Proposed Access Road Upgrade and Pipeline Corridor for Well 13-9D-37 (S16T3SR7W)

Final Environmental Assessment

Prepared for:

Berry Petroleum Company
1999 Broadway Suite 3700
Denver, CO 80202

Mitigation Commission
230 S 500 E. Ste. 230
Salt Lake City, Utah 84102-2045

Prepared by:

OUTLAW Engineering, Inc.
PO BOX 1800
Roosevelt, Utah 84066

Duchesne County, Utah

August 2012

Contents

Acronyms and Abbreviations ..... **iii**

1.0 General Overview **1**
- 1.1 Introduction 1
- 1.2 Background 1
- 1.3 Purpose and Need 1
- 1.4 Authorizing Actions, Permits, and Licenses 1
- 1.5 Scoping Process and Issues 2

2.0 Description of Alternatives **4**
- 2.1 Introduction 4
- 2.2 Development of Alternatives 4
- 2.3 No Action Alternative 4
- 2.4 Alternative Considered but Eliminated 4
- 2.5 Alternative 1 4
- 2.6 Schedule 5
- 2.7 Best Management Practices 6

3.0 Affected Environment and Environmental Consequences **10**
- 3.1 Introduction 10
- 3.2 Terminology 10
- 3.3 Agriculture and Grazing 14
- 3.4 Air Quality 14
- 3.5 Biological Resources 16
- 3.6 Cultural, Archeological, and Paleontological Resources 18
- 3.7 Environmental Justice 19
- 3.8 Hazardous and Nonhazardous Waste and Materials 20
- 3.9 Noise 21
- 3.10 Traffic 22
- 3.11 Visual Resources 22
- 3.12 Cumulative Impacts 24

4.0 Coordination and Consultation **25**

5.0 References **27**

6.0 List of Preparers **28**

Tables

Table 3-1 - Resources Not Carried Forward **11**

Table 3-2 - Levels of Significance **12**

Table 3-3 - Summary of Impacts and Mitigation Measures **13**

Figures

Figure 2-1 - Location and Site Map 9

Figure 3-1 **-** Northwest view of Project Area 23

Appendix

Appendix A: Biological Assessment: Vegetation and Wildlife Survey Results 13-9D-37

Appendix B: Cultural, Archaeological, and Paleontological Survey

Acronyms and Abbreviations

APE	Area of Potential Effects
BMP	best management practice
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	*Code of Federal Regulations*
CO	carbon monoxide
DERR	Utah Division of Environmental Response and Remediation
EA	environmental assessment
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act of 1973, as Amended
FONSI	Finding of No Significant Impact
MM	mitigation measure
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act
NO_x	nitrogen oxides
NRHP	National Register of Historic Places
O_3	ozone
PM	particulate matter
PM_{10}	PM less than 10 micrometers in aerodynamic diameter
$PM_{2.5}$	PM less than 2.5 micrometers in aerodynamic diameter
RCRA	Resources Conservation and Recovery Act of 1976
ROW	right-of–way
SHPO	State Historic Preservation Office
SO_2	sulfur dioxide
T&E	threatened and endangered
U.S.	United States
UBM	Uintah Base Line and Meridian
UDAQ	Utah Division of Air Quality
UPDES	Utah Pollutant Discharge Elimination System
USFWS	U.S. Fish and Wildlife Service
WMA	Wildlife Management Area

1.0 General Overview

1.1 Introduction

Berry Petroleum (Berry) requested a License Agreement to utilize lands owned by the United States Government and managed by the Utah Reclamation Mitigation and Conservation Commission (Mitigation Commission) and the Division of Wildlife Resources (DWR), to access and develop a mineral lease in Section 9 Township 3 South (T3S) Range 7 West (R7W), Uintah Base Line and Meridian (UBM), listed as well site 13-9D-37.

This Environmental Assessment (EA) is being prepared pursuant to Section 102(2)(C) of the National Environmental Policy Act of 1969 (NEPA), as amended; the Council on Environmental Quality's (CEQ's) implementing regulations under NEPA (40 *Code of Federal Regulations* [CFR] 1500 through 1508) and the Mitigation Commission's NEPA Implementing Procedures (43 CFR Part 10010).

1.2 Background

Berry proposes to construct and operate an oil and gas well in Section 9 Township 3 South (T3S) Range 7 West (R7W), Uintah Base Line and Meridian (UBM), on private property adjacent the United States lands. However, access across the United States lands on an existing access road located in the N ½ Section 16 Township 3 South (T3S) Range 7 West (R7W), Uintah Base Line and Meridian (UBM) and construction of a pipeline is requested to facilitate the well site development and operation.

The existing access road is inadequate to support the level of use and type of vehicles anticipated by Berry for construction and subsequent operation and maintenance of an oil and gas well site development. The well pad and portions of both the pipeline ROW alignment and access road are located on private property the impacts of which are not within the scope of this EA. The analysis area is generally limited to those lands owned by the United States Government and managed by the Mitigation Commission (a federal agency) and the Utah DWR as a Wildlife Management Area (WMA).

1.3 Purpose and Need

The purpose of the proposed action is to provide safe, maintained pipeline and road access to an oil and gas well that will be developed within Section 9, Township 3 South, Range 7 West, Uintah Base Line and Meridian. The mineral lease and well are owned by Berry Petroleum.

The need for the proposed action is to respond to a License Agreement request submitted by Berry Petroleum to the Mitigation Commission to access, upgrade and expand 4,200 feet of an existing dirt road on lands owned by the United States and managed by Mitigation Commission and DWR, and to construct a buried pipeline within the expanded roadway ROW. The Mitigation Commission is a Federal Agency and is the Lead Agency for this NEPA analysis.

1.4 Authorizing Actions, Permits, and Licenses

Endangered Species Act of 1973, as Amended (ESA). Mitigation Commission obtained a list of threatened and endangered (T&E) species from the USFWS that are located in the impact area of influence. The Mitigation Commission has initiated coordination with the U.S. Fish and Wildlife Service (USFWS) on fish, wildlife, plant resources and habitat that could potentially be affected by

the Proposed Action and other alternatives. Recommendations will be incorporated into the Proposed Action.

National Historic Preservation Act (NHPA). The Mitigation Commission has initiated consultation with the Utah State Historic Preservation Office (SHPO) on cultural resources that could be affected by the EA alternatives.

Executive Order 11988, Floodplain Management. Protection of floodplains and their management have been incorporated into the formulation of alternatives and integrated into the resource impact analysis in Section 3.9.

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations. Federal agencies are required to adopt strategies addressing environmental justice concerns within the context of agency operations. Human health and environmental conditions in minority and low-income communities have been integrated into the resource impact analysis in Section 3.7 of the EA.

Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks. This executive order directs Federal agencies to identify and assess environmental health risks and safety risks that may disproportionately affect children and ensure that policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks. This order has been taken into account during the formulation of activities.

Executive Order 13514—Federal Leadership in Environmental, Energy, and Economic Performance. Federal agencies are required to set a 2020 greenhouse gas emissions reduction target; increase energy efficiency; reduce fleet petroleum consumption; conserve water; reduce waste; support sustainable communities; and leverage federal purchasing power to promote environmentally responsible products and technologies. This order has been taken into account during the formulation of activities.

Construction Storm Water Permit. Because the area to be disturbed by construction equipment exceeds 1 acre, prior to construction a Notice of Intent for a Construction Storm Water permit will be obtained as part of the Utah General Storm Water Permit (Permit No. UTR100000, Part III D), and a construction stormwater plan will be developed and implemented to prevent runoff during construction from leaving the Project Area and impacting other areas. A Notice of Termination will be submitted upon completion of construction.

1.5 Scoping Process and Issues

Copies of the Draft Environmental Assessment were sent to approximately 42 adjacent landowners, interested parties, County and local agencies. In addition, a Public Notice was issued in two consecutive weekly publications of the Uinta Basin Standard Examiner. The Draft EA was also made available on the Mitigation Commission's website for public review and comment. These public outreach efforts resulted in the receipt of one comment letter from the Duchesne County Commissioners who were in support of the Proposed Action.

1.5.1 Interrelated Projects

Bill Barrett Corporation, an energy company based in Denver, Colorado, has proposed an oil well located on the federally owned parcel located in N ½ Section 16 (T3S) (R7W) UBM. The proposed

Bill Barrett well site and proposed Berry well site 13-9D-37 will jointly utilize approximately 2,205 feet of dirt road located on the federally owned property that will require upgrades during the construction process and subsequent well operation and maintenance. However, the Bill Barrett well site would not utilize the approximately 1, 995 feet of proposed road ROW north of their well site.

1.5.2 Decisions to Be Made

The Mitigation Commission must determine whether or not to issue a License Agreement to Berry to improve and utilize the road crossing federally owned property and to allow Berry to construct a pipeline within the ROW. The Mitigation Commission must also determine required mitigation measures to minimize the anticipated environmental impacts should a license be issued to the applicant.

Based on the impacts identified in this EA and public comment, the Mitigation Commission will determine whether the anticipated impacts are sufficient to require preparation of an Environmental Impact Statement (EIS). If not, a Finding of No Significant Impact (FONSI) associated with the selected action will be issued. If a FONSI is not warranted, the Mitigation Commission must decide whether to require Berry to prepare an EIS, or select the No-Action Alternative.

This document will provide the Mitigation Commission with the necessary information to make project implementation and operational decisions that adequately consider the environmental impacts of those decisions during the earliest stages of the construction planning process.

2.0 Description of Alternatives

2.1 Introduction

Chapter 2 discusses how the alternatives were developed, describes each alternative and option, and summarizes comparison of the effects of these alternatives. Chapter 2 is intended to present the alternatives in comparable form, define the issues, and provide a clear basis for selection among options by the decision maker and the public (40 CFR 1502.140).

2.2 Development of Alternatives

Berry Petroleum submitted a request to the Mitigation Commission in May 2011 for a ROW to cross the United States owned property in order to develop a mineral lease in Duchesne County, Utah. The lease is located on private land, but a road was needed to provide a route to proposed well 13-9D-37 for access during construction and subsequent operation and maintenance of the well. The original request proposed that the access road be located within the northern portion of the United States property. The Mitigation Commission requested Berry to consider access from a southern route in order to consolidate infrastructure and resulting impacts with other oil and gas developments in the area. The proposed well location, proposed well pad, and majority of the proposed access road would be located on private property.

2.3 No Action Alternative

The No Action Alternative would not utilize United States lands in N ½ Section 16 T3S R7W, UBM for the pipeline or access road and no License Agreement would be required.

2.4 Alternative Considered but Eliminated

The originally proposed entrance for the Berry Petroleum Well 13-9D-37 access road is located in Duchesne County, Utah on State Road 208 approximately 3 miles northeast of the Highway 40 / State Road 208 intersection. This road heads in a southeasterly direction and then turns to the northeast. The total length of the alignment is approximately 12,600-feet or 2.4 miles. The Mitigation Commission reviewed the request and suggested Berry consider an alternative access road footprint. The Mitigation-proposed alignment incorporated multiple uses and would reduce disturbance to wildlife, especially during winter, from increased road traffic. The originally proposed alignment is not evaluated in this EA.

2.5 Alternative 1

The entrance to the access road for Berry Petroleum well 13-9D-37 is located in Duchesne County, Utah on Highway 40 between mile markers 70 and 71. The access road heads north from Highway 40, veers northeast then southeast to a T-intersection. At the T-intersection, the access road continues to the northeast and turns to the northwest. It continues in this direction then turns to the southwest. The total length of the Alternative 1 alignment is approximately 13,900-feet or 2.6 miles. Most of this road is located on private land and is not being evaluated in this EA.

Alternative 1 includes an approximately 4,200-foot length of the northwest bearing portion of the access road (See Figure 2-1) that crosses United States owned property within the WMA. Under Alternative 1 the existing road would be improved and widened 10 feet on each side within the approximately 4,200-foot length.

