cover, foraging opportunities, and breeding areas for migratory birds. 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 and use of the region for, at a minimum, the lives of the projects (approximately 25 years). Additional development could preclude migratory birds 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 number of additional wells and acres of disturbance proposed for the project area provides a rough index of the cumulative direct and indirect impacts to migratory birds from oil and gas development. Past, current, and reasonably foreseeable gas field development would disturb an estimated 2,226 acres of potential migratory bird habitat within the CIAA. Direct impacts would produce loss of habitat until project closures and successful reclamation (approximately 25 years). More difficult to assess but also important to consider are the areas indirectly affected by increased human activity where these projects occur. Surface disturbance within the CIAA would be approximately 2,226 acres of potential raptor and migratory bird habitat. The Proposed Action would add 124 acres of surface disturbance. The No Action alternative would not result in an accumulation of impacts.

CHAPTER 5

PERSONS, GROUPS, AND AGENCIES CONSULTED

US Fish and Wildlife Service: Two sources, the Johnson Water District, and the Newfield Collector Well, is considered to be non-historic depletions. A programmatic Water Depletion Biological Assessment was prepared by the US Fish and Wildlife Service and the Bureau of Land Management, Vernal Field Office. On August 2, 2006 a Biological Opinion was received that concurred with the "***may affect, likely to adversely affect***" determination for the four Colorado River fish and their designated critical habitat. This project falls within the scope of the programmatic consultation, therefore consultation for the water depletion impacts to the four Colorado River fish and their designated critical habitat is complete.

The Neil Moon Pond is a historic depletion (permitted prior to January 1988). The U.S. Fish and Wildlife Service (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, consultation for historic depletions was conducted in association with that 1993 agreement.

SUMMARY OF PUBLIC PARTICIPATION

The Proposed Action was posted to the Utah BLM's Environmental Notification Bulletin Board on December 3, 2010. Public interest has been expressed and a 30-day public comment period was held from March 4, 2011 to April 4, 2011. Several groups expressed comments and their comments are discussed below:

Public Comment Analysis

Public comments are organized by issue, name of the organization or individual who provided comments, and response (see below). Comments in common to several groups or individuals were combined into one comment, where applicable; and subsequently addressed in one response. Comments that were not considered substantive (e.g. opinions or preferences) did not receive a formal response, but were considered in the BLM decision-making process.

Comment Issue	Comment	BLM Response
Air Quality	The need to address AQ impacts.	See Ch. 3 and 4 on Air Quality
Mountain Plover	Need to address cumulative impacts to plover.	Timing restrictions will be applied. See Ch. 4.

CHAPTER 6

REFERENCES AND ACRONYMS

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USFWS and BLM. 2006. Programmatic Water Depletion Biological Opinion for Oil and Gas Development Administered or Permitted by the Bureau of Land Management.

6.1 LIST OF ACRONYMS

AO: authorized officer

APD: application for permit to drill

BLM: Bureau of Land Management

CEQ: Council on Environmental Quality

CFR: Code of Federal Regulations

DR: decision record

EA: environmental assessment

EIS: environmental impact statement

FONSI: Finding of No Significant Impact

Newfield: Newfield Production Company

LUP: land use plans

NEPA: National Environmental Policy Act

OHV: off-highway vehicles

OSHA: Occupational Safety and Health Act

RMP: resource management plan

SARA: Superfund Amendments and Reauthorization Act

SITLA: School and Institutional Trust Lands Administration (State of Utah)

VFO: Vernal Field Office

APPENDIX A

INTERDISCIPLINARY TEAM CHECKLIST
Environmental Assessment DOI-BLM-LLUTG01000-2010-0213

Newfield Production Company's
27 Proposed Oil Wells
In Sections 19, 20, 22, and 27 Townships 8 South, Range 16 East
Monument Butte, Duchesne County, Utah

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.

Determi-nation	Resource	Rationale for Determination*	Signature	Date
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. Air quality and greenhouse gas emissions are addressed under one heading throughout the document.	Mark Wimmer	06/22/2011
NP	Areas of Critical Environmental Concern	None Present as per Vernal RMP, ROD and GIS Layer Review	James Hereford II	5/17/10
NP	BLM natural areas	None Present as per Vernal RMP, ROD and GIS Layer Review	James Hereford II	5/17/10
PI	Cultural Resources	Under the Proposed Action Alternative a cultural resources survey was conducted on all areas where surface disturbance would occur (i.e., well locations, access roads, and pipelines). Five sites were identified in one survey, the 42Dc2555, 42Dc2557, 42Dc2556, 42Dc2558, and the 42Dc2554 (MOAC 08-295). Also I site was identified in an additional survey, the 42Dc535 (MOAC 08-302). Four of the sites found were considered eligible to the National Register of Historic Places (NRHP). Based on the avoidance of these sites, a recommendation of "No Historic Properties Affected" is being made. This project was sent to the State Historic Preservation office (SHPO) November 2, 2010. Received on November 12, 2010. All vehicular traffic, personnel movement, construction and restoration activities would be confined to areas cleared by the site inventory and to existing roads approved proposed access roads. In the event historic or archaeological resources are uncovered during construction, work would stop immediately and the appropriate BLM AO would be notified.	James Hereford II Gabrielle Elliott Kathie Davies	12/3/2010 12/3/20110
NP	Environmental Justice	This is according to BLM GIS information as well as the onsite investigation that took place on November 13, 2008, and because there are no minority or economically disadvantaged	James Hereford II	5/14/10

