

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

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**Environmental Assessment  
DOI-BLM-UT-G010-2013-172 EA**

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**July 2013**

**Gasco Energy Inc.  
Salt Water Disposal Well Federal 32-20X-9-19  
Right-of-way UTU-89376**

*Location:* T. 9 South, Range 19 East, Sections 20, 29 & 30.

*Applicant/Address: Gasco Production Company  
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Denver, Colorado 80237*

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**Salt Water Disposal Well Federal 32-20X-9-19**  
**Right-of-way UTU-89376**

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## **CHAPTER 1: INTRODUCTION AND NEED FOR THE ACTION**

### **INTRODUCTION**

This Environmental Assessment has been prepared to analyze the potential impacts of Gasco Energy Inc. (Gasco) proposed salt water disposal well Federal 32-20X-9-19 and associated facilities. Gasco Energy Inc.'s need for the proposed action is to transport, collect and dispose of produced water from Gasco's current producing wells and from the proposed wells to be drilled in the area.

The EA is a site-specific analysis of potential impacts that could result with the implementation of a proposed action or alternatives to the proposed action. An EA assists the 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 statement of "Finding of No Significant Impact" (FONSI). A FONSI 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 the Vernal Field Office Resource Management Plan (VFORMP), October 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 may be signed for the EA approving the alternative selected.

### **PURPOSE AND NEED FOR THE PROPOSED ACTION**

Gasco Energy Inc has requested a right-of-way to drill salt water disposal (SWD) well Federal 32-20X-9-19, install two 500 bbl tanks, install two 10 inch surface water pipelines from Federal Well 424-30-9-19 to the SWD well 32-20X-9-19 and dispose of produced water into SWD well Federal 32-20X-9-19.

The BLM's need is to consider approval of the application in a manner that avoids or reduces impacts on sensitive resource values associated with the project area and prevent unnecessary or undue degradation of the public lands.

### **CONFORMANCE WITH BLM LAND USE PLAN(S)**

The proposed SWD well and associated facilities would be in conformance with the Vernal Field Office (VFO) Record of Decision (ROD) and Resource Management Plan (RMP), approved October 31, 2008. As stated in the VFO Approved ROD (pg. 86), the BLM's primary management objectives for the lands and realty programs are to:

- Process applications, permits, operating plans, mineral exchanges, leases, and other use authorizations for public lands in accordance with policy and guidance; and
- Manage public lands to support goals and objectives of other resources programs, respond to public requests for land use authorizations.

## **RELATIONSHIPS TO STATUTES, REGULATIONS AND OTHER PLANS**

This EA was prepared by the BLM in accordance with the National Environmental Policy Act (NEPA) of 1969 and in compliance with all applicable regulations and laws passed subsequently, including the President’s Council on Environmental Quality regulations, and the U.S. Department of Interior requirements and guidelines listed in the BLM Manual Handbook H-1790-1. This EA assesses the environmental effects of the Proposed Action and the No Action Alternative.

The proposed action is also consistent with the Uintah County General Plan (Uintah County 2011-as amended). The Uintah County General Plan contains specific policy statements addressing public and multiple-use resource use and development, access, and wildlife management. In general, the Plan indicates support for development proposals through its emphasis on multiple-use public land management practices and responsible use and optimum utilization of public land resources. The County, through the Plan, supports the development of natural resources as they become available as new technology allows.

## **IDENTIFICATION OF ISSUES**

As part of internal scoping, BLM resource specialists in the Vernal Field Office reviewed Gasco’s Proposed Action and conferred with other agencies to assess the type and magnitude of potential impacts to affected resources. The potentially affected resources listed below are consistent with relevant concerns and potential issues presented in Appendix A (Interdisciplinary Team [IDT] Checklist). These potential issues are carried forward for analysis in the Environmental Consequences section (Chapter 4) of this EA.

- Air Quality
- Invasive Plants/Noxious Weeds, Soils & Vegetation
- Paleontology
- Plants: Threatened, Endangered, Proposed, or Candidate
- Wildlife: Migratory Birds (including raptors)
- Wildlife: Threatened, Endangered, Proposed or Candidate

## **CHAPTER 2: DESCRIPTION OF ALTERNATIVES**

### **INTRODUCTION**

This EA focuses on the Proposed 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.

### **PROPOSED ACTION**

Gasco proposes to obtain a ROW for the proposed Federal 32-20X-9-19 salt water disposal well, the existing well pad, two 500 barrel water tanks, and two 10-inch surface pipelines. The U.S. EPA has already issued an Underground Injection Control Permit for this disposal well.

### **Existing Roads and Planned Access Road**

The main road ways and access road currently exist. The current roads support the existing natural gas wells in the area. The road is currently under right of way to the county. The Uintah County Community Development Department would be contacted for the necessary County permits. The Uintah County Road Department would be contacted for permits and regulations when crossing or encroaching upon County roads.

### **Location of Existing Well Pad**

The proposed Federal 32-20X-9-19 would be located on an existing pad that has a producing natural gas well the Federal 32-20-9-19. No new surface disturbance would occur, but the existing reserve pit would be re-excavated. The pad would be 240 feet by 480 feet. See Attached Topographic Map "D" and the Location Layout Diagram.

### **Location of Tank Batteries and Production Facilities**

All permanent surface equipment would be painted a Covert Green which is approved by the land management agency. Currently on site is the well head, production equipment and tank battery for the producing natural gas well Federal 32-20-9-19.

Additional equipment for the proposed Federal 32-20X-9-19 would be installed onsite upon approval of the ROW. The proposed equipment would include the Federal 32-20X-9-19 well head and two (2) steel 500 barrel tanks to hold produced water. The Federal 32-20X-9-19 would be drilled to be used for produced water disposal.

Proposed storage tanks batteries would be surrounded by a containment dike of sufficient capacity to contain at a minimum, the entire contents of the largest tank with in the contained area and the amount of precipitation that would accumulate in 24 hours during a 50 year storm event, unless more stringent requirements are necessary as notified by the AO.

A disposal layout would be submitted via sundry upon proven productivity of the well.

Loading/disposal lines would be placed inside the berm/dike surrounding the tank battery or would be designed to control any spill or release.

Any necessary pits would be properly fenced to prevent any wildlife entry.

The access road would be maintained in a safe, usable condition conducive to the climate and seasonal conditions in order to accommodate daily operation of the well and prevent erosion.

Two water pipelines, up to 10-inch poly, would follow the proposed access for approximately 9,691 feet, as detailed in attached Map "D". The water pipelines would be laid on the surface except road crossings where they would be buried to a depth of 3' -5'. The method of coupling would be welded. If any associated pipeline components, such as risers, pig launchers/catchers, meters, valves, etc, are needed they would be contained within the 30 feet needed for construction of the pipeline. The pipelines would be used to transport produced water from Gasco's producing Federal 424-30-9-19 well pad to the proposed disposal well.

It is anticipated that the Federal 32-20X-9-19 would be able to dispose of 1,500 bbls of produced water per day. The produced water would be from Gasco's current producing wells and from the proposed wells to be drilled in the area; Gasco would be the only user of this proposed disposal well.

### **Location and Type of Water**

Water for drilling would come from: Water Right No. 41 -3530. The proposed well would require the use of 900 barrels (0.1 acre-feet) of water for drilling.

Water would be hauled by commercial transport over the access roads shown on Attached Map "D".

No water supply wells would be drilled on this lease.

### **Source of Construction Material**

Any gravel used would be obtained from a commercial source.

The use of materials under BLM jurisdiction would conform to 43 CFR 3610.2.3. No construction materials would be used from Federal lands.

### **Methods of Handling Waste Disposal**

The reserve pit would be double lined with at least 16 mil liner.

All trash would be contained in an enclosed trash container through the drilling, completion, and facility construction phases and its contents removed and hauled to an approved disposal site as needed.

A chemical porta-toilet would be furnished through the drilling, and completion phases.

Drill cuttings are to be contained and buried in the reserve pit.

Any salts and/or chemicals which are an integral part of the drilling system would be disposed of in the same manner as the drilling fluid.

### **Ancillary Facilities**

There are no airstrips, camps or other facilities planned during the drilling of this well except for those facilities needed for drilling rig personal, service providers and company representatives.

### **Plans for Restoration of Surface**

Immediately upon well completion, the location and surrounding area would be cleared of all unused tubing, equipment, materials, trash and debris not required for production.

Upon completion, any hydrocarbon within the reserve pit would be removed in accordance with 43 CFR 3162.7-1.

The reserve pit would be backfilled and reclaimed within 120 days from the well completion.

The reserve pit liner would be perforated and excess liner removed before backfilling.

Alternatively, the pit would be pumped dry, the liner folded into the pit and buried to a minimum of 4' deep.

That portion of the location not needed for production facilities or operations, or any disturbed areas upon final plug and abandonment, would be re-contoured to approximate natural contours and seeded with a seed mixture and procedure specified by the AO. Additionally, the topsoil would be seeded with the same mixture and procedure as specified.

Upon plugging and abandoning or conversion to a different delivery system the pipeline would be removed and any disturbance would be reclaimed as stated in Gasco's approved Reclamation and Weed Control Plan.

### **Surface Ownership**

The proposed access road is a Uintah County Class D road. The well pad is on lands managed by the BLM.

### **Other Information**

A Class III Cultural Resources Inventory Report was conducted in December 2005 by the Grand River Institute. GRI Project No. 25110 when the Federal 32-20-9-19 was approved.

If historic or archeological materials are uncovered during construction, the operator would immediately stop work and contact the AO.

The operator would control noxious weeds along the associated well pads, roads, pipelines, and surface equipment. On BLM administered land it is required that a Pesticide Use Proposal shall be submitted and approved prior to the application of pesticides or herbicides.

Drilling rigs and/or equipment used during drilling operations on this well site would not be stacked or stored on Federal lands after the conclusion of drilling operations or at any other time without BLM authorization.

All lease and unit operations would be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved plan of

operations, and any applicable Notices to Lessees. The operator is fully responsible for the actions of his subcontractors.

A complete copy of the ROW shall be on location during construction and drilling of this site.

### **Applicant Committed Measures**

The surface pipeline will be buried to the depth of scour point through a small section of the Eight Mile Flat 100 year floodplain located in Section 29 of Township 9 South Range 19 East.

Erosion controls (i.e. wattles, check dams, etc.) would be implemented for the pad, road and surface pipeline.

