

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

**Environmental Assessment
DOI-BLM-UT-G010-2013-0132-EA**

July 2014

**Gasco Production Company Proposes To Drill
16 Gas Wells From Three Existing Well Pads**

***Location:* Uintah County, Utah
Sections 29 and 30 Township 9 South, Range 19 East**

***Applicant/Address:* Gasco Production Company
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CHAPTER 1: INTRODUCTION AND NEED

INTRODUCTION

This Environmental Assessment (EA) has been prepared to analyze the potential impacts of Gasco Production Company (GASCO) gas well drilling project in 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.

Gasco proposes to drill 16 new gas wells in sections 29 and 30 of T9S R19E. Gasco also proposes to install gas gathering pipeline in sections 25 and 36 of T9S R18E as part of the project. A right-of-way would be required for the portion of pipeline that goes off lease and also for well pads that have well bores going into a different lease. The proposed project area is located approximately 26 miles southeast of Myton, Utah.

PURPOSE AND NEED

The BLM’s purpose is to allow beneficial use of the applicant’s lease in an environmentally sound manner. 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 their federal leases subject to the lease’s terms and conditions. The BLM oil and gas leasing program encourages development of domestic oil and gas reserves and the reduction of U.S. dependence on foreign energy sources.

The BLM’s need is to respond to Gasco’s proposal to drill 4 wells on lease UTU-037246, 8 wells on lease UTU-76034, and 4 wells on lease UTU-76262. If successful, Gasco would produce commercial quantities of gas from its federal oil and gas lease. There are known hydrocarbon-trapping mechanisms within the project area, based on previously drilled wells and reasoned geologic formation and mineral potential.

CONFORMANCE WITH BLM LAND USE PLANS

The proposed wells and related facilities would be in conformance with the Vernal Field Office RMP/ROD (October 31, 2008) and the terms of the lease. Gasco has a valid existing right to extract mineral resources from leases UTU-037246, UTU-76034, and UTU-76262 subject to the lease's terms and conditions. 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 and permits 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.

RELATIONSHIPS TO STATUTES, REGULATIONS, OR OTHER PLANS

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

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

The State of Utah School and Institutional Trust Lands Administration (SITLA) have leased much of the nearby state land for oil and gas production. Because the objectives of SITLA are to produce funding for the state school system, and because production on federal leases could further interest in drilling on state leases in the area, it is assumed that the alternatives analyzed, except the No Action Alternative, are consistent with the objectives of the state.

The proposed project is consistent with the *Uintah County General Plan, 2011-as amended* (County plan) that encompasses the location of the proposed wells. In general, the plan indicates support for development proposals such as the Proposed Action through the plan's emphasis on multiple-use public land management practices, responsible use and optimum utilization.

BLM 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.

CHAPTER 2: DESCRIPTION OF ALTERNATIVES

INTRODUCTION

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

PROPOSED ACTION

Gasco proposes to drill 16 gas wells from three existing well pads. The existing well pads would be expanded to accommodate the new wells. Gasco also proposes to build approximately 26,587 feet of surface laid gas gathering pipeline. The pipeline would require a right-of-way for the portion of the pipeline that goes off lease. The proposed project area is located approximately 26 miles southeast of Myton, Utah. Table 2-1 lists the well pad by name and the wells that will be drilled from them. Table 2-2 lists the well pads and their associated surface disturbances. If a well is a dry well, then it would be plugged and abandoned as per BLM and State of Utah requirements.

Table 2-1 Well Pad and Well Names

Existing Well Number	Proposed Wells
Federal 31-29-9-19	Federal 212-29-9-19, Federal 213-29-9-19, Federal 221-19-9-19, Federal 321-29-19, Federal 412-29-9-19, Federal 413-29-9-19, Federal 414-29-9-19
Federal 42-29-9-19	Federal 322-29-9-19, Federal 323-29-9-19, Federal 421-29-9-19, Federal 431-29-9-19, Federal 432-29-9-19
Federal 43-30-9-19	Federal 333-30-9-19, Federal 424-30-9-19, Federal 432-30-9-19, Federal 442-30-9-19

Table 2-2 Surface Disturbance

Existing Well #	Existing Well Pad Disturbance	New Disturbance Pad Expansion	Re-disturbance (Re-open old pit area or other disturbed areas)	Road ¹	Surface Pipeline ²	Total Disturbance
Federal 31-29-9-19	1.2 acres	0.1 acres	0.8 acres	0.0 acre 0.0 feet	0.0 acre 467 feet	2.0 acres
Federal 42-29-9-19	1.5 acres	0.3 acres	1.0 acres	0.0 acre 0.0 feet	0.0 acre 9,035 feet	2.8 acres
Federal 43-30-9-19	1.6 acres	0.1 acres	0.9 acres	0.0 acre 0.0 feet	0.0 acre 17,085 feet	2.6 acres
	¹ 30-foot construction width, 18 foot running surface ² 30-foot construction width					

Access

Existing roads would be used for access the well pads. No new surface disturbance would result from building new roads.

All vehicular traffic, personnel movement, construction/restoration operations would be confined to existing roadways and/or access routes. Existing roads consist of county roads. In accordance with Onshore Order # 1 (OSO 1) and Best Management Practices (BMPs), GASCO would maintain existing roads in a safe and useable condition. Maintenance for existing roads would continue until final abandonment and reclamation of the well pad. Road maintenance would include but is not limited to, blading, ditching, and/or culvert installation and cleanout. To ensure safe operating conditions, gravel surfacing would be performed where excessive rutting or erosion may occur. Dust control would be performed as necessary to ensure safe operating conditions.

Pipelines

Approximately 26,587 feet of 12-inch diameter or smaller steel surface laid gas gathering pipeline is proposed for construction within a 30-foot right of way adjacent to the existing roads and existing pipeline. Above-ground installation would not require clearing of vegetation or blading of the surface. The roads and /or well pad would be utilized for construction activities and staging of the pipeline. The 30 feet ROW would be utilized for maintenance and repairs.

Gasco proposes to install temporary 12" or smaller water transfer lines on the surface between either existing or refurbished reserve pits. The temporary transfer lines would be utilized to transport frac fluid being injected and/or recovered during the completion process and would be laid adjacent to existing access roads. Upon completion of the frac operation, the liquids transfer lines will be flushed with fresh water and purged with compress air. The contents of the transfer lines will be flushed into a water truck for delivery to another reserve pit or disposal pond.

Water Supply

Gasco is anticipating on using as much as possible recycled produce water for drilling and completions of the wells. Approximately 5 acre-feet of water would be needed to drill and complete each well, with possibly 1 acre-foot of fresh water per well need to supplement the recycled produced water. Up to 16 acre-feet of fresh water would be need for this project.

Fresh water for drilling and completion operations would be obtained from the following source: Permit # 41-3530 Duchesne County Water Conservancy District: Public Water Supplier. Water would be hauled to the location over the existing roads. No water wells would be drilled on leases UTU-037246, UTU-76034 and UTU-76262.

Well Site Layout

Construction materials for the well location would consist of the native sub-soils. If other construction materials are needed (such as gravel for surfacing the well location) they would be obtained from a nearby permitted source. Topsoil would be stripped to a depth of six inches and stockpiled adjacent to the well pad, segregated from the subsoil.

Gasco would use a reserve pit to contain the de-watered drill cuttings and completion fluids. The reserve pit would be constructed to minimize the accumulation of surface precipitation runoff into the pit via appropriate placement of subsoil storage areas and/or construction of berms and/or ditches, etc. The reserve pit would be lined with an impermeable liner. The liner would be a synthetic material 16 mil or thicker. The bottom and side wall of the pit would be void of any sharp rocks that could puncture the liner. The liner would be installed over smooth fill subgrade that is free of pockets, loose rocks, or other materials (i.e. sand, sifted dirt, bentonite, straw, etc.) that could damage the liner.

After evaporation and when dry, the reserve pit liners would be cut off, ripped and/or folded back (as safety considerations allow) as near to the mud surface as possible and hauled to a landfill or buried on location prior to backfilling the pit with a minimum of four feet of soil material. Any fluids remaining 90 days after date of completion and /or determination of inactivity would be removed (as weather conditions allow) to an approved site and the pit reclaimed.

For the protection of livestock and wildlife, all open pits (excluding flare pits) would be fenced to prevent wildlife or livestock entry. Total height of pit fencing would be at least 42 inches and corner posts would be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe post shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet. Siphons, catchments, and absorbent pads would be installed to keep hydrocarbons produced by the drilling rig or other equipment on location from entering the reserve pit. Hydrocarbon contaminated pads, and/or soils would be disposed of in accordance with state and federal requirements.

Methods for Handling Waste

All wastes subject to regulation would be handled in compliance with applicable laws to minimize the potential for leaks or spills to the environment. Gasco also maintains a Spill Control and Countermeasure Plan, which includes notification requirements for all applicable state and federal governments, for all reportable spills of oil, produced liquids, and hazardous materials.

Any accidental release, such as a leak or spill in excess of the reportable quantity, as established by 40 CFR Part 117.3, would be reported as per the requirements of CERCLA, Section 102 B. If a release involves petroleum hydrocarbons or produced liquids, Gasco would comply with the notification requirements of NTL-3A. Drill cuttings and/or drilling fluids would be contained in the reserve/frac pit. Cuttings would be buried in pit(s) upon closure. Unless specifically approved by the BLM, no oil or other oil-based drilling additives, chromium or other metal-based or saline muds would be used during drilling. Only fresh water (as specified above), biodegradable polymer soap, bentonite clay, and/or non-toxic additives would be used in the mud system.

Where necessary and if conditions (freeboard, etc.) allow, produced liquids from newly completed wells may be temporarily disposed of into pits for a period not to exceed 90 days as per Onshore Order Number 7 (OSO 7). Subsequently, permanent produced water disposal methods would be employed in accordance with OSO 7. Gasco proposes to store produced

water in a 300 barrel tank, and periodically haul the water to a State of Utah approved commercial disposal site.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C would be placed in the reserve pit. All refuse (trash and other solid waste including cans, paper, cable, etc.) generated during construction, drilling, completion, and well testing activities would be contained in an enclosed receptacle, removed from the drill operations promptly, and transported to an approved disposal facility. Immediately after removal of the drilling rig, all debris and other waste materials not contained within trash receptacles would be collected and removed from the well location.

Portable, self-contained chemical toilets and/or sewage processing facilities would be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks would be pumped and the contents disposed of in an approved sewage disposal facility. All applicable regulations pertaining to disposal of human and solid waste would be observed.

Hazardous Materials Management

Hazardous materials as listed by CERCLA of 1980 or defined in RCRA of 1976 above reportable quantities would not be produced by drilling or completing proposed well(s) or constructing the pipelines/facilities. In addition, no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well. Also, chemicals meeting the criteria for being an acutely hazardous material/substance or meet the quantities criteria per BLM Instruction Memorandum No. 93-334 would not be used.

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities and may be kept in limited quantities on drilling sites and well locations for short periods of time during drilling or completion activities. Hazardous materials may be contained in some grease or lubricants, solvents, acids, paint, and herbicides, among others as defined above. GASCO maintains a file, per 29 CFR 1910.1200(g) containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds, and/or substances that are used during the course of construction, drilling, completion, and production operations for this project.