Determi-nation	Resource	Rationale for Determination*	Signature	Date
		communities or populations that would be disproportionately adversely affected by the proposed action or alternatives proposed in this EA.		
NP	Farmlands (Prime or Unique)	No prime or unique farmlands have been designated within the proposed area according to GIS database Vernal BLM. As well as the onsite investigation that took place, which indicated no findings of any farmlands that have been irrigated. According to Vernal RMP, in order for lands to be designated Unique or Prime Farmlands, they must be irrigated.	James Hereford II	12/3/2010
PI	Fish and Wildlife Excluding USFWS Designated Species	There is one golden eagle nest within 0.5 miles of proposed project area. White-tailed prairie dog, burrowing owl, and mountain plover habitat exist within project area. 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	Daniel Emmett	8/05/2010
NI	Floodplains	One floodplain exists within the project area, the Wells Draw 100 year floodplain layer. However, all well locations within this EA's proposed action avoid the floodplain. Small upper head water drainages may have small flood plains associated with them however during onsite surveys impacts to these drainages are limited with the placement of the well site and other surface disturbance activities.	James Hereford II	5/17/10
NI	Fuels / Fire Management	No fuel management activities planned for the project area. The proposed project would not conflict with fire management activities.	James Hereford II	5/14/10
NI	Geology / Mineral Resources / Energy Production	Compliance with existing BLM construction restrictions on slopes and construction design will cause the possibility of the project initiating landslides, other mass movements, or flooding to be unlikely. Natural gas, oil, gilsonite, oil shale, and tar sands are the only mineral resources that could be affected 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 3162.1a, 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. Well completion must be accomplished in compliance with Onshore Oil and Gas Order No. 2, Drilling Operations. These guidelines specify the "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".	Robin L Hansen	6/3/2010
PI	Greenhouse Gas Emissions	Greenhouse Gas 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. Greenhouse gas emissions and air quality issues are addressed under one heading throughout the document.	Mark Wimmer	06/22/2011
NI	Hydrologic Conditions (stormwater)	Surface disturbance caused by the construction of the well sites, roads, and installation of surface and buried pipelines would slightly alter surface water flow characteristics. Construction of	James Hereford II	5/17/10

Determi-nation	Resource	Rationale for Determination*	Signature	Date
		well pad dikes, road design techniques, and interim & final reclamation would minimize surface water flow changes. The proposed project is located in the upper region of ephemeral drainages and more than 10 miles from perennial waters.		
NI	Invasive Plants / Noxious Weeds	Operator would control invasive species along roads, pipeline corridors, and on well pads, as discussed in Chapter 2.	James Hereford II	5/14/10
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.	James Hereford II	5/14/10
NI	Livestock Grazing	The proposed wells are within the Antelope Powers allotment (21 wells) and livestock drive trail (7 wells). The surface disturbance created by the energy facilities would disturb approximately 83 acres of land surface or about 7 Animal Unit Months of vegetation for a temporary period of time. Interim and final reclamation would return forage to its near natural condition. Oil & gas activity is consistent with multiple use of public land and other oil & gas activity has been occurring which is consistent with the Resource Management Plan.	Stan Olmstead	6/8/2010
PI	Migratory Birds	Migratory birds (passerines, PIF spp's, etc.) are present (see Appendix B).	Daniel Emmett	8/05/2010
NP	Native American Religious Concerns	Tribal consultation was conducted in conjunction with the on-going Monument Butte EIS.	Kathie Davies	12/3/2010
NP	Lands with Wilderness Characteristics (LWC)	The proposed project area is not within any area that has wilderness characteristics, or in areas that even have wilderness characteristics, proposed area is in sagebrush habitat inside a well established oil and gas production area per VFO GIS data review, onsite review and VFO RMP 2008.	James Hereford II	6/28/10
NP	Paleontology	No substantial fossils were found in the project areas. This was indentified in the Paleontological resources report for the 27 APDs in the proposed action.	Robin L Hansen	10/2/09
NI	Rangeland Health Standards and Guidelines	Rangeland Health Assessments were conducted on the Antelope Powers Allotment during the summer of 2008 and the allotment was meeting standards. Although energy development would disturb about 83 acres of vegetation or 7 Animal Unit Months the disturbed area would be expected to have interim and final reclamation returning vegetation to near natural conditions and it would not be expected to alter Rangeland Health in the extended use of the land after the proposed project is abandoned.	Stan Olmstead	6/8/2010
NI	Recreation	Limited Designation for OHV use, hunting takes place, no known dispersed camping sites in the immediate area. Designated motorized routes do exist in the area; however, it is not anticipated with the low amount of recreational use associated within the area that any impacts will be significant.	James Hereford II	6/28/10
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.	James Hereford II	5/14/10

Determi-nation	Resource	Rationale for Determination*	Signature	Date
PI	Soils	Soils would be disturbed on approximately 86 acres for the life of the well, or until interim reclamation is successful. Soils would be recontoured and reseeded after abandonment and during reclamation activities that will take place.	James Hereford II	5/14/10
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 proposed project area. Water depletion will occur for the proposed project; however, the proposed project wells have been analyzed under the USFWS's Programmatic Water Depletion Biological Opinion for Oil and Gas Development Administered or Permitted by the Bureau of Land Management (2006).	Brandon McDonald	6/11/09
NP	Threatened, Endangered or Candidate Plant Species	No habitat or individuals of Threatened, Endangered or Candidate plant Species found during onsite inspection nor indicated on BLM GIS database. Low potential for Threatened, Endangered or Candidate plant Species in proposed locations.	James Hereford II	5/14/10
PI	Vegetation Excluding USFWS Designated Species	Vegetation would initially be disturbed on 124 acres. Upon well completion, the reserve pit and the location up to the dead man would be reseeded and re-contoured to the approximate natural contours. This would reduce the effects of the disturbance by approximately one half to a one quarter when the seed becomes established.	James Hereford II	5/14/10
NI	Visual Resources	VRM Class IV identified through GIS layer review. Class IV objectives state, "The objective of this class is to provide for management activities which require major modifications of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements." The project should consider the recommendation for class IV when determining placement for development elements where practical. The project meets VRM class IV objectives. Class IV is the least restrictive for surface disturbing activities that have the potential to affect/impact the landscape.	James Hereford II	5/14/10
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.	James Hereford II	5/14/10
Surface: NI Ground: NI	Water Resources/Quality (drinking/surface/ground)	Surface Waters: Although there is a potential for surface disturbance activities to negatively impact surface waters by soil erosion or potential chemical spills, this project is consistent with other oil & gas activities of the area which have not shown a concern. The nearest perennial waters are more than 10 miles to the north east located in the Duchesne River. 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.	Stan Olmstead James Hereford II	6/15/10 5/14/10
NP	Wetlands / Riparian Zones	No inventoried riparian areas are located at or near the project area and indirect impacts would not be expected as per GIS review and onsite review of the proposed areas.	James Hereford II	5/14/10