### **Bond**

Concerns are occasionally raised as to how BLM would ensure that mitigation measures would be satisfactorily completed in the event that the applicant were issued a ROW grant and for whatever reason either did not comply with the terms and conditions of the grant, or was unable to rehabilitate the ROW area upon termination of the grant. To respond to these concerns, BLM would require a performance bond prior to allowing any surface disturbing actions. National BLM direction to require ROW bonds is contained in draft BLM Manual 2805.12(d). The performance bond would be of sufficient amount to ensure that mitigation and rehabilitation measures were effectively and satisfactorily completed by BLM in the event of default by the holder. The performance bond would be periodically reviewed to ensure sufficiency.

### **NO ACTION ALTERNATIVE**

The No Action Alternative would be to deny the application as proposed. With this alternative BLM would not approve the right of way and the applicant would not be allowed to drill their disposal well or install their pipelines.

# CHAPTER 3: AFFECTED ENVIRONMENT

## INTRODUCTION AND GENERAL SETTING

The affected environment was considered and analyzed by an interdisciplinary team as documented in the Interdisciplinary Team Checklist. The checklist indicates which resources of concern are either not present in the project area or would not be impacted to a degree that requires detailed analysis. Resources which could be impacted to a level requiring further analysis are described in Chapter 3 and impacts on these resources are analyzed in Chapter 4.

### Air Quality and Greenhouse Gases

The Project Area is located in the Uinta Basin, a semiarid, mid-continental climate regime typified by dry, windy conditions, limited precipitation and wide seasonal temperature variations. The Uinta Basin is subject to abundant sunshine and rapid nighttime cooling. The Uinta Basin is designated as unclassified/attainment by the EPA under the Clean Air Act. This classification indicates that adequate air monitoring is not available to determine attainment or that the concentration of criteria pollutants in the ambient air is below National Ambient Air Quality Standards (NAAQS). NAAQS are standards that have been set for the purpose of protecting human health and welfare with an adequate margin of safety. Pollutants for which standards have been set include ground level ozone, (O<sub>3</sub>), sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), and carbon monoxide (CO), and particulate matter less than 10 microns in diameter (PM<sub>10</sub>) or 2.5 microns in diameter (PM<sub>2.5</sub>). Airborne particulate matter (PM) consists of tiny coarse-mode (PM<sub>10</sub>) or fine-mode (PM<sub>2.5</sub>) particles or aerosols combined with dust, dirt, smoke, and liquid droplets. PM<sub>2.5</sub> is derived primarily from the incomplete combustion of fuel sources and secondarily formed aerosols, whereas PM<sub>10</sub> 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 Ambient Air Quality Background Values**

Pollutant	Averaging Period(s)	Uinta Basin Background Concentration (µg/m <sup>3</sup> )	NAAQS (µg/m <sup>3</sup> )
SO <sub>2</sub>	Annual	0.8 <sup>2</sup>	-- <sup>1</sup>
	24-hour	3.9 <sup>2</sup>	-- <sup>1</sup>
	3-hour	10.1 <sup>2</sup>	1,300
	1-hour	19.0 <sup>2</sup>	197
NO <sub>2</sub>	Annual	8.1 <sup>3</sup>	100
	1-hour	60.2 <sup>3</sup>	188
PM <sub>10</sub>	Annual	7.0 <sup>4</sup>	-- <sup>6</sup>
	24-hour	16.0 <sup>4</sup>	150
PM <sub>2.5</sub>	Annual	9.4 <sup>3</sup>	15
	24-hour	17.8 <sup>3</sup>	35
CO	8-hour	3,450 <sup>4</sup>	10,000
CO	1-hour	6,325 <sup>4</sup>	40,000
O <sub>3</sub>	8-hour	100.0 <sup>3,5</sup>	75

1 – The 24-hour and annual SO<sub>2</sub> NAAQS have been revoked by USEPA  
2 – Based on 2009 data from Wamsutter Monitoring Station Data (USEPA AQS Database)  
3 – Based on 2010/2011 data from Redwash Monitoring Station (USEPA AQS Database)  
4 – Based on 2006 data disclosed in the Greater Natural Buttes FEIS. (BLM, 2012)  
5 – Ozone is measured in parts per billion (ppb)  
6 – The annual PM<sub>10</sub> NAAQS has been revoked by USEPA

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

- Exhaust emissions (primarily CO, NO<sub>x</sub>, PM<sub>2.5</sub>, and HAPs) from existing natural gas fired compressor engines used in transportation of natural gas in pipelines;
- Natural gas dehydrator still-vent emissions of CO, NO<sub>x</sub>, PM<sub>2.5</sub>, and HAPs;
- Gasoline and diesel-fueled vehicle tailpipe emissions of VOCs, NO<sub>x</sub>, CO, SO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>;
- Oxides of sulfur (SO<sub>x</sub>), NO<sub>x</sub>, fugitive dust emissions from coal-fired power plants, and coal mining/ processing;
- Fugitive dust (in the form of PM<sub>10</sub> and PM<sub>2.5</sub>) 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.

Two year-round air quality monitoring sites were established in summer 2009 near Red Wash (southeast of Vernal, Utah) and Ouray (southwest of Vernal). The monitors were certified as Federal Reference Monitors in fall of 2011. These monitors can be used to make NAAQS compliance determinations. The complete EPA Ouray and Redwash monitoring data can be found at: <http://www.epa.gov/airexplorer/index.htm>

Both monitoring sites have recorded numerous exceedences of the 8-hour ozone standard during the winter months (January through March 2010, 2011, and 2013). 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<sub>x</sub> and VOCs), can create intense episodes of ozone. The exceedences did not occur in 2012 due to a lack of snow cover. This phenomenon has also been observed in similar locations in Wyoming. 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 reliably replicate winter ozone formation. 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<sub>2.5</sub> in Vernal, Utah in December 2006. During the 2006-2007 winter season, PM<sub>2.5</sub> levels were higher than the PM<sub>2.5</sub> health standards that became effective in December 2006. The PM<sub>2.5</sub> levels recorded in Vernal were similar to other areas in northern Utah that experience wintertime inversions. The most likely causes of elevated PM<sub>2.5</sub> 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<sub>2.5</sub> 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.

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, ethyl benzene, isomers of xylene (BTEX) compounds, and normal-hexane (n-hexane). There are no applicable Federal or State of Utah ambient air quality standards for assessing potential HAP impacts to human health.

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

The analysis of the Regional Climate Impacts prepared by the U.S. Global Change Research Program (USGCRP 2009) 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.

### **Invasive Plants/Noxious Weeds, Soils, and Vegetation**

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

### **Paleontology**

Scientifically important fossils were found along the pipeline in in Sec 29 (IPC #12-143, Oct. 24, 2012). No scientifically important fossils were found along the proposed pipeline in Sec 20 (IPC #13-20, April 15, 2013).

### **Plants: Candidate, Proposed, Threatened, or Endangered Plant Species**

#### **Uinta Basin hookless cactus (*Sclerocactus wetlandicus*)**

Uinta Basin hookless cactus is a perennial herb and a member of the cactus family. It is federally listed as threatened and is endemic to the Uinta Basin. It consists of a perennial succulent shoot, solitary or rarely branching, globose, ovoid or cylindrical. Individuals are usually 3 to 9 centimeters in diameter and 4 to 12 centimeters tall. Each spine cluster, areoles, usually consists of one large (15 to 29 millimeters) central spine, three to four lateral central

spines and six to ten radial spines. From late April to May, Uinta Basin hookless cactus produces 2.5 to 5-centimeter high pink to violet flowers.

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

The proposed project is located entirely within an area that the US Fish and Wildlife Service (USFWS) has identified as being potential habitat for Uinta Basin hookless cactus. Surveys performed by SWCA Environmental Consultants in August 2012 identified no individuals within 300 feet of the proposed surface disturbance

**Wildlife: Migratory Birds including Raptors**

All raptors, mountain plovers, 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 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.

Migratory bird species commonly associated with the sagebrush-steppe community that may inhabit the project area are identified in Table 3-2. Those species classified as High-Priority birds by Utah Partners in Flight (Parrish et al 2002) are denoted by an asterisk (\*). Without conducting comprehensive migratory bird surveys, it is not known if these species are present or not. Species listed below are based on GIS reviews, and a field review during onsite inspections.

**Table 3-2 Sagebrush-steppe Community Migratory Bird Species<sup>1</sup>**

Common Name	Scientific Name
Mountain bluebird*	<i>Sialia currucoides</i>
Grasshopper sparrow*	<i>Ammodramus savannarum</i>
Brewer’s sparrow*	<i>Spizella breweri</i>
Sage sparrow*	<i>Amphispiza belli</i>
Sage thrasher*	<i>Oreoscoptes montanus</i>
Green-tailed towhee*	<i>Pipilo chlorurus</i>
Horned lark	<i>Eremophila alpestris</i>
Loggerhead shrike	<i>Lanius ludovicianus</i>
Western kingbird	<i>Tyrannus verticalis</i>
Northern mockingbird	<i>Mimus polyglottos</i>
Vesper sparrow	<i>Pooecetes gramineus</i>

Common Name	Scientific Name
Western meadowlark	<i>Sturnella neglecta</i>

<sup>1</sup>Source: Parrish et al 2002

\*Utah Partners-in-Flight (UPIF) priority bird species.

## **Wildlife: Non-USFWS Designated**

### **Special Status Fish**

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

## **Wildlife: Threatened, Endangered, Proposed or Candidate**

### **Colorado River Fish Species**

This project would remove water for the Green River or White River in order to drill the wells and hydrostatically pressure test the pipelines. The U.S. Fish and Wildlife Service (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

This section analyzes the impacts of the proposed action to those potentially impacting resources described in the affected environment Chapter 3, above.

### PROPOSED ACTION

#### Air Quality and Greenhouse Gases

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 unclassified/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.

**Table 4-1 Proposed Action Annual Emissions (tons/year)<sup>1</sup>**

Pollutant	Development
NO <sub>x</sub>	3.8
VOC	0.1
CO	2.2
SO <sub>2</sub>	0.005
PM <sub>10</sub>	1.7
PM <sub>2.5</sub>	0.4
Benzene	0.0022
Toluene	0.0016
Ethylbenzene	0.0022
Xylene	0.0016
n-Hexane	0.00034
Formaldehyde	0.0011

<sup>1</sup> Emissions include one well and associated operations traffic during the year in which the project is developed.

