

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

**Environmental Assessment
DOI-BLM-UT-G010-2012-0283**

February 2012

**GASCO Production Company
Proposes To Drill
Sheep Wash Federal 43-33-9-18**

***Location:* Uintah County, Utah
Section 33 Township 9 South, Range 18 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 one new well in section 33 of T9S R18E. GASCO also proposes to install gas gathering and liquid gathering pipelines in the section as part of the project. A right-of-way would be required for the portion of pipeline that goes off lease. The proposed project area is located approximately 29 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 Federal Lease UTU-76818 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 Sheep Wash Federal 43-33-9-18 on lease UTU-76818. 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 well 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 lease UTU-76818 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 the Sheep Wash Federal 43-33-9-18. Gasco also proposes to build approximately 430 feet of new road, and 7,700 feet of surface laid gas gathering pipeline. Sheep Wash Federal 43-33-9-18 would require a right-of-way for the portion of pipeline that goes off lease. The proposed project area is located approximately 29 miles southeast of Myton, Utah. **Table 2-1** describes the associated surface disturbances. If the well is a dry well, then it would be plugged and abandoned as per BLM and State of Utah requirements.

Table 2-1 Surface Disturbance

Well #	Road ¹	Surface Pipeline ²	Well Pad	Total Disturbance
Sheep Wash Federal 43-33-9-18	0.3 acre 430 feet	0.0 acre 7,700 feet	2.8 acres	3.1 acres
¹ 30-foot construction width, 18 foot running surface ² 30-foot construction width				

Access

Existing roads would be used for access where possible. However, 430 feet of new access road would be built utilizing a 30-foot construction width including an 18-foot running surface. The surface disturbance would be approximately 0.3 acre. The maximum grade for the road would not exceed 8%. Borrow ditches would be back sloped 3:1 or less. Construction best management practices would be employed to control onsite and offsite erosion. Construction would not use frozen or saturated materials or be conducted during periods when watershed damage (e.g. rutting, extensive sheet soil erosion, formation of rills/gullies, etc.) is likely to occur. Vegetative debris would not be placed in or under fill embankments.

All vehicular traffic, personnel movement, construction/restoration operations would be confined to the approved area and 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 and proposed 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.

All new or reconstructed roads would be designed, constructed, and maintained to meet the standards described in the BLM's Surface Operating Standards for Oil and Gas Exploration and

Development (The Gold Book), 4th Edition Revised 2007, and/or BLM Manual Section 9113 (1985). Snow removal would be conducted on an as needed basis to accommodate safe travel. Snow removal would occur as necessary throughout the year, as would necessary drainage ditch construction. Removed snow may be stored on permitted well pads and/or at the aerial extent of approved disturbance boundaries to reduce hauling distances and facilitate snow removal for the remainder of the season.

Pipelines

Approximately 7,700 feet of 8-inch diameter steel, polyethylene or fiberglass surface laid gas gathering pipeline is proposed for construction within a 30-foot right of way adjacent to the existing and proposed roads. 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.

Water Supply

Fresh water for drilling and completion operations would be obtained from the following source:

Permit # 43-1721 Nebecker Water Service-Section 34, T3S, R2W

Water would be hauled to the location over the existing roads. No water wells would be drilled on lease UTU-76818.

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 6 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.

Should petroleum hydrocarbons unexpectedly be released into a pit, they would be removed as soon as practical but in no case would they remain longer than 72 hours unless an alternate is approved by the BLM. Hydrocarbon removal would take place prior to the closure of the pit, unless authorization is provided for disposal via alternate pit closure methods (e.g. solidification).

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 buried on location or hauled to a landfill prior to backfilling the pit with a minimum of five feet of soil material. Any free fluids remaining after one year from reaching total depth, date of completion, and /or determination of inactivity would be removed (as weather conditions allow) to an

approved site and the pit reclaimed. Installation and operation of any sprinklers, pumps, and equipment would ensure that water spray or mist does not drift.

Any additional pits necessary for subsequent operation, such as temporary flare or workover pits would be contained within the originally approved well pad and disturbance boundaries. Such temporary pits would be backfilled and reclaimed within 180 days of completion of the work at the well location.

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. Hydrocarbons 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 40CFR 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, such as Brennan Bottom.

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

Interim Reclamation

Interim reclamation would occur on areas of the well pad that are not required for production activities. Interim reclamation may include pit evaporation, fluid removal, pit solidification, re-contouring, ripping, spreading topsoil, seeding, and weed control. Interim reclamation would be performed in accordance with OSO 1 and the Measures Common to Interim and Final Reclamation section below.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site where possible, and reestablishing the natural contours where desirable and practical. Fill and stockpiled soil no longer necessary to the operation would be spread on the recontoured slopes and covered with stockpiled topsoil. All stockpiled top soils shall be used for interim reclamation where practical to maintain soil viability. Where possible, the land surface would be left “rough” after re-contouring to insure that the maximum surface area would be available to support the reestablishment of vegetative cover.

Final Reclamation

Final reclamation would be performed on unproductive wells and after the end of the life of a productive well as soon as practical after the conclusion of drilling and testing operations. Site and road reclamation would commence following plugging. In no case would reclamation at non-producing locations be initiated later than six (6) months from the date a well is plugged. A Notice of Intent to Abandon would be filed for final recommendations regarding surface reclamation.

After plugging, all equipment that is no longer needed would be removed, and the well site would be re-contoured. Re-contouring would blend cuts and fills with the natural terrain and contours of the original site. After re-contouring, the area would be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers, where practical. The surface soil material would be pitted with small depressions where practical. The entire area would be uniformly covered with depressions constructed perpendicular to the natural flow of water.

Roads to be reclaimed would be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded in accordance with seeding specifications of the BLM.

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice would be submitted to the BLM.

Measures Common to Interim and Final Reclamation

Soil preparation would be conducted using a disk in areas needing more soil preparation. This would provide primary soil tillage to a depth no greater than 6 inches. Prior to reseeding, compacted areas would be scarified by ripping or chiseling to loosen compacted soils, promote water infiltration, and improve soil aeration and root penetration.

Seeding would occur according to the Green River District Guidelines as conditions allow and would typically be accomplished through the use of a no-till range land style seed drill with a

“picker box” in order to properly distribute heavy and light seeds. Where drill seeding is not feasible, such as where severe erosion can become a problem and/or the use of machinery is not practical, seed would be broadcast and then raked into the ground at the double the rate of drill seeding. All seed would be certified and tags would be maintained by GASCO. Every effort would be made to obtain “cheat grass free seed”.

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

Indian Ricegrass (Nezpar)	3.00 lbs/acre
Sandberg Bluegrass	0.75 lbs/acre
Bottlebrush Squirreltail	1.00 lbs/acre
Great Basin Wildrye	0.50 lbs/acre
Crested Wheatgrass (Ephraim)	1.50 lbs/acre
Winterfat	0.25 lbs/acre
Shadscale	1.50 lbs/acre
Fourwing Saltbrush	0.75 lbs/acre
Forage Kochia	0.25 lbs/acre
Total	9.50 lbs/acre

Additional soil amendments and/or stabilization may be required on sites with poor soils and/or excessive erosion potential. Slopes would be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials would include, but are not limited to: erosion control blankets, hydro-mulch, and/or bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage. Soil amendments such as “Sustain” (an organic fertilizer that would be applied at the rate 1,800-2,100 lbs/acre with seed) may also be dry broadcast or applied with hydro-seeding equipment.

Monitoring

Monitoring of the reclaimed area would be completed annually during the growing season and actions to ensure reclamation success would be taken as needed. During the first two growing seasons an ocular methodology would be used to determine the success of the reclamation activities. During the 3rd growing season a 200 point line intercept (quantitative) methodology would be used to obtain base cover. The goal is to have the reclaimed area reach 30% basal cover when compared to the reference site. If after three growing season the area has not reached 30% basal cover, additional reclamation activities may be necessary. Monitoring would continue until the reclaimed area reaches 75% basal cover of desirable vegetation when compared to the reference site (Green River District Reclamation Guidelines).