Determi-nation	Resource	Rationale for Determination*	Signature	Date
NP	Wild and Scenic Rivers	None Present as per Vernal RMP, ROD and GIS Layer Review	James Hereford II	5/14/10
NP	Wild Horses and Burros	No herd areas or herd management areas are present in the project area per BLM GIS database.	James Hereford II	5/14/10
NP	Wilderness/WSA	None Present as per Vernal RMP, ROD and GIS Layer Review	James Hereford II	5/14/10
NP	Woodland / Forestry	None Present as per Vernal Field Office RMP/ROD and GIS database.	James Hereford II	5/14/10

FINAL REVIEW:

Reviewer Title	Signature	Date	Comments
NEPA / Environmental Coordinator	[signature]	7/7/11	2010-0213
Authorized Officer	[signature]	7/15/2011	

Appendix B: Threatened, Endangered, Candidate, Utah Special Status Animal Species including Partners-In-Flight Species of Concern.

Species	Status	Habitat Association	Potential for Occurrence Within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
Bonytail *Gila elegans*	FE	Is endemic to the Colorado River system within main channels of large rivers, and favor swift currents.	Moderate. This species occurs in the Green River. Habitat is not present within the project area; however, water depletion will occur.	No
Colorado pikeminnow *Ptychocheilus lucius*	FE	Known from the Colorado River system. Uses large swift rivers.	Moderate. 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 *Gila cypha*	FE	Is endemic to the Colorado River System within deep, swift-running rivers, with canyon shaded environments.	Moderate. This species occurs in the Green River. Habitat is not present within the project area; however, water depletion will occur.	No
Razorback sucker *Xyrauchen texanus*	FE	Endemic to large rivers of the Colorado River system.	Moderate. 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 *Mustela nigripes*	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.	None. 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 *Lynx lynx canadensis*	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.	None. 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 *Strix occidentalis lucida*	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.	None. The habitat as been surveyed and determined unsuitable for nesting (*Assessment of Potential Mexican Spotted Owl Nesting on BLM-Administered Lands in Northeastern Utah, September 2005*).	Yes
Western yellow-billed cuckoo *Coccyzus americanus*	FC; PIF	Riparian obligate and usually occurs in large tracts of cottonwood/willow habitats. However, this species also has been documented in lowland deciduous woodlands,	None. 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

Species	Status	Habitat Association	Potential for Occurrence Within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
occidentalis		alder thickets, deserted farmlands, and orchards. Breeding season: late June through July.		
Bluehead sucker *Catostomus discobolus*	CAS	Occupies a wide range of aquatic habitats ranging from cold, clear mountain streams to warm, turbid rivers.	None. 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 *Catostomus latipinnis*	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.	None. 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 *Gila robusta*	CAS	Adults inhabit low to high flow areas in the Green River; young occur in shallow areas with minimal flow.	None. 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 *Oncorhynchus clarkii pleuriticus*	CAS	Requires cool, clear water and well-vegetated streambanks for cover and bank stability; instream 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 *Accipiter gentilis*	CAS	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 smaller tracts. In the western U.S., characteristically nests in coniferous forests including those dominated by ponderosa pine, lodgepole, or in mixed forests dominated by various coniferous species including, Douglas-fir, cedar, hemlock, spruce, and larch. Western birds also nest in	None. Prefers old-growth forests near or within large drainage systems. Habitat is not present within the proposed project area.	Yes

Species	Status	Habitat Association	Potential for Occurrence Within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
		deciduous forests dominated by aspen, paper birch, or willow.		
Bald eagle *Haliaeetus leucocephalus*	WSC	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.	None. 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 *Pelecanus erythrorhynchos*	WSC; PIF	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.	None. 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 *Centrocercus urophasianus*	WSC; PIF	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.	None. The species is widespread, but declining, with extant populations in Uintah and Duchesne counties. Habitat is not present within the proposed project area.	Yes
Ferruginous hawk *Buteo regalis*	WSC; PIF	Resides mainly in lowland open desert terrain characterized by barren cliffs and bluffs, pinion-juniper woodlands, sagebrush-rabbit brush, and cold desert shrub. Nesting habitat includes promontory points and rocky outcrops.	Low. This species is known to occur in the West Desert and the Uintah Basin as a summer resident and a common migrant. Within the Uintah Basin, the species is more associated with prairie dog colonies as the main prey base. No known or documented Ferruginous hawk nests are within ½ mile of the proposed project area.	Yes
Burrowing owl *Athene cunicularia*	WSC	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.	None. Known to occur in Uintah and Duchesne counties. Nesting habitat is not present within the proposed project area.	Yes
Mountain plover	WSC;	In the Uintah Basin, small mountain plover	High. The only known breeding population of mountain	No

Species	Status	Habitat Association	Potential for Occurrence Within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
Charadrius montanus	PIF	populations breed in shrub-steppe habitat where vegetation is sparse and sagebrush communities are dominated by *Artemisia* 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).	plover in Utah is located on Myton Bench. Habitat is present within the proposed project area.	
White-tailed prairie dog *Cynomys leucurus*	WSC	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.	None. 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 not present within the proposed project area.	Yes
Short-eared owl *Asio flammeus*	WSC	Inhabits arid grasslands, agricultural areas, marshes, and occasionally open woodlands. In Utah, cold desert shrub and sagebrush-rabbit brush habitats also are utilized. Typically a ground nester.	None. Known to occur in Uintah County, with occurrence probable in Duchesne County. Habitat is not present within the proposed project area.	Yes
Lewis's Woodpecker *Melanerpes lewis*	WSC; PIF	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.	None. 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 *Picoides tridactylus*	WSC; PIF	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.	None. 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	WSC;	Prefers grasslands of intermediate height and	Moderate. In Utah, the species is widespread and has been	Yes