Well development includes NO<sub>x</sub>, SO<sub>2</sub>, and CO tailpipe emissions from earth-moving equipment, vehicle traffic, drilling, and completion activities. 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<sub>x</sub> and CO emissions, with lesser amounts of SO<sub>2</sub>. These emissions would be during the drilling and completion phases.

During well production, continuous NO<sub>x</sub>, CO, VOC, and HAP emissions would originate from tailpipe and fugitive dust emissions from operations traffic. Road dust (PM<sub>10</sub> and PM<sub>2.5</sub>) would also be produced by vehicles servicing the wells.

Under the proposed action, emissions of NO<sub>x</sub> and VOC, ozone precursors, are 3.8 tons/yr for NO<sub>x</sub>, and 0.1 tons/yr of VOC. 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. Small amounts of HAPs are emitted by construction equipment. The below mitigation measures would further reduce emissions.

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 Measures***

- All internal combustion equipment would be kept in good working order.
- Water or other approved dust suppressants would be used at construction sites and along roads, as determined appropriate by the Authorized Officer.
- Open burning of garbage or refuse would not occur at well sites or other facilities.
- Drill rigs would be equipped with Tier II or better diesel engines

### **Invasive Plants/Noxious Weeds, Soils, and Vegetation**

The Proposed Action pipeline installation would disturb less than 6.7 acres of soils and vegetation. Impacts would primarily include crushing of vegetation and minor soil disturbance. In some places (where the pipeline is buried under the wash or a road), 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. Under the Proposed Action, reclamation would occur on 100 percent of the total disturbance after pipelines are installed. Impacts from weeds would be mitigated by reclamation of disturbed areas with native vegetation and control of noxious and invasive weeds by mechanical and chemical treatment (see Chapter 2).

### ***Mitigation Measures***

- All reclamation activities will comply with the Green River Reclamation Guidelines
- All vehicles and equipment shall be cleaned either through power-washing, or other approved method, if the vehicles or equipment were previously operated outside the Uinta Basin, to prevent weed seed introduction.
- All disturbance areas shall be monitored for noxious weeds annually, for a minimum of three growing seasons following completion of project or until desirable vegetation is established
- Noxious and invasive weeds will be controlled by the proponent throughout the area of project disturbance.

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

### **Paleontology**

The proposed pipeline was surveyed for paleontology resources. Outcrops and erosional surfaces were checked within the proposed construction areas to determine if scientifically important fossils, generally vertebrate fossils, were present and to assess needs when found. Scientifically important fossils were found along the pipeline in in Sec 29 (IPC #12-143, Oct. 24, 2012). The probability for impacting significant paleontological resources during construction was determined to be moderate to high. Impacts could include fossils that crushed, broken, or moved out of place.

Monitoring the construction in areas where significant fossils were found and notifying the BLM VFO if fossils are found will help to mitigate adverse impacts to paleontological resources from this project. If scientifically important fossils are found during monitoring, they will be removed from the area and be taken to a museum for curation. A monitoring report will be then issued by the permitted paleontologist regarding what was found.

### ***Mitigation Measures***

- A BLM permitted paleontologist must monitor any ground disturbing activities along the pipeline in Section 29.

### **Plants: Candidate, Proposed, Threatened, or Endangered Plant Species**

#### **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, loss of habitat and forage opportunities for pollinators of the species, 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 action is within the scope of the Formal Section 7 Consultation completed for the Gasco EIS. Therefore, consultation on the impacts resulting from the Proposed Action has already been completed.

### ***Discovery Stipulation***

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

### **Wildlife: Migratory Birds Including Raptors**

Implementation of the Proposed Action would have minimal impacts to migratory bird species as there is minimal new surface disturbance. Impacts would be short term and would occur during drilling and until reclamation efforts are successful in accordance with the Reclamation Plan. Other potential impacts to raptors and migratory bird species could include: poaching, collisions with vehicles, and indirect disturbance from human activity (including harassment, displacement, and noise). If activities occur in the spring during the nesting season of most migratory birds, impacts would be greater than if development occurred late summer through late winter. Impacts during the spring could include nest abandonment, reproductive failure, displacement, and destruction of nests.

### **Wildlife: Non-USFWS Designated**

#### **Special Status Fish**

The analysis for the three special status fish species excluding USFWS designated species is the same as the analysis for threatened, endangered or candidate animal species (see below); 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**

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

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

The potential exists for water intake structures placed in the Upper Colorado River Drainage System (flowing rivers and streams) to result in mortality to eggs, larvae, young-of-the-year, and juvenile life stages. BLM and their applicants would minimize this potential by following 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 of 0.1 acre-feet 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.

### ***Conservation Measures***

- 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**

#### **Air Quality and Greenhouse Gases**

Under the no action alternative, no impacts to air quality would occur.

#### **Invasive Plants/Noxious Weeds, Soils, and Vegetation**

Under the No Action Alternative, there would be no direct disturbance or indirect effects to soils and vegetation from surface-disturbing activities associated with proposed action. Invasive plants/noxious weeds would remain at current levels. Current land use trends in the area would continue, including increased industrial development, increased off-highway vehicles (OHV) traffic, and increased recreation use for hunting, fishing, bird watching, and sightseeing.

#### **Paleontology**

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

## **Plants: Candidate, Proposed, Threatened, or Endangered Plant Species**

### **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 Including Raptors**

Under the no action alternative, there would be no direct disturbance or indirect effects to migratory birds. 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 special status fish species. 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 the proposed 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**

### **Air Quality and Greenhouse Gases**

The cumulative impact area for air quality is the Uinta Basin. 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 (GNB) air quality study, which is the most recent regional air model available for the Uinta Basin, and the GNB Final EIS section 5.3.1 (BLM 2012c), is incorporated by reference and summarized below. The GNB Final EIS 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 4-2 summarizes the 2006 Uinta Basin emissions as well as the incremental impact of this project's alternatives. 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 <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (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
<b>Uinta Basin Total</b>	<b>10,754</b>	<b>7,800</b>	<b>391</b>	<b>592</b>	<b>70,226</b>
Proposed Action	3.8	2.2	0.005 (SO <sub>2</sub> )	1.7 PM <sub>10</sub> 0.4 PM <sub>2.5</sub>	0.1
No Action	0	0	0	0	0

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 are anticipated under the GNB Final EIS proposed action;
- The GNB Final EIS proposed action would contribute less than 1 percent to the acid deposition in Class I areas, and 4.3 percent at the Flaming Gorge Class II area;
- Project-related acid deposition impacts at sensitive lakes were below the USFS screening threshold; and,
- Ozone levels are below the current ozone standard of 75 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.

### Greenhouse Gases

Inconsistent results based on scientific models used to predict global climate change prohibit the BLM from quantifying cumulative impacts. Drilling and development activities from the Proposed Action are anticipated to release a negligible amount of greenhouse gases, into the local airshed, resulting in a negligible cumulative impact. 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 up to 6.7 acres of new surface disturbance. The No Action Alternative would not result in an accumulation of impacts.

**Paleontology**

This project is in the Gasco EIS project area (Gasco 2012a), and this is considered the area of cumulative impact. Cumulative impacts are incorporated by reference to section 4.18.3 of that EIS. This area has a history of oil/gas well and pipeline development. Other roads, powerlines, and pipelines associated with the oil industry already cross this area. Historically, fossil resources have been protected during oil field development by conducting paleo surveys and applying the required mitigation measures.

Since the Gasco EIS project area is being actively developed and will continue to be in the near future, various methods of mitigation and current laws should protect fossil resources in this area, now as well as in the future. The proposed action would add surface disturbance from pipeline construction, but monitoring would minimize the potential for impacts to paleontological resources. The No Action alternative would not result in an accumulation of impacts.

**Plants: Candidate, Proposed, Threatened, or Endangered Plant Species**

**Uinta Basin hookless cactus (*Sclerocactus wetlandicus*)**

The CIAA for Uinta Basin hookless cactus is the area delineated by the USFWS as potential habitat for the species. This area covers approximately 537,564 acres on BLM, Ute tribal, state of Utah, and privately held lands. Within the CIAA, there are approximately 1,875 miles of roads. Past, present and reasonably foreseeable disturbance from oil and gas will affect 44,674 acres (8.3%), as shown below. 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.

**Table 4-3 Cumulative Impacts to Uinta Basin hookless cactus potential habitat**

	<b>Project Area Acreage</b>	<b>Surface Disturbance Analyzed</b>	<b>Project Area Acreage within the CIAA</b>	<b>Surface Disturbance within the CIAA<sup>1</sup></b>
<b>Ongoing Field Development</b>				
Chapita Wells-Stagecoach Area	31,872	1,735	22,678	1,235
Gasco Natural Gas Field Development EIS	236,165	3,604	77,339	1,180
Greater Deadman Bench Oil and Gas	98,785	1,239	22,444	282

	<b>Project Area Acreage</b>	<b>Surface Disturbance Analyzed</b>	<b>Project Area Acreage within the CIAA</b>	<b>Surface Disturbance within the CIAA<sup>1</sup></b>
Producing Region EIS				
Greater Natural Buttes Project EIS	162,911	8,147	97,529	4,877
North Alger Natural Gas Expansion Project EA	2,320	192	943	78
North Chapita Natural Gas Well Development Project EA	31,872	1,735	9,191	500
River Bend Unit Infill Development EA	17,719	924	14,892	823
Rock Point EDA Leasing and Exploratory Drilling EA	92,098	340	11,344	42
Saddletree Draw Leasing and Rock House Development EA	4,826	106	4,774	105
West Bonanza Area Natural Gas Well Development Project EA	24,813	608	1,070	26
West Tavaputs EIS	137,930	1,603	30,704	357 acres
<b>Past Developments and Current and Future Developments Not Covered by a Field Development NEPA Document</b>				
729 abandoned wells <sup>3</sup>	NA <sup>4</sup>	NA	NA	3,565 acres
5,239 existing wells <sup>3</sup>	NA	NA	NA	19,158 acres
752 proposed well <sup>3</sup>	NA	NA	NA	2,377 acres
<b>Field Development Proposals</b>				
Greater Chapita Wells Natural Gas Infill Project EIS	40,027	3,696	31,741	2,931
Monument Butte Area Oil and Gas Development Project EIS	119,850	15,612	43,964	5,727

	<b>Project Area Acreage</b>	<b>Surface Disturbance Analyzed</b>	<b>Project Area Acreage within the CIAA</b>	<b>Surface Disturbance within the CIAA<sup>1</sup></b>
Randlett EDA Area Programmatic Leasing and Exploration Project	53,380	2,613	28,817	1,411
<b>Total CIAA disturbance from oil and gas</b>				
	--	--	--	44,674 acres (8.3%)
<b>Current Project</b>				
Proposed Action	NA	NA	NA	Included within the Gasco EIS
No Action	NA	NA	NA	0
<b>Total CIAA disturbance from oil and gas</b>				
	--	--	--	44,674 acres (8.3%)
<sup>1</sup> Assumes surface disturbance was authorized evenly across the analysis area of the document.				
<sup>2</sup> Uses the assumption contained within the Greater Uinta Basin Cumulative Impacts Technical Support Document.				
<sup>3</sup> As of 4/8/2013				
<sup>4</sup> NA = not applicable				

Due to inclusions of areas of unsuitable habitat within the potential habitat area, the total acreage of suitable habitat is less than 537,564 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: Non-USFWS Designated; Migratory Birds and Raptors; and Threatened, Endangered, or Candidate Species**

The CIAA is the Vernal RMP area. Cumulative impacts are incorporated by reference to section 4.18.3.15 of the Gasco EIS. Cumulative impacts include decreased available cover, carrying capacity, foraging opportunities, breeding habitat, and habitat productivity for migratory birds. 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 minimal new surface disturbance from pipeline construction. The No Action Alternative would not result in an accumulation of impacts.

