

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

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**Environmental Assessment DOI-BLM-LLUTG010-2014-0043-EA  
January 2014**

**Bill Barrett Corporation Proposes to Drill  
One New Federal Oil Well on BLM Surface,  
the FD Federal 7-35D-6-19,  
in Uintah County, Utah**

***Location:* SE/NE Section 35, Township 6 South, Range 19 East**  
***Applicant/Address:* 1099 18th Street, Suite 2300, Denver CO 80202**

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**BILL BARRETT CORPORATION PROPOSES TO DRILL ONE NEW OIL WELL, THE FD FEDERAL  
7-35D-6-19, IN UINTAH COUNTY, UTAH  
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## **1.0 INTRODUCTION AND NEED FOR THE PROPOSED ACTION**

### **1.1 INTRODUCTION**

This Environmental Assessment (EA) has been prepared to analyze Bill Barrett Corporation's (BBC) proposal to drill one new oil well on Federally managed lands in the Pelican Lake area, Uintah County, Utah. A section of the proposed access road and pipeline would fall outside the boundary of Federal Lease UTU-85590 and cross onto SITLA (State of Utah Trust) land. However, a surface use agreement with SITLA would be obtained by BBC prior to construction, and a BLM right-of-way (ROW) would not be required. The well information is as follows:

<u>Well Name/Number</u>	<u>Legal Location</u>	<u>Lease Number</u>
FD Federal 7-35D-6-19	SE/NE Sec.35 T6S R19E	UTU-85590

The Proposed Action includes the construction of approximately 1,441 feet of new access road (1,008 feet on BLM land, and 433 feet on SITLA land). Approximately 1,478 feet of pipeline would be installed parallel to the proposed access road (1,045 feet on BLM land, and 433 feet on SITLA land). Up to three pipelines would be buried in a single trench. These would include one 12-inch steel natural gas gathering line, one 6-inch, high-pressure flexible material water transportation line, and one 6-inch, high-pressure flexible material water transportation or natural gas line. The proposed oil well would be constructed and drilled following approval of the APD (Application for Permit to Drill). An approved APD is valid for two years, and the operator can apply for a two year extension if necessary. The proposed well would be located on land that is administered by the Vernal Field Office (VFO) of the Bureau of Land Management (BLM).

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. The 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 statement is a document that briefly presents the reasons why implementation of the selected alternative would not result in "significant" environmental impacts (effects) beyond those already addressed in the Vernal Field Office Resource Management Plan and Record of Decision (signed October 31, 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.

### **1.2 NEED FOR THE PROPOSED ACTION**

The underlying need for the proposed action is for Bill Barrett Corporation to develop Federal Lease UTU-85590 by drilling the proposed well, and if successful, to produce commercial quantities of oil from its Federal oil and gas lease. There are known hydrocarbon-trapping mechanisms within Bill Barrett Corporation's development program, based on a previously drilled wells and reasoned geologic formation and mineral potential information. The proposed well is a lease obligation well.

Private exploration and production from Federal oil and gas leases is an integral part of the BLM oil and gas leasing program under authority of the Mineral Leasing Act of 1920, as amended by the Federal Land Policy and Management Act of 1976 and the Federal Onshore Oil and Gas Leasing Reform Act of 1987. The operator has a valid existing right to extract mineral resources from Federal Lease UTU-85590 subject to the lease's terms and conditions. The BLM oil and gas leasing program encourages development of domestic oil and gas reserves and the reduction of U.S. dependence on foreign energy sources.

### **1.3 PURPOSE OF THE PROPOSED ACTION**

The BLM's purpose is to allow beneficial use of the applicant's lease in an environmentally sound manner.

### **1.4 CONFORMANCE WITH BLM LAND USE PLANS**

The proposed well(s) and related facilities would be in conformance with the Vernal Field Office RMP/ROD (signed October 31, 2008) and the terms of the lease(s). The RMP/ROD decision allows leasing of oil and gas while protecting or mitigating other resource values (RMP/ROD p. 96-98). The Minerals and Energy Resources Management Objectives encourage the drilling of oil and gas wells by private industry (RMP/ROD, p. 96). It has been determined that the Proposed Action and alternatives would not conflict with other decisions throughout the plan. The Project Area is entirely within the visual resources classification VRM IV as discussed in the 2008 Vernal BLM RMP/ROD. There are no applicable timing, no surface occupancy (NSO), or controlled surface use (CSU) Lease Stipulations for Federal Lease UTU-85590 in the Project Area. Furthermore, there are no applicable Lease Notices in the Project Area. Cultural and paleontological surveys were required and have been submitted with the applicable APD(s).

### **1.5 RELATIONSHIPS TO STATUTES, REGULATIONS, OR OTHER PLANS**

The Proposed Action and the No Action Alternative are consistent with Federal, State, and local laws, regulations, and plans (see Sections 1.5.1 and 1.5.2 below).

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

#### **1.5.1 Federal Laws and Statutes**

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

#### **1.5.2 State and Local Laws and Statutes**

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

The proposed project is consistent with the *Uintah County Public Land Use Plan* (County Plan) (2010) that encompasses the location of the proposed wells. In general, the plan indicates support for

development proposals such as the proposed action through the plan's emphasis on multiple-use public land management practices, responsible use and optimum utilization.

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

## **1.6 IDENTIFICATION OF ISSUES**

Resources that may be affected by the Proposed Action are listed in Appendix A. The rationale as to why a resource would or would not be affected by the Proposed Action is also provided in this appendix. Elements that may be affected by the Proposed Action are analyzed in detail in Chapters 3 and 4.

Maps of the proposed location are included in Appendix B.

## **1.7 SUMMARY**

This chapter has presented the purpose and need for the proposed project, as well as relevant issues—i.e., those elements that could be affected by the implementation of the proposed project. The Proposed Action and No Action Alternative are presented in Chapter 2. The potential environmental impacts or consequences resulting from the implementation of each alternative are then analyzed in Chapter 4 for each of the identified issues.

## 2.0 DESCRIPTION OF ALTERNATIVES

### 2.1 INTRODUCTION

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

### 2.2 ALTERNATIVE A – PROPOSED ACTION

Bill Barrett Corporation proposes to drill one new oil well on BLM administered lands in SE/NE of Section 35, T6S R19E, Salt Lake Meridian, near Pelican Lake and Randlett, UT. The following table (**Table 1**) summarizes the disturbance potential for the Proposed Action. Each component addressed in **Table 1** is discussed in greater detail in the subsequent subsections.

**Table 1. Proposed Disturbance for the Proposed Action Alternative**

<b>Well Name and Number</b>	<b>Access Road/Power-line (30 ft. corridor width)</b>	<b>Buried Pipeline (30 ft. corridor width)</b>	<b>Well Pad</b>	<b>Total disturbance</b>
FD Federal 7-35D-6-19	1,441 feet 0.99 acre	1,478 ft. 1.02 acres	4.479 acres	6.49 acres

#### 2.2.1 Access

Approximately 1,441 feet of new access road would be needed to access the proposed location(s). Total new surface disturbance to the land from the new access road would be approximately 0.99 acre. The access road would be crowned, ditched, and constructed with a permanent running surface of 18 feet and a maximum disturbed width of 30 feet. Approximately 12 feet of the access road corridor width would undergo reclamation following completion of the access road construction. If the reclamation efforts are successful then the disturbed acreage would be lessened to approximately 0.59 acre. Graveling or capping the roadbed would be performed as necessary to provide a well-constructed, safe road that minimizes the potential soil and vegetation losses. If construction occurs in winter months, then the proposed road would be cleared of any snow and allowed to dry completely prior to initiation of construction.

Surface disturbance and vehicular traffic would be limited to the proposed location(s) and proposed access route(s). Any additional area needed would be approved in advance. All construction would be in conformance with the standards outlined in the BLM and Forest Service publication *Surface Operating Standards for Oil and Gas Exploration and Development* (2007), also referred to as the “Gold Book”.

The road surface and shoulders would be kept in a safe and usable condition and would be maintained in accordance with the original construction standards. All drainage ditches would be kept clear. The access road surface would be kept free of trash during operations. All traffic would be confined to the approved disturbed surface. Road drainage crossings would be designed so they would not cause siltation or accumulation of debris in drainage crossings, nor would the drainages be blocked by the road bed. Erosion of drainage ditches by runoff water would be prevented by diverting water off at frequent intervals by means of cutouts. Should mud holes develop, they would be filled in and detours around them avoided. When the snow would be removed from the road during the winter months, the snow would be pushed outside of the borrow ditches, and the turnouts kept clear so that snowmelt would be channeled away from the road.

### **2.2.2 Pipeline/Power-line**

Approximately 1,478 feet of up to three buried pipelines would be installed adjacent to the access corridor for the proposed well location(s). There would be one 12" steel natural gas gathering line, one 6" high-pressure flexible material water transportation line, and one 6" high-pressure flexible material natural gas or water transportation line. The pipeline corridor would have a 30 foot width. The total disturbance associated with construction and installation of the pipelines would be approximately 1.02 acres.

Approximately 1,441 feet of power line would be installed adjacent to the proposed access road, and would have a 150 foot corridor width. However, the only anticipated surface disturbance within the power-line corridor would be associated with the installation of the power-line posts, and with general maintenance throughout the life of the power-lines. A BLM right-of-way would not be required for the pipelines or power-line because the entire length of the pipelines and power-line that are located on BLM land fall entirely within Federal lease UTU-85590. Approximately 433 feet of the proposed pipeline corridor, and 433 feet of the proposed power-line corridor cross non-benefitting SITLA land, and a surface use agreement with SITLA would be obtained by the operator prior to construction.

### **2.2.3 Well Site Layout**

The pad, pit, cuts, fills, and soil and rock storage piles would amount to approximately 4.479 acres of new surface disturbance. Surface and subsoil materials in the immediate Project Area would be used for construction. Any necessary gravel would be obtained from a commercial source. Appendix C shows the proposed construction and production layouts of the well pad.

### **2.2.4 Surface Facilities**

All production facilities would be located on the disturbed portion of the well pad and a minimum of 25 feet from the toe of the back slope or the top of the fill slope.

A dike/berm would be constructed completely around those production facilities which contain fluids (i.e., production tanks, produced water tanks, and/or heater-treater). It would be constructed of compacted subsoil, be impervious, hold 110% of the capacity of the largest tank, and be independent of the back cut.

All permanent (on-site six months or longer), above ground structures constructed or installed, including pumping units, would be painted a flat, non-reflective, earth tone color to match one of the standard environmental colors, as determined by the five state Rocky Mountain Inter-Agency Committee. All facilities would be painted within six months of installation. Facilities complying with the Occupational Safety and Health Act (OSHA) would be excluded. The requested color is Covert Green as determined during the on-site inspection. This also meets the management objectives laid out in the 2008 Vernal RMP decision.

The reserve pit would be constructed on the well pad and would not be located within natural drainages, where flood hazards exist or surface runoff would destroy or damage the pit walls. The reserve pit would be constructed so that it would not leak, break, or allow discharge of liquids. A layer of plastic reinforced liner would be used in the pit. It would be a minimum of 12 ml thick lining, with a layer of straw, dirt or bentonite bedding to cover any rocks. The liner would overlap the pit walls and be covered with dirt and/or rocks to hold it in place. No trash or scrap that could puncture the liner would be disposed of in the pit. The reserve pit would be fenced on three sides during drilling operations and on the fourth side when the rig moves off location. It would be fenced, and the fence maintained, until the pit undergoes reclamation.

Any necessary pits would be properly fenced to protect livestock or wildlife from entry. The fence would be maintained until such time as the pits are backfilled. A 39-inch net wire would be used with at least one strand of barbed wire on top of the net wire. Barbed wire would not be necessary if pipe or some

type of reinforcement rod is attached to the top of the entire fence. The net wire would be no more than 2 inches above the ground. The barbed wire would be 3 inches over the net wire. Total height of the fence would be at least 42 inches. Corner posts would be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts would be used between the corner braces. Maximum distance between any two fence posts shall be no greater than 16 feet. All wire would be stretched using a stretching device before attachment to the corner posts.

### **2.2.5 Water Supply**

Water for drilling and cementing purposes would be obtained from any of the following sources: water right number 43-11787, 43-12345 (F78949), 43-10664 (A38472), 49-2247 (F76893), and 49-8875 (T38762). These water sources are considered as new depletions because they draw water from a well less than five hundred feet alluvium, colluviums or floodplains. Consultation was conducted in association with the 1993 Recovery Implementation Program which was updated in 2006, and would apply to this well.

### **2.2.6 Hazardous Materials**

No chemicals subject to reporting under SARA Title III (hazardous materials) in an amount greater than 10,000 pounds would be used, produced, stored, transported, or disposed of annually in association with the drilling of this well. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of in association with the drilling of this well.

### **2.2.7 Waste Disposal**

Drill cuttings would be contained and buried in the reserve pit. Drilling fluids, including salts and chemicals, would be contained in the reserve pit. Upon termination of drilling and completion operations, the liquid contents of the reserve pit would be removed and disposed of at an approved waste disposal facility within 120 days after drilling is terminated. Any spills of oil, gas, produced (salt) water, or other noxious fluids would immediately be cleaned up and removed and taken to an approved disposal site.

A chemical porta-toilet would be furnished with the drilling rig. Garbage, trash, and other waste materials would be collected in a portable, self-contained, fully enclosed trash cage during operations. No trash would be burned on location, or buried in the reserve pit. All debris and other waste material not contained in the trash cage would be cleaned up and removed from the location immediately after removal of the drilling rig.

### **2.2.8 Invasive Weeds**

The operator would control invasive plants and noxious weeds along corridors for roads, pipelines, on well sites, and/or other applicable facilities. If herbicides or pesticides are used a Pesticide Use Proposal (PUP) must be submitted and approved prior to the use of these control mechanisms.