The road would be designed to minimize disturbance and maximize transportation efficiency and would be built and maintained by Berry to provide year-round access. The road would be built of 4-inches of sub-base and 2-inches of road-base material and crowned and ditched to control surface runoff and to provide a stable travel surface. Soft spots that may develop in the road surface during any phase of the operation would be watered and, if necessary, filled with crushed rock from well pad construction. Materials will be local and come from a pit within 20 miles of the Project Site. Cattle guards would be installed at fence crossings and would be maintained in good operating condition by Berry for the duration of field production and operations.

Construction of new access roads and well pads would require a maximum of five workers for a period of approximately five days. Workers would include both heavy equipment operators engaged in construction of roads and well pads, and truck drivers engaged in hauling heavy equipment to and from well pad locations.

Use of the access road would occur during well drilling operations, production operations and well maintenance, and well decommissioning and abandonment.

Table 2-1 contains the typical daily round trips by vehicle type associated with construction and use of the access road and well.

TABLE 2-1
Typical Traffic (Daily Round Trips)

Vehicle Type	Road, Pad, and Pipeline Construction (5 days each)	Drilling (14 days)	Completion (14 days)	Facilities (14 days)	Production (30 years)
Light Truck	5	10	15	10	2
Heavy Truck	14	8	5	5	1.5

Notes: Assumes water hauling will be required for dust suppression on roads and for drilling and completion of the development. Assumes 4,200 feet of road construction or improvement.

A buried, 4-inch, polypropylene pipeline would be constructed within the expanded access road. This pipeline would carry gas from the well site to an existing El Paso gas transmission line south of the pad and road. The pipeline would be constructed with minimal vegetation disturbance. The pipeline would be owned and maintained by Berry Petroleum.

Following access road and pipeline construction, equipment, supplies, and trash would be removed from the construction ROW. Additional best management practices are described in Section 2.7 of this document.

2.6 Schedule

It is anticipated that construction of the access road and pipeline would occur during the summer of 2012. Use of the access road would begin as soon as the road is completed and would continue through well construction and development, production operations and maintenance, decommissioning and abandonment as provided in the License Agreement.

The WMA provides critical big game winter range. Gated access is required on the south boundary of the WMA as identified in Figure 1 to maintain the integrity of the winter closure for the property as a wildlife protection measure. The gate would be locked from November 30 through April 16 of

each year during production operations and maintenance of the well-site. Construction of the road, pipeline and well site development will be restricted to the period of April 16 through November 30 to avoid conflicts with wildlife and limit ground disturbance activities to periods of low precipitation minimizing impacts to soil. Any construction activities during the wildlife closure period would be coordinated with and authorized by the Mitigation Commission. All road construction, operation, maintenance, and use during the winter wildlife closure period would occur only during daylight hours. However, crews would be allowed access along the road 24 hours each day in order to address well production emergencies and procedures.

Well construction and development would occur over one month. Production operations and maintenance are expected over 30 years. Well plugging would occur within one month after the well is decommissioned.

2.7 Best Management Practices

Adherence to standard and project-specific best management practices (BMPs) for the following activities would reduce short-term impacts during the construction of the access road and pipeline and other related construction activities:

Landscape preservation and impact avoidance

Erosion and sediment control

Cultural and paleontological resource site clearances

Site restoration and revegetation

Air quality protection

Prevention of water pollution

Hazardous material storage, handling, and disposal

Cultural clearance

Traffic control

Public notice and involvement

Each of these procedures would be incorporated into all construction specifications and contract documents, as appropriate, and all contractors would be required to follow them.

Landscape Preservation and Impact Avoidance

Construction specifications would require contractors to preserve the natural landscape and prevent any unnecessary destruction, scarring, or defacing of the natural surroundings in the work vicinity. Trees, native shrubbery, and other vegetation would be preserved and protected from construction operations and equipment except where clearing operations are required for construction or excavation operations. Clearing operations would be limited to those needed for construction and would be restricted to only a few feet beyond areas required for construction.

Noxious weed control would be required perpetually throughout the project area. A Pesticide Use Proposal would be prepared by Berry Petroleum and approved by the Mitigation Commission prior to application of any pesticides.

Any newly disturbed soil would be treated for knapweed for at least three growing seasons.

All construction vehicles and equipment entering and leaving the project area would be decontaminated per Mitigation Commission procedures to prevent the introduction of noxious weeds to the project area.

Erosion and Sediment Control

Final erosion control and site restoration measures would be initiated as soon as an area is no longer needed for construction, stockpiling, or access.

Berry Petroleum would prepare a Storm Water Management Plan (SWMP) to be approved by the Mitigation Commission. This plan would include sufficient information and narrative descriptions regarding construction activities along existing waterways, locations of all proposed potential discharges, identification of potential pollutant sources, maps detailing all ground disturbing activities, and details and figures for proposed BMPs for construction activities.

BMPs would be implemented and maintained to control stormwater runoff in a manner that minimizes erosion, transport of sediment offsite, and site degradation. BMPs would be maintained until the project area is abandoned and final reclamation is achieved.

Site Restoration and Revegetation

Erosion control measures would be initiated as soon as an area is no longer needed for construction or stockpiling. Upon completion of construction, any land disturbed, but not permanently occupied by the expanded access road, would be graded to provide proper drainage and blend with the natural land contours and restored to its preconstruction condition. Where such lands were vegetated, they would be covered with topsoil stripped from construction areas and revegetated, as appropriate, with plants native to the area and beneficial to wildlife. Post construction monitoring would allow spot-treatment for noxious/invasive weeds to ensure successful revegetation.

Upon construction completion, all staging areas, construction materials, and debris would be removed from the site. Road surfaces would be scarified, as needed, to establish conditions suitable for proper drainage and erosion prevention.

At all times, construction areas, including storage yards, would be kept free from accumulations of waste materials and trash. During the final phase of work, contractors would be required to remove all unused materials and trash, dump it in an approved sanitary landfill, and leave work areas similar to the natural landscape.

Any areas of soil disturbance would be reseeded with a Mitigation Commission-approved seed mix and protected until vegetation is established. This includes required interim reclamation of the site by reclaiming areas during construction of the site but not necessary for operations.

Air Quality Protection

Contractors would be required to establish measures to protect air quality during construction. Proper controls will be implemented to minimize air quality impairments during construction. Dust would be suppressed using appropriate technology during construction activities. Dirt-surfaced roads would be regularly watered during dry periods of active construction to prevent fugitive dust emissions. All loads leaving the site would be covered.

Hazardous Material Storage, Handling, and Disposal

Contractors would be required to comply with Utah Hazardous Waste Management Regulations established under the authority of the federal Resources Conservation and Recovery Act of 1976 (RCRA) and the Utah Hazardous Waste Act of 1979.

The potential for adverse impacts from oil and fuel spills would be reduced through careful handling and designation of specific equipment repair and fuel storage areas. Oil, petroleum waste products, chemicals, and hazardous or potentially hazardous wastes would not be drained onto the soil but confined in sealed containers or sealed sumps for removal to approved disposal sites. They would be transported in accordance with all applicable state and federal safety standards.

The contractor would be required to prepare a Spill Prevention, Control, and Countermeasure Plan if the project is storing, transferring, using, or consuming oil and oil products and has an aggregate aboveground storage capacity of greater than 1,320 gallons. Only aboveground containers with a capacity of 55 gallons or greater are counted in determining if the aggregate storage quantity of 1,320 gallons is exceeded. The proposed project does not involve the use of any underground storage tanks.

Waste materials known or found to be hazardous would be disposed of in approved treatment or disposal facilities in accordance with federal, state, and local regulations, standards, codes, and laws.

All hazardous materials used would be required to have a material safety data sheet filed onsite. A hazardous material safety and communication plan would be required from each contractor with special emphasis on preventing hazardous materials from entering wetlands and watercourses or contaminating the soil or groundwater.

Compliance with NHPA Section 106

In accordance with 36 CFR 800.13(a) and (b)(1), Berry Petroleum would provide for the protection, evaluation, and treatment of any historic property discovered prior to or during construction. Should any archaeological or historic site or object be discovered within the access road area, construction would be suspended and the Mitigation Commission would immediately be verbally notified of the nature and exact locations of the findings. The contractor, engineer, or other person responsible for the discovery would not damage the discovered objects. If the discovery resulted from construction or other ground-disturbing activities, these activities would immediately cease until the Mitigation Commission, in consultation with the SHPO in accordance with 36 CFR 800.14(b)(3), develops and implements an appropriate treatment plan. .

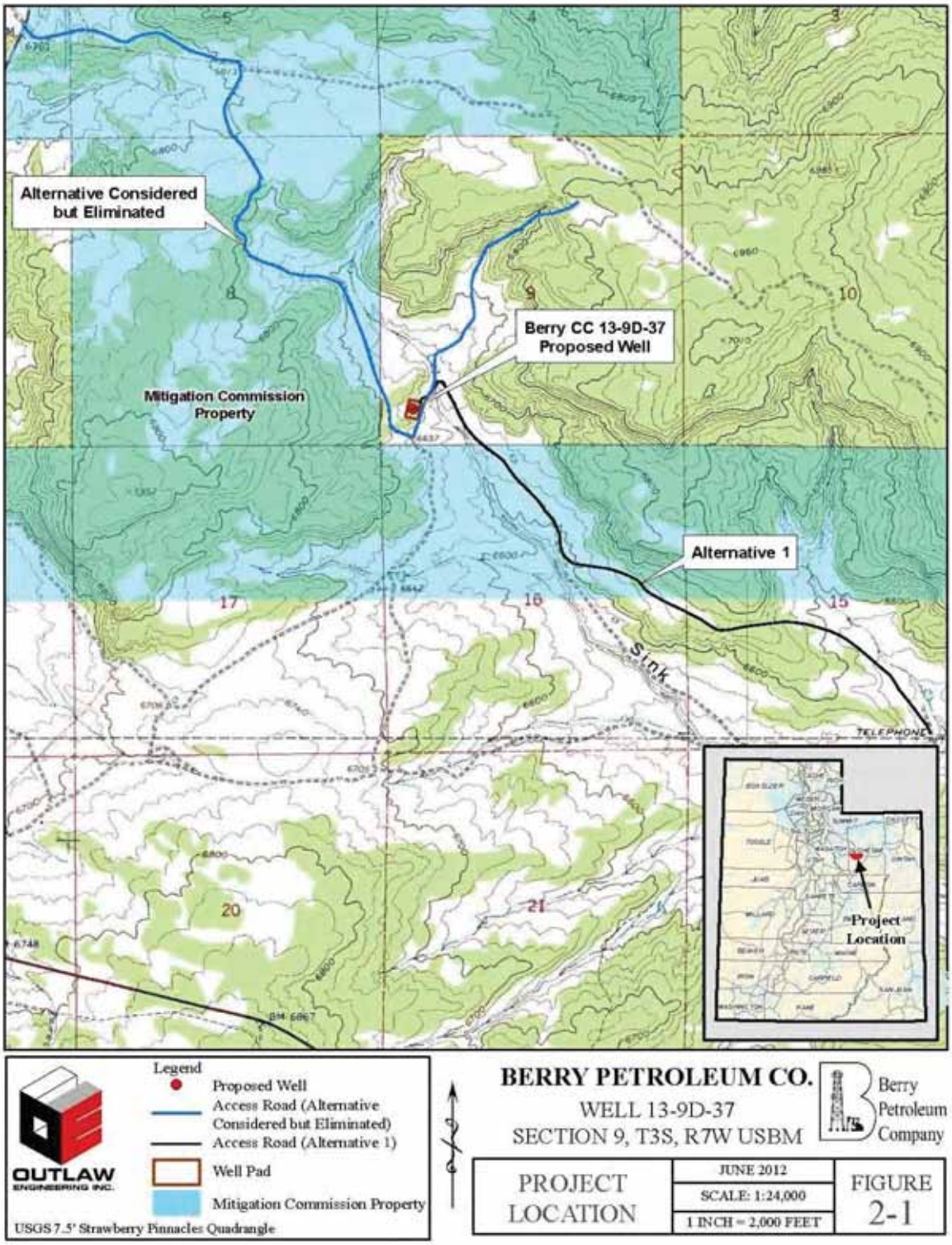
Berry Petroleum would provide on-site cultural resource monitoring by a qualified, Utah SHPO permitted, independent archeologist during all ground clearing activities.