**Colorado River Fish Species – Special Status and Endangered**

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 include decreased water quality and quantity, decreased habitat quality, habitat fragmentation, and mortality result from decreased stream flow, erosion, improperly placed culverts, elevated salinity, and contamination. Decreased stream-flows reduce or eliminate both the extent and quality of suitable habitat by increasing stream temperatures, and subsequently by reducing dissolved oxygen levels. Such impacts may be more pronounced during periods of natural cyclic flow reductions (fall and winter or periods of drought). A loss of stream flow can also reduce a stream's ability to transport sediment downstream. The Proposed Action would add 0.1 acre-feet for the drilling of this well. The No Action Alternative would not result in an accumulation of impacts.

## **CHAPTER 5: CONSULTATION AND COORDINATION**

### **PUBLIC PARTICIPATION**

The proposed action was posted to the public Environmental Notification Bulletin Board with its assigned NEPA number on May 22, 2013. A 15-day public comment period was held from June 7, 2013 through June 24, 2013. One comment letter was received from Southern Utah Wilderness Alliance. One comment letter was received from Uintah County. Comments and responses are included in Appendix C.

### **LIST OF PREPARERS**

See Interdisciplinary Team Checklist

### **CONSULTATIONS**

#### **Fish and Wildlife Service**

This project is within the scope of the Endangered Species Act Section 7 Consultation conducted for the Gasco EIS for both Uinta Basin hookless cactus and Colorado River fish. No further consultation is needed.

#### **Utah State Historic Preservation Office**

Consultation under the National Historic Preservation Act Section 106 was conducted with the Utah State Historic Preservation Office. Concurrence on a No Historic Properties Affected determination was received on April 25, 2005.

#### **Native American Tribes**

Consultation with the Native American Tribes that have cultural or historic ties to the Uinta Basin was conducted during preparation of the Gasco EIS. This project falls within the scope of that consultation. No new sites were discovered, so no further consultation is needed.

## **CHAPTER 6: REFERENCES, GLOSSARY AND ACRONYMS**

### **REFERENCES CITED:**

BLM. 2012a. Final Environmental Impact Statement for the GASCO Energy Inc. Uinta Basin Natural Gas Development Project. March 2012.

BLM. 2012b. Record of Decision for the GASCO Energy Inc. Uinta Basin Natural Gas Development Project. June 2012.

BLM. 2012c. Final Environmental Impact Statement for the Greater Natural Buttes Project. March 2012.

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

BLM 1997. Standards for Rangeland Health and Guidelines for Grazing Management on BLM Lands in Utah. U.S. Department of the Interior, Bureau of Land Management. Washington. D.C. May 20.

British Meteorological Office (BMO 2009) British Meteorological Office's Hadley Centre, 2009. Accessed January 2009 at <http://www.metoffice.gov.uk/climatechange/science/monitoring/>.

Parrish, J.R., F.P. Howe and R.E. Norvell. 2002. Utah Partners in Flight Avian Conservation Strategy Version 2.0. Utah Partners in Flight Program, Utah Division of Wildlife Resources, 1594 West North Temple, Salt Lake City, Utah 84116. UDWR Publication Number 02-27. i – xiv + 302 pp.

Uintah County. 2011. Uintah County General Plan, as amended.

U.S. Fish & Wildlife Service (USFWS). 1994. Final Rule: Determination of Critical Habitat for the Colorado River Endangered Fishes: Razorback sucker, Colorado squawfish, Humpback chub, and Bonytail chub. Federal Register 59: 13375-13400.

### **LIST OF ACRONYMS USED IN THIS EA:**

BLM	Bureau of Land Management
DR	Decision Record
EA	Environmental Assessment
EIS	Environmental Impact Statement
ENBB	Environmental Notification Bulletin Board
FLPMA	Federal land Policy and Management Act of 1976
FONSI	Finding of No Significant Impact
ID	Interdisciplinary

NEPA	National Environmental Policy Act
RFA	Reasonably Foreseeable Action
RMP	Resource Management Plan
ROD	Record of Decision
ROW	Right-of-Way

## APPENDIX A: INTERDISCIPLINARY TEAM CHECKLIST

**Project Title:** Gasco Energy Inc. SWD well 32-20X-9-19 co-located on existing well pad (32-20-9-19), installation of two 500 barrels, two 10 inch surface pipelines.

**NEPA Log Number:** DOI-BLM-UT-G010-2013-172-EA

**File/Serial Number:** UTU-89376

**Project Leader:** Cindy McKee

**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
<b>RESOURCES AND ISSUES CONSIDERED (INCLUDES SUPPLEMENTAL AUTHORITIES APPENDIX 1 H-1790-1)</b>				
PI	Air Quality & Greenhouse Gas Emissions	Dust and other emissions would occur from vehicles supporting the proposed installation and the drilling rig. 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.	Stephanie Howard	5/22/2013
NI	BLM Natural Areas	No BLM natural areas are present in the project area per the Vernal RMP.	Jason West	April 10, 2013
NP	Cultural: Archaeological Resources	SHPO Concurrence on a No Historic Properties Affected determination on 4-25-05.	Jimmie Mckenzie	3-14-13
NP	Cultural: Native American Religious Concerns	No known TCPs are in the project area, and Native American access will not be restricted.	Jimmie Mckenzie	3-14-13
NP	Designated Areas: Areas of Critical Environmental Concern	None present as per GIS layer and RMP review	Jason West	April 10, 2013
NP	Designated Areas: Wild and Scenic Rivers	None present as per GIS and RMP review	Jason West	April 10, 2013
NP	Designated Areas: Wilderness Study Areas	No wilderness areas have been designated by the U. S. Congress on BLM lands in the VFO.	Jason West	April 10, 2013
NI	Environmental Justice	No minority or economically disadvantaged communities or populations would be disproportionately adversely affected by the proposed action or alternatives	Cindy McKee	3-11-2013
NI	Farmlands (prime/unique)	No prime or unique farmlands (irrigated lands) are located in the project area; therefore this resource will not be carried forward for analysis.	Cindy McKee	3-11-2013

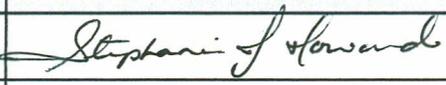
Determination	Resource/Issue	Rationale for Determination	Signature	Date
NI	Fuels/Fire Management	There are no planned fuels projects in the immediate area. Disturbance in this vegetation type could increase the amount of invasive plants, specifically <i>Bromus tectorum</i> . The increase of <i>Bromus tectorum</i> could lead to a change of ecosystem dynamics and an increase in fire frequency. Applying the Green River District Reclamation Guidelines should prevent additional hazardous fuels.	Blaine Tarbell	4/08/2013
NI	Geology/Minerals/Energy Production	<p>Known gilsonite veins trend through this area. The nearest vein is about ½ mile to the northeast. 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, gilsonite, oil shale and tar sand are the only mineral resources that could be impacted by the project. Production of natural gas or oil would deplete reserves, but the proposed project allows for the recovery of natural gas and oil per 43 CFR 3162.1(a), under the existing Federal lease. Compliance with “Onshore Oil and Gas Order No. 2, Drilling Operations” 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 wells completion techniques, the possibility of adverse degradation of tar sand or oil shale deposits by the proposed action would be negligible.</p> <p>Wells completion must be accomplished in compliance with “Onshore Oil and Gas Order No. 2, Drilling Operations”. These guidelines specify the following: ... <i>proposed casing and cementing programs shall be conducted as approved to protect and/or isolate all usable water zones, potentially productive zones, lost circulation zones, abnormally pressured zones, and any prospectively valuable deposits of minerals. Any isolating medium other than cement shall receive approval prior to use.</i><sup>3</sup></p> <p>Engineering/Drilling plan is OK.</p>	Andy McCormick	4/15/2013
PI	Invasive Plants/Noxious Weeds, Soils & Vegetation	<p>Less than 6.7 acres of new soil disturbance would occur during construction until reclamation is successful. Any disturbed soils would be re-contoured and reseeded.</p> <p>There would be less than 6.7 acres of vegetation disturbance.</p> <p>Proposed disturbance would provide suitable habitat for the establishment and spread of non-native plant species. Operator would control invasive species along roads, pipeline corridors, and on well pads, as discussed in Chapter 2.</p>	David Gordon	4/19/13
			Mike Riches	4/23/13