The transport, use, storage, and handling of hazardous materials would follow procedures specified by federal and state regulations. Transportation of hazardous materials to the well locations is regulated by the Department of Transportation (DOT) under 49 CFR, Parts 171-180. DOT regulations pertain to the packing, container handling, labeling, vehicle placarding, and other safety aspects.

Weed Control

All weed management in the project area would be done in accordance with the Vernal BLM Surface Disturbance Weed Policy. Monitoring and management of noxious and/or invasive weeds of concern would be completed annually until deemed successfully reclaimed by the surface management agency. Noxious weed infestations would be mapped using a GPS unit and

submitted to the BLM with information required in the Vernal BLM Surface Disturbance Weed Policy. If herbicide is to be applied it would be done according to an approved Pesticide Use Proposal (PUP), inclusive of the applicable locations. All pesticide applications would be recorded using a Pesticide Application Record (PAR) and would be submitted along with a Pesticide Use Report (PUR) annually prior to December 31.

Reclamation

Gasco will follow the procedure that is laid out in the Reclamation and Weed Plan for Gasco Production Company that is on file with the Vernal Field Office BLM.

This seed mix shall be used for well site, access road, and pipeline (as applicable).

Squirreltail	4.00 lbs/acre
Siberian Wheatgrass	2.00 lbs/acre
Bluebunch Wheatgrass	3.00 lbs/acre
<u>Shadscale Saltbush</u>	<u>0.50 lbs/acre</u>
Fourwing Saltbush	0.50 lbs/acre
Gardner's Saltbush	0.50 lbs/acre
Scarlet Globemallow	0.10 lbs/acre
Total	10.60 lbs/acre

NO ACTION ALTERNATIVE

Under the No Action Alternative, Gasco would not cause any new surface disturbance and would not drill the 16 wells as proposed in this EA. The three existing wells would continue to produce natural gas, and current land use trends in the area would continue.

Pollutant	Development	# of Wells	Total for Development	Production	# of Wells	Total for Production	Total
Ethylbenzene	0.0004	16	0.0064	0.024	16	0.384	0.3904
Xylene	0.0055	16	0.088	0.329	16	5.264	5.352
n-Hexane	0.0121	16	0.1936	0.3	16	4.8	4.9936
Formaldehyde	0.0056	16	0.0896	0.057	16	0.912	1.0016

¹ Emissions include 16 producing wells and associated operations traffic during the year in which the project is developed

Emissions of NO_x and VOC, ozone precursors, are 185.92 tons/yr for NO_x, and 315.52 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.

Well development includes NO_x, SO₂, and CO tailpipe emissions from earth-moving equipment, vehicle traffic, drilling, and completion activities. Small amounts of HAPs are emitted by construction equipment. Fugitive dust concentrations would occur from vehicle traffic on unpaved roads and from wind erosion where soils are disturbed. Drill rig and fracturing engine operations would result mainly in NO_x and CO emissions, with lesser amounts of SO₂. These emissions would be short-term during the drilling and completion phases.

During well production, continuous NO_x, CO, VOC, and HAP emissions would originate from well pad separators, condensate storage tank vents, and daily tailpipe and fugitive dust emissions from operations traffic. The primary sources of HAPs are from oil storage tanks. Road dust (PM₁₀ and PM_{2.5}) would also be produced by vehicles servicing the wells.

Greenhouse Gases

The assessment of greenhouse gas emissions and climate change remains in its earliest stages of formulation. Applicable EPA rules do not require any controls and have yet to establish any emission limits related to GHG emissions or impacts. The lack of scientific models that predict climate change on regional or local level prohibits the quantification of 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 greenhouse gases into the local air-shed.

Mitigation for Air Quality and Greenhouse Gases

The BLM did not identify any additional site-specific mitigation measures during preparation of this EA beyond those listed in Attachment 2 Table 3.2 of the Gasco ROD (BLM 2012b).

Invasive Plants/Noxious Weeds, Soils, and Vegetation

The Proposed Action would disturb a total of 0.5 acres of soils and vegetation. Under the Proposed Action, reclamation would occur on approximately 40 percent of the total disturbance. 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).

CHAPTER 4: ENVIRONMENTAL IMPACTS

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.

PROPOSED ACTION

Air Quality and Green House Gases

Air Quality

The BLM conducted a comprehensive air quality analysis as part of the Gasco Final EIS (BLM 2012a). The air quality analysis incorporated the planned Gasco development and a prepared set of emissions data for project modeling, including project development alternatives and reasonably foreseeable development. Those emissions data were incorporated into the modeling system for the project base year, and used to predict potential impacts on visibility, acid deposition, and air quality, including ozone. The analysis identified potential impacts on resources and characterizes the major source or source groups that contribute to those impacts. Under the selected alternative in the Gasco ROD (BLM 2012b) infill development in the Gasco project area is not expected to result in exceedences of NAAQS. Since this project is a project level implementation of the Gasco ROD, no NAAQS exceedences are expected for these 16 wells either. Refer to Section 4.2 in the Gasco Final EIS (BLM 2012a) for more information on potential air quality impacts.

This Proposed Action is considered to be a minor air pollution source under the Clean Air Act and is not controlled by regulatory agencies. At present, control technology is not required by regulatory agencies since the Uinta Basin is designated as unclassifiable/attainment. The Proposed Action would 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**. Emissions would be dispersed and/ or diluted to the extent where any local ozone impacts from the Proposed Action would be indistinguishable from background conditions.

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

Pollutant	Development	# of Wells	Total for Development	Production	# of Wells	Total for Production	Total
NO _x	6.56	16	104.96	5.06	16	80.96	185.92
CO	4.33	16	69.28	3.8	16	60.8	130.08
VOC	1.03	16	16.48	18.69	16	299.04	315.52
SO ₂	0.23	16	3.68	0.0105	16	0.168	3.848
PM ₁₀	40.66	16	650.56	28.88	16	462.08	1112.64
PM _{2.5}	4.27	16	68.32	3.19	16	51.04	119.36
Benzene	0.0062	16	0.0992	0.17	16	2.72	2.81992
Toluene	0.0106	16	0.1696	0.35	16	5.6	5.7696

sparrow, violet-green swallow, warbling vireo, western kingbird, yellow-breasted chat, yellow warbler (Parrish et al. 2002, USC 2005) and mountain plover.

WILDLIFE: NON-USFWS DESIGNATED

Special Status Fish

This project would remove water from the Green River or White River in order to drill the wells and hydrostatically pressure test the pipelines. There are three special status fish species that are endemic to the Colorado River Basin, including the Green River: roundtail chub (*Gila robusta*), flannelmouth sucker (*Catostomus latipinnis*), and bluehead sucker (*Catostomus discobolus*). The roundtail chub is a state-listed threatened species, while the two suckers are species of special concern due to declining population numbers and distribution.

WILDLIFE: THREATENED, ENDANGERED, PROPOSED OR CANDIDATE

Colorado River Fish Species

The USFWS has identified four federally listed fish species historically associated with the Upper Colorado River Basin, including the Green River, as being within the project area: Colorado pikeminnow (*Ptychocheilus lucius*), humpback chub (*Gila cypha*), bonytail (*Gila elegans*), and razorback sucker (*Xyrauchen texanus*). These fish are federally and state-listed as endangered and have experienced severe population declines due to flow alterations, habitat loss or alteration, and introduction of non-native fish species. The Green River and its 100-year floodplain have been designated Critical Habitat for these four endangered fish species (USFWS 1994).

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 pinion-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 U.S. Fish and Wildlife Service (USFWS) identified as being potential habitat Uinta Basin hookless cactus. During August through October 2012, SWCA Environmental Consultants surveyed the proposed project to a distance of 300 feet from the edge of the proposed surface disturbance of two of the three well pad expansions: the 42-29-9-19 and the 31-29-9-19. Surveys were also done within 300 feet of the ROW of an existing surface pipeline connecting these wells to existing infrastructure. This pipeline will be upgraded to a larger surface pipeline placed within the same ROW. During these surveys, 78 plants were identified within 300 feet of the existing well pads, well pad expansion areas, and pipeline ROW. The closest plant to proposed construction or disturbance is within 47 feet of the pipeline. In 2011, Sclerocactus surveys were conducted within 400 feet of the proposed expansion of the 43-30-9-19 wellpad. No individuals were found.

WILDLIFE: MIGRATORY BIRDS INCLUDING RAPTORS

All migratory birds and their nests are protected from take or disturbance under the Bald Eagle and Golden Eagle Protection Act (BEGEPA) of 1940 (16 U.S.C., 668-668d, 54 Stat. 250) and the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C., 703 et seq.). These protection laws were implemented for the protection of avian species. Unless permitted by regulations, it is unlawful to pursue, hunt, kill, capture, possess, buy, sell, purchase, or barter any species covered under these Acts. In addition, Executive Order 13186 sets forth the responsibilities of federal agencies to further implement the provisions of these Acts 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 protected avian species.

Within the proposed project areas there are no documented raptor or migratory bird nests. The following addresses additional migratory birds that may utilize the project areas for nesting activities, including those species classified as Priority Species by the Utah Steering Committee and Utah Partners-in-Flight¹.

Pinion-Juniper/Desert Shrub/Sagebrush

American robin, blue-gray gnatcatcher, Brewer's blackbird, Brewer's sparrow, cliff swallow, grasshopper sparrow, gray flycatcher, greater sage-grouse, lazuli bunting, mountain bluebird, orange-crowned warbler, rock wren, Say's phoebe, song sparrow, black-billed magpie, black-capped chickadee, black-throated sparrow, northern flicker, northern mockingbird, vesper

¹ Utah Partners-in-Flight is a cooperative partnership among federal, state, and local government agencies as well as public organizations and individuals organized to emphasize the conservation of birds not covered by existing conservation initiatives.

Greenhouse Gases

Greenhouse gases keep the planet's surface warmer than it otherwise would be. However, as concentrations of these gases increase the Earth's temperature is climbing above past levels. According to National Oceanic and Atmospheric Administration (NOAA) and National Aeronautics and Space Administration (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. Predictions of the ultimate outcome of global warming remain to be seen.

The 2009 analysis of the Regional Climate Impacts prepared by the U.S. Global Change Research Program (USGCRP) suggests that recent warming in the region (including the project area) was nationally among the most rapid. Past records and future projections predict an overall increase in regional temperatures, largely in the form of warmer nights and effectively higher average daily minimum temperatures. They conclude that this warming is causing a decline in spring snowpack and reduced flows in the Colorado River. The USGCRP projects a region-wide decrease in precipitation, although with substantial variability in interannual conditions. For eastern Utah, the projections range from an approximate five percent decrease in annual precipitation to decreases as high as 40 percent of annual precipitation. Refer to Section 3.2.3.1.5 in the Gasco Final EIS (BLM 2012a) for more information on climate change.