Public Involvement and Public Notice

The Mitigation Commission would comply with all public notice requirements to ensure that the public has an opportunity to participate in the NEPA process. Public notice requirements for this project consist of publishing notices with the local media and contacting adjacent landowners and other interested parties.

FIGURE 2-1

Location and Site Map



3.0 Affected Environment and Environmental Consequences

3.1 Introduction

This chapter describes the affected environment and environmental consequences that would result from the construction, use, and maintenance of the proposed access road and pipeline. Issues addressed in the analyses are short- and long-term impacts of access road construction and use, respectively, to each resource category. Resources that are not present or would have no impact from construction or use are listed in Table 3-1. The rationale for these resources not being evaluated further is also provided. The No-Action alternative does not include access road expansion, therefore only use of the existing two-track road is evaluated. The affected environment discussions describe existing conditions for resources within the project area of influence.

3.2 Terminology

Environmental consequences (also referred to as “impacts”) are defined as negligible, minor, moderate, or significant. To assess whether an impact is significant, the CEQ regulations require consideration of context and intensity of potential impacts (40 CFR 1508.27). Context normally refers to the setting, whether local or regional, and intensity refers to the severity and duration of the impact. The levels of significance listed in Table 3-2 generally describe impacts.

Impacts may be direct, indirect, or cumulative in nature. Direct impacts are caused by the action and occur at the same time and place as the project. Indirect impacts are associated with a project and occur later in time or farther removed in distance; but they are still reasonably foreseeable. Cumulative impacts result from the incremental impacts of the action when added to other past, present, and reasonably foreseeable actions, regardless of the agency or person initiating the other actions. Where indirect impacts are specifically related to a project and can occur from induced development, cumulative impacts are the result of other present and future development actions. Cumulative impacts can also result from individually minor, yet collectively significant, actions taking place over a period of time.

Mitigation is identified when it might reduce the intensity of an impact. Note that mitigation is not required under NEPA but is included when feasible to reduce, avoid, or offset negative impacts.

A summary of environmental consequences and mitigation measures for resources that were evaluated are included in Table 3-3.

TABLE 3-1
Resources Not Carried Forward

Resource	Rationale
Climate Change	Construction and use of the access road would not contribute greenhouse gas emissions that would in turn contribute to climate change.
Health and Safety	Berry's standard operating procedures for health and safety, compliance with federal and Tribal regulations, as well as adherence to industry standards would render any risk to public health and safety negligible.
Indian Trust Assets	The proposed access road is not located within the Uintah Ouray Reservation; coordination with the BIA is described in Chapter 4.0.
Land Resources (Soils, Geologic Hazards, Topography)	Soil classification is not available for the project area (NRCS 2012); however soils are not anticipated to be different from the surrounding property. The proposed construction and use would not impact geologic hazards (no known faults or landslides are located in the Project Area). Construction and use would not change topography within the Project Area.
Light	Construction would occur during daylight hours, alleviating the need for night lighting.
Socioeconomic Resources	Construction and use of the access road would not contribute to or impact socioeconomic resources.
Utilities	No utilities are located in the subject area nor will any be installed.
Water Resources	No permanent surface water features are present in the project area. There are two ephemeral drainages within the project area. A small culvert would be necessary to provide adequate drainage. Construction and use of the access road would not have an impact on groundwater.

TABLE 3-2

Levels of Significance

Impact	Description
No Impact	No impacts would be expected.
Negligible	Impacts would not be expected to be measurable or would be measurable but too small to cause any change in the environment.
Minor	Impacts would be measurable but within the capacity of the affected system to absorb the change.
Moderate	Impacts would be measurable but not within the capacity of the affected system to absorb the change; the impacts could be compensated for with mitigation and resources so the impact would not be substantial.
Significant	Impacts would be measurable but not within the capacity of the affected system to absorb the change, and without major mitigation, could be severe and long lasting.
Quality	Beneficial—would have a positive effect on the physical, social, or cultural environment
	Negative—would have an adverse effect on the physical, social, or cultural environment
Proximity	Local—would occur within project area
	Regional would occur outside the project area
Duration	Short term—would occur only during the proposed construction period
	Long term—would occur during use of the access road.

TABLE 3-3

Summary of Impacts and Mitigation Measures

Resource Category	Alternative 1			No Action Alternative (Use Only)	Mitigation Measures	Impact After Mitigation
	Construction	Use	Pipeline			
Agriculture and Grazing	No impact	Minor, negative, local, long-term	No impact	Minor, negative, local, long-term	MM-1	Negligible, negative, local, long term
Air Quality	Minor, negative, local, short term	Minor, negative, local, long term	No impact	Minor, negative, local, long term	MM-2 (construction) MM-3 (use)	Negligible, negative, local, short term and long-term
Biological Resources	Minor, negative, local, short term	Minor, negative, local, long term	Negligible, negative, local, long term	Minor, negative, local, long term	MM-4 (construction) MM-5 (use)	Negligible, negative, local, short term
Cultural, Archaeological, and Paleontological	Minor, negative, local, short term	No impact	No impact	No impact	MM-6	Negligible, negative, local, short term
Environmental Justice	No impact	No impact	No impact	No impact		
Hazardous and Nonhazardous Waste and Material	Minor, negative, local, short term	Negligible, negative, local, long term	Negligible, negative, local, long term	Negligible, negative, local, long term	MM-7	Negligible, negative, local, short term
Noise	Moderate, negative, short-term, local	Minor, negative, local, long-term	Minor, negative, long-term local.	No impact	MM-8	Negligible, negative, short-term (construction), long-term (use), local
Traffic	Moderate, negative, local, short-term	Moderate, negative, long-term local.	Minor, negative, long-term local.	Moderate, negative, long-term local.		
Visual Resources	Moderate, negative, local, short-term	Moderate, negative, local, long term	Moderate, negative, local, long-term	Negligible, negative, local, long term	MM-1 MM-9	Minor, negative, local, short term (MM-1) and long-term (MM-9)

3.3 Agriculture and Grazing

Affected Environment

The property does not support agricultural purposes.

Livestock grazing occurs on the property for approximately 2 weeks each spring before animals are moved to other parts of the Tabby Mountain WMA and School and Institutional Trusts Lands Administration (SITLA) Land Blocks further to the west and north. DWR administers the contract as part of the spring grazing program on the Tabby Mountain WMA.

Environmental Consequences

Construction would occur outside of the time the property is used for grazing and would have **no impact** on grazing.

Use of the access road would potentially occur during grazing and would increase the potential for accidents involving livestock. Individual accidents would potentially involve one or two livestock, which is a small percentage of the herd size. This would result in a **minor, negative, short-term** and **local** impact.

Construction of the pipeline would occur outside of the time the property is used for grazing and would have **no impact**. The pipeline would be buried in the footprint of the expanded road and the impact on grazing would be minor.

Mitigation

Mitigation Measure (MM) – 1: Drivers would be required to drive 20 miles per hour or less as necessary to reduce dust generation, increase awareness of livestock on or near the access road, and use headlights to alert livestock. Berry's trucks would be equipped with GPS tracking devices and compliance with speed limits would be monitored by the applicant. This would result in a **negligible, negative, short-term** and **local** impact.

3.4 Air Quality

Affected Environment

In accordance with the Clean Air Act (CAA), National Ambient Air Quality Standards (NAAQS) have been established by the U.S. Environmental Protection Agency (EPA) to protect the public from exposure to air pollutants that may be harmful to their health or to the environment. NAAQS have been established for six air pollutants that are most commonly found throughout the U.S., referred to as criteria pollutants, which include ozone (O_3), particulate matter (PM), carbon monoxide (CO), nitrogen oxides (NO_x), sulfur dioxide (SO_2), and lead. The federal NAAQS for these criteria pollutants have been adopted by the State of Utah.

Attainment is achieved when the existing background concentrations for criteria air pollutants are less than the maximum allowable ambient concentrations defined in the NAAQS. If a particular air shed or area cannot comply with one or more NAAQS, the EPA designates the area as a nonattainment area for those pollutants. The proposed access road is located in an area of Duchesne County that has been designated as attainment for all NAAQS (UDAQ, 2010).

The UDAQ Rule R307-309-8 is applicable to construction and demolition activities and states, "Any person engaging in clearing or leveling of land with an area of 1/4 acre or more, earthmoving, excavating, construction, demolition, or moving trucks or construction equipment over cleared land or access haul roads shall prevent, to the maximum extent possible, material from being deposited

onto any paved road other than a designated deposit site. Any such person who deposits materials that may create fugitive dust on a public or private paved road shall clean the road promptly." Finally, the fugitive emissions and fugitive dust rule, R307-309, requires a fugitive dust control plan (R307-309-6) from all sources whose activities or equipment have the potential to produce fugitive dust.

Air quality in the vicinity of the proposed access road is influenced by vehicular and other industrial emissions and fugitive dust. The proposed access road is not located within the boundaries of any of the State's non-attainment or Air Quality Maintenance Areas. Therefore, regional pollution levels are expected to remain within standards over the next ten years.

Environmental Consequences

Temporary impacts on air quality from construction activities result from two primary sources, including (1) exhaust from heavy construction equipment and trucks and (2) fugitive dust produced during construction. Exhaust emissions from construction equipment and vehicles will generate emissions of criteria pollutants including NO_x, SO_2, and O_3; however, these emissions are expected to be well below applicable NAAQS and are not further evaluated as a part of the following analysis.

PM_{10} and $PM_{2.5}$. Fugitive dust emissions during construction and from construction vehicles working in area with exposed surfaces would result in temporary emissions of PM with most of the emissions being of larger particulate size. In addition, emissions of PM_{10} and $PM_{2.5}$ would result from exhaust from construction equipment and trucks.

Because Duchesne County is in attainment for the NAAQS and is not a maintenance area for any criteria pollutant, annual construction and operating emissions from the proposed project will not be estimated for comparison against the general conformity *de minimis* thresholds found in 40 CFR 93 Subpart B. The attainment status of the project airshed with respect to the NAAQS precludes the requirement for an air quality conformity analysis. Construction and use activities would be required to comply with the provisions of Utah Administrative Code R307-205-5, "Emissions Standards-Fugitive Emissions and Fugitive Dust."

CO. Emissions of CO will be generated from construction equipment and vehicle exhaust during construction activities. As mentioned previously, the general project area is located within an area of Duchesne County that has been designated as an attainment area for CO. The NAAQS for CO is 40 $\mu g/m^3$ in a 1-hour period and 10 $\mu g/m^3$ in any 24-hour period. CO concentrations resulting from construction activities would exceed NAAQS; therefore no significant impact to air quality from project CO emissions is anticipated.

Construction of the access road would result in construction-related **minor, negative, short-term** and **local** air quality impact.

Use of the access road would result in a **minor, negative, long-term** and **local** air quality impact.

The no-action alternative would result in **no impact**.

Mitigation

To minimize emissions of PM from construction activities, BMPs for mitigating fugitive dust and diesel exhaust would be employed during construction activities. The following BMPs would be used to mitigate construction PM emissions and comply with R307-309-8:

Minimize the extent of surface disturbance to the fullest extent possible

Reseed or otherwise provide temporary and permanent vegetation or groundcover to disturbed areas as soon as possible after construction is completed in an area

Build construction entrances where appropriate using aggregate material to minimize sediment trackout on paved highways

Use dust abatement techniques (such as watering or minimizing loader bucket drop heights) for earthmoving, excavating, trenching, grading, and other construction activities

Minimize equipment and vehicle idling times during construction activities

Prevent to the maximum extent possible material from being deposited onto any paved road other than a designated deposit site

Promptly remove material that may create fugitive dust on a public or private paved road

MM-2: Use of these BMPs during construction would result in **negligible, negative, local,** and **short-term** air quality impacts.

MM-3: Dust control and road maintenance during road use would result in **negligible, negative, local,** and **long-term** air quality impacts.

3.5 Biological Resources

A biological survey was performed on May 29, 2012. The biological assessment is located in Appendix A.