### **2.2.9 Reclamation**

#### ***2.2.9.1 Introduction***

See Appendix D for the full reclamation plan for Bill Barrett Corporation.

#### ***2.2.9.2 Producing Location***

Immediately upon well completion, the location and surrounding area would be cleared of all unused tubing, equipment, debris, materials, and trash. Any hydrocarbons in the pit would be removed in accordance with 43 CFR 3162.7-1. The reserve pit and the portion of the well pad not needed for production facilities/operations would be recontoured to the approximate natural contours. The reserve pit would be reclaimed within 120 days from the date of well completion, or as soon as environmental

conditions allow. The stockpiled pit topsoil would then be spread over the pit area and broadcast or drill seeded (preferred method) with the interim seed mixture listed in **Table 2** after August 1<sup>st</sup> and prior to ground freezing. The seed mixture would be worked into the topsoil with a drill seeder, bulldozer or other heavy equipment. If initial seeding is not successful, reseeding may be required.

### 2.2.9.3 Topsoil

Topsoil storage areas would be identified with appropriate signage, segregated from the subsoil (without mixing the two soil types), topsoil would be stockpiled separately from other soil materials (subsoil), and maintained for future use in rehabilitating the location. After pipeline installation is complete, salvaged topsoil would be re-distributed evenly over disturbed surfaces following proper seed bed preparation. Topsoil piles stored beyond one growing season would be stabilized and possibly seeded to prevent loss of topsoil by erosion processes.

### 2.2.9.4 Interim Reclamation

Interim reclamation of the surface environment would take place after drilling and completion and when the well is put into production. The reserve pit and the portion of the well pad not needed for production facilities/operations would be recontoured to the approximate natural contours that occurred prior to surface disturbance. The reserve pit would be reclaimed within 120 days from the date of well completion, or as soon as environmental conditions allow. The stockpiled pit topsoil would then be spread over the pit area and broadcast-seeded or drill seeded (preferred method) with the interim seed mixture listed in **Table 2** after August 15<sup>th</sup> and prior to winter freezing of the soil. The seed mixture would be worked into the topsoil with a drill seeder, bulldozer or other heavy equipment. If initial seeding is not successful, reseeding may be required.

**Table 2. Interim Reclamation Seed Mixture**

Common name	Latin name	lbs/acre	Recommended seed planting depth
Blue flax	<i>Linum perenne</i>	0.25	1/8 – 1/4”
Blue Grama	<i>Bouteloua gracilis</i>	0.5	1/4 – 1/2”
Bottlebrush Squirreltail	<i>Elymus elymoides</i>	2	1/4 – 1/2”
Four-wing Saltbush	<i>Atriplex canescens</i>	2	1/2 – 3/4”
Great Basin Wildrye	<i>Leymus cinereus</i>	1	1/4 – 3/4”
Palmer Penstemon	<i>Penstemon palmeri</i>	0.5	1/8 – 1/4”
Sand Dropseed	<i>Sporobolus cryptandrus</i>	0.25	1/8”
Shadscale	<i>Atriplex confertifolia</i>	1	1/2”
Thickspike Wheatgrass	<i>Elymus lanceolatus</i>	2	1/2”
Western Wheatgrass	<i>Pascopyrum smithii</i>	1	1/4 – 3/4”
Western Yarrow	<i>Achillea millefolium var. occidentalis</i>	0.25	1/8 – 1/4”
Winterfat	<i>Krascheninnikovia lanata</i>	0.5	1/8 – 1/4”
Wyoming Big Sagebrush	<i>Artemisia tridentata ssp. wyomingensis</i>	0.25	1/8”

- All pounds are pure live seed.
- All seed and mulch would be certified weed free, seed tags should be saved.
- Rates are set for drill seeding; double rate if broadcasting.

### ***2.2.9.5 Pipeline Reclamation***

Following pipeline installation activities, all disturbed areas would be re-contoured back to the original contour or a contour that corresponds with the surrounding landforms. Salvaged topsoil would be re-distributed evenly, and to pre-disturbance depths, over the surfaces to be revegetated. The soil surface would be prepared to provide a seedbed for re-establishment of desirable vegetation.

Site preparation may include gouging, scarifying, dozer track-walking, mulching, or soil additives. The seedbed preparations would be determined by the appropriate surface managing agency (SMA) at the time of final reclamation. Soil compaction would be reduced to the anticipated root depth of the desired plant species (usually 18 to 24 inches in a cross hatch manner where practicable). Disking may be necessary to eliminate large soil clumps or clods.

Methods such as hydro-mulching, straw mat application on steeper slopes, soil analysis to determine the need for fertilizer, seed-bed preparation, contour furrowing, watering, terracing, water barring, and the replacement of topsoil would be implemented as directed by the SMA.

After pipeline installation is complete, all disturbed areas would be reseeded. The seed mixtures to be used would be similar to the vegetation of the surrounding areas and may consist of grasses, forbs, or shrubs. The seeding contractor would provide all seed tags to the appropriate SMA prior to seeding efforts. Seeding would occur after August 15<sup>th</sup> and prior to winter freezing of the soil. Drill seeding would be used except in areas where topography or substrate composition (rock) precludes the use of the drill. If drill seeding is not possible, broadcast seeding would be implemented. If the broadcast method is used (such as on slopes of 40 percent or greater), the seed rates established for drill seeding would be doubled and seed would be immediately covered to prevent seed desiccation or predation by birds or rodents. The seeds may be covered in several ways including spreading and crimping straw over the seeded area, raking the area by hand, or dragging a chain or chain-linked fence over the seeded area.

### ***2.2.9.6 Dry Hole/Abandoned Location***

Abandoned well sites, roads and other disturbed areas would be restored as near as practical to their natural condition. Stockpiled topsoil would be spread across the recontoured area then seeded with the seed mixture shown in **Table 2**. Seed application would follow all guidelines in the interim seed mix bullet statement above, and in Green River Reclamation Guidelines (BLM 2009). If reclamation seeding should take place using the broadcast method, the seed at a minimum would be walked into the soil with a dozer or other heavy equipment immediately after the seeding is completed. Reclamation of the well pad and access road would be done within six months, weather permitting, after final abandonment.

### ***2.2.9.7 Monitoring***

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

### ***2.2.10 Applicant Committed Measures***

The applicant has agreed to the following measures to mitigate the effects of the proposal:

### ***2.2.10.1 Visual Resources***

Applicant has agreed to paint all facilities the color Covert Green to help meet VRM IV guidelines. The goal is to reduce visual impacts through having all production equipment painted a non-reflective earth tone similar to the vegetation in the area.

### ***2.2.10.2 Cultural Resources***

A cultural resources survey was conducted on all areas where surface disturbance would occur (i.e., well locations, access roads, and pipelines). No sites considered eligible for inclusion into the National Register of Historic Places (NRHP) were located during the survey (U-11-MQ-01063b). Bill Barrett Corporation would educate its contractors and employees about the relevant federal regulations intended to protect cultural resources. All vehicular traffic, personnel movement, construction and restoration activities would be confined to areas cleared by the site inventory and to existing roads. In the event historic or archeological resources are uncovered during construction, work would stop immediately and the appropriate BLM AO would be notified.

### ***2.2.10.3 Paleontological Resources***

A paleontological survey was conducted on all areas where surface disturbance would occur (i.e., well locations, access roads, and pipelines). No paleontological resources of any kind were observed during inventory of the Project Area (BLM H-8270-1). However, because there may be impact to the bedrock during construction of the proposed pad and infrastructure, the BLM paleontologist recommends that a qualified paleontological monitor be present to spot check any bedrock disturbance during construction in Section 35, T6S R19E. Bill Barrett Corporation would educate its contractors and employees about the relevant federal regulations intended to protect cultural resources. All vehicular traffic, personnel movement, construction, and restoration activities would be confined to areas cleared by the site inventory and to existing roads. If any potential paleontological resources are uncovered during construction, work would stop immediately in the area and the appropriate BLM AO would be notified.

## **2.3 ALTERNATIVE B – NO ACTION ALTERNATIVE**

Under the No Action Alternative, Bill Barrett Corporation would not construct and drill the well FD Federal 7-35D-6-19 in SE/NE of Section 35 Township 6 South, Range 19 East, Uintah County, Utah. However, other oil and gas development in the area would be expected to continue. Other current resource trends and land use practices would also continue. The BLM's authority to implement the No Action Alternative may be limited because oil and gas leases allow drilling in the lease area subject to the stipulations of the specific lease agreement, especially if it is an obligation well, meaning one well needs to be established on the lease in order for the company to keep the lease. The BLM can deny the application for permit to drill (APD) if the proposal would violate lease stipulations and applicable laws and/or regulations. The BLM can also impose conditions of approval to prevent undue or unnecessary environmental degradation. If the BLM were to deny the APD, the applicant could attempt to reverse the BLM's decision through administrative appeals, seek to exchange its lease for leases in other locations, or seek compensation from the federal government. The outcome of these actions is beyond the scope of this EA because they cannot be projected or meaningfully analyzed at this time.

### 3.0 AFFECTED ENVIRONMENT

#### 3.1 INTRODUCTION

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

#### 3.2 GENERAL SETTING

The well would be located approximately 27.5 air miles southwest of Vernal, Utah in Uintah County near Pelican Lake and Randlett, Utah (see Map 1). The precipitation is typically between 10 to 12 inches on average in a black sagebrush vegetative community, with slow to moderately rapid permeability based off soil survey data in the area. Elevation on the location is around 4,976 feet.

#### 3.3 RESOURCES AND ISSUES BROUGHT FORWARD FOR ANALYSIS

##### 3.3.1 Air Quality and Greenhouse Gases

###### Air Quality

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 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 the concentration of criteria pollutants in the ambient air is below National Ambient Air Quality Standards (NAAQS), or that adequate air monitoring is not available to determine attainment.

NAAQS are standards that have been set 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 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** lists ambient air quality background values for the Uinta Basin and NAAQS standards.

**Table 3. 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

Pollutant	Averaging Period(s)	Uinta Basin Background Concentration ( $\mu\text{g}/\text{m}^3$ )	NAAQS ( $\mu\text{g}/\text{m}^3$ )
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). These monitors were certified as Federal Reference Monitors in fall of 2011, which means they can be used to make a NAAQS compliance determination. 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 high numbers did not occur in January through March 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 seasons, 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, ethylbenzene, isomers of xylene (BTEX) compounds, and normal-hexane (n-hexane). There are no applicable Federal or State of Utah ambient air quality standards for assessing potential HAP impacts to human health.

### Greenhouse Gases

Greenhouse gases keep the planet's surface warmer than it otherwise would be. 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) in 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.

### **3.3.2 Soils and Vegetation**

The soils in the area are typically mixed with a high content of sandy loams, clays, and rock outcrop complexes. According to NRCS soil survey data (2013, WSS query) the soils in the area are considered Braf-Rock Outcrop complexes and Badland-Rock Outcrop complexes.

Braf-Rock Outcrop complexes are somewhat excessively drained, nearly level to moderately sloping (2 to 15% slopes) soils found on structural benches at elevations from 4,900 to 5,300 feet. The parent materials are eolian deposits and slope alluvium derived from sandstone. Surface layer is sandy loam 0 to 3 inches thick; upper subsoil, where present, is sandy loam about 5 inches thick. The permeability is moderately rapid, runoff is very high and erosion hazard is moderate. This soil is classified as not prime farmland, and its vegetative classification is desert shallow loam, characterized by species such as black sagebrush (*Artemisia nova*), shadscale (*Atriplex confertifolia*), bottlebrush squirreltail (*Elymus elymoides*), galleta grass (*Pleuraphis jamesii*), and saline wildrye (*Leymus salinus*).

Badland-Rock Outcrop complexes are somewhat excessively drained, nearly level to very steep (1 to 100% slopes) soils found on cliffs, erosion remnants, ridges, hills, escarpments, and ledges at elevations from 4,700 to 7,000 feet. Surface layer is clay 0 to 2 inches thick; subsoil is not present (underlying layer is bedrock or weathered bedrock). The permeability is very slow, runoff is very high, and erosion is

active. Badlands are barren lands that are dissected by many intermittent drainage channels, and are associated with soft geologic materials of the Duchesne River, Green River, Mancos, Morrison, and Uinta formations. Rock Outcrops consist of exposures of bedrock associated with shale, siltstone, sandstone, limestone, and quartzite of the Browns Park, Duchesne River, Green River, Mancos, Park City, and Uinta formations. This soil complex is not prime farmland, and its vegetative classification is semi-desert shallow loam or desert shallow loam, characterized by species such as black sagebrush (*Artemisia nova*) and shadscale (*Atriplex confertifolia*).

In addition to the aforementioned vegetation, additional species that have been identified in the Project Area during onsite investigation(s) include Indian ricegrass (*Achnatherum hymenoides*), Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*), and Nuttall's horsebrush (*Tetradymia nuttallii*).

### 3.3.3 Fish and Wildlife Excluding USFWS Designated Species

#### 3.3.3.1 White-tailed Prairie Dog (*Cynomys leucurus*)

The white-tailed prairie dog is listed as a Utah State sensitive species. Comprehensive prairie dog colony surveys and burrow density estimates have not been completed within the Project Area. During the onsite inspection and within a half mile of the Project Area white-tailed prairie dog burrows were observed.

### 3.3.4 Migratory Birds

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

This section identifies migratory birds that may inhabit the Project Area, including those species classified as High-Priority birds by Utah Partners in Flight (Parrish et al 2002). High-Priority species 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 on-site inspections.

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

#### 3.3.4.1 Raptors

Some of the more common and visible birds within the Project Area include raptors, or birds of prey. The Project Area provides diverse breeding and foraging habitat for raptors: mixed desert shrub communities, rocky outcrops, and pinyon-juniper woodlands. All raptor species and their nests are protected from take or disturbance under the MBTA.

