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Bureau of Land Management**

**Environmental Assessment
DOI-BLM-UT-G010-2010-0336
February, 2012**

**QEP Energy Co.'s Two Wildcat Wells
Uintah, Utah & Duchesne, Utah**

***Location:* Salt Lake Meridian, Duchesne County, Utah
T. 10 S., R. 17 E., sec. 35, NWNW
Salt Lake Meridian, Uintah County, Utah
T. 10 S., R. 18 E., sec. 20, SESE.**

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CHAPTER 1 INTRODUCTION

1.1 INTRODUCTION

This Environmental Assessment (EA) has been prepared to analyze the potential impacts of QEP Energy Company's oil well drilling project in the Wilkin Ridge, and Uteland Butte area of Duchesne and Uintah County, Utah. The EA is a site-specific analysis of potential impacts that could result from the implementation of the Proposed Action or alternatives to the Proposed Action. The EA assists the Bureau of Land Management (BLM) in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any "significant" impacts could result from the analyzed actions. ("Significance" is defined by NEPA and is found in regulation 40 CFR 1508.27.) An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI) statement. A 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 Decision Record (DR) may be signed for the EA approving the alternative selected.

QEP proposes to drill 2 wells: DS 16G-20-10-18, T. 10 S., R. 18 E., Uintah, Utah, and WR 4G-35-10-17 T. 10 S., R. 17 E., in Duchesne County, Utah. The proposed project area is located approximately 20 miles in a southerly direction from Myton, Utah. The proposed wells would be drilled utilizing new locations. Approximately 9,540 feet of road would be upgraded and 2,115 feet of new road would be constructed. A right-of-way (ROW) would be needed from Uintah County for the road within Uintah County, Utah to the WR 4G-35-10-17 (approximately 14,117 feet) which would be obtained from the Uintah County Commission (Public Lands Department). A ROW from the BLM would be required for both access roads because the access is partially off lease or off unit. No pipeline is planned for these wells. If dry, the wells would be plugged and abandoned as per BLM and State of Utah requirements.

1.2 PURPOSE AND NEED

The BLM's need is to respond to QEP's proposal to drill two wells on federal leases, UTU 84264 and UTU 78216. Private exploration and production from federal oil and gas leases is an integral part of the BLM oil and gas leasing program under authority of the Mineral Leasing Act of 1920, as amended by the Federal Land Policy and Management Act of 1976 and the Federal Onshore Oil and Gas Leasing Reform Act of 1987. The operator has a valid existing right to extract mineral resources from Federal Leases UTU-84264 and UTU-78216 subject to the leases'

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.

1.3 CONFORMANCE WITH BLM LAND USE PLANS

The proposed wells(s) and related facilities would be in conformance with the Vernal Field Office RMP/ROD (October 31, 2008) and the terms of the lease. The RMP/ROD decision allows leasing of oil and gas while protecting or mitigating other resource values (RMP/ROD p. 97-99). The Minerals and Energy Resources Management Objectives encourage the drilling of oil and gas wells by private industry (RMP/ROD, p. 97). The RMP/ROD decision also allows for processing applications, permits, operating plans, mineral exchanges, leases on public lands in accordance with policy and guidance and allows for management of public lands to support goals and objectives of other resources programs, respond to public requests for land use authorizations, and acquire administrative and public access where necessary (RMP/ROD p. 86). 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).

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

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.

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 proposed project is consistent with the *Duchesne County Public Land Use Plan* (County Plan) (published in spring 1997 and amended winter 1998 and winter 2005) and *Uintah County General Plan*, 2007 (County plan) that encompasses the location of the proposed wells. In general, these plans indicate support for development proposals such as the Proposed Action through the plan's emphasis on multiple-use public land management practices, responsible use and optimum utilization.

The State of Utah School and Institutional Trust Lands Administration (SITLA) have leased much of the nearby state land for oil and gas production. Because the objectives of SITLA are to produce funding for the state school system, and because production on federal leases could

further interest in drilling on state leases in the area, it is assumed that the alternatives analyzed, except the No Action Alternative, are consistent with the objectives of the state.

CHAPTER 2 DESCRIPTION OF ALTERNATIVES

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 considered.

2.2 PROPOSED ACTION

Meetings held with QEP during the process of writing the EA discussed the possibility of lessening the impacts to the project area related to the size of the pad and road width. QEP has compressed the well pad and access road as small as possible to accomplish drilling the well and still maintain a safe work environment.

QEP proposes to drill 2 wells: DS 16G-20-10-18 located in T. 10 S., R. 18 E., sec. 20, Uintah County, Utah, and WR 4G-35-10-17 located in T. 10 S., R. 17 E., sec. 35, Duchesne County, Utah. The proposed project area is located approximately 20 miles in a southerly direction from Myton, Utah. The proposed wells would be drilled utilizing new locations. Approximately 11,648 feet of road would be upgraded and 2,115 feet of new road would be constructed. A right of way would be required for both locations because the access is partially off lease or out of unit. No pipeline is planned for these wells. If dry, the wells would be plugged and abandoned as per BLM and State of Utah requirements.

Table 2-1 lists the well and its associated disturbance. Appendix A contains maps of the project area.

Table 2-1 Surface disturbance

Well	New Well Pad disturbance (acres)	Surface Gas Pipeline (feet)	Surface Gas Pipeline (acres)	Road (feet)	Road (acres)	Total Acres of New Surface Disturbance
DS 16G-20-10-18	3.41	0	0	2,905	2.0	5.41
WR 4G-35-10-17	3.10	0	0	8,743	6.02	9.12
Totals	6.51	0	0	11,648	8.02	14.53

2.2.1 Access

Existing two tracks and new roads that would be upgraded or constructed to provide access to these proposed wells would be crowned (2 to 3%), ditched, and constructed with a running surface of 18 feet and a maximum disturbed width of 30 feet during construction, and for maintenance.

DS 16G-20-10-18: There would be 2,905 feet of existing two track or new roads that would be upgraded or new roads that would be constructed to provide access to this proposed well.

WR 4G-35-10-17: There would be 4,173 feet of road located in Duchesne County, Utah that would be upgraded or constructed as stated above and approved under QEPs Federal Lease. A portion of access road for the WR 4G-35-10-17 (4,570 feet) is a Uintah County class D claimed road for which Uintah County has requested a Title V ROW. QEP would have to obtain a ROW from the county as well as the BLM to upgrade the 4,570 feet of road.

2.2.2 Well Site Layout

The proposed well would be constructed on a new well pad and would result in approximately 6.51 acres of new surface disturbance during the construction of the well pad, and reserve pit. The access roads would require an additional 8.02 acres new surface disturbance. Topsoil stockpiled from construction of the pad and reserve pit would be stripped to a depth of 6 inches and placed on predetermined sites, segregated from the subsoil. The topsoil piles would be signed for identification. The topsoil on a well that is to be a producing well would then be re-spread over the reserve pit as soon as completion operations have been finished and the reserve pit has been filled in with subsoil. The reserve pit would then be seeded with a seed mix approved by the BLM Authorized Officer (AO), and left in place for the life of the well.

The reserve pit would be fenced on three sides prior to drilling activity and closed off on the fourth side after drilling is finished. The reserve pit for the proposed well would be lined with a 20 ml liner. A felt pit liner would be required if bedrock is encountered.

2.2.2.1 Surface Facilities

All production facilities would be located on the disturbed portion of the well pads and a minimum of 25 feet from the toe of the back slope or the top of the fill slope. A dike would be constructed around those production facilities that contain fluids (i.e. production tanks, produced water tanks, and/or heater-treater). The dikes would be constructed of compacted subsoil. They would be impervious, hold 110 percent of the capacity of the largest tank, and be independent of the back cut.

All permanent (meaning on site for six months or longer) structures would be painted Covert Green to match the surrounding landscape color unless otherwise authorized. This would include all facilities except those required to comply with Occupational Safety and Health Act (OSHA) regulations.

2.2.2.2 Pipelines

These are independent oil well locations. Product would be contained in two 500 bbl tanks and then transported from location to delivery site. Therefore there would be no pipeline.

2.2.3 Water Supply and Disposal

Fresh water for drilling would be obtained from Wonsits Valley water right # A36125 (which was filed on May 7, 1964), or Red Wash water right 49-2153 (which was filed on March 25,

1960). Water would be hauled by a licensed trucking company. Water wells would not be drilled on the lease.

2.2.4 Waste Disposal

Drill cuttings would be contained and buried in the reserve pit. Drilling fluids, including salts and chemicals, would be contained in the reserve pit. Upon termination of drilling and completion operations, the liquid contents of the reserve pit would be used at the next drill site or would be removed and disposed of at an approved waste disposal facility within 6 months after drilling is terminated. Immediately upon well completion, any hydrocarbons in the pit would be removed in accordance with 43 CFR 3162.7-1.

Unless specified in the site specific APD, the reserve pit would be constructed on the location and not be located within natural drainages, where a flood hazard exists or surface runoff would destroy or damage the pit walls. The reserve pit would be constructed so that it would not leak, break, or allow discharge of liquids.

After first production, wastewater would be confined to the approved pit or storage tank for a period not to exceed 90 days. During the 90 day period, in accordance with Onshore Order #7, all produced water would be contained in tanks on location and then hauled to Wonsits Valley injection station located in T. 8 S., R. 21 E., sec. 12, SWNW; or, the Red Wash disposal located in T. 7 S., R. 22 E., sec. 28, SWSE, or, the Red Wash Central Battery Disposal located in T. 7 S., R. 23 E., sec. 27, SWSE, or third-party surface evaporative pits.

Produced water, oil, and other byproducts would not be applied to roads or well pads for control of dust or weeds. The dumping of produced fluids on roads, well sites, or other areas would not be allowed.

A chemical porta-toilet would be furnished with the drilling rig. The chemical porta-toilet wastes would be hauled to Ashley Valley Sewer and Water System for disposal.

No chemicals subject to reporting under SARA Title III (hazardous materials) in an amount greater than 10,000 pounds would be used, produced, stored, transported, or disposed of in association with the drilling, testing, or completing of wells within these areas. Specific APD's shall address any modifications from this policy.

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

2.2.5 Reclamation

All reclamation will be monitored and will comply with the BLM Green River District Reclamation Guidelines and QEP Energy Company's Reclamation Plan, September 2009. Any reclamation that fails to meet the stated goals will be remediated.

2.2.5.1 Producing Location

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

2.2.5.2 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. Topsoil piles stored beyond one growing season would be stabilized and seeded to prevent erosion.

2.2.5.3 Interim Reclamation

Interim reclamation of the surface environment would take place after drilling and completion and the well is put into production. The reserve pit and the portion of the well not needed for production facilities/operations would be recontoured to the approximate natural contours. The reserve pit would be reclaimed within 120 days from the date of well completion, or as soon as environmental conditions allow. The stockpiled pit topsoil would then be spread over the pit area and broadcast-seeded/drill seeded (preferred method) with a seed mixture that would be submitted via sundry. The seed mixture would be worked into the topsoil with a drill seeder, bulldozer or other heavy equipment. If initial seeding is not successful, reseeded may be required.

2.2.5.4 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 submitted via sundry. Seed application would 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 would 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.

2.2.5.4 Monitoring

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

2.2.6 Applicant-Committed Environmental Protection Measures (ACEPMs)

QEP agrees to implement the following measures to reduce impacts to the environment.

2.2.6.1 Air Quality

- All internal combustion equipment would be kept in good working order.
- Water or other approved dust suppressants would be used at construction sites and along roads, as determined appropriate by the Authorized Officer. Dust suppressant such as magnesium chloride or fresh water may be used, as needed, during the drilling phase to control fugitive dust from truck traffic.
- Open burning of garbage or refuse would not occur at well sites or other facilities.
- Drill rigs would be equipped with Tier II or better diesel engines. It is anticipated for this well that the drilling rig will be powered by a Tier IV diesel engine.
- Low bleed pneumatics would be installed on separator dump valves and other controllers. The use of low bleed pneumatics would result in a lower emission of VOCs.
- During completion, flaring would be limited as much as possible. Production equipment and gathering lines would be installed as soon as possible.
- Telemetry will be installed to remotely monitor and control production. This will reduce truck traffic and decrease associated dust and tailpipe emissions.
- Signs will be installed on the access road, reducing speed to 25 MPH, during the drilling phase to decrease fugitive dust from truck traffic.
- The pumping unit will be powered by the natural gas produced by the well and by propane as a backup.

2.2.6.2 Paleontological Resources

- A paleontological survey was conducted on all areas where surface disturbance would occur (i.e., well locations, access roads, and pipelines). The survey identified scientifically important fossils along the access roads for both wells, WR 4G-35-10-17 and DS 16G-20-10-18.
- QEP has committed to have a permitted paleontologist be present to monitor the construction process for the entire access road for the DS 16G-20-10-18, and the portion of the access road which runs through Sec. 23, 24, and 26 of T. 10 S. R. 17 E.
- During operations, if 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 Authorized Officer of the BLM office shall be notified within 48 hours of the discovery, and a decision as to the preferred alternative/course of action would be rendered.

2.2.6.3 Operations and Drilling

- A suitable muffler will be installed on the pumping unit to help control noise.
- No power lines will be installed.
- Secondary containment will be placed around all containers with qualifying liquids.
- The location will be kept neat and clean at all times. All trash, debris, and equipment not needed for operations will be removed.

2.2.6.4 Visual Resource Management

- The locations are hidden by natural topography, ridge tops were avoided.
- The initial disturbance is minimized by using the smallest rig possible to drill this well at the specified depth.
- All areas not needed for safe production operations will be recontoured to blend with surrounding landscape and revegetated.
- All equipment and facilities will be painted to blend with the surrounding landscape.
- The access road will be constructed to follow the contour of the landform and mimic lines in the vegetation. Straight lines will be avoided wherever possible.
- Erosion control products will be installed where needed to decrease erosion potential.
- Dry creek drainage crossings will be used instead of culverts when possible.

2.2.6.5 Wildlife

- Vent covers/bird cones will be installed, as required, to keep wildlife out.
- The reserve pit will be fenced to keep wildlife out.

2.2.6.6 Weeds and Plants

- The operator would control noxious/invasive weeds along their roads and on their well sites by the application of herbicides or by mechanical removal until reclamation is considered to be successful by the AO and the bond for the well is released. A list of noxious weeds would be obtained from the BLM or the appropriate county extension office.
- On BLM-administered land, the operator would submit a Pesticide Use Proposal and obtain approval prior to the application of herbicides, other pesticides, or possible hazardous chemicals.
- All rig equipment will be power-washed before entering the BLM Green River District boundary.
- A habitat assessment and inventory for Uinta Basin Hookless Cactus has been conducted over all areas proposed for disturbance.

2.3 NO ACTION ALTERNATIVE

Under the No Action Alternative, QEP would not drill the two wells: DS 16G-20-10-18 sec. 20, T. 10 S., R. 18 E., Uintah County, Utah, and WR 4G-35-10-17 sec. 35, T. 10 S., R. 17 E., Duchesne 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 can also impose conditions of approval to prevent undue or unnecessary environmental degradation. If the BLM were to deny the APD, the applicant could attempt to reverse the BLM's decision through administrative appeals, seek to exchange its lease for leases in other locations, or seek compensation from the federal government. The outcome of these actions is beyond the scope of this EA because they cannot be projected or meaningfully analyzed at this time.