Affected Environment

Vegetation

The Project Area is situated in western Duchesne County within the mountainous region characteristic of the area. Prominent vegetation communities are composed of Pinyon-Juniper Woodlands and mixed Sagebrush Shrubland. Species common within the Project Area include Basin big sagebrush (*Artemisia tridentata* subsp *tridentata*), prairie sagewort (*Artemisia frigida*), prickly pear (*Opuntia* sp), and cheatgrass (*Bromus tectorum*).

Wildlife

The Project area is located in winter range habitat for sage grouse, Rocky Mountain elk and mule deer. Raptors and white-tailed prairie dogs were observed within the Project Area. Other small wildlife and insects also likely inhabit the area. Some of the ephemeral stock ponds located in drainages support amphibious species during years when hydrology is adequate. The Great Basin spadefoot (*Spea intermontana*) has been observed within 0.5 mile of the project site. Stock ponds adjacent to the road could potentially support this species seasonally or during times when climatic conditions are suitable.

Threatened and Endangered Species

The biological assessment identified two threatened or endangered species within the project area. These are Grahams beardtongue and Ute ladies' tresses.

Grahams beardtongue is listed as Proposed Threatened by USFWS. It occurs in sparsely vegetated areas with shadscale, *Eriogonum* spp., horsebrush, ryegrass, and pinyon-juniper communities on shale ledges and talus of the Green River Formation at 4,600-6,700 feet elevation.

Ute ladies'-tresses is listed as Threatened by USFWS. This species grows in wet meadows and on stream banks of perennial streams and rivers.

An online search of the U.S. Fish and Wildlife Service's Information, Planning and Conservation Service (IPAC) (USFWS, 2012) indicates that additional species may be impacted by access road expansion and use. These species are included in Table 3-4.

TABLE 3-4
Threatened, Endangered, or Candidate Species with the Project Area

Species	Scientific Name	Status
Birds		
Greater sage-grouse	*Centrocercus urophasianus*	Candidate
Mexican Spotted owl	*Strix occidentalis lucida*	Threatened
Yellow-Billed Cuckoo	*Coccyzus americanus*	Candidate
Fishes[1]		
Bonytail chub	*Gila elegans*	Endangered
Colorado pikeminnow	*Ptychocheilus lucius*	Endangered
Humpback chub	*Gila cypha*	Endangered
Razorback sucker	*Xyrauchen texanus*	Endangered
Flowering Plants		
Graham beardtongue	*Penstemon grahamii*	Proposed Threatened
Ute ladies' tresses	*Spiranthes diluvialis*	Threatened
Mammals		
Canada Lynx	*Lynx canadensis*	Threatened

Notes:

[1]Since no fish habitat is located within the project area it is highly unlikely that these species are present

Environmental Consequences

Areas of known or potential energy resources overlap much of what is considered important mule deer habitat. Development of those resources brings about habitat disturbance or loss due to construction of well pads, roads, pipelines, and other features. In addition, disturbances from vehicle traffic, noise, and human activities often displace wildlife to areas farther away from well pads. This disturbance and displacement diverts time and energy away from foraging, resting, and other activities that improve physiological condition. (WAFMA, 2011)

Activities associated with energy exploration and development often precludes or inhibits use of winter ranges that are critically important to wildlife. Roads and traffic also limit wildlife use of important habitats.

Throughout the West, reservoirs of oil and gas commonly overlie important mule deer habitats, including winter ranges. Mule deer exhibit an alert-flight response at distances up to 0.08 and 0.12 mile from sources of noise and people afoot, respectively. Indirect habitat loss to mule deer may be reduced approximately 38-63% when liquids are collected in pipelines rather than stored at well pads and hauled away with tanker trucks (WAFMA, 2011).

Wildlife would likely disperse into adjacent habitat during road and pipeline construction. The quantity of similar habitat in the immediate vicinity is large compared to the amount of land disturbed during access road expansion. Construction would result in a **minor, negative, short-term** and **local** impact to vegetation, wildlife, and threatened and endangered species.

Vegetation regrowth would be limited to road shoulders. Wildlife would continue to utilize habitat but would most likely avoid noise and human presence in the Project Area. Use of the access road (under both the Alternative 1 and the No-Action Alternative) and pipeline would result in a **minor, negative, long-term** and **local** biological resource impact.

The project area falls within the boundaries of the Strawberry Sage Grouse Management Area of Utah's draft Sage Grouse Conservation Strategy. Under the draft Conservation Strategy Agreement, new disturbance in occupied sage grouse habitat is limited to 5% over 640-acres. If the Conservation Strategy Agreement is adopted before a decision is made on this project, then the decision notice for this project would reflect any conditions that might be necessary as part of the agreement.

Mitigation

MM-4: Use of the following BMPs during construction would result in **negligible, negative, local,** and **short-term** biological resource impacts.

Spatial and seasonal buffers and limitations will be necessary during construction depending upon species observations during subsequent site survey within the nesting and breading season. The spatial and seasonal buffers only apply to occupied raptor nests.

Construction would be restricted to April 16 to November 30.

The nesting season for migratory birds is April 1 through August 31. If clearing and grubbing must occur during the nesting season, a pre-construction survey of potential migratory bird habitats would be performed by a qualified biologist to verify the absence of nesting birds. If clearing and grubbing begins prior to the nesting season, it would continue without prolonged breaks as a measure to avoid habitation by migratory birds until after the work is completed. Any potential taking of a migratory bird would be coordinated with the USFWS in accordance with the Migratory Bird Treaty Act.

MM-5: Use of the following BMPs during road and pipeline use would result in **negligible, negative, local,** and **long-term** biological resource impacts.

A speed limit of 20 mph would be imposed on the access road.

Berry would keep the access gate locked to prevent public access to the winter closure area beyond the gate.

MM-6 Contribution of $25,000 payment to United States for compensatory wildlife mitigation as per separate agreement would result in **negligible, negative, short-term (construction)** / **long-term (use),** and **local** wildlife-related impacts**.**

Early consultation with the state wildlife management agency and land management agencies can greatly assist with the planning of effective habitat work and selection of appropriate treatments. Berry will contribute to habitat enhancement project to improve winter range conditions on nearby United States lands or other properties within the WMA to draw animals away from roads and to replace habitats rendered less usable by the increase road usage. This would be accomplished through a separate agreement with the Mitigation Commission.

Pipeline corridor and roadway areas would be reseeded with non-palatable, native species. The seed mix would be approved by the Mitigation Commission.

3.6 Cultural, Archeological, and Paleontological Resources

A cultural survey was performed on May 9, 2012. The survey report is located in Appendix B.

Native American tribes in the area have been contacted and informed about the proposed project and to solicit their input regarding the Area of Potential Effects (APE) and the preservation of cultural resource, if any, in connection with the archaeological survey. Tribal consultation would be reinitiated if construction reveals previously unknown tribal resources.

A cultural survey and paleontological file search were completed for the project area. The survey and file search revealed no findings.

Affected Environment

The APE surveyed for cultural resources included a 30 foot buffer on each side of the access road. The survey identified no findings that were potentially eligible for the NRHP.

Environmental Consequences

The term "effect," in terms of historic resources, is defined as an "alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register" (36 CFR 800.16[i]). Effects are categorized as No Historic Properties Affected, No Adverse Effect, and Adverse Effect. Findings of effect are made by the lead federal agency, in consultation with the Utah SHPO (or Tribal Historic Preservation Office, if tribes attach religious and cultural significance to historic properties that may be affected by the proposed action).

Construction would result in **no impact** on cultural, archaeological, and paleontological resources.

Use of the expanded access road would have **no impact** on cultural, archaeological, and paleontological resources.

Determination of Eligibility and Finding of Effect

Based on the cultural resource inventory and report provided in Appendix B, the Mitigation Commission has determined that there are no eligible resources in the APE and therefore no impacts are anticipated. The Mitigation Commission has received concurrence of this Determination of Eligibility and Effect from the SHPO.

Mitigation

If construction activities reveal unknown historic, cultural, archaeological, or paleontological resources, the contractor would immediately suspend construction operations in the vicinity (approximately 100-foot buffer around the discovery) and would notify the project manager of the nature and exact location of the discovery. The project manager would contact the Mitigation Commission, who would assess the nature of the discovery and determine the necessary course of action. Construction would resume following notification from the project manager.

Should the alternative selected for implementation result in an adverse effect to historic resources, a memorandum of agreement to resolve the adverse effect would be prepared, agreed upon, and executed by the Mitigation Commission and the SHPO.

MM-7: Coordination would result in **no impact** to cultural resources.

3.7 Environmental Justice

Affected Environment

On February 11, 1994, the President issued Executive Order 12898 on Environmental Justice in Minority Populations and Low Income Populations. This executive order requires agencies to identify and address disproportionately high and adverse human-health or environmental effects of their

actions on minorities and low-income populations and communities, as well as the equity of the distribution of the benefits and risks of their decisions.

A total of 18,607 people lived in Duchesne County in 2010. According to the U.S. Census Bureau, the majority of those individuals are white (89.2 percent) (U.S. Census, 2010). American Indian individuals made up the second largest group (0.5 percent). Hispanic or Latino minorities are 3.4 percent of the population.

Environmental Consequences

There would be no disproportionate disruption of minority groups by construction of the proposed project because the alignments are not located near large minority group populations. No disproportionate negative impacts on minorities or low-income communities are expected. Construction and use of the access road under both the preferred and no-action alternative would have **no impact** on environmental justice.

Mitigation

No mitigation measures are proposed for this resource category.

3.8 Hazardous and Nonhazardous Waste and Materials

Affected Environment

A hazardous waste site or contaminated site assessment was conducted for the project area using the Utah Division of Environmental Response and Remediation (DERR) interactive map. The assessment included reviews of various federal, state, local, and tribal databases. The database search was conducted in accordance with 40 CFR Part 312, Standards and Practices for All Appropriate Inquiries. These standards require that the database search be conducted for properties within a 0.25- to 1-mile radius surrounding a project area. No hazardous waste or contaminated sites are located within the project area (DERR, 2012).

Environmental Consequences

Construction equipment uses diesel fuel, lubricants, and hydraulic fluids as part of routine operation. Typical of most construction projects, the temporary storage and use of these materials could result in minor incidental spills of diesel fuel or oil during fueling of equipment or handling of lubricants and hydraulic fluid. Other incidental spills could be associated with equipment failures, such as ruptured hoses.

In addition, small quantities of hazardous waste could be generated by construction operations. Typically, these wastes would be in the form of spent lead acid batteries used for construction equipment or waste oils, oily rags, and oil-impregnated absorbent materials used to clean up minor spills from construction equipment. However, quantities of these materials are anticipated to be extremely small, as most waste generated from the construction activities would be solid (nonhazardous) wastes.

Construction-related impacts would be **minor, negative, short-term**, and **local**.

Little hazardous and solid wastes are expected to be generated during maintenance and use of the access road and pipeline. Therefore, use-related impacts for both the preferred and no-action alternatives would be **negligible, negative, long-term** and **local**.

Mitigation

The Utah DERR would be contacted immediately upon the discovery of any contaminated soil or hazardous material. If petroleum hydrocarbons or other previously unidentified hazardous materials or contaminated soil are encountered during construction, appropriate characterization and handling of the soil/waste would be conducted in accordance with DERR guidance.

Maintenance of construction equipment onsite would be minimized to the fullest extent possible. If onsite maintenance of construction equipment is required, absorbent pads or sheets would be placed under likely leak or spill sources. In addition, absorbent pads or sheets would be readily available during all refueling activities in the event of minor diesel spills. Spills of fuel or hydraulic fluid would be cleaned up immediately, and contaminated soil would be removed from the site and properly disposed of in accordance with state and federal regulations.

The handling, storage, and disposal of all hazardous materials, wastes, petroleum products, and solid wastes would be conducted in conformance with federal and state regulations to prevent soil, groundwater, or surface water contamination and associated adverse effects on the environment or worker health and safety.