INVASIVE PLANTS/NOXIOUS WEEDS, SOILS, AND VEGETATION

Soils are clay loams with a very high percentage of rock. The terrain is low rolling hills, with the well pads located on hilltops and in valleys. The vegetation noted during the onsite include: four-wing saltbrush (*Atriplex canescens*), mat saltbush (*Atriplex corrugata*), Garner saltbush (*Atriplex gardneri*), black sagebrush (*Artemisia nova*), rubber rabbitbrush (*Chrysothamnus nauseosus*), spiny hopsage (*Grayia spinosa*), galleta grass (*Pleuraphis jamesii*), and horsebrush (*Tetradymia* sp.).

PALEONTOLOGY

The proposed well pad expansions and pipeline were surveyed for paleontology resources. Outcrops and erosional surfaces were checked within the proposed construction areas to determine if fossils were present and to assess needs when found. The probability for impacting scientifically important paleontological resources during construction was determined to be high in this area. The route of the proposed pipeline and the well pad expansion areas showed signs of scientifically important fossils at multiple locations.

PLANTS: THREATENED, ENDANGERED, PROPOSED, OR CANDIDATE

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

¹Source: Environmental Protection Agency (EPA) Air Quality System data archives website, 2010, Utah Department of Air Quality (UDAQ) 2010.

²Ouray Monitoring Station Data (EPA AQS Database). 2009/2010 data period = 7/30/09 to 6/30/2010. 20010/2011 period = 7/1/2010 to 6/30/2011.

³Redwash Monitoring Station Data (EPA AQS Database). 2009/2010 data period = 7/30/09 to 6/30/2010. 20010/2011 period = 7/1/2010 to 6/30/2011.

⁴Wamsutter Monitoring Station Data (EPA AQS Database).

⁵Ozone is measured in parts per billion (ppb).

⁶The 24-hour and annual SO₂ NAAQS have been revoked and replaced with the 1-hour standard (75 FR 35520-35603, June 22, 2010).

⁷The annual PM₁₀ NAAQS of 50 µg/m was revoked by EPA on September 21, 2006. See FR Volume 71, Number 200, October 17, 2006.

Two year-round air quality-monitoring sites were established in summer 2009 near Red Wash (southeast of Vernal, Utah) and Ouray (southwest of Vernal). The monitors were certified as Federal Reference Monitors in fall of 2011. These monitors can be used to make NAAQS compliance determinations. The complete EPA Ouray and Redwash monitoring data can be found at <http://www.epa.gov/airexplorer/index.htm>. Both monitoring sites have recorded numerous exceedences of the 8-hour ozone standard during the winter months (January through March 2010, 2011, 2013, and 2014). It is thought that high concentrations of ozone are being formed under a “cold pool” process. This process occurs when stagnate air conditions form with very low mixing heights under clear skies, with snow-covered ground, and abundant sunlight. These conditions, combined with area precursor emissions (NO_x and Volatile Organic Compounds (VOCs)), can create intense episodes of ozone. This phenomenon has also been observed in similar locations in Wyoming. It did not occur in January through March 2012 due to lack of snow cover. Winter ozone formation is a newly recognized issue, and the methods of analyzing and managing this problem are still being developed. Existing photochemical models are currently unable to replicate winter ozone formation reliably. This is due to the very low mixing heights associated with unique meteorology of the ambient conditions. Further research is needed to definitively identify ozone precursor sources that contribute to observed ozone concentrations.

The UDAQ conducted limited monitoring of PM_{2.5} in Vernal, Utah in December 2006. During the 2006-2007 winter season, PM_{2.5} levels were higher than the PM_{2.5} health standards 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 most likely causes of elevated PM_{2.5} at the Vernal monitoring station are 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.

Hazardous Air Pollutants (HAPs) are 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. Refer to Section 3.2 in the Gasco Final EIS (BLM 2012a) for additional information on air quality conditions relevant to the Project Area.

Table 3-1. Regional Ambient Air Quality Background Values

Pollutant	Averaging Period	Year	Concentration ($\mu\text{g}/\text{m}^3$)	Applicable NAAQS ¹ ($\mu\text{g}/\text{m}^3$)
NO ₂	1-hour	2009/2010	69.6 ²	188.0
		2010/2011	52.7 ²	
		2009/2010	58.3 ³	
		2010/2011	60.2 ³	
	Annual	2009/2010	9.0 ²	100.0
		2010/2011	6.8 ²	
		2009/2010	7.8 ³	
		2010/2011	8.1 ³	
CO	1-hour	2004	6,210	40,000
		2005	6,325	
		2006	6,325	
	8-hour	2004	3,680	10,000
		2005	3,910	
		2006	3,450	
SO ₂	1-hour	2007	21.7	197
		2008	19.7	
		2009	19.0	
	3-hour	2007	16.0	1,300
		2008	16.7	
		2009	10.1	
	24-hour	2007	5.9	6
		2008	-	
		2009	3.9	
	Annual	2007	1.5	6
		2008	1.5	
		2009	0.8	
PM ₁₀	24-hour	2004	14.0	150
		2005	18.0	
		2006	16.0	
	Annual	2004	5.0	7
		2005	7.0	
		2006	7.0	
PM _{2.5}	24-hour	2009/2010	19.5 ²	35.0
		2010/2011	23.6 ²	
		2009/2010	16.3 ³	
		2010/2011	17.8 ³	
	Annual	2009/2010	7.3 ²	15.0
		2010/2011	12.3 ²	
		2009/2010	6.3 ³	
		2010/2011	9.4 ³	
Ozone	8-hour	2009/2010	117.0 ^{2,5}	75 ⁵
		2010/2011	116.0 ^{2,5}	
		2009/2010	98.0 ^{3,5}	
		2010/2011	100.0 ^{3,5}	

CHAPTER 3: AFFECTED ENVIRONMENT

INTRODUCTION AND GENERAL SETTING

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

AIR QUALITY AND GREEN HOUSE GASES

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. Refer to Section 3.2 in the Gasco Final EIS (BLM 2012a) for additional information on climate in the region.

Air Quality

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

- Exhaust emissions (primarily carbon monoxide [CO], nitrogen oxides [NO_x], particulate matter less than 2.5 microns in diameter [PM_{2.5}], and hazardous air pollutants [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 volatile organic compounds (VOCs), NO_x, CO, sulfur dioxide [SO₂], particulate matter less than 10 microns in diameter [PM₁₀], and PM_{2.5};
- Oxides of sulfur (SO_x), NO_x, fugitive dust emissions from coal-fired power plants, and coal mining/ 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 unclassifiable by the Environmental Protection Agency (EPA) under the Clean Air Act. This classification indicates that adequate air monitoring is not available to determine attainment. NAAQS are standards that have been set to protect human health and welfare with an adequate margin of safety. Pollutants for which standards have been set include ground level ozone (O₃), SO₂, nitrogen dioxide (NO₂), CO, PM₁₀, and 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. **Table 3-1** lists ambient air quality background values for the Uinta Basin and NAAQS standards.

Direct and indirect impacts to soils and vegetation include mixing of soil horizons, soil compaction, short-term loss of topsoil and site productivity, loss of soil/topsoil through erosion, clearing of vegetation, invasion and establishment of introduced, undesired plant species. Loss of soil/topsoil in disturbed areas would reduce the re-vegetation success of seeded native species due to increased competition by annual weed species. Annual weed species are adapted to disturbed conditions, and have less stringent moisture and soil nutrient requirements than do perennial native species. The severity of these invasions would depend on the success of reclamation and re-vegetation, and the degree and success of noxious weed control efforts.

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, pipelines, and well pads are fully reclaimed. Erosion rates are higher during the first year due to disturbance during construction.

Mitigation for Invasive Plants/Noxious Weeds, Soils, and Vegetation:

- All reclamation activities will comply with the Green River Reclamation Guidelines
- 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
- Noxious and invasive weeds will be controlled by the proponent throughout the area of project disturbance.
- Noxious weeds will be inventoried and reported to BLM in the annual reclamation report. Where an integrated pest management program is applicable, coordination has been undertaken with the state and local management program (if existing). A copy of the pest management plan will be submitted for each project.
- A pesticide use proposal (PUP) will be obtained for the project, by the proponent if applicable.

Paleontology

Direct impacts to paleontology would be the destruction of fossils during the construction of the pipeline, access road, and on any expansion of the well pad and monitoring of ground disturbing activities is required.

Mitigation considerations for the pipelines and well pads must include an assessment of the construction disturbance. For example, removal or penetration of surface alluvium or soils that had been protecting the fossils could result in accelerated erosion. The construction process itself could create easier access to fossils resulting in a greater looting potential. On-site monitoring and spot checking would be necessary during construction activities to record and protect fossils in place or to remove significant specimens for archiving and preserving in a museum. Scientifically important fossils may be present at the host well pad Federal 42-29-9-19. This well pad will have the following wells on it the Federal 322-29-9-19, 323-29-9-19, 421-29-9-19, 431-

29-9-19, and 432-29-9-19. The other two host well sites, the Federal 31-29-9-19 and 43-30-9-19, are clear of paleontological issues.

Mitigation for Paleontology:

- A permitted paleontologist is to be present to monitor construction at the Federal 42-29-9-19 during all surface disturbing activities: including expansion of the well pad and building of the pipelines.

Plants: Threatened, Endangered, Proposed, or Candidate

Uinta Basin hookless cactus (*Sclerocactus wetlandicus*)

The proposed action will occur mostly on previously disturbed areas. Although there are 78 individual cacti within 300 feet of the existing disturbance, no direct physical damage will occur to Uinta Basin hookless cactus individuals as a result of the Proposed Action. Adherence to additional conservation measures will minimize impacts to Uinta Basin hookless cactus individuals as a result of the Proposed Action. The surface pipeline that will be upgraded is within an existing ROW, and all construction work related to pipeline replacement and maintenance will be done from the existing roads and well pads so that no new surface disturbance will occur.

Possible dispersed direct and indirect negative impacts which may result from implementation of the Proposed Action include: loss of suitable habitat, habitat modification by invasive weed species which may compete with individuals, accidental spray or drift of herbicides used during invasive plant control, and the deposition of fugitive dust from construction activities and vehicle traffic on unpaved roads. 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. For a summary of Endangered Species Act Section 7 consultation, refer to Chapter 5.

Mitigation for Plants: Threatened, Endangered, Proposed, or Candidate

This project involves drilling new wells on existing well pads, and includes 0.5 acres of disturbance from well pad expansion (see Table 2-2). Some areas that were previously disturbed will be redisturbed for this project. Because of the close proximity of the existing wells to *Sclerocactus wetlandicus* individuals, the applicant has committed to the standard *Sclerocactus* mitigation measures (see Appendix L, page L-6, from the Vernal Record of Decision and Approved RMP) as well as the following project-specific measures:

- Drilling on these well pads will be closed loop to limit the amount of re-disturbance and well pad expansion that will occur.
- The footprint of the well pads will be minimized as much as possible to minimize impacts to suitable Uinta Basin hookless cactus habitat. The BLM botanist will make recommendations for minimizing the footprint relative to Uinta Basin hookless cactus during the onsite. For example, on the 31-29-9-19 location, corner #2 will be moved to the edge of existing disturbance.
- A BLM-approved botanist will be on site during any construction and drilling operations to make sure activities do not impact plants. The BLM-approved botanist

will install silt fencing at the edge of the proposed disturbance to prevent impacts to *Sclerocactus wetlandicus* individuals and will remove them at the end of construction.

