

**U.S. Department of the Interior
Bureau of Land Management**

Environmental Assessment DOI-BLM-UT-G010-2011-0157-EA

February 2012

**EOG's Proposed 11 Gas Well
Directional Drilling Project**

***Location:* Uintah County, Utah
Section 25 Township 9 South, Range 22 East**

***Applicant/Address:* EOG Resources
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**EOG RESOURCES PRODUCTION COMPANY'S
ELEVEN CHAPITA WELLS UNIT PROPOSED NATURAL GAS WELLS
SECTION 25, TOWNSHIP 9 SOUTH, RANGE 22 EAST, UINTAH COUNTY, UTAH
Environmental Assessment DOI-BLM-UT-G010-2011-0157-EA**

1.0 INTRODUCTION AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

EOG Resources proposes to directionally drill eleven wells from two existing well pads in Uintah County, Utah as described in **Table 1**. This Environmental Assessment (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 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.

Table 1 Proposed Well Locations and Legal Description

Well	Aliquot	Section	Township	Range
CWU 1530-25D	NWNE	25	9 South	22 East
CWU 1531-25D	NWNE	25	9 South	22 East
CWU 1532-25D	NWNE	25	9 South	22 East
CWU 1533-25D	NWNE	25	9 South	22 East
CWU 1534-25D	NWNE	25	9 South	22 East
CWU 1535-25D	NWNW	25	9 South	22 East
CWU 1536-25D	NWNW	25	9 South	22 East
CWU 1537-25D	NWNW	25	9 South	22 East
CWU 1538-25D	NWNW	25	9 South	22 East
CWU 1539-25D	NWNW	25	9 South	22 East
CWU 1540-25D	NWNW	25	9 South	22 East

The proposed project area is located approximately 50.5 miles south of Vernal, Utah. No new roads would be constructed to access the proposed wells. If dry, the wells would be plugged and abandoned as per BLM and State of Utah requirements.

1.2 PURPOSE AND NEED FOR THE PROPOSED ACTION

BLM's need for the project is to respond to the applicant's proposal. 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 Lease UTU-0285A 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 proposed development would exercise existing lease rights to drill for, extract, remove, and market commercial quantities of natural gas. The MLA and related regulations and policies, by which they are implemented, recognize the right of lease holders to develop Federal mineral resources to meet continuing needs and economic demands, so long as undue and unnecessary environmental degradation is not incurred. This includes the right to build and maintain necessary improvements, subject to lease terms and conditions. The lessee shall have the right to use as much of the leased lands as is necessary to explore and develop, and dispose of the leased resource (43 CFR 3101.1-2) subject to lease terms, conditions, and stipulations. The FLPMA mandates that these rights must be permitted in a manner that assures adequate protection of other resource values.

1.3 CONFORMANCE WITH BLM LAND USE PLANS

The proposed well(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.

1.4 RELATIONSHIPS TO STATUTES, REGULATIONS, OR OTHER PLANS

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

1.4.1 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.

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.

1.4.2 State and Local Laws and Statutes

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

The proposed project is consistent with the *Uintah County Public Land Use Plan* (County Plan) (amended in 2007) 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.

2.0 DESCRIPTION OF ALTERNATIVES

2.1 INTRODUCTION

This EA will focus on the Proposed Action and No Action Alternatives. The No Action Alternative is considered and analyzed to provide a baseline for comparison of the impacts of the Proposed Action Alternative. No additional alternatives were identified.

2.2 PROPOSED ACTION

EOG Resources proposes to drill eleven wells from two existing well pads in Uintah County, Utah (see Appendix C for location map). Construction needed for this project is as described in **Table 2**.

Table 2 Acres of Disturbance

Well	Existing Well Pad Disturbance (acres)	Surface Gas Pipeline (feet)	Road (miles)	New Acres of Surface Disturbance	Total Acres of Surface Disturbance*
CWU 1530-25D through CWU 1534-25D	2.27	0	0	0.73	3.0
CWU 1535-25D through CWU 1540-25D	2.07	0	0	0.93	3.0
TOTAL	4.34	0	0	1.66	6.0

* Total Acres of Surface Disturbance is the sum of Existing Well Pad Disturbance and New Acres of Surface Disturbance.

2.2.1 Access

Existing roads would provide access to the proposed wells. No new roads would be required. The existing roads would need to be upgraded to accommodate heavy equipment needed for drilling the wells. The total surface disturbance associated with the access road upgrades would be less than 0.3 acre. All roads and pads are on unit and would not require a right of way.

2.2.2 Well Site

The average well site for the wells, including cuts, fills, and spoils piles, would be approximately 235 x 370 feet. Each drill site would encompass no more than 3.0 acres of land. As shown in **Table 2**, the two well sites would collectively encompass approximately 6.0 acres of land.

During construction, topsoil would be segregated from the subsoil, stored with topsoil that was previously striped from each well pad (separate from other soil piles), identified with appropriate signs, and maintained for future use in rehabilitating the locations. The topsoil, following completion, would be re-spread over the interim reclamation site areas prior to setting the production equipment. Remaining topsoil piles stored beyond one growing season would be stabilized and seeded to prevent erosion. The areas of the location not needed for production operations, including the reserve pits, would then be reclaimed as described in the interim reclamation section below.

2.2.3 Surface Facilities

The existing facilities would be utilized. On each well pad, these facilities include a pumping unit, two storage tanks, and gas pipelines. All permanent (i.e. onsite for six months or longer) structures, except those required to comply with Occupational Safety and Health Act (OSHA) regulations, have been painted Carlsbad Canyon to match the surrounding landscape color. This A berm has been constructed around those production facilities that contain fluids. The berm is constructed of compacted subsoil. The berm would be impervious, hold 110 percent of tank capacity, and be independent of any back cut.

2.2.4 Pipelines

Existing surface gas lines along the access roads would be used. No clearing or grading for pipeline installation would be required. All pipelines would be constructed on lease and would not require any additional right of ways.

2.2.5 Invasive Plants and Noxious Weed Control

The operator has obtained a BLM Pesticide Use Permit for the Chapita Wells Unit. In accordance with the conditions of that permit, the operator would control noxious and/or invasive weeds along their roads, pipelines, well sites, and other applicable facilities by the application of herbicides or by mechanical removal until reclamation is considered successful by the authorized officer (AO) and the bond for the well is released.

2.2.6 Water Supply and Disposal

Drilling the proposed wells would require 1.75 acre-feet of water per well, for a total of 19.25 acre-feet of water. Water for drilling the subject wells would come from the Bonanza Power Plant water source (Water Right 49-225 (A31368)). Water would be hauled by a licensed trucking company.

2.2.7 Waste Disposal

Produced wastewater will be confined to a lined pit or storage tank for a period not to exceed 90 days after initial production. After the 90 day period, the produced water will be contained in a tank on location and then disposed of at one of the following sites: Natural Buttes Unit 21-20B

SWD; Ace Disposal; CWU 550-30N SWD; CWU 2-29 SWD; Red Wash Evaporation ponds 1, 2, 3, or 4; White River Evaporation Ponds 1 or 2; or EOG Resources, Inc. drilling operation (Chapita Wells Unit, Natural Buttes Unit & Stagecoach Unit).

Water from drilling fluids and recovered during testing operations will be disposed of by either evaporating in the reserve pit, through natural or artificial methods, or removed and disposed of at an authorized disposal site. Introduction of well bore hydrocarbons to the reserve pit will be avoided by flaring them off in the flare pit at the time of recovery.

All wells would be drilled utilizing a pitless system. Cleaned and washed cuttings will be dried onsite and then spread across the pad and access road after well completion. Wastes associated with natural gas exploration, development or production (produced water, drill cuttings, drillings fluids, etc.) are exempt from RCRA (40 CFR 261.4)

All chemicals will be disposed of at an authorized disposal site. Drip pans and absorbent pads will be used on the drilling rig to avoid leakage of oil to the pit.

A portable toilet will be provided for human waste during the drilling and completion of the well. Disposal will be at the Vernal sewage disposal plant.

Burning of refuse or trash will not be allowed. Trash and other waste material will be contained in a wire mesh cage and disposed of at the Uintah County Landfill.

2.2.8 Reclamation

2.2.8.1 Interim Reclamation

Interim reclamation of the surface environment would take place after drilling and completion. Immediately upon well completion, the locations and surrounding areas would be cleared of all unused tubing, equipment, debris, materials, and trash. Any hydrocarbons in the cuttings area would be removed in accordance with 43 CFR 3162.7-1.

The reserve pit would be reclaimed within 180 days from the date of well completion, or as soon as environmental conditions allow. The reserve pit and the portion of the well not needed for production facilities/operations would be filled with previously excavated soils, and then recontoured to the approximate natural contours. The stockpiled pit topsoil would then be spread over the pit area and broadcast-seeded or drill seeded (agency preferred method) with the interim seed mixture listed in **Table 3** after August 15st and prior to winter freezing of the soil. If the seed is broadcast seeded, the seed mixture would be worked into the topsoil with a bulldozer or other equipment.

Table 3 Interim Reclamation Seed Mix

Common Name	Latin Name	lbs/acre
Gardner Saltbush	<i>Atriplex gardneri</i>	3.0
Shadscale	<i>Atriplex confertifolia</i>	3.0
HyCrest Wheatgrass	<i>Agropyron cristatum</i>	1.0
Indian Ricegrass	<i>Achnatherum hymenoides</i>	2.0

- All lbs. are pure live seed, seed and mulch shall be certified weed free, rates are set for drill seeding.

2.2.8.2 Final Reclamation

Well sites, roads, and other disturbed areas would be recontoured as near as practical to their natural condition within six months, weather permitting, after final abandonment. Stockpiled topsoil would then be spread across the recontoured area and either drill seeded or broadcast seeded. At this time it is assumed that the seed mix in **Table 3** above will be used for final reclamation. However, EOG may design a customized seed mixture, composed exclusively of native species, for each specific well which would be submitted to the BLM for approval via Sundry Notice (EOG Reclamation Plan 2009). If reclamation seeding should take place using the broadcast method the seed will be walked into the soil with a dozer or other equipment immediately after the seeding is completed.

2.2.8.3 Reclamation Monitoring

Prior to any surface disturbance, vegetative monitoring locations and reference sites would be identified by EOG and approved by the BLM AO. Prior to implementation of re-vegetation techniques, monitoring protocol designed to monitor percent basal vegetative cover would be developed by EOG and approved by the BLM AO. Re-vegetated areas would be inspected annually to document location and extent of successful re-vegetation, and to identify areas needing further reclamation. A reclamation report would be submitted to the AO by March 31 of each year. On Federal lands, the reclamation objective is a vegetation community that within 5 years is comprised of desired and/or seeded species, 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 (EOG Reclamation Plan).

2.2.9 Applicant-Committed Design Features (ACDF)

2.2.9.1 Air Quality

- EOG would ensure all equipment is kept in good working order.
- EOG would use water as a method to control dust along access road
- EOG would utilize Tier-3 rigs.
- EOG has installed combustors on several well sites, and would continue the process to reduce emissions.
- All well sites would utilize telemetry.

2.2.9.2 Cultural Resources

- A cultural resources survey was conducted on all areas where surface disturbance would occur (i.e., well locations, access roads, and pipelines). No cultural sites were found in the project area.
- EOG 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.
- In the event historic or archaeological resources are uncovered during construction, work would stop immediately and the appropriate BLM AO would be notified.

2.2.9.3 Paleontological Resources

- A paleontological survey was conducted on all areas where surface disturbance would occur (i.e., well locations, access roads, and pipelines). The surveys found important paleontological resources at sites near CWU 1535-25D, 1536-25D, 1537-25D, 1538-25D, 1539-25D, and 1540-25D. EOG would provide monitoring by a permitted paleontologist at the beginning of the construction process, and conduct a spot-monitor as paleontological conditions merit.
- EOG 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.

2.3 NO ACTION ALTERNATIVE

Under the No Action Alternative, EOG Resources would not drill wells CWU 1530-25D, 1531-25D, 1532-25D, 1533-25D, 1534-25D, 1535-25D, 1536-25D, 1537-25D, 1538-25D, 1539-25D, and 1540-25D in Uintah County, Utah. 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 uses the no action alternative as a baseline for comparison of the effects of the other alternatives.

3.0 AFFECTED ENVIRONMENT

3.1 INTRODUCTION AND GENERAL SETTING

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.

The proposed 11 wells would be located in the Chapita Wells 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 Section 25 in Township 9 South, Range 22 East. See Appendix C for a map of the area. The project boundary has been previously disturbed by the construction of roads and well locations.