2.4 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER ANALYSIS

During the public comment period, three alternatives were suggested. These are documented in Chapter 5 as comments Kreckel 1, 2, and 3. These were not carried forward for detailed analysis for the reasons documented in the responses to these comments, also in Chapter 5.

CHAPTER 3 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 B). 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. Appendices B and C list the special status animal and plant species in the Vernal Field Office and whether or not they are present in the project area.

The proposed wells would be located in the Wilkin Ridge, and Desert Springs 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 sec. 23, 24, 26, and 35 of T. 10 S., R. 17 E., and sec. 20 of T. 10 S., R. 18 E.

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 3-1** lists the latest regulatory background values from UDAQ for the Uinta Basin.

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

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

Ground-level ozone (O₃) is a secondary pollutant that is formed by a chemical reaction between NO_x and VOCs in the presence of sunlight. Precursor sources of ozone include motor vehicle exhaust and industrial emissions, gasoline vapors, some tree species emissions, wood burning, and chemical solvents. Ozone is generally known as a summertime air pollutant. Ozone is a regional air quality issue because, along with its precursors, it transports hundreds of miles from its origins. Maximum ozone levels may occur at locations many miles downwind from the sources.

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 Federal Reference Monitors (used for making attainment/nonattainment designations), 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 VOC s are present and what their likely sources are.

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

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

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

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

The UDAQ conducted limited monitoring 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.

Greenhouse Gases

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 Nino global phenomena ever experienced. Most of the warming from 1950 through 2000 is speculated to be the result of human activities. Other aspects of the climate, such as rainfall patterns, snow and ice cover, and sea level, are also changing.

Summary

Based on the combination of methods available to estimate background air quality in the Uinta Basin some general and specific conclusions can be made regarding existing air quality in the project area. Ozone is the primary pollutant of concern, with a potential seasonal pattern the opposite of what is typically 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 Paleontology

A paleontological survey was conducted on all areas where surface disturbance would occur (i.e., well locations, access roads, and pipelines). Scientifically important fossils were found along the portion of the access road which runs through Sec. 23, 24, and 26 of T. 10 S., R. 17 E. Fossils were also found along the entire access road for the DS 16G-20-10-18.

3.1.3 Threatened, Endangered, And Candidate Plant Species

Uinta Basin hookless cactus (*Sclerocactus wetlandicus*)

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 tall. 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 Uinta Basin hookless cactus. Western Biota Biological/Environmental Consulting, Inc. performed an intensive plant survey of the well pads, access roads, and surrounding 300-foot buffer for the two well pads. No individual Uinta Basin hookless cactus individuals identified.

3.1.4 Soils and Vegetation

Soils are sandy loam, and the terrain is flat. The vegetation in the project area includes Wyoming big sagebrush (*Artemisia tridentata* var. *wyomingensis*), shadscale (*Atriplex confertifolia*), spiny hopsage (*Grayia spinosa*), broom snakeweed (*Gutierrezia sarothrae*), greasewood (*Sarcobatus vermiculatus*), milkvetch (*Astragalus* sp.), catseye cryptantha (*Cryptantha* sp.), globemallow (*Sphaeralcea* sp.), Indian ricegrass (*Achnatherum hymenoides*), ephedra (*Ephedra* sp.), and prickly pear cactus (*Opuntia* sp.). The following non-native plant species are found in the vicinity of the proposed surface disturbance: halogeton (*Halogeton glomeratus*), and Russian thistle (*Salsola* sp.)

3.1.5 Threatened, Endangered or Candidate Animal Species

Colorado River Fish Species

The U.S. Fish & Wildlife Service (USFWS) has identified four federally listed fish species historically associated with the Upper Colorado River Basin, including the Green and White Rivers. These fish are the Colorado pikeminnow, humpback chub, bonytail, and razorback sucker. The four fish species 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 and White River and their 100-year floodplains have been designated critical habitat for these four endangered fish species (USFWS 1994).

3.1.6 Fish and Wildlife Species Excluding USFWS Designated Species

Colorado River Fish Species

Three additional species are endemic to the Colorado River Basin, including the Green and White Rivers: roundtail chub, flannelmouth sucker, and bluehead sucker. 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.

Migratory Birds

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

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

Sagebrush -Steppe

Migratory bird species commonly associated with the sagebrush-steppe community within the project area include: the Brewer's sparrow* (*Spizella breweri*), grasshopper sparrow* (*Ammodramus savannarum*), green-tailed towhee* (*Pipilo chlorurus*), mountain bluebird* (*Sialia currocooides*), sage sparrow* (*Amphispiza belli*), sage thrasher* (*Oreoscoptes montanus*), Virginia's warbler* (*Vermivora virginiae*), horned lark (*Eremophila alpestris*), loggerhead shrike (*Lanius ludovicianus*), western kingbird (*Tyrannus verticalis*), northern mockingbird (*Mimus polyglottos*), vesper sparrow (*Pooecetes gramineus*) and western meadowlark (*Sturnella neglecta*) (UPIF 2002).

3.1.7 Lands with Wilderness Characteristics

Lands with wilderness characteristics are defined as areas having at least 5,000 acres in a natural or undisturbed condition, and provide outstanding opportunities for solitude or primitive forms of recreation. The proposed project area is completely contained within a 51,955-acre area that was inventoried by BLM in 2007 and found to have wilderness characteristics. Within the 2007 inventory of the Desolation Canyon, there were an additional 6,557 acres that were inventoried and found not to have wilderness characteristics. This information is documented in a 2007 Wilderness Characteristics Review completed by the Vernal Field Office and further discussed in the Vernal Proposed Plan/Final EIS on pages 3-43 through 3-48.

The ROD for the Approved Vernal RMP (2008) did not carry the Desolation Canyon area forward as a BLM natural area for the protection, preservation, or maintenance of the wilderness characteristics. This management decision was based on analysis in the Vernal Proposed Plan/Final EIS (2008), which showed Desolation Canyon as being located in an oil and gas development area with a moderate to high potential for future development. Page 4-211 of the Vernal Proposed RMP/Final EIS showed that 66 percent of the Desolation Canyon area is currently under lease. Given the existing leases, resource potential, level of past production, and ongoing exploration and development in the area, it was anticipated, under the Proposed RMP, that Desolation Canyon would have a direct loss of natural characteristics and opportunities for solitude and primitive and unconfined recreation due to surface disturbance and sights and sounds of development. Ultimately, the Proposed RMP analysis showed that 72 percent of the Desolation Canyon area would be affected over the life of the Approved RMP. A full analysis of impacts to this area and other lands with wilderness characteristics in the Vernal Field Office is contained in the Proposed RMP/Final EIS from pages 4-175 to 4-186. Under the Approved RMP the Desolation Canyon area is subject to other management decisions that allow for degradation or loss of the wilderness characteristics values.

CHAPTER 4 ENVIRONMENTAL IMPACTS

4.1 PROPOSED ACTION DIRECT AND INDIRECT IMPACTS

The potential direct, indirect, and cumulative impacts from Alternative A (the Proposed Action) and Alternative B (the No Action Alternative) are discussed in the following sections of Chapter 4. Direct impacts to soils and vegetation in the following analyses are described as short-term and long-term impacts. In areas where interim reclamation is implemented, ground cover by herbaceous and woody species could be re-established to approximately 75 percent of initial basal cover within five years following seeding of native plant species and diligent weed control efforts. However, it is important to note that recent BLM monitoring has documented that reclamation efforts for oil and gas development have largely been unsuccessful at re-establishing soil stability, vegetation, and subsequent forage for wildlife and livestock. The area's poor soil reclamation potential, has made successful reclamation efforts challenging. However, reclamation methods and success standards are addressed in the reclamation plan for the proposed locations that is required by the Vernal Field Office.

4.1.1 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 designated as attainment or unclassified. The Proposed Action will result in different emission sources associated with two project phases: well development and well production. Annual estimated emissions from the Proposed Action are summarized in **Table 4-1**.

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

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

Table 4-1. Proposed Action Annual Emissions (tons/year) ¹

Pollutant	Development	Production	Total
NO _x	28.40	4.40	32.80
CO	6.40	6.40	12.80
VOC	5.00	3.20	8.20
SO ₂	1.80	0.00	1.80
PM ₁₀	1.40	0.06	1.46
PM _{2.5}	0.60	0.02	0.62

Pollutant	Development	Production	Total
Benzene	0.06	0.06	0.12
Toluene	0.04	0.08	0.12
Ethylbenzene	0.04	0.06	0.10
Xylene	0.00	0.08	0.08
n-Hexane	0.10	0.04	0.14
Formaldehyde	0.00	0.00	0.00

¹ Emissions include 2 producing wells and associated operations traffic during the year in which the project is developed.

Emissions of NO_x and VOC, ozone precursors, are 32.80 tons/yr for NO_x, and 8.20 tons/yr of VOC (**Table 4-1**). Project emissions of ozone precursors would be dispersed and/ or diluted to the extent where any local ozone impacts from the Proposed Action would be indistinguishable from background conditions. The primary sources of HAPs are from oil storage tanks and smaller amounts from other production equipment. Small amounts of HAPs are emitted by construction equipment. However, these emissions are estimated to be less than 1 ton per year.

Mitigation

- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 grams of NO_x per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower-hour.
- All new and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 grams of NO_x per horsepower-hour.
- The following would be used as standard operating procedures: Green completion or controlled VOC emissions methods with 90% efficiency for Oil or Gas Atmospheric Storage Tanks, VOC Venting controls or flaring, Glycol Dehydration and Amine Unites, Well Completion, Re-Completion, Venting, and Planned Blowdown Emissions.

4.1.2 Paleontological Resources

The probability for impacting scientifically important paleontological resources during construction was determined to be moderate to high. Construction equipment could damage or destroy the fossils present along the roads for both locations. To prevent impacts, all vehicular traffic, personnel movement, construction, and restoration activities would be confined to areas cleared by the site inventory and to existing roads. Also, QEP has committed to have a qualified paleontologist monitor the construction in areas where scientifically important fossils were found and notify the BLM VFO if additional fossils are found. This will help mitigate adverse impacts to paleontological resources from this project.

4.1.3 Threatened, Endangered, and Candidate Plant Species

Uinta Basin hookless cactus (*Sclerocactus wetlandicus*)

As the surveys identified no individual cactus within 300 feet of surface disturbing activities, there will be no direct physical damage to individual Uinta Basin hookless cactus individuals.

Possible indirect and direct dispersed negative impacts which may result from implementation of the Proposed Action include: loss of suitable habitat; increased competition for space, light, and nutrients with invasive and noxious weed species introduced and spread due to the Proposed Action; accidental spray or drift of herbicides used during invasive plant control; and altered photosynthesis, respiration, and transpiration due to increased fugitive dust resulting from the surface disturbance and project related traffic. 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.

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.

4.1.4 Soils and Vegetation including Invasive Plants and Noxious Weeds

The Proposed Action would disturb approximately 14.53 acres of soils and vegetation. The portions of the disturbed area that are not utilized for production and product transportation would be subject to interim reclamation. If interim reclamation is not successful, the entire area could remain disturbed for the long term. Long-term impacts to vegetation are expected for the life of the well (an average of 25 years or until reclamation is successful).

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

Direct impacts to soils include mixing of soil horizons, soil compaction, loss of topsoil and site productivity, and loss of soil/topsoil through wind and water erosion. Loss of soil/topsoil in disturbed areas would reduce the revegetation success of seeded native species due to increased competition by annual weed species. Annual weed species are adapted to disturbed conditions, and have less stringent moisture and soil nutrient requirements than do perennial native species.

Additional direct impacts to vegetation are primarily associated with clearing of vegetation during construction. Indirect impacts to vegetation resources include the invasion and establishment of introduced, undesired plant species. The severity of these invasions would depend on the success of reclamation and revegetation, and the degree and success of noxious weed control efforts.

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

Mitigation

- All vehicles and equipment shall be cleaned either through power-washing, or other approved method, if the vehicles or equipment were previously operated outside the Uinta Basin, to prevent weed seed introduction.
- All disturbance areas shall be monitored for noxious weeds annually, for a minimum of three growing seasons following completion of project or until desirable vegetation is established.

4.1.5 Threatened, Endangered or Candidate Animal Species

Colorado River Fish Species

Water depletions from the Upper Colorado River Drainage System, along with a number of other factors, have resulted in such drastic reductions in the populations of the Colorado pikeminnow, humpback chub, bonytail, and razorback sucker that the Service has listed these species as endangered and has implemented programs to prevent them from becoming extinct.

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

The potential exists for water intake structures placed in the Upper Colorado River Drainage System (flowing rivers and streams) to result in mortality to eggs, larvae, young-of-the-year, and juvenile life stages. BLM and their applicants would minimize this potential by following ACEPMs (listed below and in Chapter 2). Key habitat components for foraging or cover may be removed or altered due to equipment, including decreased water quantity for aquatic species from dewatering during low flow periods.

The proposed action would result in water depletion from removal of water from the Upper Colorado River Drainage System for construction and drilling operations. Therefore, the proposed action would have a “*may affect, likely to adversely affect*” determination for the endangered Colorado pikeminnow, humpback chub, bonytail, and razorback sucker.

Mitigation

- The best method to avoid entrainment is to pump from an off-channel location – one that does not connect to the river during high spring flows. An infiltration gallery constructed in a BLM and Service approved location is best.
- If the pump head is located in the river channel where larval fish are known to occur, the following measures apply:
 - a. do not situate the pump in a low-flow or no-flow area as these habitats tend to concentrate larval fishes;
 - b. limit the amount of pumping, to the greatest extent possible, during that period of the year when larval fish may be present (April 1 to August 31); and

- c. limit the amount of pumping, to the greatest extent possible, during the pre-dawn hours as larval drift studies indicate that this is a period of greatest daily activity.
- Screen all pump intakes with 3/32" mesh material.
- Approach velocities for intake structures will follow the National Marine Fisheries Service's document "Fish Screening Criteria for Anadromous Salmonids". For projects with an in-stream intake that operate in stream reaches where larval fish may be present, the approach velocity will not exceed 0.33 feet per second (ft/s).
- Report any fish impinged on the intake screen to the Service (801-975-3330) and the Utah Division of Wildlife Resources:
 - Northeastern Region
 - 152 East 100 North, Vernal, UT 84078
 - Phone: (435) 781-9453

4.1.6 Fish and Wildlife Species Excluding USFWS Designated Species

Colorado River Fish Species

The analysis for the three sensitive fish species is the same as the analysis for threatened, endangered fish species; therefore, the same mitigation measures apply. It is not anticipated that the proposed action will result in the need to list sensitive fish species.

Migratory Birds

The proposed action would result in a loss and/or fragmentation of migratory bird habitat. Direct impacts to nesting and breeding migratory may occur, depending upon the time of construction 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. Construction would likely have a greater impact on Utah Partners in Flight high-priority migratory bird species that may be utilizing the project area due to their declining populations, habitat requirements, dependence on restricted or vulnerable habitats, and limited distribution. Successful reclamation efforts would return disturbed habitats to pre-disturbance levels. These impacts are not seen as contributing to the decline in overall migratory bird species' populations.