- Any construction work associated with this proposed project will happen outside of flowering season (usually April through May) as determined by a BLM-approved botanist.
- Any backfill/spoils/topsoils will be stockpiled as far away from existing plants as possible (for example, on the side of the well pad that is furthest from existing plants).
- Water only (no chemicals, reclaimed production water, or oil field brine) will be used for project-related dust abatement from March through August, when *Sclerocactus* species are most vulnerable to dust-related impacts.
- Where the pipeline is within 50 feet of individual *Sclerocactus* plants or populations, the pipeline will either be hand-laid or laid by vehicles from the existing road and secured in place to prevent movement toward plants.
- After construction is completed, the BLM-approved botanist will provide a report to the BLM summarizing the methods and results of the avoidance measures.
- *Sclerocactus* spot checks will be conducted and approved for all planned disturbance areas on an annual basis the year following the 100% *Sclerocactus* clearance survey for this project. Results of spot checks may require additional pre-construction plant surveys as directed by the BLM and in coordination with the USFWS. If the proposed action or parts thereof have not occurred within four years of the original survey, coordination with the USFWS will be required and 100% clearance re-survey may be necessary prior to ground disturbing activities.
- Additional mitigation for project impacts in lieu of the 3-year *Sclerocactus* monitoring requirement (for plants within 300 feet of disturbance) may include contribution to the *Sclerocactus* mitigation fund, with the amount determined during section 7 consultation with the USFWS. This monetary amount must be paid by Gasco to the *Sclerocactus* Mitigation Fund-BLM within 90 days upon receipt of concurrence, or before construction of the Project begins. The payment should be made to; Sclerocactus Mitigation Fund-BLM, Michelle Olson, Manager, Impact-Directed Environmental Accounts, National Fish and Wildlife Foundation, 1133 Fifteenth Street NW, Suite 1100, Washington, DC 20005.

Wildlife: Migratory Birds

Implementation of the Proposed Action Alternative would directly impact approximately 0.5 acres of suitable nesting and/or foraging habitat for migratory bird species. These impacts would be short term and would occur during project activities and until reclamation efforts are in accordance with the Reclamation Plan. Other potential impacts to migratory bird species could include: increased direct impacts (including poaching and collisions with vehicles), direct loss or degradation of potential nesting and foraging habitats, and indirect disturbance from human activity (including harassment, displacement, and noise). If activities occur in the spring during the nesting season for most migratory birds, impacts would be greater than if development occurred late summer through late winter. Impacts during the spring could include nest abandonment, reproductive failure, displacement, and destruction of nests.

Wildlife: Non-USFWS Designated

Special Status Fish

The analysis for the three special status fish species excluding USFWS designated species is the same as the analysis for threatened, endangered or candidate animal species; therefore, the same mitigation measures apply. It is not anticipated that the proposed action would result in the listing of any fish species.

Wildlife: Threatened, Endangered, Proposed or Candidate

Colorado River Fish Species

The proposed action would result in 16 acre-feet of depletion from the Upper Colorado River Drainage System. Water depletions, 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 the conservation measures listed below. 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 a water depletion based on removal of water from the Upper Colorado River Drainage System for construction and drilling operations. Therefore, the proposed action will have a *“may affect, likely to adversely affect”* determination for the endangered Colorado pikeminnow, humpback chub, bonytail, and razorback sucker. The proposed project falls within the scope of the Gasco Natural Gas Field Development EIS. Therefore, Section 7 consultation has already been completed for this project.

Mitigation Wildlife: Threatened, Endangered, Proposed or Candidate

- 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 inch 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
318 North Vernal Ave, Vernal, UT 84078
Phone: (435) 781-9453

NO ACTION ALTERNATIVE

Air Quality and Green House Gases

Under the No Action Alternative, Gasco would not drill the proposed gas wells or build the associated pipeline. Effects on ambient air quality would continue at present levels from existing oil and gas development in the region and other emission producing sources. Annual estimated emissions from the existing wells in the No Action are summarized in **Table 4-2**. Emissions would be dispersed and/ or diluted to the extent where any local ozone impacts from the Proposed Action would be indistinguishable from background conditions.

Table 4-2. No Action Alternative Annual Emissions (tons/year)¹

Pollutant	Development	# of Wells	Total for Development	Production	# of Wells	Total for Production	Total
NO _x	6.56	3	19.68	5.06	3	15.18	34.86
CO	4.33	3	12.99	3.8	3	11.4	24.39
VOC	1.03	3	3.09	18.69	3	56.07	59.16
SO ₂	0.23	3	0.69	0.0105	3	0.0315	0.1005
PM ₁₀	40.66	3	121.98	28.88	3	86.64	208.62
PM _{2.5}	4.27	3	12.81	3.19	3	9.57	22.38
Benzene	0.0062	3	0.0186	0.17	3	0.51	0.5286
Toluene	0.0106	3	0.0318	0.35	3	1.05	1.0818
Ethylbenzene	0.0004	3	0.0012	0.024	3	0.072	0.0732
Xylene	0.0055	3	0.0165	0.329	3	0.987	1.0035
n-Hexane	0.0121	3	0.0363	0.3	3	0.9	0.9363
Formaldehyde	0.0056	3	0.0168	0.057	3	0.171	0.1878

¹ Emissions include 3 producing wells and associated operations traffic during the year in which the project is developed

Emissions of NO_x and VOC, ozone precursors, are 34.86 tons/yr for NO_x, and 59.16 tons/yr of VOC (Table 4-1). Refer to Section 4.2 in the Gasco Final EIS (BLM 2012a) for additional information on potential air quality impacts under the No Action Alternative.

Invasive Plants/Noxious Weeds, Soils, and Vegetation

Under the No Action Alternative, there would be no direct disturbance or indirect effects to soils and vegetation from surface-disturbing activities associated with proposed action. Invasive plants/noxious weeds would remain at current levels. 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, fishing, bird watching, and sightseeing.

Paleontology

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

Plants: Threatened, Endangered, Proposed, or Candidate

Uinta Basin hookless cactus (*Sclerocactus wetlandicus*)

Under the No Action Alternative, there would be no direct disturbance or indirect effects to Uinta Basin hookless cactus or its associated habitat from surface-disturbing activities associated with the proposed project. Current land use trends in the area would continue, including increased industrial development, increased off-highway vehicles (OHV) traffic, and increased recreation use.

Wildlife: Migratory Birds

Under the no action alternative, there would be no direct disturbance or indirect effects to threatened, endangered, proposed, candidate, or sensitive wildlife species from surface disturbing activities associated with the road realignment. Current land use trends in the area would continue, including increased industrial development, increased OHV traffic, increased recreational use for hunting, bird watching, and sightseeing.

Wildlife: Non-USFWS Designated

Special Status Fish

Under the no action alternative, there would be no direct disturbance or indirect effects to threatened, endangered, proposed, candidate, or sensitive wildlife species from surface disturbing activities associated with the road realignment. Current land use trends in the area would continue, including increased industrial development, increased OHV traffic, increased recreational use for hunting, bird watching and sightseeing.

Wildlife: Threatened, Endangered, Proposed or Candidate

Colorado River Fish Species

Under the no action alternative, there would be no direct disturbance or indirect effects to threatened, endangered, or candidate, species 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 increased industrial development, increased OHV traffic, increased recreational use for hunting, bird watching and sightseeing.

CUMULATIVE IMPACTS

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

Air Quality and Green House Gases

The CIAA for air quality is the Uinta Basin, which is bounded by higher terrain on all sides, which results in similar climate and dispersion conditions for pollutants in the CIAA. The potential impact of the Proposed Action to Uinta Basin ozone levels cannot be accurately modeled. In lieu of accurate modeling, the Greater Natural Buttes Air Quality Technical Support Document, which is the most recent regional air model information available for the Uinta Basin, and the Greater Natural Buttes (GNB) Final EIS (BLM 2012c) section 5.3.1, are incorporated by reference and summarized below. The GNB Final EIS (BLM 2012a) discloses that most of the cumulative emissions in the Uinta Basin are associated with oil and gas exploration and production activities. Consequently, past, present and reasonably foreseeable wells in the Uinta Basin are a part of the cumulative actions considered in this analysis. Table 6 summarizes the 2006 Uinta Basin emissions as well as the incremental impact of this project's alternatives. As indicated in Table 4-2, the Proposed Action comprises a small percentage of the Uinta Basin emissions summary.

Table 4-2. 2006 Uinta Basin Oil and Gas Operations Emissions Summary

County	NO _x (tpy)	CO (tpy)	SO _x (tpy)	PM (tpy)	VOC (tpy)
Uintah	6,096	4,133	247	344	45,646
Carbon	995	814	22	40	2,747
Duchesne	3,053	2,448	96	173	19,019
Grand	337	207	16	22	2,360
Emery	273	199	9	14	453
Uinta Basin Total	10,754	7,800	391	592	70,226
Proposed Action	185.92	130.08	3.848 SO ₂	119.36 - PM _{2.5} 1112.64 - PM ₁₀	315.52
No Action	34.86	24.39	0.1005 SO ₂	22.38 - PM _{2.5} 208.62 - PM ₁₀	59.16

Source: 2012 Greater Natural Buttes Final EIS Table 5.3-1.

The GNB model predicted the following impacts to air quality and air quality related values for the GNB Proposed Action, which encompassed 3,675 new wells:

- Cumulative impacts from criteria pollutants to ambient air quality are well below the NAAQS at Class I airsheds and selected Class II areas;
- The incremental impacts to visibility would be virtually impossible to discern and would not contribute to regional haze at the Class I areas;
- The 2018 projected baseline emissions would result in impacts of 1.0 deciview for at least 201 days per year at the Class II areas;

- Discernible impacts at Flaming Gorge National Recreation Area and Dinosaur National Monument were anticipated;
- Less than 1 percent would be contributed to the acid deposition in Class I areas, and 4.3 percent at the Flaming Gorge Class II area;
- Acid deposition impacts at sensitive lakes would be below the USFS screening threshold; and,
- Ozone levels would be below the current ozone standard of 75 parts per billion (ppb) for the fourth highest annual level in the Uinta Basin for the 2018 projected baseline, and the proposed action would be approximately 3.2 percent of the cumulative ozone impact within the Uinta Basin.

Based on the GNB model results, it is anticipated that the impact to ambient air quality and air quality related values associated with the Proposed Action would be indistinguishable from, and dwarfed by, the margin of uncertainty associated with the model and Uinta Basin emission inventory. The No Action alternative would not result in an accumulation of impacts.

Invasive Plants/Noxious Weeds, Soils, and Vegetation

The cumulative impacts for these resources are the same as the cumulative impacts analyzed in Section 4.18.3 of the Gasco EIS and include the introduction or spread of noxious weeds. The Proposed Action would add 0.5 acres of new surface disturbance. The No Action Alternative would not result in an accumulation of impacts.

Paleontology

The cumulative impacts for these resources are the same as the cumulative impacts analyzed in Section 4.18.3 of the Gasco EIS. The cumulative impacts for this project were disclosed in the Gasco EIS.