MM-8: Use of best management practices would result in **negligible, negative, short-term** and **local** construction related impacts**.**

3.9 Noise

Affected Environment

Construction and use would not occur in a populated area. Therefore impacts would be specific to wildlife in the vicinity. Noise would result from construction activities and increased truck traffic on the access road as described in Table 2.1.

Construction would be scheduled to avoid nesting season for raptors and winter range for other wildlife.

Environmental Consequences

The *Energy Development Guidelines for Mule Deer* (WAFMA, 2011) indicate that Alternative 1 would be categorized as “low impact”. Low Impact includes one well pad location with total disturbance not exceeding 20 acres/square-mile. Habitat effectiveness is reduced within a zone surrounding each well, facility, and road corridor through human presence, vehicle traffic, and equipment activity.

Raptors and sage grouse may require spatial or seasonal buffers during nesting. These buffers would limit construction activity near nest sites. A pre-construction survey would identify the location of nests and the construction schedule would be modified accordingly.

Access road and pipeline construction would result in **minor, negative, short-term,** and **local** noise-related impacts.

Use of the access road and pipeline would result in **minor, negative, long-term,** and **local** noise-related impacts.

Mitigation

No mitigation is proposed for this resource category. See Wildlife section for proposed mitigation of impacts on wildlife from Noise.

3.10 Traffic

Affected Environment

There are no residences or businesses located within the Project Area. The access road is used by land use managers, and seasonally by hunters, recreational users, and grazing permitees.

Environmental Consequences

Access road and pipeline construction would take approximately one week and would include three to five workers. These workers would travel in personal vehicles to and from the project site each day. Earth-moving equipment and trucks would be used during construction. Construction-related traffic impacts would be **moderate, negative, short-term** and **local**.

Use of the access road would occur during well pad construction, drilling, production operations and maintenance, and decommissioning and abandonment. Well pad construction would be completed within one month of completion of the access road. Drilling operations would occur following well pad completion. Production operations and maintenance would occur over 30 years. Decommissioning and abandonment would occur within one month.

Large earth-moving equipment, trucks, cranes, drill rig, and other heavy equipment would use the access road during well-pad construction and well-drilling activities. A professional drill rig would be contracted by Berry to drill the proposed well. The drill rig would be transported to the well pad and would remain onsite throughout drilling activities. Demobilization and site cleanup would occur and construction vehicles would subsequently leave the site.

Construction and drill crews would drive personal vehicles to the site on a daily basis. Access will routinely be limited to daylight hours, but may occur 24-hours a day in response to emergency conditions. A 20 mph speed limit would be imposed on the road. A number of additional personnel would be on location during various stages of the drilling operation, including a directional drilling specialist (as applicable), a geologist, a mud logger, and other service personnel. As necessary, these individuals may be required to remain on location 24 hours a day once drilling operations begin. Trailers would be provided on-site for their use.

Upon completion of well-drilling, it is anticipated that the access road would be used by land use managers, hunters, grazing permitees and oil and gas employees.

Access road use-related traffic impacts would be **moderate, negative, long-term** and **local.**

The condition of the pipeline would be monitored during trips to and from the well pad. Pipeline repairs would be performed as necessary and would involve a single vehicle. Pipeline use would result in **minor, negative, long-term** and **local** traffic impacts**.**

Mitigation

No mitigation is proposed for this resource category. See Wildlife section for proposed mitigation of impacts on wildlife from Traffic.

3.11 Visual Resources

Affected Environment

The visual resources impact area of influence includes any area that would be directly affected by construction, use or maintenance of the access road. The project site is undeveloped property that contains no unique or remarkable features that distinguish it visually from surrounding land. Figure 3-1 shows the existing condition of the Project Area.

FIGURE 3-1

Northwest view of Project Area

There are no bodies of water frequented for recreation or scenic purposes in the project vicinity. There are no designated scenic highways or byways within or near the project site. The lack of recreational uses or cultural sites provides a relatively low degree of viewer sensitivity.

Viewers within the Project Area would include employees of various oil and gas companies. Very little recreational use of the area occurs. The project area is not visible from either Highway 40 or State Route 208.

Environmental Consequences

During construction of the access road, heavy equipment would be in use in the Project Area. Additional impacts may include staging areas, disturbed vegetation and soils, fencing, stock pile sites, and dust.

At times, small, localized clouds of dust created by grading activities would be visible at the site, although active dust suppression should minimize the frequency of such events. Because of the construction-related grading activities, areas of exposed soil and fresh gravel contrasting with the colors of the surrounding landscape may be visible.

Construction related impacts would results in a **moderate, negative, short-term** and **local** visual resource impact.

The access road would not change the visual character of the Project Area. The visual impact of the project would remain localized, with changes to visual quality less apparent with increasing distance. Viewer response would be minimal due to limited exposure and sensitivity in this area.

Use of the access road and pipeline with respect to visual resources would relate to the presence of the road. The expanded access road would follow the same footprint with an additional 10 feet on each side of the road. The pipeline would be buried within the expanded access road. This is a very small amount of land surface area compared to the surrounding landscape. The expanded access road and pipeline would result in a **minor, negative, long-term** and **local** visual resource impact.

Mitigation

Dust control practices would reduce the amount of dust during construction. **MM-1** would result in a **minor, negative, short-term** and **local** impact.

No mitigation is proposed for visual impacts associated with traffic profiles in the Project Area.

The well-pad facilities would be painted a non-reflective color that blends with the natural environment. The color of any surface-occupied facility or feature on United States land would be approved by Mitigation Commission prior to application.

MM-9: Use of best management practices would result in negligible, negative, short-term (construction) / long-term (use), and local noise related impacts.

3.12 Cumulative Impacts

This section describes cumulative impacts from all resource categories. Cumulative impacts result when the proposed action is added to other past, present, or reasonably foreseeable actions, regardless of what agency or person undertakes the actions.

Air quality BMP such as watering for dust control would potentially result in biological impacts. Due to the limited quantity of surface water within the project area, wildlife may be drawn to standing pools. Therefore, the amount of sprayed water should be monitored so that standing water is avoided.

Traffic would result in an agricultural and grazing impact. Herds would be present on or near the access road for two-weeks each spring. Presence of the herds would increase the potential for accidents involving livestock. Wildlife herds would be present on or near the access road for several months (December through mid-April) annually. Presence of the herds would increase the potential for accidents involving wildlife. Drivers would be cautioned about the herd presence. Reduced speed limits would reduce the potential for accidents.

Traffic from construction and oil and gas employee vehicles also presents a visual impact. Construction and use of the access road would not happen without these vehicles; therefore, this impact is unavoidable.

A separate development project is planned on property owned by the Mitigation Commission. This includes development of twelve wells at six well pad sites. Cumulative effects of traffic would be intensified as the Berry access road would be used to access at least two of the six well pads.

Oil and gas development in the Uintah Basin is extensive. The combined indirect and direct impact to habitat and wildlife from multiple development projects could be significant. The 13-9D-37 access road project area contains a very small portion of habitat and wildlife range compared to the amount of habitat in the immediate vicinity. Therefore, the proposed action would have a **minor, negative, local,** and **long-term** cumulative impact.

4.0 Coordination and Consultation

Regulations for implementing NEPA provided by the CEQ direct lead agencies to involve agencies and the general public in preparing an EA. This chapter documents coordination and consultation that has occurred with agencies and the public during development of this EA.

Mitigation Commission reviewed the request in March 2011 and suggested an alternative access road footprint, located south of the initially proposed alignment, which would provide access to multiple wells owned by Berry Petroleum and other developers. The Mitigation Commission suggested footprint has been identified as Alternative 11.

Consultation with the U.S. Fish and Wildlife Service, Utah State Historical Preservation Officer and the Ute Tribe were initiated by letters dated July 5, 2012.

The Utah Division of Wildlife Resources has been consulted with throughout this planning process.

Notice of availability of this EA will be published in local papers, provided to adjacent landowners, County and local officials, and other interested parties.

THIS PAGE INTENTIONALLY LEFT BLANK

5.0 References

National Resources Conservation Service – Web Soils Survey. (NRCS). Interactive Soils Map. Available at http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Access June 7, 2012.

United States Census. 2010. *2010 Census Interactive Population Search.* Available at http://2010.census.gov/2010census/popmap/. Accessed June 2, 2012.

United States Department of Transportation Federal Highway Administration. 2009. *Manual on Uniform Traffic Control Devices*. December.

United States Fish and Wildlife Service. 2012. *Endangered Species Act Species of Concern*. Available at http://www.fws.gov/utahfieldoffice/EndSppCounty%20Map.html. Accessed July 3, 2012.

Utah Division of Air Quality (UDAQ). 2010. *State of Utah National Ambient Air Quality Standards Areas of Nonattainment and Maintenance.* Updated March 2010.

Utah Division of Environmental Response and Remediation (DERR). 2012. *DEQ Interactive Map.* Available at http://dagrc.utah.gov/DEQ/. Accessed June 2, 2012.

Western Association of Fish and Wildlife Agencies (WAFMA). 2011. *Energy Development Guidelines for Mule Deer.*

6.0 List of Preparers

Name/Title	Degree(s)	Role
Mitigation Commission		
Richard Mingo	M.S. Natural Resource Economics	Document Review, NEPA Compliance
Mark Holden	M.S. Fisheries and Wildlife	Document Review, NEPA Compliance
Berry Petroleum		
Kathy Fieldsted		Sr. Regulatory and Permitting Technician
Outlaw Engineering		
Randy Freston II	B.S Civil Engineering	Document Review
Bridget Atkin	B.S. Horticulture M.S. Plant Science	Biological Resources, T&E Species, Data Gathering, Document Review
Staci L. Hill, P.E.	B.S. Environmental Engineering	Document Development

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX A

Biological Assessment: Vegetation and Wildlife Survey Results 13-9D-37

Biological Assessment: Vegetation & Wildlife Survey Results

13-9D-37

Prepared for:

Berry Petroleum Company
1999 Broadway Suite 3700
Denver, CO 80202

Prepared by:

OUTLAW Engineering, Inc.
PO BOX 1800
Roosevelt, Utah 84066

Duchesne County, Utah

June 4, 2012

CONTENTS

CONTENTS 2
1.0 INTRODUCTION AND BACKGROUND 3
1.1 PROJECT LOCATION 3
1.2 GENERAL DESCRIPTION OF PROJECT AREA 6
2.0 THREATENED, ENDANGERED, AND SENSITIVE SPECIES SURVEYED 6
2.1 Vegetation Survey 6
2.2 Wildlife Survey 7
3.0 SURVEY RESULTS 8
3.1 Vegetation and Wildlife Summary 8
4.0 REFERENCES 10
5.0 APPENDICIES 12

1.0 INTRODUCTION AND BACKGROUND

Berry Petroleum Company (Berry Petroleum) retained OUTLAW Engineering, Inc. (OUTLAW) to conduct Biological Assessments (BA) for a portion of a proposed access road (Project Area) relating to the development of oil and gas resources in Duchesne County, Utah. The access road is part of a larger well site development that includes a well pad site, pipeline Right-of-Way (ROW) alignment, and remaining length of access road not included within this assessment (Figure 1). The Project Area is owned by the UNITED STATES managed by the acquiring federal agency, the Utah Reclamation Mitigation and Conservation Commission (Mitigation Commission) and the Utah Division of Wildlife Resources as a Wildlife Management Area (WMA)

Work specifically involved the following tasks:

- Identification of potential habitat for any federally listed Threatened, Endangered, Proposed, and Candidate (TEPC) species, as per the U.S. Fish and Wildlife Service (USFWS) requirements (USFWS 2012).

- Determination if Species of Concern (SOC) identified within the Project Area and its immediate surroundings. This task was accomplished by referencing the Utah Natural Heritage Program (UNHP) (UNHP 2012).

- Conducting field assessments of TEPC plant species within the Project Area and associated 300-foot buffer.

Field surveys were conducted on May 29, 2012 and focused on the presence of plant or wildlife TEPC species, U.S. Fish and Wildlife Service (USFWS), and other state and federally protected species. This report documents the findings within the Project Area footprint and the required 300-foot buffer. Wetlands were also noted if observed within the Project Area. Glen Gantz, and Bridget Atkin completed data collecting and reporting. Respective vitae can be found in Appendix A.