4.1.7 Lands with Wilderness Characteristics

Under the Proposed Action, development of up to two well pads, construction of up to 2.21 miles of new road surface, and installation of production facilities would directly disturb approximately 14.53 acres within the Desolation Canyon wilderness characteristics area. Indirect impacts would extend beyond the 14.53 acres of direct disturbance, and would include those areas within sight and/or sound of construction activities or production facilities. To determine potential indirect effects of the project on wilderness characteristics, the assumption was made that areas within ½-mile of oil and gas related development and roads would lose the constituents used to define wilderness (i.e., naturalness and possessing opportunities for solitude and primitive and unconfined recreation). Using this assumption, a GIS calculation of a ½-mile sight and sound buffer placed around the proposed well pads and roads encompasses approximately 923 acres. These 923 acres are assumed to lose the constituents used to define wilderness characteristics as described in the following paragraphs.

Size

Implementation of the Proposed Action would directly disturb approximately 14.53 acres or less than one percent of the total area with wilderness characteristics. Although linear surface disturbances would be introduced into the natural landscape, the size of the wilderness characteristics area would not be segmented into areas less than 5,000 acres.

Naturalness

Changes in naturalness are often described in terms of human modification of the natural landscape. The construction and operation of oil well facilities and associated roads would result in both short-term and long-term impacts to the area's predominantly natural appearing landscape that currently has little evidence of human activity. Proposed roads, and well pads would cause a direct loss of naturalness on 47.7 acres (less than one percent of the total wilderness characteristics area) and change the natural character of the landscape.

Indirect impacts would include all changes in the natural environment that would be visible to the casual observer from within the wilderness characteristics areas (e.g., surface disturbance, construction equipment, and production facilities). Under the Proposed Action, it is assumed that the indirect loss of naturalness (i.e., those wilderness characteristics areas that fall within the ½ mile sight and sound buffer of development) could be up to 923 acres. However, due to the rugged topography, vegetation, and overall size of the impacted area, many facilities would be visually screened. Therefore, naturalness may still exist in isolated pockets throughout the potentially impacted area.

Outstanding Opportunities for Solitude

Noise from construction and drilling equipment would reduce the quality of the opportunity for solitude in the immediate vicinity of the development. These noise effects would be temporary in that they would last only during the time it would take to construct (daytime activity only) and drill (around the clock activity) the wells. During production, a limited loss of solitude would occur from noise and associated visual effects of the development. A drilling rig would be visible and would be heard throughout the Project Area for approximately 21 days per well. Tanks, wellheads, and metering equipment would be visible evidence of oil and gas development activities. Slight impacts to solitude may also occur with the limited increase that can be expected in recreational and/or administrative use of the new access roads. Constructing, drilling and maintaining the proposed wells and road would result in a direct loss of solitude on 14.53 acres (or less than one percent of the total unit) that were previously undisturbed. Implementation of the Proposed Action could indirectly impact approximately 923 acres of the wilderness characteristics area and opportunities for solitude.

Outstanding Opportunities for Primitive and Unconfined Recreation

Opportunities for primitive and unconfined recreation would be diminished in proportion to the expected loss of naturalness and solitude. In disturbed locations, the loss of opportunity for primitive recreation would be related to the change from an undeveloped setting to a more industrial setting. Due to the rugged topography and overall size of the impacted area, some of the facilities would be visually screened. Therefore, opportunities for primitive and unconfined

recreation may still exist in isolated pockets throughout the impacted area; these opportunities would no longer be outstanding.

Summary

In summary, impacts to wilderness characteristics would last the life of the project until reclamation is complete. The proponent has agreed to the following measures which would reduce the abovementioned impacts.

- All permanent facilities located on site longer than 6 months would be painted a color to match the surround environment.
- Telemetry will be installed to remotely monitor and control production.
- Water or other approved suppressants would be used during construction activities to abate fugitive dust.
- Signs will be installed on the access roads advising speeds of 25 MPH during the drilling phase to decrease fugitive dust from truck traffic.
- The drilling rig will be powered by a Tier II or better diesel engine.
- A suitable muffler will be installed on the pumping unit to help control noise.
- The locations are hidden by natural topography.
- Location size has been reduced as much as possible.
- The access road will be constructed to follow the contour of the landform and mimic lines in the vegetation.
- Interim reclamation would be implemented on all disturbed areas that are not needed for production activities.

It is expected that wilderness characteristics would be degraded in the Desolation Canyon area. If both wells were developed and productive, the Desolation Canyon lands with wilderness characteristics would lose some of their natural values due to the additive effect of surface disturbing activities, roads, and production facilities. As predicted in Chapter 4 of the Vernal Proposed Plan/Final EIS (2008), the amount of lands currently under lease in the Desolation Canyon wilderness characteristics area - in combination with the anticipated development of those leases - would cause this area to lose the naturalness value and degrade the solitude and primitive recreation opportunities of the wilderness characteristic lands.

4.2 NO ACTION ALTERNATIVE

4.2.1 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.

4.2.2 Paleontology

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

4.2.3 Threatened, Endangered, and Candidate Plant Species

Under the No Action Alternative, there would be no direct or indirect project related impacts to the threatened Uinta Basin hookless cactus or its habitat. 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.

4.2.4 Soils and Vegetation including Invasive Plants and Noxious Weeds

Under the No Action Alternative, there would be no direct disturbance or indirect effects to soils and vegetation from surface-disturbing activities associated with this well. 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.

4.2.5 Threatened, Endangered or Candidate Animal Species Fish

Under the no action alternative, there would be no direct disturbance and mortality, indirect effects or cumulative effects to threatened, endangered, and proposed, or candidate wildlife species or habitat from surface disturbing activities associated with the construction of the proposed action.

4.2.6 Fish and Wildlife Species Excluding USFWS Designated Species

Under the no action alternative, there would be no direct disturbance and mortality, indirect effects or cumulative effects to sensitive river fish species from surface disturbing activities associated with the construction of the proposed action. There would also be no direct disturbance or indirect effects to migratory birds from surface disturbing activities associated with the construction and drilling of the proposed project wells. Current land use trends in the area would continue, including industrial development, OHV traffic, and recreation use for hunting, bird watching, and sightseeing.

4.2.7 Lands with Wilderness Characteristics

Under the no action alternative, there would be no direct disturbance to lands with wilderness characteristics from surface disturbing activities associated with the construction of the proposed action. 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.

4.3 CUMULATIVE IMPACTS ANALYSIS

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

4.3.1 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, it can be seen from **Table 4-2** that the VOC and NOx emissions from the Proposed Action comprise a small percentage of the WRAP baseline emissions.

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

Species	Proposed ^a Action Production Emissions (ton/yr)	WRAP Phase III 2012 Uintah Basin Emission Inventory ^b (ton/yr)	Percentage of Proposed Action to WRAP Phase III
NO _x	32.80	16,547	0.2%
VOC	8.20	127,495	6.4%

^a see Table 4-1

^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 NOx and VOC emissions are projected at 16,547 and 127,495 ton/yr, respectively. Potential VOC emissions from the Proposed Action represent only 6.4% of the total 2012 VOC estimated emissions for the region, and potential NOx emissions from the Proposed Action represent only 0.2% of the total 2012 VOC estimated emissions for the region.

Based on the magnitude of the projected increase in VOC emissions for the Uinta Basin from 2006 to 2012, and the inconsequential contribution that would be emitted from the Proposed Action, an accurate analysis of potential ozone impacts from the Proposed Action is not feasible. Any cumulative ozone impacts from the Proposed Action would be indistinguishable from, and dwarfed by, the margin of uncertainty associated with the regional cumulative VOC and NOx emission inventory. Thus the potential cumulative ozone impact from the Proposed Action cannot be modeled with any accuracy due to the level of the emissions from the Proposed Action, the size of the project, and the lack of model sensitivity. When compared to regional emissions inventories, the amounts of ozone precursors emitted from the Proposed Action are not

expected to have a measurable contribution or effect on regional ozone formation. The No Action alternative would not result in an accumulation of impacts.

The assessment of 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.

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.

4.3.2 Paleontology

The CIAA for paleontology is the project area because fossils are typically discrete units. No other past, present, or reasonably foreseeable impacts are anticipated in the project area. The Proposed Action has the potential to damage or destroy fossils, especially along the access roads, however the applicant's commitment to monitor construction reduces the potential for fossil destruction. The No Action Alternative would not result in an accumulation of impacts.

4.3.3 Endangered, Threatened, and Candidate Plant Species

Uinta Basin hookless cactus (*Sclerocactus wetlandicus*)

The CIAA for the Uinta Basin hookless cactus is the USFWS's potential habitat polygon. The area delineated by the USFWS as potential habitat for Uinta Basin hookless cactus covers approximately 517,631 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 517,631 acres. However, a complete survey of suitable habitat has not been performed and thus the amount of suitable habitat has not been quantified.

Within the CIAA, there are 11 active 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, 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 13,419 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 4,979 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 tier to any of the above NEPA documents. As of 3/28/2011, there are 527 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, 2,635 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 3,331 well pads that serve as platforms for actively producing wells not permitted under these documents. Using the above assumption, this has resulted in 16,655 acres of surface disturbance (3.2% of the CIAA). Finally, 761 wells that do not tier to these documents are currently proposed and will result in 3,805 acres of surface disturbance (0.7% of the CIAA). These projects, if all approved as described above, would result in 40,486 acres of surface disturbance. If it assumed that disturbance would be relatively uniform throughout their individual project areas, then there will be about 22,134 acres of disturbance with the CIAA due to the projects (4.3% of the CIAA).

In total 50,208 acres (9.7% of the CIAA) have been or will be disturbed within the CIAA due to energy development activities. Within the CIAA, there are approximately 1,828 miles of roads. The Proposed Action would add 14.53 acres of new surface disturbance. The No Action Alternative would not result in an additional accumulation of impacts. Impacts to the species from past, current, and reasonably foreseeable actions may be greater or smaller than those described for the total area depending upon the exact distribution of actions relative to suitable habitat.

4.3.4 Soils and Vegetation including Invasive Plants and Noxious Weeds

The CIAA for soils and vegetation is the boundary of the Draft Environmental Impact Statement for the Gasco Uinta Basin Natural Gas Development Project (BLM 2010). The CIAA encompasses approximately 206,826 acres of land within Duchesne and Uintah Counties in the southern part of the Uinta Basin. Cumulative impacts to vegetation include a degradation of local habitat by direct disturbance and slow reclamation of disturbed areas, as well as the establishment or spread of noxious or invasive weed species. Cumulative impacts to soils include an increase in erosion due to the surface disturbance associated with oil and gas activities. Each acre of disturbance adds to a cumulative effect by increasing erosion and destroying native vegetation, and through the invasion of undesired plant species. In general, soils in the Uinta Basin are very thin, slow to develop, and difficult to reclaim because of the arid climate and lack of organic material. The foreseeable activity for the Gasco DEIS is 1,491 new wells. Future total area of disturbance due to oil and gas activity for the Gasco DEIS project area is approximately 21,251 acres. The Proposed Action would add approximately 14.53 acre of surface disturbance. The No Action alternative would not result in an accumulation of impacts.

4.3.5 Threatened, Endangered or Candidate Animal Species Fish

Colorado River Fish Species

The CIAA for special status fish is the Green and White Rivers. 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. Cumulative water depletions from ongoing agricultural municipal and oil and gas activities have the potential to reduce or alter critical habitat. Cumulative effects to this species would also include the following types of impacts: changes in land use patterns that would further fragment, modify, or destroy potential spawning sites or designated critical habitat; shoreline recreational activities and encroachment of human development that would remove upland or riparian/wetland vegetation and potentially degrade water quality; and competition with, and predation by, exotic fish species introduced by anglers or other sources. The Proposed Action would result in 3 acre feet per year of water depletion from the Colorado River basin. The No Action Alternative would not result in an accumulation of impacts.

4.3.6 Fish and Wildlife Species Excluding USFWS Designated Species

Colorado River Fish Species

The cumulative impacts for the three special status fish is the same as described in section 4.3.5 for the four endangered fish species.

Migratory Birds

The CIAA for migratory birds is the boundary of the Draft Environmental Impact Statement for the Gasco Uinta Basin Natural Gas Development Project (BLM 2010). The CIAA encompasses approximately 206,826 acres of land within Duchesne and Uintah Counties in the southern part of the Uinta Basin. Ongoing and planned surface disturbing activities in the project area would cumulatively reduce the amount of available cover, foraging opportunities, and breeding areas for migratory birds and raptors. Well drilling and other human activities would incrementally reduce the productivity of the habitats affected and increase the amount of human presence and use of the region for, at a minimum, the lives of the projects (approximately 25 years). Additional development could preclude migratory birds from using areas of more intensive human activity. In general, the severity of the cumulative effects would depend on factors such as the sensitivity of the species affected, seasonal intensity of use, type of project activity, and physical parameters (e.g., topography, forage, and cover availability). The foreseeable activity for the Gasco DEIS is 1,491 new wells. Future total area of disturbance due to oil and gas activity for the Gasco DEIS project area is approximately 21,251 acres. The Proposed Action would add approximately 14.53 acre of surface disturbance. The No Action alternative would not result in an accumulation of impacts.

4.3.7 Lands with Wilderness Characteristics

The CIAA for this resource is the boundary of the Desolation Canyon lands with wilderness characteristics area as described in the Vernal RMP. During the RMP planning process, it was determined that 51,955 acres in the Desolation Canyon lands with wilderness characteristics area contained wilderness characteristics. This information is documented in a 2007 Wilderness Characteristics Review completed by the Vernal Field Office and further discussed in the Vernal Proposed Plan/Final EIS on pages 3-43 through 3-48. However, the Proposed Plan/Final EIS disclosed that the Desolation Canyon lands with wilderness characteristics area is located in an oil and gas development area with a moderate to high potential for future development. Page 4-

211 of the Vernal Proposed RMP/Final EIS showed that 66 percent of the Desolation Canyon area is currently under lease. Given the existing leases, resource potential, level of past production, and ongoing exploration and development in the area, it was anticipated, under the Proposed RMP, that Desolation Canyon would have a direct loss of natural characteristics and opportunities for solitude and primitive and unconfined recreation due to cumulative surface disturbance and sights and sounds of development. Ultimately, the Proposed RMP analysis showed that 72 percent of the Desolation Canyon area would be affected over the life of the Approved RMP. A full analysis of impacts to this area and other lands with wilderness characteristics in the Vernal Field Office is contained in the Proposed RMP/Final EIS from pages 4-175 to 4 -186. Under the Approved RMP the Desolation Canyon area is subject to management decisions that allow for degradation or loss of the wilderness characteristics values. The Proposed Action would add 14.53 acres of direct disturbance, and approximately 923 acres of indirect impacts to wilderness characteristics in the CIAA.