### 3.3.4.2 Burrowing Owl (*Athene cunicularia*)

The burrowing owl is a Utah State species of concern and a BLM sensitive species. In Utah, prairie dog burrows are the most important source of burrowing owl nest sites. Burrowing owl use of abandoned prairie dog towns is minimal, and active prairie dog towns are the primary habitat for the owls (Maxfield 2012). As the range and abundance of these burrowing mammals have decreased, so too has the status of the burrowing owl. If burrowing owls are using prairie dog colonies in the Project Area as nest sites, there are potential impacts to burrowing owls as a result of the Proposed Action. Based on the prairie dog burrows located within a half mile, the proposed well pad location is potential burrowing owl nesting habitat.

### 3.3.5 Threatened, Endangered, or Candidate Animal Species

#### 3.3.5.1 Colorado River Fish Species

The USFWS has identified four federally listed fish species (pikeminnow, humpback chub, bonytail, and razorback sucker) that could be affected by water depletion of the Green River from the proposed water source(s). Water Depletion for this oil well is based off of the use of water from water permits 43-11787, 43-12345 (F78949), 43-10664 (A38472), 49-2247 (F76893), and 49-8875 (T38762). The water taken from these sources would qualify as water depletion as explained on page 6 in the Programmatic Water Depletion Biological Opinion for Oil and Gas Development Administered or Permitted by the Bureau of Land Management. Water right number 43-11787 is from a gravel pit pond, water right number 43-12345 (F78949) is from a pit pond, water right number 43-10664 (A38472) is from an unnamed spring, and water right numbers 49-2247 (F76893), and 43-8875 (t38762) are from underground water wells. These water rights would not require the mitigation described in chapter 4 of this EA. Formal consultation with the US Fish and Wildlife Service for this Biological Opinion for water depletion was completed on July 28, 2010. The BLM is required to submit the following information on water depletion to the Fish and Wildlife Service:

Project name and or applicant name	Bill Barrett Corporation
Permit number and or special use authorization	FD Federal 7-35D-6-19
Lease Number	UTU-85590
Water Right Number & Location	43-11787, 43-12345 (F78949), 43-10664 (A38472), 49-2247 (F76893), and 43-8875 (t38762)
General location and legal description	T 6 S, R 19 E, Sec. 35
Depletion amount in acre feet	3 acre feet per well
Timing of depletion	Unknown (48 hour notice required)
Identify if new or historic depletion	New
Sub-total water depletion (acre-feet) for each applicant	3 ac/ft
Total depletion for the entire year in acre-feet	Unknown (Assessed later)
Total number of APD's approved	1
Total number of wells spudded	Unknown (Assessed later)

In the above mentioned Biological Opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat because reasonable and prudent alternatives would be implemented.

## 4.0 ENVIRONMENTAL CONSEQUENCES

### 4.1 INTRODUCTION

The potential direct, indirect, and cumulative impacts from Alternative A (the Proposed Action) and Alternative B (the No Action Alternative) are discussed in the following sections of Chapter 4. Direct impacts to soils and vegetation in the following analyses are described as short-term and long-term impacts. In areas where interim reclamation is implemented, ground cover by herbaceous and woody species could be re-established within seven to eight years following seeding of native plant species and diligent weed control efforts. These reclaimed areas are categorized as short-term disturbance. However, it is important to note that recent BLM monitoring has documented that reclamation efforts for oil and gas development have largely been unsuccessful at re-establishing soil stability, vegetation, and subsequent forage for wildlife and livestock. The ongoing drought, coupled with the area's poor soil reclamation potential, has made successful reclamation efforts challenging. BLM field inspections indicate that short-term impacts may be more accurately portrayed as long-term impacts. Thus, while the following analyses distinguish between short-term and long-term soil and vegetation losses, it is important to note that surface disturbance proposed under the alternatives could remain as long-term impacts on the landscape if reclamation efforts are not successful.

### 4.2 DIRECT/INDIRECT IMPACTS

#### 4.2.1 Alternative A – Proposed Action

##### 4.2.1.1 Air Quality and Greenhouse Gases

###### Air Quality

The Proposed Action includes building the FD Federal 7-35D-6-19 well pad, access road, and pipelines on BLM surface and constructing, drilling, completing, and operating 1 new Federal well. The total disturbance from construction of the pad and associated infrastructure would be approximately 6.49 acres (**Table 1**). The well would require approximately 7 to 10 days to drill and 5 to 15 days to complete. Air quality in the Project Area would decrease during construction of access road, pad, and pipelines, and during the drilling and completion of the well.

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**.

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

Pollutant	Development	Production	Total
NO <sub>x</sub>	14.2	2.2	16.4
CO	3.2	3.2	6.4
SO <sub>x</sub>	2.5	1.6	4.1
PM <sub>10</sub>	0.7	0.03	0.73
PM <sub>2.5</sub>	0.3	0.01	0.31
VOC	2.5	6.5	9.0
Benzene	0.03	0.13	0.16

Pollutant	Development	Production	Total
Toluene	0.02	0.09	0.11
Ethylbenzene	0.02	0.22	0.24
Xylene	0	0.07	0.07
n-Hexane	0.05	0.08	0.13
Formaldehyde	0	0	0

<sup>1</sup> Emissions include 1 producing well(s) 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 short-term during the drilling and completion phases.

During well production, continuous NO<sub>x</sub>, CO, VOC, and HAP emissions would originate from well pad separators, condensate storage tank vents, and daily tailpipe and fugitive dust emissions from operations traffic. 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 311.6 tons/yr for NO<sub>x</sub>, and 7.6 tons/yr of VOC (**Table 4**). 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.

#### Greenhouse Gases

The assessment of greenhouse gas emissions and climate change remains in its earliest stages of formulation. Applicable EPA rules do not require any controls and have yet to establish any emission limits related to GHG emissions or impacts. The lack of scientific models that predict climate change on regional or local level prohibits the quantification of potential future impacts of decisions made at the local level, particularly for small scale projects such as the Proposed Action. Drilling and development activities from the Proposed Action are anticipated to release a negligible amount of greenhouse gases into the local air-shed.

#### *Mitigation*

All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 grams of NO<sub>x</sub> per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower-hour.

All new and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gram of NO<sub>x</sub> per horsepower-hour.

#### **4.2.1.2 Soils and Vegetation**

The Proposed Action would disturb approximately 6.49 acres of soils and vegetation. Of this total, approximately 1.66 acres would be subject to interim reclamation. If interim reclamation is successful, direct long-term impacts to vegetation would occur on 4.08 acres. If interim reclamation is not successful, the entire 6.49 acres could remain disturbed for the long term. Long-term impacts to vegetation are expected for the life of the well (an average of 25 years or until reclamation is successful).

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

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

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

Impacts to soils and vegetation would be partially mitigated by reclamation of disturbed areas with desired native vegetation and the control of noxious and invasive weeds by mechanical and chemical treatment (see Section 2.3). Under the Proposed Action, reclamation would occur on approximately 25 percent of the well pad upon completion of drilling. The remaining 75 percent of the well pad would be revegetated after abandonment of the well (approximately 25 years). It is expected however, for the company to do interim on any unused portions of the well pad to stabilize as much of the site as possible.

#### ***4.2.1.3 Fish and Wildlife Excluding USFWS Designated Species***

##### **White-tailed Prairie Dog**

The Proposed Action would increase prairie dog habitat loss by up to 6.49 acres. This disturbance would contribute to the loss of prairie dog habitat and could contribute to the loss of prairie dog burrows if the proposed action occurs within a prairie dog colony. Direct impacts to prairie dogs from the Proposed Action could include increased mortality due to prairie dog-vehicle collisions caused by vehicles traveling in/near colonies. As traffic volumes and/or project-related activities increase, adjacent habitats may be avoided due to human presence and noise. Increased traffic volumes in the Project Area would be temporary and restricted to the drilling and construction of the new well and related infrastructure. After drilling and construction are complete, traffic volumes would most likely return to pre-project levels. Habitat quality for this species would also be degraded by the introduction of noxious and invasive weeds. Weed invasions may lead to a decrease in the amount of native perennials and bare ground, thereby degrading habitat for prairie dogs by decreasing visibility, forage quality, and burrow development. However, because the application of the Green River District Reclamation Guidelines would deter the spread of invasive plants or noxious weeds in the Project Area, weed invasions should be minimal and should not adversely impact prairie dog colonies.

##### ***4.2.1.4 Migratory Birds***

Under the Proposed Action ground disturbing activities would contribute to a loss of migratory bird habitat. The potential impacts also include an increased risk of direct mortality from vehicle strikes and nest disruption. However, current activities in the Project Area and a lack of vegetation suitable to nest in makes it less likely birds would be nesting in the affected area.

### **Raptors**

Implementation of the Proposed Action could affect nesting and breeding raptor species that utilize the Project Area. Some impacts could include displacement from suitable nesting habitats during the breeding season due to increased noise levels and visual disturbances on the landscape, nest abandonment, reduced habitat values in foraging areas due to prey displacement, potential loss of prey habitat, and an increased potential for collisions with vehicles traveling in the Project Area.

### **Burrowing Owl (*Athene cunicularia*)**

If surface disturbing activities for the following wells are planned during the current timing restrictions for the Burrowing Owl (March 1<sup>st</sup> through August 31<sup>st</sup>) a survey for nesting Burrowing Owl is required. Based on the results of the survey, permission to proceed may or may not be granted.

## ***4.2.1.5 Threatened, Endangered or Candidate Animal Species***

### **Colorado River Fish Species**

The Proposed Action would result in water depletion from removal of water from the Upper Colorado River Drainage System for construction and drilling operations. Water depletions reduce the ability of the river to create and maintain the primary constituent elements that define critical habitats.

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 USFWS has listed these species as endangered and has implemented programs to prevent them from becoming extinct.

Food supply, predation, and competition are also 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 applicant committed conservation measures (listed below and in **Chapter 2**). Key habitat components for foraging or cover may be removed or altered due to equipment, including decreased water quantity for aquatic species from dewatering during low flow periods.

Therefore, the Proposed Action would have a “*may affect, likely to adversely affect*” determination for the endangered Colorado pikeminnow, humpback chub, bonytail, and razorback sucker. The Proposed Action would also adversely affect the bluehead sucker, flannelmouth sucker, and the roundtail chub, but it is not likely to result in a trend toward the listing of the species. Water for drilling the proposed wells would come from the following permits: 43-11787, 43-12345 (F78949), 43-10664 (A38472), 49-2247 (F76893), and 43-8875 (t38762). None of these water permit numbers are considered historic depletions (permitted prior to January 1988). The USFWS addresses new and historic depletions differently under the Section 7 agreement of March 11, 1993. Historic depletions, regardless of size, do not pay a depletion fee to the Recovery Program. Also, consultation for historic depletions was conducted in association with that 1993 agreement. For new water depletions, the following mitigation measures would apply.

*Mitigation:*

1. 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 service approved location is best.
2. If the pump head is located in the river channel the following stipulations apply:
  - a. Do not situate the pump in a low-flow or no-flow area as these habitats tend to concentrate larval fishes.
  - b. Limit the amount of pumping, to the greatest extent possible, during that period of the year when larval fish may be present (April 1 to August 1).
  - c. Limit the amount of pumping, to the greatest extent possible, during the midnight hours (10pm to 2 am), as larval drift studies indicate that this is a period of greatest daily activity. Dusk is the preferred pumping time, as larval drift abundance is lowest during this time.
3. Screen all pump intakes with 3/32” mesh material.
4. Approach velocities for intake structures should 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 should not exceed 0.33 feet per second (ft/s).
5. Report any fish impinged on the intake screen or entrained into irrigation canals to the service (801.975.3330) or the Utah Division of Wildlife Resources:

Northeastern Region  
318 North Vernal Avenue, Vernal, UT 84078  
Phone: (435)781-9453

#### **4.2.2 Alternative B: No Action Alternative**

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

Under the No Action Alternative, there would be no additional impacts to air quality and greenhouse gases from construction, drilling and production activities associated with this well. Current land use trends in the area would continue, including increased industrial development, increased off-highway vehicles (OHV) traffic, and increased recreation use for hunting, bird watching, and sightseeing.

##### ***4.2.2.2 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 this well. Current land use trends in the area would continue, including increased industrial development, increased off-highway vehicles (OHV) traffic, and increased recreation use for hunting, bird watching, and sightseeing.

##### ***4.2.2.3 Fish and Wildlife Excluding USFWS Designated Species***

Under the No Action Alternative, there would be no direct disturbance or indirect effects to white-tailed prairie dog or other wildlife species from surface-disturbing activities associated with this well. Current

land use trends in the area would continue, including increased industrial development, increased off-highway vehicles (OHV) traffic, and increased recreation use for hunting, bird watching, and sightseeing.

**4.2.2.4 Migratory Birds**

Under the No Action Alternative, there would be no direct disturbance or indirect effects to migratory birds, raptors, or burrowing owls from surface-disturbing activities associated with this well. Current land use trends in the area would continue, including increased industrial development, increased off-highway vehicles (OHV) traffic, and increased recreation use for hunting, bird watching, and sightseeing.

**4.2.2.5 Threatened, Endangered or Candidate Animal Species**

Under the No Action Alternative, there would be no direct disturbance or indirect effects to Colorado River fish species or other special status animal species from surface-disturbing activities associated with this well. Current land use trends in the area would continue, including increased industrial development, increased off-highway vehicles (OHV) traffic, and increased recreation use for hunting, bird watching, and sightseeing.