Plants: Threatened, Endangered, Proposed, or Candidate

Uinta Basin hookless cactus (*Sclerocactus wetlandicus*)

The area delineated by the USFWS as potential habitat for Uinta Basin hookless cactus covers approximately 540,030 acres on BLM, Ute tribal, state of Utah, and privately held lands. Within the CIAA, there are eight active approved field development NEPA documents, Newfield Production Company's Castle Peak and Eightmile Flat Oil and Gas Expansion EIS (40,475 acres of 64,000 acre project in CIAA), EOG Resources, Inc. North Chapita Natural Gas Well Development Project EA (7,785 acres of the 10,920 acre project area is in the CIAA), Enduring Resources, LLC's West Bonanza Area Natural Gas Well Development Project EA (263 acres of the 24,813 acre project area is in the CIAA), Gasco Production Company's Natural Gas Field Development EIS (102,389 acres of the 236,165 acre project area is in the CIAA), Kerr-McGee Oil & Gas Onshore LP's Greater Natural Buttes Project EIS (88,882 acres of the 162,911 acre project area is in the CIAA), QEP Energy Company's Greater Deadman Bench Oil and Gas Producing Region EIS (10,585 acres of the 98,785 acre project area is in the CIAA), EOG Resources, Inc. Chapita Wells-Stagecoach EIS (18,489 acres of the 31,872 acre project area is in the CIAA), and Bill Barrett Corporation's West Tavaputs Plateau Natural Gas Full Field Development Plan EIS (26,045 acres of the 137,930 acre project area is in the CIAA). In total approximately 24,208 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 10,339 acres of surface disturbance has occurred or will occur within the CIAA (1.9% of the CIAA). Within the CIAA, numerous oil and natural gas wells do not tier to these NEPA documents. As of 6/25/2012, there are 548 abandoned oil and gas locations outside of the scope of the field development documents.

Using the assumption contained within the Greater Uinta Basin Cumulative Impacts Technical Support Document, 2,791 acres of the CIAA were disturbed some point in the past and are in various stages of reclamation (0.5% of the CIAA). There are currently 4,415 well pads that serve as platforms for actively producing wells not permitted under these documents. Using the above assumption, this has resulted in 18,254 acres of surface disturbance (3.4% of the CIAA). Finally, 380 wells are currently proposed that do not tier to these documents that will result in 1,638 acres of surface disturbance (0.3% of the CIAA). Currently proposed field developments, if all approved as proposed (either the estimated disturbance presented in the agency preferred alternative, in the applicant proposed alternative if the agency preferred alternative has not been selected, or an estimate of 5-acres of disturbance per well if an estimate is not yet available) would result in 25,472 acres of surface disturbance throughout the entirety of the project areas. If it assumed that disturbance would be relatively uniform throughout, then there will be about 11,232 acres of disturbance with the CIAA due the projects (2.1% of the CIAA). Thus, in total 44,254 acres (8.2% of the CIAA) have been or will be disturbed within the CIAA due to energy development activities. Within the CIAA, there are also approximately 1,903 miles of roads. Cumulative impacts include habitat disturbance and fragmentation through surface disturbing activities, dust impacts to flowering plants, and pollinator habitat disturbance and pollinator displacement. The Proposed Action would add 0.5 acres of surface disturbance. The No Action alternative would not result in an additional accumulation of impacts.

Due to inclusions of areas of unsuitable habitat within the potential habitat area, the total acreage of suitable habitat is less than 540,030 acres. However, a complete survey of suitable habitat has not been performed and thus the amount of suitable habitat has not been quantified. Impacts to the species from past, current, and reasonably foreseeable actions may be greater or smaller than those described for the total area depending upon the exact distribution of actions relative to suitable habitat.

Wildlife: Migratory Birds

The CIAA is the Vernal RMP area. Cumulative impacts are incorporated by reference to section 4.18.3 of the Gasco EIS. Cumulative impacts include decreased available cover, carrying capacity, foraging opportunities, breeding habitat, and habitat productivity for migratory birds and mountain plover. 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 quality, cover availability, visibility, and noise presence). The Proposed Action would add 0.5 acres of new surface disturbance. The No Action Alternative would not result in an accumulation of impacts.

Wildlife: Non-USFWS Designated and Threatened, Endangered, Proposed or Candidate

Colorado River Fish Species including Special Status Fish

The CIAA for this resource is the Colorado River system. Cumulative impacts are incorporated by reference to Section 4.18.3.11 of the Gasco EIS. Cumulative impacts in this 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 impacts such as decreased water quality and quantity, decreased habitat quality, habitat fragmentation, and mortality result from decreased stream flow, erosion, improperly placed culverts, elevated salinity, and contamination. Decreased stream-flows reduce or eliminate both the extent and quality of suitable habitat by increasing stream temperatures, and subsequently by reducing dissolved oxygen levels. Such impacts may be more pronounced during periods of natural cyclic flow reductions (fall and winter or periods of drought). A loss of stream flow can also reduce a stream's ability to transport sediment downstream. The Proposed Action would add 0.5 acres of surface disturbance with its associated impacts, and about 16 acre-feet of water depletion. The No Action Alternative would not result in an accumulation of impacts.

CHAPTER 5: PERSONS, GROUPS, AND AGENICES CONSULTED

CONSULTATION

U.S. Fish and Wildlife Service

Formal Section 7 consultation was completed for Gasco EIS by the US Fish and Wildlife Service and the Bureau of Land Management, Vernal Field Office. On December 22, 2011 a Biological Opinion was received that concurred with the “*may affect, likely to adversely affect*” determination for the four Colorado River fish and their designated critical habitat. This project falls within the scope of the EIS consultation, therefore consultation for the water depletion impacts to the four Colorado River fish and their designated critical habitat is complete.

Sclerocactus wetlandicus (Uinta Basin hookless cactus) was also consulted on through the EIS. However, that consultation did not include mitigation measures for plants that would be directly impacted by development and deferred mitigation to project-specific consultation. The BLM’s determination is that this action “may affect, but is not likely to adversely affect” *S. wetlandicus*. Consultation was initiated for this project on June 9, 2014 and completed with a letter from USFWS concurring with BLM’s determination on July 1, 2014.

Utah State Historic Preservation Office

Consultation with the Utah State Historic Preservation Office was previously conducted through Utah state antiquities project number U-07-GB-0032bs. No cultural resources were identified within the project area, therefore the BLM has made a “no historic properties affected” determination pursuant to 36CFR800(d)(1).

Tribal Consultation

Tribal consultations were conducted under the Gasco EIS. No Traditional Cultural Properties are identified within the area of potential effect. The proposed project will not hinder access to or use of Native American religious sites.

SUMMARY OF PUBLIC PARTICIPATION

The Proposed Action was posted to the Utah BLM’s Environmental Notification Bulletin Board on March 14, 2013. A public comment period was held, beginning on April 14, 2014 and continuing through April 29, 2014, based on public request. Substantive comments that were submitted are responded to in Appendix B.

Notice letters were sent to other ROW holders adjacent to the proposed project area on July 1, 2013. A response was received from the Uintah County Commission in support of the project. The Uintah County Commission requests that Gasco contact the Uintah County Community Development Department for any necessary permits prior to construction.

LIST OF PREPARERS**Table 5.1. List of Preparers**

Name	Title	Responsible for the Following Section(s) of this Document
David Gordon	Natural Resource Specialist/Environmental Scientist	Chapters 1 & 2 Chapters 3 & 4: Air Quality & Greenhouse Gas Emissions, Invasive Plants/Noxious Weeds, Soils & Vegetation
Daniel Emmett	Wildlife Biologist	Wildlife: Migratory Birds(including raptors), Wildlife: Non-USFWS Designated, Threatened, Endangered, Proposed or Candidate
Jessi Brunson	Botanist	Plants: Threatened, Endangered, Proposed, or Candidate
Elizabeth Gamber	Geologist/Paleontologist	Paleontology

CHAPTER 6: REFERENCES CITED

- BLM. 2012a. Final Environmental Impact Statement for the GASCO Energy Inc. Uinta Basin Natural Gas Development Project. March 2012.
- BLM. 2012b. Record of Decision for the GASCO Energy Inc. Uinta Basin Natural Gas Development Project. June 2012.
- BLM. 2012c. Final Environmental Impact Statement for the Greater Natural Buttes Project. March 2012.
- BLM. 2008. Vernal Field Office Resource Management Plan and Record of Decision, 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.
- British Meteorological Office (BMO). 2009. British Meteorological Office's Hadley Centre, 2009. Accessed January 2009 at <http://www.metoffice.gov.uk/climatechange/science/monitoring/>.
- Parrish, J.R., F.P. Howe and R.E. Norvell. 2002. Utah Partners in Flight Avian Conservation Strategy Version 2.0. Utah Partners in Flight Program, Utah Division of Wildlife Resources, 1594 West North Temple, Salt Lake City, Utah 84116. UDWR Publication Number 02-27. i – xiv + 302 pp.
- Uintah County. 2011. Uintah County General Plan, as amended.
- U.S. Fish & Wildlife Service (USFWS). 1994. Final Rule: Determination of Critical Habitat for the Colorado River Endangered Fishes: Razorback sucker, Colorado squawfish, Humpback chub, and Bonytail chub. Federal Register 59: 13375-13400.

APPENDIX A: INTERDISCIPLINARY TEAM CHECKLIST

Project Title: Gasco Production Company Proposes To Drill 16 Gas Wells From Three Existing Well Pads.

NEPA Log Number: DOI-BLM-UT-G010-2013-0132-EA

File/Serial Number: UTU-037246, UTU-76034 and UTU-76262

Project Leader: David Gordon

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 relevant impact that need to be analyzed in detail in the EA

NC = (DNAs only) actions and impacts not changed from those disclosed in the existing NEPA documents cited in Section D of the DNA form. The Rationale column may include NI and NP discussions.