CHAPTER 5 PERSONS, GROUPS, AND AGENCIES CONSULTED

5.1 SUMMARY OF PUBLIC PARTICIPATION

The Proposed Action was posted to the Utah BLM's Environmental Notification Bulletin Board on September 9, 2010. As a result of public request, a 30 day public comment period was held from October 7, 2011 through November 7, 2011. Comment letters were submitted by the State of Utah Office of the Governor, Uintah County, and Southern Utah Wilderness Alliance (SUWA). The SUWA comment letter included an attachment from Ken Kreckel that contained additional comments which have been responded to separate from the SUWA comment letter. Comments and responses are as follows:

Commenter	Comment and Response
Utah 1	<p><i>Comment:</i> Because fugitive dust may be generated during soil disturbance, the proposed project will be subject to Air Quality rule R307-205-5 for Fugitive Dust. These rules apply to construction activities that disturb an area greater than ¼ acre in size. A permit, known as an Approval Order, is not required from the Executive Secretary of the Air Quality board, but steps need to be taken to minimize fugitive dust, such as watering and/or chemical stabilization, providing vegetative or synthetic cover, or windbreaks.</p> <p><i>Response:</i> The applicant committed measure listed in section 2.2.6.1 discloses that water or other approved dust suppressants would be used as appropriate.</p>
Utah 2	<p><i>Comment:</i> The State encourages the use of Best Management Processes in protecting air quality in Utah. The state recommends the following BMPs as standard operating procedures: 1) Emission Standards for Stationary Internal Combustion Engines of 2 g/bhp-hr of NOx for engines less than 300 HP (Tier 3) and 1 g/bhp-hr of NOx for engines over 300 HP (Tier 3); 2) No or low bleed controllers for Pneumatic Pumps, Actuators, and other Pneumatic devices; and 3) Green completion or controlled VOC emissions methods with 90% efficiency for Oil or Gas Atmospheric Storage Tanks, VOC Venting controls or flaring, Glycol Dehydration and Amine Unites, Well Completion, Re-Completion, Venting, and Planned Blowdown Emissions.</p> <p><i>Response:</i> The first recommendation is identified as a mitigation measure in section 4.1.1. The second recommendation is identified as an applicant committed measure in section 2.2.6.1. The third recommendation has been added as a mitigation measure to section 4.1.1</p>
Utah 3	<p><i>Comment:</i> If compressors or pump stations are constructed at the site, a permit application, known as a Notice of Intent, should be submitted to the Executive Secretary at the Utah Division of Air Quality at 150 N 1950 W Salt Lake City Utah 84116 for review according to R307-401: Permit: Notice of Intent and Approval Order, of the Utah Air Quality Rules.</p> <p><i>Response:</i> No compressors or pump stations would be installed as a part of this proposed action.</p>

<p>Uintah County 1</p>	<p><i>Comment:</i> Since air quality has become a major concern within the Uinta Basin, Uintah County recommends that proactive best management practices be employed in dealing with air quality standards and guidelines.</p>
	<p><i>Response:</i> The operator has committed to implement the air quality measures listed in section 2.2.6.1. Additional air quality impact mitigation measures have been identified in section 4.1.1.</p>
<p>SUWA 1</p>	<p><i>Comment:</i> Mr. Kreckel proposes alternatives that will all serve to reduce impacts to other resource values while generally permitting QEP to access subsurface oil deposits within its leases. These alternatives – which provide at least four different development scenarios for BLM – are reasonable feasible alternatives to the proposed action and must be considered by the BLM.</p>
	<p><i>Response:</i> These alternatives have been added to chapter 2 as appropriate. Mr. Kreckel’s comments are also specifically responded to below.</p>
<p>SUWA 2</p>	<p><i>Comment:</i> Among other things these alternatives proposed by Mr. Kreckel would help to satisfy Secretarial Order 3310’s mandate that BLM prioritize the protection of areas with wilderness characteristics. The fiscal year limitation on SO 3310 has now passed and the Secretary’s subsequent instruction not to designate Wild Lands did not rescind his mandate that BLM prioritize wilderness characteristics in resolving resource conflicts.</p>
	<p><i>Response:</i> SO 3310 mandates the protection of the open and productive natural state of such lands consistent with the BLM’s planning and management authorities. It further states that “All BLM offices shall protect these inventoried wilderness characteristics when . . .making project-level decisions by avoiding impairment of such wilderness characteristics unless the BLM determines that impairment of wilderness characteristics is appropriate and consistent with applicable requirements of law and other resource management considerations. The project area was reviewed for the presence of wilderness characteristics during the preparation of the Vernal RMP. As disclosed in the EA, the area was determined to have wilderness characteristics. However, the RMP anticipated that those wilderness characteristics would be lost upon development of valid existing leases. For the full analysis, refer to pages 4-175 to 4-186 of the Proposed RMP. Final EIS. Therefore, this project is consistent with the SO’s mandate.</p>
<p>SUWA 3</p>	<p><i>Comment:</i> The BLM has failed in this EA to comply with Environmental Justice mandates (EO 12898) and it has not taken a hard look at how the direct, indirect, and cumulative impacts of this project and others will affect environmental justice. BLM IM 2002-164 states that the “BLM will promote and provide full involvement of minority populations, low-income communities, and Tribes in BLM decisions that affect their lives, livelihoods, and health”. It does not appear that the BLM has done that here.</p>
	<p><i>Response:</i> The potential for this project to impact low income and minority communities was reviewed during the preparation of this EA as documented in Appendix B.</p>

SUWA 4	<p><i>Comment:</i> There is no mention in the EA of the fact that two nearby communities, Fort Duchesne and Randlett, “have greater than 50% of residents in poverty and greater than 90% minority residents” according to the 2000 Census. Another nearby community, Myton, Utah, has a poverty rate of 38% according to the 2000 Census. The BLM acknowledge in the Gasco DEIS that “disproportionate adverse impacts to low-income populations could result from increased housing costs brought about by the current “boom” the area is experiencing, making it more difficult for them to afford adequate housing”. The EA should disclose, analyze, and discuss the large minority populations in these communities and their high rates of poverty and how their opportunities for adequate affordable housing could be made more difficult. If nothing else, this is a potentially significant cumulative impact in the area that could result from the QEP project combined with all other ongoing and reasonably foreseeable development in the area, such as the Gasco DEIS project. The Gasco DEIS project completely encompasses the QEP project.</p>
	<p><i>Response:</i> During 2006, when the referenced Gasco statement was made, housing was a concern in the Uinta Basin due to the number of workers moving into or staying in the area for jobs created by the boom. Since the end of the boom in 2009, housing has become more available in the Basin. This trend is mirrored by the number of rigs working in Utah. According to the Baker-Hughes current and historic rig count, accessed online on December 23, 2011, the average rig count in the State of Utah for the 2006 boom referenced in the Gasco DEIS was 40. According to the same data, the average rig count in Utah for 2011 is 28. It is not anticipated that the rig required to drill these two wells, combined with the current rig count, will make obtaining adequate affordable housing more difficult for minority or low income populations.</p>
SUWA 5	<p><i>Comment:</i> The EA also fails to discuss cumulative impacts to low income and minority populations in the area that will be disproportionately affected by high levels of air pollution, such as ozone pollution, from oil and gas development in the region. Likewise, the EA does not discuss how elevated levels of fine particulates (PM2.5) and nitrogen dioxide (NO2) will impact nearby low income and minority populations.</p>
	<p><i>Response:</i> Ozone is by nature a regional air pollutant so will not impact low and minority income communities disproportionately. Based on air quality monitoring that has been conducted over the past two years it appears elevated ozone concentrations during winter inversion events is distributed throughout the Uinta Basin, and not confined to any one particular area where low income or minority populations predominate.</p>
SUWA 6	<p><i>Comment:</i> The BLM has failed in its obligation of ensuring that no project which will exceed federal air quality standards is approved. The EA attempts to waive this all away by suggesting that because this project is minor the BLM is excused from its NEPA cumulative impacts analysis duty as well as its FLPMA obligation to ensure that its approvals do not violate federal air quality standards.</p>

	<p><i>Response:</i> At this time BLM cannot conclusively state whether monitored elevated concentrations of ozone will lead to a violation of the federal ozone standard or not. Monitoring data over the past two years has found winter ozone concentrations well above the federal standard, however no determination on exceedences has been made by the EPA. In addition, the current state of the science precludes BLM from predicting future winter ozone concentrations due to the inability of current models to replicate winter ozone formation. The information needed to make these determinations is currently unavailable per 40 CFR 1502.22. Since the information needed to make this determination is highly relevant to predicting impacts from projects BLM might authorize in the Uinta Basin, BLM and other federal, state, and local agencies are undertaking significant and extensive scientific studies to further the science in this area. In addition, BLM is following accepted best management practices, including the application of presumptive Best Available Control Technology, and following generally accepted scientific analytical methods in evaluating and mitigating projects in the Uinta Basin. These standards and practices have been applied to the QEP project,</p> <p>As disclosed in section 4.1.1, no emission exceedences of the NAAQS standards for NOx, CO, VOC, SO2 or PM10 would occur as a result of this project. Cumulative impacts to air quality are analyzed in 4.3.1 of the EA. Regardless, emission reduction measures have been committed to by the company (section 2.2.6.1), and have been identified as potential mitigation measures by the BLM (section 4.1.1) to minimize the impact of this project on air quality while allowing for the development of valid existing rights.</p>
SUWA 7	<p><i>Comment:</i> The Uinta Basin is properly categorized as “unclassifiable/attainment,” not “attainment. The EA is incorrect to assert that the Uinta Basin is or has been classified exclusively as an “attainment” area anytime in the recent past.</p> <p><i>Response:</i> The EA discloses in section 3.1.1 that the Uinta Basin is considered to be unclassified/attainment. Section 4.1.1 has been corrected to state that the Uinta Basin is designated as attainment or unclassified. Unclassified areas are regulated as attainment areas in the Clean Air Act.</p>
SUWA 8	<p><i>Comment:</i> In fact, it should now be properly classified as a nonattainment area. The Uinta Basin is now on an irreversible path of nonattainment classification. The BLM should not use area designation to distract from the excessive ozone pollution levels of the Uinta Basin.</p> <p><i>Response:</i> The area is not classified as nonattainment. Recommending and classifying an area as nonattainment is the responsibility of the EPA and/or the State of Utah, and is determined based on criteria set forth in the Clean Air Act. The EA recognizes the monitored elevated winter ozone concentrations, and in sections 2.2.6.1, 3.1.1, 4.1.1, and 4.3.1 the BLM has disclosed the applicant’s committed measures to reduce ozone precursor emissions associated with this project, the existing monitored air quality situation, the emissions expected from this project and additional potential mitigation measures, and the expected cumulative impact.</p>

SUWA 9	<p><i>Comment:</i> The EA inexplicably suggests that the two monitors are not being “operated to [Code of Federal Regulations (CFR)] standards, and as such are not considered adequate data to make a NAAQS determination”. This assertion is incorrect and unjustified; these monitors are being operated according to CFR standards and there is no reason the data cannot be used for a NAAQS determination. Since the EPA has primacy here, and this data is being collected for the EPA in full compliance with the federal regulations related to ambient monitoring, this data should be usable for area designation purposes by the EPA and for NAAQS designation purposes.</p> <p><i>Response:</i> The statement has been corrected to state that the monitors are not Federal Reference Monitors. Designation of Federal Reference Monitors and use of monitoring data for attainment/nonattainment determinations is the responsibility of the EPA and is outside the scope of this EA and the jurisdiction of the BLM.</p>
SUWA 10	<p><i>Comment:</i> Without adequate ozone modeling, the EA cannot conclude that ambient air quality standards [for ozone] will not be violated. The EPA reinforced the necessity of modeling for ozone with its comments on a recent BLM land use plan, confirming that without dispersion modeling, BLM could not guarantee that it would meet federal air quality standards. There is no record support for the EA’s contention that this project is small and unlikely to have an impact on ozone pollution; it has never adequately modeled ozone pollution from this project or from any activity in the Uinta Basin and ozone formation is non-linear.</p> <p><i>Response:</i> The EA does not conclude that the project is unlikely to impact ozone levels. Section 4.1.1 specifically lists the expected emissions of NOx and VOCx (ozone precursors). In accordance with the Joint MOU signed by EPA and BLM among other agencies, modeling is not required if an existing model analysis adequately describes air quality impacts and impacts to air quality related values for the area under consideration. Three ozone models for the Uintah Basin have been incorporated into this document by reference: the UBAQS model, the Greater Natural Buttes Model, and the Gasco Model. The question of adequacy of these models is addressed more specifically in a subsequent comment response.</p>
SUWA 11	<p><i>Comment:</i> The EA may not simply ignore winter pollution either because it does not lend itself to easy modeling. Instead the BLM may implement steps for qualitatively describing the winter problem and evaluating how the project may be changed to avoid exacerbating this issue. The project will clearly produce ozone precursors: VOCs and NOx. Thus the project will contribute some ozone. Though the amount may be small in relation to all other ozone precursor emissions in the Uinta Basin, it is a contribution and it will only further exacerbate the poor air quality in the region. The EA appears to distort the BLM’s cumulative impact obligation by suggesting that a cumulative analysis is not necessary because this project will only produce a small fraction of all pollution in the area.</p>

	<p><i>Response:</i> The existing winter ozone issue is described in section 3.1.1. The EA does not conclude that the project is unlikely to impact ozone levels. Section 4.1.1 quantifies the expected emissions of NOx and VOCs (ozone precursors). Emission reduction measures have been committed to by the company (section 2.2.6.1), and have been identified as potential mitigation measures by the BLM (section 4.1.1) to minimize the impact of this project on ground level ozone formation while allowing for the development of valid existing rights. A cumulative impact analysis for ozone (including a cumulative quantification of NOx and VOCs emissions based on the WRAP Phase III 2012 Uintah Basin Emission Inventory) is included in section 4.3.1.</p>
SUWA 12	<p><i>Comment:</i> Recent monitoring shows that air quality standards are not being met here. Therefore, there is no support for the Vernal Field Office's conclusion that federal standards will be met and the EA has failed to adequately analyze the impacts of oil and gas development on human health.</p> <p><i>Response:</i> The EA acknowledges that recent ozone air monitoring data has monitored concentrations above ambient air quality standards during winter inversion events. While no single source or project is by and of itself responsible for either direct or cumulative ozone concentrations, even relatively insignificant sources contribute to ozone formation, including virtually all human activities. While QEP has minor levels of ozone precursor emissions compared to regional emission levels, it is correct that BLM cannot conclusively state that Federal ambient air quality standards will be met in the Uinta Basin. This is true for all alternatives in the EA, including the no action alternative. The referenced statement in the EA will be corrected to reflect this.</p>
SUWA 13	<p><i>Comment:</i> The QEP EA does not disclose that cumulative impacts from oil and gas development in the area are likely to lead to continued exceedances of federal air quality standards.</p> <p><i>Response:</i> See response to Comment 12.</p>
SUWA 14	<p><i>Comment:</i> BLM has not quantified how much it expects ambient concentrations of ozone pollution to increase in the region as a result of this project and all other reasonably foreseeable activity. The EA does not even state whether ozone pollution in the region will increase, decrease, or stay the same as a result of all the ongoing and reasonably foreseeable activity in the region.</p> <p><i>Response:</i> As disclosed in section 3.1.1, the interaction between VOCs and NOx is a non-linear photochemical reaction, and models do not currently exist that predict winter ozone formation with reasonable accuracy. In addition, it is unknown whether VOCs or NOx are the limiting factor in the reaction in the Uinta Basin. This makes quantification of ozone pollution in the future impossible. It is anticipated in the immediate future that emission of ozone precursors is likely to continue to increase. However, most operators in the Uinta Basin are already implementing significant field wide emission reduction measures for their existing operations, including centralized facilities to reduced trucking and retrofitting producing well facilities, in an effort to reduce ozone precursor emissions.</p>