Determination	Resource/Issue	Rationale for Determination	Signature	Date
NI	Lands/Access	The main access to this well is via a Uintah County Class D Road as shown on the Uintah County Transportation Map, no upgrades would be required to this road. The spur off of the Uintah County claimed road is currently approved under the APD for Federal Well 32-20-9-19, however, it would now need to be included in this ROW, if approved, for the Salt Water Disposal well 32-20X-9-19. Existing ROW holders are present in the proposed area and BLM notified the ROW holders of the proposed action. No concerns were identified	Cindy McKee	3-11-2013
NP	Lands with Wilderness Characteristics (LWC)	None present as per GIS and RMP review	Jason West	April 10, 2013
NI	Livestock Grazing & Rangeland Health Standards	Proposed project is within the Wetlands Grazing Allotment. The area where the pad already exists is bisected by numerous roads and other oil and gas projects. No new disturbance would occur other than increasing the traffic on the already existing road.	Alec Bryan	3-13-2013
PI	Paleontology	Scientifically important fossils were found along the pipeline in in Sec 29 (IPC #12-143, Oct. 24, 2012) No scientifically important fossils were found along the proposed pipeline in Sec 20 (IPC #13-20, April 15, 2013).	Elizabeth Gamber	4/22/2013
NI	Plants: BLM Sensitive	The following UT BLM sensitive plant species are present or expected within the same or an adjacent subwatershed as the proposed project: <i>Yucca sterilis</i> . <ul style="list-style-type: none"> <li>Sandy soils in the vicinity of the proposed project may provide suitable habitat for Sandy soils in the vicinity of the proposed project may provide suitable habitat for <i>Yucca sterilis</i>. During surveys, no populations were identified in the vicinity of the proposed project. Given the exclusively clonal nature of the species, the potential for future establishment is negligible.</li> </ul>	Aaron Roe	04/26/2013
PI	Plants: Threatened, Endangered, Proposed, or Candidate	The following candidate, propose, or federally listed plant species are present or expected in the same or an adjacent subwatershed as the proposed project: Graham's penstemon ( <i>Penstemon grahamii</i> ), clay reed-mustard ( <i>Schoenocrambe argillacea</i> ), shrubby reed-mustard ( <i>Schoenocrambe suffrutescens</i> ), Pariette cactus ( <i>Sclerocactus brevispinus</i> ), and Uinta Basin hookless cactus ( <i>Sclerocactus wetlandicus</i> ). <ul style="list-style-type: none"> <li>The Green River formation is not present in the vicinity of the proposed project. Therefore, there is no potential habitat for Graham's penstemon.\</li> <li>The Green River formation is not present in the vicinity of the proposed project. Therefore, there is no potential habitat for clay reed-mustard.</li> <li>The Green River formation is not present in the vicinity of the proposed project. Therefore, there is no potential habitat for shrubby reed-mustard</li> <li>As currently understood, Pariette cactus is restricted to Pariette and Castle Peak Washes and the surrounding benches.</li> </ul>	Aaron Roe	04/26/2013

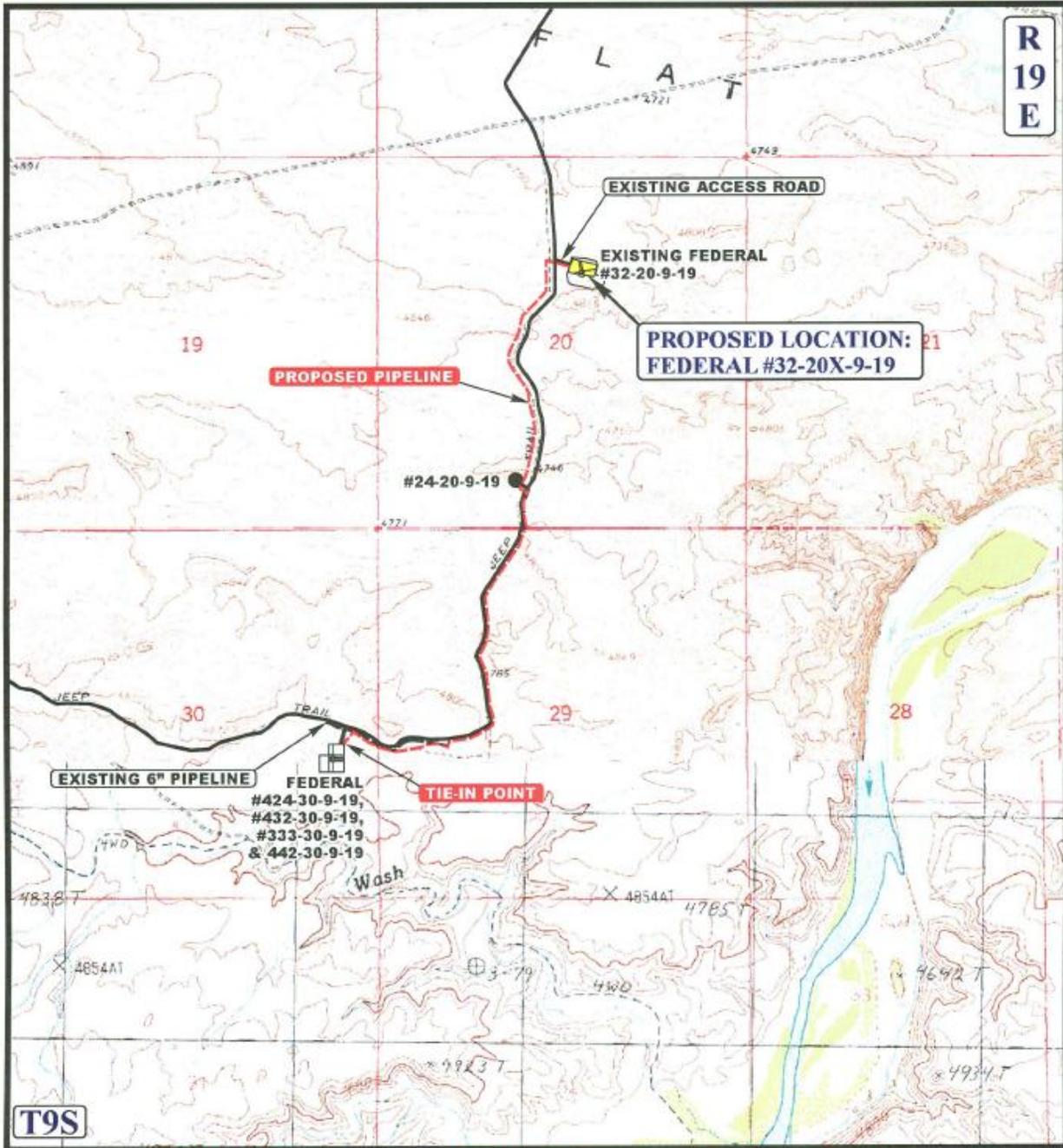
Determination	Resource/Issue	Rationale for Determination	Signature	Date
		<p>Therefore, the proposed project is located outside of the potential range for the species.</p> <ul style="list-style-type: none"> <li>The proposed project is located within potential habitat for Uinta Basin hookless cactus.</li> </ul>		
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.	Dave Gordon	4/19/13
NI	Recreation	The proposed project is within the Extensive Recreation Management area bordering Pariette Wetlands. It is anticipated that truck traffic will increase in the area which is heavily dominated by oil and gas traffic. Limited recreation takes place at Pariette outside of bird watching/hunting season. Because limited recreation takes place and the majority of road use in the area is related to oil and gas, it is not anticipated that additional oil and gas traffic will create impacts to the general recreating public.	Jason West	4/24/2013
NI	Socio-Economics	No impact to the social or economic status of the county or nearby communities would occur from this project due to its small size in relation to ongoing development throughout the basin.	Cindy McKee	3-11-2013
NI	Visual Resources	Proposed project is located within VRM Class IV per VFO GIS data base, the action would be allowed under class IV objectives	Jason West	April, 10, 2013
NI	Wastes (hazardous/solid)	No chemicals subject to reporting under SARA Title III in amounts greater than 10,000 pounds would be used, produced, stored, transported, or disposed of annually in association with the project. Trash and other waste materials would be cleaned up and removed immediately after completion of operations.	Cindy McKee	3-11-2013
NI	Water: Floodplains	The pipeline route is proposed to cross the Eight Mile Flat 100-year floodplain. The plan of development indicates that the pipeline would be buried below the depth of scour where the pipeline would cross the floodplain. This would allow the pipeline to function without being inundated with water or debris. Erosion controls (e.g. wattles/check dams, etc...) would also be implemented to protect soils from being introduced into the floodplain. These features would be implemented along the road, well-pad, and as needed along the surface pipeline.	Mark Wimmer	05/21/2013
NI	Water: Groundwater Quality	This is a surface pipeline and groundwater will not be affected.	Elizabeth Gamber	3/18/2013
NI	Water: Hydrologic Conditions (stormwater)	The soils within the project area are prone to erosion during high-intensity/short-duration rainfall events and during run-off in the late winter and early spring. Erosion controls are described in the plan of development (e.g. wattles/check dams, etc...) and would be implemented to protect the area from undue erosion. These features would be implemented along the road, well-pad, and as needed along the surface pipeline. Consequently, impacts to hydrologic conditions in the project area would be mitigated.	Mark Wimmer	05/21/2013
NI	Water: Surface Water Quality	The project area contains ephemeral drainages that lie within the Green River watershed. During high-	Mark Wimmer	05/21/2013

Determination	Resource/Issue	Rationale for Determination	Signature	Date
		intensity/short-duration rainfall events and during runoff in the late winter and early spring, increased runoff and sediment can reach the Green River, degrading surface water quality in the project area. However, erosion controls are described in the plan of development (e.g. wattles/check dams, etc...) would be implemented to mitigate impacts to surface water quality. These features would be implemented along the road, well-pad, and as needed along the surface pipeline.		
NI	Water: Waters of the U.S.	Waters of the U.S. are present in the project area (e.g. drainages). No dredge or fill activities are proposed in these drainages with the exception of the Eight Mile Drainage, where the pipeline would be buried below the scour depth. As a term and condition of the right of way grant, the proponent is required to obtain all necessary 404 permits to properly bury the pipeline effectively mitigating impacts to Waters of the U.S.	Mark Wimmer	05/21/2013
NP	Wild Horses	No herd areas or herd management areas are present per VFO GIS data Base.	Cindy McKee	3-11-2013
PI	Wildlife: Migratory Birds (including raptors)	Migratory birds are present. No known raptor nest within project area.	Dan Emmett	3/26/2013
NP	Wildlife: Non-USFWS Designated	No non-USFWS designated species or habitat within project area. Water depletion will occur.	Dan Emmett	3/26/2013
PI	Wildlife: Threatened, Endangered, Proposed or Candidate	Water depletion will occur. No designated T&E species or habitat within project area.  Is the proposed project in sage grouse PPH or PGH? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If the answer is yes, the project must conform with WO IM 2012-043.	Dan Emmett	3/26/2013
NP	Woodlands/Forestry	None present per review of site photo	Dave Palmer	4/10/2013

