From:	Christopher, Jordan
To:	Martini, Jay
Cc:	Antonio Pingree; Betsy Herrmann; Paul Abate; Ataya Cesspooch
Subject:	Re: Leland Bench Drilling project
Date:	Thursday, October 24, 2013 3:09:13 PM
Attachments:	092513.Finley LndBnch.AmdtCvrLtr.pdf Finley LndBnch1EA .pdf

---

Jay,

The attached cover letter does say that there is an attached addendum. Rather, I've modified the impact determinations in the actual body of the document for the proposed action (page 42) and cumulative impacts (page 47). Additionally, I realize that you've suggested that the BIA initiate a formal consultation with the Service. However this consultation was previously initiated under a formal status. Rather than seeking the Service's concurrence, we would like to a have a Biological Opinion regarding this project. In viewing this EA during the interim of our last submittal two days ago, I've also found additional errors and have subsequently provided some necessary edits. We would therefore like this attached draft document to serve as the report used for consultation.

Please advise as to whether the time frame will need to restart if the Service feels that this has met the one of the general conditions for reinitiating consultation under 50 CFR 402.16. . In the interest of the Tribe, I'd like to get this project completed as soon as I can and apologize for any confusion that may have been created.

Thanks again.

On Tue, Oct 22, 2013 at 2:41 PM, Martini, Jay <jay_martini@fws.gov> wrote:

> Hi Jordan,
>
> Was there supposed to be something else attached? From the attached cover letter, it looks as though there may also be an addendum to the original EA that would address our concerns(?).
>
> Thanks for your help
>
> Jay
>
> On Tue, Oct 22, 2013 at 12:01 PM, Christopher, Jordan <jordan.christopher@bia.gov> wrote:
>
> > Good morning,
> >
> > Please find the attached cover letter and revised NEPA document for Finley's Leland Bench – Draft Environmental Assessment #1 (BIA NEPA No. U&O-FY13-Q3-112). In modifying the environmental assessment and subsequently drafting this correspondence, our anticipation is to adequately address the the contention of our assessment for the cumulative water depletions from the Upper Colorado River Basin addressed by your office. Should you need anything further please don't hesitate to contact me.

Thank you.

On Mon, Sep 23, 2013 at 9:18 AM, Martini, Jay <jay_martini@fws.gov> wrote:

Hi Jordan,

As you are aware, water depletions from the Upper Colorado River Basin are likely to affect the federally endangered Colorado pikeminnow (*Ptychocheilus lucius*), humpback chub (*Gila cypha*), bonytail (*Gila elegans*), razorback sucker (*Xyrauchen texanus*) and their designated critical habitat through multiple ecological stressors, such as habitat loss, competition from non-native fish, and degraded water quality. Because water depletions from the Upper Colorado River Basin are a major factor in the decline of the endangered fishes, the Service has historically determined that any depletion will jeopardize their continued existence and will likely contribute to the destruction or adverse modification of their critical habitat (USDI, Fish and Wildlife Service (Service), Region 6 Memorandum, dated July 8, 1997).

To address the ecological effects from depletions and aid in the recovery of the four species, the Department of the Interior, the states of Wyoming, Colorado, and Utah, and the Western Area Power Administration established the Recovery Program in 1988. In order to further define and clarify the process in the Recovery Program, the Recovery Program participants implemented a section 7 agreement (Agreement) on October 15, 1993. This Agreement established the Recovery Program and its activities as the Reasonable and Prudent Alternative (RPA) to avoid jeopardy for the endangered fishes from impacts caused by depletions from the Upper Colorado River Basin. Incorporated into this Agreement is a plan of action (Recovery Implementation Program Recovery Action Plan or RIPRAP) which identifies activities required to recover the endangered fishes that will be carried out by Recovery Program participants. Also incorporated into the Agreement is the requirement of a financial contribution to the Recovery Program (also known as a depletion fee) that would help fund recovery activities.

After many years of successful implementation of the Recovery Program, the Agreement, and the RIPRAP, federal action agencies now anticipate Recovery Program activities and payment of the depletion fee to serve as the RPA, avoiding jeopardy to the four listed species. Thus, the RPA has essentially become part of a proposed action. Because we now consider it part of a proposed action, the depletion fee and Recovery Program activities will now serve as conservation measures that minimize adverse effects to listed species or critical habitat. Therefore, we no longer consider depletions to jeopardize the continued existence of these species, but rather believe that depletions of less than 100 acre-feet per year, but greater than 0.1 acre-feet per year **may affect and are likely to adversely affect** the species. Therefore because the estimated water depletion for this project is 21 acre-feet, we do not concur with your determination that the proposed project may affect, *is not* likely to

adversely affect the four federally endangered fishes of the Upper Colorado River Basin. Consequently, we recommend that the Bureau of Indian Affairs initiate formal consultation in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq*.).

As mentioned above, included in the Recovery Program was the requirement that a depletion fee would be paid to help support the Recovery Program. On July 8, 1997, the Service issued an intra-Service biological opinion determining that the depletion fee for average annual depletions of 100 acre-feet or less are no longer required. Because the Recovery Program has made sufficient progress to the RPA to avoid jeopardy to the endangered fishes and to avoid destruction or adverse modification of their critical habitat, depletions of 100 acre-feet or less are now exempt from the depletion fee. The estimated water depletion for this project is 21 acre-feet per year. Therefore, we agree with you that the depletion fee for this project is waived.

If you have any questions please feel free to give me a call.

Thank you

--

Jay Martini
U.S. Fish and Wildlife Service
Utah Ecological Services Field Office
2369 W. Orton Circle
West Valley City, Utah 84119
ph: 801-975-3330, ext. 144

--

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D R A F T
100313.FinleyLB.EA1.AmdtCvrLtr

RE: Finley's Leland Bench – Draft Environmental Assessment/ Biological Assessment #1 (BIA NEPA No. U&O-FY13-Q3-112) – Amendment to EA/BA

On September 6th, 2013, this Agency requested formal initiation of Section 7 consultation for the subject EA document. In a subsequent response e-mailed from the United States Fish and Wildlife Service (USFWS) on September 23, the U.S. Fish and Wildlife Service identified their non-concurrence with the BIA's impact determination that the cumulative impact and proposed action for this project "*may affect, is not likely to adversely affect*" the four upper Colorado River Basin Endangered Fish. This Agency has since amended the EA/BA (attached in this e-mail) that would correct the response of the USFWS. Please let this correspondence serve to convey the amended draft of the EA/BA for the subject project.