SUWA 15	<p><i>Comment:</i> The EA completely fails to analyze ground level ozone pollution that will result from vehicle travel in the area as well as all other oil and gas development in the area.</p> <p><i>Response:</i> Vehicle travel was included in the emission inventories that were used to develop the referenced UBAQS, Greater Natural Buttes, and Gasco models.</p>
SUWA 16	<p><i>Comment:</i> The EA cites three different air quality studies for cumulative impacts analysis to air quality: the Uinta Basin Air Quality Study (UBAQS), the Greater Natural Buttes air quality study, and the Gasco air quality study. None of these three studies provides satisfactory analysis and it is improper for the BLM to attempt to rely on them now.</p> <p><i>Response:</i> Please note that these models predict summertime ozone formation, and that the high ozone numbers being recorded in the Uinta Basin occur during the winter. Specific concerns regarding the adequacy of these models are addressed in the subsequent comments.</p>
SUWA 17	<p><i>Comment:</i> The EA cannot rely on UBAQS for air quality analysis – if it does, it must acknowledge that impacts from oil and gas development will exceed federal air quality standards based on this study.</p> <p><i>Response:</i> UBAQS did project a few isolated exceedances of the ozone NAAQS in the summertime. It was thought that these exceedances resulted from the use of Wasatch Front monitoring data, which were the only monitoring data available at the time, to calibrate the model. Please note that to date, Uinta Basin air quality monitors have not recorded a summertime exceedance of the ozone standard.</p>
SUWA 18	<p><i>Comment:</i> UBAQS was developed before monitoring data showed that winter ozone levels in the Uinta Basin were well above federal standards. UBAQS is inconsequential and meaningless for that reason alone.</p> <p><i>Response:</i> All existing models (including the UBAQS, Greater Natural Buttes, and Gasco models) predict summertime ozone formation when there is a high atmospheric mixing horizon. Although winter ozone models are under development, none currently exist that predict winter ozone formation with a reasonable degree of accuracy. The Uinta Basin’s high ozone numbers are all recorded in the wintertime during intense inversion events (low mixing horizons).</p>
SUWA 19	<p><i>Comment:</i> The BLM has still not prepared adequate ozone analysis for the Uinta Basin.</p> <p><i>Response:</i> Each model (UBAQS, Greater Natural Buttes, and Gasco) as it was developed was state of the art at the time, with Greater Natural Buttes and Gasco being the latest and best data currently available.</p>
SUWA 20	<p><i>Comment:</i> Neither the Greater Natural Buttes air quality study nor the Gasco air quality study is helpful here. Both are draft documents and have not been finalized. Both predict increases in ambient concentrations of ozone. Thus, if BLM attempts to rely on them it must acknowledge that the cumulative impacts to oil and gas development in the region are significant and that federal air quality standards will continue to be exceeded as a result of oil and gas development in the region.</p>

	<p><i>Response:</i> The models run in support of the Greater Natural Buttes and Gasco Draft EISs are finalized and available to the public in their entirety. The latest modeling data available is included in the Greater Natural Buttes Supplement to the Draft EIS. It is anticipated in the immediate future that emission of ozone precursors is likely to continue to increase. However, most operators in the Uinta Basin are already implementing significant field wide emission reduction measures for their existing operations, including centralized facilities to reduced trucking and retrofitting producing well facilities, in an effort to reduce ozone precursor emissions.</p>
SUWA 21	<p><i>Comment:</i> The Gasco air quality analysis has significant flows that led it to underestimate ozone pollution in the region, which the analysis said would further increase as a result of oil and gas development.</p> <p><i>Response:</i> The analysis in this EA also relies on the Greater Natural Buttes and UBAQS models. Between the three models, a reasonable idea of summertime ozone formation in the Basin as a result of oil and gas development can be obtained.</p>
SUWA 22	<p><i>Comment:</i> The EA does not analyze the potential contribution of this project to any of the PSD increment limits. It must analyze the direct and indirect effects of this project in relation to the PSD increment limits for coarse particulates (PM10), nitrogen dioxide (NO2), sulfur dioxide (SO2), and carbon monoxide (CO). The Vernal RMP, Gasco, Greater Natural Buttes, and the UBAQS analyses have never considered these PSD increments. This is particularly troubling given that one of the alternatives analyzed in the Gasco air analysis shows that the twenty-four hour average of PM2.5 could exceed 9 µg/m3 in the area surrounding the Gasco project. They have also failed to consider the SO2 increment limit.</p> <p><i>Response:</i> PSD increment levels refer to the impacts that major sources, as defined in the New Source Review provisions of the Clean Air Act, have on specific predicted concentrations of certain criteria pollutants. While BLM does report PSD increment for informational purposes for very large projects, it is not required to for this project nor would a PSD analysis be appropriate for a project with minor levels of emission such as QEP.</p>
SUWA 23	<p><i>Comment:</i> The updating of BLM’s visual resource inventory should lead to this area being reclassified under the VRM classification system to a designation more stringent regarding visual intrusions. The BLM must update its VRM classifications based on its ongoing or planned visual resource inventory before it approves this project.</p> <p><i>Response:</i> Updating the Vernal Field Office visual resource inventory is beyond the scope of this EA. The analysis of the potential for this project to impact visual resources is documented in Appendix B, and was based on the visual resource management decisions contained in the 2008 Vernal RMP.</p>
<p><i>Regarding the three below comments; the BLM requested QEP to consider the proposed alternatives and submit feasibility information for BLM review. A BLM petroleum engineer considered Mr. Kreckel’s alternatives and the feasibility data submitted by QEP. The below responses are based on that review.</i></p>	

Kreckel 1	<p><i>Comment:</i> Alternative 1: The BLM should consider an alternative that would move the location of the 16G-20-10-18 well north so that it is outside of the area of wilderness characteristics. This would only require the well to be moved a few hundred feet, based on the location represented in the EA's map. Whether the well is vertical or horizontal, this should not impact its chances of establishing economic production.</p> <p><i>Response:</i> The 16-G-20-10-18 well is a step-out well on the edge of an established field. The well is placed in proximity to a water injector well, the Fed 5-20-10-18, and there is an expectation that the water injector well would increase the ultimate oil reserves recovery of the proposed 16G. Movement of the 16G to a location a few hundred feet north would reduce the effect of the injector well. Well location movement outward also increases the possibility of encountering reduced geologic pay thickness. Either of these situations would result in reduced ultimate oil recovery and negatively impact the well's financial outlook, so this alternative was not carried forward for detailed analysis.</p>
Kreckel 2	<p><i>Comment:</i> Alternative 2: The BLM should consider an alternative that would move the location of the 4G-35-10-17 well north beyond the area of wilderness characteristics as well. This would require that the well would be moved approximately 2000 feet to the north-northwest to get it out of the area of wilderness characteristics. Assuming this is a horizontal well, much of the same area of the reservoir could be penetrated. Assuming a 4000 foot lateral, if the proposed lateral is to the northwest, no change would result. One could simply drill to the southeast instead of the northwest. If it is proposed to the southeast, one could still reach about half of the original reservoir penetration with a lateral in the same direction from the new surface location. Other lateral directions would fall somewhere between these two extremes.</p> <p><i>Response:</i> The 4G-35-10-17 well is a vertical exploratory well, not a horizontal well. The prospect play target structure is one that has not been previously drilled, therefore it is unknown if the geologic prospect play target structure has large enough amounts of hydrocarbons and is capable of producing those hydrocarbons in rates sufficient to be commercially profitable. Locations for wells of this kind are selected to optimize drilling into the most promising area of the geologic structure, taking into account lease boundary locations and access. Moving this well would adversely impact the wells financial outlook by drilling in a less favorable part of the geological structure or missing the targeted structure, so this alternative was not carried forward for detailed analysis.</p>
Kreckel 3	<p><i>Comment:</i> Alternatively, since these wells are risky wildcats, the BLM could postpone its decision on the 4G-35-10-17 well until the results of the 16G-20-10-18 well are known. At that time, the well could be considered in either its present location or the location preferred in Alternative 2 above.</p> <p><i>Response:</i> Well 16G and 4G are separate and independent projects. Though both wells are vertical wells drilled to similar depths in the same formation, the 16G is a step-out development well (not a wildcat), and 4G is an exploratory well. The results of the 16G will not have bearing on the potential for success or failure of the 4G. Therefore, this alternative was not carried forward for detailed analysis.</p>

5.2 SECTION 7 CONSULTATION UNDER THE ESA

Uinta Basin hookless cactus (*Sclerocactus wetlandicus*)

Consultation regarding the determination of effects to the Uinta Basin hookless cactus will be concluded upon completion of the public comment period.

Colorado River Fish Species

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

Wonsits Valley and Red Wash water rights are historic depletions (permitted prior to January 1988). The U.S. Fish and Wildlife Service addresses new and historic depletions differently under the Section 7 agreement of March 11, 1993. Historic depletions, regardless of size, do not pay a depletion fee to the Recovery Program. Also, consultation for historic depletions was conducted in association with that 1993 agreement. Therefore, consultation is considered to be closed.

5.3 SECTION 106 CONSULTATION UNDER THE NHPA

BLM recommended a No Effect determination to the Utah State Historic Preservation Office based on Class III surveys and asked for concurrence on 9/15/2010. No response was received so consultation is considered to be closed.

5.4 TRIBAL CONSULTATION

The following tribes were notified of the project on 12/20/2010: Ute Mountain Ute Tribe, Hopi Tribe, Goshute Indian Tribe, Zia Pueblo Tribe, White Mesa Ute Tribe, Navajo Nation, Northwest Band of Shoshone Tribe, Southern Ute Tribe, Eastern Shoshone Tribe, Ute Indian Tribe, Santa Clara Pueblo Tribe, and Pueblo of Laguna Tribe. No responses were received so consultation is considered to be closed.

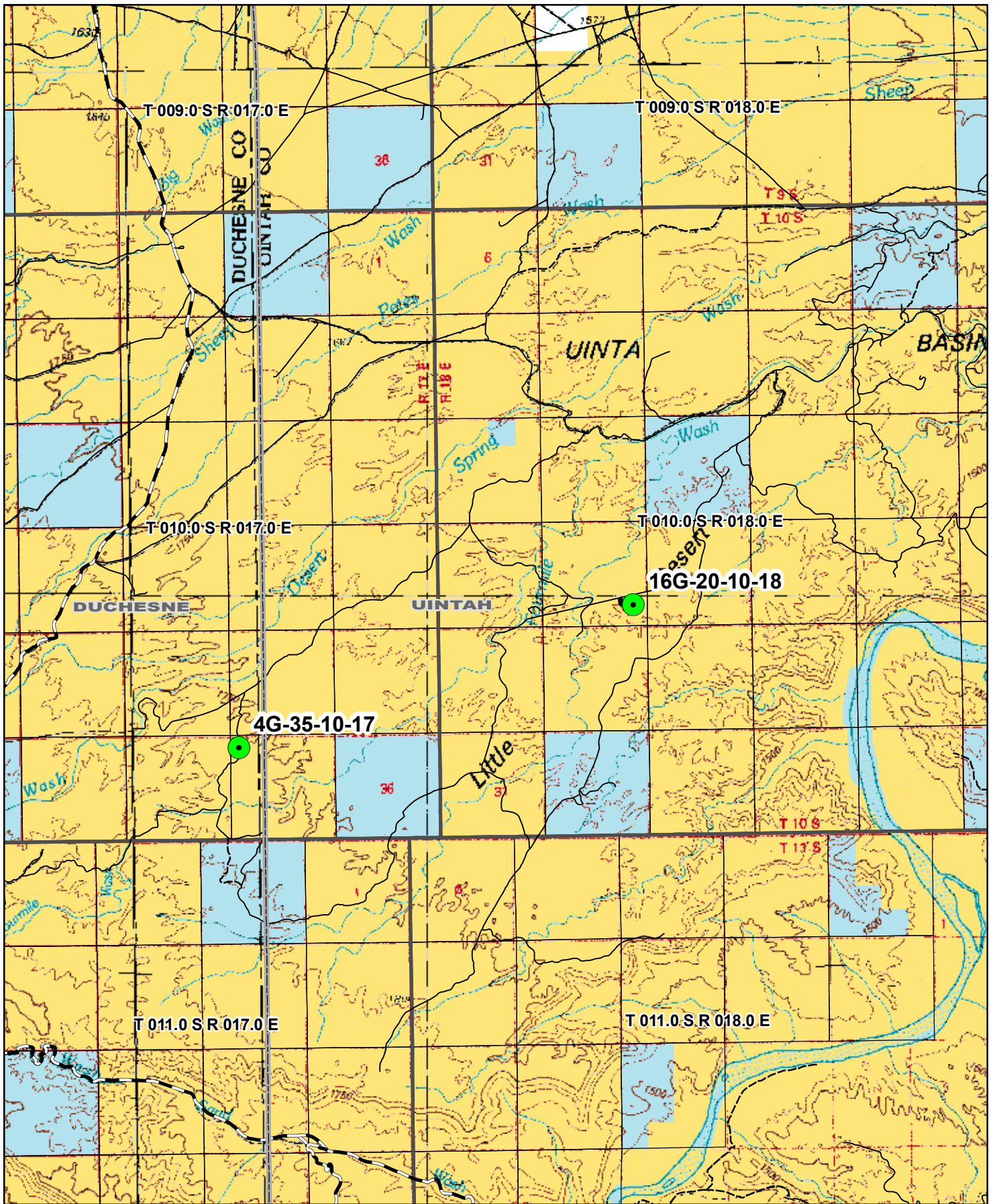
5.3 LIST OF PREPARERS

Name	Title	Responsible for the Following Section(s) of this Document
<i>Kevin Sadlier</i>	<i>Natural Resource Specialist/Environmental Scientist</i>	<i>Chapters 1 & 2 Chapters 3 & 4: Soils, vegetation, and weeds</i>
<i>Daniel Emmett</i>	<i>Wildlife Biologist</i>	<i>Special Status Fish, Migratory Birds</i>
<i>Aaron Roe</i>	<i>Botanist</i>	<i>SSPS, T&E plants, Vegetation</i>
<i>Elizabeth Gamber</i>	<i>Geologist/Paleontologist</i>	<i>Paleontology</i>
<i>Jason West</i>	<i>Recreation Planner</i>	<i>Lands with Wilderness Characteristics</i>

CHAPTER 6 REFERENCES CITED

- BLM. 2008. Vernal Field Office Resource Management Plan, U.S. Department of the Interior, Bureau of Land Management, Vernal District Office.
- BLM 1997. Standards for Rangeland Health and Guidelines for Grazing Management on BLM Lands in Utah. U.S. Department of the Interior, Bureau of Land Management. Washington. D.C. May 20.)
- BLM. 2010a. Draft Environmental Impact Statement for the Gasco Uinta Basin Natural Gas Development Project, U.S. Department of the Interior, Bureau of Land Management, Vernal District Office.
- BLM. 2009. Green River District Reclamation Guidelines, U.S. Department of the Interior, Bureau of Land Management, Vernal District Office.
- Duchesne County. 2005. Duchesne County Public Land Use Plan.
- U.S. Fish & Wildlife Service (USFWS). 1987. Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin. Final. US Department of the Interior, Fish and Wildlife Service, Denver, Colorado. September 29, 1987.
- 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.
- Parrish, J.R., F.P. Howe and R.E. Norvell. 2002. Utah Partners in Flight Avian Conservation Strategy Version 2.0. Utah Partners in Flight Program, Utah Division of Wildlife Resources, 1594 West North Temple, Salt Lake City, Utah 84116. UDWR Publication
- Uintah County. 2007. Uintah County General Plan. Amended Number 02-27. i – xiv + 302 pp.

APPENDIX A – PROJECT AREA MAP



Map A

Wells DS 16G-20-10-28 and WR 4G-35-10-17



APPENDIX B – INTERDISCIPLINARY TEAM CHECKLIST

Environmental Assessment DOI-BLM-UT-G010-2010-0336

QEP Energy Co.'s Two Wildcat Wells Uintah County, Utah and Duchesne County, Utah.