Species	Status	Habitat Association	Potential for Occurrence Within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
sparrow *Ammodramus savannarum*	PIF	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.	known to breed in Uintah, Duchesne, and Daggett counties. Habitat is present within the proposed project area.	
Long-billed Curlew *Numenius americanus*	WSC; PIF	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.	None. 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 *Dolichonyx oryzivorus*	WSC; PIF	Inhabits mesic and irrigated meadows, riparian woodlands, and subalpine marshes at lower elevations (2,800 to 5,000 feet amsl). Suitable breeding habitat for this ground nester includes tall grass, flooded meadows, prairies, and agricultural fields; forbs and perch sites also are required.	None. 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, Duchesne, and Daggett counties. Habitat is not present within the proposed project area.	Yes
Big free-tailed bat *Nyctinomops macrotis*	WSC	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.	None. The species has been documented in northeastern part of the state from Daggett County into Wyoming. Habitat for this species is not present within the proposed project area.	Yes
Fringed myotis *Myotis thysanodes*	WSC	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.	None. 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 *Euderma maculatum*	WSC	Inhabits desert shrub, sagebrush-rabbit brush, pinion-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	None. 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 is not present within the proposed project area.	Yes

Species	Status	Habitat Association	Potential for Occurrence Within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
		bats typically do not migrate and use hibernacula that maintain a constant temperature above freezing from September through May.		
Townsends big-eared bat *Corynorhinus townsendii*	WSC	Inhabits a wide range of habitats from semidesert shrublands and pinion-juniper woodlands to open montane forests. Roosting occurs in mines and caves, in abandoned buildings, on rock cliffs, and occasionally in tree cavities. Foraging occurs well after dark over water, along margins of vegetation, and over sagebrush.	None. 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 species potentially could occur in areas where rock cliffs and caves are present. Habitat is not present within the proposed project area.	Yes
Western (Boreal) toad *Bufo boreas*	WSC	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.	None. 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 *Elaphe guttata*	WSC	Habitat includes pine woodlands, brushy fields, open hardwood forests, mangrove thickets, barnyards, and abandoned buildings, areas near springs, old trash dumps, and caves.	None. 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 *Opheodrys vernalis*	WSC	Habitat includes meadows, grassy marshes, moist grassy fields at forest edges, mountain shrublands, stream borders, bogs, open moist woodland, abandoned farmland, and vacant lots.	None. 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 *Falco mexicanus*	PIF	Habitat includes alpine, cliff, cropland/hedgegrow, desert, and grassland/herbaceous areas.	None. Habitat is not present within the proposed project area.	Yes
Swainson's hawk *Buteo swainsonii*	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.	None. Habitat is not present within the proposed project area.	Yes
Black-chinned hummingbird	PIF	Habitat includes dry lowlands and foothills with pinion-juniper woodlands.	None. Habitat is not present within the proposed project area.	Yes

Species	Status	Habitat Association	Potential for Occurrence Within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
Archilochus alexandri				
Broad-tailed hummingbird *Selasphorus platycercus*	PIF	Habitat includes open woodland, especially pinion-juniper, pine-oak, and conifer-aspen association; brushy hillsides; montane scrub and thickets.	None. Habitat is not present within the proposed project area.	Yes
Brewer's sparrow *Spizella breweri*	PIF	Habitat includes desert and shrubland/chaparral.	High. Habitat is present within the proposed project area.	No
Cassin's finch *Carpodacus cassinii*	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.	None. Habitat is not present within the proposed project area.	Yes
Cassin's kingbird *Tyrannus vociferan*	PIF	Habitat includes sparse woods and dry scrub areas.	None. Habitat is not present within the proposed project area.	Yes
Clark's nutcracker *Nucifraga Columbiana*	PIF	Habitat includes open coniferous forest, forest edge and clearings, primarily in mountains, but wandering into various habitats; in winter also in lowlands.	None. Habitat is not present within the proposed project area.	Yes
Gray flycatcher *Empidonax wrightii*	PIF	Habitat includes arid areas of sagebrush or pinion-juniper woodlands.	None. Habitat is not present within the proposed project area.	Yes
Gray vireo *Vireo vicinior*	PIF	Habitat includes dry shrubby areas, chaparral, and sparse woodlands.	None. Habitat is not present within the proposed project area.	Yes
Green-tailed towhee *Pipilo chlorurus*	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 (*Artemisia* spp.) dominated openings with high shrub species richness.	Moderate. Habitat is present within the proposed project area.	No
Juniper titmouse *Parus inornatus*	PIF	Habitat includes sparse pinion-juniper and oak woodlands.	None. Habitat is not present within the proposed project area.	Yes
Mountain bluebird *Sialia currucoides*	PIF	Habitat includes subalpine meadows, grasslands, shrub-steppe, savanna, and pinion-	High. Habitat is present within the proposed project area.	No

Species	Status	Habitat Association	Potential for Occurrence Within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
		juniper woodlands; in south usually at elevations above 1500 m (4900 ft.). In winter and migration also inhabits desert, brushy areas and agricultural lands.		
Pinion jay *Gymnorhinus cyanocephalus*	PIF	Habitat includes semi-arid foothills with pinion-juniper woodlands.	None. Habitat is not present within the proposed project area.	Yes
Sage sparrow *Amphispiza belli*	PIF	Habitat includes dry sagebrush/scrublands with sparse vegetation.	High. Habitat is present within the proposed project area.	No
Sage thrasher *Oreoscoptes montanus*	PIF	Habitat includes desert and shrubland/chaparral.	High. Habitat is present within the proposed project area.	No
Virginia's warbler *Vermivora virginiae*	PIF	Habitat includes dry woodlands, scrub oak brushlands, canyons and ravines.	None. Habitat is not present within the proposed project area.	Yes
White-throated swift *Aeronautes saxatalis*	PIF	Habitat includes cliffs and canyons.	None. Habitat is not present within the proposed project area.	Yes
Wilson's phalarope *Phalaropus tricolor*	PIF	Habitat includes grassland/herbaceous riparian and wetlands.	None. Habitat is not present within the proposed project area.	Yes