We hope this amendment satisfies the Service's questions/concerns on the EA/BA, enabling the UFWS to prepare its Biological Opinion and conclude Section 7 consultation on this project for both Finley and the Tribe.

Thank you for your continued efforts relative to a timely conclusion of this Section 7 Consultation. Should you have any additional comments, questions, or concern, please contact Antonio Pingree, Branch Chief, Division of Natural Resources (435-722-4328), or Jordan Christopher, Lead NEPA Coordinator (435-722-4331).

Attachment – Draft of Finley's Leland Bench Environmental Assessment/Biological Assessment #1

U.S. Department of the Interior
Bureau of Indian Affairs

Uintah and Ouray Agency
Fort Duchesne, UT

Leland Bench Drilling Project
Environmental Assessment and Biological Assessment
No. U&O-FY-13-Q3-112

Location: *Well Locations:*

Ute 22-3A-4-1:	Located in Section 22;
Ute 22-4A-4-1:	Located in Section 22;
Ute 22-6A-4-1:	Located in Section 22;
Ute 22-10A-4-1:	Located in Section 22;
Ute 22-15A-4-1:	Located in Section 22;
Ute 22-16A-4-1:	Located in Section 22;
Ute 23-9A-4-1:	Located in Section 23;
Ute 23-10A-4-1:	Located in Section 23;
Ute 23-11A-4-1:	Located in Section 23;
Ute 25-3A-4-1:	Located in Section 25;
Ute 26-5A-4-1:	Located in Section 26;
Ute 27-1A-4-1:	Located in Section 27;
Ute 27-2A-4-1:	Located in Section 27;
Ute 27-3A-4-1:	Located in Section 27;

Township 4 South Range 1 East;
Uintah Special Base & Meridian;
Uintah County, Utah.

Applicant: Finley Resources, Inc.
1308 Lake Street
Ft. Worth, TX 76102

August 2013

TABLE OF CONTENTS

1.0 PURPOSE AND NEED FOR ACTION 6
1.1 Introduction 6
1.2 Background 7
1.3 Purpose and Need for the Proposed Action 8
1.4 Relationship to Statutes, Regulations, and Plans 9
1.5 Summary of Scoping and Identification of Issues 9
1.5.1 Scoping Summary 9
1.5.2 Issues Identified for Analysis 11
1.6 Summary 12
2.0 PROPOSED ACTION AND ALTERNATIVES 13
2.1 Alternative A – Proposed Action 13
2.1.1 Well Site Layout 14
2.1.2 Access 14
2.1.3 Pipeline Corridors 14
2.1.4 Surface Facilities 15
2.1.5 Water Supply and Disposal 15
2.1.6 Waste Disposal 16
2.1.7 Spill Procedures 17
2.1.8 Reclamation 17
2.1.9 Applicant-committed Environmental Protection Measures (ACEPMs) 18
2.2 Alternative B – No Action Alternative 23
2.3 Alternatives Considered but Eliminated from Further Analysis 24
3.0 AFFECTED ENVIRONMENT 25
3.1 Introduction 25
3.2 General Setting 25
3.3 Cultural Resources 25
3.4 Paleontology 26
3.5 Soils 26
3.6 Water Resources, Including Waters of the United States 27
3.7 Vegetation, Including Federally-listed Plant Species and Invasive and Noxious Weed Species 28
3.7.1 General Vegetation 28
3.7.2 Federally-listed Plant Species 28
3.7.3 Invasive and Noxious Weeds 29
3.8 Wildlife, Including Special Status Animal Species 30
3.8.1 General Wildlife 30
3.8.2 Migratory Birds 30
3.8.3 Raptors 31
3.8.4 Special Status Animal Species 32
4.0 ENVIRONMENTAL CONSEQUENCES 34
4.1 Introduction 34
4.2 Direct and Indirect Impacts 35
4.2.1 Alternative A – Proposed Action 35
4.2.2 Alternative B – No Action 43

4.3 Cumulative Impacts 43
4.3.1 Cultural Resources 43
4.3.2 Paleontology 44
4.3.3 Soils....44
4.3.4 Water Resources, Including Waters of the United States 45
4.3.5 Vegetation, Including Federally-listed Plant Species and Noxious and Invasive Weed Species 45
4.3.6 Wildlife, Including Special Status Animal Species 46
4.4 Irreversible and Irretrievable Impacts 47
4.4.1 Cultural Resources 47
4.4.2 Paleontology 48
4.4.3 Soils....48
4.4.4 Water, Including Waters of the United States 48
4.4.5 Vegetation, Including Federally-listed Plant Species and Noxious and Invasive Species 48
4.4.6 Wildlife 48
4.5 Recommended Mitigation Measures 48
4.5.1 Cultural Resources 48
4.5.2 Paleontologoy 49
4.5.3 Soils....49
5.0 CONSULTATION AND COORDINATION....50
5.1 Introduction....50
5.2 Persons, Groups and Agencies Consulted 50
5.3 List of Preparers....50
6.0 References....51
Appendix A: Figures....1
Appendix B: Summary of Special Status Species 1