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

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

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

PI = present with potential for significant impact analyzed in detail in the EA; or identified in a DNA as requiring further analysis

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

Determination	Resource	Rationale for Determination*	Signature	Date
RESOURCES AND ISSUES CONSIDERED (INCLUDES SUPPLEMENTAL AUTHORITIES APPENDIX 1 H-1790-1)				
PI	Air Quality	Emissions from earth-moving equipment, vehicle traffic, drilling and completion activities, separators, oil storage tanks, dehydration units, and daily tailpipe and fugitive dust emissions could adversely affect air quality.	Kevin Sadlier	2/9/2011
NP	Areas of Critical Environmental Concern	None Present as per GIS layer review and RMP/ROD Review	Kevin Sadlier	2/9/2011
NP	BLM Natural Areas	None Present as per GIS layer review and RMP/ROD Review	Kevin Sadlier	5/2/2011
NP	Cultural Resources	The area of potential effect is considered to be the well pad, locations, and access roads. MOAC conducted a Class III cultural investigation in 2010. A consultation letter was sent to the State Historic Preservation Officer (SHPO) on 8/12/10 with a recommendation of "no effect to historic properties." No response was received within 30 days so consultation is considered to be closed.	Kathie Davies	1/27/2011
NP	Environmental Justice	No minority or economically disadvantaged communities or populations would be disproportionately adversely affected by the proposed action or alternatives.	Kevin Sadlier	2/9/2011
NP	Farmlands (Prime or Unique)	No soil survey has been completed for Duchesne so no prime or unique farmlands are designated. For Uintah county no prime or unique farmlands are present as designated by the NRCS.	Kevin Sadlier	2/9/2011
PI	Fish and Wildlife Excluding USFWS Designated Species	There is no designated crucial big game habitat within the proposed project area. There are no known or documented raptor nests within ½ mile of the proposed project area. Water depletion will occur for the proposed project	Daniel Emmett	8/10/2010
NI	Floodplains	No HUD inventoried floodplains are present at the project area. Non-HUD inventoried flood plains would be disturbed by the construction of the project however onsite visits minimized disturbance to an acceptable level which are consistent with other oil & gas operations within the area. This would not be expected to negatively	Stan Olmstead	2/17/2011

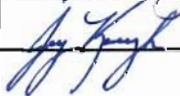
Determination	Resource	Rationale for Determination*	Signature	Date
		impact flood plains.		
NI	Fuels / Fire Management	No fuel management activities planned for the project area. The proposed project would not conflict with fire management activities.	Kevin Sadlier	2/9/2011
NI	Geology / Mineral Resources / 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 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. 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	Elizabeth Gamber	2/24/2011
PI	Greenhouse Gas Emissions	Emissions from earth-moving equipment, vehicle traffic, drilling and completion activities, separators, oil storage tanks, dehydration units, and daily tailpipe and fugitive dust emissions could adversely affect air quality.	Kevin Sadlier	2/9/2011
NI	Hydrologic Conditions (stormwater)	The proposed construction of the well locations and access roads would alter the topography of the area to a small degree and change surface water flow patterns. It is not expected that surface water or stormwater would be created to the level of concern for Clean Water Act Section 402 (stormwater) review.	Stan Olmstead	2/17/2011
PI	Invasive Plants / Noxious Weeds (EO 13112)	Proposed disturbance will provide suitable habitat for the establishment and spread of non-native plant species. Operator would control invasive species along roads, pipeline corridors, and on well pads, as discussed in Chapter 2 and QEP approved reclamation plan.	Kevin Sadlier	2/9/2011
NI	Lands / Access	The proposed area is located within the Vernal Field Office Resource Management Plan area which allows for oil and gas development with associated road and pipeline right-of-ways. Current land uses, within the area identified in the proposed action and adjacent lands, consist of existing oil and gas development, gilsonite mining, wildlife habitat, recreational use, and sheep and cattle ranching. No existing land uses would be changed or modified by the implementation of the proposed action; therefore this project would cause no adverse effect.	Katie Nash	02/15/2011
NI	Livestock Grazing	It would not be expected that the project would negatively impact grazing operations. The proposed project is	Stan Olmstead	2/17/2011

Determination	Resource	Rationale for Determination*	Signature	Date
		consistent with multiple use of public lands and other oil & gas activities of the area.		
PI	Migratory Birds	Migratory birds (passerines, PIF spp's, etc.) are present.	Daniel Emmett	8/10/2010
NP	Native American Religious Concerns	Tribal consultation for this project area was conducted on 12/20/2010. No responses were received so consultation is considered to be closed.	Kathie Davies	1/27/2011
PI	Paleontology	Scientifically important fossil resources were found along the entire access road for well DS 16G-20-10-18 and also along the access road in Sections 23, 24, and 26 for well WR 4G-35-10-17(IPC #10-13, Stephen Sandau, June 3, 2010)	Elizabeth Gamber	2/24/2011
NI	Rangeland Health Standards	The grazing allotment was surveyed for rangeland health standards in the summer of 2008 and was meeting standards. This project would not cause surface disturbance in an amount that would be expected to change rangeland health.	Stan Olmstead	2/17/2011
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.	Jason West	5/2/2011
NI	Socio-Economics	No impact to the social or economic status of the county or nearby communities would occur from this project due to its small size in relation to ongoing development throughout the basin.	Kevin Sadlier	2/9/2011
PI	Soils	Approximately 14.53 acre of soil disturbance would occur during construction until reclamation is successful. Soils would be recontoured and reseeded during reclamation. The locations would be reclaimed and monitored in accordance with the Questar Exploration and Production Company Uintah Basin Division Reclamation Plan on file with the Vernal Field Office of the BLM. Locations would be seeded with the seed mix recommended by the BLM Authorized Officer.	Kevin Sadlier	2/9/2011
PI	Threatened, Endangered or Candidate Animal Species	GIS layers and field data was reviewed and found no federally listed species and / or habitat within the proposed project area. Water depletion will occur for the proposed project; however, the proposed project well has been analyzed under the USFWS's <i>Programmatic Water Depletion Biological Opinion for Oil and Gas Development Administered or Permitted by the Bureau of Land Management (2006)</i> .	Daniel Emmett	8/10/2011
PI	Threatened, Endangered or Candidate Plant Species	The proposed project is located within an area designated as potential habitat for Uinta Basin hookless cactus.	Aaron Roe	2/24/2011
SSP: NP	Vegetation Excluding USFWS Designated Species	SSP: As per BLM GIS layers and by reference previous surveys and the on-site visit, the proposed project is not located within potential habitat for any Bureau-sensitive plant species Veg: There would be approximately 14.53 acre of initial vegetation disturbance/removal. Upon construction completion, the disturbed area would be reseeded and recontoured to the approximate natural contours. This	Aaron Roe	2/24/2011

Determination	Resource	Rationale for Determination*	Signature	Date
Veg: PI		would reduce the effects of the disturbance when the seeding becomes established. The location would be reclaimed and monitored in accordance with the Questar Exploration and Production Company Uintah Basin Division Reclamation Plan on file with the Vernal Field Office of the BLM. Locations would be seeded with the seed mix recommended by the BLM Authorized Officer.	Kevin Sadlier	2/9/2011
NI	Visual Resources	The objective of this class is to provide for management activities which require major modifications of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements. Most new projects would likely be approved in regards to a VRM perspective. VRM Class IV identified, project would meet class IV objectives.	Jason West	5/2/2011
NI	Wastes (hazardous or solid)	No chemicals subject to reporting under SARA Title III in amounts greater than 10,000 pounds would be used, produced, stored, transported, or disposed of annually in association with the project. Trash and other waste materials would be cleaned up and removed immediately after completion of operations.	Kevin Sadlier	2/9/2011
NP	Waters of the U.S.	Waters of the U.S. are not present per USGS topographic map and GIS data review. The proposed project will not impact any drainages where a high water mark can be distinguished, drainages which regularly run water, or wetlands/riparian areas, per onsite.	Kevin Sadlier	2/9/2011
NI	Water Resources/Quality (surface/ground)	Surface waters: The only potential for the proposed project to negatively impact water quality would be increased potential for chemical spills or increased disturbance to surface soils which could cause soil erosion. This would not be expected to occur in a way that would be negative to surface waters. The site is in an upland area and more than 10 miles from perennial waters.	Stan Olmstead	2/17/2011
NI		Ground water is likely present at a depth of over 100 ft below ground surface. Surface disturbances would not have any effect. Drilling at depth will require notifying BLM of any ground water occurrences and taking appropriate steps to protect it.	Elizabeth Gamber	2/24/2011
NP	Wetlands / Riparian Zones	No riparian sites are inventoried at or in the vicinity of the project area. Based on personal knowledge of the area and confirmed by Field Office data from GIS information.	Stan Olmstead	2/17/2011

Determination	Resource	Rationale for Determination*	Signature	Date
NP	Wild and Scenic Rivers	None Present as per GIS layer review and RMP/ROD Review	Kevin Sadlier	2/9/2011
NP	Wild Horses and Burros	No herd areas or herd management areas are present in the project area per BLM GIS database.	Kevin Sadlier	2/9/2011
NP	Wilderness/WSA	No Wilderness Areas are present in the Project Area.	Jason West	5/2/2011
NP	Woodland / Forestry	None Present as per Vernal Field Office RMP/ROD and GIS database.	Kevin Sadlier	2/9/2011
PI	Lands with Wilderness Characteristics	An analysis of potential effects to the Desolation Canyon non-WSA lands with wilderness characteristics has been added to the EA.	Jason West	5/2/2011

FINAL REVIEW:

Reviewer Title	Signature	Date	Comments
NEPA / Environmental Coordinator		2-6-12	
Authorized Officer		2/9/2012	

APPENDIX C - SPECIAL STATUS ANIMAL SPECIES

Species	Status	Habitat Association	Potential for Occurrence 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.	Moderate. This species occurs in the Green River. Habitat is not present within the proposed 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.	Moderate. This species occurs in the Green and White Rivers. Habitat is not present within the proposed 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.	Moderate. This species occurs in the Green River. Habitat is not present within the proposed project area; however, water depletion will occur.	No
Razorback sucker <i>Xyrauchen texanus</i>	FE	Endemic to large rivers of the Colorado River system.	Moderate. This species occurs in the Green and White Rivers. Habitat is not present within the proposed 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.	None. The distribution of this species is limited to a nonessential experimental population reintroduced into Coyote Basin, Uintah County starting in 1999. Habitat is not present within the proposed project area.	Yes
Canada Lynx <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.	None. If extant in Utah, this species most likely occurs in montane forests in the Uinta Mountains. Habitat is not present within the proposed project area.	Yes
Mexican spotted owl <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	None. The habitat as been surveyed and determined unsuitable for nesting (<i>Assessment of Potential Mexican</i>	Yes

Species	Status	Habitat Association	Potential for Occurrence Within the Proposed Project area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	FC; PIF	conifer or riparian components. Breeding and nesting season: March through August. 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.	<i>Spotted Owl Nesting on BLM-Administered Lands in Northeastern Utah, September 2005</i> . None. Species is known to occur along the Green River and the Ouray National Wildlife Refuge. Habitat is not present within the proposed project area.	Yes
Bluehead sucker <i>Catostomus discobolus</i>	CAS	Occupies a wide range of aquatic habitats ranging from cold, clear mountain streams to warm, turbid rivers.	Moderate. The Bluehead sucker is native in parts of Utah. The species occurs in the upper Colorado River system. Habitat is not present within the proposed project area; however, water depletion will occur.	No
Flannelmouth sucker <i>Catostomus latipinnis</i>	CAS	Adults occur in riffles, runs, and pools in streams and large rivers, with the highest densities usually in pool habitat. Young live in slow to moderately swift waters near the shoreline areas.	Moderate. The Flannelmouth sucker is native in Utah. The species occurs in the Colorado River system. Habitat is not present within the proposed project area; however, water depletion will occur.	No
Roundtail chub <i>Gila robusta</i>	CAS	Adults inhabit low to high flow areas in the Green River; young occur in shallow areas with minimal flow.	Moderate. The Roundtail chub is native in Utah. The species occurs in the Colorado River system. Habitat is not present within the proposed 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 streambanks for cover and bank stability; instream cover in the form of deep pools and boulders and logs also is important; adapted to relatively cold water, thrives at high elevations. Most remaining populations are fluvial or resident. Occurs also in lakes.	None. Habitat is not present within the proposed project area.	Yes
Northern Goshawk <i>Accipiter gentilis</i>	CAS	Generally found in a wide variety of forest types including deciduous, coniferous, and mixed forests. Typically mature and old growth forests and generally selects larger	None. Prefers old-growth forests near or within large drainage systems. Habitat is not present within the	Yes

Species	Status	Habitat Association	Potential for Occurrence Within the Proposed Project area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
Bald eagle <i>Haliaeetus leucocephalus</i>	WSC	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. 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.	proposed project area.	Yes
American white pelican <i>Pelecanus erythrorhynchos</i>	WSC; PIF	Inhabits areas of open water including large rivers, lakes, ponds, and reservoirs with surrounding habitats ranging from barren to heavily vegetated sites. Typically nests on isolated islands in lakes or reservoirs.	None. 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
Greater Sage-grouse <i>Centrocercus urophasianus</i>	WSC; PIF	Inhabits upland sagebrush habitat in rolling hills and benches. Breeding occurs on open leks (or strutting grounds) and nesting and brooding occurs in upland areas and meadows in proximity to water and generally within a 2-mile radius of the lek. During winter, sagebrush habitats at submontane elevations commonly are used.	None. 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
Ferruginous hawk <i>Buteo regalis</i>	WSC; PIF	Resides mainly in lowland open desert terrain characterized by barren cliffs and bluffs, pinon-juniper woodlands, sagebrush-rabbit brush, and cold desert shrub. Nesting habitat includes promontory points and rocky outcrops.	None. The species is widespread, but declining, with extant populations in Uintah and Duchesne counties. Habitat is not present within the proposed project area.	Yes
Burrowing owl	WSC	Inhabits desert, semi-desert shrubland, grasslands, and	Low. This species is known to occur in the West Desert and the Uintah Basin as a summer resident and a common migrant. Within the Uintah Basin, the species is more associated with prairie dog colonies as the main prey base. No known or documented Ferruginous hawk nests are within 1/2 mile of the proposed project well.	Yes