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

The Uinta Basin is designated as attainment or unclassified under the Clean Air Act, meaning that the concentration of criteria pollutants in the ambient air is less than the National Ambient Air Quality Standards (NAAQS), or adequate air monitoring is not available to make an attainment determination. NAAQS are standards that have been set for the purpose of protecting human health and welfare with an adequate margin of safety. Pollutants for which standards have been set include ground level ozone, (O₃), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), and carbon monoxide (CO), and particulate matter less than 10 microns in diameter (PM₁₀) or 2.5 microns in diameter (PM_{2.5}). Airborne particulate matter (PM) consists of tiny coarse-mode (PM₁₀) or fine-mode (PM_{2.5}) particles or aerosols combined with dust, dirt, smoke, and liquid droplets. PM_{2.5} is derived primarily from the incomplete combustion of fuel sources and secondarily formed aerosols, whereas PM₁₀ is primarily from crushing, grinding, or abrasion of surfaces.

The Utah Division of Air Quality (UDAQ) estimates background air quality as guidance for regulatory modeling of permitted sources to insure NAAQS compliance. These background values are used in dispersion models to add to a proposed point sources emissions so that an evaluation can be made on whether the source will meet NAAQS. These background estimates are based on monitored values when possible, and on default factors when monitoring data does not exist. UDAQ does not estimate ozone and PM_{2.5} background values, as the models used to determine impacts from these pollutants estimate background as part of the overall modeling calculations. **Table 5** lists the latest regulatory background values from UDAQ for the Uinta Basin.

Table 5 Ambient Criteria Pollutant Concentrations in the Uinta Basin

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

Ground-level ozone (O_3) is a secondary pollutant that is formed by a chemical reaction between NO_x and VOCs in the presence of sunlight. Precursor sources of ozone include motor vehicle exhaust and industrial emissions, gasoline vapors, some tree species emissions, wood burning, and chemical solvents. Ozone is generally known as a summertime air pollutant. Ozone is a regional air quality issue because, along with its precursors, it transports hundreds of miles from its origins. Maximum ozone levels may occur at locations many miles downwind from the sources.

The National Park Service operates an ozone monitor in Dinosaur National Monument during the summer months. No exceedences of the current ozone NAAQS have been recorded at this site. Active year-round ozone monitoring in the Uinta Basin began in the summer of 2009 south of Vernal at two monitoring sites: Red Wash and Ouray. 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. Both of these monitoring sites have recorded numerous exceedences of the 8 hour ozone standard during the winter months (January through March). Apparently, high concentrations of ozone are being formed under a "cold pool" process whereby stagnate air conditions with very low mixing heights form under clear skies with snow-covered ground and abundant sunlight that, combined with area precursor emissions (NO_x and VOCs), create intense episodes of ozone. Based on the monitoring to date, these episodes occur only during the winter months (January through March). This phenomenon has also been observed in similar types of locations in Wyoming and has contributed to a proposed nonattainment designation for Sublette County.

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

The complete EPA Ouray and Redwash monitoring data can be found at:

<http://www.epa.gov/airexplorer/index.htm>

The complete NPS Dinosaur National Monument monitoring data can be found at:

<http://www.nature.nps.gov/air/Monitoring/MonHist/index.cfm>

The UDAQ conducted limited monitoring of $PM_{2.5}$ in Vernal, Utah in December 2006. During the 2006-2007 winter seasons, $PM_{2.5}$ levels were measured at the Vernal monitoring station that were higher than the $PM_{2.5}$ health standard that became effective in December 2006. The $PM_{2.5}$ levels recorded in Vernal were similar to other areas in northern Utah that experience wintertime inversions. The sources of elevated $PM_{2.5}$ concentrations during winter inversions in Vernal,

Utah haven't been identified as of yet. The most likely causes of elevated PM_{2.5} at the Vernal monitoring station are probably those common to other areas of the western U.S. (combustion and dust) plus nitrates and organics from oil and gas activities in the Basin. PM_{2.5} monitoring that has been conducted in the vicinity of oil and gas operations in the Uinta Basin by the Red Wash and Ouray monitors beginning in summer 2009 have not recorded any exceedences of either the 24 hour or annual NAAQS. Monitoring for PM_{2.5} is currently ongoing in the Uinta Basin.

HAPs are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental impacts. The EPA has classified 187 air pollutants as HAPs. Examples of listed HAPs associated with the oil and gas industry include formaldehyde, benzene, toluene, ethylbenzene, isomers of xylene (BTEX) compounds, and normal-hexane (n-hexane). There are no applicable Federal or State of Utah ambient air quality standards for assessing potential HAP impacts to human health.

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.

3.1.2 Fish and Wildlife Excluding USFWS Designated Species

There is *designated* (by UDWR) year-long pronghorn antelope habitat in all the locations impacted by the proposed action.

Greater Sage-grouse (Centrocercus urophasianus)

The greater sage-grouse is the largest North American grouse species. The greater sage grouse is a UDWR wildlife species of concern and listed as BLM sensitive because widespread habitat degradation/fragmentation has caused declines in population sizes and have limited species distribution within the state. Recently, the USFWS has listed the sage grouse as a candidate species.

Greater sage-grouse depend on a variety of sagebrush-steppe habitats throughout their life cycle, and are considered obligate users of several species of sagebrush (e.g., Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*), and basin big sagebrush (*A. t. tridentata*)). Greater sage grouse also use other sagebrush species such as black sagebrush (*A. nova*). Winter and brooding habitat is designated by UDWR in the areas encompassed by the Proposed Action. No sage grouse leks are known to occur within four miles of the project area. Sage grouse are a

sagebrush obligate species that rely almost exclusively on contiguous sagebrush ecosystems for leks, foraging, brood-rearing sites, and wintering grounds.

3.1.3 Greenhouse Gas Emissions

Greenhouse gases keep the planet's surface warmer than it otherwise would be. But, as the concentrations of these gases continue to increase in the atmosphere, the Earth's temperature is climbing above past levels. According to NOAA and NASA data, the Earth's average surface temperature has increased by about 1.2 to 1.4° F in the last 100 years. The eight warmest years on record (since 1850) have all occurred since 1998, with the warmest year being 1998. However, according to the British Meteorological Office's Hadley Centre (BMO 2009), the United Kingdom's foremost climate change research center, the mean global temperature has been relatively constant for the past nine years after the warming trend from 1950 through 2000. So while 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 Niño 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.

3.1.4 Invasive Plants / Noxious Weeds

Weed species in the area consist primarily of cheat grass, halogeton, pepperweed and Russian thistle and are relatively abundant. The area is susceptible to weed invasion with any surface disturbance.

3.1.5 Migratory Birds

The Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act were 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. Under the provisions of the MBTA, the unauthorized take of migratory birds is a strict liability criminal offense that does not require knowledge or specific intent on the part of the offender. As such, even when engaged in an otherwise legal activity where the intent is not to kill or injure migratory birds, violations can occur if bird death or injury results.

Migratory bird species commonly associated with the sagebrush-steppe community and grassland associates that may be present within the project area include: the mountain bluebird (*Sialia currocooides*), 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*), Burrowing owl (*Athene cunicularia*), Ferruginous hawk (*Buteo regalis*), Short-eared owl (*Asio flammeus*), Prairie falcon (*Falco*

mexicanus), Swainson's hawk (*Buteo swainsonii*), Gray flycatcher (*Empidonax wrightii*), and western meadowlark (*Sturnella neglecta*) (Parrish et al 2002).

Bat species which may be using the area for foraging or roosting include: Townsend's big-eared bat (*Corynorhinus townsendii*), Spotted bat (*Euderma maculatum*) and the Big free-tailed bat (*Nyctinomops macroti*)

Brewer's sparrow (Spizella breweri) Sage thrasher (Oreoscoptes montanus)

The Brewer's sparrow is listed as a breeding resident and is considered "apparently secure" in Utah. It uses the following vegetation communities for breeding and foraging: low and tall sagebrush/bunchgrass, juniper/sagebrush, mountain mahogany/shrub, and aspen/sagebrush/bunchgrass.

Sage sparrow (Amphispiza belli)

The sage sparrow is listed as a breeding resident in Utah and is considered vulnerable. It uses the following vegetation communities for breeding and foraging: low and tall sagebrush/bunchgrass, juniper/sagebrush, mountain mahogany/shrub, and aspen/sagebrush/bunchgrass.

3.1.6 Paleontology

Paleontological resources were not found on or near well sites 1530-25D to 1534-25D (IPC 09-170, March 24, 2010). No fossils were found on well sites 1535-25D to 1540-25D, however, other fossil localities are located nearby.

3.1.7 Soils

Terrain is generally flat with rolling hills in some locations. The soils are sandy to sandy clay loam, with moderate rocky surfaces in some locations. Soils in the area are highly susceptible to erosion and topsoil is usually very thin, often less than three inches.

3.1.8 Threatened, Endangered or Candidate Animal Species

Greater Sage-grouse (Centrocercus urophasianus)

The greater sage-grouse is the largest North American grouse species. The greater sage grouse is a UDWR wildlife species of concern and listed as BLM sensitive because widespread habitat degradation/fragmentation has caused declines in population sizes and have limited species distribution within the state. Recently, the USFWS has listed the sage grouse as a candidate species.

Greater sage-grouse depend on a variety of sagebrush-steppe habitats throughout their life cycle, and are considered obligate users of several species of sagebrush (e.g., Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*), and basin big sagebrush (*A. t. tridentata*)). Greater sage grouse also use other sagebrush species such as black sagebrush (*A. nova*). Winter and brooding habitat is designated by UDWR in the areas encompassed by the Proposed Action. No sage grouse leks are known to occur within four miles of the project area. Sage grouse are a sagebrush obligate species that rely almost exclusively on contiguous sagebrush ecosystems for leks, foraging, brood-rearing sites, and wintering grounds.

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

3.1.9 Threatened, Endangered or Candidate Plant Species

Uinta Basin hookless cactus is a perennial herb and a member of the cactus family. It is federally listed as threatened and is endemic to the Uinta Basin. It consists of a perennial succulent shoot, solitary or rarely branching, globose, ovoid or cylindrical. Individuals are usually 3 to 9 centimeters in diameter and 4 to 12 centimeters. Each spine cluster, areoles, usually consists of one large (15 to 29 millimeters) central spine, three to four lateral central spines, and six to ten radial spines. From late April to May, Uinta Basin hookless cactus produces 2.5 to 5-centimeter high pink to violet flowers.

The ecological amplitude of Uinta Basin hookless cactus is wide, being found from clay badlands up to the pinyon-juniper habitat. The preferred habitat occurs on river benches, valley slopes, and rolling hills consisting of xeric, fine textured, clay soils, derived from the Duchesne River, Green River, Mancos, and Uinta formations, overlain with a pavement of large, smooth, rounded cobble. The typical plant community in Uinta Basin hookless cactus habitat is the salt desert shrub community.

The proposed project is located entirely within an area that the US Fish and Wildlife Service (USFWS) has identified as being potential habitat for Uinta Basin hookless cactus. The project area was surveyed by Grasslands Consulting, Incorporation (Denver, Colorado) during April, 2010. The surface area surveyed extended to a distance of 300-feet from the edge of the proposed surface disturbance. During these surveys, no populations or individuals were identified.

3.1.10 Vegetation Excluding USFWS Designated Species

The vegetation in the project area includes Indian ricegrass (*Achnatherum hymenoides*), black sagebrush (*Artemisia nova*), four-wing saltbush (*Atriplex canescens*), shadscale (*Atriplex confertifolia*), mat saltbush (*Atriplex corrugata*), Gardner saltbush (*Atriplex gardneri*), green molly (*Bassia americana*), cheat grass (*Bromus tectorum*), rubber rabbitbrush (*Chrysothamnus nauseosus*), buckwheat sp. (*Eriogonum sp.*), squirreltail (*Elymus elymoides*), broom snakeweed (*Gutierrezia sarothrae*), halogeton (*Halogeton glomeratus*), pepperweed sp. (*Lepidium sp.*), prickly pear cactus sp. (*Opuntia sp.*), scorpion weed (*Phacelia sp.*), budsage (*Picrothamnus desertorum*), galleta grass (*Pleuraphis jamesii*), Russian thistle (*Salsola iberica*), black greasewood (*Sarcobatus vermiculatus*), horsebrush sp. (*Tetradymia sp.*), and scarlet globemallow (*Sphaeralcea coccinea*).

4.0 ENVIRONMENTAL IMPACTS

4.1 DIRECT AND INDIRECT IMPACTS

The potential direct, indirect, and cumulative impacts from the Proposed Action and the No Action Alternative are discussed in the following sections of Chapter 4.

4.1.1 PROPOSED ACTION

4.1.1.1 Air Quality

This 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 6**.

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

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

Table 6 Proposed Action Annual Emissions (tons/year)¹

Pollutant	Development	Production	Total
NO _x	68.48	15.95	84.43
CO	37.03	16.72	53.75
VOC	11.81	6.82	18.63
SO ₂	0.10	0.76	0.86
PM ₁₀	171.52	2.20	173.72
PM _{2.5}	19.29	0.96	20.25
Benzene	0.06	0.07	0.13
Toluene	0.06	0.18	0.23
Ethylbenzene	0.00	0.01	0.01
Xylene	0.02	0.12	0.14
n-Hexane	0.00	0.13	0.13
Formaldehyde	0.00	0.00	0.01

¹ Emissions include 11 producing wells and associated operations traffic during the year in which the project is developed.