All monitoring reports would be submitted electronically to the Vernal BLM in the form of a geo-database no later than March 1st of the calendar year following the data collection.

NO ACTION ALTERNATIVE

Under the No Action Alternative, GASCO would not cause any new surface disturbance and would not drill the Sheep Wash Federal 43-33-9-18 as proposed in this EA.

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/attainment by the Environmental Protection Agency (EPA) under the Clean Air Act. This classification indicates that the concentration of criteria pollutants in the ambient air is below National Ambient Air Quality Standards (NAAQS), or 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.

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}	

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

Table 3-1. Regional Ambient Air Quality Background Values

Pollutant	Averaging Period	Year	Concentration ($\mu\text{g}/\text{m}^3$)	Applicable NAAQS ¹ ($\mu\text{g}/\text{m}^3$)
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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 $\mu\text{g}/\text{m}^3$ 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 and 2011). 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.

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 5 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 sandy loams with a very low 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: Indian ricegrass (*Achantherum hymenoides*), four-wing saltbrush (*Atriplex canescens*), green molly (*Bassia americana*), buckweat sp (*Eriogonum* sp.), spiny hopsage (*Grayia spinosa*), prickly pear cactus sp. (*Opuntia* sp.), galleta grass (*Pleuraphis jamesii*), bluebunch wheatgrass (*Pseudoroegneria spicata*), black greasewood (*Sarcobatus vermiculatus*) and horsebrush (*Tetradymia* sp.).

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 to 29 millimeters) central spine, three to four lateral central spines, and six to ten radial spines. From late April to May, Uinta Basin hookless cactus produces 2.5 to 5-centimeter high pink to violet flowers.

The ecological amplitude of Uinta Basin hookless cactus is wide, being found from clay badlands up to the pinyon-juniper habitat. The preferred habitat occurs on river benches, valley slopes, and

rolling hills consisting of xeric, fine textured, clay soils, derived from the Duchesne River, Green River, Mancos, and Uinta formations, overlain with a pavement of large, smooth, rounded cobble. The typical plant community in Uinta Basin hookless cactus habitat is the salt desert shrub community.

The proposed project is located entirely within an area that the US Fish and Wildlife Service (USFWS) has identified as being potential habitat for Uinta Basin hookless cactus. During August 2012, SWCA Environmental Consultants surveyed the proposed project to a distance of 300 feet from the edge of the proposed surface disturbance. During this survey, no plants were identified.

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 proposed projects are within potential mountain plover habitat. 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 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

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.

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).

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. 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	3.8	1	3.8	0.12	58	6.96	10.76
CO	2.2	1	2.2	0.11	58	6.38	8.58
VOC	0.1	1	0.1	4.9	58	284.2	284.3
SO ₂	0.005	1	0.005	0.0043	58	0.2494	0.2544
PM ₁₀	1.7	1	1.7	0.11	58	6.38	8.08
PM _{2.5}	0.4	1	0.4	0.025	58	1.45	1.85
Benzene	0.0022	1	0.0022	0.044	58	2.552	2.5542
Toluene	0.0016	1	0.0016	0.103	58	5.974	5.9756
Ethylbenzene	0.0022	1	0.0022	0.044	58	2.552	2.5542

Xylene	0.0016	1	0.0016	0.103	58	5.974	5.9756
n-Hexane	0.00034	1	0.00034	0.005	58	0.29	0.29034
Formaldehyde	0.0011	1	0.0011	0.076	58	4.408	4.4091
¹ Emissions include 1 producing well and associated operations traffic during the year in which the project is developed							

Emissions of NO_x and VOC, ozone precursors, are 10.76 tons/yr for NO_x, and 284.3 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

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

Invasive Plants/Noxious Weeds, Soils, and Vegetation

The Proposed Action would disturb a total of 3.1 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).

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.

Mitigation

- All vehicles and equipment shall be cleaned either through power-washing, or other approved method, if the vehicles or equipment were previously operated outside the Uinta Basin, to prevent weed seed introduction.

Plants: Threatened, Endangered, Proposed, or Candidate

Uinta Basin hookless cactus (*Sclerocactus wetlandicus*)

As there are no individuals within the proposed surface disturbance area, no direct physical damage will occur to Uinta Basin hookless cactus individuals as a result of the Proposed Action.

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. 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

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

Wildlife: Migratory Birds

Implementation of the Proposed Action Alternative would directly impact approximately 3.1 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.

Under the Proposed Action all surface-disturbing activities would occur within potential mountain plover habitat. These activities would contribute to a loss of mountain plover habitat. The potential impacts would include an increased risk of direct mortality from vehicle strikes and

habitat modification and fragmentation. The following timing restriction would minimize any impacts to mountain plover.

Mitigation

- The proposed project is within mountain plover habitat. If drilling or construction is proposed from May 1 to June 15, then a survey will be conducted by a qualified biologist. Permission to proceed may be granted in accordance with the “USFWS Mountain Plover Survey Guidelines” (March 2002) protocol.

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 1.5 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

- 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 well or develop the associated pipeline and infrastructure. Effects on ambient air quality would continue at present levels from existing oil and gas development in the region and other emission producing sources. 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.

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 4.18.3.1, 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	29.76	19.58	0.2794 SO ₂	3.85 - PM _{2.5} 16.58 - PM ₁₀	284.8
No Action	0	0	0	0	0

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 not add new surface disturbance. The No Action Alternative would not result in an accumulation of impacts.

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 is the CIAA, and it covers approximately 540,030 acres on BLM, Ute tribal, state of Utah, and privately held lands. Cumulative impacts include dust impacts to plants, and plant and pollinator habitat destruction. Surface disturbance is a good indicator of the extent of these cumulative impacts.

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 there also are numerous oil and natural gas wells that do not tier to either of 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 approximately 1,903 miles of roads. Implementation of the Proposed Action would result in the addition of 3.1 acres of new surface disturbance within the CIAA. The No Action alternative would not result in an 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 not add 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 3.1 acres of surface disturbance with its associated impacts, and about 1.5 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 and for *Sclerocactus wetlandicus* (Uinta Basin hookless cactus). 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 and for *Sclerocactus wetlandicus* is complete.

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

Notice letters were sent to other ROW holders adjacent to the proposed pipeline location on August 31, 2012. No comments or responses were received.

The Proposed Action was posted to the Utah BLM’s Environmental Notification Bulletin Board on August 23, 2012. A 30-day public comment period was held from December 20, 2012 through January 22, 2013. Two comment letters were received, one from Uintah County, and one from Southern Utah Wilderness Alliance (SUWA). Comments and their responses are as follows:

Uintah County 1: We ask that Gasco Production Company contact the Uintah County Community Development Department for the necessary County permits, and the Uintah County Road Department for permits and regulations when encroaching upon County Roads. Uintah County is supportive of the proposed project on the condition that the proposed pipeline is placed outside of the County’s road rights of way for Class D roads #050703 and Desert Springs Wash road #0409.

Response: The proposed project is subject to all applicable permits from the County.

SUWA 1: The EA relies on the Gasco EIS for air quality analysis. Ms. Megan Williams identified a number of shortcomings and problems related to the Gasco EIS air quality analysis in her letter to David Garbett dated April 13, 2012.

Response: The comments in the referenced Williams letter were responded to in the Gasco Record of Decision, Section 7.6.3 Table 4.

SUWA 2: The BLM should have thoroughly analyzed whether air pollution from the oil and gas development would exceed relevant air quality standards or have adverse impacts on public health or parklands. Those conclusions should have been supported with relevant evidence. The Gasco EIS fails to do so, and thus the Gasco EA fails to do so.