Species	Status	Habitat Association	Potential for Occurrence Within the Proposed Project area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
<i>Athene cunicularia</i>		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.	Duchesne counties. Nesting habitat is not present within the proposed project area.	
Mountain plover <i>Charadrius montanus</i>	WSC; PIF	In the Uintah Basin, small Mountain plover populations breed in shrub-steppe habitat where vegetation is sparse and sagebrush communities are dominated by <i>Artemisia</i> spp. with components of black sage and grasses. Nest locations also vary with respect to topography (nests were located on flat, open ground; on the top or at the base of slopes; or very close to large rocky outcroppings).	None. 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	Inhabits grasslands, plateaus, plains and desert shrub habitats. White-tailed prairie dogs form colonies or "towns" and spend much of their time in underground burrows and hibernating during the winter months.	None. Prairie dogs are an obligate species to several other state-sensitive species, such as Ferruginous hawk, Mountain plover, and Burrowing owl, in that these species depend on them for food, shelter, and nesting habitat or habitat manipulation. Habitat is not within the proposed project area.	Yes
Short-eared owl <i>Asio flammeus</i>	WSC	Inhabits arid grasslands, agricultural areas, marshes, and occasionally open woodlands. In Utah, cold desert shrub and sagebrush-rabbit brush habitats also are utilized. Typically a ground nester.	None. Known to occur in Uintah County, with occurrence probable in Duchesne County. Habitat is not present within the proposed project area.	Yes
Lewis's Woodpecker <i>Melanerpes lewis</i>	WSC; PIF	Inhabits open habitats including pine forests, riparian areas, and piñon-juniper woodlands. Breeding habitat typically includes ponderosa pines and cottonwoods in stream bottoms and farm areas. The species inhabits agricultural lands and urban parks, montane and desert riparian woodlands, and submontane shrub habitats.	None. In Utah, the species is widespread, but is an uncommon nester along the Green River. Breeding by this species has been observed in Ouray and Uintah counties, and along Pariette Wash. Habitat is not present within the proposed project area.	Yes
Three-toed Woodpecker <i>Picooides tridactylus</i>	WSC; PIF	Prefers coniferous forest, primarily spruce and balsam fir. It inhabits areas where dead timber remains after fires or	None. In Utah, the species is widespread but no habitat exists within	Yes

Species	Status	Habitat Association	Potential for Occurrence Within the Proposed Project area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
Grasshopper sparrow <i>Ammodramus savannarum</i>	WSC; PIF	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. Prefers grasslands of intermediate height and are often associated with clumped vegetation interspersed with patches of bare ground. Other habitat requirements include moderately deep litter and sparse coverage of woody vegetation.	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.	No
Long-billed Curlew <i>Numenius americanus</i>	WSC; PIF	Inhabits shortgrass prairies, alpine meadows, riparian woodlands, and reservoir habitats. Breeding habitat includes upland areas of shortgrass prairie or grassy meadows with bare ground components, usually near water.	None. Widespread migrant in Utah. Breeding birds are fairly common but localized, primarily in central and northwestern Utah. Potential nesting has been reported in Uintah County, but has not been confirmed. Habitat is not present within the proposed project area.	Yes
Bobolink <i>Dolichonyx oryzivorus</i>	WSC; PIF	Inhabits mesic and irrigated meadows, riparian woodlands, and subalpine marshes at lower elevations (2,800 to 5,000 feet amsl). Suitable breeding habitat for this ground nester includes tall grass, flooded meadows, prairies, and agricultural fields; forbs and perch sites also are required.	None. The species breeds in isolated areas of Utah, primarily in the northern half of the state. Breeding and winter habitat have been documented throughout Uintah, Duchesne, and Daggett counties. Habitat is not present within the proposed project area.	Yes
Big free-tailed bat <i>Nyctinomops macrotis</i>	WSC	Rocky areas in rugged country. The species has been observed in lowlands of river floodplain-arroyo association; also in shrub desert and woodland habitats. Roosts in rock crevices (vertical or horizontal) in cliffs; also in buildings caves, and occasionally tree holes. Winter habits unknown.	None. The species has been documented in northeastern part of the state from Daggett County into Wyoming. Habitat for this species is not present within the proposed project area.	Yes
Fringed myotis <i>Myotis thysanodes</i>	WSC	The species is widely distributed throughout Utah, but is not very common in the state. The Fringed myotis inhabits caves, mines, and buildings, most often in desert	None. High value and substantial value habitat exists for the species in southern Utah in lower elevations;	Yes

Species	Status	Habitat Association	Potential for Occurrence Within the Proposed Project area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
Spotted bat <i>Euderma maculatum</i>	WSC	and woodland areas. 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.	however, the species has had a couple documented sightings along the White River. Habitat is not present within the proposed project area. None. The species potentially occurs throughout Utah; however, no occurrence records exist for the extreme northern or western parts of the state. Known occurrences have been reported in northeastern Uintah County. Habitat is not present within the proposed project area.	Yes
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	WSC	Inhabits a wide range of habitats from semidesert shrublands and pinion-juniper woodlands to open montane forests. Roosting occurs in mines and caves, in abandoned buildings, on rock cliffs, and occasionally in tree cavities. Foraging occurs well after dark over water, along margins of vegetation, and over sagebrush.	None. The species occurs throughout much of Utah including Duchesne and Uintah counties. One individual was collected at the Ouray National Wildlife Refuge in 1980. Roosting habitat for this species potentially could occur in areas where rock cliffs and caves are present. Habitat is not present within the proposed project area.	Yes
Western (Boreal) toad <i>Bufo boreas</i>	WSC	Commonly found throughout most of Utah and can be found in a variety of habitats, including slow moving streams, wetlands, desert springs, ponds, lakes meadows, and woodlands.	None. The species is commonly spread throughout central and northern Utah. The only known occurrence in the basin exists within the northwest portion of Uintah County which has substantial value habitat for the species. Habitat is not present within the proposed project area.	Yes
Corn snake <i>Elaphe guttata</i>	WSC	Habitat includes pine woodlands, brushy fields, open hardwood forests, mangrove thickets, barnyards, and abandoned buildings. areas near springs, old trash dumps, and caves.	None. Occurs in Uintah County. The species have been identified at Ouray National Wildlife Refuge. Habitat is not present within the proposed project area.	Yes

Species	Status	Habitat Association	Potential for Occurrence Within the Proposed Project area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
Smooth green snake <i>Ophedryx vernalis</i>	WSC	Habitat includes meadows, grassy marshes, moist grassy fields at forest edges, mountain shrublands, stream borders, bogs, open moist woodland, abandoned farmland, and vacant lots.	None. Although not commonly seen throughout Utah the species has been documented in the northern section of Uintah County in lower elevations. Habitat is not present within the proposed project area.	Yes
Prairie falcon <i>Falco mexicanus</i>	PIF	Habitat includes alpine, cliff, cropland/hedgegrow, desert, and grassland/herbaceous areas.	None. Habitat is not present within the proposed project area.	Yes
Swainson's hawk <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.	None. Habitat is not present within the proposed project area.	Yes
Black-chinned hummingbird <i>Archilochus alexandri</i>	PIF	Habitat includes dry lowlands and foothills with pinion-juniper woodlands.	None. 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.	None. Habitat is not present within the proposed project area.	Yes
Brewer's sparrow <i>Spizella breweri</i>	PIF	Habitat includes desert and shrubland/chaparral.	Moderate. Habitat is 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.	None. 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.	None. 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.	None. 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.	None. 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.	None. Habitat is not present within the proposed project area.	Yes
Green-tailed towhee <i>Pipilo chlorurus</i>	PIF	Habitat is usually low shrubs, sometimes interspersed with trees; avoids typical forest, other than open pinion-juniper woodlands. In pinion-juniper, associated with sagebrush	Moderate. Habitat is present within the proposed project area.	No

Species	Status	Habitat Association	Potential for Occurrence Within the Proposed Project area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
Juniper titmouse <i>Parus inornatus</i>	PIF	(<i>Artemisia</i> spp.) dominated openings with high shrub species richness. Habitat includes sparse piñon-juniper and oak woodlands.	None. 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 piñon-juniper woodlands; in south usually at elevations above 1500 m (4900 ft.). In winter and migration also inhabits desert, brushy areas and agricultural lands.	High. Habitat is present within the proposed project area.	No
Pinion jay <i>Gymnorhinus cyanocephalus</i>	PIF	Habitat includes semi-arid foothills with piñon-juniper woodlands.	None. 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.	High. Habitat is present within the proposed project area.	No
Sage thrasher <i>Oreoscoptes montanus</i>	PIF	Habitat includes desert and shrubland/chaparral.	High. Habitat is present within the proposed project area.	No
Virginia's warbler <i>Yermivora virginiae</i>	PIF	Habitat includes dry woodlands, scrub oak brushlands, canyons and ravines.	None. Habitat is not present within the proposed project area.	Yes
White-throated swift <i>Aeronautes saxatalis</i>	PIF	Habitat includes cliffs and canyons.	None. 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.	None. Habitat is not present within the proposed project area.	Yes

Federally Listed Species:

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

State Sensitive Species:

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

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

APPENDIX D - SPECIAL STATUS PLANT SPECIES

SPECIES	STATUS	HABITAT	POTENTIAL FOR AND/OR OCCURRENCE
<i>Aquilegia scopulorum</i> var. <i>goodrichii</i> Goodrich's columbine	Proposed 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.
<i>Arabis vivariensis</i> park rock cress	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.
<i>Astragalus equisolensis</i> horseshoe milkvetch	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.
<i>Astragalus hamiltonii</i> Hamilton milkvetch	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.
<i>Cirsium ownbeyi</i> Ownbey thistle	Sensitive (Proposed removal)	East flanks of the Uinta Mountains. Juniper, sagebrush, and riparian communities. 5500-6200ft.	None – No populations, potential or suitable habitat occurs for this species in this area.
<i>Cleomella Palmeriana</i> var. <i>goodrichii</i> Goodrich's cleomella	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.
<i>Cryptantha barnebyi</i> Barneby's catseye	Proposed Sensitive	White semi-barren shale knolls of the Green River Formation in shadscale, rabbitbrush, sagebrush, and pinyon-juniper communities. 6000-7900 ft	None – No populations, potential or suitable habitat occurs for this species in this area.
<i>Cryptantha grahamii</i> Graham's catseye	Proposed Sensitive	Green River Shale in mixed desert shrub, sagebrush, pinyon-juniper, and mountain brush communities. 5000-7400 ft	None – No populations, potential or suitable habitat occurs for this species in this area.
<i>Erigeron untermannii</i> Untermann fleabane	Sensitive	Calcareous shales and sandstones of the Uinta and Green River formations in pinyon-juniper, mountain mahogany, limber and bristlecone pine, and sagebrush communities. 7000-9400 ft.	None – No populations, potential or suitable habitat occurs for this species in this area.
<i>Frasera ackermaniae</i> Ackerman's frasera	Proposed Sensitive	Semibarren yellowish clay soils of the Chinle and Nugget formations in pinyon-juniper and desert shrub communities. 5000-6000 ft	None – No populations, potential or suitable habitat occurs for this species in this area.
<i>Habenaria Zothecina</i> alcove bog-orchid	Sensitive (Proposed removal)	Moist stream banks, seeps, and hanging gardens. Surrounding habitat is mixed desert shrub, pinyon-juniper and oak brush. 4000-6200 ft.	None – No populations, potential or suitable habitat occurs for this species in this area.
<i>Hymenoxys lapidicola</i> Rock bitterweed	Sensitive	Pinyon-juniper and ponderosa pine-manzanita communities, often in rock crevices. 6000-8100 ft.	None – No populations, potential or suitable habitat occurs for this species in this area.
<i>Lepidium barnebyanum</i> Barneby's ridgecress	Endangered	White Shale outcrops mainly on ridge crests. 6200-6500 ft.	None – No populations, potential or suitable habitat occurs for this species in this area.
<i>Lepidium huberi</i>	Sensitive	Sand or silty sands derived from the	None – No populations,

SPECIES	STATUS	HABITAT	POTENTIAL FOR AND/OR OCCURRENCE
Huber pepperplant		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	potential or suitable habitat occurs for this species in this area.
<i>Mentzelia goodrichii</i> Goodrich blazingstar	Sensitive	Steep, white, marly calciferous shale outcrops of the Green River formation with scattered limber pine, pinyon pine, Douglas fir, mountain mahogany, and rabbitbrush. 8100-8800 ft	None – No populations, potential or suitable habitat occurs for this species in this area.
<i>Penstemon acaulis</i> var. <i>acaulis</i> stemless penstemon	Sensitive	Semibarren substrates in pinyon-juniper and sagebrush-grass communities. 5900-8200 ft.	None – No populations, potential or suitable habitat occurs for this species in this area.
<i>Penstemon gibbensii</i> Gibben's penstemon	Sensitive	Shaly slopes and bluffs with mixed desert shrubs and scattered juniper 5500-5600 ft.	None – No populations, potential or suitable habitat occurs for this species in this area.
<i>Penstemon goodrichii</i> Goodrich's penstemon	Sensitive	Blue gray to reddish, clay-impregnated badlands of the Duchesne River Formation in shadscale and juniper-mountain mahogany communities 5600- 6205ft.	None – No populations, potential or suitable habitat occurs for this species in this area.
<i>Penstemon grahamii</i> Graham beardtongue	Sensitive	Shale ledges and talus of the Green River Formation growing in sparsly vegetated shadscale, <i>Eriogonum</i> , horsebrush, rygrass, and pinyon-juniper communities. 4600-6800 ft	None – No populations, potential or suitable habitat occurs for this species in this area.
<i>Penstemon scariosus</i> var. <i>albifluvis</i> White River penstemon	Candidate	Sparsely vegetated pale tan, shale slopes of the Green River formation in shadscale, rabbitbrush, ricegrass, rygrass, sagebrush, Barney's thistle, and pinyon-juniper communities. 5000-6800 ft	None – No populations, potential or suitable habitat occurs for this species in this area.
<i>Phacelia argylensis</i> Argyle Canyon phacelia	Proposed Sensitive	Sandy-silty soil in wash bottoms on the Green River shale in pinyon-juniper, serviceberry, and Douglas Fir communities. Around 7600 ft.	None – No populations, potential or suitable habitat occurs for this species in this area.
<i>Schoenrambe argillacea</i> Clay thelopody	Threatened	On the lower Uinta and upper Green River formations in shadscale, Indian ricegrass, pygmy sagebrush, and other mixed desert shrub communities. 4800-5600 ft.	None – No populations, potential or suitable habitat occurs for this species in this area.
<i>Schoenrambe suffrutescens</i> Shrubby reed-mustard	Endangered	Calcareous shale of the Green River formation in shadscale, pygmy sagebrush, mountain mahogany, juniper and mixed desert shrub communities. 5400-6000ft.	None – No populations, potential or suitable habitat occurs for this species in this area.
<i>Sclerocactus brevispinus</i> Wagonhound cactus	Threatened	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.	None – The proposed project is located outside the known range of the species
<i>Sclerocactus wetlandicus</i> Uinta Basin hookless cactus	Threatened	Typically gravelly terraces and benchlands. Also found in locations with desert pavement, shale outcrops, and mudstone deposits. 4500-6000ft.	The proposed project is located within potential habitat for the species

SPECIES	STATUS	HABITAT	POTENTIAL FOR AND/OR OCCURRENCE
<i>Spiranthes diluvialis</i> Ute lady's tresses	Threatened	Wet meadows, stream banks, abandoned oxbow meanders, marshes, and raised bogs. 4500-6850ft.	None – No populations, potential or suitable habitat occurs for this species in this area.
<i>Thelesperma caespitosum</i> Uinta greenthread	Sensitive	White shale benches and windswept slopes of the Green River and Uinta formation with pinyon and mountain mahogany. 5900-8400 ft,	None – No populations, potential or suitable habitat occurs for this species in this area.
<i>Townsendia strigosa</i> var. <i>prolix</i> Strigose Townsendia	Proposed Sensitive	Mixed desert shrub communities	None – No populations, potential or suitable habitat occurs for this species in this area.
<i>Yucca sterilis</i> Sterile yucca	Proposed Sensitive	Salt and mixed desert shrub communities growing in sandy soils. 4800-5800 ft.	None – No populations, occur in the vicinity of the proposed project.