Emissions of NO_x and VOC, ozone precursors, are 84.43 tons/yr for NO_x, and 18.63 tons/yr of VOC (**Table 6**). Project emissions of ozone precursors would be dispersed and/ or diluted to the extent where any local ozone impacts from the Proposed Action would be indistinguishable from background conditions. The primary sources of HAPs are from oil storage tanks and smaller amounts from other production equipment. Small amounts of HAPs are emitted by construction equipment. However, these emissions are estimated to be less than 1 ton per year. Based on the negligible amount of project-specific emissions, the Proposed Action is not likely to violate, or otherwise contribute to any violation of any applicable air quality standard.

Mitigation

All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 grams of NO_x per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower-hour. All new and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gram of NO_x per horsepower-hour. Emissions will be routed from existing TEG dehydrators to control devices. Heat trace pump exhaust will be routed to burners or control devices. Control devices will be installed for tank flash on production facilities with greater than 8 tpy VOC emissions. Low bleed controllers will be installed on new equipment or retrofit to existing equipment. Dessicant dehydration equipment will be utilized on all new production facilities and retrofit existing TEG dehydrators with dessicant dehydration. A Theft hatch/Enardo inspection and replacement program will be established to minimize tank losses. Well visits will be minimized using telemetry. Ozone generation will be minimized by reasonable operational procedures.

4.1.1.2 Fish and Wildlife Excluding USFWS Designated Species

Surface disturbances associated with the Proposed Action would result in degradation of approximately 6 acres of pronghorn antelope year round habitat. Habitat loss resulting from these disturbances could result in reduced habitat use by big game within and near disturbed areas, increased animal densities in adjoining habitats, and increased stress from intra- and inter-specific competition.

In addition to the direct loss of habitat associated with the Proposed Action, noise disturbances from increased traffic levels could temporarily displace pronghorn from habitats in areas of human activity. Displacement of big game should be short term and negligible.

4.1.1.3 Greenhouse Gas Emissions

Drilling and development activities from the are anticipated to release a negligible amount of emissions, including GHGs, into the local airshed.

4.1.1.4 Invasive Plants / Noxious Weeds

Invasive plants and annual weed species are adapted to disturbed conditions, and have less stringent moisture and soil nutrient requirements than do perennial native species. The severity of these invasions would depend on the success of reclamation and revegetation, and the degree and success of noxious weed control efforts. Loss of soil/topsoil in disturbed areas would reduce the revegetation success potential of seeded native species due to increased competition by annual weed species.

4.1.1.5 Migratory Birds

The proposed action would result in loss of 6 acres of habitat including fragmentation for migratory birds, specifically the species listed in Appendix B which were brought forward for analysis. Direct impacts to nesting and breeding migratory avian species may occur, depending upon the time of construction and drilling and location(s). If construction occurs in the spring, during the nesting season, impacts would be greater than if ground disturbing activities occurred between late summer and late winter. Impacts to birds during the spring could include nest abandonment, reproductive failure, displacement, and destruction of nests/eggs. Construction and drilling would have a greater impact on species that may be utilizing the project area due to their declining populations/ongoing habitat degradation, sensitivities to noise, and human presence, low vagility, specialized habitat requirements and/or limited distribution. Other impacts include displacement from habitats that are cleared of vegetation and from areas adjacent to construction sites due to increased noise and human presence. Depending on the species, time of year, flush distance, tolerance to noise levels, and topography, impacts could be short term or long term. For instance, Ferruginous hawks will abandon their nests/eggs whenever human presence and noise is ongoing. And, some individuals of a particular species will abandon their nests/eggs by the aforementioned activities, yet other individuals are more tolerant of humans and associated noise.

If the proposed action is planned for the spring or early summer "Take" could occur. Take is defined as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or any attempt to carry out these activities." A take does not include habitat destruction or alteration, as long as there is not a direct taking of birds, nests, eggs, or parts thereof. Activities which are most likely to result in take of migratory birds with proposed projects include, but are not limited to, clearing of migratory bird nesting habitat during the nesting season when eggs or young are likely to be present, and; noise associated with construction where bird nests are present.

Successful reclamation efforts would return some of the disturbed habitats to pre-disturbance levels and loss of vegetation would be a temporary impact to migratory bird habitat.

Mitigation

If pump jacks are required, then hospital mufflers would be installed.

4.1.1.6 Paleontology

Fossil resources could be damaged by the proposed construction activities. These damages will be minimized because the applicant has committed to fund a permitted paleontologist to monitor expansion of the well pad for 1535-25D to 1540-25D, and to spot check activities as necessary.

4.1.1.7 Soils

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

4.1.1.8 Threatened, Endangered or Candidate Animal Species

Greater Sage Grouse

The primary direct effect of the Proposed Action on sage-grouse in the project area would be potential displacement or avoidance of suitable habitats due to increased disturbance from human activity, increased traffic, and noise associated with construction activities. Indirect impacts include habitat fragmentation which would limit the area available for sage grouse dispersal in this region. Avoiding construction activities during the spring/summer months of the year would help minimize surface disturbance and impacts to sage grouse brooding habitat. Implementation of the Proposed Action may impact sage grouse individuals and would degrade and fragment brooding and winter habitat.

Overall, potential impacts on agency sensitive and state-listed species may be greater than impacts on other vegetation and wildlife as these species may be more sensitive to disturbance, more specific to a habitat, and less able to move to unaffected suitable habitat, which may not be available (or currently exists only in small tracts). Disturbances could therefore have a greater impact on a species' population.

Potential impacts that could be contrary to a species' conservation needs or decrease population viability include habitat fragmentation, habitat loss or degradation, operation and maintenance activities, and unauthorized use of the right-of-way.

Potential impacts and corresponding minimization or mitigation measures are often consistent within species' habitat associations. For example, removal of sagebrush could have similar effects to greater sage-grouse, sage thrasher, sage sparrow and other sagebrush obligate species. Corresponding measures to minimize impacts on sagebrush, particularly within high-quality or brooding/winter habitat, would often benefit several sagebrush obligate species.

Construction and operation could displace special status species and result in habitat degradation. Successful re-vegetation would minimize some of the long-term impacts on special status species by restoring a portion of the habitat.

Colorado River Fish Species

The Proposed Action would result in up to 19.25 acre feet of water depletion from removal of water from the Upper Colorado River Drainage System for construction and drilling operations. These impacts would occur during drilling of the proposed wells. The determination that this project will deplete water from the Colorado River system is based off of the use of water from the following water permit 43-10447, a water well, as explained on page 6 in the Programmatic Water Depletion Biological Opinion for Oil and Gas Development Administered or Permitted by the Bureau of Land Management.

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. The roundtail chub, flannelmouth sucker, and bluehead sucker are also affected by the water depletions.

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 the flow regimes that favor nonnative fishes.

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. The Proposed Action may affect individuals of bluehead sucker, roundtail chub, and flannelmouth sucker, but will not result in a trend toward the listing of the species. The U.S. Fish and Wildlife Service has determined that this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat because reasonable and prudent alternatives would be implemented.

4.1.1.9 Threatened, Endangered or Candidate Plant Species

As the surveys identified no individual cactus within 300 feet of the propose project, there will be no direct physical damage to individual Uinta Basin hookless cactus individuals. Possible dispersed direct and indirect negative impacts which may result from implementation of the Proposed Action include: the disturbance of potential and suitable habitat; increased competition for space, light, and nutrients with invasive and noxious weed species introduced and spread due to the Proposed Action; altered photosynthesis, respiration, and transpiration due to increased fugitive dust resulting from the surface disturbance and project related traffic; and reduced seed production due to the potential loss and fragmentation of suitable habitat for Uinta Basin hookless cactus’s pollinators. Due to these indirect negative impacts, the Proposed Action warrants a “**May Affect, Is Not Likely To Adversely Affect**” determination for Uinta Basin hookless cactus. Pursuant with Section 7 of the Endangered Species Act of 1973 and in conformance with 50 CFR Part 402.13, informal Section 7 consultation with USFWS has been completed.

Discovery Stipulation: Reinitiation of section 7 consultation with the USFWS will be sought immediately if any loss of plants or occupied habitat for Uinta Basin hookless cactus is anticipated as a result of project activities.

4.1.1.10 Vegetation Excluding USFWS Designated Species

Direct impacts to vegetation are primarily associated with clearing of vegetation during construction. The Proposed Action would disturb approximately 1.66 acres of soils and vegetation in conjunction with the existing 4.34 acres of disturbed surface, resulting in 6 acres of total disturbance. Of this total, approximately 1.5 acres would be subject to interim reclamation. If interim reclamation is successful, direct long-term impacts to vegetation would persist on 4.5 acres. If interim reclamation is not successful, the entire 6 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).

4.1.2 NO ACTION ALTERNATIVE

4.1.2.1 Air Quality

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

4.1.2.2 Fish and Wildlife Excluding USFWS Designated Species

Under the No Action Alternative, the proposed gas well(s) would not be drilled and there would be no additional impacts to fish and wildlife.

4.1.2.3 Greenhouse Gas Emissions

Under the No Action Alternative, the proposed gas well(s) would not be drilled and there would be no additional impacts to greenhouse gas emissions.

4.1.2.4 Invasive Plants / Noxious Weeds

Under the No Action Alternative, the proposed gas well(s) would not be drilled. Current land use trends in the area would continue, including increased industrial development, increased off-highway vehicles (OHV) traffic, and increased recreation use for hunting, bird watching, and sightseeing. These activities all increase local susceptibility to invasive plants and noxious weeds.

4.1.2.5 Migratory Birds

Under the No Action Alternative, the proposed gas well(s) would not be drilled and there would be no additional impacts to fish and wildlife.

4.1.2.6 Paleontology

Under the no action alternative, fossil resources in the project area would remain the same as they currently are.

4.1.2.7 Soils

Current land use trends in the area would continue, including increased industrial development, increased off-highway vehicles (OHV) traffic, and increased recreation use for hunting, bird watching, and sightseeing. These activities all increase local susceptibility to erosion, compaction, and other surface disturbance. Under the No Action Alternative, there would be direct disturbance and indirect effects to soils and from surface-disturbing activities associated with these activities.

4.1.2.8 Threatened, Endangered or Candidate Animal Species

Under the No Action alternative, there would be no direct disturbance and mortality, indirect effects or cumulative effects to threatened, endangered, and proposed, candidate, or sensitive wildlife species/habitat, migratory birds and non-listed wildlife from surface disturbing activities associated with the construction and drilling from the proposed action.

4.1.2.9 Threatened, Endangered or Candidate Plant Species

Current land use trends in the area would continue, including increased industrial development, increased off-highway vehicles (OHV) traffic, and increased recreation use. These activities all increase local susceptibility to invasive plants and noxious weeds, soil degradation, and direct disturbance resulting in direct and indirect impacts to the Uinta Basin hookless cactus.

4.1.2.10 Vegetation Excluding USFWS Designated Species

Current land use trends in the area would continue, including increased industrial development, increased off-highway vehicles (OHV) traffic, and increased recreation use. These activities all

increase local susceptibility to invasive plants and noxious weeds, soil degradation, and direct disturbance resulting in direct and indirect impacts to the local vegetation.

4.1.3 CUMULATIVE IMPACTS ANALYSIS

Cumulative impacts result from the incremental impact of an action when added to past, present, and reasonably foreseeable actions, regardless of which agency or person undertakes such actions. The Cumulative Impacts Analysis Area (CIAA) varies by resource and will be defined in the section for each individual resource.

4.1.3.1 Air Quality

The CIAA for air quality is the Uinta Basin. Cumulative air quality impacts are defined as the combination of emissions resulting from the Proposed Action, existing nearby permitted sources, and Reasonably Foreseeable Development (RFD) within the region. Cumulative impacts are incorporated by reference to the Uinta Basin Air Quality Study (UBAQS), the Greater Natural Buttes air quality study, and the Gasco air quality study. The increase in emissions associated with the Proposed Action would be localized, in some cases temporary (well development phase), and on a much smaller scale in comparison with regional emissions. For regional ozone issues, when the emissions inventory for the production phase of the Proposed Action is compared to the regional emission inventory compiled during the WRAP Phase III study for the Uinta Basin, 2006 Baseline Emissions, (WRAP, 2009), it can be seen from **Table 7** that the VOC and NO_x emissions from the Proposed Action comprise a small percentage of the WRAP baseline emissions.