Response: Air pollution from “oil and gas development” is a cumulative analysis. The Gasco EA incorporates the Greater Natural Buttes Final EIS, which is the most recent cumulative impact analysis including photochemical modeling available. Comparison of emissions against relevant air quality standards was completed in the Greater Natural Buttes Final EIS in Table 5.3-2, impacts to Class I and II areas which typically are parklands, are included in the Final EIS in sections 5.3.1.2 and 5.3.1.3. Public health conclusions are included in the Greater Natural Buttes Final EIS section 4.1.5 which states “Dispersion modeling indicated that the higher concentrations of pollutants would remain within the NAAQS and would not be a threat to human health or the environment.” The impacts from the Sheep Wash well would be less than the impacts anticipated in the Greater Natural Buttes Final EIS.

SUWA 3: The Gasco EA erroneously suggests that the Uinta Basin is designated as “Unclassified/attainment” by the EPA for NAAQS pollutants. However, the Uinta Basin is properly categorized as “Unclassifiable,” not “attainment” for ozone.

Response: “Unclassified/attainment” has been changed to “unclassifiable/attainment”. As stated in the comment letter, the EPA groups the classification as “unclassifiable/attainment” for those areas where sufficient data does not exist to determine NAAQS compliance. At no point in this document is the Uinta Basin identified as “attainment” for ozone because at this point sufficient monitoring data does not exist to make that determination.

SUWA 4: The Gasco EA’s erroneous statement on the area classification of the Uinta Basin would seem to downplay the nature of the pollution problem in this region by suggesting that either there is no problem (“attainment”) or that there is simply not enough information to know whether there is a problem (“unclassifiable”). To the contrary, ground-level ozone pollution is a significant issue in the Uinta Basin.

Response: The BLM recognizes the importance of the monitored ground level ozone values in the Uinta Basin. Beginning in 2010 and continuing through the present, the BLM has developed and implemented an adaptive management strategy for the Uinta Basin to address ozone levels in excess of the NAAQS with the goal that oil and gas development projects in the Basin under BLM jurisdiction would not contribute to ozone exceedances. Part of the adaptive management strategy is an ozone action plan, which was outlined in both the Gasco Final EIS (section

4.2.1.2.3) and the Greater Natural Buttes Final EIS (section 4.2.1.6), and which is incorporated by reference into this document.

SUWA 5: The Clean Air Act requires that BLM not license, permit, approve engage in, or support in any way an activity that will not conform with a state implementation plan.

Response: There are no State Implementation or Federal Implementation Plans for the Uinta Basin.

SUWA 6: The BLM cannot show that the Gasco EA project will comply with federal air quality standards in terms of various NAAQS or PSD increment limits, including ozone.

Response: The BLM cannot demonstrate that the Sheep Wash well will violate federal air quality standards in terms of NAAQS or PSD increments since the impacts expected are below the margin of error inherent to the models used to make these predictions (see the cumulative impacts section of this EA).

SUWA 7: As pointed out by Ms. Williams, the Gasco EIS uses the wrong background data for PM₁₀ and PM_{2.5} and had it used the correct background figures the proposed development here would not comply with NAAQS for those pollutants.

Response: The comments in the referenced Williams letter were responded to in the Gasco Record of Decision, Section 7.6.3 Table 4.

SUWA 8: Both the Environmental Protection Agency and the National Park Service indicated that the use of meteorological data from Canyonlands Nation Park, which is 96 miles from the project area, as opposed to data from the Uinta basin itself would likely skew the air quality analysis.

Response: This comment was responded to in the Gasco Final EIS Appendix P Table P-2.

SUWA 9: The Gasco EA contains no new analysis of potential ozone impacts. Instead it draws upon ozone analysis that was released prior to the authorization of the Gasco EIS project. The Greater Natural Buttes analysis was completed before the Gasco EIS was authorized. Therefore this does not comply with the Gasco EIS's statement that new analysis will be prepared.

Response: Wintertime ground level ozone formation is a regional, not a project specific, phenomenon that is highly dependent on weather conditions. Although, the BLM is implementing the ozone adaptive management strategy outlined in the Gasco and Greater Natural Buttes Final EISs, that process is not yet complete, so the analysis in the Greater Natural Buttes and Gasco Final EISs is the best data available regarding Uinta Basin wintertime ground level ozone impacts. In addition, the conditions of approval from the Gasco ROD, which are integral to the Sheep Wash project, include the best available technology to reduce the ozone precursors.

SUWA 10: UBAQS does not satisfy the BLM's NEPA obligation and is not a satisfactory analysis of cumulative impacts.

Response: The Sheep Wash project does not rely on the UBAQS model for cumulative impacts analysis. The Sheep Wash project incorporates the Greater Natural Buttes model by reference to address cumulative impacts.

SUWA 11: The BLM now acknowledges in the Gasco EIS that reasonably foreseeable oil and gas well development will be three times as large as what was predicted in the Gasco DIEIS. This number should actually be more than four times as large, based on recent BLM analysis. BLM undertook ozone analysis in the cumulative impacts section of the Gasco EIS. However, the BLM has not updated its ozone analysis based on its new prediction of drastically increased oil and gas development in the planning area. Thus the Gasco EIS drastically understates impacts to ozone pollution from oil and gas development in the area. This same problem infects the Greater Natural Buttes analysis of the cumulative impacts of ozone.

Response: This comment was responded to in the Gasco Record of Decision, Section 7.6.3 Table 4.

SUWA 12: 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. Without implementing these measures this Gasco EA is likely to result in greater levels of pollution than what is described in the Gasco EIS.

Response: The air quality mitigation section for this document indicates that the conditions of approval from the Gasco ROD are mitigation measures for this document. As explained in Attachment 2 of the Gasco ROD, the conditions of approval include applicant-committed environmental protection measures, best management practices, and mitigation measures from the Gasco FEIS.