**FINAL REVIEW:**

Reviewer Title	Signature	Date	Comments
Environmental Coordinator		7/10/13	
Authorized Officer		7/19/2013	

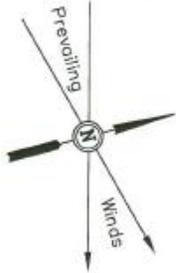
## **APPENDIX B: MAP OF PROJECT AREA**



**APPROXIMATE TOTAL PIPELINE DISTANCE = 9,691' +/-**

<b>LEGEND:</b> EXISTING ROAD EXISTING PIPELINE PROPOSED PIPELINE		<b>GASCO PRODUCTION COMPANY</b> <b>FEDERAL #32-20X-9-19</b> <b>SECTION 20, T9S, R19E, S.L.B.&amp;M.</b> <b>1672' FNL 2451' FEL</b>	
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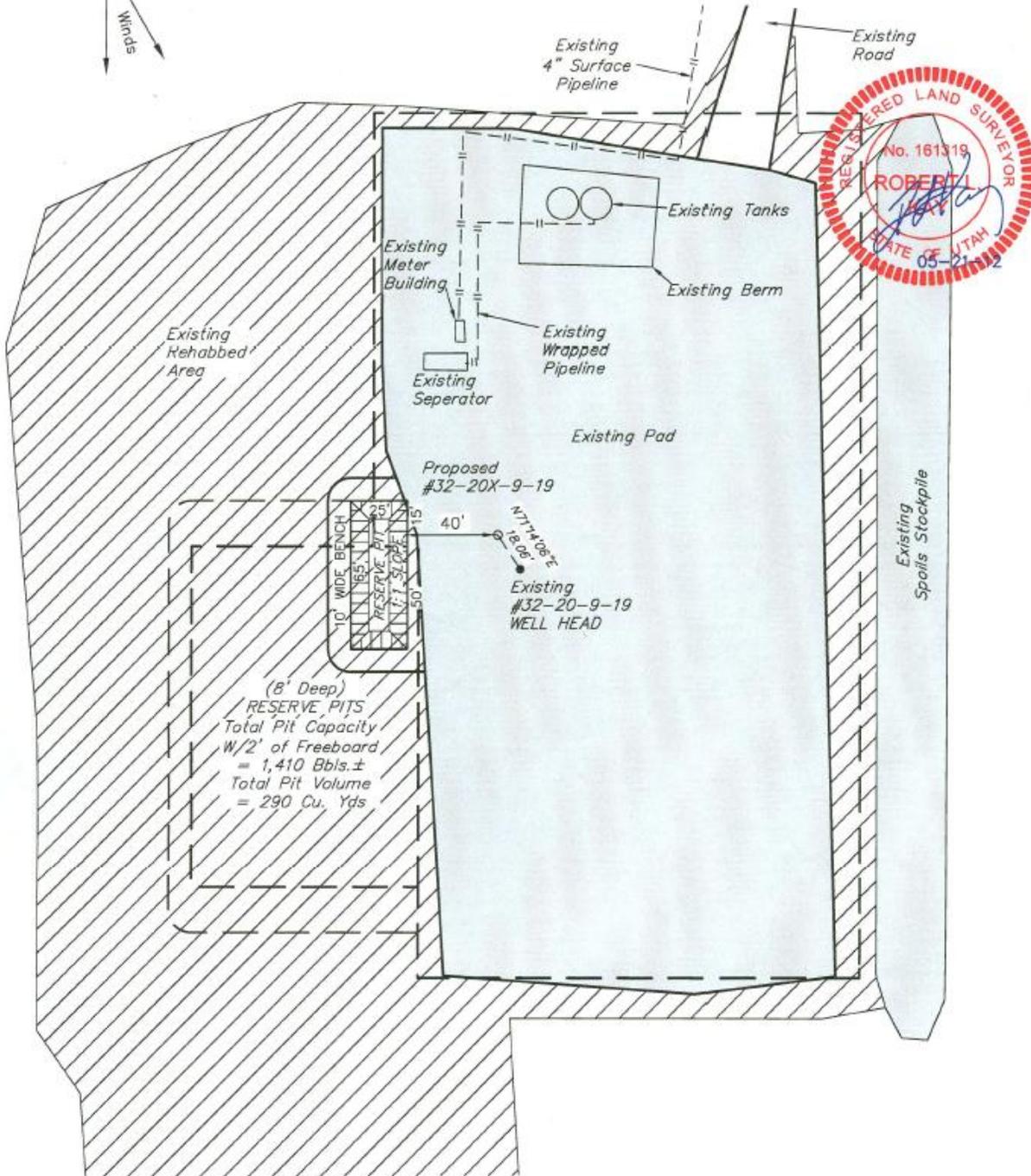
<b>Uintah Engineering &amp; Land Surveying</b> 85 South 200 East Vernal, Utah 84078 (435) 789-1017 * FAX (435) 789-1813	<b>TOPOGRAPHIC</b>	<b>05</b>	<b>14</b>	<b>12</b>	
	<b>MAP</b>	MONTH	DAY	YEAR	
SCALE: 1" = 2000'		DRAWN BY: A.T.		REV: 02-26-13 B.D.H.	



**GASCO PRODUCTION COMPANY**  
 LOCATION LAYOUT FOR  
 FEDERAL #32-20X-9-19  
 SECTION 20, T9S, R19E, S.L.B.&M.  
 1672' FNL 2451' FEL

**FIGURE #1**

SCALE: 1" = 60'  
 DATE: 05-14-12  
 DRAWN BY: J.J.



UINTAH ENGINEERING & LAND SURVEYING  
 85 So. 200 East • Vernal, Utah 84078 • (435) 789-1017

## **APPENDIX C: PUBLIC COMMENTS AND RESPONSES**

### **UINTAH COUNTY**

#### Comment 1:

Uinta County is supportive of the proposed project on the condition that the proposed action is consistent with Uintah County's General Plan amended on February 27, 2012, and that the surface pipelines will be placed outside of the County's road right(s)-of-way, and that Gasco Energy Inc. will continue to use best management practices.

#### Response 1:

Clarification that coordination with the County is needed prior to construction has been added to the proposed action. The proposed action and proposed mitigation incorporate several of the latest best management practices.

### **SOUTHERN UTAH WILDERNESS ALLIANCE**

#### Comment 1:

The BLM should have analyzed air emissions associated with this injection well development and determined whether those emissions would result in violations of federal air quality standards. The EA indicates that this project will result in further exceedances of federal air quality standards for ozone, at the very least, and the BLM should have disclosed this.

#### Response 1:

Chapter 4 Direct and Indirect Impacts for the proposed action discloses the specific emissions anticipated to occur as a result of this project, including emissions of ozone precursors, VOC and NO<sub>x</sub>. The air quality section of that chapter also explains that any local ozone impacts from the Proposed Action would be indistinguishable from background conditions. As explained in the cumulative impacts section, 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 regional air quality model and the Uinta Basin emission inventory.

#### Comment 2:

Furthermore, BLM's conclusion in the cumulative impacts section that ozone pollution would not be a problem here is arbitrary and capricious and cannot be squared with its discussion of ozone pollution in Chapters 3 and 4 of the EA. BLM's reliance on the outdated Greater Natural Buttes modeling for cumulative ozone impacts – which predicts that background ozone levels in the project area will not exceed NAAQS – cannot be squared with the reality that ozone levels are already above NAAQS in the project area.

#### Response 2:

The GNB model is the latest and most up to date model available for the Uinta Basin. It also used the best air quality data that was available at the time. The model parameters were

reviewed by the BLM and EPA prior to being run, and the results were also checked by both agencies. The model is used to predict summertime ozone, which is not a problem in the Basin as verified by monitoring data. No models exist to predict wintertime ozone, which is when the monitored ozone exceedences occur in the Uinta Basin.

Comment 3:

The EA states “If historic or archeological materials are uncovered during construction Gasco will immediately stop work”. It also recognizes that scientifically important fossils were found along the pipeline. BLM determined “the probability for impacting significant paleontological resources during construction was determined to be moderate to high. Therefore the BLM must conduct an EIS to understand the nature, scope and extent of the important fossils. Additionally, the Proposed Action cannot go forward as proposed because Gasco has agreed to “immediately stop work” if historic or archeological materials are found, and such materials have been found.

Response 3:

The project area has been site specifically surveyed for historic and archaeological resources following BLM protocol. No historic or archaeological resources were found in the project, so a “No historic properties effected” determination was made by the BLM, and concurrence was received from the Utah State Historic Preservation Office as documented in Chapter 5 and Appendix A. The quoted statement is a standard unexpected discovery clause that provides procedures for the operator to follow should previously unknown cultural resources be uncovered or otherwise found during surface disturbing activities.

The project area has also been site specifically surveyed for paleontological (prehistoric) resources following BLM protocol. Fossils were found in a portion of the project area. Mitigation measures including monitoring of surface disturbing activities in that area by a BLM permitted paleontologist. Analysis has been added to chapter 4 as to the impacts expected and how the proposed mitigation (monitoring) would help reduce impacts.

Comment 4:

The EA sets forth a discovery stipulation in which “re-initiation 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”. However, the EA contains no information whatsoever on how such monitoring will occur. It does not establish who will do the monitoring, how the monitoring will take place, including how often such monitoring will occur, how it will be determined if any loss of plants or occupied habitat is impacted, or how it will be “anticipated” that loss might occur. The EA contains no baseline data from which impacts to the plant or its habitat can be quantitatively and qualitatively measured. As such, there is no guarantee that section 7 consultations will be reinitiated despite potentially severe impacts to the species or its habitat.

Response 4:

The project area has been site specifically surveyed for Uinta Basin hookless cactus according to USFWS protocol. Chapter 3 explains that although habitat is present in the project area, no plants were found during the surveys. Chapter 4 qualitatively analyzes impacts which may occur to habitat and pollinators as a result of the alternatives. The referenced discovery stipulation is a

standard measure required of the BLM by the USFWS that provides procedures for the BLM to follow for re-initiating consultation should previously unknown occurrences of threatened or endangered species be found during surface disturbing activities. Please note that monitoring is not specifically required in the discovery stipulation since the appropriate actions to take should a discovery occur, whether monitoring or some other kind of mitigation, would be determined by the USFWS through the site specific section 7 re-initiation.