Table 7 Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison

Species	Proposed ^a Action Production Emissions (ton/yr)	WRAP Phase III 2012 Uinta Basin Emission Inventory ^b (ton/yr)	Percentage of Proposed Action to WRAP Phase III
NO _x	84.43	16,547	0.51%
VOC	18.63	127,495	0.01%

^a see Table 7

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

The WRAP Phase III baseline inventory for the Uinta Basin for VOC emissions in 2006 was 71,546 tons/yr. For 2012, the NO_x and VOC emissions are projected at 16,547 and 127,495 ton/yr, respectively. Potential NO_x emissions from the Proposed Action represent only 0.51% of the total 2012 NO_x estimated emissions for the region and VOC emissions from the Proposed Action represent only 0.01% of the total 2012 VOC estimated emissions for the region. Based on the magnitude of the projected increase in VOC emissions for the Uinta Basin from 2006 to 2012, and the inconsequential contribution that would be emitted from the Proposed Action, an accurate analysis of potential ozone impacts from the Proposed Action is not feasible. Any cumulative ozone impacts from the Proposed Action would be indistinguishable from, and dwarfed by, the margin of uncertainty associated with the regional cumulative VOC and NO_x emission inventory. Thus the potential cumulative ozone impact from the Proposed Action cannot be modeled with any accuracy due to the level of the emissions from the Proposed

Action, the size of the project, and the lack of model sensitivity. When compared to regional emissions inventories, the amounts of ozone precursors emitted from the Proposed Action are not expected to have a measurable contribution or effect on regional ozone formation. The No Action alternative would not result in an accumulation of impacts.

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

4.1.3.2 Paleontology

This project area is part of the Chapita Wells Field, which will be considered the area of cumulative impact for paleontology. This area has a history of oil well and pipeline development. Other roads, powerlines, and pipelines associated with the oil industry already cross this area and existing fossil resources have been protected by past mitigation measures.

The proposed well pads were surveyed for paleontological resources within Section 25 T9S R22E. Outcrops and erosional surfaces were checked within the proposed construction areas to determine if fossils were present and to assess needs when found. The probability for impacting paleontological resources during construction was determined to be moderate to high in this area, but the operator has committed to fund a permitted paleontologist to ensure no impacts will occur during construction, and to spot check other activities. The No Action Alternative will not result in an accumulation of impacts.

4.1.3.3 Soils and Vegetation Including Weeds

In general, soils in the Uinta Basin are very thin, slow to develop, and difficult to reclaim because of the arid climate and lack of organic material. The CIAA is the Chapita Wells field as identified in the Chapita Wells-Stagecoach EA (BLM 2005). Each acre of disturbance adds to a cumulative effect by increasing erosion and destroying native vegetation, and through the invasion of undesired plant species. Direct surface disturbances to vegetation by past, present, and reasonably foreseeable developments are primarily attributable to oil and gas development and vegetation management by various federal agencies. Surface disturbance within the CIAA would be approximately 2,226 acres. Soil erosion would be increased due to the disturbance associated with oil and gas activities in the area. The Proposed Action would initially add 1.66 acres of surface disturbance. Successful interim reclamation would reduce the disturbance approximately 25% to 4.5 acres. Successful final reclamation would return all disturbed acres to a natural state closely resembling a pre-disturbance state. The No Action alternative would not result in an accumulation of impacts.

4.1.3.4 Uinta Basin Hookless Cactus

The CIAA for Uinta Basin hookless cactus will be defined as the area defined by the USFWS as being potential habitat for the species, which covers approximately 528,816 acres on BLM, Ute tribal, state of Utah, and privately held lands. Due to inclusions of areas of unsuitable habitat within the potential habitat area, the total acreage of suitable habitat is less than 528,816 acres. However, a complete survey of suitable habitat has not been performed and thus the amount of suitable habitat has not been quantified. Impacts to the species from past, current, and reasonably foreseeable actions may be greater or smaller than those described below depending upon the exact distribution of actions relative to suitable habitat.

Within the CIAA, there are 12 active, previously approved field development NEPA documents, Newfield Production Company's Castle Peak and Eightmile Flat Oil and Gas Expansion EIS, EOG Resources, Inc. North Chapita Natural Gas Well Development Project EA, Enduring Resources, LLC's West Bonanza Area Natural Gas Well Development Project EA, the Resource Development Group Uintah Basin Natural Gas Project EIS, Gasco Production Company's Proposed Natural Gas Well Drilling Project Riverbend Unit EA, Kerr-McGee Oil & Gas Onshore LP's Bonanza Area EA, Petro-Canada Resources Rye Patch EA, Gasco Production Company's Wilkin Ridge Unit EA, Enduring Resources, LLC's Saddletree Draw Leasing and Rock House Development Proposal EA, QEP Energy Company's Greater Deadman Bench Oil and Gas Producing Region EIS, EOG Resources, Inc. Chapita Wells-Stagecoach EIS, and Bill Barrett Corporation's West Tavaputs Plateau Natural Gas Full Field Development Plan EIS. In total approximately 14,674 acres of surface disturbance was authorized across the analysis areas of these documents. If the disturbance is relatively uniform throughout these project areas, then approximately 5,076 acres of surface disturbance has occurred or will occur within the CIAA (1.0% of the CIAA).

Within the CIAA there also are numerous oil and natural gas wells that do not tie to either of these NEPA documents. As of 8/31/2010, there are 525 abandoned oil and gas locations outside of the scope of the field development documents. Using the assumption of 5.0 acres of disturbance per well (including associated roads and pipelines), as per the Vernal Resource Management Plan, 2,625 acres of the CIAA were disturbed some point in the past and are in various stages of reclamation (0.5% of the CIAA). There are currently 4,033 well pads that serve as platforms for actively producing wells not permitted under these documents. Using the above assumption, this has resulted in 20,165 acres of surface disturbance (3.8% of the CIAA). Finally, 793 wells are currently proposed that do not tie to these documents that will result in 3,965 acres of surface disturbance (0.7% of the CIAA).

Currently proposed field developments, if all approved as proposed, would result in 47,715 acres of surface disturbance throughout the entirety of the project areas (either the estimated disturbance presented in the proposal or an estimate of 5-acres of disturbance per well if an estimate is not yet available). If it assumed that disturbance would be relatively uniform throughout, then there will be about 22,420 acres of disturbance with the CIAA due to the proposed projects (4.2% of the CIAA).

In total 54,251 acres (10.3% of the CIAA) have been or will be disturbed within the CIAA due to energy development activities. Within the CIAA, there are approximately 1,140 miles of roads that have approximately 1,033 acres of permanent disturbance (0.2% of the CIAA). In total past, present, and reasonably foreseeable future activities has resulted in approximately 55,284 acres of disturbance (10.5% of the CIAA). The Proposed Action would add 1.66 acres of new surface

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

Threatened, Endangered or Candidate Animal Species, Fish and Wildlife Excluding USFWS Designated Species and Migratory Birds

Colorado River Basin Fish Species

The cumulative impact area of analysis (CIAA) for the above fish and wildlife species is the Chapita Wells-Stagecoach EIS, Uintah County, Utah, which covers a total surface area of 31,872 acres. It includes Township 8S Range 22 East, Township 9 South Range 23 East, Township 9 South Range 22 East and Township 10 South Range 23 East. Cumulative effects include the effects of future state, tribal, local or private actions that are reasonably certain to occur in the action area and that have been considered by the Chapita Wells Stagecoach Biological Opinion. 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.

The cumulative effects to these species would include the following types of impacts:

- Shoreline recreational activities and encroachment of human development that would remove upland or riparian/wetland vegetation and potentially degrade water quality;
- Competition with, and predation by, exotic fish species introduced by anglers or other sources.
- The Proposed Action would add 19.25 acre feet of water depletion. The No Action alternative would not result in an accumulation of impacts. The Directional Drilling Alternative would add 3 acre feet of water depletion.

Greater Sage Grouse, Pronghorn and Migratory Birds

Declines in the abundance and variety of many special status animal 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, and streams; recreation, including off-road vehicle activity; oil and gas exploration, expansion of agricultural or grazing activities, including alteration or clearing of native habitats for domestic animals or crops; and introduction of non-native plants, wildlife, or fish or other aquatic species, which can alter native habitats or out-compete or prey upon native species. Many of these activities are expected to continue on federal, state and private lands within the range of the various federally protected wildlife, fish, and plant species, and would contribute to cumulative effects for the species within the action area of the Proposed Actions. Species with small population sizes, endemic locations, or slow reproductive rates, or species that primarily occur on non-federal lands where landholders may not participate in recovery efforts, would generally be highly susceptible to cumulative effects.

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.

Long-term impacts to wildlife would extend through the life of projects and beyond if supporting capabilities of that habitat are not fully restored. Direct impacts to wildlife habitat, whether

through removal, conversion, or alteration of key components or due to close proximity of disturbances, can indirectly affect wildlife populations. Compared to the effects of direct impact, such indirect long-term impacts to wildlife is often more subtle and difficult to document. According to studies conducted by Holloran, in Pinedale Anticline field in Wyoming the following impacts occurred and will continue to occur to greater sage grouse:

- Active drilling within 3.1 miles of a sage grouse lek reduced the number of breeding males that used the lek;
- As road traffic increased, the number of breeding males on affected leks decreased;
- As well density increased the number of breeding males on affected leks decreased;
- Females strongly avoided nesting in areas of high well density;
- There was a 21 percent decline in the population of nesting females compared to undisturbed females over the 5 years of the study;
- Females nesting in developed areas had a significantly lower survival rate than female grouse in undeveloped areas. Although nest success rates were higher in developed areas, this increase was not sufficient to overcome the reduced female survival rates, resulting in an overall 21 percent decline in sage grouse population growth in developed gas fields compared to undeveloped areas;
- Population reductions likely result from a combination of dispersal away from gas fields and increased mortality rates for birds affected by development and;
- The study's findings suggest, "current development stipulations are inadequate to maintain greater sage-grouse breeding populations in natural gas fields".

Holloran's study predicted that sage grouse populations would become extinct in the Pinedale Anticline and Jonah development fields within 19 years if current population trends continue.

Cumulatively, the largest single threat to biological diversity worldwide is the outright destruction of habitat, along with habitat alteration and fragmentation of large habitats into smaller patches (Meffe et al. 1997). The two components of habitat fragmentation are 1) the reduction of the total amount of a habitat type in a landscape; and 2) the reapportionment of the remaining habitat into smaller, more isolated patches of habitat (Harris 1984; Wilcove et al. 1986; Saunders et al. 1991 *in* Meffe et al. 1997). Habitat fragmentation creates landscapes made of altered habitats or developed areas fundamentally different from those shaped by natural disturbances that species have adapted to over evolutionary time (Noss and Cooperrider 1994 *in* Meffe et al. 1997). Adverse effects of habitat fragmentation to both wildlife populations and species include:

- Increased isolation of populations or species, which leads to:
 - Adverse genetic effects; i.e. inbreeding depression (depressed fertility and fecundity, increased natal mortality) and decreased genetic diversity from genetic drift and bottlenecks;
 - Increased potential for extirpation of localized populations or extinction of narrowly distributed species from catastrophic events such as hurricanes, wildfires or disease outbreaks;
- Changes habitat vegetative composition, often to weedy and invasive species;
- Changes the type and quality of the food base;
- Changes microclimates by altering temperature and moisture regimes,

- Changes flows of energy and nutrients;
- Changes availability of cover and increases edge effect, bringing together species that might otherwise not interact, potentially increasing rates of predation, competition and nest parasitism.

Roads are a major contributor to habitat fragmentation because they divide large landscapes into smaller patches and convert interior habitat into edge habitat. As additional road construction and timber harvest activities increase habitat fragmentation across large areas, the populations of some species may become isolated, increasing the risk of local extirpations or extinctions (Noss and Cooperrider 1994).

Specific impacts on pronghorn would include an incremental increase in loss of potential forage, human activity (e.g. noise levels), dispersal of noxious and invasive weeds, and dust produced by gravel road traffic in the CIA. The CIA is restricted to pronghorn habitat within the Chapita Wells-Stagecoach EA (BLM 2005). Increased noise levels and human presence would likely result in reduced use of the construction area by big game. Species temporarily displaced by increased construction noise and human presence would likely return upon completion of the Project. The Proposed Action would add 1.66 acres of new surface disturbance (6 acres of total disturbance). Clearing vegetation within the project areas would reduce potential foraging and nesting habitat for migratory birds. Ongoing and planned surface disturbing activities would 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 this project) would incrementally reduce the productivity of the habitats affected for, at a minimum, the life of the project (approximately 25 years). In general, the severity of the cumulative effects would depend on factors such as the sensitivity of the species affected, seasonal intensity of use, type of project activity, and physical parameters (e.g., topography, forage, and cover availability). The Proposed Action would add 1.66 acres of new surface disturbance (6 acres of total disturbance). The No Action alternative would not result in an additional accumulation of impacts.

5.0 PERSONS, GROUPS, AND AGENCIES CONSULTED

5.1 ENDANGERED SPECIES ACT SECTION 7 CONSULTATION

Consultation for water depletion for small oil and gas projects was concluded with the final biological opinion (06-F-0215) issued on July 28, 2006; further consultation regarding water depletion for this project is unnecessary

Table 8 Water Permits and Depletion

Project name and or applicant name	EOG Resources
Permit numbers and/or special use authorization	CWU 1530-25D, 1531-25D, 1532-25D, 1533-25D, 1534-25D, 1535-25D, 1536-25D, 1537-25D, 1538-25D, 1539-25D, 1540-25D
Lease Number	UTU-0285A
Water Right Number & Location	#49-225 (A31368)
General well location and legal description	Section 25 T 9S R 22E

	Uintah County, Utah
Water used in acre feet per well	1.75 acre feet per well
Identify if new or historic depletion	Historic
Sub-total water depletion (acre-feet) for each applicant	19.25
Total depletion for the entire year in acre-feet	Unknown at this time
Total number of APD's approved	11
Total number of wells spudded	unknown
Depletion assessment covered by development document	None

5.2 National Historic Preservation Act Section 106 Consultation

A consultation letter recommending “No Historic Properties Affected” was sent to the State Historic Preservation Office (SHPO) on November 1, 2010. Their concurrence to this recommendation was received on November 12, 2010.