LIST OF PREPARERS

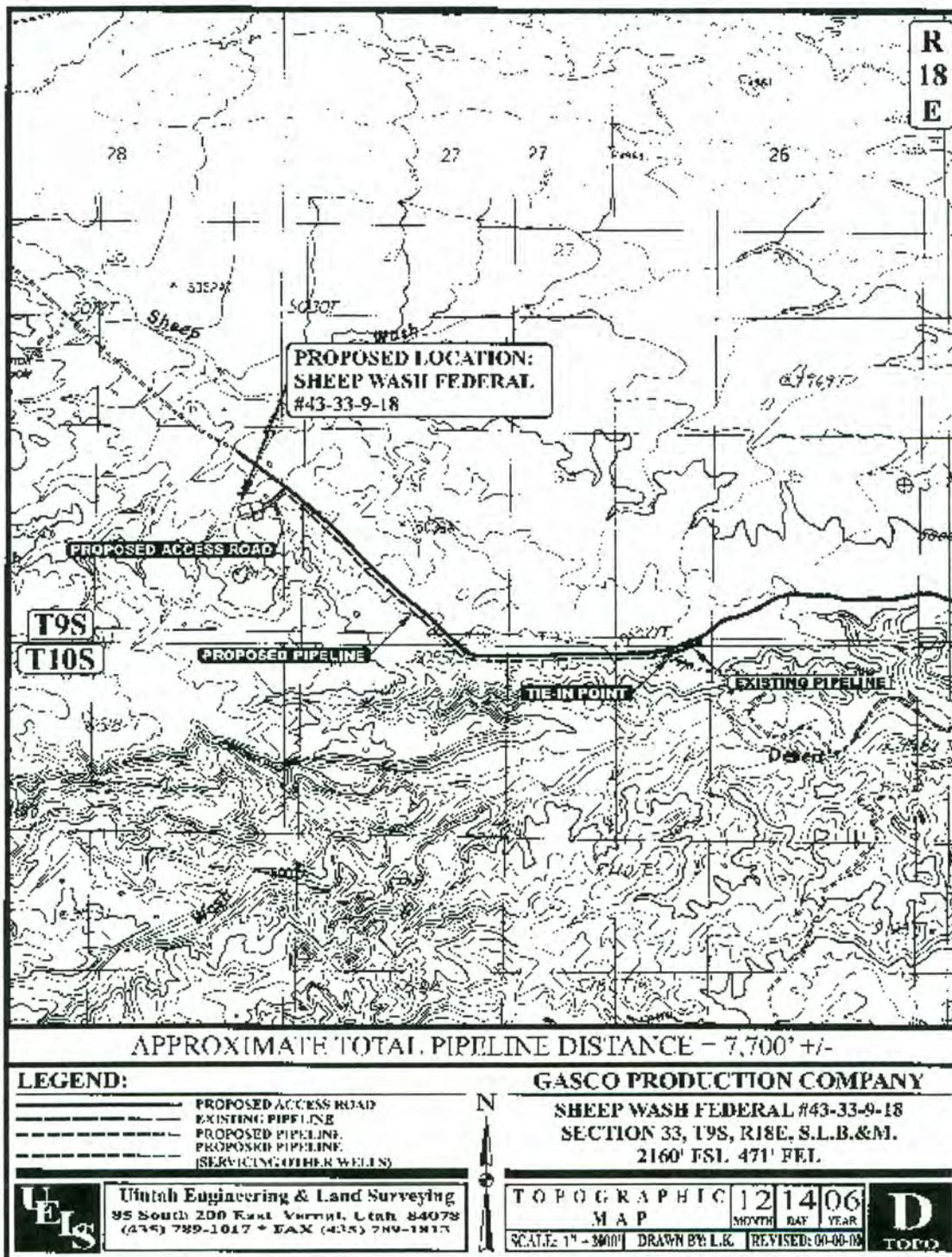
Table 5.1. List of Preparers

Name	Title	Responsible for the Following Section(s) of this Document
Bill Civish	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
Aaron Roe	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.
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- 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: PROJECT MAPS



APPENDIX B: POTENTIAL OCCURRENCE SUMMARY FOR SPECIAL STATUS PLANT SPECIES

SPECIES	S T A T U S	LOCATION/HABITAT (county – location, geologic formation, plant community, elevation)	OCCURRENCE OR OCCURRENCE POTENTIAL	ELIMINATE FROM FURTHER ANALYSIS?
<i>Aquilegia scopulorum</i> var. <i>goodrichii</i> Goodrich's columbine	S	Green River shale ridges in association with bristle cone pine, limber pine, Salina wild rye, mountain mahogany, pinyon and Douglas fir communities. 7400-9400 ft.	None. No populations, potential, or suitable habitat occurs in the project area.	Yes
<i>Arabis vivariensis</i> Park rock cress	S	Uintah – Diamond Mt. , Diamond Gulch Weber Fm sandstone & limestone, MDS or PJ, 5000' – 6000'	No. Habitat for this species does not occur in the project area.	Yes
<i>Astragalus equisolensis</i> Horseshoe milkvetch	S	Uintah – Green River Horseshoe Bend, Duchesne River Fm sand & silty sand, MDS, 4790' – 5185'	No. Habitat for this species does not occur in the project area.	Yes
<i>Astragalus hamiltonii</i> Hamilton milkvetch	S	Uintah – Asphalt Ridge Mowry, Dakota & Wasatch Fms Lapoint & Dry Gulch Mbrs, Duchesne Fm MDS or PJ, 5240' – 5800'	No. Habitat for this species does not occur in the project area.	Yes
<i>Cleomella palmeriana</i> var. <i>goodrichii</i> Goodrich cleomella	S	Uintah – Diamond Mt Morrison, Mancos, Tropic Fms Heavy clay & shale slopes SDS, 4000' – 6000'	No. Habitat for this species does not occur in the project area.	Yes
<i>Cryptantha barnebyi</i> Barneby's catseye	S	White semi-barren shale knolls of the Green River Formation in shadscale, rabbitbrush, sagebrush, and pinyon-juniper communities. 6000-7900 ft.	None. No populations, potential, or suitable habitat occurs in the project area.	Yes
<i>Cryptantha grahamii</i> Graham's catseye	S	Green River shale in the mixed desert shrub, sagebrush, pinyon-juniper, and mountain brush communities. 5000-7400 ft.	None. No populations, potential, or suitable habitat occurs in the project area.	Yes
<i>Erigeron untermannii</i> Untermann fleabane	S	Duchesne, Uintah – West Tavaputs Plateau Green River, Uinta Fm ridges, dry calcareous shales & sandstones PJ or MB, 7000' – 7800'	No. Habitat for this species does not occur in the project area.	Yes
<i>Frasera ackermaniae</i> Ackerman's frasera	S	Semibarren yellowish clay soils of the Chinle and Nugget formations in pinyon-juniper and desert shrub communities. 5000-6000 ft.	None. No populations, potential, or suitable habitat occurs in the project area.	Yes
<i>Hymenoxys lapidicola</i> Rock bitterweed	S	Uintah – Blue Mt, Cliff Ridge Weber Fm, sandy ledges & crevices PJ or ponderosa-manzanita, 5700' – 8100'	No. Habitat for this species does not occur in the project area.	Yes
<i>Lepidium barnebyanum</i> Barneby's pepperplant	E	TRIBAL – Duchesne West Tavaputs Plateau, Indian Canyon Uinta Fm, white shale outcrops &	No. Habitat for this species does not occur in the project	Yes

		ridges, barren inclusions in PJ, 6200' – 6500'	area.	
<i>Lepidium huberi</i> Huber pepperplant	S	Uintah – foothills, Ashley Crk, Dry Fork Chinle, Park City, Weber Fm Eroding cliffs, alluvium, sandy or shaly bluffs black sage or MB, 5000' – 6400'	No. Habitat for this species does not occur in the project area.	Yes
<i>Mentzelia goodrichii</i> Goodrich blazingstar	S	Duchesne – Willow & Argyle Canyons Green River Fm, steep escarpments & cliffs white calcareous shale, MB, 8100' – 8800'	No. Habitat for this species does not occur in the project area.	Yes
<i>Penstemon acaulis</i> var. <i>acaulis</i> Stemless penstemon	S	Daggett – Browns Park Fm Ashy, gravelly or sandy ridges & knolls, sagebrush desert grass or PJ, 5840' – 7285'	No. Habitat for this species does not occur in the project area.	Yes
<i>Penstemon gibbensii</i> Gibbens beardtongue	S	Daggett – Browns Park Fm Green River Fm sandy/shaly bluffs, slopes juniper, thistle, buckwheat, serviceberry 5500' – 6400'	No. Habitat for this species does not occur in the project area.	Yes
<i>Penstemon goodrichii</i> Goodrich beardtongue	S	Duchesne, Uintah – Lapoint, Tridell, Whiterocks Duchesne River Fm; clay badlands MDS, shadscale, PJ or MB, 5590' – 6215'	No. Habitat for this species does not occur in the project area.	Yes
<i>Penstemon grahamii</i> Graham beardtongue	P	Uintah, Duchesne – oil shale outcrops, throughout VFO, Evacuation Creek, lower Parachute Mbrs Oil shale or white shale knolls & talus, semi-barren MDS or PJ 4600' 6700'	No. Habitat for this species does not occur in the project area.	Yes
<i>Penstemon scariosus</i> var. <i>albifluvis</i> White River beardtongue	C	Uintah – south & southeast of Bonanza, Evacuation Creek, lower Parachute Mbrs, shale slopes, semi-barren MDS or PJ 4600' – 6000'	No. Habitat for this species does not occur in the project area.	Yes
<i>Phacelia argylensis</i> Argyle Canyon phacelia	S	Sany-silty soil in wash bottoms on the Green River shale in pinyon-juniper, serviceberry, and Douglas fir communities. Around 7600 ft.	None. No populations, potential, or suitable habitat occurs in the project area.	Yes
<i>Schoenocrambe argillacea</i> Clay reed-mustard	T	Uintah – canyon rims & steep slopes contact zone, Uinta-Green River Fms MDS, 5000' – 5650'	No. Habitat for this species does not occur in the project area.	Yes
<i>Schoenocrambe suffrutescens</i> Shrubby reed-mustard	E	Duchesne, Uintah – Big Pack Mt., Wrinkles rd., Hill Creek Basin; Green River Fm, calcareous shale MDS, PJS or MB, 5400' – 6000'	No. Habitat for this species does not occur in the project area.	Yes
<i>Sclerocactus brevispinus</i> Pariette cactus	T	Duchesne – Pariette Wash south of Myton Uinta Fm, Wagonhound Mbr, alkaline clay shadscale, mat-saltbush, greasewood comm. 4700' – 5400'	No. Outside of species range.	Yes
<i>Sclerocactus wetlandicus</i> Uinta Basin hookless cactus	T	Duchesne, Uintah – widespread in VFO, alluvial benches Ouray to Carbon Co. line MDS, 4700' – 6810'	Yes. Habitat for this species does occur in the project area.	No
<i>Spiranthes diluvialis</i> Ute ladies' –tresses	T	Daggett, Duchesne, Uintah – unconsolidated alluvium riparian corridors, wetlands, wet meadows 4400' – 6810'	No. Habitat for this species does not occur in the project area.	Yes