ACRONYMS AND ABBREVIATIONS

ACEPM	Applicant-Committed Environmental Protection Measures
AC-FT.	Acre feet of water
amsl	above mean sea level
APD	Application for Permit to Drill
ASME	American Society of Mechanical Engineers
BCC	Birds of Conservation Concern
BGEPA	Bald and Golden Eagle Protection Act of 1940
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BMP	Best Management Practice
CEQ	Council of Environmental Quality
CFR	Code of Federal Regulation
CFS	Cubic Feet per Second
CIAA	Cumulative Impact Analysis Area
CO	Carbon Monoxide
COA	Condition of Approval
CWA	Clean Water Act of 1972
DR	Decision Record
EA	Environmental Assessment
EDA	Exploration and Development Agreement
EIS	Environmental Impact Statement
Effects	Impacts
EO	Executive Order
EPA	(U.S.) Environmental Protection Agency
ESA	Endangered Species Act of 1973
Finley	Finley Resources, Inc.
FONSI	Finding of No Significant Impact
GIS	Geographic Information System
GPS	Global Positioning System
Impacts	Synonymous with “Effects”
Kw	Water Erosion Potential
LOP	Life of Project
MBTA	Migratory Bird Treaty Act of 1918
MOAC	Montgomery Archaeological Consultants, Inc.
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1970
NOx	Nitrogen dioxide
NRHP	National Register of Historic Places
NTL	Notice to Lessees
OD	Outer Diameter
P&A	Plugged and Abandoned
PSI	Pounds per square inch
Reservation	Uintah and Ouray Indian Reservation
RFD	Reasonable Foreseeable Development
ROW	Right-of-way
SARA	Superfund Amendments and Reauthorization Act of 1986
SHPO	State Historic Preservation Office
SOP	Standard Operating Procedure

SO_2	Sulfur dioxide
SPCC	Spill, Prevention, Control and Countermeasure (Plan)
SWREGAP	Southwest Regional GAP Analysis Project
TES	Threatened, Endangered or Special Status Species
THPO	Tribe's Historic Preservation Office
Tribe	Ute Indian Tribe
UDOGM	Utah Division of Oil, Gas and Mining
UDWR	Utah Division of Wildlife Resources
UPIF	Utah Partners in Flight
USACE	U.S. Army Corps of Engineers
USB&M	Uintah Special Base & Meridian
U.S.C.	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UTERO	Ute Tribe Employment Rights Office
UWCA	Utah Weed Control Association
VOCs	Volatile Organic Compounds

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1.0 PURPOSE AND NEED FOR ACTION

1.1 INTRODUCTION

This environmental assessment (EA) has been prepared to analyze potential impacts of Finley Resources, Inc. (Finley) proposed construction of fourteen (14) well pads and the drilling, completion, and production of fourteen (14) well bores, along with their supporting infrastructure, that includes support gathering pipelines and access roads. The proposed project is presented in Table 1.2-1.

The proposed wells would be located on the Uintah and Ouray Indian Reservation (Reservation) and involve existing Bureau of Indian Affairs (BIA)-administered oil and gas leases currently held in production by Finley. Specifically, the involved leases are:

- BIA Lease 14-20-H62-4901 for Section 22, Township 4 South, Range 1 East, Uintah Base and Meridian (USB&M)
- BIA Lease 14-20-H62-4902 for Section 23, Township 4 South, Range 1 East, USB&M
- BIA Lease 14-20-H62-4904 for Section 25, Township 4 South Range 1 East, USB&M
- BIA Lease 14-20-H62-4905 for Section 26, Township 4 South, Range 1 East, USB&M
- BIA Lease 14-20-H-62-4906 for Section 27, Township 4 South, Range 1 East, USB&M

Finley's purpose for the proposed project is to develop their existing leases per the lease stipulations and Conditions of Approval (COAs).

The proposed oil and gas project constitutes an externally initiated proposal that is considered a federal action subject to analysis by the BIA Uintah and Ouray Agency, trustee for the Ute Indian Tribe (Tribe), under the National Environmental Policy Act (NEPA) of 1969. This EA is an assessment of potential impacts that could result with the implementation of either the Proposed Action or the No Action Alternative.

An EA provides information needed by the BIA decision maker in determining whether a statement of "Finding of No Significant Impact" (FONSI) will be prepared or whether an Environmental Impact Statement (EIS) will be required. A FONSI is a document that briefly presents the reasons why implementation of the Proposed Action or Alternatives would not result in "significant" environmental impacts. If the decision maker determines that this project has no "significant" impacts following the analysis in the EA, a Decision Record and FONSI would be prepared approving the selected alternative. If this project is found to have "significant" impacts, an EIS would be prepared.

The biological assessment portion of this EA has been prepared to review the proposed project in sufficient detail to determine to what extent the Proposed Action and Alternatives may affect any of the threatened, endangered, proposed, or sensitive (TES) species listed below. This biological assessment is prepared in accordance with legal requirements set forth under Section 7 of the Endangered Species Act (ESA) of 1973 (16 United States Code [U.S.C.] 1536(c)), and follows the NEPA, as amended, the Council on Environmental Quality's (CEQ) regulations for implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508), the United States Army Corps of Engineers (USACE) regulations for implementing NEPA (Environmental Report 200-2-2) and other applicable environmental regulations.

The species considered in this document are:

Endangered Species

Bonytail (*Gila elegans*)
Colorado pikeminnow (*Ptychocheilus lucius*)
Humpback chub (*Gila cypha*)
Razorback sucker (*Xyrauchen texanus*)

Threatened Species

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

For information on the above-mentioned species, refer to Sections 3 and 4 of this EA.

Federal agencies, in consultation with the United States Fish and Wildlife Service (USFWS), are required to ensure that any action they authorize, fund, or carry out will not jeopardize the continued existence of a federally-listed or proposed threatened or endangered species. As the Federal lead agency for this EA, the BIA is responsible for the Section 7 consultation process with the USFWS (refer to Section 5.0).

1.2 BACKGROUND

Finley proposes to construct 14 well pads and drill, complete, and produce 14 well bores, along and their supporting infrastructure, including the installation and operation of support gathering pipelines and access roads in rights-of-way (ROW) or easements. The project area for this proposal is located on existing leases on Leland Bench; approximately 14 miles south of Ft. Duchesne on the Reservation, in Uintah County (see Figure 1). If the proposed wells are dry, the wells would be plugged and abandoned (P&A) per Tribal, BIA, and State of Utah requirements. Table 1.2-1 lists the proposed well numbers, legal locations, distance to nearest municipality and a brief description of associated facilities.