5.3 Tribal Consultation

Consultation with Native American Tribes was initiated on March 22, 2005 in association with the Encana North Chapita EA. The following tribes were consulted: Ute Mountain Ute, White Mesa Ute, Southern Ute, Ute Indian Tribe, Hopi Tribe, Navajo Nation, Eastern Shoshone, Confederated Tribes of the Goshute Reservation, Laguna Pueblo, Nambe Pueblo, Santa Clara Pueblo, Zia Pueblo, and Northwestern Band of Shoshone Nation. The Santa Clara Pueblo responded with no concerns. No other responses were received. Consultation is considered to be closed.

5.2 SUMMARY OF PUBLIC PARTICIPATION

The Proposed Action was posted to the Utah BLM's Environmental Notification Bulletin Board on May 10, 2010. A 30-day public comment period was requested and provided from December 12, 2011 to January 13, 2012. No substantive comments were submitted.

5.3 LIST OF PREPARERS

Table 9 BLM Preparers

Name	Title	Responsible for the Following Section(s) of this Document
Branon Rochelle	Natural Resource Specialist/Environmental Scientist	Project lead, Soils, and Vegetation
Suzanne Grayson	Wildlife Biologist	Fish & Wildlife, Migratory birds
Elizabeth Gamber	Geologist/Paleontologist	Paleontology
Aaron Roe	Botanist	Special Status Plant Species

6.0 REFERENCES CITED

BLM 2008. Vernal Field Office Resource Management Plan, U.S. Department of the Interior, Bureau of Land Management, Vernal District Office.

- BLM 2007. Surface Operation Standards and Guidelines for Oil and Gas Exploration and Development. The Gold Book. Fourth Edition-Revised. U.S. Department of the Interior
- BLM 2005. Final Impact Statement and Biological Assessment: EOG Resources INC. Chapita Wells-Stagecoach Area Natural Gas Development, U.S. Department of the Interior, Bureau of Land Management, Vernal District Office.
- Knight, Anthony P., and R. G. Walter. 2001. *A Guide to Plant Poisoning of Animals in North America*. Teton NewMedia. Jackson, Wyoming.
- U.S. Department of the Interior. 2007. Hydraulic considerations for pipelines crossing stream channels. Technical Note 423. BLM/ST/ST-07/007+2880. Bureau of Land Mangement, National Science and Technology Center, Denver, CO.
- U.S. Fish & Wildlife Service (USFWS). 1994. Final Rule: Determination of Critical Habitat for the Colorado River Endangered Fishes: Razorback sucker, Colorado squawfish, Humpback chub, and Bonytail chub. Federal Register 59: 13375-13400.

APPENDIX A

INTERDISCIPLINARY TEAM CHECKLIST Environmental Assessment DOI-BLM-LLUTG01000-2011-0157

EOG RESORCES Eleven Proposed CWU Gas Wells in Section 25 Township 9S, Range 22 E Uintah 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.

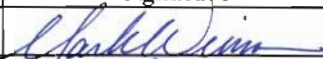

Determi- nation	Resource	Rationale for Determination*	Signature	Date
PI	Air Quality	Emissions from earth-moving equipment, vehicle traffic, drilling and completion activities, separators, oil storage tanks, dehydration units, and daily tailpipe and fugitive dust emissions could adversely affect air quality.	Branon Rochelle	6/17/11
NP	Areas of Critical Environmental Concern	None Present in the project area as per Vernal RMP, ROD and GIS Layer Review	Branon Rochelle	12/1/10
NP	BLM natural areas	None Present in the project area as per Vernal RMP, ROD and GIS Layer Review	Branon Rochelle	12/1/10
NI	Cultural Resources	Montgomery Archaeological Consultants (MOAC) conducted an intensive 100% cultural inventory on the entire APE (U08-MQ-1085b, U08-MQ-1153b, U-08-MQ-0425b). No cultural resources were identified within this intensive cultural inventory. A consultation letter recommending "No Historic Properties Affected" was sent to the State Historic Preservation Office (SHPO) on November 1, 2010. Their concurrence to this recommendation was received on November 12, 2010.	Kathie A. Davies	11/30/10
NI	Environmental Justice	No minority or economically disadvantaged communities or populations would be disproportionately adversely affected by the proposed action or alternatives.	Branon Rochelle	12/1/10
NP	Farmlands (Prime or Unique)	No prime or unique farmlands, as designated by the NRCS, are present in the project area.	Branon Rochelle	12/1/10
PI	Fish and Wildlife Excluding USFWS Designated Species	There is designated pronghorn habitat within or near the proposed activity area. Three sensitive fish species will be impacted by water depletion.	Suzanne Grayson	12/27/10
NI	Floodplains	The project area is not within designated floodplains	Branon Rochelle	12/1/10
NI	Fuels / Fire Management	No fuel management activities planned for the project area. The proposed project would not conflict with fire management activities.	Branon Rochelle	12/1/10
NI	Geology / Mineral Resources / Energy Production	Natural gas, oil, gilsonite, oil shale, and tar sand are the only mineral resources that could be impacted by the project. Production of natural gas or oil would deplete reserves, but the proposed project allows for the recovery of natural gas and oil per 43 CFR 3162.1(a), under the existing Federal lease. Compliance with "Onshore Oil and Gas Order No. 2, Drilling Operations" will assure that the project will not adversely affect gilsonite, oil shale, or tar sand deposits. Due to the	Betty Gamber	1/7/2011

Determination	Resource	Rationale for Determination*	Signature	Date
		<p>state-of-the-art drilling and wells completion techniques, the possibility of adverse degradation of tar sand or oil shale deposits by the proposed action will be negligible.</p> <p>Location is on trend with other gilsonite veins in the vicinity. Please report any contact with gilsonite to the BLM VFO.</p> <p>Wells completion must be accomplished in compliance with "Onshore Oil and Gas Order No. 2, Drilling Operations". These guidelines specify the following: ... <i>proposed casing and cementing programs shall be conducted as approved to protect and/or isolate all usable water zones, potentially productive zones, lost circulation zones, abnormally pressured zones, and any prospectively valuable deposits of minerals. Any isolating medium other than cement shall receive approval prior to use.</i>³</p>		
PI	Greenhouse Gas Emissions	Emissions from earth-moving equipment, vehicle traffic, drilling and completion activities, separators, oil storage tanks, dehydration units, and daily tailpipe and fugitive dust emissions could adversely affect air quality.	Branon Rochelle	6/17/11
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. Because construction of well pad dikes, road design techniques, and interim & final reclamation follow gold book standards and to "Hydraulic Considerations for Pipelines Crossing Stream Channels" (Technical Note 423 April 2007) changes to surface water flow would be minimized. The proposed project is located in the upper region of ephemeral drainages and more than 10 miles from perennial waters.	Branon Rochelle	12/1/10
PI	Invasive Plants / Noxious Weeds (EO 131112)	Weed invasion could occur with the surface disturbance. Operator would control invasive species along roads, pipeline corridors, and on well pads, as discussed in Chapter 2. All actions would be in accordance to EOG's approved reclamation plan and pesticide use proposal (PUP).	Branon Rochelle	12/1/10
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. Examination of the Master Title Plats reveal that no existing land uses would be changed or modified by the implementation of the proposed action; therefore there would be no adverse effect.	Branon Rochelle	12/1/10
NI	Livestock Grazing	The project area is within the Seven Sisters Allotment, which is an active sheep allotment. There would be approximately 1.66 acres of new disturbance associated with the proposed action (less than one AUM). There are no known range improvements that would be affected by this proposal.	Michael Cutler	12/1/2010
PI	Migratory Birds	The proposed action would degrade, fragment and destroy habitat for migratory birds. If construction activities are planned for the spring and early summer months, then there would be a high potential for ground nests/eggs to be destroyed. If ground disturbing activities occur in the fall and winter months, impacts to migratory birds would be negligible.	Suzanne Grayson	12/27/10
NP	Native American Religious Concerns	Tribal consultation was conducted under the North Chapita EA and Greater Natural Buttes EIS.	Kathie A. Davies	11/30/10
NP	Lands with Wilderness Characteristics	The proposed project does not contain lands with wilderness characteristics as per the VFO GIS data.	Branon Rochelle	12/1/10
PI	Paleontology	Wells sites 1530-25D through 1534-25D: no fossils were found (IPC 09-170, March 24, 2010), Well sites 1535-25D through 1540-25D; No scientifically significant fossils were found on this site. However, other fossil localities are located nearby (IPC 10-209, November 17, 2010). A permitted paleontologist must be present at the beginning of	Betty Gamber	2/7/2011

Determination	Resource	Rationale for Determination*	Signature	Date
		the construction process for well sites 1535-25D through 1540-25D and thereafter conduct a spot-monitor as paleontological conditions merit.		
NI	Rangeland Health Standards and Guidelines	The proposal is within the Seven Sisters Allotment. Determination for Rangeland Health has not been made in this allotment; however, preliminary results indicate that this allotment will probably not meet Utah Standards and Guidelines for Rangeland Health. The primary contributing factor to not meeting Rangeland Health Standards is due to natural gas development in this allotment. Cumulative effects from gas development will continue in this allotment. This proposal will affect less than one Animal Unit Month (AUM) within the allotment.	Michael Cutler	12/8/10
NI	Recreation	Motorized use is designated as limited to designated roads and trails as per Vernal RMP 2008. The use of the area is primarily from the oil and gas industry; recreational use of ATV's is limited to existing routes only.	Branon Rochelle	12/1/10
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.	Branon Rochelle	12/1/10
PI	Soils	Soils would be disturbed on 6 acres for the life of the well, or until interim reclamation is successful. Soils would be re-contoured and reseeded after abandonment and during interim and final reclamation. Erosion would be controlled by proper construction techniques and reseeded during reclamation activities, in accordance with approved reclamation plans.	Branon Rochelle	12/1/10
NP	Special Status Plant Species other than USFWS candidate or listed species	No populations present in the project area per onsite inspections and BLM inventory data.	Aaron Roe	12/15/2010
PI	Threatened, Endangered or Candidate Animal Species	GIS layers and field data was reviewed and found no federally listed animal species and / or habitat within the proposed project area. The project area is encompassed by designated greater sage grouse brooding and winter habitat. The proposed project wells are considered to have water depletion for T&E Fish.	Suzanne Grayson	12/27/10
PI	Threatened, Endangered or Candidate Plant Species	The proposed project is located within potential habitat for Uinta Basin hookless cactus. Occupied habitat for the species is found within 1 mile of the proposed project	Aaron Roe	12/15/2010
PI	Vegetation Excluding USFWS Designated Species	Vegetation would initially be disturbed on 6 acres. Upon well completion, the location up to the deadman would be reseeded and re-contoured to the approximate natural contours. This would reduce the effects of the disturbance by approximately one half (of the well pads) when the seeding becomes established. EOG has an approved reclamation plan on file with the BLM that meets all conditions and requirements set forth by the Green River District	Branon Rochelle	12/1/10
NI	Visual Resources	VRM Class III and IV identified, project would meet class III and IV objectives. VRM Class III objectives state: The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape. The Land form is both enclosed and landscape based with deep gorges and sparsely vegetated plateaus. Lines are horizontal and vertical with broken intermittent diagonals. Colors are an associated palette of desert reds and browns, with sagebrush mauve/green being the dominant veg. color where present. Texture is moderately rough with arroyos and plateaus strewn with exposed sandstone and other rock outcroppings present in the landscape. Best management practices should be followed, paint should be utilized to best match the existing landscape colors for each well site and associated facilities. Where available sites should use the landscape to mask their appearance from main routes of travel identified in the proposed site map and new roads should follow the contour of the landscape instead of direct straight lines.	Branon Rochelle	12/1/10

Determination	Resource	Rationale for Determination*	Signature	Date
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. Wastes associated with natural gas exploration, development or production (produced water, drill cuttings, drillings fluids, etc.) are excluded from RCRA (40 CFR 261.4)	Branon Rochelle	12/1/10
NI	Waters of the U.S.	Impacts would be minimal considering the location of the project (the extreme upper reaches of the drainages) and that all stream channel crossings would be constructed in accordance to "Hydraulic Considerations for Pipelines Crossing Stream Channels" (Technical Note 423 April 2007)	Branon Rochelle	12/1/10
NI NI	Water Resources/Quality (drinking/surface/ground)	Surface Waters: This project is consistent with other oil & gas activities in the area which have not have not negatively affected surface water resources, including salts, sediments, and potential chemicals being added to water run-off, through adherence to Gold Book standards and "Hydraulic Considerations for Pipelines Crossing Stream Channels" (Technical Note 423 April 2007). The nearest perennial waters are more than 10 miles away in the White River. Ground water is present at least 360' below ground surface in Sec 25. Surface disturbances would not have any effect on the groundwater. Groundwater is protected at depth by required well drilling (cementing) practices.	Branon Rochelle Betty Gamber	12/1/10 2/7/2011
NP	Wetlands / Riparian Zones	No inventoried riparian areas are located at or near the project area and indirect impacts would not be expected.	Branon Rochelle	12/1/10
NP	Wild and Scenic Rivers	None Present in the project area as per Vernal RMP, ROD and GIS Layer Review	Branon Rochelle	12/1/10
NP	Wild Horses and Burros	No herd areas or herd management areas are present in the project area per BLM GIS database.	Branon Rochelle	12/1/10
NP	Wilderness/WSA	None Present in the project are as per Vernal RMP, ROD and GIS Layer Review	Branon Rochelle	12/1/10
NP	Woodland / Forestry	None Present in the project area as per Vernal Field Office RMP/ROD and GIS database.	Branon Rochelle	12/1/10

FINAL REVIEW:

Reviewer Title	Signature	Date	Comments
NEPA / Environmental Coordinator		2/6/12	2011-0157
Authorized Officer		2/10/2012	

APPENDIX B

- * Species listed below in Appendix B whose habitat may be present was not brought forward for analysis because migratory bird presence/absence and nesting surveys were not conducted. Therefore, it is not known if these species are present within the analysis areas; or impacted by Proposed Actions.