Comment 5:

The EA acknowledges no comprehensive migratory bird survey was conducted by the BLM so therefore; the agency cannot accurately predict the proposed action's impact on the aforementioned birds or any other raptor or migratory bird protected under the aforementioned statutes. Therefore, without conducting a comprehensive survey there is no way to ensure these important birds will not be harmed.

Response 5:

Should a decision be issued that allows the company to construct the proposed well, they would have up to five years under FLPMA to do so. The comment is correct in that it is not possible to accurately predict the proposed actions impacts on migratory birds because the birds present in the project area may change from year to year and definitely change from season to season. Therefore the analysis provided in this EA qualitatively discussed potential impacts to any migratory species likely to be present in the project area based on habitat type present. The species considered are listed in chapter 3. The impacts anticipated are described in chapter 4. Please note that migratory bird surveys only establish presence or absence at a point in time, they do not guarantee protection.

Comment 6:

The EA notes that seven endangered and sensitive fish species have experienced severe population declines due to flow alterations, habitat loss or alteration, and introduction of non-native fish species. Once again the EA contains no discussion whatsoever on how impacts to these state and federally protected species will be minimized or avoided.

Response 6:

No introduction of non-native fish species would occur as a result of this project. As described in Chapter, 4, the proposed action would result in water depletion during drilling of the well, which would cumulatively contribute to flow alternations, habitat loss, or habitat alteration. Chapter 4 contains mitigation measures that will minimize impacts by preventing fish mortality when the water is pumped directly from the river system. In addition, the project is in conformance with the section 7 consultation that was completed for the Gasco EIS. The USFWS biological opinion for that consultation required a fee be paid to offset the depletion impacts as established by the Recovery Implementation Plan for the four endangered fish. The required fee has been paid.

Comment 7:

Here there is no indication in either the EA or UIC permit that the movement of fluid water containing contaminants was considered. The EA and UIC Permit contain at best a superficial analysis of potential groundwater contamination. For example, the location of abandoned or

active wells within a one-half mile radius of the proposed well, if any, is not discussed. There is a lack of adequate discussion on the lithologic descriptions, thickness, depths, water quality, and lateral extent of the area. No information is presented relative to geological structure near the proposed well that may affect the conveyance and/or storage of the injected fluids. Finally the UIC Permit does not say one word that indicates the EPA considered, let alone “ensured” the Proposed Action is not likely to jeopardize the continued existence of any endangered or threatened species or adversely affect its critical habitat. Therefore the EA is inadequate for failure to consider required information and the BLM’s analysis must be supplemented with an EIS because, as discussed below, there is ground and surface water that may be significantly impacted by the proposed action.

Response 7:

Please note that specific comments regarding threatened and endangered species were addressed in the previous response. The BLM is processing this right of way application under the direction of the Biological Opinion issued for the Gasco EIS. However, a copy of the Section 7 ESA Informal Consultation from the USEPA to the USFWS for the UIC Permit is included in the BLM’s project file. A copy of the EPA’s response was not provided to the BLM.

A full APD was submitted to the BLM for this proposed right of way, including the estimated tops of important geological markers, estimated depth of anticipated water, oil, gas, or mineral formations, pressure control equipment, proposed casing and cementing program, drilling fluids program, etc. The drilling plan including the casing program was reviewed and found to be adequate to protect resources. The locations of abandoned or active wells within a one-half mile radius of the proposed well are included in the surface use plan of the APD. The APD including the drilling plan and surface use plan, and the documentation of the BLM’s engineers review, are highly technical engineering documents and may contain proprietary data, so they have not been attached to this EA. However, the APD and engineer’s review is included in the project file and may be requested under the Freedom of Information Act.

What the UIC Permit does or does not say is beyond the scope of this document because it is outside of the jurisdiction of the BLM. However, a copy of the application for the Underground Injection Permit was provided to the BLM by the EPA. This application contains many specifics about the proposed injection well, the geology/hydrography expected in the area and the methods to be employed in protecting resources that was not summarized in the UIC Permit itself. Similar to the APD, the UIC application has not been attached to this EA due to its highly technical and potentially proprietary nature, but is included in the project file and may be requested under the Freedom of Information Act.

Comment 8:

The BLM determined the proposed action will dispose of up to 1,500 barrels per day of produced water. However, the UIC permit states there is no limitation on the number of barrels of water that shall be injected in this well. Therefore the BLM was unjustified in the EA in considering only a scenario in which 1,500 barrels were injected into the well.

Response 8:

The number in question was taken from the revised APD surface use plan submitted by Gasco. Although the EPA issued their UIC Permit with no limitation on daily injection volume, the number provided by Gasco is considered by the BLM to be a reasonable estimate for the purposes of this EA.

Comment 9:

There are surface and groundwater resources in or adjacent to the proposed project area that may be significantly harmed by the Proposed Action. In addition vehicle travel to and from the Proposed Action site will further degrade water quality. Erosion and sediment delivery to stream swill result in long-term impacts and nay increase in sedimentation or turbidity could have a direct impact upon water temperature. All accumulations of water, surface and below ground, including ephemeral water, is protected under Utah law.

Response 9:

Water resources, surface and ground, were considered during the preparation of this EA as documented in Appendix B. All potential mitigation measures identified by the BLM specialists were adopted by the company as applicant committed measures. Therefore it was determined that although water resources are present in the project area, the impacts were not anticipated to rise to a level that would require detailed analysis.

The proposed well will be drilled from an existing well pad, will utilize existing roads, and the surface disturbance associated with the pipeline crossing of eight mile flat was would be immediately reclaimed. Considering the minimal new surface disturbance anticipated for this project, it was determined that impacts to soils, including erosion and subsequent sedimentation, would be negligible.

The drilling and casing program was reviewed by BLM engineers, and the entire injection program was reviewed by the EPA engineers to ensure protection of groundwater resources per regulation. Please note that the project area is located in Indian Country, and protection of groundwater resources is therefore within the jurisdiction of the EPA, not the State of Utah.

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

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**Finding of No Significant Impact**

*for*

**Environmental Assessment  
DOI-BLM-UT-G010-2013-172-EA**

***ROW UTU-89370***

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**July 2013**

**Gasco Energy Inc.  
Salt Water Disposal Well Federal 32-20X-9-19  
Right-of-way UTU-89370**

***Location:*** T. 9 South, Range 19 East, Sections 20, 29 & 30.

***Applicant/Address: Gasco Production Company  
7979 Tufts Ave. Suite 1150  
Denver, Colorado 80237***

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U.S. Department of the Interior  
Bureau of Land Management  
Vernal Field Office  
170 South 500 East  
Vernal, Utah 84078  
435-781-4400  
435-781-3420



**FINDING OF NO SIGNIFICANT IMPACT**  
**Environmental Assessment**  
**DOI-BLM-UT-G010-2013-172 EA**

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**Gasco Energy Inc.**  
**Salt Water Disposal Well Federal 32-20X-9-19**  
**Right-of-way UTU-89370**

**INTRODUCTION:**

The Bureau of Land Management (BLM) has conducted an environmental analysis (NEPA Number) for a proposed action to analyze the potential impacts of Gasco Energy Inc. (Gasco) proposed salt water disposal well Federal 32-20X-9-19 and associated facilities. Gasco Energy Inc. has requested a right-of-way to drill salt water disposal (SWD) well Federal 32-20X-9-19, install two 500 bbl. tanks, install two 10 inch surface pipelines from Federal Well 424-30-9-19 to the SWD well 32-20X-9-19 and dispose of produced water into SWD well Federal 32-20X-9-19. A no action alternative was also analyzed in the EA.

**FINDING OF NO SIGNIFICANT IMPACT**  
**[or FINDING OF NO NEW SIGNIFICANT IMPACT]:**

Based upon a review of the EA and the supporting documents, I have determined that the project is not a major federal action and will not significantly affect the quality of the human environment, individually or cumulatively with other actions in the general area. No environmental effects meet the definition of significance in context or intensity as defined in 40 CFR 1508.27 and do not exceed those effects described in the Vernal RMP/FEIS. Therefore, an environmental impact statement is not needed.

This finding is based on the context and intensity of the project as described:

**Context:** The project is a site-specific action directly involving less than 6.7 acres of BLM administered land that by itself does not have international, national, regional, or state-wide importance. In addition, the proposed project is located entirely on or adjacent to previously disturbed surfaces.

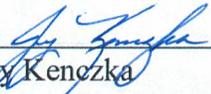
**Intensity:** The following discussion is organized around the Ten Significance Criteria described in 40 CFR 1508.27 and incorporated into resources and issues considered (includes supplemental authorities Appendix 1 H-1790-1) and supplemental Instruction Memorandum, Acts, regulations and Executive Orders.

The following have been considered in evaluating intensity for this proposal:

- 1. Impacts may be both beneficial and adverse.** The proposed action would impact resources as described in the EA. Design features to reduce adverse impacts were incorporated in the design of the proposed action alternative. Mitigation measures to further reduce adverse impacts were identified in as a result of impact analysis. None of the environmental effects discussed in detail in the EA and associated appendices are considered significant, nor do the effects exceed those described in the Gasco Uinta Basin FEIS.
- 2. The degree to which the selected alternative will affect public health or safety.** The proposed action is designed to minimize impacts to public health or safety. The pipelines that follow the county road right of way would be located adjacent to but outside of that right of way to maintain the safety of the road. The drilling of the well has incorporated all applicable best management practices to ensure safety of the drilling crew and any public in adjacent areas.
- 3. Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farm lands, wetlands, wilderness, wild and scenic rivers, or ecologically critical areas.** Impacts on the ground from this project would be minimal since the well would be drilled from an existing well pad and the pipelines would be installed adjacent to an existing road. The historic and cultural resources of the area have been inventoried and no effects are anticipated to occur. As documented in the ID team checklist, Appendix A of the EA, no park lands, prime farm lands, wetlands, wilderness, wild and scenic rivers, or ecologically critical areas are present in the project area. A portion of the proposed pipeline would be located adjacent to scientifically important fossils. However, a mitigation measure has been identified that would require curation of the fossils if avoidance is not possible.
- 4. The degree to which the effects on the quality of the human environment are likely to be highly controversial.** There is no scientific controversy over the nature of the impacts. The surface disturbance of the project is similar to other projects that have occurred and are occurring in the project area. In addition, BLM engineers reviewed the casing program for the proposed well and found the program to be designed appropriately. In addition, the salt water disposal injection operations have been reviewed by the EPA, the regulatory agency, and a permit was issued by them for the injection operations. Finally, the injection of produced water was identified by the BLM and EPA in the Gasco EIS as an environmentally preferable alternative to Gasco's proposed water disposal ponds. No concern was expressed by the public when the Final Gasco EIS and ROD were issued disclosing this preference.
- 5. The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.** The project is not unique or unusual. The BLM has experience implementing similar actions in similar areas. The effects were also anticipated on a conceptual level in the Gasco FEIS. The environmental effects to the human environment from the proposed action are fully analyzed in the EA. There are no predicted effects on the human environment that are considered to be highly uncertain or involve unique or unknown risks.