Table 1.2-1 Proposed Well Pad Descriptions

Well No.	Section(s), Township and Range[1]	Closest Municipality[2]	Description of Proposed Facilities
Ute 22-3A-4-1	NE1/4 NW1/4 Section 22, Township 4 South Range 1 East	13.4 road miles south of Ft. Duchesne, Utah	Construct one (1) well pad, including reserve pit and damage areas; drill one (1) well bore, as identified; construct and maintain access road ROW and pipeline ROW all on tribal land
Ute 22-4A-4-1	NW1/4NW1/4 Section 22 Township 4 South Range 1 East	13.3 road miles south of Ft. Duchesne, Utah	Construct one (1) well pad, including reserve pit and damage areas; drill one (1) well bore, as identified; construct and maintain access road ROW and pipeline ROW all on tribal land
Ute 22-6A-4-1	SE1/4NW1/4 Section 22 Township 4 South Range 1 East	13.1 road miles south of Ft. Duchesne, Utah	Construct one (1) well pad, including reserve pit and damage areas; drill one (1) well bore, as identified; construct and maintain access road ROW and pipeline ROW all on tribal land
Ute 22-10A-4-1	NW1/4SE1/4 Section 22 Township 4 South Range 1 East	13.5 road miles south of Ft. Duchesne, Utah	Construct one (1) well pad, including reserve pit and damage areas; drill one (1) well bore, as identified; construct and maintain access road ROW and pipeline ROW all on tribal land

Well No.	Section(s), Township and Range[1]	Closest Municipality[2]	Description of Proposed Facilities
Ute 22-15A-4-1	SW1/4SE1/4 Section 22 Township 4 South Range 1 East	13.5 road miles south of Ft. Duchesne, Utah	Construct one (1) well pad, including reserve pit and damage areas; drill one (1) well bore, as identified; construct and maintain access road and pipeline ROWs all on BIA-administered land
Ute 22-16A-4-1	SE1/4SE1/4 Section 22 Township 4 South Range 1 East	13.9 road miles south of Fort Duchesne, Utah	Construct one (1) well pad, including reserve pit and damage areas; drill one (1) well bore, as identified; construct and maintain access road and pipeline ROWs all on BIA-administered land
Ute 23-9A-4-1	NE1/4SE1/4 Section 23 Township 4 South Range 1 East	14.9 road miles south of Fort Duchesne, Utah	Construct one (1) well pad, including reserve pit and damage areas; drill one (1) well bore, as identified; construct and maintain access road and pipeline ROWs all on BIA-administered land
Ute 23-10A-4-1	NW1/4SE1/4 Section 23 Township 4 South Range 1 East	14.8 road miles south of Fort Duchesne, Utah	Construct one (1) well pad, including reserve pit and damage areas; drill one (1) well bore, as identified; construct and maintain access road and pipeline ROWs all on BIA-administered land
Ute 23-11A-4-1	NE1/4SW1/4 Section 23 Township 4 South Range 1 East	14.2 road miles south of Fort Duchesne, Utah	Construct one (1) well pad, including reserve pit and damage areas; drill one (1) well bore, as identified; construct and maintain access road and pipeline ROWs all on BIA-administered land
Ute 25-3A-4-1	NE1/4NW1/4 Section 25 Township 4 South Range 1 East	15.8 road miles south of Fort Duchesne, Utah	Construct one (1) well pad, including reserve pit and damage areas; drill one (1) well bore, as identified; construct and maintain access road and pipeline ROWs all on BIA-administered land
Ute 26-5A-4-1	SW1/4NW1/4 Section 26 Township 4 South Range 1 East	14.4 road miles south of Fort Duchesne, Utah	Construct one (1) well pad, including reserve pit and damage areas; drill one (1) well bore, as identified; construct and maintain access road and pipeline ROWs all on BIA-administered land
Ute 27-1A-4-1	NE1/4NE1/4 Section 27 Township 4 South Range 1 East	13.9 road miles south of Fort Duchesne, Utah	Construct one (1) well pad, including reserve pit and damage areas; drill one (1) well bore, as identified; construct and maintain access road and pipeline ROWs all on BIA-administered land
Ute 27-2A-4-1	NW1/4NE1/4 Section 27 Township 4 South Range 1 East	13.9 road miles south of Fort Duchesne, Utah	Construct one (1) well pad, including reserve pit and damage areas; drill one (1) well bore, as identified; construct and maintain access road and pipeline ROW all on BIA-administered land
Ute 27-3A-4-1	NE1/4NW1/4 Section 27 Township 4 South Range 1 East	13.9 road miles south of Fort Duchesne, Utah	Construct one (1) well pad, including reserve pit and damage areas; drill one (1) well bore, as identified; construct and maintain access road and pipeline ROWs all on BIA-administered land

Source: Finley working data
[1]Uintah Base and Meridian (USB&M)
[2]Road miles, using existing and proposed access road distances as shown in individual well survey package information, referenced above

1.3 PURPOSE AND NEED FOR THE PROPOSED ACTION

The BIA's purpose for this project is to respond to Finley's Proposed Action, introduced in Section 1.1 and presented in Table 1.2-1. Assisting the Tribe with developing its oil and gas resources is consistent with the mission of the BIA, set out in the following authorities:

- Mineral Leasing Act of 1920 (30 U.S.C. 181 et seq.);
- The Mining and Mineral Policy Act of 1970 (30 U.S.C. 21 et seq.);
- The Indian Mineral Leasing Act of 1938 (25 U.S.C. 396a-g);
- Indian Mineral Development Act of 1982 (25 U.S.C. 2102 et seq.); and,
- The Indian Tribal Energy Development and Self-Determination Act of 2005 (Title V of the Energy Policy Act of 2005, Section 501).

The BIA is required to analyze the impacts of Finley's proposal to ensure that American Indian lands held in trust by the United States are assured the opportunity to have mineral resources developed in a manner that maximizes their best economic interests and minimizes any adverse environmental impacts resulting from such development. The BIA's mission is to fulfill its trust responsibilities and promote self-determination on behalf of tribal governments, American Indians, and native Alaskans.

1.4 RELATIONSHIP TO STATUTES, REGULATIONS, AND PLANS

The Proposed Action and the No Action Alternative are consistent with federal, Tribal, state, and county laws, regulations and plans as discussed below.