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

Species	Status	Habitat Association	Habitat/Species present within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
Bonytail <i>Gila elegans</i>	FE	Is endemic to the Colorado River system within main channels of large rivers, and favor swift currents.	This species occurs in the Green River. Habitat is not present within the project area; however, water depletion will occur.	No
Colorado pikeminnow <i>Ptychocheilus lucius</i>	FE	Known from the Colorado River system. Uses large swift rivers.	This species occurs in the Green and White Rivers. Habitat is not present within the project area; however, water depletion will occur.	No
Humpback chub <i>Gila cypha</i>	FE	Is endemic to the Colorado River System within deep, swift-running rivers, with canyon shaded environments.	This species occurs in the Green River. Habitat is not present within the project area; however, water depletion will occur.	No
Razorback sucker <i>Xyrauchen texanus</i>	FE	Endemic to large rivers of the Colorado River system.	This species occurs in the Green and White Rivers. Habitat is not present within the project area; however, water depletion will occur.	No
Black-footed ferret <i>Mustela nigripes</i>	FE	Semi-arid grasslands and mountain basins. It is found primarily in association with active prairie dog colonies that contain suitable burrow densities and colonies that are of sufficient size.	The distribution of this species is limited to a nonessential experimental population reintroduced into Coyote Basin, Uintah County starting in 1999. Habitat is not present within the proposed project area.	Yes
Canada Lynx <i>Lynx lynx canadensis</i>	FT	Primarily occurs in Douglas-fir, Spruce-fir, and subalpine forests at elevations above 7,800 feet amsl. The lynx uses large woody debris, such as downed logs and windfalls.	If extant in Utah, this species most likely occurs in montane forests in the Uinta Mountains. Habitat is not present within the proposed project area.	Yes
Mexican spotted owl <i>Strix occidentalis lucida</i>	FT; PIF	In Utah, found primarily in rocky canyons. Nests in caves or crevices. Roosts on ledges or in trees in canyons. The species prefers mesic (moister/cooler) canyons with mixed conifer or riparian components. Breeding and nesting season: March through August.	There is no habitat present.	Yes
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	FC; PIF BLM-S	Riparian obligate and usually occurs in large tracts of cottonwood/willow habitats. However, this species also has been documented in lowland deciduous woodlands, alder thickets, deserted farmlands, and orchards. Breeding season: late June through July.	Species is known to occur along the Green River and the Ouray National Wildlife Refuge. Habitat is not present within the proposed project area.	Yes
Bluehead sucker <i>Catostomus discobolus</i>	CAS	Occupies a wide range of aquatic habitats ranging from cold, clear mountain streams to warm, turbid rivers.	The Bluehead sucker is native in parts of Utah. The species occurs in the upper Colorado River system. Habitat is not present within the project area; however, water depletion will occur.	No
Flannelmouth	CAS	Adults occur in riffles, runs, and pools in	The Flannelmouth sucker is native in Utah.	No

Species	Status	Habitat Association	Habitat/Species present within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
sucker <i>Catostomus latipinnis</i>		streams and large rivers, with the highest densities usually in pool habitat. Young live in slow to moderately swift waters near the shoreline areas.	The species occurs in the Colorado River system. Habitat is not present within the project area; however, water depletion will occur.	
Roundtail chub <i>Gila robusta</i>	CAS	Adults inhabit low to high flow areas in the Green River; young occur in shallow areas with minimal flow.	The Roundtail chub is native in Utah. The species occurs in the Colorado River system. Habitat is not present within the project area; however, water depletion will occur.	No
Colorado River Cutthroat trout <i>Oncorhynchus clarkii pleuriticus</i>	CAS	Requires cool, clear water and well-vegetated stream banks for cover and bank stability; in stream cover in the form of deep pools and boulders and logs also is important; adapted to relatively cold water, thrives at high elevations. Most remaining populations are fluvial or resident. Occurs also in lakes.	None. Habitat is not present within the proposed project area.	Yes
Northern Goshawk <i>Accipiter gentilis</i>	CAS BLM-S	Generally found in a wide variety of forest types including deciduous, coniferous, and mixed forests. Typically mature and old growth forests and generally selects larger tracts of forest over 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 deciduous forests dominated by aspen, paper birch, or willow.	Prefers old-growth forests near or within large drainage systems. Habitat is not present within the proposed project area.	Yes
Bald eagle <i>Haliaeetus leucocephalus</i>	WSC BLM-S	In Utah, breeding occurrences are limited to 10 locations within four counties (Carbon, Daggett, Duchesne, Grand, and Salt Lake counties). Winter habitat typically includes areas of open water, adequate food sources, and sufficient diurnal perches and night roosts.	Bald eagles utilize ungulate winter ranges that provide carrion, and areas of open water such as the Green River. Roosting or nesting habitat does not occur within the proposed project area.	Yes
American white pelican <i>Pelecanus erythrorhynchos</i>	WSC; PIF BLM-S	Inhabits areas of open water including large rivers, lakes, ponds, and reservoirs with surrounding habitats ranging from barren to heavily vegetated sites. Typically nests on isolated islands in lakes or reservoirs.	Known to nest on islands associated with Great Salt and Utah Lakes. In northeastern Utah, the species occurs as a transient on larger water bodies. Habitat is not present within the proposed project area.	Yes
Greater Sage-grouse <i>Centrocercus urophasianus</i>	FC WSC; PIF BLM-S	Inhabits upland sagebrush habitat in rolling hills and benches. Breeding occurs on open leks (or strutting grounds) and nesting and brooding occurs in upland areas and meadows in proximity to water and generally within a 2-mile radius of the lek. During winter, sagebrush habitats at submontane elevations commonly are used.	The species is widespread, but declining, with extant populations in Uintah and Duchesne counties. Brooding and winter habitat is present within the proposed project area.	No
Ferruginous hawk	WSC; PIF	Resides mainly in lowland open desert terrain characterized by barren cliffs and	*This species is known to occur in the West Desert and the Uinta Basin as a summer	No

Species	Status	Habitat Association	Habitat/Species present within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
<i>Buteo regalis</i>	BLM-S	bluffs, pinion-juniper woodlands, sagebrush-rabbit brush, and cold desert shrub. Nesting habitat includes promontory points and rocky outcrops.	resident and a common migrant. Within the Uinta 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. However, foraging habitat is likely present.	
Burrowing owl <i>Athene cunicularia</i>	WSC BLM-S	Inhabits desert, semi-desert shrubland, grasslands, and agriculture areas. Nesting habitat primarily consists of flat, dry, and relatively open terrain; short vegetation; and abandoned mammal burrows (within northeastern Utah primarily in association with prairie dog complexes) for nesting and shelter.	Known to occur in Uintah and Duchesne counties. Nesting and foraging habitat is not present within the proposed project area.	Yes
Mountain plover <i>Charadrius montanus</i>	WSC; PIF	In the Uinta Basin, small mountain plover populations breed in shrub-steppe habitat where vegetation is sparse and sagebrush communities are dominated by <i>Artemisia</i> spp. with components of black sage and grasses. Nest locations also vary with respect to topography (nests were located on flat, open ground; on the top or at the base of slopes; or very close to large rocky outcroppings).	The only known breeding population of mountain plover in Utah is located on Myton Bench. Habitat is not present within the proposed project area.	Yes
White-tailed prairie dog <i>Cynomys leucurus</i>	WSC BLM-S	Inhabits grasslands, plateaus, plains and desert shrub habitats. White-tailed prairie dogs form colonies or “towns” and spend much of their time in underground burrows and hibernating during the winter months.	Prairie dogs are an obligate species to several other state-sensitive species, such as Ferruginous hawk, mountain plover, and Burrowing owl, in that these species depend on them for food, shelter, and nesting habitat or habitat manipulation. Habitat is not present within the proposed project area.	Yes
Short-eared owl <i>Asio flammeus</i>	WSC BLM-S	Inhabits arid grasslands, agricultural areas, marshes, and occasionally open woodlands. In Utah, cold desert shrub and sagebrush-rabbit brush habitats also are utilized. Typically a ground nester.	*Known to occur in Uintah County, with occurrence probable in Duchesne County. Habitat may be present within the proposed project area.	No
Lewis’s Woodpecker <i>Melanerpes lewis</i>	WSC; PIF BLM-S	Inhabits open habitats including pine forests, riparian areas, and pinion-juniper woodlands. Breeding habitat typically includes ponderosa pines and cottonwoods in stream bottoms and farm areas. The species inhabits agricultural lands and urban parks, montane and desert riparian woodlands, and submontane shrub habitats.	In Utah, the species is widespread, but is an uncommon nester along the Green River. Breeding by this species has been observed in Ouray and Uintah counties, and along Pariette Wash. Habitat is not present within the proposed project area.	Yes
Three-toed Woodpecker <i>Picoides tridactylus</i>	WSC; PIF BLM-S	Prefers coniferous forest, primarily spruce and balsam fir. It inhabits areas where dead timber remains after fires or logging. It is found less frequently in mixed forest, and occasionally in Willow thickets along streams. Also found in high elevation aspen groves, bogs, and swamps.	In Utah, the species is widespread but no habitat exists within the Project area. The Three-toed woodpecker is associated more with spruce trees and not pinion pine or Doug-fir. Habitat is not present within the proposed project area.	Yes
Grasshopper sparrow	WSC; PIF	Prefers grasslands of intermediate height and are often associated with clumped	* In Utah, the species is widespread and has been known to breed in Uintah, Duchesne,	No

Species	Status	Habitat Association	Habitat/Species present within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
<i>Ammodramus savannarum</i>	BLM-S	vegetation interspersed with patches of bare ground. Other habitat requirements include moderately deep litter and sparse coverage of woody vegetation.	and Daggett counties. Habitat may be present within the proposed project area.	
Long-billed Curlew <i>Numenius americanus</i>	WSC; PIF BLM-S	Inhabits shortgrass prairies, alpine meadows, riparian woodlands, and reservoir habitats. Breeding habitat includes upland areas of shortgrass prairie or grassy meadows with bare ground components, usually near water.	Widespread migrant in Utah. Breeding birds are fairly common but localized, primarily in central and northwestern Utah. Potential nesting has been reported in Uintah County, but has not been confirmed. Habitat is not present within the proposed project area.	Yes
Bobolink <i>Dolichonyx oryzivorus</i>	WSC; PIF BLM-S	Inhabits mesic and irrigated meadows, riparian woodlands, and subalpine marshes at lower elevations (2,800 to 5,000 feet amsl). Suitable breeding habitat for this ground nester includes tall grass, flooded meadows, prairies, and agricultural fields; forbs and perch sites also are required.	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 <i>Nyctinomops macrotis</i>	WSC BLM-S	Rocky areas in rugged country. The species has been observed in lowlands of river floodplain-arroyo association; also in shrub desert and woodland habitats. Roosts in rock crevices (vertical or horizontal) in cliffs; also in buildings caves, and occasionally tree holes. Winter habits unknown.	*This species has been documented in northeastern part of the state from Daggett County into Wyoming. Foraging or roosting habitat for this species may be present within the proposed project area.	No
Fringed myotis <i>Myotis thysanodes</i>	WSC BLM-S	The species is widely distributed throughout Utah, but is not very common in the state. The Fringed myotis inhabits caves, mines, and buildings, most often in desert and woodland areas.	High value and substantial value habitat exists for the species in southern Utah in lower elevations; however, the species has had a couple documented sightings along the White River. Habitat is not present within the proposed project area.	Yes
Spotted bat <i>Euderma maculatum</i>	WSC BLM-S	Inhabits desert shrub, sagebrush-rabbit brush, 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 bats typically do not migrate and use hibernacula that maintain a constant temperature above freezing from September through May.	*The species potentially occurs throughout Utah; however, no occurrence records exist for the extreme northern or western parts of the state. Known occurrences have been reported in northeastern Uintah County. Foraging and roosting habitat may be present within the proposed project area.	No
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	WSC BLM-S	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.	*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. Foraging or roosting habitat may be present within the proposed project area.	No
Western (Boreal) toad <i>Bufo boreas</i>	WSC BLM-S	Commonly found throughout most of Utah and can be found in a variety of habitats, including slow moving streams,	The species is commonly spread throughout central and northern Utah. The only known occurrence in the basin exists within the	Yes