Determination	Resource/Issue	Rationale for Determination	Signature	Date
RESOURCES AND ISSUES CONSIDERED (INCLUDES SUPPLEMENTAL AUTHORITIES APPENDIX 1 H-1790-1)				
PI	Air Quality & 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. No standards have been set by EPA or other regulatory agencies for greenhouse gases. In addition, the assessment of greenhouse gas emissions and climate change is still in its earliest stages of formulation. Global scientific models are inconsistent, and regional or local scientific models are lacking so that it is not technically feasible to determine the net impacts to climate due to greenhouse gas emissions. It is anticipated that greenhouse gas emissions associated with this action and its alternative(s) would be negligible.	David Gordon	3/14/13
NP	BLM Natural Areas	None Present as per GIS layer review and RMP/ROD Review	David Gordon	3/14/13
NI	Cultural: Archaeological Resources	No cultural resources eligible for inclusion into the NRHP were identified within the APE of the proposed project.	Cameron Cox	4/19/13
NP	Cultural: Native American Religious Concerns	No Traditional Cultural Properties are identified within the APE. The proposed project will not hinder access to or use of Native American religious sites.	Cameron Cox	4/19/13
NP	Designated Areas: Areas of Critical Environmental Concern	None Present as per GIS layer review and RMP/ROD Review	David Gordon	3/14/13
NP	Designated Areas: Wild and Scenic Rivers	None Present as per GIS layer review and RMP/ROD Review	David Gordon	3/14/13
NP	Designated Areas: Wilderness Study Areas	None Present as per GIS layer review and RMP/ROD Review	David Gordon	3/14/13

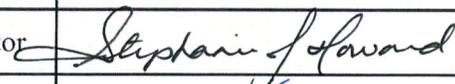
Determination	Resource/Issue	Rationale for Determination	Signature	Date
NI	Environmental Justice	No minority or economically disadvantaged communities or populations would be disproportionately adversely affected by the proposed action or alternatives.	David Gordon	3/14/13
NP	Farmlands (prime/unique)	No prime or unique farmlands as designated by the NRCS exist in the proposed project area. Therefore this resource is not present.	David Gordon	3/14/13
NI	Fuels/Fire Management	No fuel management activities planned for the project area. The proposed project would not conflict with fire management activities.	David Gordon	3/14/13
NI	Geology/Minerals/Energy Production	<p>No known gilsonite is in the project area. If gilsonite is encountered during drilling or construction, please report that information to BLM VFO. The depth and thickness of the vein is important information that should be provided to BLM. Operator must notify any active Gilsonite operation within 2 miles of the location 48 hours prior to any blasting for this well.</p> <p>Natural gas, oil, oil shale and tar sand are the only other 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" would assure that the project would not adversely affect gilsonite, oil shale, or tar sand deposits. Due to the state-of-the-art drilling and well completion techniques, the possibility of adverse degradation of tar sand or oil shale deposits by the proposed action would be negligible.</p> <p>Well completion must be accomplished in compliance with "Onshore Oil and Gas Order No. 2, Drilling Operations." These guidelines specify the following: <i>... proposed casing and cementing programs shall be conducted as approved to protect and/or isolate all usable water zones, potentially productive zones, lost circulation zones, abnormally pressured zones, and any prospectively valuable deposits of minerals. Any isolating medium other than cement shall receive approval prior to use.</i>³</p>	Andrew McCormick	4/22/2013
PI	Invasive Plants/Noxious Weeds, Soils & Vegetation	<p>Approximately 0.5 acres of new soil disturbance would occur during construction until reclamation is successful. Soils would be re-contoured and reseeded during reclamation.</p> <p>There would be approximately 0.5 acres of initial vegetation disturbance/removal.</p> <p>Proposed disturbance would 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.</p>	David Gordon	3/14/13

Determination	Resource/Issue	Rationale for Determination	Signature	Date
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 rights-of-way. Due to the location of the wells pads and the different oil & gas leases being tapped, the well pads will be required to be under ROW. Also, the pipelines and roads are currently in place & will change from lease authorizations to ROWs as well. Letters were mailed to all ROW holders adjacent to the project area on July 1, 2013. To date one response has been received from Uintah County. No existing land uses would be changed or modified by the implementation of the proposed action; therefore there would be no adverse effect.	Katie Nash	4/7/14
NI	Lands with Wilderness Characteristics (LWC)	None Present as per 2008 Vernal RMP ROD and GIS layer review	David Gordon	3/14/13
NI	Livestock Grazing and Rangeland Health	The proposed project is located within the Wetlands cattle grazing allotments. Some surface disturbance would occur and would remove forage from livestock use. Disturbed surface would have interim and final reclamation that would return forage to livestock in the future. Rangeland Health monitoring was conducted on Wetlands in 2008, and all representative areas were shown to be meeting standards. Cheatgrass is present and canopy cover varies with annual precipitation. There are no inventoried stock watering sites and/or other rangeland improvements that would be impacted within the immediate vicinity of the project.	Alec Bryan	4/26/2013
PI	Paleontology	Scientifically important fossils may be present at the host well pad Federal 42-29-9-19. This well pad will have the following wells on it: Federal 322-29-9-19, 323-29-9-19, 421-29-9-19, 431-29-9-19, and 432-29-9-19. Paleo monitoring is recommended at its site. The other two host well sites (Federal 31-29-9-19 and 43-30-9-19) are clear for paleo issues.	Betty Gamber	4/23/2013
NI	Plants: BLM Sensitive	The following UT BLM sensitive plant species are present or expected in the same or an adjacent subwatershed as the proposed project: <i>Yucca sterilis</i> . <ul style="list-style-type: none"> Sandy soils in the vicinity of the proposed project may provide potential habitat for <i>Yucca sterilis</i>. However, no populations are present in the project vicinity. Given the exclusively clonal nature of the species, the potential for future establishment is negligible. 	Jessi Brunson	9/13/2013
PI	Plants: Threatened, Endangered, Proposed, or Candidate	The following federally listed, proposed, or candidate plant species are present or expected in the same or an adjacent subwatershed as the proposed project: clay reed-mustard (<i>Schoenocrambe argillacea</i>), Pariette cactus (<i>Sclerocactus brevispinus</i>), and Uinta Basin hookless cactus (<i>Sclerocactus wetlandicus</i>). <ul style="list-style-type: none"> As the contact zone between the Green River and Uinta Formations is not present in the vicinity of the proposed project there is no potential habitat for clay reed-mustard. 	Jessi Brunson	9/13/2013

Determination	Resource/Issue	Rationale for Determination	Signature	Date
		<ul style="list-style-type: none"> As currently understood, Pariette cactus is restricted to the Pariette and Castle Peak drainages and the surrounding benches. Therefore, the proposed project is located outside of the potential range for the species. The proposed project is located within occupied habitat for Uinta Basin hookless cactus. 		
NP	Plants: Wetland/Riparian	No riparian sites are inventoried at or in the vicinity of the project area. Based on visits to the area and confirmed by Field Office data from GIS information.	David Gordon	3/14/13
NI	Recreation	<p>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.</p> <p>The proposed action is out of line of sight or greater than 0.5 mile from the river.</p>	David Gordon	3/14/13
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 size in relation to ongoing development throughout the basin.	David Gordon	3/14/13
NI	Visual Resources	VRM Class IV identified, project would meet class IV objectives.	David Gordon	3/14/13
NI	Wastes (hazardous/solid)	<p>Hazardous materials above reportable quantities will not be produced by drilling or completing proposed well(s) or constructing the pipelines/facilities. The term "hazardous materials" as used here means: (1) any substance, pollutant, or containment listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended 42 U.S.C 9601 et seq., and the regulations issued under CERCLA; and (2) any hazardous waste as defined in RCRA of 1976, as amended. In addition, no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well.</p> <p>Trash and other waste would be contained in appropriate containers and then disposed in approved locations.</p>	David Gordon	3/14/13
NI	Water: Floodplains	No HUD inventoried or non-HUD inventoried flood plains would be disturbed by the expansion of the well locations. This project is not expected to negatively impact flood plains.	David Gordon	3/14/13
NI	Water: Groundwater Quality	Compliance with "Onshore Oil and Gas Order No. 2, will assure that the project will not adversely affect groundwater quality. Due to the state-of-the-art drilling and wells completion techniques, the possibility of adverse degradation of groundwater quality or prospectively valuable mineral deposits by the proposed action will be negligible	Betty Gamber	4/23/2013

Determination	Resource/Issue	Rationale for Determination	Signature	Date
NI	Water: Hydrologic Conditions (stormwater)	The proposed construction of the well locations and development of the 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. In addition federal law has exempted energy development from stormwater requirements.	David Gordon	3/14/13
NI	Water: Surface Water Quality	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 0.25 miles from perennial waters.	David Gordon	3/14/13
NI	Water: Waters of the U.S.	Waters of the U.S. are not present per USGS topographic map and GIS data review.	David Gordon	3/14/13
NP	Wild Horses	No herd areas or herd management areas are present in the project area per BLM GIS database.	David Gordon	3/14/13
PI	Wildlife: Migratory Birds (including raptors)	Migratory birds are present. No known raptor nests exist within project area.	Dan Emmett	4/22/2013
PI	Wildlife: Non-USFWS Designated	Water would be used for this proposed project so sensitive fish species need to be analyzed.	Dan Emmett	4/22/2013
PI	Wildlife: Threatened, Endangered, Proposed or Candidate	Water would be used for this proposed project so T&E fish species need to be analyzed. Project is not within sage grouse habitat. Is the proposed project in sage grouse PPH or PGH? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If the answer is yes, the project must conform with WO IM 2012-043.	Dan Emmett	4/22/2013
NP	Woodlands/Forestry	None Present as per Vernal Field Office RMP/ROD and GIS database	David Gordon	3/14/13

FINAL REVIEW:

Reviewer Title	Signature	Date	Comments
Environmental Coordinator		7/9/14	
Authorized Officer		7-11-2014	

APPENDIX B: COMMENT RESPONCES

Comment 1: Air quality expert previously identified deficiencies in the Gasco EIS. Since the Gasco EA relies on the Gasco EIS for air quality analysis, these shortcomings (for ozone, PM, and visibility) also apply to this project.

Response 1: This comment is redundant to comments made on the Gasco DEIS and FEIS and were previously responded to in Appendix P of the Gasco FEIS and Table 4 of the Gasco ROD.

Comment 2: BLM should have analyzed air emissions associated with oil and gas development, and determined whether those emissions would result in violations of federal air quality standards.

Response 2: The characterization of existing air quality condition and analysis of direct, indirect, and cumulative air quality impacts are in chapters 3 and 4 of the EA, and are quantified to the extent that data is available. The EA in chapter 4 states that "Under the selected alternative in the Gasco ROD (BLM 2012b) infill development in the Gasco project area is not expected to result in exceedances of NAAQS." Since the proposed 16 well project is a project level implementation of the Gasco ROD, no exceedances of NAAQS are expected in this EA.

Comment 3: Unfortunately the Gasco EA has attempted to suggest that the Uinta Basin is in attainment for ozone pollution. The Uinta Basin is properly categorized as "unclassifiable". In reality, this categorization historically should be "nonattainment" because adequate ozone modeling data exists to show that the Uinta Basin is [not] complying with ozone NAAQS.

Response 3: The wording has changed from unclassifiable/attainment to unclassifiable. Designating the area as "nonattainment" is outside of the jurisdiction of the BLM.

Comment 4: The BLM has long known that ozone pollution is a problem in the Uinta Basin.

Response 4: This comment alleges that BLM approves development without meaningfully addressing ozone. However, an adaptive management plan was developed in the Gasco FEIS which incorporates the best available mitigation measures as well as strategies for response to future ozone NAAQS exceedance episodes, nonattainment, or modeling data.

Comment 5: Gasco EIS indicates that development will exceed federal air quality standards.

Response 5: This comment states that BLM is obligated under the Clean Air Act to conform with state implementation plans and, by extension, to not cause or contribute to any new violation. However, no state or federal implementation plans exist for the Uinta Basin because the area is not currently in non-attainment. However, due to previous years monitoring data regarding the ozone standard, an adaptive management plan was developed in the Gasco FEIS which incorporates the best available mitigation measures as well as strategies for response to future ozone NAAQS exceedance episodes, nonattainment, or modeling data. This comment also alleges that incorrect background information is used in the Gasco EIS analysis. This comment is redundant to a comment made on the Gasco DEIS, and was previously responded to in Appendix P of the Gasco FEIS.