The Secretary of the Interior is authorized, on behalf of the federal government, to administer the oil and gas resources on Indian land through the Indian Mineral Development Act of 1982, and the Indian Mineral Leasing Act of 1938. The Tribe's Energy and Minerals Department is integrally involved in the decision-making processes relative to oil and gas projects on the Reservation, including the review and approval of all ROW applications on Tribal surface. Final approvals are granted only with Tribal concurrence.

The BIA is responsible for Tribal mineral lease administration. As such, the BIA is the surface permitting and the decision-making authority for this EA. The requirements and decisions regarding exploration and development in this EA would only apply to Tribal surface and/or Tribal mineral leases. Following issuance of a Decision Record (DR) for this EA, the permitting authorities for a well involving Tribal surface or mineral ownership include the Tribe, BIA, Bureau of Land Management (BLM) and State of Utah Division of Oil, Gas and Mining (UDOGM). The BIA is also the surface permitting authority for a well involving BIA-administered surface ownership. The BLM is the "downhole" or subsurface well permitting authority for Applications for Permits to Drill (APDs) and administering operations for wells proposed on Tribal land in coordination with BIA. The BLM provides the APD concurrence, in accordance with Federal Oil and Gas Onshore Order No. 1. UDOGM is the surface authority for applications for wells involving private or State of Utah owned lands and minerals. UDOGM also provides administrative review for every oil and gas well in the State of Utah, regardless of surface ownership.

1.5 SUMMARY OF SCOPING AND IDENTIFICATION OF ISSUES

1.5.1 Scoping Summary

Due to the small scale of this project, no external public scoping was conducted for this project. Internal scoping meetings were conducted by the BIA and the Tribe during onsite meetings conducted on December 12, 2012, and a determination of potential impacts to individual resources directly related to the project area was conducted at that time. Participants at the onsite meetings are listed in Table 1.5-1 below.

Table 1.5-1 List of Participants at the December 12, 2012 Onsite Meeting

Name	Representing	Responsibility
Audie Appawoo	Ute Tribe, Energy & Minerals Department	Compliance Officer
Bill Civish	Bureau of Land Management, Vernal Field Office	Natural Resource Specialist
Sam Carroll	Finley Resources	Landman
Jim Simonton	Finley Resources	Field Foreman
Doug Bryce	Bureau of Indian Affairs, Uintah & Ouray Agency	Forestry Supervisor
Dayton Slaugh & Cameron Stewart	TriStates Land Surveying & Engineering, Inc.	Land Surveyors
Don Hamilton	Star Point Enterprises, Inc.	Regulatory Specialist
David Evans	Kleinfelder (KLF)	Biologist

Those resources and environmental elements identified as not present or not impacted to a degree that detailed analysis is required are described below in Table 1.5-2 and were not carried forward into the EA.

Table 1.5-2 Resources and Environmental Elements *Not* Carried Forward Following Internal Scoping

Resource or Environmental Element	Reason Resource or Environmental Element was not Carried Forward
Air Quality	The most current air quality data is presented in the *Rocky Point Exploration and Development Agreement Leasing and Exploratory Drilling Environmental Assessment and Biological Assessment*, EA No. U&O-FY12-Q1-040, dated 2012 (BIA 2012). The following conclusion was made for air quality in the Rocky Point EDA EA: "Temporary incremental increases in emissions of NO_x, SO_2, CO, and VOCs from the Proposed Action during development would be localized and expected to occur in the short-term from mobile combustion sources associated with construction and drilling equipment and the temporary increase in vehicle traffic." Dust and other emissions would occur from vehicles during construction of the proposed wells and associated pipeline ROWs. Those air quality emissions are expected to be so small as to be indistinguishable from background air quality as described within the regional air quality model run for the Greater Natural Buttes Final Environmental Impact Statement (BLM 2012). The Final Environmental Impact Statement concluded overall, the modeled air quality in the Uinta Basin was within attainment of the National Ambient Air Quality Standards (NAAQS) (BLM 2012). Air quality monitoring results are showing exceedences of the ozone NAAQS in the Basin during winter when snow cover is present (BLM 2012). However, ozone formation from its component parts (Nitrogen Dioxide [NOx] and Volatile Organic Compounds [VOCs]) is a non-linear, photo-reactive process, and no models exist for predicting winter-time ozone formulation. As such, the Proposed Action would not violate, or otherwise contribute to a violation, of any applicable air quality standard.
Floodplain and Wetland Zones	The project area does not include any floodplain or wetland zones. Thus the proposed project would not directly or indirectly affect these resources.
Land Resources – Topography, geologic setting, and mineral resources	Surface disturbance associated with the Proposed Action are expected to have negligible effects on topographic resources. The project would have no effect on the geologic setting of the project area. No conflicts with other mineral resources (e.g., gilsonite) are expected based on installation of the surface steel pipeline.
Light, Sound and Noise	Sounds and noise from this Proposed Action would be short-term and compatible with the surrounding land uses.
Public Health and Safety	Finley's standard operating procedures (SOPs) for health and safety, compliance with federal and Tribal regulations, as well as adherence to industry standards for

Resource or Environmental Element	Reason Resource or Environmental Element was not Carried Forward
	installation, testing, and subsequent operation of the proposed wells and their supporting infrastructure would render any risk to public health and safety negligible.
Resource Use Patterns - Hunting/fishing/gathering, timber/forest product harvesting, agriculture, mining, recreation, transportation networks, land-use plans	Hunting/fishing/gathering, mining, recreational uses and transportation network are either not present, are compatible with the proposal, or would be affected so negligible as to be immeasurable. Currently the Tribe does not have a general Reservation Management Plan.
Socio-economic Conditions	The Tribe would earn long-term revenues from the ROW rental fees. Also, the Tribe has passed and/or amended ordinances that apply to all Reservation employers. These ordinances require enterprises doing business within the Reservation to employ, to the greatest extent possible, Tribal members and Tribally-owned subcontractors. These ordinances are Ordinance No. 92-07, "The Contracting Preference Ordinance" (signed in 1992) and Ordinance 10-001, "An Ordinance Amending Ute Ordinance No. 09-002, No. 92-07 and Resolution 92-011, establishing the Ute Tribal Employment Rights Office (UTERO) Ordinance and Repealing Resolution 02-088" (signed in 2010). Finley, in compliance with these Tribal Resolutions, would afford increased employment opportunities for Tribal members, thus potentially improving individual economic conditions for Tribal members. In relation to ongoing development throughout the Basin and based on the scope and scale of the proposed project, no substantial impacts would occur to the social or economic status of Duchesne County or nearby communities.
Wilderness	No wilderness lands are present in the project area.