<i>Thelesperma caespitosum</i> Uinta greenthread	S	Duchesne – West Tavaputs Plateau, north slope Uintas Bishop Fm, white shale benchesm ridgecrest; cushion plant comm. above PJS & MB 5000' – 9000'	No. Habitat for this species does not occur in the project area.	Yes
<i>Townsendia strigosa</i> var. <i>prolix</i> Strigose Townsendia	S	Mixed desert shrub communities.	None. No populations, potential, or suitable habitat occurs in the project area.	Yes
<i>Yucca sterilis</i> Sterile yucca	S	Salt and mixed desert shrub communities in sandy soils. 4800-5800 ft.	No populations are present and given the clonal nature of the species the potential for future colonization is considered negligible.	Yes

Habitat information including elevation as per A Utah Flora: 3rd Edition or from survey data. Additional survey efforts may alter the suitable habitat descriptions in the future.

STATUS: E = Federally Endangered
 T = Federally Threatened
 C = Federal Candidate
 P = Proposed
 S = Bureau –sensitive
 + = species of concern

HABITAT: MB = Montane Brush
 MDS = Mixed Desert Shrub
 PJ = Pinyon-Juniper
 PJS = Pinyon-Juniper-Sagebrush
 SDS = Salt Desert Shrub

OCCURRENCE: No = Individuals, suitable habitat and/or potential habitat do not occur in project area
 Yes = Individuals, suitable habitat and/or potential habitat do occur in or adjacent to project area.

ELIMINATE FURTHER ANALYSIS?
 Yes = Further analyses and surveys are not required for this particular species.
 No = Survey; adjust proposed location, if needed, according to Conservation Measures.

APPENDIX C: THREATENED, ENDANGERED, CANDIDATE, UTAH SPECIAL STATUS ANIMAL SPECIES INCLUDING PARTNERS-IN-FLIGHT SPECIES OF CONCERN AND BLM SENSITIVE

Species	Status	Habitat Association	Potential for Occurrence within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
Humpback chub <i>Gila cypha</i>	FE	Is endemic to the Colorado River System within deep, swift-running rivers, with canyon shaded environments.	None. This species occurs in the Green River.	No. Habitat is not present within the project area but water depletion will occur.
Bonytail <i>Gila elegans</i>	FE	Is endemic to the Colorado River system within main channels of large rivers, and favor swift currents.	None. This species occurs in the Green River.	No. Habitat is not present within the project area; however, water depletion will occur.
Colorado pikeminnow <i>Ptychocheilus lucius</i>	FE	Known from the Colorado River system. Uses large swift rivers.	None. This species occurs in the Green and White Rivers.	No. Habitat is not present within the project area; however, water depletion will occur.
Razorback sucker <i>Xyrauchen texanus</i>	FE	Endemic to large rivers of the Colorado River system.	None. This species occurs in the Green and White Rivers.	No. Habitat is not present within the project area but water depletion will occur.
Bald eagle <i>Haliaeetus leucocephalus</i>	WSC BLM-S	In Utah, breeding occurrences are limited to 10 locations within five counties (Carbon, Daggett, Duchesne, Grand, and Salt Lake counties). Winter habitat typically includes areas of open water, adequate food sources, and sufficient diurnal perches and night roosts.	Low. Bald eagles utilize ungulate winter ranges that provide carrion, and areas of open water such as the Green River. Roosting or nesting habitat does not occur within the proposed project area.	Yes. Direct or indirect impacts to foraging bald eagles is anticipated to be minimal because there are extensive areas of similar wintering habitat found adjacent to the project area and any displacement of wintering bald eagles would be site specific, short-term (lasting only as long as project activity occurs in an area occupied by wintering bald eagles), and the magnitude of ungulate range in the Uinta Basin would provide sufficient foraging areas for the duration of the project.
Mexican spotted owl <i>Strix occidentalis lucida</i>	FT; PIF	In Utah, found primarily in rocky canyons. Nests in caves or crevices. Roosts on ledges or in trees in canyons. The species prefers mesic (moister/cooler) canyons with mixed conifer or riparian components. Breeding and nesting season: March through August.	None. Project area has been surveyed and declared unsuitable for nesting (Assessment of Potential Mexican Spotted Owl Nesting Habitat on BLM-Administered Lands in Northeastern Utah, September 2005).	Yes. Suitable habitat for this species does not occur within the proposed project area.
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	FC; PIF BLM-S	Riparian obligate and usually occurs in large tracts of cottonwood/willow habitats. However, this species also has been documented in lowland deciduous woodlands, alder	None. Species is known to occur in riparian habitat along the Green River and the Ouray National Wildlife Refuge.	Yes. Suitable habitat for this species does not occur within the proposed project area.

Species	Status	Habitat Association	Potential for Occurrence within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
		thickets, deserted farmlands, and orchards. Breeding season: late June through July.		
Black-footed ferret <i>Mustela nigripes</i>	FE	Semi-arid grasslands and mountain basins. It is found primarily in association with active prairie dog colonies that contain suitable burrow densities and colonies that are of sufficient size.	None. The distribution of this species is limited to a nonessential experimental population reintroduced into Coyote Basin, Uintah County starting in 1999.	Yes. Suitable habitat for this species does not occur within the proposed project area.
Canada Lynx <i>Lynx lynx canadensis</i>	FT	Primarily occurs in Douglas-fir, Spruce-fir, and subalpine forests at elevations above 7,800 feet amsl. The lynx uses large woody debris, such as downed logs and windfalls.	None. If extant in Utah, this species most likely occurs in montane forests in the Uinta Mountains.	Yes. Suitable habitat for this species does not occur within the proposed project area.
Roundtail chub <i>Gila robusta</i>	CAS	Adults inhabit low to high flow areas in the Green River; young occur in shallow areas with minimal flow.	None. The roundtail chub is native in Utah. The species occurs in the Colorado River system.	No. Habitat is not present within the project area but water depletion will occur.
Bluehead sucker <i>Catostomus discobolus</i>	CAS	Occupies a wide range of aquatic habitats ranging from cold, clear mountain streams to warm, turbid rivers.	None. The bluehead sucker is native in parts of Utah. The species occurs in the upper Colorado River system.	No. Habitat is not present within the project area but water depletion will occur.
Flannelmouth sucker <i>Catostomus latipinnis</i>	CAS	Adults occur in riffles, runs, and pools in streams and large rivers, with the highest densities usually in pool habitat. Young live in slow to moderately swift waters near the shoreline areas.	None. The flannelmouth sucker is native in Utah. The species occurs in the Colorado River system.	No. Habitat is not present within the project area; but water depletion will occur.
Ferruginous hawk <i>Buteo regalis</i>	WSC; PIF BLM-S	Resides mainly in lowland open desert terrain characterized by barren cliffs and bluffs, piñon-juniper woodlands, sagebrush-rabbit brush, and cold desert shrub. Nesting habitat includes promontory points and rocky outcrops.	Low. This species is known to occur in the West Desert and the Uinta Basin as a summer resident and a common migrant. Within the Uinta Basin, the species is more associated with prairie dog colonies as the main prey base. There are no known nest within 0.5 mile of project area	Yes. No known nest exist within 0.5 mile of project.
American white pelican <i>Pelecanus</i>	WSC; PIF BLM-S	Inhabits areas of open water including large rivers, lakes,	None. Known to nest on islands associated with Great Salt and Utah	Yes. Suitable habitat for this species does not occur within the proposed project area.