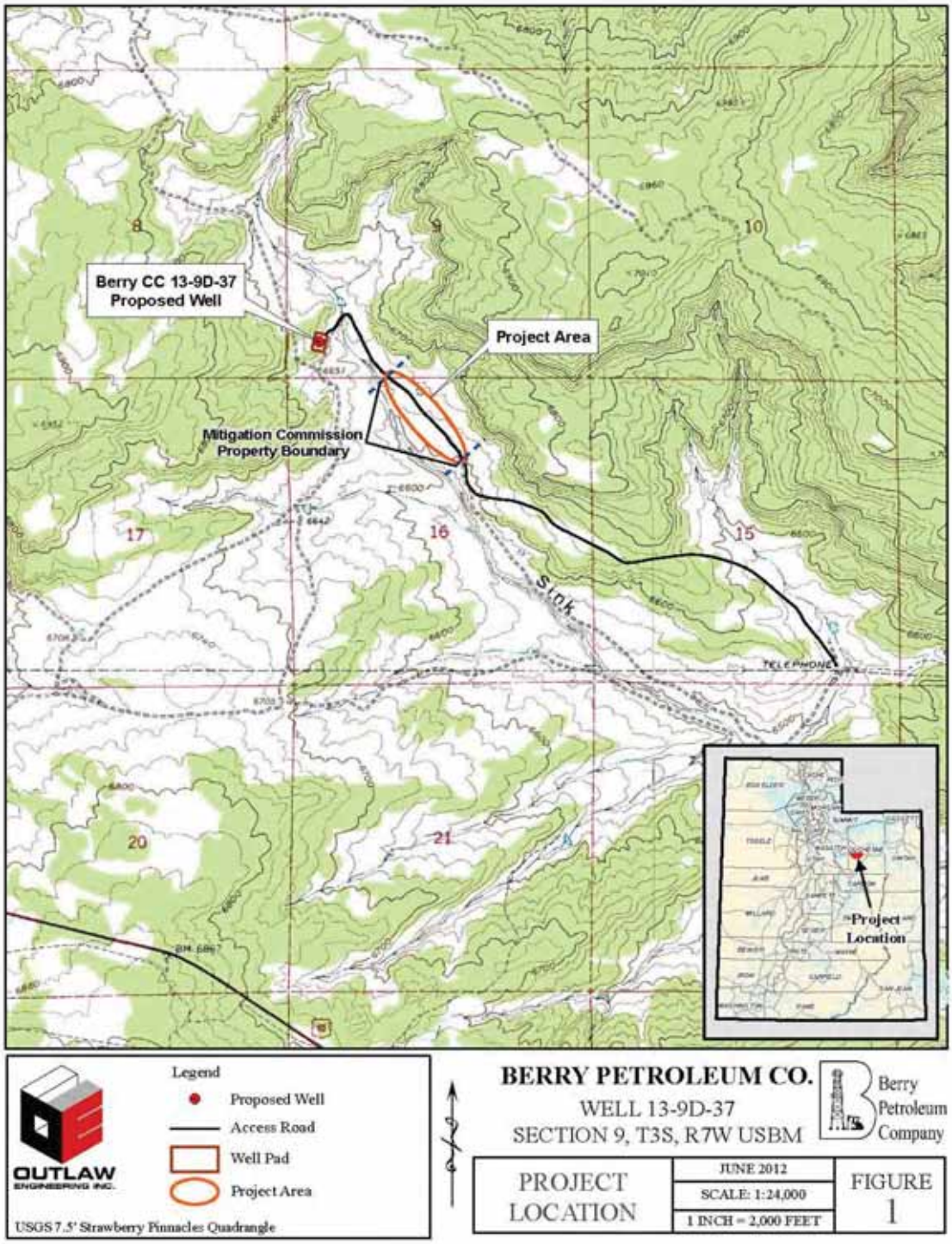
The intent of this report is to summarize field survey methodology, site/data analysis, and results in order to help land managers assess potential impacts as well as provide guidance for Berry Petroleum during planning and permitting tasks associated with the construction and operation of the proposed facilities.

1.1 PROJECT LOCATION

The proposed Project Area is located approximately 15 miles north west of Duchesne, Utah, and 8 miles east of Fruitland, Utah in Duchesne County. The Project

Area also includes a 300-foot buffer around the road development component (USFWS 2011).

Figure 1. Location map of Project Area.



1.2 GENERAL DESCRIPTION OF PROJECT AREA

The Project Area is situated in the western Duchesne County within the mountainous region characteristic of the region. The vegetation communities prominent within the area are composed of Pinyon-Juniper Woodlands and mixed Sagebrush Shrubland. Species common within the Project Area include Basin big sagebrush (*Artemisia tridentate* subsp *tridentate*), prairie sagewort (*Artemisia frigida*), prickly pear (*Opuntia* sp), and cheatgrass (*Bromus tectorum*) were commonly observed. A project species list can be found in Appendix B.

2.0 THREATENED, ENDANGERED, AND SENSITIVE SPECIES SURVEYED

2.1 Vegetation Survey

An online search of the USFWS Information, Planning, and Conservation System (IPaC) database for TEPC species that may occur within the Project Area was conducted.

Site visits were made between February 30th and May 18th, 2012. Each well site was surveyed for TEPC plant habitat. Data were recorded using hand-held GPS (Global Positioning System) units running ArcPad10 GIS and Cybertracker data recording software. Field notes were also taken of the Project Area to record general site characteristics. Photographs were taken of well pads as well as pipeline and access road alignments when applicable.

Sites were first evaluated for potential habitat and subsequently surveyed for individual plants if pertinent. If appropriate habitat was not present, the well, access road, and/or pipeline was classified as negative for TEPC plant species presence. If a well site, access road, or pipeline alignment contained habitat that could potentially support a TEPC plant species, it will be visited within the appropriate survey window for respective species.

2.1.1 TEPC Species Habitat Requirements

Based on habitat assessments and USFWS review, the Project Area is within the potential habitat and geographic distribution Graham beardtongue (*Penstemon grahamii*) and Ute ladies'-tresses (*Spiranthes diluvialis*) (Appendix C).

Grahams beardtongue is listed as Proposed Threatened by USFWS. It occurs in sparsely vegetated areas with shadscale, *Eriogonum* spp., horsebrush, ryegrass, and pinyon-juniper communities on shale ledges and talus of the Green River Formation at 4,600-6,700 feet elevation.

Ute ladies'-tresses is listed as Threatened by USFWS. This species grows in wet meadows and on stream banks of perennial streams and rivers. Guidelines from the USFWS were used when assessing habitat suitable to support Ute ladies'-tresses populations (USFWS 2007).

2.2 Wildlife Survey

The Project area was surveyed for federal and state listed wildlife species on foot, ensuring that the entire Project Area was thoroughly covered. Surveys were conducted within the seasonal breading and nesting window.

White-tailed prairie dog towns that intersected the Project Area were documented during the initial site survey. In addition, any white-tailed prairie dog town that was observed within a quarter mile of the footprint was also documented.

Raptor buffers were established around each site. Surveys were conducted within this buffer zone in addition to areas that could potentially be directly impacted by construction and occupancy of well pad and/or access road and pipeline alignments. The entire raptor buffer was surveyed for raptor nests using roads for access where possible and foot where vehicle access was not permitted or possible. All potential nesting habitats within the raptor buffer were examined for nests or potential raptor nests using a spotting scope and binoculars and focusing on suitable nesting habitat. The footprint and surrounding area was also surveyed for raptor during the site visit using a spotting scope and binoculars. Each raptor nest was documented and species, activity, condition, substrate, and habitat where recorded.

Spatial and seasonal buffers and limitations will be necessary depending upon species observations during subsequent site survey within the nesting and breading season. The spatial and seasonal buffers only apply to occupied raptor nests.

3.1 Vegetation and Wildlife Summary

Table 3.1 summarizes biological findings from the plant and wildlife surveys conducted on May 29, 2012.

Table 3.1 Potential wetland, ULT, and wildlife species summary for Project Area.

	SITE #	WETLANDS PRESENT (Y/N)	TES Habitat or Species Present (Y/N)	STREAM OR CANAL CROSSING	WILDLIFE CLEARANCE	OVERALL SITE STATUS
ROAD	Access Road: 13-9D-37	NO	NO	2 small ephemeral drainages	Yes, no wildlife issues identified	CLEAR

3.1.1 Plants

Ute ladies'-tresses and Wetlands: Wetlands were not found within the Project Area and 300-foot buffer (Figure 3-1 and 3-2). As such, the habitat observed did not meet the requirements outlined by the USFWS as being suitable to support the Ute ladies'-tresses.

Grahams beardtongue: No habitat was found with qualities conducive to the support of Grahams beardtongue. The geologic stratum associated with this plant is not found within this site footprint or associated 300-foot buffer.

Invasive species observed within the Project area and associated buffer area includes nodding plumeless thistle (*Carduus nutans*) and prickly Russian thistle (*Salsola tragus*). Only one rosette of the nodding plumeless thistle was observed. This species is listed by the State of Utah as a noxious species. Russian thistle is not listed as a State or County noxious species; however, it is commonly found throughout the area and known to readily establish along roadsides and disturbed areas.

3.1.2 Wildlife

No raptor nests were observed on the site or within the ½ mile raptor buffer. The Project Area is located within suitable greater sage-grouse winter and brooding habitat, although no sing of a lek was noted during field surveys.

This site is in elk winter range.

This site is in mule deer yearlong seasonal range.

Figure 2-1Photo showing boundary fence on the eastern edge of the Project Area.

Figure 3-2 Photo showing upland habitat, comprised primarily of Basin big sagebrush, cheatgrass, and prairie sagewort.

4.0 REFERENCES

Atwood, D.N.; Holland, J; Bolander, R; Franklin, B.; House, D.E.; Armstrong, L.A.; Thorne, K; England, L. 1991. Utah Threatened, Endangered and Sensitive Plant Guide. U.S. Forest Service Intermountain Region, National Park Service, Bureau of Land Management, Utah Natural Heritage Program, U.S. Fish and Wildlife Service, Environmental Protection Agency, Navajo Nation and Skull Valley Goshute Tribe.

Cronquist, A., A.H. Holmgren, N.H. Holmgren, J.L. Reveal, and P.K. Holmgren. 1994 reprinted. Intermountain flora - Vascular plants of the intermountain west, U.S.A. New York City: New York Botanical Garden.

Environmental Laboratory [USACE]. 1987. *Corps of Engineers Wetlands Delineation Manual*. Vicksburg (MS): United States Army Corps of Engineers, Water Ways Experiment Station. 99 p. plus appendices.

Environmental Laboratory [USACE]. 2008. *Final Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*. Vicksburg (MS): United States Army Corps of Engineers Research and Development Center. Technical Report ERDC/EL TR.

Fertig, Walter, Rick Black, and Paige Wolken. 2005. Rangewide Status Review of Ute Ladies'-Tresses (Spiranthes diluvialis). US Fish and Wildlife Service And Central Utah Water Conservancy District. Salt Lake City, UT. 101 pp.

Flora of North America Editorial Committee, editors. 1993. Flora of North America. Oxford University Press, New York, New York, USA.

Romin, L. and J. Muck. 2002. Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances. U.S. Fish and Wildlife Service. Salt Lake City, Utah. 42pp

Shaw R.J. 1989. Vascular plants of Northern Utah. Logan, UT: Utah State University Press.

UNHP. 2011. Utah Natural Heritage Program, Utah Division of Wildlife Resources, Utah Department of Natural Resources, Letter describing the search for TESPC and species of concern located within ½ mile of the project area. (Appendix B)

USFWS. 1976. Proposed Endangered Status for 1700 U.S. Plants. Federal Register. 41: 24523-24572.

USFWS. 1990. Endangered Status for the Plant Lepidium barnebyanum (Barneby Ridge-cress). Federal Register. 55, 189: 39860-39864.

USFWS. 1990. Proposal to Determine Lepidium barnebyanum (Barneby Ridge-cress) to be an Endangered Species. Federal Register. 54, 226: 48781-48784.