Federally Listed Species:

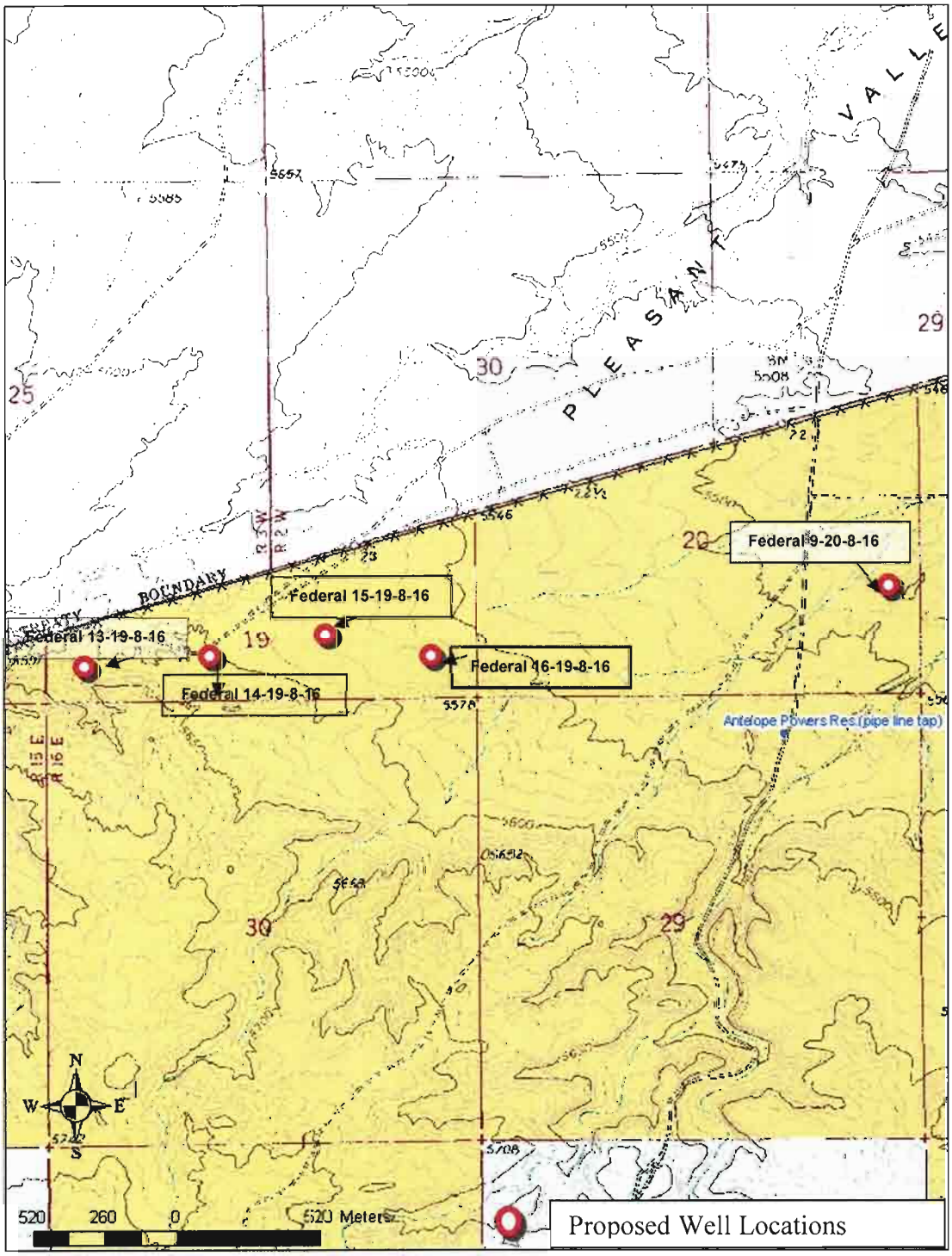
- FE = Federally listed as endangered;
- FT = Federally listed as threatened;
- FC = Federally listed as candidate

State Sensitive Species:

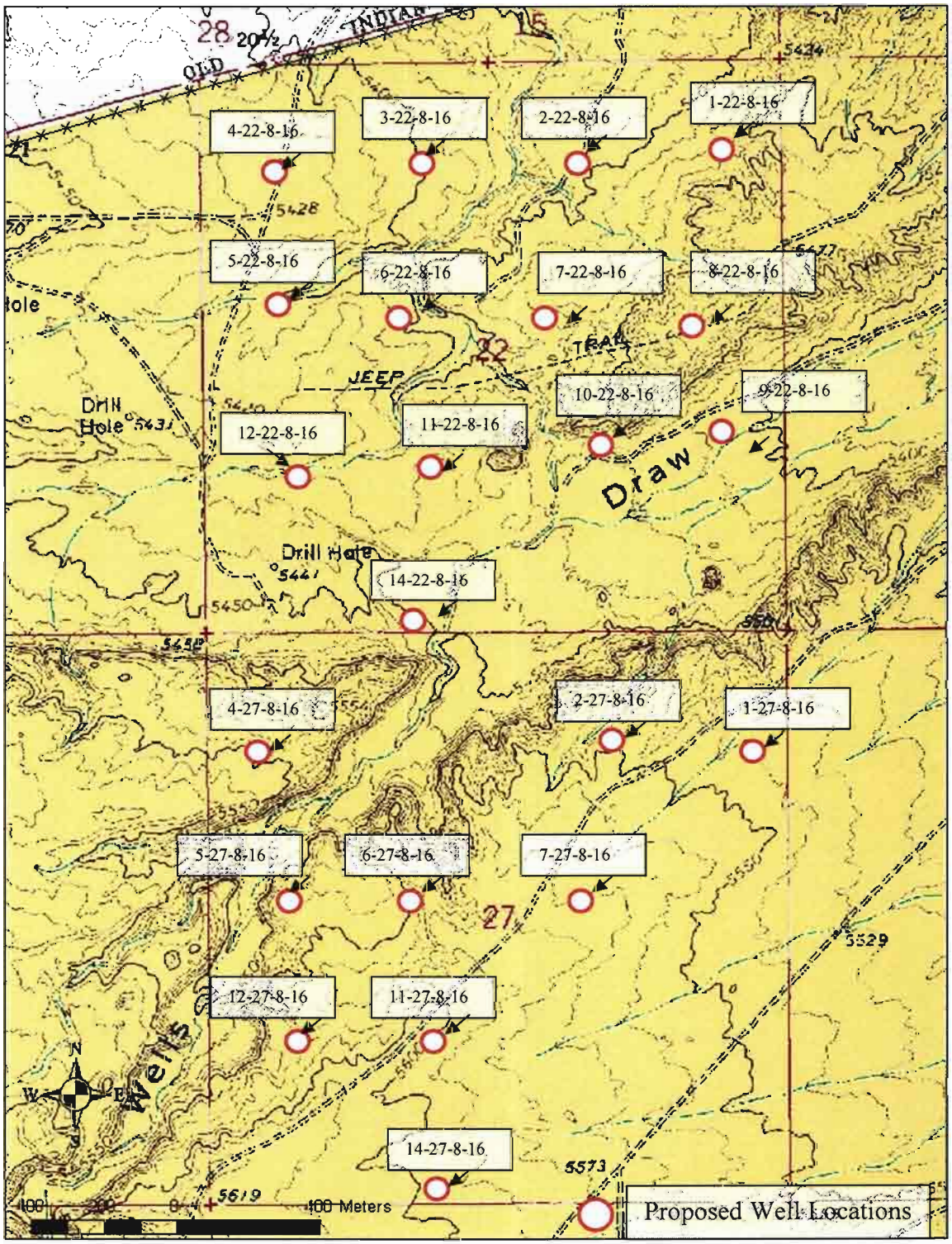
- CAS = State Conservation Agreement Species;
- WSC = Wildlife Species of Concern

PIF = Partners in Flight species of concern, Colorado Plateau, Utah Mountains, potentially in the Vernal Field Office.

Map 1. Proposed location of wells: Federal 13-19-8-16, 15-19-8-16, 16-19-8-16, 14-19-8-16, 9-20-8-16 in sections 19 and 20 of T8S R16E.



Map 2. General proposed locations of wells: Federal 1-22-8-16, 2-22-8-16, 3-22-8-16, 4-22-8-16, 5-22-8-16, 6-22-8-16, 7-22-8-16, 7-22-8-16, 8-22-8-16, 12-22-8-16, 11-22-8-16, 10-22-8-16, 9-22-8-16, 14-22-8-16, 4-27-8-16, 2-27-8-16, 1-27-8-16, 5-27-8-16, 6-27-8-16, 7-27-8-16, 12-27-8-16, 11-27-8-16, 14-27-8-16 in sections 22 and 27 of T8S R16E.



FINDING OF NO SIGNIFICANT IMPACT
Environmental Assessment
DOI-BLM-UT-G010-2010-0213-EA
NEWFIELD PRODUCTION COMPANY'S 27 PROPOSED OIL WELLS
Wells Draw Area of
Duchesne County, Utah

Based on the analysis of potential environmental impacts contained in the (referenced or attached) environmental assessment, and considering the significance criteria in 40 CFR 1508.27, I have determined that Newfield's proposed action to drill the 27 oil wells in the Wells Draw area will not have a significant effect on the environment. An environmental impact statement is therefore not required.

JUL 15 2011

Authorized Officer

Date

DECISION RECORD
Environmental Assessment
DOI-BLM-LLUTG01000-2010-0213-EA
NEWFIELD PRODUCTION COMPANY'S 27 PROPOSED OIL WELLS

Decision:

It is my decision to authorize Newfield Production Company's 27 Proposed oil wells in the Wells Draw area Duchesne County, Utah, as described in the proposed action of *DOI-BLM-LLUTG01000-2010-0213-EA*, this decision is contingent on meeting the below Conditions of Approval for this EA.

Summary of the Selected Alternative:

Newfield proposes to drill the 27, forty acre surface spaced oil wells as seen below, all wells will be drilled vertically on a pad disturbance of approximately 2.0 acres per location, all roads, 3" surface gas lines and the 3-10" buried waterlines would utilize a single 60 foot width of disturbance as stated in Newfield's APDs (Applications for Permit to Drill). The access roads will have a permanent 18 foot running surface preferably a two track instead of a crown and ditched road where applicable to reduce impacts to surface environment by lessening the amount of dirt being moved, however in most cases the road will be the Gold Book standard crown and ditch method. The 3-10" buried waterline will be placed as close to the access road as possible to help minimize surface disturbance. These locations fall within sections 27, 22, 20, and 19 in Township 8 South Range 16 East Duchesne County, Utah (see Appendix C for location map). The proposed project area is located approximately 12.7 miles southwest of Myton, Utah.