Comment 6: Air quality analysis inadequacies prevent the BLM from fully considering, disclosing, and understanding the air pollution problems of this project – the use of meteorological data from Canyonlands.

Response 6: This comment is redundant to a comment made on the Gasco DIES and was previously responded to in Appendix P of the Gasco FEIS.

Comment 7: Project specific analyses, including this one, ignore cumulative air quality impacts.

Response 7: This comment states that the Gasco EIS required new ozone analysis at the project specific stage, which applies to this project. However, the analysis requirement cited is a part of the adaptive management strategy outlined in Table 2-1 of the GASCO EIS which defines the actions BLM will implement once a cumulative impact analysis that adequately analyzes winter ozone formation is completed and enhanced mitigation requirements are defined through consultation with Utah DEQ and EPA. This cumulative analysis research project has been underway for the past several years, and will be completed in summer 2014. Once the modeling results are reviewed, enhanced mitigation measures will be proposed and evaluated then implemented for both this project, other projects which have been authorized under recent NEPA actions with adaptive management requirements, and all future BLM NEPA authorizations. At this time, preliminary indications are for increased VOC controls combined with existing VOC emission reduction measures applied basin-wide. BLM fully disclosed the cumulative nature of winter ozone formation in the GASCO EIS and subsequent NEPA actions and in the current GASCO 16 well EA, and will implement the adaptive management actions as described in these documents. BLM is not ignoring cumulative impacts, instead to the contrary BLM is approaching management of cumulative impacts holistically, collaboratively, and based on valid scientific studies as is warranted for a cumulative air quality problem that requires a multi-jurisdictional and landscape scale approach.

Comment 8: the Gasco EIS conditions its analysis on the use of certain applicant-committed environmental protection measures to reduce air pollution. However the Gasco EA mentions nothing regarding these measures, including whether they will be used or whether they were even considered. The only possible reference in the Gasco EA to any potential mitigation mentions measures listed in Appendix B Table B-2 of the Gasco ROD. However, no such appendix or table exists in the Gasco ROD.

Response 8: The reference has been corrected to cite Attachment 2 Table 3.2 of the Gasco ROD.

Comment 9: The Gasco EA fails to consider the potential impacts of development and operations of these wells on river recreation on the Green River. The BLM should consider an alternative to protect river recreation which would prohibit drilling and development activity during high recreation times. In addition, Gasco committed in the Gasco EIS not to locate any well pads within 0.5 miles of the Green River. However, at least one of the pads at issue here is located within that 0.5 mile buffer. Any development proposal within this buffer must be scrapped.

Response 9: The ROD said that no wells would be drilled within line-of-sight up to 0.5 mile of the Green River. The proposed wells on the existing well pad are not within line-of-sight of the river. Although the well pad is within ½ mile of the river, a 200+ foot hill exists between

the well pad in question and the river, so it is screened from the viewshed of the river. No impacts to river recreation are anticipated as documented in the ID team checklist, so no mitigation is necessary.

Comment 10: The BLM must model the impacts of sound to river recreationists from this project and also to wildlife throughout the project.

Response 10: No standards for noise have been set for the Vernal Field Office or the Green River in the project area. Also, given the distance to the river and/or topography between the wells and the river, no noise impacts to recreationists on the river are anticipated as documented in the ID team checklist.

Comment 11: The River Management Plan specifically forbids the authorization of drilling projects that are located within sight or sound of the Green River. Without accurate modeling of potential noise sources the BLM cannot conclude that the alternatives analyzed in the Gasco EA will comply with this management directive.

Response 11: The Desolation and Grey Canyons of the Green River Management Plan does not apply to the river this far north. See page 3 of the Plan.

Comment 12: SUWA incorporates the comments of Mr. Richard A. Kolano that were prepared for a project immediately south of the larger Gasco EIS project. Mr. Kolano's comments demonstrate that the Gasco EA has failed to objectively assess background noise in the project area through measurement, the BLM's noise projects are very limited, and it completely lacks a threshold noise level.

Response 12: No standards for noise have been set for the Vernal Field Office or the Green River in the project area. Also, given the distance to the river and/or topography between the wells and the river, no noise impacts to recreationists on the river are anticipated as documented in the ID team checklist.

Comment 13: The BLM must consider the social cost of carbon, using EPA's formula, to estimate potential costs and benefits of decisions increasing or decreasing carbon. Furthermore, the BLM must consider this cost in context of the cumulative carbon emissions from oil and gas development in the Uinta Basin as a whole.

Response 13: The Social Cost of Carbon is a tool for estimating the climate benefits of rulemaking. This project is not a rulemaking exercise, so the use of that tool is not appropriate. However, greenhouse gases have been analyzed in a qualitative manner in this EA.

Comment 14: The BLM must reassess its conservation measures for the cactus to confirm that they are adequately protecting the species.

Response 14: This will be done through the Section 7 Consultation which will be conducted after the EA is finalized and prior to preparing a Decision Record.

Comment 15: Of particular note, BLM and the Service are obligated to conduct site inventories to determine occupancy and the inventories will be valid until one year from the survey date (Gasco EIS). The surveys for the well pads in question were conducted more than one year

ago. As a result, no valid survey has been conducted for the project area and such a survey must be conducted before Gasco Energy LLC is allowed to drill sixteen additional wells.

Response 15: The yearly survey requirement has been changed by the Service. It is believed that this project is in compliance with the latest survey requirements. Section 7 Consultation will be conducted after the EA is finalized and prior to preparing a Decision Record, and it will identify any deficiencies in the surveys that need to be corrected prior to conclusion of the consultation.

Comment 16: BLM must reinitiate ESA Section 7 Consultation with the Service and must make such consultation available for public comment and review.

Response 16: Section 7 Consultation will be conducted after the EA is finalized and prior to preparing a Decision Record. There is no public comment and review requirement in Section 7 of the Endangered Species Act.

Comment 17: BLM must reevaluate its prior Biological Assessment and Opinion related to listed Colorado River fish and reinitiate consultation with the Service.

Response 17: If it is determined that the prior BO is insufficient to cover the impacts determined to occur to the endangered fish species, then Section 7 Consultation for the endangered fish will be conducted after the EA is finalized and prior to preparing a Decision Record.

Comment 18: The BLM must identify an allowable level of emissions for the proposed development that would not cause or contribute to exceedances of pollution standards in the ambient air or significant deterioration of air quality or adverse impacts on air quality related values in Class I areas, and, if needed, establish mitigation measures in an EIS to achieve those emission levels.

Response 18: BLM is not required, nor does BLM possess the authority, to set emissions budgets for an entire airshed that contains multiple jurisdictions, including private, state, tribal, and federal lands. As explained in the response to comment 7, BLM has undertaken a cumulative impact analysis research project to evaluate and determine exactly the measures identified by SUWA, however this is not in conjunction with any specific NEPA project (as is appropriate) and the results of this study will be used to help define a cumulative landscape scale airshed management strategy between the various jurisdictions in the Uinta Basin airshed. BLM will apply the mitigation recommendations that develop from this research project per the adaptive management requirements contained in the GASCO EIS along with other recent and future NEPA actions as appropriate.

Comment 19: Section 4.18.3.1 does not refer to any section in the GNB Final EIS so BLM must clarify which section is being referred to and incorporated by reference into this EA.

Response 19: The reference has been changed to section 5.3.1 of the GNB FEIS.

Comment 20: BLM must disclose the incremental impacts from the proposed development on regional ozone concentrations in the EA. Any contribution to significant adverse ozone impacts must be addressed.

Response 20: The characterization of existing air quality condition and analysis of direct, indirect, and cumulative air quality impacts are in chapters 3 and 4 of the EA, and are quantified to the extent that data is available. The EA in chapter 4 states that "Under the

selected alternative in the Gasco ROD (BLM 2012b) infill development in the Gasco project area is not expected to result in exceedances of NAAQS.” Since the proposed 16 well project is a project level implementation of the Gasco ROD, no exceedances of NAAQS are expected in this EA.

Comment 21: BLM must consider in detail an alternative in the EA pursuant to NEPA that would constrain impacts to within the 60-70 ppb range recognized by the CASAC, regardless of what EPA eventually chooses to do in health and the environment.

Response 21: There is no requirement that any BLM authorization constrain impacts within a 60-70 ppb range for ozone. This is below the current National Ambient Air Quality Standard for ozone.

Comment 22: BLM must demonstrate as part of this EA that these emission increases will not interfere with the Uinta Basin’s work to address compliance with the ozone NAAQS. BLM cannot approve further development that would impact ozone concentrations in the region without demonstrating adequate mitigation measures to prevent any increase in ozone precursor emissions.

Response 22: There is no requirement that BLM not “interfere” with Uinta Basin’s work to address compliance with the ozone NAAQS. Under General Conformity, BLM is required to demonstrate that any emissions increase in a nonattainment area must conform to whatever applicable state/tribal/federal implementation plan is approved for the area. Since the Uinta Basin is currently not in nonattainment (and subsequently does not have an applicable SIP) this comment does not have any applicable meaning. It should be noted that BLM is heavily involved in developing a Uinta Basin air quality management plan, including funding, researching, and developing the very measures SUWA is stating are being interfered with.

Comment 23: The EA should ensure that the proposed increase in NO_x emission from the proposed development will not result in exceedances of the 1-hour average NO₂ NAAQS.

Response 23: Impacts to the 1 hour NO₂ NAAQS were analyzed in the GASCO EIS (4.2.1.1.1.1) and are incorporated by reference in the EA. Based on modeling and monitoring in the Uinta Basin, it is highly unlikely that this project will cause or contribute to violations of the 1 hour NO₂ NAAQS.

Comment 24: Choosing to ignore the significant modeled NO₂ impacts presented in the Gasco FEIS and instead continuing to put off any further analysis (e.g., of required mitigations) until any source-specific state permits are issued means that the BLM is not fulfilling its obligations under NEPA to consider means to mitigate significant impacts to human health or the environment via the NEPA process. Reliance on any state permitting process for industrial sources cannot be substituted for the BLM’s obligations under NEPA to provide for compliance with the NAAQS.

Response 24: The GASCO EIS did not find significant modeled violations of the 1 hour NO₂ NAAQS (GASCO EIS 4.2.1.1.1.1). There are modeled transient exceedances of the NO₂ 1 hour NAAQS, but as determined in the GASCO EIS a violation of this standard is highly unlikely.

Comment 25: PM monitoring in the basin is sporadic, and there are no active PM monitors.

Speciation studies completed on samples collected in the Basin found that the sources that contribute to the high concentrations (organic and elemental carbon sources are different than those seen in the urban areas of the Wasatch Front and Cache valley (ammonium nitrate from combustion sources) with the large fraction of carbon material found in the Basin samples indicating a “likelihood of strong regional contributions of the oil and gas industry” It is important for the BLM to monitor wintertime PM_{2.5} concentrations in the Uinta Basin. BLM should establish monitoring requirements for the proposed infill development to help manage PM_{2.5} impacts.