1.5.2 Issues Identified for Analysis

1.5.2.1 Cultural Resources

The Proposed Action would result in direct and indirect impacts to cultural resources (both historic and prehistoric) from proposed construction and operation activities. Potential impacts to Native American religious and cultural sites and/or artifacts within the project area could result from construction and operation activities associated with the Proposed Action.

1.5.2.2 Paleontological Resources

The Proposed Action could result in direct impacts to fossil resources within the project area from proposed construction and excavation activities.

1.5.2.3 Water Resources, Including Waters of the United States

The Proposed Action could result in direct and indirect impacts to water and subsurface water resources, including Waters of the United States, from the proposed construction and excavation activities.

1.5.2.4 Soils

The Proposed Action could affect soils from the removal of existing vegetation and disturbance to underlying soils. Construction activities associated with the Proposed Action could result in mixing soil horizons, soil compaction and increased susceptibility of soils to wind and water erosion.

1.5.2.5 Vegetation, Including Federally-listed Plant Species and Invasive and Noxious Weed Species

The proposed project would affect vegetation resources in the project area from construction activities. Potential impacts include removal of existing vegetation and disturbance to underlying soils, proliferation of weed species, and disturbance to potential habitat for the federally-listed Uinta Basin hookless cactus (*Sclerocactus wetlandicus*), and the Pariette cactus (*Sclerocactus brevispinus*).

1.5.2.5 Wildlife, Including Special Status Animal Species

The Proposed Action's construction and operations activities could affect resident big game, migratory bird species, raptors and other special status animal species.

1.6 SUMMARY

This chapter has presented the Purpose and Need for the proposed project, as well as relevant issues, i.e., those elements that could be affected by the implementation of the project or alternatives. The Proposed Action and the No Action Alternative are presented in Chapter 2. Chapter 3 presents the affected environment for this exploratory project. The potential environmental impacts or consequences resulting from the implementation of each alternative are then analyzed in Chapter 4 for each of the identified issues described in Chapter 3.

2.0 PROPOSED ACTION AND ALTERNATIVES

This section described the Proposed Action (Alternative A) and No Action Alternative (Alternative B). The No Action Alternative, required by CEQ regulations, is considered and analyzed to provide a baseline for comparison of the impacts of the Proposed Action. No additional alternatives were considered.

2.1 ALTERNATIVE A – PROPOSED ACTION

Finley proposes to construction 14 well pads and drill, complete, and produce 14 well bores, and to construct operate and maintain the proposed wells' supporting infrastructure, including production-supporting gathering pipelines and access roads. Table 2.1-1 includes the surface disturbance associated with the Proposed Action.

Table 2.1-1 Surface Disturbance for the Proposed Action

Well No.	Well Pad, Including Damage Area (Acres)	Access Road[1]		Pipeline Corridor[2]		Total Acres of Surface Disturbance
		Feet	Acres	Feet	Acres	
Ute 22-3A-4-1	2.827	788.91	0.543	771.15	0.531	3.901
Ute 22-4A-4-1	2.826	38.29	0.026	57.17	0.039	2.891
Ute 22-6A-4-1	2.655	25.44	0.018	0	0	2.673
Ute 22-10A-4-1	2.827	262.13	0.181	263.53	0.181	3.189
Ute 22-15A-4-1	2.964	20.69	0.014	39.72	0.027	3.005
Ute 22-16A-4-1	2.826	1,443.06	0.994	1,441.49	0.993	4.813
Ute 23-9A-4-1	2.614	591.30	0.407	565.65	0.390	3.411
Ute 23-10A-4-1	2.827	116.54	0.080	95.83	0.066	2.973
Ute 23-11A-4-1	2.827	784.92	0.541	772.89	0.532	3.900
Ute 25-3A-4-1	2.827	897.48	0.618	765.15	0.527	3.972
Ute 26-5A-4-1	2.827	271.14	0.187	225.03	0.155	3.169
Ute 27-1A-4-1	2.352	28.87	0.020	100.87	0.069	2.441
Ute 27-2A-4-1	2.826	923.34	0.636	946.01	0.652	4.114
Ute 27-3A-4-1	2.711	825.73	0.569	858.53	0.591	3.871
Totals	38.736	7017.84	4.834	6,903.02	4.753	48.399

Source: Finley working data
[1]Finley is requesting a 30-foot wide ROW.
[2]Finley is requesting a 30-foot wide ROW.

As indicated in Table 2.1-1, the total surface disturbance associated with the Proposed Action would be approximately 48.399, or 49, acres, all of which would involve BIA-administered land. While Table 2.1-1 depicts acreage figures out to the 1000th decimal place, these numbers correspond directly to the acreage numbers shown on individual application documents provided to the Tribe and the BIA. However, acreage and other numbers depicted and assessed in this EA have been rounded to either the nearest whole number or the nearest 10th decimal place, as appropriate.

2.1.1 Well Site Layout

Finley proposes to construct 14 well pads and drill, complete and produce 14 well bores as shown on Table 1.2-1. The average well pad would involve about 2.8 acres, including the well pad, cuts, fills and topsoil stockpiles, subsoil materials stockpiles, ditches, spoil piles, etc. The pad itself would have average dimensions of 305 feet long by 205 feet wide (including the reserve pit). In total, approximately 39 acres would be disturbed associated with the proposed wells in the Proposed Action.

A reserve pit (measuring approximately 40 feet wide by 90 feet long x 8 feet deep) would be excavated on each well pad for the containment of all cuttings and drilling fluids, and allowing for a 2-foot freeboard. The reserve pit would be fenced on three sides prior to drilling activity and closed off on the fourth side after removal of the drill rig. The reserve pits would be lined with a reinforced liner a minimum of 20 millimeters (mm) thick, and padded with sufficient weed-free straw to cover all rocks, if appropriate. A felt liner would be used in cases where straw could not sufficiently cover rock fragments to prevent puncture. The cuttings storage areas would not be lined.