USFWS. 1993. Barneby ridge-cress (Lepidium barnebyanum) Recovery plan. Denver, Colorado: U.S. Fish and Wildlife Service. p.14.

USFWS. 2007. Ute ladies'-tresses Field Survey Guidelines U.S. Fish and Wildlife Service – Utah Ecological Services Field Office March 12, 2007. Memorandum. 3 pp.

USFWS. 2011. U.S. Fish and Wildlife Service (USFWS) Utah Field Office Guidelines for Conducting and Reporting Botanical Inventories and Monitoring of Federally Listed, Proposed and Candidate Plants. Memorandum dated August 31, 2011. Utah Field Office, Salt Lake City, UT.

USFWS-IPAC 2011 United States Fish and Wildlife Service – Information, Planning, and Conservation System. Appendix C.

Utah Automated Geographic Reference Center (AGRC). 2009. High Resolution Ortho Photo Imagery -AGRC Digital Ortho Photo Imagery 25cm Pixel. Salt Lake City, Utah.

Utah Conservation Data Center. 2011. Rare Plant Profiles. State of Utah Natural Resources, Division of Wildlife Resources. [Searchable Web site] http://dwrcdc.nr.utah.gov/rsgis2/Search/SearchSelection.asp?Group=PLANT&Species=PLANT. Accessed: 2011.

Utah Geologic Survey. 2010. Digital Geologic map of the Salt Lake City 30' x 60' quadrangle, north-cental Utah, and Uinta County, Wyoming. Miscellaneous Publication 10-1DM. Salt Lake City, UT. Based on U.S. Geological Survey Miscellaneous Investigations Series Map I-1997. 1992

Utah Native Plant Society (UNPS). 2009. Utah Rare Plant Guide. Salt Lake City, UT: Utah Rare Plant Guide Home Page. Website accessed: http://www.utahrareplants.org.

Welsh, S.L., Atwood, N.D., Goodrich, S. and L.C. Higgins, editors. 2008. A Utah flora. Fourth edition. Brigham Young University, Provo, Utah, USA.

5.0 APPENDICIES

APPENDIX A

RESUME / QUALIFICATIONS

Qualifications of Survey Team Leaders

BRIDGET ATKIN – ENVIRONMENTAL SCIENTIST and PLANT ECOLOGIST

Ms. Atkin has 10 years of plant and environmental planning experience in the Intermountain West. She is experienced in the preparation and application of NEPA documents from scoping to project construction and compliance. She has managed projects involving the Clean Water Act, Section 404 Wetlands and was primary coordinator with Federal and State agencies. She is experienced with surveying and monitoring TEPC species, water-related planning, and permitting processes. She has managed projects focusing on monitoring and mapping flora resources throughout the Intermountain West and has conducted natural resource surveys, inventories, and plant identification. Her computer skills include ArcGIS, Excel, Word, and working with global positioning (GIS) systems. Her education includes an A.A.S. degree with an emphasis in architecture from Salt Lake Community College, a B.S. degree in horticulture from Utah State University (USU), and a M.S. degree in plant science from USU and is an M.L.A. candidate in landscape architecture and environmental planning at USU.

GLEN GANTZ – WILDLIFE BIOLOGIST AND COMMERCIAL PILOT

Mr. Gants is a certified Wildlife Biologist by The Wildlife Society as well as a commercial pilot with 15 years of experience with mountain flying, aerial telemetry, and low-level survey experience. Training and certifications include: Habitat Evaluation Procedure (HEP) certified by the U.S. Fish and Wildlife Service (USFWS), HEP/Habitat Suitability Index (HIS) Software certified by USFWS, Black-Footed Ferret survey techniques training, Gray Wolf survey techniques training, Marbled Murrelet Biology, Habitat, and Survey Protocol, Wildlife Field Techniques Workshop—Locating Rare Wildlife Species in Winter, and EPA Good Laboratory Practice Standards. Mr. Gantz holds a B.S. in Wildlife Science from Pennsylvania State University, University Park Pennsylvania and an M.S. in Wildlife Ecology from Utah State University, Logan Utah.

APPENDIX B

Project Species List

Berry Petroleum Access Road Segment for 13-9D-37 Project Species List	
Botanical Name	**Common Name**
Artemisia frigida	prairie sagewort
Artemisia tridentata subsp. *tridentata*	Basin big sagebrush
Bromus tectorum	cheatgrass
Opuntia sp	prickly pear
Artemisia absinthium	absinthium
Sporobolus cryptandrus	sand dropseed
Gutierrezia sarothrae	broom snakeweed
Carduus nutans	nodding plumeless thistle
Grindelia squarrosa	curlycup gumweed
Pinus edulis	two needle pinyon
Juniperus scopulorum	Rocky Mountain Juniper
Salsola tragus	prickly Russian thistle
Sarcobatus vermiculatus	greasewood

APPENDIX C

USFWS Information, Planning, and Conservation System Database Search Results

U.S. Fish and Wildlife Service

Natural Resources of Concern

This resource list is to be used for planning purposes only — it is not an official species list.

Endangered Species Act species list information for your project is available online and listed below for the following FWS Field Offices:

UTAH ECOLOGICAL SERVICES FIELD OFFICE
2369 WEST ORTON CIRCLE, SUITE 50
WEST VALLEY CITY, UT 84119
(801) 975-3330
http://www.fws.gov
http://www.fws.gov/utahfieldoffice/

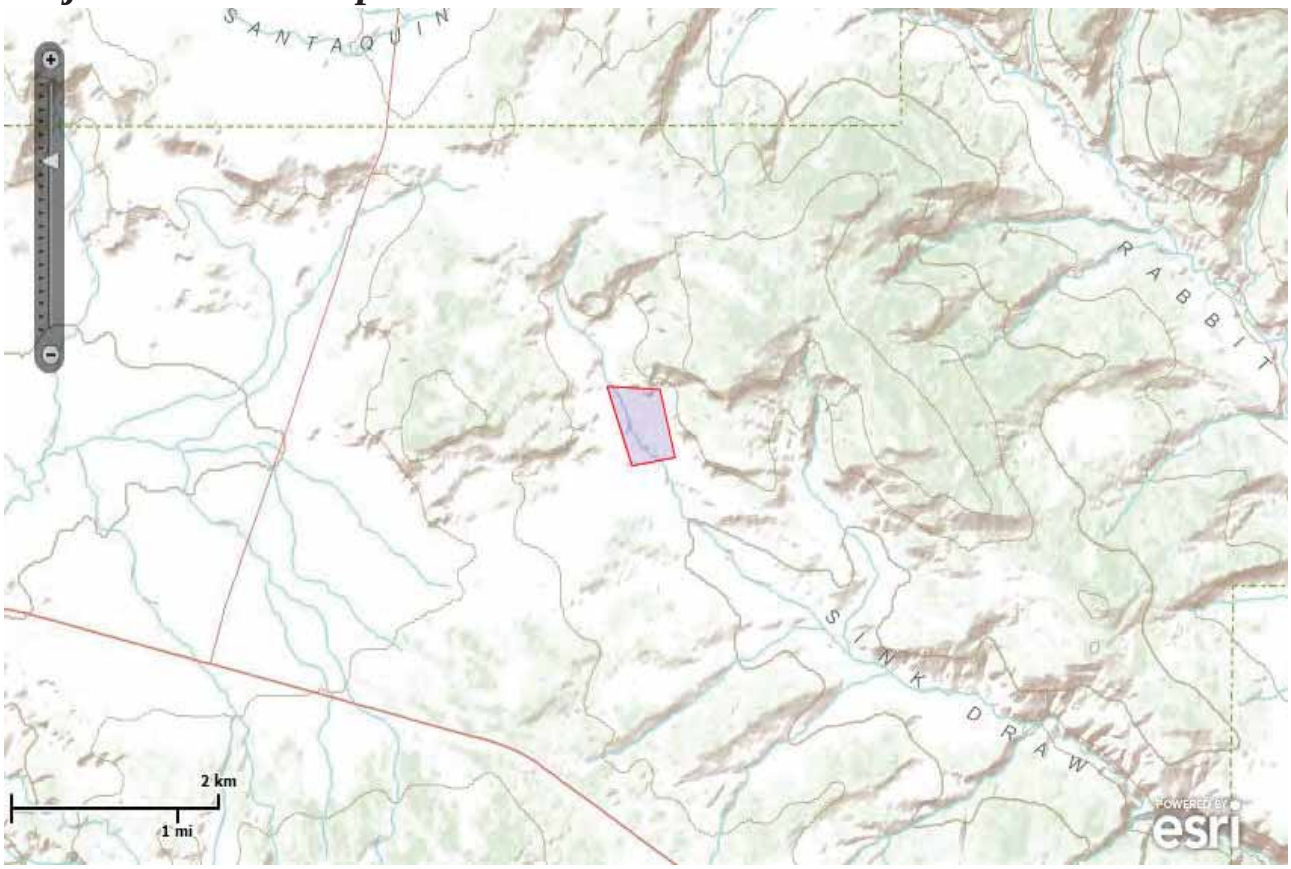
Project Name:

Berry/Commission

□.S. □is□and □ ildlife Servi□e

Natural Resources of Concern

Project Location Map:



Project Counties:

□□□□esne, □□

Geographic coordinates (Open Geospatial Consortium Well-Known Text, NAD83):

□ □□□IP□□□□□□ (((□110.□□5□50□40.22□03□1, □110.□□□□425 40.22□□□4, □110.□□□123□40.2224331, □110.□□301□1 40.221□□□□, □110.□□5□50□ 40.22□03□1)))

Project Type:

□il □r □as

□.S. □is□and □ ildlife Servi□e

Natural Resources of Concern

Endangered Species Act Species List

□□ere are a total of **10** s□e□ies in yo□r s□e□ies list

Species that may be affected by your project:

Birds			
□reater sage□gro□se (*Centrocercus urophasianus*) Po□□lation□entire	Candidate	s□e□ies info	□ta□ □□ologi□al Servi□es □ield □f□□e
□ e□i□an S□otted o□l (*Strix occidentalis lucida*)	□□reatened	s□e□ies info	□ta□ □□ologi□al Servi□es □ield □f□□e
□ello□□Billed C□□□oo (*Coccyzus americanus*) Po□□lation□□ estern □.S. □PS	Candidate	s□e□ies info	□ta□ □□ologi□al Servi□es □ield □f□□e
□is□es			
Bonytail □□□□ (*Gila elegans*) Po□□lation□entire	□ndangered	s□e□ies info	□ta□ □□ologi□al Servi□es □ield □f□□e
Colorado □i□eminno□ (*Ptychocheilus lucius*) Po□□lation□e□□e□t Salt and Verde □. drainages, A□	□ndangered	s□e□ies info	□ta□ □□ologi□al Servi□es □ield □f□□e
□□m□□a□□ □□□□ (*Gila cypha*) Po□□lation□entire	□ndangered	s□e□ies info	□ta□ □□ologi□al Servi□es □ield □f□□e
□a□or□a□□s□□□er (*Xyrauchen texanus*) Po□□lation□entire	□ndangered	s□e□ies info	□ta□ □□ologi□al Servi□es □ield □f□□e
□lo□ering Plants			
□ra□am □eardtong□e (*Penstemon grahamii*)	Pro□osed □□reatened	s□e□ies info	□ta□ □□ologi□al Servi□es □ield □f□□e
□te ladies□□tresses (*Spiranthes diluvialis*)	□□reatened	s□e□ies info	□ta□ □□ologi□al Servi□es □ield □f□□e
□ ammals			
Canada □yn□ (*Lynx canadensis*) Po□□lation□(Contig□o□s □.S. □PS)	□□reatened	s□e□ies info	□ta□ □□ologi□al Servi□es □ield □f□□e

Natural Resources of Concern

FWS National Wildlife Refuges

□□ere are no ref□ges fo□nd □it□in t□e vi□inity of yo□r □ro□e□t.

FWS Migratory Birds

□ot yet availa□le t□ro□g□IPaC.