Response 25: This statement is highly misleading. The “likelihood of strong regional contributions of the oil and gas industry” refers to monitored VOC concentrations (not PM_{2.5}) in the Uinta Basin, the linkage of which BLM clearly acknowledges. While there have been winter exceedences of PM_{2.5} concentrations in urban areas of the Uinta Basin (Roosevelt, Vernal) there has been no concurrent monitoring of exceedences outside these areas. Based on the speciated samples SUWA references, it is entirely reasonable and likely that these exceedences are more closely related to woodstove use and vehicle (diesel) emissions in these urban areas than transport of particulate under extremely stagnant meteorological conditions from snow-covered ground in areas remote from the monitoring stations. PM_{2.5} monitoring conducted as part of the past several years of winter ozone studies has not found this to be an issue associate with oil and gas production (UBWOS 2014, 2013, 2012).

Comment 26: The proposed development in the EA estimates an addition 119 TPY of PM_{2.5} emissions from the 16 wells, which corresponds to 16 % of the PM_{2.5} well development and operation emissions analyzed for the Gasco FEIS (Alternative F). Annual PM_{2.5} concentrations in the Gasco FEIS from development are modeled at 2.77ug/m³. When added to the background concentration in the EA and in the Gasco FEIS of 12.3 ug/m³, the total PM_{2.5} concentration is 15.07ug/m³ or 126% of the NAAQS. This is a significant amount. BLM must propose additional mitigation measures to ensure that short term PM_{2.5} emissions from the proposed development scenario do not result in modeled near-field PM_{2.5} NAAQS exceedances. BLM must consider development and operation activities concurrently in the modeling unless such parallel development will not be allowed.

Response 26: The applicant committed measures and best management practices defined in the GASCO EIS (Table 2-1) and applicable to this EA are greater than required by both Clean Air Act requirements and Utah DEQ requirements. These controls are entirely sufficient to prevent violations of the PM_{2.5} NAAQS, and there is no evidence to suggest otherwise. Additionally, SUWA implies that modeled exceedences of the 24 hour PM_{2.5} standard (as opposed to modeled violations) are a threshold which cannot be crossed under NEPA. There is no regulatory basis for this statement, and when considering how particulate is modeled and the dynamics under which particulate emissions are created and dispersed, it is entirely unreasonable to assume that any land disturbing activities could meet this much stricter requirement related to modeled PM_{2.5} concentrations. There is a very practical reason why the NAAQS standards for particulate matter (both PM₁₀ and PM_{2.5}) are based on the 98th percentile of a 3 year average, and this is the recognition that short term dust events are extremely difficult to control or anticipate and an averaged standard is a more practical and achievable standard while still being protective of public health.

Comment 27: Since the EA relies on the Gasco FEIS to represent impacts from the infill project, BLM must acknowledge the significant visibility impacts from that assessment and must ensure that the proposed development will not contribute to adverse impacts to air quality related values.

Response 27: The GASCO EIS did not find significant adverse impacts to visibility (4.2.2.2). These findings are incorporated into the EA by reference. It should be noted that the cumulative impacts research currently being conducted by BLM also will evaluate adverse impacts to air quality related values (including visibility), and any significant adverse impacts identified through this study can be mitigated through the adaptive management requirements of the GASCO EIS.

Comment 28: In the EA, BLM states that, “based on the GNB model results, it is anticipated that the impact to ambient air quality and air quality related values associated with the proposed action would be indistinguishable from, and dwarfed by, the margin of uncertainty associated with the model and Uinta basin emission inventory.” Just because the relative magnitude of emissions from the proposed development is small compared with the entire cumulative inventory of emissions it is not, therefore, acceptable to assume the emissions do not contribute to the cumulative impacts predicted. BLM must perform a comprehensive [updated] cumulative impact assessment so as not to allow individual projects to proceed that would contribute to cumulative impacts in the area.

Response 28: BLM does not state, nor does it imply, that because a specific project's impacts are indistinguishable from the margin of uncertainty (or acceptable margin of error) associated with a modeling exercise that the impacts are not contributing to any specific issue. As is clear from the context, it is an explanation of why modeling cannot be used to quantitatively define certain cumulative and project specific impacts. This is relevant and appropriate, and applies directly to both this EA and the GASCO EIS. As has been already stated, BLM is currently undertaking precisely the type of research level analysis that SUWA insists must be performed. Results are expected later this year.

Comment 29: BLM relies on underlying analyses that predict significant air quality impacts and therefore BLM cannot make a Finding of No Significant Impact for the proposed development without further analysis. BLM must fulfill its obligations under NEPA to disclose whether the proposed development will cause significant impacts, and to consider mitigation via the EIS process, if needed, to prevent any such significant impacts.

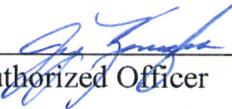
Response 29: A determination of the significance of a project's impacts is not made for an EA until the FONSI/Decision Record stage, as stated in chapter 1 of the EA, so is still pending for this project. Regardless, the best available mitigation for air quality resources has already been incorporated into this EA.

FINDING OF NO SIGNIFICANT IMPACT
Environmental Assessment
DOI-BLM-UT-G010-2013-132

**Gasco Production Company Proposes To Drill 16 Gas Wells From Three
Existing Well Pads**

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 Gasco’s proposal to drill 16 gas wells, as described in the proposed action alternative of DOI-BLM-UT-G010-2013-132 will not have a significant effect on the human environment. An environmental impact statement is therefore not required.”



Authorized Officer

JUL 11 2014

Date

DECISION RECORD
Environmental Assessment
DOI-BLM-UT-G010-2013-132

Gasco Production Company Proposes To Drill 16 Gas Wells From Three Existing Well Pads

DECISION RECORD:

It is my decision to authorize Gasco to drill 16 gas wells, as described in the proposed action alternative of DOI-BLM-UT-G010-2013-132.

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:

- Gasco will expand three existing well pads in order to drill multiple wells from the pads.
- Gasco will drill 16 new wells from three existing will pads.
- Gasco will install 26,587 feet of surface pipeline infrastructure. The gas gathering pipeline will be made of poly and 12 inches or smaller.

Mitigation and Conditions of Approval

- All reclamation activities will comply with the Green River Reclamation Guidelines
- 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
- Noxious and invasive weeds will be controlled by the proponent throughout the area of project disturbance.
- Noxious weeds will be inventoried and reported to BLM in the annual reclamation report. Where an integrated pest management program is applicable, coordination has been undertaken with the state and local management program (if existing). A copy of the pest management plan will be submitted for each project.
- A pesticide use proposal (PUP) will be obtained for the project, by the proponent if applicable.
- A permitted paleontologist is to be present to monitor construction at the Federal 42-29-9-19 during all surface disturbing actives: examples include the following; building/or expansion of the well pad, access road, and pipelines.

This project involves drilling new wells on existing well pads, and includes 0.4 acres of disturbance from well pad expansion. Some areas that were previously disturbed will be redisturbed for this project. Because of the close proximity of the existing wells to *Sclerocactus wetlandicus* individuals, the applicant has committed to the following measures

DOI-BLM-UT-G010-2013-132-EA

- Drilling on these well pads will be closed loop to limit the amount of re-disturbance and well pad expansion that will occur.
- The footprint of the well pads will be minimized as much as possible to minimize impacts to suitable Uinta Basin hookless cactus habitat. The BLM botanist will make recommendations for minimizing the footprint relative to Uinta Basin hookless cactus during the onsite. For example, on the 31-29-9-19 location, corner #2 will be moved to the edge of existing disturbance.
- A BLM-approved botanist will be on site during any construction and drilling operations to make sure activities do not impact plants. The BLM-approved botanist will install silt fencing at the edge of the proposed disturbance to prevent impacts to *Sclerocactus wetlandicus* individuals and will remove them at the end of construction.
- Any construction work associated with this proposed project will happen outside of flowering season (usually April through May) as determined by a BLM-approved botanist.
- Any backfill/spoils/topsoils will be stockpiled as far away from existing plants as possible (for example, on the side of the well pad that is furthest from existing plants).
- Water only (no chemicals, reclaimed production water, or oil field brine) will be used for project-related dust abatement from March through August, when *Sclerocactus* species are most vulnerable to dust-related impacts.
- Where the pipeline is within 50 feet of individual *Sclerocactus* plants or populations, the pipeline will either be hand-laid or laid by vehicles from the existing road and secured in place to prevent movement toward plants.
- After construction is completed, the BLM-approved botanist will provide a report to the BLM summarizing the methods and results of the avoidance measures.
- *Sclerocactus* spot checks will be conducted and approved for all planned disturbance areas on an annual basis the year following the 100% *Sclerocactus* clearance survey for this project. Results of spot checks may require additional pre-construction plant surveys as directed by the BLM and in coordination with the USFWS. If the proposed action or parts thereof have not occurred within four years of the original survey, coordination with the USFWS will be required and 100% clearance re-survey may be necessary prior to ground disturbing activities.
- Additional mitigation for project impacts in lieu of the 3-year *Sclerocactus* monitoring requirement (for plants within 300 feet of disturbance) may include contribution to the *Sclerocactus* mitigation fund, with the amount determined during section 7 consultation with the USFWS. This monetary amount must be paid by Gasco to the *Sclerocactus* Mitigation Fund-BLM within 90 days upon receipt of concurrence, or before construction of the Project begins. The payment should be made to; Sclerocactus Mitigation Fund-BLM, Michelle Olson, Manager, Impact-Directed Environmental Accounts, National Fish and Wildlife Foundation, 1133 Fifteenth Street NW, Suite 1100, Washington, DC 20005.
- Gasco Agrees to identify well pads for participation restoration and reclamation work with BLM, USFWS and researchers from Utah State University.

- In order to mitigate for disturbance within Core Conservation Area Level 2 and to cactus within 300 feet of surface disturbances, Gasco Production Company will contribute \$5,400.00 to the *Sclerocactus* mitigation fund to aid in the recovery of the species.
 - Sclerocactus Mitigation Fund-BLM, Michelle Olson, Manage, Impact-Directed Environmental Accounts, National Fish and Wildlife Foundation, 1133 Fifteenth Street NW, Suite 1100, Washington, DC 20005

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 inch 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
318 North Vernal Ave, Vernal, UT 84078
Phone: (435) 781-9453

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 proposed project is consistent with the *Uintah County General Plan, 2011-as amended* (County plan) that encompasses the location of the proposed wells. In general, the plan indicates support for development proposals such as the Proposed Action through the plan's emphasis on multiple-use public land management practices, responsible use and optimum utilization.

There are no comprehensive State of Utah plans for the vicinity of the selected alternative. However, the State of Utah School and Institutional Trust Lands Administration (SITLA) have

leased much of the nearby state land for oil and gas production. Because the objectives of SITLA are to produce funding for the state school system, and because production on federal leases could further interest in drilling on state leases in the area, it is assumed that the selected alternative is consistent with the objectives of the State.

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

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

Summary of Public Involvement Efforts and Public Response

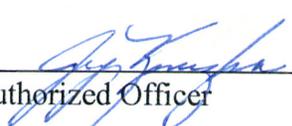
The Proposed Action was posted to the Utah BLM's Environmental Notification Bulletin Board on March 14, 2013. A public comment period was requested and was granted on XXXX, 2014.

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

JUL 11 2014

Date