Species	Status	Habitat Association	Potential for Occurrence within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
<i>erythrorhynchos</i>		ponds, and reservoirs with surrounding habitats ranging from barren to heavily vegetated sites. Typically nests on isolated islands in lakes or reservoirs.	Lakes. In northeastern Utah, the species occurs as a transient on larger water bodies. Habitat is not present within the proposed project area.	
Swainson's hawk <i>Buteo swainsonii</i>	PIF	Inhabits grasslands, deserts, agricultural areas, shrublands, marshlands, and riparian forests. Nest in trees in or near open areas. Breeding season: April 1 – July 15.	Low. Occur in the Uinta Basin as an uncommon summer resident and common migrant. Requires trees of moderate height for nesting.	Yes. Review of district files and field inventories did not reveal the presence of nesting. Potential foraging habitat is available. The proposed project may affect individuals, and may cause individuals to move to other suitable habitat. The proposed project would not lead to the listing of the species.
Greater Sage-grouse <i>Centrocercus urophasianus</i>	FC WSC; PIF BLM-S	Inhabits upland sagebrush habitat in rolling hills and benches. Breeding occurs on open leks (or strutting grounds) and nesting and brooding occurs in upland areas and meadows in proximity to water and generally within a 2-mile radius of the lek. During winter, sagebrush habitats at submontane elevations commonly are used.	None. The species is widespread, but declining, with extant populations in Uintah and Duchesne counties.	Yes. Project is not within sage grouse habitat.
Mountain plover <i>Charadrius montanus</i>	WSC; PIF	In the Uinta Basin, small mountain plover populations breed in shrub-steppe habitat where vegetation is sparse and sagebrush communities are dominated by <i>Artemisia</i> spp. with components of black sage and grasses. Nest locations also vary with respect to topography (nests were located on flat, open ground; on the top or at the base of slopes; or very close to large rocky outcroppings).	Low. The only known breeding population of mountain plover in Utah is located on Myton Bench. Habitat is designated within the proposed project area.	No.
Long-billed Curlew <i>Numenius americanus</i>	WSC; PIF BLM-S	Inhabits shortgrass prairies, alpine meadows, riparian woodlands, and reservoir habitats. Breeding habitat includes upland areas of shortgrass prairie or grassy	None. Widespread migrant in Utah. Breeding birds are fairly common but localized, primarily in central and northwestern Utah. Potential nesting has been reported in Uintah County,	Yes. Suitable habitat for this species does not occur within the proposed project area.

Species	Status	Habitat Association	Potential for Occurrence within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
		meadows with bare ground components, usually near water.	but has not been confirmed.	
Black tern <i>Chlidonias niger</i>	WSC BLM-S	Habitat includes reservoirs, lakes, ponds, marshes with open water, and sewage lagoons in association with tall tules, reeds, or other vegetation along the edge of water bodies. Nests typically are floating and are made from pieces of cattail and other marsh vegetation.	None. Localized breeder in Utah and Utah, Great Salt, and Pelican lakes and along the Green River. In Uintah County, the species is known to nest on sandbars in and along the Green River.	Yes. Suitable habitat for this species does not occur within the proposed project area.
Short-eared owl <i>Asio flammeus</i>	WSC BLM-S	Inhabits arid grasslands, agricultural areas, marshes, and occasionally open woodlands. In Utah, cold desert shrub and sagebrush-rabbit brush habitats also are utilized. Typically a ground nester.	None. Known to occur in Uintah County, with occurrence probable in Duchesne County.	Yes. Suitable habitat for this species does not occur within the proposed project area.
Burrowing owl <i>Athene cunicularia</i>	WSC BLM-S	Inhabits desert, semi-desert shrubland, grasslands, and agriculture areas. Nesting habitat primarily consists of flat, dry, and relatively open terrain; short vegetation; and abandoned mammal burrows (within northeastern Utah primarily in association with prairie dog complexes) for nesting and shelter.	Low. Known to occur in Uintah and Duchesne counties.	Yes. No habitat within project area.
Lewis's Woodpecker <i>Melanerpes lewis</i>	WSC; PIF BLM-S	Inhabits open habitats including pine forests, riparian areas, and pinion-juniper woodlands. Breeding habitat typically includes ponderosa pines and cottonwoods in stream bottoms and farm areas. The species inhabits agricultural lands and urban parks, montane and desert riparian woodlands, and submontane shrub habitats.	None. In Utah, the species is widespread, but is an uncommon nester along the Green River. Breeding by this species has been observed in Ouray and Uintah counties, and along Pariette Wash.	Yes. Suitable habitat for this species does not occur within the proposed project area.

Species	Status	Habitat Association	Potential for Occurrence within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
Common yellowthroat <i>Geothlypis trichas</i>	WSC	Documented habitat usage includes marshes and wet hummocks as well as montane and desert riparian woodlands.	None. Occurs throughout Utah, with probable occurrence in Uintah County.	Yes. Suitable habitat for this species does not occur within the proposed project area.
Blue Grosbeak <i>Guiraca caerulea</i>	BLM-S	Inhabits desert riparian woodlands (including areas of tamarisk invasion), marshes, grasslands, and rural areas. Suitable nest habitat includes dense vegetation in otherwise open areas.	None. Known to breed in the southern portion of Utah. However, this species has been documented at the Ouray Nation Wildlife Refuge and along the Green River.	Yes. Suitable habitat for this species does not occur within the proposed project area.
Bobolink <i>Dolichonyx oryzivorus</i>	WSC; PIF BLM-S	Inhabits mesic and irrigated meadows, riparian woodlands, and subalpine marshes at lower elevations (2,800 to 5,000 feet amsl). Suitable breeding habitat for this ground nester includes tall grass, flooded meadows, prairies, and agricultural fields; forbs and perch sites also are required.	None. The species breeds in isolated areas of Utah, primarily in the northern half of the state. Breeding and winter habitat have been documented throughout Uintah, Duchesne, and Daggett counties.	Yes. Suitable habitat for this species does not occur within the proposed project area.
White-tailed prairie dog <i>Cynomys leucurus</i>	WSC BLM-S	Inhabits grasslands, plateaus, plains and desert shrub habitats. White-tailed prairie dogs form colonies or "towns" and spend much of their time in underground burrows and hibernating during the winter months.	None. Prairie dogs are an obligate species to several other state-sensitive species, such as ferruginous hawk, mountain plover, and burrowing owl, in that these species depend on them for food, shelter, and nesting habitat or habitat manipulation.	Yes. No burrows within project area.
Spotted bat <i>Euderma maculatum</i>	WSC BLM-S	Inhabits desert shrub, sagebrush-rabbit brush, pinion-juniper woodland, and ponderosa pine and montane forest habitats. The species also uses lowland riparian and montane grassland habitats. Suitable cliff habitat typically appears to be necessary for roosts/hibernacula. Spotted bats typically do not migrate and use hibernacula that maintain a constant temperature above	Low. The species potentially occurs throughout Utah; however, no occurrence records exist for the extreme northern or western parts of the state. Known occurrences have been reported in northeastern Uintah County.	Yes. Suitable roosting habitat does not occur within the proposed project area. Occurrence potential would be limited to foraging individuals.