Topsoil would be stripped and salvaged in sufficient quantity to be re–spread over disturbed areas. Topsoil would be stored separately from subsoil materials and would be stored along the perimeter of the exterior edge of the proposed disturbance, in areas that would be easily reached for reclamation and where erosion and over-exposure to the sun would be minimized. Topsoil stored for more than one (1) year would be scarified to increase surface area, seeded with an agency-approved seed mixture, and erosion control measures would be implemented. Topsoil piles would be delineated with lath or flagging to prevent the soil from being buried or used during pad construction.

2.1.2 Access

Existing and newly constructed roads would provide access to the proposed well pads. Access roads would be constructed and/or improved to be crowned and ditched and having an 18-foot running surface within a 30-foot wide ROW. A total of about five (5) acres would be involved with proposed access roads.

All new and existing roads would be constructed, improved or maintained according to guidance and requirements set out in the “Gold Book” (BLM-USFS 2007, as revised), or as directed by the Tribe or BIA. Low-water crossings or culverts would be installed at all drainage crossings, as directed. Where roads would cross areas involving other jurisdictions, the appropriate agency would be consulted and the appropriate permit(s) would be obtained.

2.1.3 Pipeline Corridors

Finley has requested 30-foot wide pipeline corridors to accommodate the proposed wells. A total of about five (5) acres would be involved with the proposed pipeline corridors.

The proposed pipeline corridors would parallel existing and/or proposed access roads to the extent possible and would be placed 15 feet off the existing road’s surface. Each pipeline corridor could have

up to three (3) pipelines: a 6-inch outer diameter (OD) steel lateral production line; a 6-inch OD polyethylene water line; and a 4-inch OD polyethylene fuel gas line. Gas gathering pipelines would be installed if gas production from the proposed wells is greater than amounts that can be used on location for heating of tanks or equipment operations, or flared for a period of 30 days under the Department of Interior's Notice to Lessees (NTL-4A).

Pipeline construction and installation would adhere to procedures specified by the BIA as well as other applicable guidelines, including the American Society of Mechanical Engineers (ASME) standards B31.8 *Gas Transmission Distribution Piping Systems*, latest edition. Pipelines would be surface laid, but buried at all road crossings and may be buried where co-located with water lines to prevent freezing. Buried pipelines would be buried a minimum of three (3) feet below the travel surface of the road and extend 25 feet beyond each side of the travel surface to insure the pipeline is not damaged by vehicles leaving the travel surface or by routine road maintenance activities. Finley would obtain all required authorizations as needed from state and county entities prior to initiating pipeline installation adjacent to state and county roads.

Prior to use, the pipeline would be tested using natural gas at 125 percent of maximum operating pressure. The pipelines would be filled with natural gas and pressurized to a minimum of 1.5 times the designated operating pressure, or 93 percent of the specified minimum yield strength of the pipe, for eight (8) hours to verify pipeline integrity. No water would be utilized for testing. Final minimum operating pressure would be 1,000 pounds per square inch (psi). After testing, site-specific stabilization barriers, water bars, silt fences or other erosion control devises would be installed as needed.

2.1.4 Surface Facilities

The proposed facilities for a single well pad would include a wellhead, involving a pump jack with a natural gas-fired motor. Additional equipment would include a combustor, separator, gas meter, one 500-gallon methanol tank, one 1,000-gallon propane tank, two 500-barrel oil tanks, one 500-barrel water tank, one 500-barrel test tank, one 1,000-gallon gas propane tank and one trace pump. All structures remaining on site longer than six (6) months would be painted "Carlsbad Canyon" to match the surrounding landscape color. This would include all facilities except those required to comply with Occupational Safety and Health Act (OSHA) regulations.

2.1.5 Water Supply and Disposal

It is estimated that approximately one (1) acre-foot (ac-ft.) of water would be needed to drill and complete one well and an additional 0.5 ac-ft. would be needed to control fugitive dust from each well. Thus an estimated total of 21 ac-ft. of water (14 wells x 1.5 ac-ft. = 21 ac-ft.) would be needed for the Proposed Action.

Water sources are outlined below in Table 2.1-2. The authorized use of the water rights is either for municipal and/or water hauling purposes. Water would be hauled by a licensed trucking company. No water wells are proposed for this project.

Table 2.1-2 Water Sources Associated with the Leland Bench Proposed Action

Water Right Number	Applicant	Allocation	Filing Date	Point of Diversion	Source
43-8496, change a53617	A-1 Tank Rental and Brine Service	10.8597 acre feet	08/17/1979	Sec. 32, T4S, R3W, USB&M	Underground Water well
49-1645, Change a35800	R. N. Industries	0.07 cfs or 50 acre-feet	04/10/2000	Sec. 9, T8S, R20E, SLB&M	6" water well
49-2357, Change t78808	R. N. Industries	20 acre-feet	04/27/2012	Sec. 33, T8S, R20E, SLB&M	Green River
43-10288, Change a65273	Nile Chapman	0.015 cfs or 0.45 acre-feet	04/04/1991	Sec. 9, T2S, R2W, USB&M	6" water well

Source: Finley, surface use plan dated January 19, 2013, and Utah Division of Water Rights database, accessed January 19, 2013.
*cfs = cubic feet per second.

On January 21-22, 1988, the Secretary of the Interior; the Governors of Wyoming, Colorado, and Utah; and the Administrator of the Western Area Power Administration were co-signers of a cooperative agreement to implement the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin. An objective of the Recovery Program was to identify reasonable and prudent alternatives that would ensure the survival and recovery of the four (4) endangered Colorado River fish species, while providing for new water development in the Upper Colorado River Drainage Basin.