FINDING OF NO SIGNIFICANT IMPACT

Environmental Assessment


DOI-BLM-UT-G010-2010-0336

*QEP Energy Company proposes to drill two oil wells, DS 16G-20-10-18,
Township 10 South, Range 18 East, Uintah, Utah, and WR 4G-35-10-17
Township 10 South, Range 17 East, Duchesne, Utah*

FINDING OF NO SIGNIFICANT IMPACT:

“Based on the analysis of potential environmental impacts contained in the attached environmental assessment, and considering the significance criteria in 40 CFR 1508.27, I have determined that the proposed drilling of the two oil wells: DS 16G-20-10-18, in SE/SE of Section 20, Township 10 South, Range 18 East, Uintah County, Utah, and 4G-35-10-17, in NW/NW of Section 35, Township 10 South, Range 17 East, Duchesne County, Utah as described in the proposed action alternative of *DOI-BLM-UT-G010-2010-0336* will not have a significant effect on the human environment. An environmental impact statement is therefore not required.”

FEB 09 2012


Authorized Officer

Date

DECISION RECORD

Environmental Assessment

DOI-BLM-UT-G010-2010-0336

QEP Energy Company proposes to drill two oil wells, DS 16G-20-10-18, Township 10 South, Range 18 East, Uintah, Utah, and WR 4G-35-16-10-17 Township 10 South, Range 17 East, Duchesne, Utah

DECISION RECORD:

It is my decision to authorize QEP Energy Company to drill two oil wells, : DS 16G-20-10-18, in SE/SE of Section 20, Township 10 South, Range 18 East, Uintah County, Utah, and 4G-35-10-17, in NW/NW of Section 35, Township 10 South, Range 17 East, Duchesne County, Utah as described in the proposed action alternative of *DOI-BLM-UT-G010-0336*.

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

Summary of the Selected Alternative:

- QEP Energy Company will drill two oil wells, : DS 16G-20-10-18, in SE/SE of Section 20, Township 10 South, Range 18 East, Uintah County, Utah, and 4G-35-10-17, in NW/NW of Section 35, Township 10 South, Range 17 East, Duchesne County. The project area is located approximately 20 miles south of Myton, Ut.
- The construction of the wells and access roads will result in approximately 14.53 acres of new surface disturbance. The well pads will result in approximately 6.51 acres of surface disturbance.
- The project will include the construction/installation of a wellhead and pumping unit, two storage tanks; spoil dirt stockpile(s), surface material stockpile(s), and a reserve pit at the well site.
- The drilling rig will be powered by a Tier II or better diesel engine.
- The reserve pit will be fenced on three sides prior to drilling activity and closed off on the fourth side after drilling is finished. The reserve pits for the wells will be lined with a 20 ml liner with felt.
- A dike will be constructed around those production facilities that contain fluids. The dikes will be constructed of compacted subsoil. They will be impervious, hold 10 percent more than the capacity of the largest tank, and be independent of the back cut.
- All permanent (meaning on site for six months or longer) structures will be painted Covert Green to match the surrounding landscape color unless otherwise authorized. This will include all facilities except those required to comply with Occupational Safety and Health Act (OSHA) regulations.

- If dry, the wells will be plugged and abandoned as per BLM and State of Utah requirements.
- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 grams of NO_x per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower-hour.
- All new and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 grams of NO_x per horsepower-hour.
- The following would be used as standard operating procedures: Green completion or controlled VOC emissions methods with 90% efficiency for Oil or Gas Atmospheric Storage Tanks, VOC Venting controls or flaring, Glycol Dehydration and Amine Unites, Well Completion, Re-Completion, Venting, and Planned Blowdown Emissions.
- Approximately 11,648 feet of new access road will be constructed in order to access the proposed wells. The access roads will require a 30 foot width during construction, and will be maintained as an 18 foot width running surface. Construction of the proposed access roads will result in 8.02 acres of new surface disturbance. A BLM right-of-way (ROW) will be required for the WR 4G-35-10-17 because most of the access road is not on lease.
- No pipelines are proposed for this project.
- Prior to construction, an invasive plants/noxious weeds inventory will be completed for all areas where surface disturbance will occur. A completed Weed Inventory form documenting any occurrences of invasive plants or noxious weeds will be submitted to the BLM Authorized Officer before surface disturbance will occur.
- The operator will control noxious/invasive weeds along their roads, pipelines, well sites, or other applicable facilities by the application of herbicides or by mechanical removal until reclamation is considered to be successful by the authorized officer (AO) and the bond for the well is released. A list of noxious weeds will be obtained from the BLM or the appropriate county extension office. On BLM-administered land, the operator will submit a Pesticide Use Proposal and obtain approval prior to the application of herbicides, other pesticides, or possible hazardous chemicals.
- Immediately upon well completion, the location and surrounding area shall be cleared of all unused tubing, equipment, debris, materials, and trash. Any hydrocarbons in the pit will be removed in accordance with 43 CFR 3162.7-1.
- The reserve pit and the portion of the well not needed for production facilities/operations shall be recontoured to the approximate natural contours. The reserve pit will be reclaimed within 120 days from the date of well completion, or as soon as environmental conditions allow. The stockpiled pit topsoil will then be spread over the pit area and broadcast-seeded/drill seeded (preferred method) with a seed mix submitted to the BLM Authorized Officer (AO) for approval prior to seeding. Seeding will be done in the fall prior to winter freezing of the soil. The seed mixture shall be worked into the topsoil with

a drill seeder, bulldozer or other heavy equipment. If initial seeding is not successful, reseeded may be required.

- Once the well is plugged and facilities are removed and abandoned, the topsoil shall be stripped and stockpiled off of the location, and the well site, pipelines, and access roads will be returned to natural contours. The topsoil shall be respread, and the location seeded with the mixture submitted to the BLM AO. The seed mixture shall be worked into the topsoil with a drill seeder, bulldozer or other heavy equipment.
- Interim reclamation, final reclamation, and monitoring of reclaimed areas will be completed in accordance with the Questar Exploration and Production Company, Uinta Basin Division's Reclamation Plan, September 2009 on file with the Vernal Field Office of the BLM.
- Prior to any surface disturbance, vegetative monitoring locations and reference sites will be identified by QEP and approved by the BLM AO. Vegetation monitoring protocol will be developed by QEP and approved by the BLM AO prior to implementation of revegetation techniques and will be designed to monitor % basal vegetative cover.
- Revegetated areas will be inspected annually and monitored to document location and extent of areas with successful revegetation, and areas needing further reclamation (for a period of 5 years after construction completion). A reclamation report will be submitted to the AO by March 31 of each year.
- All vehicles and equipment shall be cleaned either through power-washing, or other approved method, if the vehicles or equipment were previously operated outside the Uinta Basin, to prevent weed seed introduction.
- A muffler will be used on the pump-jack upon completion in order to reduce noise levels.
- QEP has committed to have a permitted paleontologist be present to monitor the construction process for the entire access road for the DS 16G-20-10-18, and the portion of the access road which runs through Sec. 23, 24, and 26 of T. 10 S. R. 17 E.
- During operations, if 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 Authorized Officer of the BLM office shall be notified within 48 hours of the discovery, and a decision as to the preferred alternative/course of action would be rendered.
- Telemetry will be installed to remotely monitor and control production.
- Water or other approved suppressants would be used during construction activities to abate fugitive dust.
- Signs will be installed on the access roads advising speeds of 25 MPH during the drilling phase to decrease fugitive dust from truck traffic.

- 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.
- The best method to avoid entrainment is to pump from an off-channel location – one that does not connect to the river during high spring flows. An infiltration gallery constructed in a BLM and Service approved location is best.
- If the pump head is located in the river channel where larval fish are known to occur, the following measures apply:
 - do not situate the pump in a low-flow or no-flow area as these habitats tend to concentrate larval fishes;
 - limit the amount of pumping, to the greatest extent possible, during that period of the year when larval fish may be present (April 1 to August 31); and
 - limit the amount of pumping, to the greatest extent possible, during the pre-dawn hours as larval drift studies indicate that this is a period of greatest daily activity.
- Screen all pump intakes with 3/32” mesh material.
- Approach velocities for intake structures will follow the National Marine Fisheries Service’s document “Fish Screening Criteria for Anadromous Salmonids”. For projects with an in-stream intake that operate in stream reaches where larval fish may be present, the approach velocity will not exceed 0.33 feet per second (ft/s).
- Report any fish impinged on the intake screen to the Service (801-975-3330) and the Utah Division of Wildlife Resources:
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- QEP will educate its contractors and employees about the relevant federal regulations intended to protect cultural resources. All vehicular traffic, personnel movement, construction and restoration activities shall be confined to areas cleared by the site inventory and to existing roads. In the event historic or archaeological resources are uncovered during construction, work will stop immediately and the appropriate BLM AO will be notified.

Rationale for the Decision:

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

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

The selected alternative is consistent with the *Duchesne County Public Land Use Plan* (County Plan) (published in spring 1997 and amended winter 1998 and winter 2005), and the *Uintah County General Plan* (published in 2007) that encompasses the location of the proposed wells. In general, the plan indicates support for development proposals such as the selected alternative through the plan's emphasis of multiple-use public land management practices, responsible use and optimum utilization.

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

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

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

Summary of Public Involvement Efforts and Public Response

The Proposed Action was posted to the Utah BLM's Environmental Notification Bulletin Board on September 9, 2010. As a result of public request, a 30 day public comment period was held from October 7, 2011 through November 7, 2011. Comment letters were submitted by the State of Utah Office of the Governor, Uintah County, and Southern Utah Wilderness Alliance (SUWA). The comments were responded to in Chapter 5 of the EA.

Appeals:

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


Authorized Officer

FEB 09 2012

Date

ATTACHMENT 1 – STIPULATIONS / CONDITIONS OF APPROVAL

Company/Operator: QEP Energy Company
Well Name & Number: DS 16G-20-10-18, and WR 4G-35-10-17
Surface Ownership: BLM
Lease Number: UTU-84264
Onsite Date: 4/29/2010, and 8/5/2010
Location: T. 10 S., R. 18 E., Uintah, Utah, and T. 10 S., R. 17 E., in Duchesne County, Utah
Date APD Received: 8/10/2010, and 8/5/2010

CONDITIONS OF APPROVAL:

- QEP Energy Company will drill two oil wells, : DS 16G-20-10-18, in SE/SE of Section 20, Township 10 South, Range 18 East, Uintah County, Utah, and 4G-35-10-17, in NW/NW of Section 35, Township 10 South, Range 17 East, Duchesne County. The project area is located approximately 20 miles south of Myton, Ut.
- The construction of the wells and access roads will result in approximately 14.53 acres of new surface disturbance. The well pads will result in approximately 6.51 acres of surface disturbance.
- The project will include the construction/installation of a wellhead and pumping unit, two storage tanks; spoil dirt stockpile(s), surface material stockpile(s), and a reserve pit at the well site.
- The drilling rig will be powered by a Tier II or better diesel engine.
- The reserve pit will be fenced on three sides prior to drilling activity and closed off on the fourth side after drilling is finished. The reserve pits for the wells will be lined with a 20 ml liner with felt.
- A dike will be constructed around those production facilities that contain fluids. The dikes will be constructed of compacted subsoil. They will be impervious, hold 10 percent more than the capacity of the largest tank, and be independent of the back cut.
- All permanent (meaning on site for six months or longer) structures will be painted Covert Green to match the surrounding landscape color unless otherwise authorized. This will include all facilities except those required to comply with Occupational Safety and Health Act (OSHA) regulations.
- If dry, the wells will be plugged and abandoned as per BLM and State of Utah requirements.
- 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 grams of NO_x per horsepower-hour.
- The following would be used as standard operating procedures: Green completion or controlled VOC emissions methods with 90% efficiency for Oil or Gas Atmospheric Storage Tanks, VOC Venting controls or flaring, Glycol Dehydration and Amine Unites, Well Completion, Re-Completion, Venting, and Planned Blowdown Emissions.
- Approximately 11,648 feet of new access road will be constructed in order to access the proposed wells. The access roads will require a 30 foot width during construction, and will be maintained as an 18 foot width running surface. Construction of the proposed access roads will result in 8.02 acres of new surface disturbance. A BLM right-of-way (ROW) will be required for the WR 4G-35-10-17 because most of the access road is not on lease.
- No pipelines are proposed for this project.
- Prior to construction, an invasive plants/noxious weeds inventory will be completed for all areas where surface disturbance will occur. A completed Weed Inventory form documenting any occurrences of invasive plants or noxious weeds will be submitted to the BLM Authorized Officer before surface disturbance will occur.
- The operator will control noxious/invasive weeds along their roads, pipelines, well sites, or other applicable facilities by the application of herbicides or by mechanical removal until reclamation is considered to be successful by the authorized officer (AO) and the bond for the well is released. A list of noxious weeds will be obtained from the BLM or the appropriate county extension office. On BLM-administered land, the operator will submit a Pesticide Use Proposal and obtain approval prior to the application of herbicides, other pesticides, or possible hazardous chemicals.
- Immediately upon well completion, the location and surrounding area shall be cleared of all unused tubing, equipment, debris, materials, and trash. Any hydrocarbons in the pit will be removed in accordance with 43 CFR 3162.7-1.
- The reserve pit and the portion of the well not needed for production facilities/operations shall be recontoured to the approximate natural contours. The reserve pit will be reclaimed within 120 days from the date of well completion, or as soon as environmental conditions allow. The stockpiled pit topsoil will then be spread over the pit area and broadcast-seeded/drill seeded (preferred method) with a seed mix submitted to the BLM Authorized Officer (AO) for approval prior to seeding. Seeding will be done in the fall prior to winter freezing of the soil. The seed mixture shall be worked into the topsoil with a drill seeder, bulldozer or other heavy equipment. If initial seeding is not successful, reseeded may be required.
- Once the well is plugged and facilities are removed and abandoned, the topsoil shall be stripped and stockpiled off of the location, and the well site, pipelines, and access roads will be returned to natural contours. The topsoil shall be respread, and the location seeded with the mixture submitted to the BLM AO. The seed mixture shall be worked into the topsoil with a drill seeder, bulldozer or other heavy equipment.

- Interim reclamation, final reclamation, and monitoring of reclaimed areas will be completed in accordance with the Questar Exploration and Production Company, Uinta Basin Division's Reclamation Plan, September 2009 on file with the Vernal Field Office of the BLM.
- Prior to any surface disturbance, vegetative monitoring locations and reference sites will be identified by QEP and approved by the BLM AO. Vegetation monitoring protocol will be developed by QEP and approved by the BLM AO prior to implementation of revegetation techniques and will be designed to monitor % basal vegetative cover.
- Revegetated areas will be inspected annually and monitored to document location and extent of areas with successful revegetation, and areas needing further reclamation (for a period of 5 years after construction completion). A reclamation report will be submitted to the AO by March 31 of each year.
- All vehicles and equipment shall be cleaned either through power-washing, or other approved method, if the vehicles or equipment were previously operated outside the Uinta Basin, to prevent weed seed introduction.
- A muffler will be used on the pump-jack upon completion in order to reduce noise levels.
- QEP has committed to have a permitted paleontologist be present to monitor the construction process for the entire access road for the DS 16G-20-10-18, and the portion of the access road which runs through Sec. 23, 24, and 26 of T. 10 S. R. 17 E.
- During operations, if 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 Authorized Officer of the BLM office shall be notified within 48 hours of the discovery, and a decision as to the preferred alternative/course of action would be rendered.
- Telemetry will be installed to remotely monitor and control production.
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