Species	Status	Habitat Association	Potential for Occurrence within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
		freezing from September through May.		
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	WSC BLM-S	Inhabits a wide range of habitats from semidesert shrublands and piñon-juniper woodlands to open montane forests. Roosting occurs in mines and caves, in abandoned buildings, on rock cliffs, and occasionally in tree cavities. Foraging occurs well after dark over water, along margins of vegetation, and over sagebrush.	Low. The species occurs throughout much of Utah including Duchesne and Uintah counties. One individual was collected at the Ouray National Wildlife Refuge in 1980. Roosting habitat for this species potentially could occur in areas where rock cliffs and caves are present.	Yes. Suitable roosting habitat does not occur within the proposed project area. Occurrence potential would be limited to foraging individuals.
Brazilian free-tailed bat <i>Tadarida brasiliensis</i>	WSC BLM-S	Typically inhabits woodland to lowland areas where the species roosts in caves, crevices in cliff faces, buildings, and under bridges. This species inhabits urban areas, lowland riparian woodlands, desert shrub, and ponderosa pine forests. Known to overwinter (some remaining active) in the southwestern part of the state.	Low. The species is known to occur in all but the northernmost parts of Utah (Box Elder and Daggett counties). Roosting habitat for this species potentially could occur in areas where rock cliffs and caves are present.	Yes. Suitable roosting habitat does not occur within the proposed project area. Occurrence potential would be limited to foraging individuals.
Northern River otter <i>Lontra Canadensis</i>	WSC BLM-S	Inhabits rivers, lakes, and riverine habitats, within associated riparian vegetation. The species occurs in montane forests to desert canyons within areas of suitable habitat.	None. Occurrence by this species has been reported in at least 18 rivers and streams in northern, central, and eastern Utah between 1978 and 1988.	Yes. Suitable habitat for this species does not occur within the proposed project area.
Thirteen lined ground squirrel <i>Spermophilus tridecemlineatus</i>	WSC BLM-S	Inhabits plains, grasslands, sagebrush, rabbitbrush, and montane meadows, but also utilizes disturbed sites such as pastures, prairie dog towns, roadsides, golf courses, and cemeteries. The species prefers cultivated field and grassland habitats. Heavier soils (e.g., clays, loams, or sand loams) are preferred. The species hibernates	Low. In Utah, the species is native to the Uinta Basin where it is known to occur in Uintah and Duchesne counties. Portions of the project area are suitable habitat.	Yes. The proposed project may affect individuals, and may cause individuals to move to other suitable habitat. The proposed project would not lead to the listing of the species.

Species	Status	Habitat Association	Potential for Occurrence within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
		between October and April.		
Milk snake <i>Lampropeltis triangulum</i>	WSC BLM-S	Occurs in cold desert through montane regions where it inhabits grassland, shortgrass prairie, sagebrush, desert scrub, ponderosa pine, and pinion-juniper woodland habitats.	Low. Known to occur in the Uinta Basin region. Relative to the proposed project area individuals could be present at some portion of their life cycle.	Yes. The proposed project may affect individuals, and may cause individuals to move to other suitable habitat. The proposed project would not lead to the listing of the species.
Great Plains rat snake <i>Elaphe guttata emoryi</i>	WSC BLM-S	Occurs in eastern Utah in major valleys of the Colorado River. Habitats include stream courses, river bottoms and rocky wooded hillsides. It is a secretive snake which spends much of the time in rodent burrows and is nocturnal during warm weather.	Low. Occurs in Uintah County. Great Plains rat snakes have been identified at Ouray Wildlife Refuge.	Yes. Suitable habitat for this species does not occur within the proposed project area.
Sage sparrow <i>Amphispiza belli</i>	PIF	Habitat includes dry sagebrush/scrublands with sparse vegetation.	Low. Habitat may be present within the proposed project area.	Yes. The proposed project may affect individuals, and may cause individuals to move to other suitable habitat. The proposed project would not lead to the listing of the species.
Virginia's warbler <i>Vermivora virginiae</i>	PIF	Habitat includes dry woodlands, scrub oak brushlands, canyons and ravines.	Low. Portions of the proposed project area have potential habitat.	Yes. The proposed project may affect individuals, and may cause individuals to move to other suitable habitat. The proposed project would not lead to the listing of the species.
Black-chinned hummingbird <i>Archilochus alexandri</i>	PIF	Habitat includes dry lowlands and foothills with pinion-juniper woodlands.	None. Habitat not available for this species.	Yes. Suitable habitat for this species does not occur within the proposed project area.
Gray flycatcher <i>Empidonax wrightii</i>	PIF	Habitat includes arid areas of sagebrush or pinion-juniper woodlands.	Low. Portions of the proposed project area are suitable habitat.	Yes. The proposed project may affect individuals, and may cause individuals to move to other suitable habitat. The proposed project would not lead to the listing of the species.
Cassin's kingbird <i>Tyrannus vociferan</i>	PIF	Habitat includes sparse woods and dry scrub areas.	Low. Portions of the proposed project area are suitable habitat.	Yes. The proposed project may affect individuals, and may cause individuals to move to other suitable habitat. The proposed project would not lead to the listing of the species.
Gray vireo <i>Vireo vicinior</i>	PIF	Habitat includes dry shrubby areas, chaparral, and sparse woodlands.	Low. Portions of the proposed project area are suitable habitat.	Yes. The proposed project may affect individuals, and may cause individuals to move to other suitable habitat. The proposed project would not lead to the listing of the species.
Pinion jay	PIF	Habitat includes semi-arid	None. Habitat is not present within	Yes. Suitable habitat for this species does not occur

Species	Status	Habitat Association	Potential for Occurrence within the Proposed Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis (Yes/No)
<i>Gymnorhinus cyanocephalus</i>		foothills with pinion-juniper woodlands.	the proposed project area.	within the proposed project area.
Juniper titmouse <i>Parus inornatus</i>	PIF	Habitat includes sparse pinion-juniper and oak woodlands.	None. Habitat is not present within the proposed project area.	Yes. Suitable habitat for this species does not occur within the proposed project area.
White-throated swift <i>Aeronautes saxatalis</i>	PIF	Habitat includes cliffs and canyons.	None. Habitat not available in the proposed project area.	Yes. Suitable habitat for this species does not occur within the proposed project area.

Federally Listed Species:

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

State Sensitive

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

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

APPENDIX D: INTERDISCIPLINARY TEAM CHECKLIST

Project Title: GASCO Proposes To Develop Section 33 of T9S R18E For Gas.

NEPA Log Number: DOI-BLM-UT-G010-2012-0283

File/Serial Number: UTU-76818

Project Leader: Bill Civish

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.	Bill Civish	08/29/12
NP	BLM Natural Areas	None Present as per GIS layer review and RMP/ROD Review	Bill Civish	08/29/12
NP	Cultural: Archaeological Resources	No cultural resources were identified with the APE of the proposed project.	Cameron Cox	08/29/12
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	08/29/12
NP	Designated Areas: Areas of Critical Environmental Concern	None Present as per GIS layer review and RMP/ROD Review	Bill Civish	08/29/12
NP	Designated Areas: Wild and Scenic Rivers	None Present as per GIS layer review and RMP/ROD Review	Bill Civish	08/29/12
NP	Designated Areas: Wilderness Study Areas	None Present as per GIS layer review and RMP/ROD Review	Bill Civish	08/29/12

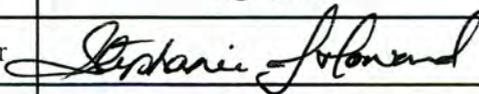
Determination	Resource/Issue	Rationale for Determination	Signature	Date
NI	Environmental Justice	No minority or economically disadvantaged communities or populations would be disproportionately adversely affected by the proposed action or alternatives.	Bill Civish	08/29/12
NP	Farmlands (prime/unique)	No prime or unique farmlands as designated by the NRCs exist in the proposed project area. Therefore this resource is not present.	Bill Civish	08/29/12
NI	Fuels/Fire Management	No fuel management activities planned for the project area. The proposed project would not conflict with fire management activities.	Bill Civish	08/29/12
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	8/30/2012
PI	Invasive Plants/Noxious Weeds, Soils & Vegetation	<p>Approximately 3.1 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 3.1 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>	Bill Civish	08/29/12