**4.3 REASONABLY FORESEEABLE DEVELOPMENT AND CUMULATIVE IMPACTS ANALYSIS**

**4.3.1 Cumulative Impacts**

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

**4.3.1.1 Air Quality and Greenhouse Gases**

Air Quality

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, 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 5** 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 5. 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	311.6	121.6	77.9	13.87	7.6
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.

#### **4.3.1.2 Soils and Vegetation**

Analysis of the cumulative impacts is incorporated by reference to the existing document Vernal Field Office Resource Management Plan and Record of Decision. For the purpose of cumulative impact analysis, the cumulative impacts analysis area (CIAA) considered is the boundary of the Township 6 South, Range 19 East (T6S R19E). Cumulative impacts typical of oil and gas field development include: removal of native vegetation and increased erosion rates of soils which are generally very thin, slow to develop, and difficult to reclaim due to the arid climate and the low organic content.

The CIAA considered for this analysis is the boundary of the T6S, R19E. Cumulative actions within the T6S, R19E area include a number of plugged and active wells primarily on BLM surface. BLM acreage within this area is approximately 7,234 acres of the total 10,367 acres in the township and range. There are currently several wells proposed in this township and range, including the well in the Proposed Action. This is currently the only well proposed in Section 35 T6S R19E on BLM surface at this time.

The Proposed Action would disturb approximately 6.49 acres, approximately 0.062% of the CIAA (T6S R19E), or approximately 0.090 % of the total BLM acreage in the CIAA. The No Action Alternative would not contribute to cumulative impacts on soils and vegetation.

Soil erosion would be increased due to the disturbance associated with oil and gas activities in the area. Each acre of disturbance adds to a cumulative effect by increasing erosion and destroying native vegetation, and through the invasion of undesirable and/or non-native plant species. In general, soils in the Uinta Basin are very thin, slow to develop, and difficult to reclaim because of the arid climate and lack of organic material.

Direct surface disturbances to vegetation indicated by past, present, and reasonably foreseeable developments are primarily attributable to oil and gas development and vegetation management by various federal agencies. Oil and gas development, however, would continue to degrade local habitat by direct disturbance and slow reclamation of disturbed areas. The Proposed Action would add 6.49 acres of surface disturbance. The No Action alternative would not result in an accumulation of impacts.

#### ***4.3.1.3 Fish and Wildlife Excluding USFWS Designated Species***

Ongoing and planned oil and gas activities would further reduce the amount of available cover, foraging opportunities, and breeding areas for wildlife species, including white-tailed prairie dog. Well drilling and other human activities (both directly and indirectly associated with these projects) would incrementally reduce the productivity of the habitats affected and increase the amount of human presence and use of the region for, at a minimum, the lives of the projects (approximately 25 years). Additional development could preclude wildlife species from using areas of more intensive human activity. In general, the severity of the cumulative effects would depend on factors such as the sensitivity of the species affected, seasonal intensity of use, type of project activity, and physical parameters (e.g., topography, forage, and cover availability).

The CIAA considered for this analysis is the boundary of the T6S, R19E. Cumulative actions within the T6S, R19E area include a number of plugged and active wells primarily on BLM surface. BLM acreage within this area is approximately 7,234 acres of the total 10,367 acres in the township and range. There are currently several wells proposed in this township and range, including the well in the Proposed Action. This is currently the only well proposed in Section 35 T6S R19E on BLM surface at this time. The Proposed Action would disturb approximately 6.49 acres, approximately 0.062% of the CIAA (T6S R19E), or approximately 0.090 % of the total BLM acreage in the CIAA. The No Action Alternative would not contribute to cumulative impacts on wildlife species.

Direct impacts would produce loss of habitat until project closures and successful reclamation (approximately 25 years). More difficult to assess but also important to consider are the areas indirectly affected by increased human activity where these projects occur. Surface disturbance within the CIAA would be approximately 2,226 acres of potential wildlife habitat. The Proposed Action would add 6.49 acres of surface disturbance. The No Action alternative would not result in an accumulation of impacts.

#### ***4.3.1.4 Migratory Birds***

Ongoing and planned oil and gas activities would further reduce the amount of available cover, foraging opportunities, and breeding areas for migratory birds and raptors. Well drilling and other human activities (both directly and indirectly associated with these projects) would incrementally reduce the productivity of the habitats affected and increase the amount of human presence and use of the region for, at a minimum, the lives of the projects (approximately 25 years). Additional development could preclude migratory birds from using areas of more intensive human activity. In general, the severity of the cumulative effects would depend on factors such as the sensitivity of the species affected, seasonal

intensity of use, type of project activity, and physical parameters (e.g., topography, forage, and cover availability).

The CIAA considered for this analysis is the boundary of the T6S, R19E. Cumulative actions within the T6S, R19E area include a number of plugged and active wells primarily on BLM surface. BLM acreage within this area is approximately 7,234 acres of the total 10,367 acres in the township and range. There are currently several wells proposed in this township and range, including the well in the Proposed Action. This is currently the only well proposed in Section 35 T6S R19E on BLM surface at this time. The Proposed Action would disturb approximately 6.49 acres, approximately 0.062% of the CIAA (T6S R19E), or approximately 0.090 % of the total BLM acreage in the CIAA. The No Action Alternative would not contribute to cumulative impacts on migratory birds.

#### **4.3.1.5 Threatened, Endangered or Candidate Wildlife Species**

The cumulative impacts analysis area (CIAA) for this resource is the Colorado River system.

Reasonably foreseeable future activities that may affect river-related resources in the area include oil and gas exploration and development, irrigation, urban development, recreational activities, and activities associated with the Upper Colorado River Endangered Fish Recovery Program. Implementation of all or any of these projects has affected and continues to affect the environment including, but not limited to, water quality, water rights, socioeconomic, and wildlife resources.

Cumulative effects to this species would include the following types of impacts:

- Changes in land use patterns that would further fragment, modify, or destroy potential spawning sites or designated critical habitat;
- Shoreline recreational activities and encroachment of human development that would remove upland or riparian/wetland vegetation and potentially degrade water quality;
- Competition with, and predation by, exotic fish species introduced by anglers or other sources.

The Proposed Action would add 6.49 acres of surface disturbance, and result in approximately 3 acre-feet of new water depletion. The No Action alternative would not result in an accumulation of impacts.

## **5.0 CONSULTATION AND COORDINATION**

### **5.1 PERSONS, GROUPS, AND AGENCIES CONSULTED**

#### **List of Persons, Groups, and Agencies Consulted for Purposes of this EA:**

<b>Name</b>	<b>Purpose and Authorities for Consultation or Coordination</b>	<b>Findings and Conclusions</b>
Utah State Historic Preservation Office	Section 106 National Historic Preservation Act	SHPO Concurrence was received 7/31/2012.
United States Fish and Wildlife Service (USFWS)	Section 7 of the Endangered Species Act (16 USC 1531)	Project falls within the Colorado fish impacts anticipated in the Recovery Implementation Program 2006.
Native American Tribes	Government to Government Consultation	Tribal consultation for Native American religious concerns completed.

## 5.2 SUMMARY OF PUBLIC PARTICIPATION

The Proposed Action was posted to the Utah BLM's NEPA Register on December 11, 2013. No public interest has been expressed.

## 5.3 LIST OF PREPARERS

### BLM:

Name	Title	Responsible for the Following Section(s) of this Document
Christine Cimiluca	Natural Resource Specialist	Air Quality and Greenhouse Gases, Soils and Vegetation
Dan Emmett	Wildlife Biologist	General Wildlife, T&E Wildlife, Migratory Birds

## 6.0 REFERENCES, GLOSSARY, AND ACRONYMS

### 6.1 REFERENCES CITED

- BLM. 2008. Vernal Field Office Resource Management Plan, U.S. Department of the Interior, Bureau of Land Management, Vernal District Office.
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- Bureau of Land Management (BLM) and United States Department of Agriculture Forest Service (USFS). 2007. *Surface Operating Standards for Oil and Gas Exploration and Development I" Edition-Revised 2007* (Gold Book).
- Maxfield, Brian. 2012. Sensitive Species Biologist Utah Division of Wildlife Resources *Personal Correspondence to BLM Wildlife Biologist*. April 25, 2012.
- NRCS. 2013. Soil Survey area: Uintah Area, Utah – Parts of Daggett, Grand and Uintah Counties Survey area data: Version 7, Oct 5, 2009. Query ran: December 19, 2013.
- 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 + 302pp.
- Uintah County. 2010. Uintah County Land Use Plan 2010. Vernal, UT. Available online: <http://co.uintah.ut.us/planning/Uintah%20CountyLand%20Use%20Plan2010.pdf> - accessed December 19, 2013.
- USFWS. 1988 (2006 update). Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin. Final. US Department of the Interior, Fish and Wildlife Service, Denver, Colorado. September 29, 1988. Updated 2006.

USFWS. 1994. Endangered and threatened wildlife and plants: Determination of critical habitat for four Colorado River endangered fishes; final rule. Federal Register 59(54): 13374-13400.

USFWS. 2002. Colorado pikeminnow (*Ptychocheilus lucius*) Recovery Goals: amendment and supplement to the Colorado Pikeminnow Recovery Plan. U.S. Fish and Wildlife Service, Mountain-Prairie Region (6), Denver, Colorado.

## **6.2 LIST OF ACRONYMS**

AO: authorized officer

APD: application for permit to drill

BLM: Bureau of Land Management

CEQ: Council on Environmental Quality

CFR: Code of Federal Regulations

DR: decision record

EA: environmental assessment

EIS: environmental impact statement

FONSI: Finding of No Significant Impact

LUP: land use plan

NEPA: National Environmental Policy Act

OHV: off-highway vehicles

OSHA: Occupational Safety and Health Act

RMP: resource management plan

SARA: Superfund Amendments and Reauthorization Act

SITLA: School and Institutional Trust Lands Administration (State of Utah)

VFO: Vernal Field Office

# Appendix A

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## Interdisciplinary Team Analysis Record Checklist

## INTERDISCIPLINARY TEAM CHECKLIST

**Project Title:** Bill Barrett Corporation Proposes to Drill One New Federal Oil Well on BLM Surface, the FD Federal 7-35D-6-19, in Uintah County, Utah

**NEPA Log Number:** DOI-BLM-LLUTG010-2014-0043-EA

**File/Serial Number:** UTU-85590

**Project Leader:** Christine Cimiluca

**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	Emissions from construction, drilling, and production equipment could adversely affect air quality.  No standards have been set by EPA or other regulatory agencies for greenhouse gases. In addition, the assessment of greenhouse gas emissions and climate change is still in its earliest stages of formulation. Global scientific models are inconsistent, and regional or local scientific models are lacking so that it is not technically feasible to determine the net impacts to climate due to greenhouse gas emissions. It is anticipated that greenhouse gas emissions associated with this action and its alternative(s) would be negligible.	Christine Cimiluca	12/10/2013
NP	BLM Natural Areas	No BLM Natural Areas exist within the identified Project Area according to RMP and GIS review.	Christine Cimiluca	12/10/2013
NP	Cultural: Archaeological Resources	No cultural sites considered eligible for inclusion into the National Register of Historic Places have been identified within the Project Area, per MOAC cultural survey report U-11-MQ-1063b.	Erin Goslin	1/21/2014
NP	Cultural: Native American Religious Concerns	No traditional cultural properties (TCPs) have been identified within the Project Area, per MOAC cultural survey report U-11-MQ-1063b. The proposed project would not hinder access to or use of Native American religious sites.	Erin Goslin	1/21/2014
NP	Designated Areas: Areas of Critical Environmental Concern	No ACEC exist within the identified Project Area according to GIS review and onsite investigation.	Christine Cimiluca	12/10/2013
NP	Designated Areas: Wild and Scenic Rivers	No Wild and Scenic River segments exist within the identified Project Area according to VFO RMP and GIS review.	Christine Cimiluca	12/10/2013
NP	Designated Areas: Wilderness Study Areas	No wilderness areas have been designated by the U. S. Congress on BLM lands in the VFO. No Wilderness Study Areas exist in the Project Area as per GIS review.	Christine Cimiluca	12/10/2013

Determination	Resource/Issue	Rationale for Determination	Signature	Date
NI	Environmental Justice	No minority or economically disadvantaged communities or populations would be disproportionately adversely affected by the proposed action or alternatives because none are present in or adjacent to the Project Area.	Christine Cimiluca	12/10/2013
NP	Farmlands (prime/unique)	No prime or unique farmlands as designated by the NRCS are present in the Project Area as per GIS review.	Christine Cimiluca	12/10/2013
NI	Fuels/Fire Management	Disturbance in black sagebrush vegetative communities could increase the amount of invasive plants, specifically <i>Bromus tectorum</i> . The increase of <i>Bromus tectorum</i> could lead to an increase in fire frequency and rate of spread. Applying the Green River District Reclamation Guidelines should prevent additional hazardous fuels.  No fuels/fire management activities are planned or ongoing in the Project Area, per GIS review.	Christine Cimiluca	12/10/2013
NI	Geology/Minerals/Energy Production	Project Area Geology: Brennan Basin Member of Duchesne River Formation.  Surface geology: Most of the proposed site is on alluvium, although the northwest side of the proposed pad has some channel sandstone outcrops.  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 well completion techniques, the possibility of adverse degradation of tar sand or oil shale deposits by the proposed action would be negligible.  Well completion must be accomplished in compliance with "Onshore Oil and Gas Order No. 2, Drilling Operations". These guidelines specify the following: <i>... proposed casing and cementing programs shall be conducted as approved to protect and/or isolate all usable water zones, potentially productive zones, lost circulation zones, abnormally pressured zones, and any prospectively valuable deposits of minerals. Any isolating medium other than cement shall receive approval prior to use.</i> <sup>3</sup>	Betty Gamber	12/31/2013
IP/NW: NI Soils: PI	Invasive Plants/Noxious Weeds, Soils & Vegetation	Invasive Plants/Noxious Weeds (IP/NW): Invasive and Noxious weeds are present in and near the Project Area. A weed management plan included with the site specific reclamation plan would be required. This outlines BBC's plan for weed management, control and removal. If pesticides are to be used BBC must obtain a PUP from the BLM Botanist. If weed management plan is followed, then an increase in	Christine Cimiluca	12/10/2013