FWS Delineated Wetlands

□ot yet availa□le t□ro□g□IPaC.

APPENDIX B

Cultural, Archaeological, and Paleontological Survey

Berry Petroleum Company

Cultural Resource Inventory of the Proposed Berry Petroleum CC Fee 13-9D-37Access Road in Sink Draw, Duchesne County, Utah

May 28, 2012

□ta□State Pro□e□t A□t□ori□ation □o. □□12□□□□033□□
□ta□State Anti□□ities Permit □o. 20□

Well No.: CC Fee 13-9D-37 Access

Pre□ared □y□

Aros Ar□□aeology, □.□.C..
□5□ 8□t□ 300 □est
□rem, □ta□□405□

□r. □eff Cro□ier
Berry Petrole□m Com□any
4000 So□t□ 402□ □est
□o□te 2 Bo□ □□35
□oosevelt, □□ □40□□

□ ay 2□, 2011

□□□CC □ee 13□□□3□A□ess

□r. Cro□ier□

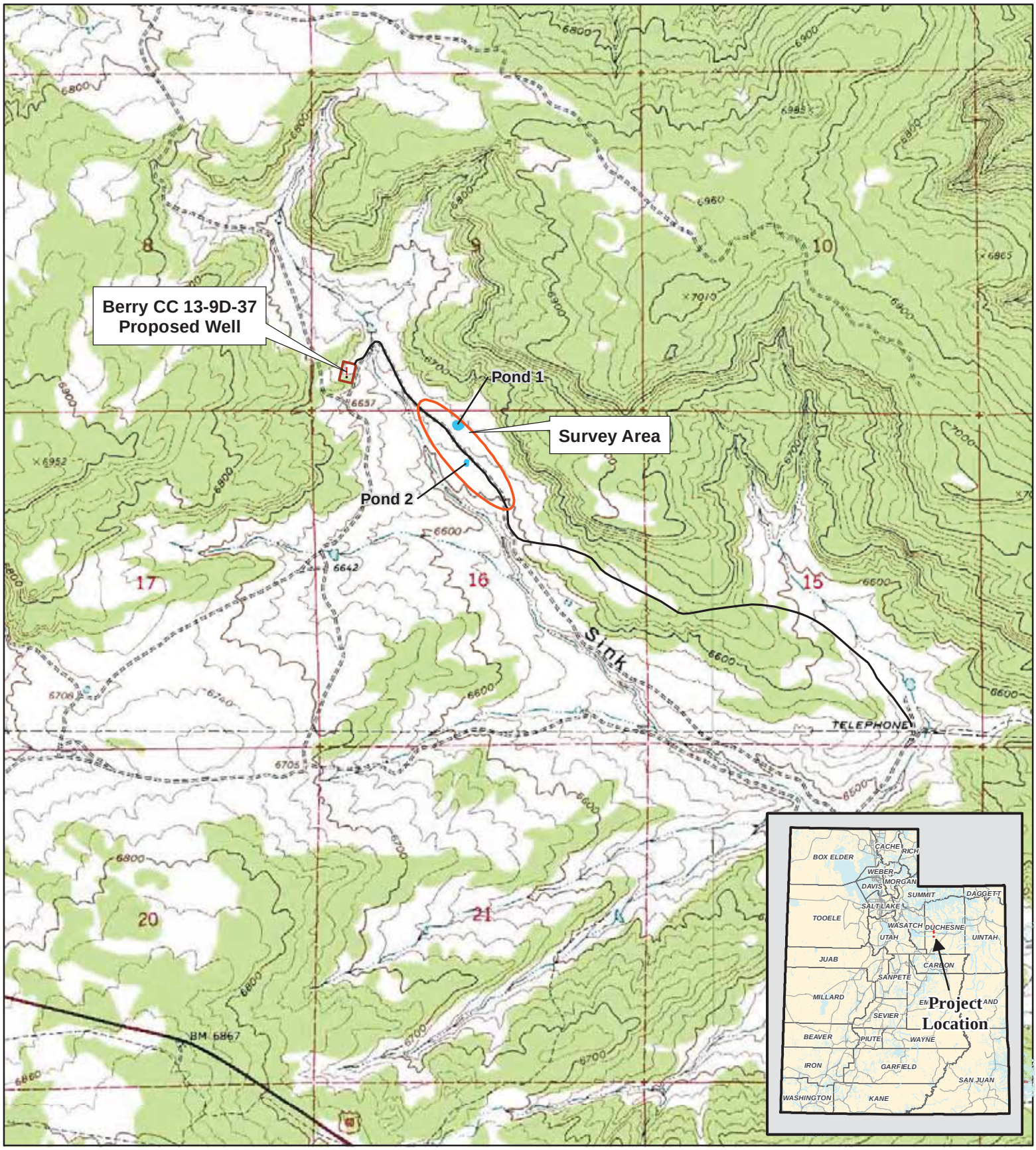
Aros Ar□aeology, □.□.C., (Aros) □as □om□leted a □□lt□ral reso□r□e inventory of t□e □ro□osed Berry Petrole□m Com□any CC □ee 13□□□3□a□ess road in Sin□□ra□, □□□esne Co□nty, □ta□. □□e □□lt□ral reso□r□e inventory □as re□□ested □y □r. Cro□ier of Berry Petrole□m Com□any. □□e Class I file sear□□and Class III field inventory □ere □om□leted □y Asa S. □ielson of Aros. □□e □ro□e□t □as □om□leted □nder □ta□P□PC□ Permit □o. 20□and □ta□State □istori□Preservation A□t□ori□ation □o. □□12□□□033□□. □ield □onditions for t□e inventory □ere e□□ellent.

Location □□e □ro□osed CC □ee 13□□□3□a□ess □orridor □egins in t□e □□ 1/4 □□ 1/4 S□ 1/4 □□1/4 of Se□tion 1□, □.3S □.□□ (□ig□re 1□Stra□□erry Pinna□les □□adrangle □ta□□□□esne Co. □5 □in□te Series). □□e a□□ess road e□tends a□o□t □1□ m(2, 02□ft.) nort□□est to t□e □□1/4 □□ 1/4 □□1/4 □□ 1/4 of Se□tion 1□, ending on t□e se□tion line □et□een Se□tions □and 1□. □□e land is □rivate s□rfa□e □ontrolled □y □ee□Cree□Investments.

Class I File Search Prior to □eginning t□e field inventory, Aros □om□leted a Class I file sear□□ at t□e □ta□State □ffi□e of t□e B□rea□of □and □ anagement (for □istori□□overnment □and □ffi□e (□□□) ma□s and at t□e □ta□State □istori□Preservation □ffi□e (□S□P□) for re□ent □□lt□ral reso□r□e inventories.

□□e □□□ ma□(1□04) □lots t□e lo□ation of t□e □istori□Vernal to □e□er □oad near t□e so□t□ern edge of Se□tion 1□. □□e road is still □sed today. It is a□o□t 1.□□m so□t□of t□e □ro□osed CC □ee 13□□□3□a□ess road and □ill not □e im□a□ted □y t□e □ro□e□t. □o ot□er □istori□trails are noted □it□in t□e □ro□e□t area.

□nly t□o □□lt□ral reso□r□e □ro□e□ts □ave □een re□orded □it□in a□o□t 1.5 □m of t□e □ro□e□t area. □□e □ro□e□ts are s□mmari□ed in □a□le 1 □elo□. □o □□lt□ral reso□r□e sites or isolated artifa□ts □ave □een re□orded □y t□ose □ro□e□ts □it□in 3 □m of t□e □ro□e□t area. A ne□ Bill Barrett Cor□oration □ell □as □een flagged near t□e □eginning of t□e □ro□osed 13□□□3□a□ess road □□t no □□lt□ral reso□r□e inventory re□ort □as □een □osted for t□e □ell.



OUTLAW ENGINEERING INC.

Legend

! Proposed Well

Access Road

Well Pad

Project Area

USGS 7.5' Strawberry Pinnacles Quadrangle

BERRY PETROLEUM CO.

Berry Petroleum Company

P[illegible] C[illegible] [illegible] CA[illegible]	[illegible] A[illegible] 2012	[illegible]
	SCA[illegible] 1:24,000	1
	1 I[illegible] C[illegible] [illegible] 2,000 [illegible]	

Table 1. Summary of Previous Cultural Resource Projects

Project No.	Project Description	Author/Company	Sites
□□2□□□□050□	Private □ands on t□e Bonan□a□□PA□C□□□ona □ine	P. □i□ens□□i□ens □ Asso□iates	□one
□11□□ □□0312	BBC Pro□osed □ ell □o□ations 1□21□□3□B□□, 5□22□□3□B□□, 14□22□□3□B□□, 1□22□□3□B□□, 5□23□□3□B□□, 14□23□3□B□□, 5□2□□□3□B□□	□. □ ontgomery□□ □AC	□one

General Environment □□e □ro□osed □ell is in Sin□□ra□, t□at is □it□in t□e □inta□Basin S□□se□tion of t□e Colorado Platea□Provin□e (Sto□es 1□□□). □□e □anyon is filled □it□all□vi□m derived from near□y □ertiary □inta□□ormation and s□allo□ □e□ent □ra aeolian sand. □□e □lant □omm□nity is dominated □y sage□r□s□, s□ads□ale, a variety of grasses and □a□ti. □a□□ra□□its, antelo□e, and □ommon □ro□s □ere o□served as □ere t□e tra□□s and dro□□ings of m□le deer and □oyote.

Inventory Methods □□e a□□ess road □as flagged □y land s□rveyors □rior to t□e Aros inventory. It is an e□isting t□o□tra□□road t□at □ill □e□□graded. □□e a□□ess road □as e□amined □y □al□ing a single transe□t along ea□□side of t□e □orridor, s□a□ed a□o□t 5 m to ea□□side of t□e e□isting s□o□lder. In all, a□□ro□imately 2.23 a□res □ere e□amined d□ring t□e inventory. Brief notes on t□e □ell lo□ation and a□□ess road environment □ere □om□leted as t□e s□rvey □rogressed.

Inventory Results □o □□lt□ral reso□r□e sites or isolated artifa□ts □ere noted □it□in t□e □ro□osed a□□ess road □orridor. □□o □ater □onds □ere fo□nd near, □□t o□tside of t□e □orridor. □□e largest and oldest of t□e t□o □ondsis lo□ated in t□e □□1/4 □□1/4 □□ 1/4 of Se□tion 1□and is east of t□e □ro□osed a□□ess road. It also a□□ears on t□e □S□S ma□(□ig□re 1) and □o□ld □redate t□e 1□□2 ma□. It does not a□□ear to □ave □eld □ater for some time as it □as □een □rea□□ed on t□e so□t□□est □orner. □□e se□ond □ond is fo□nd □est of t□e a□□ess road and is t□e ne□est of t□e □onds. □□e □ond is □ro□a□ly less t□an five years old □ased on t□e ne□ vegetation gro□ing □it□in t□e □ond. □□e □onds □ave not □een re□orded as sites.

Recommendations □o □□lt□ral reso□r□e sites or isolated artifa□ts □ere noted d□ring t□e inventory. □□e a□□ess road □ill □ave no im□a□t on any o□served □□lt□ral reso□r□es. □elo□ation of t□e □ro□osed a□□ess road ro□te is not ne□essary. □o f□rt□er resear□□or mitigation is re□ommended for t□is □ro□e□t.

Aros a□□re□iates t□e o□□ort□nity of serving Berry Petrole□m Com□any. If yo□□ave any □□stions a□o□t t□e res□lts of t□is □ro□e□t or t□e re□ommendation, □lease feel free to □onta□t □s.

Sin□erely,

Asa S. □ielson
Aros Ar□□aeology, □.□.C.

References Cited

□int□e, □e□i □.
1□□0 *Geological Map of Utah*. □ta□□eologi□al and □ineral S□rvey. Salt □a□e City.

Sto□es, □ m. □ee
1□□□ S□□divisions f t□e □a□or P□ysiogra□□i□Provin□es in □ta□ *Utah Geology Vol. 4 No. 1*. □ta□□eologi□al and □ineral S□rvey. Salt □a□e City.