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. Sheep Wash Federal 43-33-9-18 will require a pipeline right-of-way prior to construction. Letters were mailed to all ROW holders adjacent to the project area on August 31, 2012. To date no responses have been received. 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	09/24/12
NI	Lands with Wilderness Characteristics (LWC)	None Present as per 2008 Vernal RMP ROD and GIS layer review	Bill Civish	08/29/12
NI	Livestock Grazing and Rangeland Health	The proposed project is located within the Little Desert and Eight Mile Flat 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 both allotments 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.	Maggie Marston	11/2/2012
NP	Paleontology	No scientifically important fossils were found. (Hamblin, March 20, 2007)	Betty Gamber	10/8/2012
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. 	Aaron Roe	10/4/2012
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: shrubby reed-mustard (<i>Schoenocrambe suffrutescens</i>), clay reed-mustard (<i>Schoenocrambe argillacea</i>), Pariette cactus (<i>Sclerocactus brevispinus</i>), Uinta Basin hookless cactus (<i>Sclerocactus wetlandicus</i>), and Graham's penstemon (<i>Penstemon grahamii</i>). <ul style="list-style-type: none"> As the Green River formation is not present in the vicinity of the proposed project there is no potential habitat for shrubby reed-mustard. 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. As currently understood, Pariette cactus is restricted to the Pariette and Castle Peak 	Aaron Roe	10/4/2012

Determination	Resource/Issue	Rationale for Determination	Signature	Date
		<p>drainages and the surrounding benches. Therefore, the proposed project is located outside of the potential range for the species.</p> <ul style="list-style-type: none"> • The proposed project is located within potential habitat for Uinta Basin hookless cactus. • As the Green River formation is not present in the vicinity of the propose project there is no potential habitat for Graham's penstemon. 		
NP	Plants: Wetland/Riparian	No riparian sites are inventoried at or in the vicinity of the project area. Based on site visits to the area and confirmed by Field Office data from GIS information.	Bill Civish	08/29/12
NI	Recreation	Motorized use is designated as limited to designated roads and trails as per Vernal RMP 2008. The use of the area is primarily from the oil and gas industry; recreational use of ATV's is limited to existing routes only.	Bill Civish	08/29/12
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.	Bill Civish	08/29/12
NI	Visual Resources	VRM Class IV identified, project would meet class IV objectives.	Bill Civish	08/29/12
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>	Bill Civish	08/29/12
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.	Bill Civish	08/29/12
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	10/5/2012

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.	Bill Civish	08/29/12
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.	Bill Civish	08/29/12
NI	Water: Waters of the U.S.	Waters of the U.S. are not present per USGS topographic map and GIS data review.	Bill Civish	08/29/12
NP	Wild Horses	No herd areas or herd management areas are present in the project area per BLM GIS database.	Bill Civish	08/29/12
PI	Wildlife: Migratory Birds (including raptors)	Migratory birds are present. No known raptor nests exist within project area. Project is within Plover habitat.	Daniel Emmett	10/04/12
PI	Wildlife: Non-USFWS Designated	Water would be used for this proposed project so sensitive fish species need to be analyzed.	Daniel Emmett	10/4/12
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.	Daniel Emmett	10/4/12
NP	Woodlands/Forestry	None Present as per Vernal Field Office RMP/ROD and GIS database	Bill Civish	08/29/12

FINAL REVIEW:

Reviewer Title	Signature	Date	Comments
Environmental Coordinator		2/26/13	
Authorized Officer		3/1/2013	

FINDING OF NO SIGNIFICANT IMPACT
GASCO Production Company
Proposes To Drill
Sheep Wash Federal 43-33-9-18
Environmental Assessment
DOI-BLM-UT-G010-2012-0283

FINDING OF NO SIGNIFICANT IMPACT:

Based on the analysis of potential environmental impacts contained in the attached environmental assessment, and considering the significance criteria in 40 CFR 1508.27, I have determined that the Gasco proposal to drill Sheep Wash Federal 43-33-9-18, as described in the proposed action alternative of DOI-BLM-UT-G010-2012-0283 will not have a significant effect on the human environment. An environmental impact statement is therefore not required.



Authorized Officer

MAR 01 2013

Date

DECISION RECORD
GASCO Production Company
Proposes To Drill
Sheep Wash Federal 43-33-9-18
Environmental Assessment
DOI-BLM-UT-G010-2012-0283

DECISION RECORD:

It is my decision to authorize Gasco to drill Sheep Wash Federal 43-33-9-18 as described in the proposed action alternative of DOI-BLM-UT-G010-2012-0283 subject to the below stipulations and monitoring requirements listed below, which were designed to minimize and/or avoid impacts.

Summary of the Selected Alternative:

GASCO proposes to drill one new well in section 33 of T9S R18E, the Sheep Wash Federal 43-33-9-18. GASCO also proposes to install approximately 430 feet of new road, and 7,700 feet of surface laid gas gathering pipeline as a part of the project. A right-of-way would be required for the portion of pipeline that goes off lease.

Mitigation and Conditions of Approval

- Air quality conditions of approval from Appendix B Table B-2 of the Gasco ROD will be implemented.
- 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.
- Uinta Basin hookless cactus conditions of approval from Appendix B Table B-2 of the Gasco ROD will be implemented.
- *Discovery Stipulation:* Reinitiation of Section 7 consultation with the USFWS will be sought immediately if any loss of plants or occupied habitat for Uinta Basin hookless cactus is anticipated as a result of project activities.
- To maintain compliance with current cactus survey protocols, the following measures will be required
 1. If construction does not occur within 4 years of the original survey date, new 100% clearance surveys will be required.
 2. Prior to construction within 4 years of the original survey date, a spot check survey will be required during the year of construction. Gasco and their respective 3rd party surveyor will refer to the current *Sclerocactus* Spot Check Survey Methods, to determine site specific survey distances and intensity levels.
 3. Spot check reports will be reported to the BLM and the US Fish and Wildlife Service.
 4. Construction will not commence until written approval is received from the BLM.

- The proposed project is within mountain plover habitat. If drilling or construction is proposed from May 1 to June 15, then a survey will be conducted by a qualified biologist. Permission to proceed may be granted in accordance with the “USFWS Mountain Plover Survey Guidelines” (March 2002) protocol.
- The best method to avoid entrainment is to pump from an off-channel location – one that does not connect to the river during high spring flows. An infiltration gallery constructed in a BLM and Service approved location is best.
- If the pump head is located in the river channel where larval fish are known to occur, the following measures apply:
 - a. do not situate the pump in a low-flow or no-flow area as these habitats tend to concentrate larval fishes;
 - b. limit the amount of pumping, to the greatest extent possible, during that period of the year when larval fish may be present (April 1 to August 31); and
 - c. limit the amount of pumping, to the greatest extent possible, during the pre-dawn hours as larval drift studies indicate that this is a period of greatest daily activity.
 - d. screen all pump intakes with 3/32 inch mesh material.
 - e. 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 conditions of approval 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 August 23, 2012. A 30-day public comment period was held from December 20, 2012 through January 22, 2013. Two comment letters were received, one from Uintah County, and one from Southern Utah Wilderness Alliance (SUWA). Comments and their responses are included in chapter 5 of the EA.

Appeals:

This decision is effective upon the date it is signed by the authorized officer. The decision is subject to appeal. Under BLM regulation, this decision is subject to administrative review in accordance with 43 CFR 3165. Any request for administrative review of this decision must include information required under 43 CFR 3165.3(b) (State Director Review), including all supporting documentation. Such a request must be filed in writing with the State Director, Bureau of Land Management, Utah State Office, 440 West 200 South Suite 500, Salt Lake City, Utah, 84101-1345, 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

MAR 01 2013

Date