- 6. The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.** The actions considered in the selected alternative were considered by the interdisciplinary team within the context of past, present, and reasonably foreseeable future actions. Approval of the proposed action would not set a precedent or decision in principle. Significant cumulative effects are not predicted. A complete analysis of the direct, indirect, and cumulative effects of the selected alternative and all other alternatives is described in Chapter 4 of the EA.
- 7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts – which include connected actions regardless of land ownership.** The interdisciplinary team evaluated the possible actions in context of past, present and reasonably foreseeable actions. Significant cumulative effects are not predicted. A complete disclosure of the effects of the project is contained in Chapter 4 of the EA.
- 8. The degree to which the action may adversely affect districts, sites, highways, structures, or other objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.** The project will not adversely affect districts, sites, highways, structures, or other objects listed in or eligible for listing in the National Register of Historic Places, nor will it cause loss or destruction of significant scientific, cultural, or historical resources. A cultural inventory has been completed for the proposed action, and consultation with SHPO has been completed in accordance with Section 106 of the NHPA and they have concurred with a “no adverse effect” on cultural resources.
- 9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973, or the degree to which the action may adversely affect: 1) a proposed to be listed endangered or threatened species or its habitat, or 2) a species on BLM’s sensitive species list.** Mitigating measures to reduce impacts to threatened or endangered species have been incorporated into the design of the proposed action alternative including minimizing surface disturbance by utilizing existing disturbances for the action to the extent possible. This project is within the scope of the Endangered Species Act Section 7 Consultation conducted for the Gasco EIS for both Uinta Basin hookless cactus and Colorado River fish. No further consultation is needed.

**10. Whether the action threatens a violation of a federal, state, local, or tribal law, regulation or policy imposed for the protection of the environment, where non-federal requirements are consistent with federal requirements.** The project does not violate any known federal, state, local or tribal law or requirement imposed for the protection of the environment. State, local, and tribal interests were given the opportunity to participate in the environmental analysis process. Furthermore, consultation with the Native American Tribes that have cultural or historic ties to the Uinta Basin was conducted during preparation of the Gasco EIS. This project falls within the scope of that consultation. No new sites were discovered during the class III survey conducted for this project, so no further consultation is needed. In addition, the project is consistent with applicable land management plans, policies, and programs.

  
\_\_\_\_\_  
Jerry Kenczka  
Assistant Field Manager  
Lands and Mineral Resources

JUL 23 2013  
\_\_\_\_\_  
Date

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

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**Decision Record  
Environmental Assessment  
DOI-BLM-UT-G010-2013-172 EA**

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**July 2013**

**Gasco Energy Inc.  
Salt Water Disposal Well Federal 32-20X-9-19  
Right-of-way UTU-89376**

***Location:*** T. 9 South, Range 19 East, Sections 20, 29 & 30.

***Applicant/Address:*** *Gasco Production Company  
7979 Tufts Ave. Suite 1150  
Denver, Colorado 80237*

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U.S. Department of the Interior  
Bureau of Land Management  
Vernal Field Office  
170 South 500 East  
Vernal, Utah 84078  
435-781-4400  
435-781-3420



**DECISION RECORD**  
**Environmental Assessment**  
**DOI-BLM-UT-G010-2013-172 EA**

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**Gasco Energy Inc.**  
**Salt Water Disposal Well Federal 32-20X-9-19**  
**Right-of-way UTU-89376**

**DECISION**

Under the selected alternative, Gasco Energy Inc. will be granted a right-of-way to drill salt water disposal (SWD) well Federal 32-20X-9-19, install two 500 bbl. tanks, install two 10 inch surface pipelines from Federal Well 424-30-9-19 to the SWD well 32-20X-9-19, and dispose of produced water into SWD well Federal 32-20X-9-19. This decision is subject to the implementation of the below compliance and monitoring and terms/conditions/stipulations.

***Compliance and Monitoring:***

*Paleontology*

- A BLM permitted paleontologist must monitor any ground disturbing activities along the pipeline in Section 29.

***Terms / Conditions / Stipulations:***

*Air Quality*

- All internal combustion equipment would be kept in good working order.
- Water or other approved dust suppressants would be used at construction sites and along roads, as determined appropriate by the Authorized Officer.
- Open burning of garbage or refuse would not occur at well sites or other facilities.
- Drill rigs would be equipped with Tier II or better diesel engines

*Invasive Plants/Noxious Weeds/Soils/Vegetation*

- All reclamation activities will comply with the Green River Reclamation Guidelines
- All vehicles and equipment shall be cleaned either through power-washing, or other approved method, if the vehicles or equipment were previously operated outside the Uinta Basin, to prevent weed seed introduction.
- All disturbance areas shall be monitored for noxious weeds annually, for a minimum of three growing seasons following completion of project or until desirable vegetation is established
- Noxious and invasive weeds will be controlled by the proponent throughout the area of project disturbance.
- Noxious weeds will be inventoried and reported to BLM in the annual reclamation report. Where an integrated pest management program is applicable, coordination has been

undertaken with the state and local management program (if existing). A copy of the pest management plan will be submitted for each project.

- A pesticide use proposal (PUP) will be obtained for the project, by the proponent if applicable.

#### *Uinta Basin Hookless Cactus*

- Re-initiation 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.

#### *Colorado River Fish*

- 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

#### *Site Specific Drilling Plan*

- Gamma Ray Log shall be run from Total Depth to Surface.
- To effectively protect useable water, cement for the long string is required to be brought 200 feet above the surface casing shoe.
- Cement for surface casing shall be circulated to surface.
- Blooie discharge line discharge distance between well and reserve pit shall be 50'

### **RATIONALE FOR DECISION:**

The decision to authorize the selected alternative has been made in consideration of the below considerations.

Concerns are sometimes raised as to BLM's ability to ensure that terms and conditions of the grant are satisfactorily completed. A performance bond will be required for this grant in the amount of \$38,000.00 in a form acceptable to BLM. This amount was determined by estimating the costs to BLM to carry out the terms and conditions in the event that the holder, for whatever reason, did not. The documentation used to estimate the bond amount was provided by Gasco Energy Company and is contained in the case-file. The bond will be reviewed periodically to ensure it is adequate. If it is inadequate, the holder will be required to provide a new bond in the required amount. The holder will not be allowed to conduct any surface disturbing actions until the performance bond is accepted and approved by BLM. The bond shall be furnished prior to authorizing the grant.

***Authorities:***

The authority for this decision is contained in Title V of the Federal Land Policy and Management Act of October 21, 1976, as amended through September 1999, (90 Stat. 2776; 43 U.S.C. 1761).

***Plan Conformance and Consistency:***

The selected alternative would be in conformance with the Vernal Field Office (VFO) Record of Decision (ROD) and Resource Management Plan (RMP), approved October 31, 2008. As stated in the VFO Approved ROD (pg. 86), the BLM's primary management objectives for the lands and realty programs are to:

- Process applications, permits, operating plans, mineral exchanges, leases, and other use authorizations for public lands in accordance with policy and guidance; and
- Manage public lands to support goals and objectives of other resources programs, respond to public requests for land use authorizations.

***Issue Identification:***

Identification of issue(s) for this assessment was accomplished internally by considering any resources that could be affected by implementation of one of the alternatives.

***Alternatives Considered:***

The EA also analyzed the No Action alternative. This alternative was not selected because, it would not allow Gasco to dispose of produced water in a manner identified as a potential preferable option (as opposed to disposal in evaporate ponds) in the Gasco EIS.

No other action alternatives were identified because no unresolved issues were identified. The mitigation identified further minimized environmental impacts.

***Public Involvement:***

The proposed action was posted to the public Environmental Notification Bulletin Board with its assigned NEPA number on May 22, 2013. A 15-day public comment period was held from June 7, 2013 through June 24, 2013. One comment letter was received from Southern Utah Wilderness Alliance. One comment letter was received from Uintah County. Comments and responses are included in Appendix C of the EA.

**Consultations:**

**Fish and Wildlife Service**

This project is within the scope of the Endangered Species Act Section 7 Consultation conducted for the Gasco EIS for both Uinta Basin hookless cactus and Colorado River fish. No further consultation is needed.

**Utah State Historic Preservation Office**

Consultation under the National Historic Preservation Act Section 106 was conducted with the Utah State Historic Preservation Office. Concurrence on a No Historic Properties Affected determination was received on April 25, 2005.

**Native American Tribes**

Consultation with the Native American Tribes that have cultural or historic ties to the Uinta Basin was conducted during preparation of the Gasco EIS. This project falls within the scope of that consultation. No new sites were discovered, so no further consultation is needed.

**PROTEST/APPEAL LANGUAGE:**

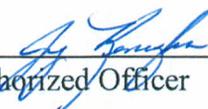
This decision may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in 43 CFR, Part 4 and the enclosed Form 1842-1. If an appeal is taken, your notice of appeal must be filed in this office (at the above address) within 30 days from receipt of this decision. The appellant has the burden of showing that the decision appealed from is in error.

If you wish to file a petition (request) pursuant to regulation 43 CFR 2801.10 or 43 CFR 2881.10 for a stay (suspension) of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice of appeal. A petition for a stay is required to show sufficient justification based on the standards listed below. Copies of the notice of appeal and petition for a stay must also be submitted to each party named in this decision and to the Interior Board of Land Appeals and to the appropriate Office of the Solicitor (see 43 CFR 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

Standards for Obtaining a Stay

Except as otherwise provided by law or other pertinent regulation, a petition for a stay of a decision pending appeal 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 immediate and irreparable harm if the stay is not granted, and
- (4) Whether the public interest favors granting the stay.

  
Authorized Officer

JUL 23 2013  
Date