Table 2-1. Proposed Action Well Location

Well Identification	Legal Location	Lease Number
8-22-8-16	SE/NE Sec. 22, T8S R16E	UTU-74868
3-22-8-16	NE/NW Sec. 22, T8S R16E	UTU-76561
4-22-8-16	NW/NW Sec. 22, T8S R16E	UTU-76561
6-22-8-16	SE/NW Sec. 22, T8S R16E	UTU-76561
11-22-8-16	NE/SW Sec. 22, T8S R16E	UTU-77339
14-22-8-16	SE/SW Sec. 22, T8S R16E	UTU-77339
Table2-1 continued		
7-22-8-16	SW/NE Sec. 22, T8S R16E	UTU-74868
2-22-8-16	NW/NE Sec. 22, T8S R16E	UTU-74868
9-22-8-16	NE/SE Sec. 22, T8S R16E	UTU-73088
12-22-8-16	NW/SW Sec. 22, T8S R16E	SL-065914

10-22-8-16	NW/SE Sec. 22, T8S R16E	UTU-73088
1-22-8-16	NE/NE Sec. 22, T8S R16E	UTU-74868
5-22-8-16	SW/NW Sec. 22, T8S R16E	UTU-76561
14-27-8-16	SE/SW Sec. 27, T8S R16E	UTU-72848
1-27-8-16	NE/NE Sec. 27, T8S R16E	UTU-73088
2-27-8-16	NW/NE Sec. 27, T8S R16E	UTU-73088
4-27-8-16	NW/NW Sec. 27, T8S R16E	UTU-77339
5-27-8-16	SW/NW Sec. 27, T8S R16E	UTU-73088
6-27-8-16	SE/NW Sec. 27, T8S R16E	UTU-73088
7-27-8-16	SW/NE Sec. 27, T8S R16E	UTU-73088
11-27-8-16	NE/SW Sec. 27, T8S R16E	UTU-73088
12-27-8-16	NW/SW Sec. 27, T8S R16E	UTU-73088
15-19-8-16	SW/SE Sec. 19, T8S R16E	UTU-73089
16-19-8-16	SE/SE Sec. 19, T8S R16E	UTU-73089
14-19-8-16	SE/SW Sec. 19, T8S R16E	UTU-73089
13-19-8-16	SW/SW Sec. 19, T8S R16E	UTU-73089
9-20-8-16	NE/SE Sec. 19, T8S R16E	UTU-77339

Approximately 11 miles of new roads would be constructed to access the proposed wells. If the wells go into production, approximately 13 miles of gas surface lines would be laid along the surface and 13 miles of water lines would be buried along the access roads. Table 2-1 lists the wells and their associated disturbance within the Proposed Action. Buried water line disturbance calculations are zero, because the waterline will utilize the same 60 foot width of potential disturbance as the road. If dry, the wells would be plugged and abandoned as per BLM and State of Utah requirements.

Table 2-1. Alternative 1 Wells and Associated Pipeline Disturbances.

Well	Well Pad (acres)	Surface Gas Pipeline (feet)	Surface Gas Pipeline (acres)	Buried Water Pipeline (feet)	Buried Water Pipeline (acres)	Road (feet)	Road (acres)	Total Acres of Surface Disturbance*
1-27-8-16	1.5	1530	0	1530	0	1530	1.05	6.07
2-27-8-16	1.5	5250	0	5250	0	5250	3.62	17.17
4-27-8-16	1.5	890	0	890	0	4580	3.15	6.70
5-27-8-16	1.5	1860	0	1860	0	3560	2.45	8.22
6-27-8-16	1.5	1100	0	1100	0	3590	2.47	6.50
7-27-8-16	1.5	140	0	140	0	3950	2.72	4.54
11-27-8-16	1.5	120	0	120	0	2600	1.79	3.57
12-27-8-16	1.5	810	0	810	0	1950	1.34	4.70
14-27-8-16	1.5	1280	0	1280	0	1280	0.88	5.32
8-22-8-16	1.5	530	0	530	0	530	0.37	3.08
3-22-8-16	1.5	1250	0	1250	0	1250	0.86	5.23
4-22-8-16	1.5	620	0	620	0	2360	1.63	4.55
6-22-8-16	1.5	1310	0	1310	0	1310	0.90	5.41
11-22-8-16	1.5	540	0	540	0	540	0.37	3.11
14-22-8-16	1.5	1230	0	1230	0	320	0.22	4.54
7-22-8-16	1.5	1670	0	1670	0	3430	2.36	7.70
2-22-8-16	1.5	1090	0	1090	0	2650	1.83	5.83
9-22-8-16	1.5	150	0	150	0	330	0.23	2.07
12-22-8-16	1.5	60	0	60	0	60	0.04	1.68
10-22-8-16	1.5	1940	0	1940	0	4140	2.85	8.80
1-22-8-16	1.5	1560	0	1560	0	1560	1.07	6.16
5-22-8-16	1.5	740	0	740	0	3200	2.20	5.40
9-20-8-16	1.5	1250	0	570	0	1250	0.86	4.45
3-19-8-16	1.5	34530	0	34530	47	280	0.19	80.96
14-19-8-16	1.5	130	0	130	0	130	0.09	1.89
16-19-8-16	1.5	1790	0	1790	0	1140	0.79	6.39
15-19-8-16	1.5	2930	0	2930	0	2930	2.02	10.24
TOTALS	**40.5**	**66,300**	0	**65,620**	0	**55,700**	**38.35**	**124.4**

*does not include gas pipelines as no surface disturbance will occur
Gas line disturbance calculations are not actual, because the lines are laid on the surface.
n- Negligible surface disturbance.
3-19-8-16- has large acres of disturbance because tie in point for the pipelines is approximately 34,000 feet away from the well pad.

PLAN CONFORMANCE AND CONSISTENCY:

The Proposed Action and the No Action Alternative described in this document are in conformance with the Vernal Field Office Resource Management Plan and Record of Decision, (BLM 2008). The proposed action would not conflict with other decisions throughout the plan.

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, subject to the lease terms and conditions, and if a discovery is made, to produce oil and/or natural gas for economic gain.

There are no comprehensive State of Utah plans for the vicinity of the Proposed Action. 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 alternatives analyzed, except the No Action Alternative, are consistent with the objectives of the state.

Onsite visits were conducted by Vernal Field Office Personnel. The onsite inspection reports do not indicate that any other locations be proposed for analysis. In addition, all proposed mitigation has been carried forward into the Decision.