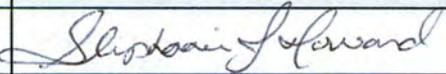
Determination	Resource/Issue	Rationale for Determination	Signature	Date
Veg: PI		<p>weeds in the Project Area is not anticipated as a result of the Proposed Action.</p> <p>Soils: The proposed project takes place in areas identified as having sandy loam soils with Badland and rock outcrop complexes throughout the area. The project proposes to disturb approximately 6.49 acres of these soils which are very prone to erosion through fluvial and eolian processes. These potential impacts have the chance to add significant amounts of new sediment into the system as a whole unless certain reclamation and storm water erosion controls methods are in place could result in significant cumulative impacts. A site specific reclamation plan would be required on this well proposed in the proposed action.</p> <p>Veg: The proposed project takes place in areas identified as black sagebrush and four-wing saltbush vegetative communities consisting of shrubs, grasses, and forbs, and typical of a High Desert or High Semi-Desert Ecosystem. The removal of the surface vegetation from this proposed action could cause increases in general sedimentation in down gradient environments. A site specific reclamation plan would be required to identify how BBC would handle interim reclamation and final reclamation.</p>		
NI	Lands/Access	<p>The Project Area is located within the Vernal Field Office Resource Management Plan area which allows for oil and gas development with associated road and pipeline right-of-ways. No BLM road, power line or pipeline right-of-ways would be required for the project prior to construction because the BLM portion is located entirely within Federal Lease UTU-85590. Surface use agreements with adjacent affected private land owners would be obtained by the operator prior to construction, if required. Other ROW holders in the area would need to be notified. No existing land uses would be changed or modified by the implementation of the proposed action; therefore there would be no adverse effect.</p>	Christine Cimiluca	12/10/2013
NP	Lands with Wilderness Characteristics (LWC)	<p>The project was surveyed as part of the Ouray Park Inventory Unit. No wilderness character was found.</p>	Christine Cimiluca	12/10/2013
NI	Livestock Grazing & Rangeland Health Standards	<p>Livestock Grazing: The proposed project is located within the Ouray Road cattle grazing allotment. The allotment is seasonally permitted from October 1 to May 1 with up to 563 AUMs. This area has a few existing well sites and the proposed well pad will have little effect on the livestock grazing. This area is bisected by numerous roads and other oil and gas projects. The proposed disturbance of 6.49 acres is very minor in the overall size of the entire allotment. The only other impact of the proposed project would be the increased traffic on the already existing roads. The proposal is consistent with multiple use of public lands and other oil &amp; gas activities in the area. It is not anticipated that this proposal would negatively impact grazing operations. There are no known range improvements in this part of the allotment that would be impacted by this proposal. This proposal is not</p>	Craig Newman	2/10/2014

Determination	Resource/Issue	Rationale for Determination	Signature	Date
		expected to affect Rangeland Health Standards in this allotment.		
NI	Paleontology	No fossils were found on the surface, but fossils in the bedrock may be impacted during construction. Because there may be an impact to bedrock during construction, it is recommended (and the operator has committed to fund) that a paleontological monitor spot check any bedrock disturbance during construction in Sec. 35 T6S R19E SLB&M.	Betty Gamber	12/31/2013
NI	Plants: BLM Sensitive	Potential habitat is present at the subwatershed level for BLM Sensitive plant species Sterile yucca ( <i>Yucca sterilis</i> ). Additional BLM Sensitive species are precluded based on soil, elevation, geography and plant population GIS data. Green River shale derived soils are not present.  Areas of sandy soils could provide potential habitat for <i>Y. sterilis</i> , however, soils are largely comprised of a slightly sodic, shallow, desert loam outcrop complex at the project location.  BLM survey for <i>Y. sterilis</i> was completed on 10/28/2013 with no individuals found.	Maggie Marston	2/18/2014
NI	Plants: Threatened, Endangered, Proposed, or Candidate	The 2013 USFWS habitat polygon for Pariette cactus ( <i>Sclerocactus brevispinus</i> ) and Uinta Basin hookless cactus ( <i>Sclerocactus wetlandicus</i> ) lies approximately 2.6 miles south of the Project Area for Pariette cactus ( <i>Sclerocactus brevispinus</i> ) and Uinta Basin hookless cactus ( <i>Sclerocactus wetlandicus</i> ). Nearest threatened cactus individuals are known from approximately 3.6 miles south.  Habitat assessment of the project on 10/28/13 indicated unsuitable habitat for threatened <i>Sclerocactus</i> species. The project should have no direct and indirect effects on federally listed cactus habitats.  Potential habitat for Ute Ladies'-tresses ( <i>Spiranthes diluvialis</i> ) may occur approximately 0.5 miles northeast of the project, however, the proposed action would be expected to have insignificant effects on this species, if present.  Additional TEPC plant species are precluded based on GIS soil, elevation, known location data, and onsite field review for riparian and Green River shale habitats.	Maggie Marston	2/18/2014
NI	Plants: Wetland/Riparian	There are no riparian or wetland areas within the proposed Project Area as per GIS review and from onsite analysis. There is a mapped riparian area (Vernal SW) approximately 0.50 mile to the northeast of the Project Area. Operator has agreed to reduce impacts down gradient by controlling erosion onsite and reducing long term impacts through reclamation and monitoring. With these operator-committed measures in effect, wetlands/riparian areas are not expected to be impacted as a result of the Proposed Action.	Christine Cimiluca	12/10/2013

Determination	Resource/Issue	Rationale for Determination	Signature	Date
		impacted as a result of the Proposed Action. Recreation activities at Brough Reservoir are not expected to be impacted as a result of the Proposed Action.		
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.	Christine Cimiluca	12/10/2013
NI	Visual Resources	<p>The Project Area is located entirely within VRM Class IV.</p> <p>The objective of VRM Class IV is to provide for management activities that require major modifications of the existing character of the landscape. The level of change to the characteristic may be high. These management activities may dominate the view and be the major focus of view attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating basic elements.</p> <p>In order to meet the objectives of VRM Class IV, new infrastructure would be placed toward the front of the well pad in order to maximize interim reclamation and re-establish the visual character of the land. All reclaimed areas would be recontoured to match the existing landscape and reduce visual impact. In addition, proposed access roads would follow the natural contours of the landscape where applicable. All non-OSHA facilities would be painted Covert Green to match the surrounding vegetation. With these measures in place, the visual impact of the Proposed Action is expected to be minimized, and Class IV objectives should be met.</p> <p>No contrast rating sheet was prepared for this project as it is not in one of the identified sensitive areas within the Vernal Field office.</p>	Christine Cimiluca	12/10/2013
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.	Christine Cimiluca	12/10/2013
NI	Water: Floodplains	There are no mapped 100-year floodplains within the Project Area, as per BLM GIS data review. The nearest mapped 100-year floodplain is the Ouray Canal 100-year floodplain, approximately 0.4 mile to the east. This floodplain is not expected to be impacted as a result of the Proposed Action.	Christine Cimiluca	12/10/2013
NI	Water: Groundwater Quality	Compliance with "Onshore Oil and Gas Order No. 1, would assure that the project would not adversely affect groundwater quality. Due to the state-of-the-art drilling and wells completion techniques, the possibility of adverse degradation of groundwater quality or prospectively valuable mineral deposits by the proposed action would be negligible.	Betty Gamber	12/31/2013

Determination	Resource/Issue	Rationale for Determination	Signature	Date
NI	Water: Hydrologic Conditions (stormwater)	The Project Area is located within the boundaries of the Duchesne River, Ouray Park Canal-Duchesne River, and Duchesne Hydrologic Units. Hydrologic conditions within the Project Area consist primarily of dry ephemeral drainages within a clay loam soil environment. The proposed action as stated is not expected to alter current hydrological conditions. Storm water controls within the site specific reclamation would address mitigation intended to protect current hydrologic conditions.	Christine Cimiluca	12/10/2013
NI	Water: Surface Water Quality	The Project Area has been identified as having several ephemeral drainages that are subject to periodic fluctuations in surface runoff. Alterations in surface water quality could result due to the Proposed Action. However, mitigation measures and best management practices would minimize any potential impacts.	Christine Cimiluca	12/10/2013
NP	Water: Waters of the U.S.	No Waters of the U.S. are present in the Project Area, as per BLM GIS data review and onsite review.	Christine Cimiluca	12/10/2013
NP	Wild Horse and Burro	No herd areas or herd management areas are present in the Project Area per BLM GIS database.	Christine Cimiluca	12/10/2013
PI	Wildlife: Migratory Birds (including raptors)	Migratory birds are present within project area.	Dan Emmett	1/28/2014
PI	Wildlife: Non-USFWS Designated	Project is not within any designated big game species habitat. Prairie dog habitat is present in the Project Area.	Dan Emmett	1/28/2014
PI	Wildlife: Threatened, Endangered, Proposed or Candidate	Water depletion would occur for project. T&E fish species would need to be analyzed. 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	1/28/2014
NP	Woodlands/Forestry	No Woodland or Forestry resources are present in the Project Area.	Christine Cimiluca	12/10/2013

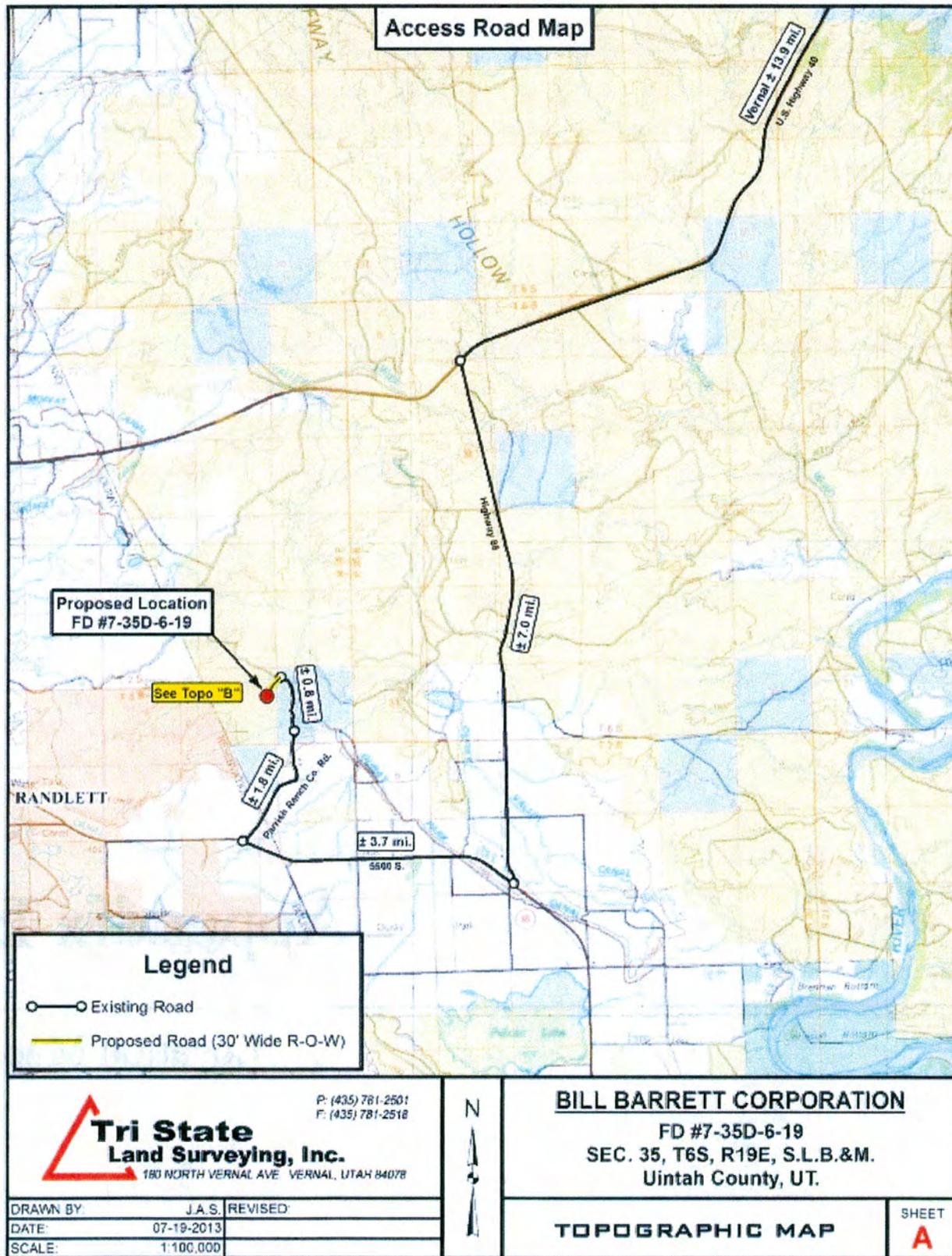
**FINAL REVIEW:**

Reviewer Title	Signature	Date	Comments
Environmental Coordinator		2/19/14	
Authorized Officer		2/21/2014	