Species	Status	Habitat Association	Habitat/Species present within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
		wetlands, desert springs, ponds, lakes meadows, and woodlands.	northwest portion of Uintah County which has substantial value habitat for the species. Habitat is not present within the proposed project area.	
Corn snake <i>Elaphe guttata</i>	WSC BLM- S	Habitat includes pine woodlands, brushy fields, open hardwood forests, mangrove thickets, barnyards, and abandoned buildings, areas near springs, old trash dumps, and caves.	Occurs in Uintah County. The species have been identified at Ouray National Wildlife Refuge. Habitat is not present within the proposed project area.	Yes
Smooth green snake <i>Opheodrys vernalis</i>	WSC BLM- S	Habitat includes meadows, grassy marshes, and moist grassy fields at forest edges, mountain shrublands, stream borders, bogs, open moist woodland, abandoned farmland, and vacant lots.	Although not commonly seen throughout Utah the species has been documented in the northern section of Uintah County in lower elevations. Habitat is not present within the proposed project area.	Yes
Prairie falcon <i>Falco mexicanus</i>	PIF	Habitat includes alpine, cliff, cropland/hedgegrow, desert, and grassland/herbaceous areas.	*Foraging habitat may be present within the proposed project area.	No
Swainson's hawk <i>Buteo swainsonii</i>	PIF	Inhabits grasslands, deserts, agricultural areas, shrublands, marshlands, and riparian forests. Nest in trees in or near open areas. Breeding season: April 1 – July 15.	*Foraging habitat may be present within the proposed project area.	No
Black-chinned hummingbird <i>Archilochus alexandri</i>	PIF	Habitat includes dry lowlands and foothills with pinion-juniper woodlands.	Habitat is not present within the proposed project area.	Yes
Broad-tailed hummingbird <i>Selasphorus platycercus</i>	PIF	Habitat includes open woodland, especially pinion-juniper, pine-oak, and conifer-aspen association; brushy hillsides; montane scrub and thickets.	Habitat is not present within the proposed project area.	Yes
Brewer's sparrow <i>Spizella breweri</i>	PIF	Habitat includes desert and shrubland/chaparral.	*Habitat may be present within the proposed project area.	No
Cassin's finch <i>Carpodacus cassinii</i>	PIF	Habitat includes open coniferous forest; in migration and winter also in deciduous woodland, secondary growth, scrub, brushy areas, partly open situations with scattered trees.	Habitat is not present within the proposed project area.	Yes
Cassin's kingbird <i>Tyrannus vociferans</i>	PIF	Habitat includes sparse woods and dry scrub areas.	Habitat is not present within the proposed project area.	Yes
Clark's nutcracker <i>Nucifraga columbiana</i>	PIF	Habitat includes open coniferous forest, forest edge and clearings, primarily in mountains, but wandering into various habitats; in winter also in lowlands.	Habitat is not present within the proposed project area.	Yes
Gray flycatcher <i>Empidonax wrightii</i>	PIF	Habitat includes arid areas of sagebrush or pinion-juniper woodlands.	Habitat is not present within the proposed project area.	Yes
Gray vireo <i>Vireo vicinior</i>	PIF	Habitat includes dry shrubby areas, chaparral, and sparse woodlands.	Habitat is not present within the proposed project area.	Yes
Green-tailed towhee <i>Pipilo chlorurus</i>	PIF	Habitat is usually low shrubs, sometimes interspersed with trees; avoids typical forest, other than open pinion-juniper	Habitat is not present within the proposed project area.	Yes

Species	Status	Habitat Association	Habitat/Species present within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
		woodlands. In pinion-juniper, associated with sagebrush (<i>Artemisia</i> spp.) dominated openings with high shrub species richness.		
Juniper titmouse <i>Parus inornatus</i>	PIF	Habitat includes sparse pinion-juniper and oak woodlands.	Habitat is not present within the proposed project area.	Yes
Mountain bluebird <i>Sialia currucoides</i>	PIF	Habitat includes subalpine meadows, grasslands, shrub-steppe, savanna, and pinion-juniper woodlands; in south usually at elevations above 1500 m (4900 ft.). In winter and migration also inhabits desert, brushy areas and agricultural lands.	*Habitat is present within the proposed project area.	No
Pinion jay <i>Gymnorhinus cyanocephalus</i>	PIF	Habitat includes semi-arid foothills with pinion-juniper woodlands.	Habitat is not present within the proposed project area.	Yes
Sage sparrow <i>Amphispiza belli</i>	PIF	Habitat includes dry sagebrush/scrublands with sparse vegetation.	*Habitat may be present within the proposed project area.	No
Sage thrasher <i>Oreoscoptes montanus</i>	PIF	Habitat includes desert and shrubland/chaparral.	*Habitat may be present within the proposed project area.	No
Virginia's warbler <i>Vermivora virginiae</i>	PIF	Habitat includes dry woodlands, scrub oak brushlands, canyons and ravines.	Habitat is not present within the proposed project area.	Yes
White-throated swift <i>Aeronautes saxatalis</i>	PIF	Habitat includes cliffs and canyons.	Habitat is not present within the proposed project area.	Yes
Wilson's phalarope <i>Phalaropus tricolor</i>	PIF	Habitat includes grassland/herbaceous riparian and wetlands.	Habitat is not present within the proposed project area.	Yes

Federally Listed Species:

- FE = Federally listed as endangered;
- FT = Federally listed as threatened;
- FC = Federally listed as candidate
- S = BLM BLM State Director's Sensitive Species List

State Sensitive

- 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.

APPENDIX C

Threatened, Endangered, Candidate, Utah Special Status Plant Species

Appendix C: Special Status Plant Species Eliminated from Detailed Analysis

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

Appendix C: Special Status Plant Species Eliminated from Detailed Analysis

Species	Status	Habitat	Potential for and/or Occurrence
<p>Barneby's catseye <i>Cryptantha barnebyi</i></p>	<p>Sensitive</p>	<p>White semi-barren shale knolls of the Green River Formation in shadscale, rabbitbrush, sagebrush, and pinyon-juniper communities. 6000-7900 ft</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area.</p>
<p>Graham's catseye <i>Cryptantha grahamii</i></p>	<p>Sensitive</p>	<p>Green River Shale in mixed desert shrub, sagebrush, pinyon-juniper, and mountain brush communities. 5000-7400 ft</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area.</p>
<p>Untermann fleabane <i>Erigeron untermannii</i></p>	<p>Sensitive</p>	<p>Calcareous shales and sandstones of the Uinta and Green River formations in pinyon-juniper, mountain mahogany, limber and bristlecone pine, and sagebrush communities. 7000-9400 ft.</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area.</p>
<p>Ackerman's frasera <i>Frasera ackermaniae</i></p>	<p>Sensitive</p>	<p>Semibarren yellowish clay soils of the Chinle and Nugget formations in pinyon-juniper and desert shrub communities. 5000-6000 ft</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area.</p>
<p>Rock bitterweed <i>Hymenoxys lapidicola</i></p>	<p>Sensitive</p>	<p>Pinyon-juniper and ponderosa pine-manzanita communities, often in rock crevices. 6000-8100 ft.</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area.</p>
<p>Barneby's ridgecress <i>Lepidium barnebyanum</i></p>	<p>Endangered</p>	<p>White Shale outcrops mainly on ridge crests. 6200-6500 ft.</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area.</p>

Appendix C: Special Status Plant Species Eliminated from Detailed Analysis

Species	Status	Habitat	Potential for and/or Occurrence
<p>Huber pepperplant <i>Lepidium huberi</i></p>	<p>Sensitive</p>	<p>Sand or silty sands derived from the Chinle formation, and on the Park City and Weber Sandstone formations in sagebrush, snowberry, mountain mahogany, ponderosa pine, Douglas fir, lodgepole pine, and spruce-fir communities. 7300-9700 ft</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area.</p>
<p>Goodrich blazingstar <i>Mentzelia goodrichii</i></p>	<p>Sensitive</p>	<p>Steep, white, marly calciferous shale outcrops of the Green River formation with scattered limber pine, pinyon pine, Douglas fir, mountain mahogany, and rabbitbrush. 8100-8800 ft</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area.</p>
<p>stemless penstemon <i>Penstemon acaulis</i> var. <i>acaulis</i></p>	<p>Sensitive</p>	<p>Semibarren substrates in pinyon-juniper and sagebrush-grass communities. 5900-8200 ft.</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area.</p>
<p>Gibben's penstemon <i>Penstemon gibbensii</i></p>	<p>Sensitive</p>	<p>Shaly slopes and bluffs with mixed desert shrubs and scattered juniper 5500-5600 ft.</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area.</p>
<p>Goodrich's penstemon <i>Penstemon goodrichii</i></p>	<p>Sensitive</p>	<p>Blue gray to reddish, clay-impregnated badlands of the Duchesne River Formation in shadscale and juniper-mountain mahogany communities 5600-6205ft.</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area.</p>

Appendix C: Special Status Plant Species Eliminated from Detailed Analysis

Species	Status	Habitat	Potential for and/or Occurrence
<p>Graham beardtongue <i>Penstemon grahamii</i></p>	<p>Proposed</p>	<p>Shale ledges and talus of the Green River Formation growing in sparsely vegetated shadscale, <i>Eriogonum</i>, horsebrush, rygrass, and pinyon-juniper communities. 4600-6800 ft</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area.</p>
<p>White River penstemon <i>Penstemon scariosus</i> var. <i>albifluvis</i></p>	<p>Candidate</p>	<p>Sparsely vegetated pale tan, shale slopes of the Green River formation in shadscale, rabbitbrush, ricegrass, rygrass, sagebrush, Barneby's thistle, and pinyon-juniper communities. 5000-6800 ft..</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area.</p>
<p>Argyle Canyon phacelia <i>Phacelia argylensis</i></p>	<p>Sensitive</p>	<p>Sandy-silty soil in wash bottoms on the Green River shale in pinyon-juniper, serviceberry, and Douglas Fir communities. Around 7600 ft.</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area. None.</p>
<p>Clay thelopody <i>Schoenrambe argillacea</i></p>	<p>Threatened</p>	<p>On the lower Uinta and upper Green River formations in shadscale, Indian ricegrass, pygmy sagebrush, and other mixed desert shrub communities. 4800-5600 ft.</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area.</p>
<p>Shrubby reed-mustard <i>Schoenrambe suffrutescens</i></p>	<p>Endangered</p>	<p>Calcareous shale of the Green River formation in shadscale, pygmy sagebrush, mountain mahogany, juniper and mixed desert shrub communities. 5400-6000ft.</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area.</p>

Appendix C: Special Status Plant Species Eliminated from Detailed Analysis

Species	Status	Habitat	Potential for and/or Occurrence
<p>Graham beardtongue <i>Penstemon grahamii</i></p>	<p>Proposed</p>	<p>Shale ledges and talus of the Green River Formation growing in sparsely vegetated shadscale, <i>Eriogonum</i>, horsebrush, rygrass, and pinyon-juniper communities. 4600-6800 ft</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area.</p>
<p>White River penstemon <i>Penstemon scariosus</i> var. <i>albifluvis</i></p>	<p>Candidate</p>	<p>Sparsely vegetated pale tan, shale slopes of the Green River formation in shadscale, rabbitbrush, ricegrass, rygrass, sagebrush, Barneby's thistle, and pinyon-juniper communities. 5000-6800 ft..</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area.</p>
<p>Argyle Canyon phacelia <i>Phacelia argylensis</i></p>	<p>Sensitive</p>	<p>Sandy-silty soil in wash bottoms on the Green River shale in pinyon-juniper, serviceberry, and Douglas Fir communities. Around 7600 ft.</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area. None.</p>
<p>Clay thelopody <i>Schoenocrambe argillacea</i></p>	<p>Threatened</p>	<p>On the lower Uinta and upper Green River formations in shadscale, Indian ricegrass, pygmy sagebrush, and other mixed desert shrub communities. 4800-5600 ft.</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area.</p>
<p>Shrubby reed-mustard <i>Schoenocrambe suffrutescens</i></p>	<p>Endangered</p>	<p>Calcareous shale of the Green River formation in shadscale, pygmy sagebrush, mountain mahogany, juniper and mixed desert shrub communities. 5400-6000ft.</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area.</p>