Rationale:

The Selected Alternative meets the purpose and need of the BLM and the development objectives of the company. The No Action Alternative was not chosen because it did not meet the company's development objective, but still maintains the BLMs purpose and need.

How Agency Objectives Identified in the Purpose for the Proposed Action Section Will Be Met:

The selected alternative meets the Purpose and Need for the project because it allows Newfield Production Company to develop their above federal leases consistent with the Mineral Leasing Act of 1920 and the lease terms and conditions. In addition, it meets the BLMs purposes and need by allowing development of the oil and gas resources in an environmentally sound manner. The project also allows for multiple uses consistent with the Federal Land Policy and Management Act of 1976.

Summary of Public Involvement Efforts and Public Response:

The Proposed Action was posted to the Utah BLM's Environmental Notification Bulletin Board on June 6, 2010, interest had been made and the comments were addressed in the EA.

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 of 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 of resources if the stay is not granted; and
4. Whether the public interest favors granting the stay.

JUL 15 2011

Date

Assistant Field Manager for Lands & Minerals

This decision is contingent on meeting the following Conditions of Approval which were designed to minimize and/or avoid impacts:

Conditions of Approval

- Drill cuttings would be contained and buried in the reserve pit. Drilling fluids, including salts and chemicals, would be contained in the reserve pit. Upon termination of drilling and completion operations, the liquid contents of the reserve pit would be used at the next drill site or would be removed and disposed of at an approved waste disposal facility within 120 days after drilling is terminated. Immediately upon well completion, any hydrocarbons in the pit would be removed in accordance with 43 CFR 3162.7-1 (Newfield SOP 2003).
- Any oil, gas, saltwater, or other noxious fluid spills would be immediately removed and transported to an approved disposal site (Newfield SOP 2003).
- No hazardous wastes (as defined in 40 CFR 355 or subject to reporting under SARA Title III) would be used, produced, stored, transported, or disposed of annually in association with the drilling, testing, or completing of this well (Newfield SOP 2003).
- Production facilities should be placed towards the front of the location, when on cut, to maximize the amount of reclamation that is to be done when the well goes into production. Any additional unused areas of the well pad will undergo interim reclamation as well to keep the topsoil being stripped viable and healthy until final reclamation takes place.
- Topsoil should be stored on location for reclamation purposes only. Topsoil pile shall be marked and piled no greater than 8 feet in height to minimize the potential of soils loss to erosional forces.
- Hospital mufflers should be placed on all pump jacks in this proposal, to minimize the sound impacts in an area that had raptors frequenting the area.
- All production facilities for each of the 27 proposed locations will be painted Covert Green in the new BLM approved Environmental Color Chart.
- Reclamation monitoring report should be submitted March 31st of each year following the start of any reclamation project for any of the 27 proposed well locations.
- Newfield will follow their approved reclamation plan for interim and final reclamation. The goal is to reach 75% native vegetated basal cover within 5years of interim reclamation efforts. However, if not reached after 5 years some additional suggestions on new methods will be applied to help increase the reclamation potential.
- **Golden Eagle timing restriction on the 8-22-8-16 location.**
- Construction and drilling is not allowed from January 1 – August 31 to minimize impacts during Golden eagle nesting. If it is anticipated that construction or drilling will occur

during the given timing restriction, a BLM qualified biologist should be notified so surveys can be conducted. Depending upon the results of the surveys, permission to proceed may or may not be granted by the BLM authorized officer.

- **Mountain Plover timing on the following wells:**
- 15-22-8-16, 8-22-8-16, 3-22-8-16,4-22-8-16, 6-22-8-16, 4-27-8-16, 16-22-8-16, 1-27-8-16, 2-27-8-16, 9-20-8-16, 14-27-8-16, 10-22-8-16, 1-22-8-16, 5-22-8-16, 9-22-8-16, 2-22-8-16, 7-22-8-16, 12-27-8-16, 11-27-8-16, 7-27-8-16, 6-27-8-16, 5-27-8-16, 14-22-8-16, 12-22-8-16, 11-22-8-16, 16-19-8-16, 15-19-8-16.

- Construction and drilling is not allowed from May 1 – June 15 to minimize impacts during mountain plover nesting. If it is anticipated that construction or drilling will occur during the given timing restriction, a BLM or qualified biologist should be notified so surveys can be conducted. Depending upon the results of the surveys, permission to proceed may or may not be granted by the BLM Authorized Officer.

- **Burrowing Owl timing on the following wells:**
- 15-22-8-16, 8-22-8-16, 3-22-8-16,4-22-8-16, 6-22-8-16, 4-27-8-16, 16-22-8-16, 1-27-8-16, 2-27-8-16, 9-20-8-16, 14-27-8-16, 10-22-8-16, 1-22-8-16, 5-22-8-16, 9-22-8-16, 2-22-8-16, 7-22-8-16, 12-27-8-16, 11-27-8-16, 7-27-8-16, 6-27-8-16, 5-27-8-16, 14-22-8-16, 12-22-8-16, 11-22-8-16, 16-19-8-16, 15-19-8-16, 14-19-8-16, 13-19-8-16.

- Construction and drilling is not allowed from March 1 – August 31 to minimize impacts during burrowing owl nesting. If it is anticipated that construction or drilling will occur during the given timing restriction, a BLM or qualified biologist should be notified so surveys can be conducted. Depending upon the results of the surveys, permission to proceed may or may not be granted by the BLM Authorized Officer

- Immediately upon well completion, the location and surrounding area would be cleared of all unused tubing, equipment, debris, materials, and trash. Any hydrocarbons in the pit would be removed in accordance with 43 CFR 3162.7-1. Also, reserve pit would be closed within 180 days of the well sites going into production in accordance with Onshore Order #1 regulations. Pits will undergo recontouring, seed bed preparation, and seeded with approved seed mix.

- All pipelines and roads will be restricted to one single 60 foot width of disturbance. This is will decrease potential impacts to soils and native vegetation, and lessen the overall footprint, when vegetation becomes reestablished.