# Appendix B

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Location Maps



Map 1. Project Area Vicinity Map

**Tri State**  
**Land Surveying, Inc.**  
 180 NORTH VERNAL AVE VERNAL, UTAH 84078

P: (435) 781-2501  
 F: (435) 781-2518

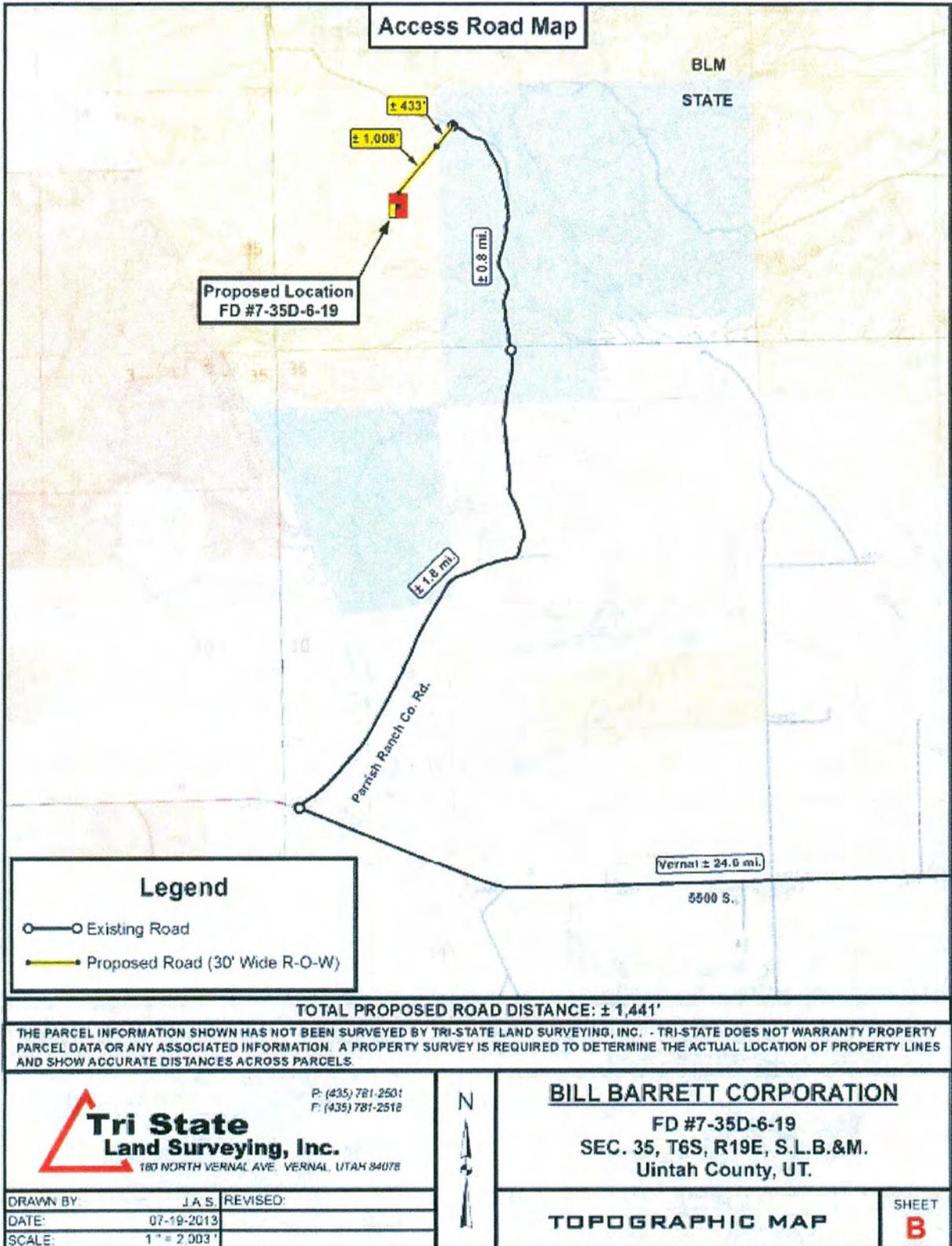
**BILL BARRETT CORPORATION**  
 FD #7-35D-6-19  
 SEC. 35, T6S, R19E, S.L.B.&M.  
 Uintah County, UT.