Appendix C: Special Status Plant Species Eliminated from Detailed Analysis

Species	Status	Habitat	Potential for and/or Occurrence
<p>Wagonhound cactus <i>Sclerocactus brevispinus</i></p>	<p>Threatened</p>	<p>Pedimental gravels (desert pavement) over Uinta Formation within Parriet Draw, Castle Peak Draw, and the surrounding benches. Growing in association with shadscale and sagebrush. 4700-5200ft.</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area.</p>
<p>Uinta Basin hookless cactus <i>Sclerocactus wetlandicus</i></p>	<p>Threatened</p>	<p>Typically gravelly terraces and benchlands. Also found in locations with desert pavement, shale outcrops, and mudstone deposits. 4500-6000ft.</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area.</p>
<p>Ute lady’s tresses <i>Spiranthes diluvialis</i></p>	<p>Threatened</p>	<p>Wet meadows, stream banks, abandoned oxbow meanders, marshes, and raised bogs. 4500-6850ft.</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area.</p>
<p>Uinta greenthread <i>Thelesperma caespitosum</i></p>	<p>Sensitive</p>	<p>White shale benches and windswept slopes of the Green River and Uinta formation with pinyon and mountain mahogany. 5900-8400 ft,</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area.</p>
<p>Strigose Townsendia <i>Townsendia strigosa</i> var. <i>prolix</i></p>	<p>Sensitive</p>	<p>Mixed desert shrub communities</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area.</p>
<p>Sterile yucca <i>Yucca sterilis</i></p>	<p>Sensitive</p>	<p>Salt and mixed desert shrub communities growing in sandy soils. 4800-5800 ft.</p>	<p>None – No populations, potential or suitable habitat occurs for this species in this area.</p>

EOG Resources Proposes Eleven Directional Natural Gas Wells within the Chapita Wells Unit



Prepared by:
Braron Rochelle
Natural Resources Specialist
Bureau of Land Management-Vernal, UT

**United States Department of the Interior
Bureau of Land Management**

**Finding of No Significant Impact
Environmental Assessment
DOI-BLM-UT-G010-2011-0157-EA
February, 2012**

**EOG's Proposed 11 Gas Well
Directional Drilling Project**

***Location:* Uintah County, Utah
Section 25 Township 9 South, Range 22 East**

***Applicant/Address:* EOG Resources
1060 East Hwy. 40
Vernal, UT 84078**

U.S. Department of the Interior
Bureau of Land Management
Field Office
170 South 500 East
Vernal, Utah 84078
Phone: (435) 781-4400
FAX: (435) 781-4410



FINDING OF NO SIGNIFICANT IMPACT
Environmental Assessment
DOI-BLM-UT-G010-2011-0157-EA
EOG's Proposed 11 Gas Well
Directional Drilling Project

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 EOG's eleven proposed natural gas wells in Section 25, Township 9S, Range 22E, Uintah County, Utah as described in the proposed action alternative of DOI-BLM-UT-G010-2011-0157-EA will not have a significant effect on the human environment. An environmental impact statement is therefore not required.



Authorized Officer

FEB 10 2012

Date

**United States Department of the Interior
Bureau of Land Management**

**Decision Record
Environmental Assessment
DOI-BLM-UT-G010-2011-0157-EA**

February, 2012

**EOG's Proposed 11 Gas Well
Directional Drilling Project**

***Location:* Uintah County, Utah
Section 25 Township 9 South, Range 22 East**

***Applicant/Address:* EOG Resources
1060 East Hwy. 40
Vernal, UT 84078**

U.S. Department of the Interior
Bureau of Land Management
Field Office
170 South 500 East
Vernal, Utah 84078
Phone: (435) 781-4400
FAX: (435) 781-4410



DECISION RECORD
Environmental Assessment
DOI-BLM-UT-G010-2011-0157-EA
EOG's Proposed 11 Gas Well
Directional Drilling Project

Decision Record:

It is my decision to authorize EOG Resources eleven proposed natural gas well within the Chapita Wells Unit field in Section 25, Township 9S, Range 22E, Uintah County, Utah as described in the proposed action alternative of DOI-BLM-UT-G010-2011-0157-EA.

Summary of the Selected Alternative:

EOG Resources will drill eleven wells in Uintah County, Utah (see table one for descriptions and Appendix C of the EA for location map). The proposed project area is located approximately 50.5 miles south of Vernal, Utah. No new roads will be constructed to access the proposed wells. No new gas surface lines will be laid along the surface. Table 1 lists the wells and their associated disturbance. All wells will be drilled with a "pitless" drilling system. If dry, the wells will be plugged and abandoned as per BLM and State of Utah requirements.

Table 1 Proposed Wells and Associated Disturbance Acres

Well	Existing Well Pad Disturbance (acres)	Surface Gas Pipeline (feet)	Road (miles)	New Acres of Surface Disturbance	Total Acres of Surface Disturbance*
CWU 1530-25D through CWU 1534-25D	2.27	0	0	0.73	3.0
CWU 1535-25D through CWU 1540-25D	2.07	0	0	0.93	3.0
TOTAL	4.34	0	0	1.66	6.0

Access

Existing roads will provide access to the proposed wells. All roads and pads will be constructed on lease and would not require a right of way. All drainage crossings will be constructed in accordance to "Gold Book" standards and "Hydraulic Considerations for Pipelines Crossing Stream Channels" (Technical Note 423 April 2007). Access for construction and production activities will occur within existing and approved road corridors.

Well Site Layout

The average well site disturbance for the wells, including cuts, fills, and spoil piles, will be approximately 261 x 375 feet. Each well pad will disturb no more than 3.0 acres of land, resulting in 1.66 acres of new disturbance. The total acreage of each well is shown in table one. Collectively, approximately 6 acres of land for the well sites would be disturbed by the proposed action. Topsoil stockpiled would be stripped to a depth that was measured, and determined at

onsite and placed on individually determined sites for each well. The topsoil piles would be signed for preservation and identification. The topsoil on wells that are to be producing wells would then be re-spread over the interim reclamation site area 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 seeded with the recommended seed mix, and left in place for the life of the well.

Pipelines

No new gas lines will be laid. No clearing or grading for pipeline installation will be required.

Reclamation

Topsoil

Topsoil storage areas would be identified with appropriate signage, segregated from the subsoil (without mixing the two soil types), stockpiled separately from other soil materials, 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 after drilling and completion and the wells are put into production. The portion of the well not needed for production facilities/operations would be recontoured to the approximate natural contours. The stockpiled pit topsoil would then be spread over the reclamation area and broadcast-seeded/drill seeded (preferred method) with the interim seed mixture listed in table 2 after August 15st 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. EOG would also design a customized seed mixture, composed exclusively of native species, for each well pad. The new seed mix would be submitted via sundry. (EOG reclamation plan 2009)

Table 2 Final Reclamation Seed Mixtures

Common Name	Latin Name	lbs/acre
Gardner Saltbush	<i>Atriplex gardneri</i>	3.0
Shadscale	<i>Atriplex confertifolia</i>	3.0
HyCrest Wheatgrass	<i>Agropyron critatum</i>	1.0
Indian Ricegrass	<i>Achnatherum hymenoides</i>	2.0

- All pounds are pure live seed
- All seed and mulch would be certified weed free
- Rates are for drill seeding

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 figure 6. 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. As part of the reclamation planning process, EOG will prepare a customized, exclusively native species seed mix. This mix would be used for both interim and final reclamation (EOG reclamation plan 2009). For planning purposes, the seed mix recommended at the onsite visit is used in this document (table 2).

Monitoring

Monitoring will be conducted in accordance with EOG's approved reclamation plan and the Green River District reclamation guidelines. Further details are available in the Environmental Assessment.

Applicant-Committed Environmental Protection Measures (ACEPMs)

Cultural Resources

A cultural resources survey was conducted on all areas where surface disturbance would occur (i.e., well locations, access roads, and pipelines). All cultural sites found in the project area are avoided by the proposed action. EOG Resources 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. 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

Construction of the pads, roads and associated pipelines for the CWU 1535-25D, 1536-25D, 1537-25D, 1538-25D, 1539-25D, and 1540-25D would be monitored by a permitted paleontologist. If during the construction of any wells evaluated in this document, any vertebrate paleontological resources are discovered, in accordance with section 6 form 3100-11 and 43 CFR 3162.1 all operations affecting such sites shall be immediately suspended, and all discoveries shall be left intact until authorized to proceed by the authorized officer. The appropriate authorized officer of the Vernal BLM office shall be notified within 48 hours of the discovery, and a decision as to the preferred alternative/course of action will be rendered.

Special Status Wildlife Species

No special status wildlife species were identified, though potential habitat exists for burrowing owls. Burrowing owl surveys will be required prior to construction.

Alternatives Considered

The EA carried forward only the proposed alternative and the no action alternative because the applicant committed actions and mitigations described in the proposed action sufficiently addressed any resource concerns for the project area.

Plan Conformance and Consistency

The selected alternative and alternatives have been reviewed and found to be in conformance with the Vernal Field Office Resource Management Plan and Record of Decision (BLM 2008).

The subject lands were leased for oil or gas development under authority of the Mineral Leasing Act of 1920, as modified by the Federal Land Policy and Management Act of 1976, and the

Federal Onshore Oil and Gas Leasing Reform Act of 1987. The Lessee/operator has the right to explore for oil and gas on the lease as specified in 43 CFR 3103.1-2, and if a discovery is made, to produce oil and/or natural gas for economic gain.

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

Rationale for the Decision

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

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

Summary of Public Involvement Efforts and Public Response

The proposed Action was posted to the Utah BLM's Environmental Notification Bulletin Board on May 10, 2010 and was submitted for public comment from December 12, 2011 to January 13, 2012. No substantive comments were submitted.



Authorized Officer

FEB 10 2012

Date

Appeals

This decision is effective upon the date it is signed by the authorized officer. The decision is subject to appeal. Under BLM regulation, this decision is subject to administrative review in accordance with 43 CFR 3165. Any request for administrative review of this decision must include information required under 43 CFR 3165.39b0 (State director Review), including all supporting documentation. Such a request must be filed in writing with the State director, Bureau of Land Management, Utah State Office, P.O. Box 45155, Salt Lake City, Utah, 84145-0155, within 20 business days of the date this Decision is received or considered to have been received.

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

- (1) The relative harm to the parties if the stay is granted or denied:

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

Attachment 1: COAs

CONDITIONS OF APPROVAL
FOR THE SURFACE USE PROGRAM OF THE
APPLICATION FOR PERMIT TO DRILL

Company/Operator: EOG Resources, Inc.

Well	Aliquot	Section	Township	Range
CWU 1530-25D	NWNE	25	9 South	22 East
CWU 1531-25D	NWNE	25	9 South	22 East
CWU 1532-25D	NWNE	25	9 South	22 East
CWU 1533-25D	NWNE	25	9 South	22 East
CWU 1534-25D	NWNE	25	9 South	22 East
CWU 1535-25D	NWNW	25	9 South	22 East
CWU 1536-25D	NWNW	25	9 South	22 East
CWU 1537-25D	NWNW	25	9 South	22 East
CWU 1538-25D	NWNW	25	9 South	22 East
CWU 1539-25D	NWNW	25	9 South	22 East
CWU 1540-25D	NWNW	25	9 South	22 East

Lease number: UTU- 0285A

Surface Ownership: BLM

- No construction, drilling or completion operations will occur within 0.25 miles of burrowing owl nesting habitat from March 1 through August 31.
- If it is anticipated that construction or drilling will occur during the given timing restriction, a BLM or qualified biologist shall be notified to conduct surveys for raptors. Depending upon the results of the surveys, permission to proceed may or may not be granted by the Authorized Officer.
- Construction of the pad, road and associated pipeline for CWU 1535-25D, 1536-25D, 1537-25D, 1538-25D, 1539-25D, and 1540-25D would be monitored by a permitted paleontologist.
- If during the construction of any wells evaluated in this document any vertebrate paleontological resources are discovered all operations affecting such sites shall be immediately suspended, and all discoveries shall be left intact until authorized to proceed by the authorized officer.
- All vehicular traffic, personnel movement, construction and restoration activities would be confined to areas cleared by the site inventory and to existing roads.

- Applicant Committed 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 NO_x per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower-hour.
 - All new and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gram of NO_x per horsepower-hour.
 - Emissions will be routed from existing TEG dehydrators to control devices.
 - Heat trace pump exhaust will be routed to burners or control devices.
 - Control devices will be installed for tank flash on production facilities with greater than 8 tpy VOC emissions.
 - Low bleed controllers will be installed on new equipment or retrofit to existing equipment.
 - Dessicant dehydration equipment will be utilized on all new production facilities and retrofit existing TEG dehydrators with dessicant dehydration.
 - A Thief hatch/Enardo inspection and replacement program will be established to minimize tank losses.
 - Well visits will be minimized using telemetry.
 - Ozone generation will be minimized by reasonable operational procedures.
 - If pump jacks are required, then hospital mufflers would be installed.