DRAWN BY	J.A.S.	REVISED
DATE:	07-19-2013	
SCALE:	1:100,000	

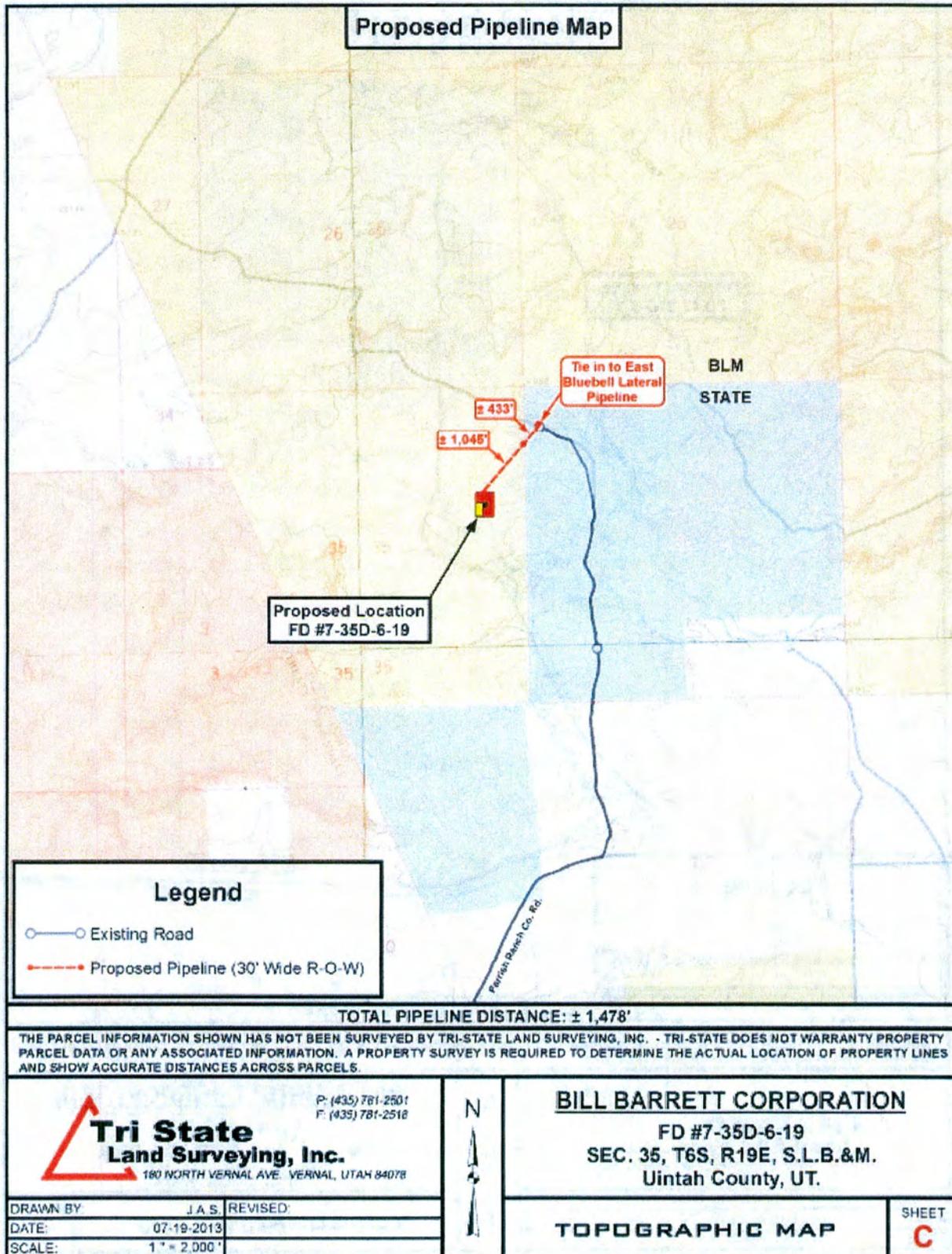


**TOPOGRAPHIC MAP**

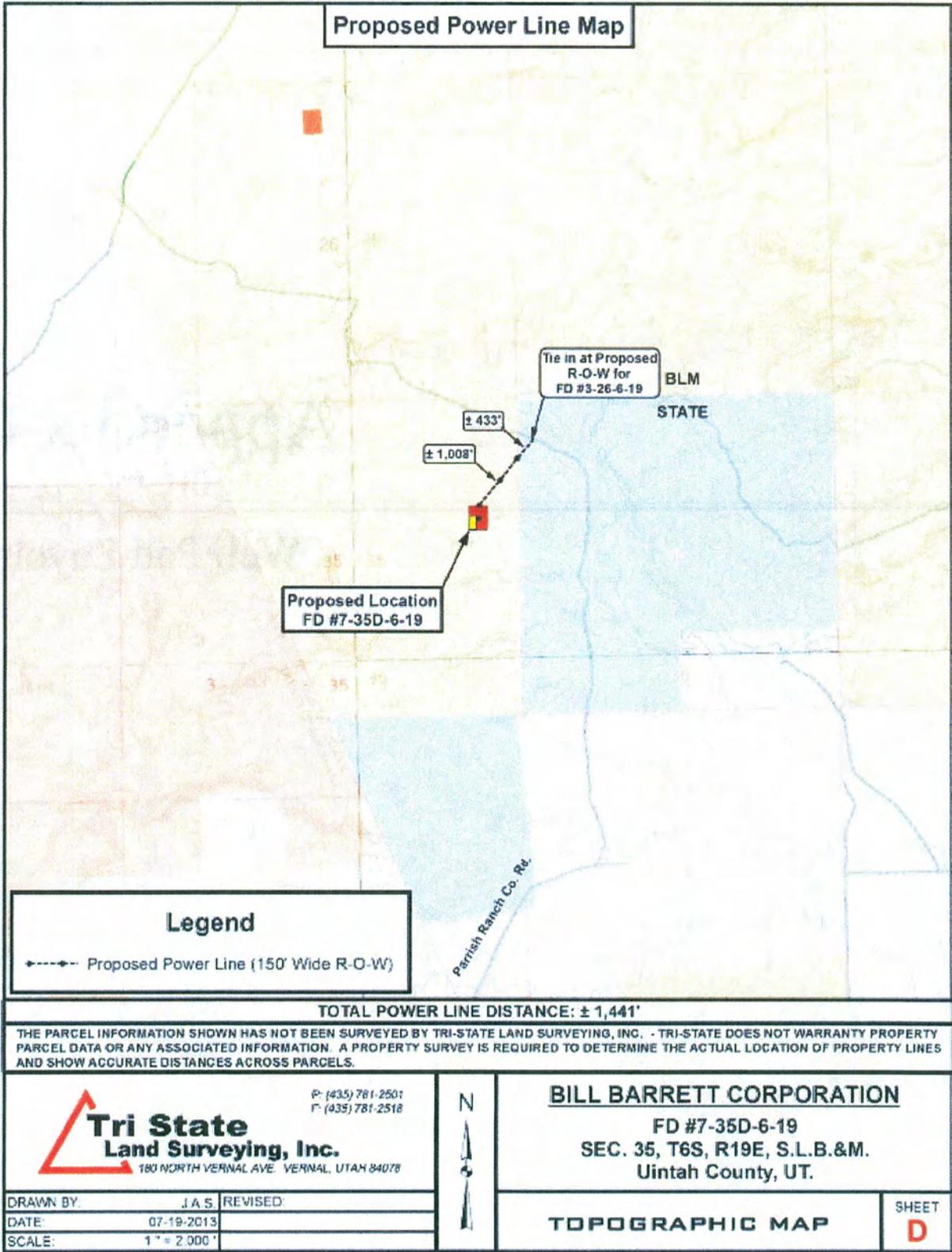
SHEET  
**A**



**Map 2. Proposed Access Road**



Map 3. Proposed Pipeline Route



Map 4. Proposed Power-line Route

# Appendix C

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Well Pad Layouts

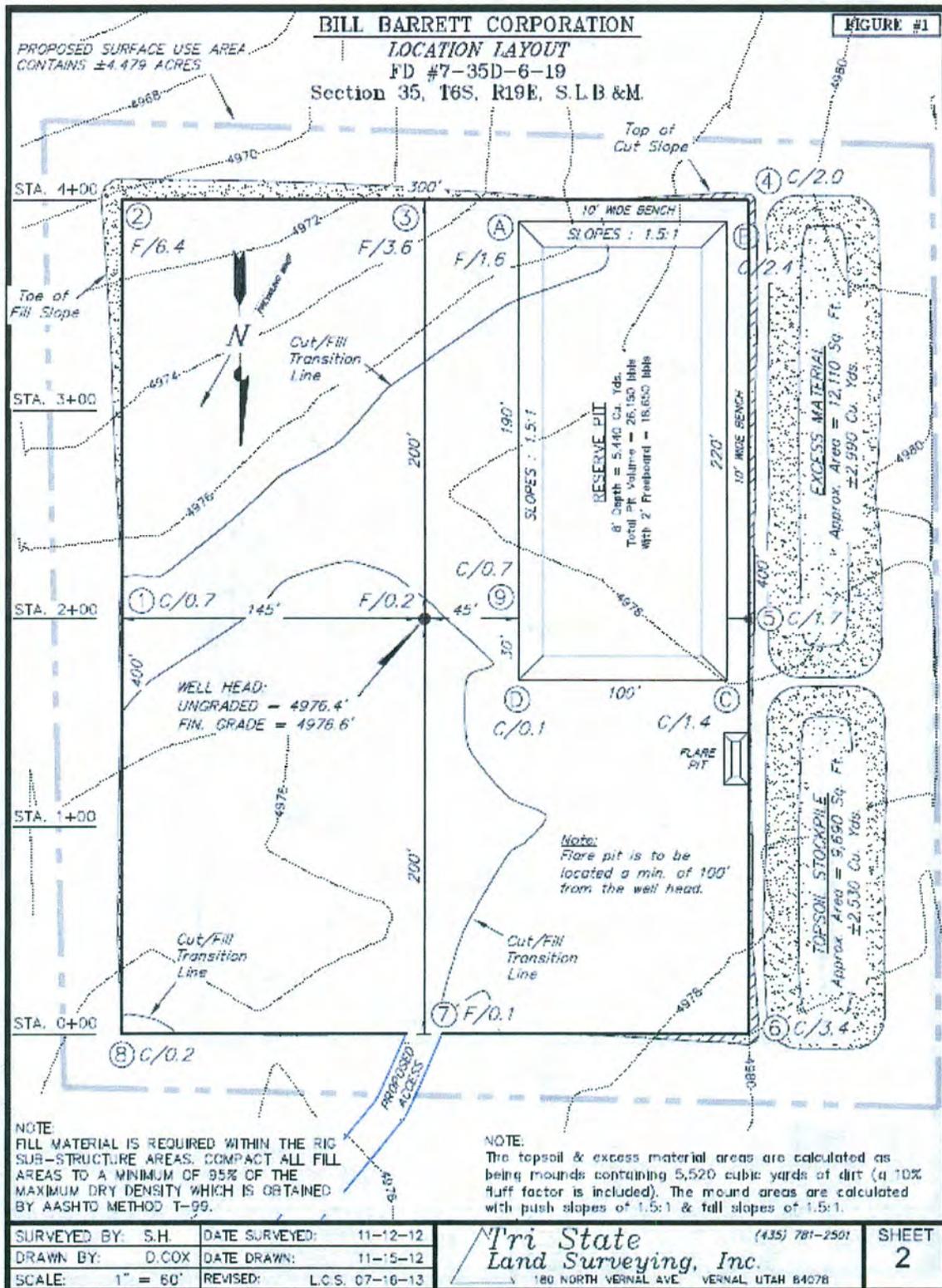


Figure 5. Proposed Well Pad Construction Layout

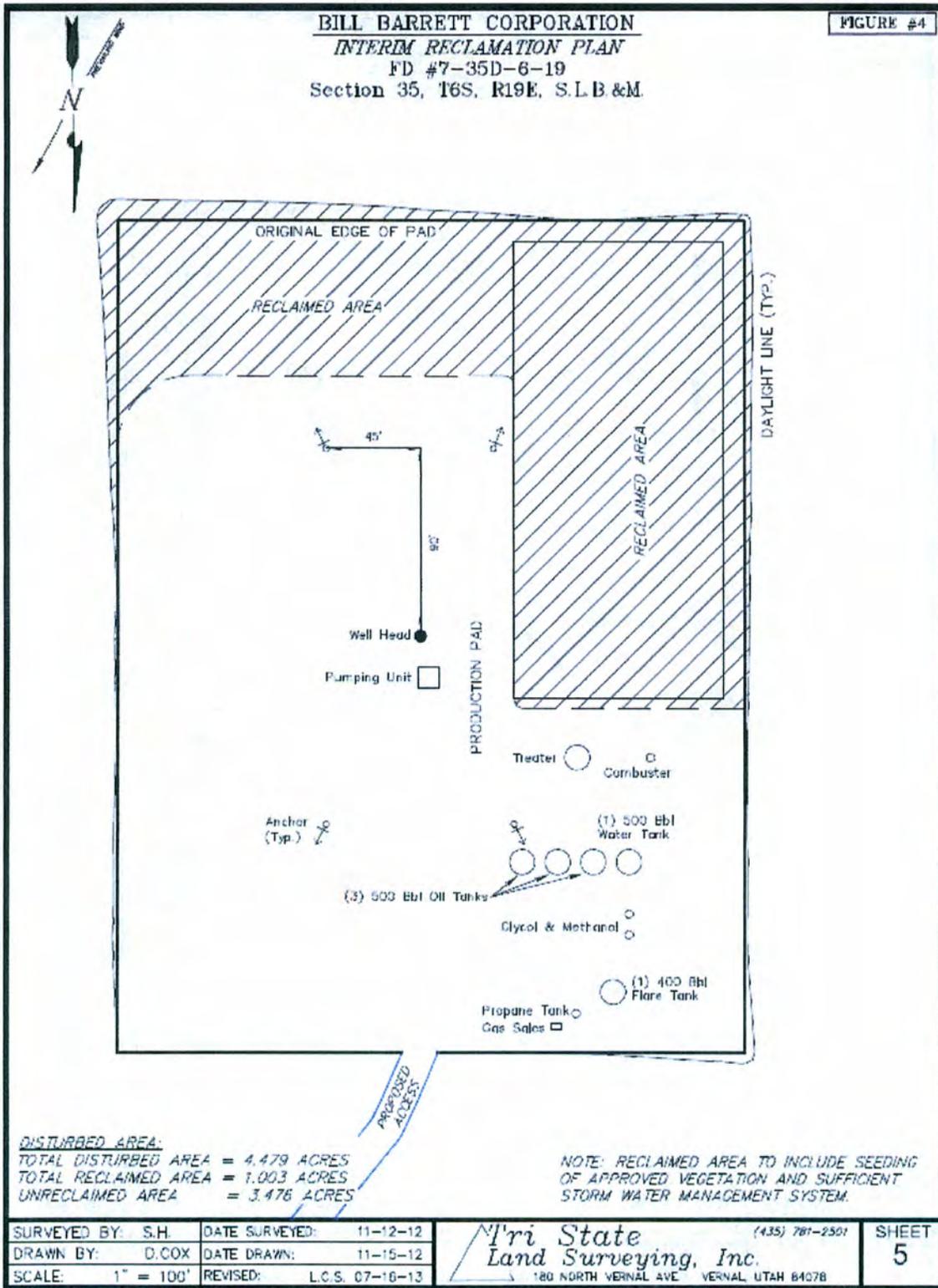


Figure 6. Proposed Well Pad Interim Reclamation/Production Layout

# Appendix D

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Reclamation Plan

**BILL BARRETT CORPORATION  
FORT DUCHESNE DRILLING PROJECT**

**RECLAMATION AND WILDLIFE ENHANCEMENT PLAN**

**FD 7-35D-6-19**

August 8, 2013

Prepared by:

**EIS Environmental and Engineering Consulting**  
31 North Main Street \* Helper, Utah 84526

Office - (435) 472-3814 \* Toll free - (800) 641-2927 \* Fax - (435) 472-8780  
eisec@preciscom.net \* www.EISenviro.com

## Reclamation and Wildlife Enhancement Plan FD 7-35D-6-19

This pad-specific plan tiers from the Uintah Basin Operations Reclamation and Wildlife Enhancement Plan for the purpose of offering site-specific conditions and site-specific reclamation information. This pad will be located in Section 35, T6S, R19E, SLBM (See attached map).

### Pre-disturbance Site Evaluation

#### *Topography*

The proposed disturbance is located on a generally flat sagebrush habitat with small mounds and depressions throughout. There are no major drainages within the proposed pad location. There are no rock outcrops, shelves, or cliffs throughout the site. The elevation of the site is around 4,970 feet.

#### *Vegetation*

This site is within a mixed sagebrush habitat. Basal vegetative cover is approximately 25 percent throughout the site based on ocular estimates. A list of species found on the pad and access road is included below.

Table 1 – Species List

Table 1	
Common Name	
Black sagebrush	Blue grama
Shadscale	Cheatgrass
Snake weed	Galletta
Wheatgrass	Prickly pear
Indian ricegrass	Winterfat
Rabbitbrush	Wyoming big sagebrush

#### *Soils*

Based on the site-specific evaluation, soils throughout the area are a red tan sandy silt loam. Organic matter in the soil averages less than 5 percent. The soil depth ranges from exposed bedrock to up to 6-12 inches of topsoil. The soil characteristics are fairly inconsistent throughout the proposed well pad site. These soils will not likely require supplements during reclamation to enhance vegetation growth.

### Weather Conditions

Table 2 contains the average monthly weather conditions for the Fort Duchesne, Utah area weather station (WRCC 2013). The average weather data from this station was gathered from 10/1/1894 to 3/28/2013.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	28.2	35.8	50.5	63.1	73	83.4	90.5	88.1	78.6	64.5	47.6	32.4	61.3
Average Min. Temperature (F)	1.5	7.9	21.3	30.5	38.7	45.6	52.4	50.4	41.2	30.4	19	7.2	28.8
Average Total Precipitation (in.)	0.39	0.35	0.43	0.53	0.64	0.54	0.51	0.66	0.75	0.82	0.36	0.42	6.39
Average Total Snowfall (in.)	2.7	2.8	1.2	0.4	0	0	0	0	0.1	0.2	0.7	3	11.1
Average Snow Depth (in.)	2	1	0	0	0	0	0	0	0	0	0	1	0

### Suggested Pad Construction

To achieve a more efficient reclamation, the pad and access road should be built with reclamation in mind. Topsoil should be salvaged and then moved as little as possible to avoid loss. As much topsoil as possible should be salvaged in order to cover the entire disturbed area during final reclamation. All cut, fill, and spoil storage areas should also have topsoil removed. The topsoil should be stored in areas that are both easily reached for reclamation and where erosion is minimized. Topsoil storage areas should not be adjacent to proposed tank, separator, facility, or production locations to allow access to the soil during interim reclamation. When feasible, topsoil storage should be located above the cut areas in close proximity to the area to receive interim reclamation. Based on the onsite evaluation, the topsoil stockpile will be located in between corner 5 and corner 6 which will be easily accessible for reclamation. The excess material pile is going to be located in between corner 4 and 5, near the reserve pit.

For reclamation purposes, it is beneficial that any trees within the access road or pad could be salvaged with as many limbs and needles intact as possible. These salvaged trees can be placed outside of the area that can be potentially disturbed with heavy equipment, and then maintained until the trees can be redistributed over the interim reclamation area. The use of dozers during tree salvage should be minimized to retain limbs attached to the trunks. The relatively sparse grasses, forbs and shrub species are of less concern and can be incorporated into the soil salvage operations. Some boulders or large rocks excavated during construction could be saved for reclamation.

A dozer, loader, track loader or trackhoe could be used separately, or in combination, to salvage all available surface soils. A minimum of approximately 6 inches of soil, where available,

should be salvaged. Sterile subsoil should not be salvaged or mixed with the fertile topsoil. The pad and reserve pit are approximately 194,713 square feet. Based on the depth of the soil found during the pre-disturbance evaluation, a minimum of 6 inches of available topsoil could be salvaged over the entire area. A minimum of approximately 2,300 yards of growth media should be available for reclamation. Additional topsoil from the cut, fill, and spoils storage areas should be added to the soil from the pad. The soil should be stockpiled beyond the expected toe of the fill slope and cut slope (Figure 1). After the soil is stockpiled, its location should be delineated with lath and flagging to ensure it is not buried during the construction of the pad. Topsoil should not be used for berms or fill.

A reclamation supervisor, or qualified third party, could monitor the dirt contractor to ensure that the plan is being followed. The contractor should be familiar with the reclamation plan before any work is initiated. The reclamation supervisor or qualified individual needs to have a working knowledge of heavy equipment and understand what constitutes suitable soil, growth media, and what could be salvaged.

### Interim Reclamation

#### *Site Preparation*

The goal of interim reclamation is to provide a stable site that will support a diverse variety of vegetation that will continue to keep the soil fertile, reduce erosion, and provide benefit to wildlife and domestic stock. The site should be aesthetically pleasing and ideally built up with the salvaged soil stored so that it will be enhanced and available when final reclamation is commenced in the future.

If the pad is to remain open after the completion of the well, it is recommended that the topsoil stockpile be seeded with the topsoil stabilization seed mix found in Table 3 to ensure the viability of the growth media for use in reclamation.

Kind and Variety	PLS/ Acre
Thickspike Wheatgrass	1
Great Basin Wildrye	2
Intermediate Wheatgrass	2
Ladak Alfalfa	2
Palmer Penstemon	0.5
Sainfoin	2
Yellow Sweet Clover	1
Total	10.5

After completion of well and associated facilities, but prior to back filling the reserve pit, a reclamation consultant or trained personnel may be notified to oversee reconfiguration of the pad

site. The reserve pit should be backfilled within 90 days following the completion of the last well. Interim reclamation should begin at this point, weather permitting.

All wastes, garbage, and unused scrap should be removed from the site and disposed of at a proper disposal facility. The lining material in the reserve pit should be folded into the trench and covered with a minimum of 36 inches of unconsolidated fill. No trash and/or liner material should be evident on the surface.

The excavated material from the construction of the pad can then be redistributed to minimize slopes to less than 3:1 on all areas to be interim reclaimed. The re-contoured areas should be ripped to a depth of 12 inches perpendicular to the slope to minimize compaction.

The working area of the pad that will remain for the life of the well provides an excellent area to utilize broken and crushed rock that is undesirable for reclamation but will provide a solid mud-free base for the pad. This same material may be utilized for berms and diversions to facilitate storm water containment.

Portions of the pad not necessary for production or maintenance of the well will be ripped, scratched, or scarified to break compacted soils to facilitate seed germination and plant growth (see reclamation diagram). Topsoil should be taken from reserve stockpiles and used on interim areas provided that the topsoil will be salvaged again prior to future drilling activities. The area can then be seeded with the interim reclamation seed mix (Table 4). On sloped areas, soil scarification should be perpendicular to the slope to prevent ruts and gullies from forming and to prevent precipitation from washing seed downhill. Areas not planned for reoccupation would be used for topsoil storage.

The next step is to redistribute the salvaged topsoil. It would be beneficial for a third party monitor or representative of the company to supervise the process. Ideally, a loader could be used to transport the topsoil from the storage location to the area where it will be spread. A dozer could then spread the soil. If a dozer is used alone to transport the soil across the pad, soil can be lost while pushing soil over long distances. Depending on the area to be reclaimed and the amount of soil available, the depth of soil on the area may vary from a few inches up to multiple feet. The goal is to have adequate depth of soil so that it can be scarified and/or pockmarked in such a manner as to facilitate the capture of seed, reduce erosion, and provide catch basins for precipitation. This procedure should reduce the amount of subsoil mixing with topsoil.

It is ideal that the area be pockmarked using a trackhoe or backhoe in areas with topsoil coverage. Pockmarks are small pits 6-12 inches deep and the width of a trackhoe or backhoe bucket. Excavated material from the small pits will be left immediately adjacent to the pits in mounds 6-12 inches high. This procedure leaves the terrain with small basins and piles alternating throughout the interim area. The small pits provide catch basins for precipitation and the piles provide some solar protection for seedlings. The uneven terrain also reduces soil erosion and damage to plants by preventing vehicular traffic. In the event that pockmarks are not feasible, small 6-12" trenches may be used in the same manner to catch water and seed. They should be perpendicular to the slope and spaced 3 to 6 feet apart. This can be accomplished by

using a ripper on a dozer or grader. On more level terrain a disk or other suitable implement may be used to accomplish the same result.

During soil distribution and scarification, the salvaged rock and vegetation (trees) should be redistributed over the site. This provides solar protection for germinating vegetation, concentrates moisture by aiding retention, and helps prevent some overgrazing and trampling damage. Redistributing the trees over the site should be done in conjunction with the scarification; otherwise the pockmarks can be damaged.

### Seeding

All areas where topsoil is in evidence should be seeded during the first available seeding season. Generally this would occur between August 15<sup>th</sup> and December 30<sup>th</sup>. Seeding could take place later in the season but ideally should not be instituted once snow levels exceed 4 inches. An interim seed mix (table 4) should be hand broadcast utilizing an overlapping transect pattern. A warm season seed mix (table 5) may be used at anytime during the spring and summer to enhance reclamation. In areas that warrant, it may be used to control erosion and compete with weed species.

Species	PLS/ Acre
Blue Flax	0.25
Blue Grama	0.5
Bottlebrush Squinttail	2
Four-wing Saltbrush	2
Great Basin Wildrye	1
Palmer Pentstemon	0.5
Sand Drop Seed	0.25
Shadscale Saltbrush	1
Thickspike Wheatgrass	2
Western Wheatgrass	1
Western Yarrow	0.25
Winterfat	0.5
Wyoming Sagebrush	0.25
Total	11.5

Species	PLS/ Acre
Alkali Sacation	0.25
Bee Plant	0.5
Blue Flax	1
Blue Grama	0.5
Galleta	0.5
Great Basin Wildrye	2
Intermediate Wheatgrass	1
Sand Drop Seed	0.25
Side Oat Grama	2
Total	8

### *Success Monitoring*

Initial monitoring would occur during late summer one year following seeding and reclamation efforts. Vegetation cover and success would be determined by ocular estimation, and recommendations for further seeding or supplemental additives could be suggested at this time.

The second year inspection would include ocular estimation to determine vegetative cover. Additional seeding or supplements may be added at this time if reclamation is unsatisfactory. In the event successful reclamation is apparent, vegetative cover in the reclamation area will be compared to vegetative cover on adjacent undisturbed ground. Once the vegetation has established a desired, self-perpetuating, diverse plant community and reaches 75% basal cover compared to the cover on the adjacent undisturbed ground, reclamation will be deemed successful, based on the Green River District Reclamation Guidelines. The second year survey methodology will be replicated on a yearly basis until vegetation success is achieved. The adjacent undisturbed ground will be used as a reference area.

In addition to yearly monitoring for vegetation success, periodic inspections during periods of no snow cover on all reclaimed areas may be completed by a licensed pesticide applicator. The applicator may control State of Utah noxious weeds, insects or rodent infestations. The applicator may also monitor for any other activity or problem that may be detrimental to vegetation success. If any problems were noted, corrective actions will be implemented. If after 3 consecutive reseeding and if success is not apparent, a laboratory analysis of the soil may be warranted in attempt to isolate any potential problems.

### *Weed Management*

Weed species that are officially designated as noxious weeds by the county, state of Utah, and federal agencies will be monitored quarterly if needed. Noxious weeds that pose a high threat are considered as a high priority and will be addressed. Herbicide applications will be applied by a certified applicator with a current Utah Pesticide Applicators License and be in compliance with BLM requirements for BLM-managed surface.

### **Final Reclamation**

The goal of final reclamation is to facilitate eventual ecosystem reconstruction by returning the land to a safe, stable, and proper functioning condition similar to that of pre-disturbance.

It is estimated that the life of each well will be between 20 to 30 years. At that time more advanced methods of reclamation may be available. A re-evaluation of this plan in association with the current governing land management agency (or private landowner) would be advantageous.

After wells on a pad are no longer productive and the pad is no longer needed, final reclamation would begin following the removal of facilities. All large rocks and trees may need to be removed and held outside of the disturbed area. Topsoil in storage areas and interim reclaimed

areas would be removed and stored outside of the edge of disturbance under the direction of a reclamation specialist to ensure complete salvage of topsoil.

Fill would then be pulled to the pad area using a trackhoe. A dozer can then push the material in the cut areas to eliminate additional disturbance during reclamation activities. Dozers can then contour the area to match the surrounding area and approximate appearance prior to well pad construction. The entire reclamation site should have the general slope recreated with a smooth and shallow rolling contour. The overall slope is shallow enough that no terraces are needed to prevent erosion. Long depressions created during reclamation should be perpendicular to overall slope to prevent excessive erosion and gully formation. While contouring the subsoil, straight lines in the soil shape should be avoided in order to create a more natural look.

The subsoil could then be ripped to reduce compaction. Spreading of salvaged topsoil can be completed the same as described in interim reclamation, except soil should be spread over the entire area. The soil could then be pockmarked as described for interim reclamation. Salvaged rocks and trees may be redistributed over the area with erosion control in mind. The reclamation area should be seeded during August 15<sup>th</sup> to December 30<sup>th</sup> with the seed mix listed in Table 6.

Kind and Variety	PLS/ Acre
Blue Grama	0.5
Bottlebrush Squirretail	2
Fourwing Saltbrush	3
Gardner's Saltbrush	0.5
Great Basin Wildrye	2
Indian Ricegrass	0.5
Intermediate Wheatgrass	2
Lewis Flax	0.5
Palmer Penstemon	0.25
Rabbit Brush	0.25
Shadscale Saltbrush	0.5
Western Wheatgrass	1
Western Yarrow	0.25
Winterfat	2
<b>Total</b>	<b>15.25</b>

Monitoring would consist of periodic site visits to control noxious weeds and identify any problems with reclamation.

Yearly monitoring would be similar to interim monitoring beginning in the first late summer after reclamation efforts. Monitoring in the second year would include ocular estimates to determine basal cover. Additional seed or soil amendments may be added to enhance reclamation as needed. Monitoring and supplements would continue until the reclamation area is

thought to be sufficient enough to survey surrounding adjacent areas for comparison. Once the vegetation has established to an acceptable basal cover of 75 percent compared to adjacent undisturbed areas, reclamation would be deemed successful.

# FINDING OF NO SIGNIFICANT IMPACT

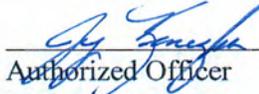
**Environmental Assessment DOI-BLM-LLUTG01000-2014-0043**

***Bill Barrett Corporation Proposes to Drill One New Federal Oil Well on BLM Surface, the FD Federal 7-35D-6-19, in Uintah County, Utah***

---

## FINDING OF NO SIGNIFICANT IMPACT:

“Based on the analysis of potential environmental impacts contained in the attached environmental assessment, and considering the significance criteria in 40 CFR 1508.27, I have determined that Bill Barrett Corporation’s Proposed Oil Well, the FD Federal 7-35D-6-19, in Section 35, Township 6 South, Range 19 East, Uintah County, Utah as described in the proposed action alternative of DOI-BLM-LLUTG01000-2014-0043-EA will not have a significant effect on the human environment. An environmental impact statement is therefore not required.”

  
\_\_\_\_\_  
Authorized Officer

**FEB 21 2014**  
\_\_\_\_\_  
Date

# DECISION RECORD

## Environmental Assessment DOI-BLM-LLUTG01000-2014-0043

### *Bill Barrett Corporation Proposes to Drill One New Federal Oil Well on BLM Surface, the FD Federal 7-35D-6-19, in Uintah County, Utah*

---

#### DECISION RECORD:

It is my decision to authorize Bill Barrett Corporation's Proposed Oil Well, the FD Federal 7-35D-6-19, in Section 35, Township 6 South, Range 19 East, Uintah County, Utah as described in the proposed action alternative of DOI-BLM-LLUTG01000-2014-0043-EA.

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

#### Summary of the Selected Alternative:

- Bill Barrett Corporation (BBC) will drill up to 1 new oil well, FD Federal 7-35D-6-19, in SE/NE Section 35, Township 6 South, Range 19 East, in Uintah County, Utah. The proposed project area is located approximately 27.5 air miles southwest of Vernal, Utah. There will be approximately 6.49 acres of new surface disturbance associated with the drilling or production of this well. If dry, the well will be plugged and abandoned per BLM and State of Utah requirements.

Well Name and Number	Access Road/Power-line (30 ft. corridor width)	Buried Pipeline (30 ft. corridor width)	Well Pad	Total disturbance
FD Federal 7-35D-6-19	1,441 feet 0.99 acre	1,478 ft. 1.02 acres	4.479 acres	6.49 acres

- During construction, topsoil storage areas will be identified with appropriate signage. Topsoil will be segregated from the subsoil (without mixing them), stockpiled separately from other soil materials, and maintained for future use in rehabilitating the locations. Topsoil piles stored beyond one growing season will be stabilized and seeded to prevent erosion.
- The reserve pit will be fenced on three sides prior to drilling activity and closed off on the fourth side after drilling is finished. The reserve pits for all proposed wells will be lined with a 12 ml liner with felt.
- The operator will control noxious/invasive weeds along their roads, pipelines, well sites, or other applicable facilities by the application of herbicides or by mechanical removal until reclamation
- A list of noxious weeds shall be obtained from the BLM or the appropriate county extension office. On BLM-administered land, the operator will submit a Pesticide Use Proposal and obtain approval prior to the application of herbicides, other pesticides, or possible hazardous chemicals.

- Immediately upon well completion, the location and surrounding area shall be cleared of all unused tubing, equipment, debris, materials, and trash. Any hydrocarbons in the pit will be removed in accordance with 43 CFR 3162.7-1.
- The reserve pit and the portion of the well not needed for production facilities/operations shall be recontoured to the approximate natural contours. The reserve pit will be reclaimed within 120 days from the date of well completion, or as soon as environmental conditions allow. The stockpiled pit topsoil will then be spread over the pit area and broadcast-seeded/drill seeded (preferred method) with the interim seed mixture listed in the table below after August 15<sup>st</sup> and prior to winter freezing of the soil. The seed mixture shall be worked into the topsoil with a drill seeder, bulldozer or other heavy equipment. If initial seeding is not successful, reseeding may be required.
- Once the well is plugged and facilities are removed and abandoned, the topsoil shall be stripped and stockpiled off of the location, and the well site, pipelines, and access roads will be returned to natural contours. The topsoil shall be respread, and the location seeded with a seed mixture approved by the BLM AO. The seed mixture shall be worked into the topsoil with a drill seeder, bulldozer or other heavy equipment.
- Revegetated areas will be inspected annually and monitored to document location and extent of areas with successful revegetation, and areas needing further reclamation (for a period of 5 years after construction completion). A reclamation report will be submitted to the AO by March 31 of each year.
- The operator will paint all facilities the color Covert Green to help meet VRM IV guidelines.
- BBC will educate its contractors and employees about the relevant federal regulations intended to protect cultural resources. All vehicular traffic, personnel movement, construction and restoration activities shall be confined to areas cleared by the site inventory and to existing roads. In the event historic or archaeological resources are uncovered during construction, work will stop immediately and the appropriate BLM AO will be notified.
- A qualified paleontologist will be present during construction activities in order to monitor and spot check all disturbances to bedrock in the Project Area. BBC will educate its contractors and employees about the relevant federal regulations intended to protect paleontological resources. All vehicular traffic, personnel movement, construction, and restoration activities shall be confined to areas cleared by the site inventory and to existing roads. If any potential paleontological resources are uncovered during construction, work will stop immediately in the area and the appropriate BLM AO will be notified.
- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horse power must not emit more than 2 grams of NO<sub>x</sub> per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower-hour.
- All new and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gram of NO<sub>x</sub> per horsepower-hour.
- If surface disturbing activities for the well(s) are planned during the current timing restrictions for the Burrowing Owl (March 1<sup>st</sup> through August 31<sup>st</sup>) a survey for nesting Burrowing Owl is required. Based on the results of the survey, permission to proceed may or may not be granted.

**Rationale for the Decision:**

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

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

The proposed project is consistent with the *Uintah County Public Land Use Plan* (County Plan) (published in April 2004) that encompasses the location of the proposed wells. In general, the plan indicates support for development proposals such as the proposed action through the plan's emphasis on multiple-use public land management practices, responsible use and optimum utilization.

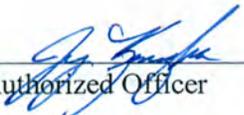
There are no comprehensive State of Utah plans for the vicinity of the selected alternative. However, the State of Utah School and Institutional Trust Lands Administration (SITLA) have leased much of the nearby state land for oil and gas production. Because the objectives of SITLA are to produce funding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

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

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

**Summary of Public Involvement Efforts and Public Response**

The Proposed Action was posted to the Federal NEPA Register on December 11, 2013. No public interest has been expressed.

  
\_\_\_\_\_  
Authorized Officer

FEB 21 2014  
\_\_\_\_\_  
Date

**Appeals:**

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

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

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