The water used for this project would be obtained from the sources identified above, which result in depletions to the Colorado River system. The USFWS addresses new and historic depletions differently under the Section 7 agreement as of March 11, 1993. Historic depletions (permitted prior to January 1988), regardless of size, do not pay a depletion fee to the Recovery Program. Also, consultation for historic depletions as conducted in association with that 1993 agreement. New depletions require consultation, and are subject to a fee. However, the USFWS has waived the fee for new depletions that require less than 100 ac-ft. per year.

Produced fluids from the well other than water would be decanted into steel test tank(s) until such time as construction of production facilities is completed. Any oil that may be accumulated would be transferred to a permanent production tank. Produced water may be used in further drilling and completion activities, evaporated in the pit, or would be hauled to the Ute Tribal 26-1 state approved injection facility, (API # 43-047-32574).

2.1.6 Waste Disposal

Drill fluids, including salts and chemicals, would be contained in the reserve pits. Upon termination of drilling and completion operations, the liquid contents of the pits would be used at the next drill site or would be removed and disposed of at an approved waste disposal facility within 120 days, weather permitting. Upon well completion, any hydrocarbons in the pit would be removed in accordance with 43 CFR 3162.7-1. Produced water would be stored in leak-proof tanks and potentially used in the field for well drilling and completion, unless prohibited by the U.S. Environmental Protection Agency (EPA). Produced water and other byproducts would not be applied to roads or well pads for dust or weed control. Liquid hydrocarbons produced during completion operations would be placed in test tanks of the well location and subsequently trucked offsite and sold or disposed of at a permitted disposal facility. Any spills of gas, salt water, or other hazardous fluids would be reported to the Tribe's Energy and Minerals Department and the BIA and would be immediately cleaned up and removed to an approved disposal site.

Chemicals on the EPA's *Consolidated List of Chemicals Subject to Reporting Under Title III of the Superfund Amendments and Reauthorization Act of 198*6 (SARA Title III) may be used or stored in quantities over reportable quantities. In the course of drilling, Finley and their contractors and subcontractors could potentially store and use diesel fuel, sand (silica), hydrochloric acid, and carbon dioxide gas, all described in hazardous substances in 40 CFR Part 302, Section 302.4, in quantities exceeding 10,000 pounds. In addition, natural gas condensate and crude oil, described as hazardous substances in 40 CFR Part 302, Section 302.4, in quantities exceeding 10,000 pounds. In addition, natural gas condensate and crude oil, described as hazardous substances in 40 CFR Part 302, Section 302.4, may be stored or used in reportable quantities. During production operations, triethylene glycol, ethylene glycol mix (50 percent), and methanol, all described as hazardous substances in 40 CFR Part 302, Section 302.4, may be stored or used on site. Small quantities of retail products (paint/spray paint, solvents [e.g. "WD-40"], and lubrication oil) containing non-reportable volumes of hazardous substances may be stored and used on site at any time. No extremely hazardous substances, as defined in 40 CFR Part 355, would be used, produced, stored, transported, or disposed of under any of the alternatives.

Self-contained, chemical portable toilets would be provided for human waste disposal. Upon completion of operations, or as needed, human waste would be removed from the location and disposed of at the nearest approved municipal sewage disposal facility.

Garbage, trash, and other waste materials would be collected in a portable, self-contained fully-enclosed trash cage during operations. Accumulated trash would be disposed of at an authorized sanitary landfill. Trash would not be burned on location. All debris and other waste materials not contained in the trash cage would be cleaned up and removed from the location promptly after removal of the completion rig (weather permitting).

2.1.7 Spill Procedures

As each new well is completed, Finley would complete site-specific Spill Prevention, Control and Countermeasure (SPCC) Plan diagrams and applicable information. Such site-specific data would be added as an amendment to the field-wide SPCC Plan. If spills of condensate, produced water, or other wastes occur in reportable amounts, as defined in BLM Notice to Lessee-3A, Finley, their contractors, or sub-contractors would contact the BIA, the Tribe's Energy and Minerals Department, BLM and any other regulatory agencies as required by law or regulation. Cleanup efforts would be initiated as soon as practicable. Proper final remediation and reporting to the appropriate agencies would be completed by Finley or subcontractors.

2.1.8 Reclamation

The reclamation procedures on BIA-administered surface land would be as set out below for interim and final practices, or as directed by the Tribe or the BIA.

2.1.8.1 Interim Reclamation

Immediately upon well completion or pipeline installation activities, the location and surrounding area would be cleared of all unused equipment, debris, materials and trash. Any hydrocarbons in a well's reserve pit would be removed in accordance with 43 CFR 3162.7-1. The reserve pit and the portion of the well not needed for production facilities/operations would be re-contoured to the approximate natural contours. The reserve pit and pipeline disturbance would be reclaimed within six (6) months from the date of well completion, or as soon as environmental conditions allow. The stockpiled pit topsoil would then be spread over the pit area. The pit location would then be reseeded with the appropriate perennial seed mix as determined by the Tribe or the BIA. Seed would be applied by broadcasting over the topsoil

and crimping the seed into the topsoil with a dozer or other tracked heavy equipment. Alternatively, the seed mix may be mechanically drilled into the soil or broadcast and worked into the soil with a harrow. If initial seeding is not successful, reseeding would take place during the next appropriate planting/growing season.

2.1.8.2 Final Reclamation

Abandoned well sites, roads and other disturbed areas would be restored as near as practical to their natural condition, in addition, a below-ground P&A marker would be installed at the wellhead site. Stockpiled topsoil would be spread across the re-contoured area, and then seeded with the appropriate perennial seed mixture. Seed would be applied by broadcasting over the topsoil and crimping the seed into the topsoil with a dozer or other tracked heavy equipment. Alternatively, the seed mix may be mechanically drilled into the soil or broadcast and worked into the soil with a harrow. If initial seeding is not successful, reseeding would be required.

2.1.8.3 Control of Noxious and Invasive Weed Species

Noxious and invasive weed species would be aggressively controlled on all surface-disturbed areas in the project area by using mechanical and/or chemical treatments designed to best control weed species at a specific site.

2.1.9 Applicant-committed Environmental Protection Measures (ACEPMs)

For the Proposed Action, ACEPMs would be voluntarily implemented by Finley to reduce the potential short-term, long-term, and cumulative impacts of the proposed project to the natural and human environments in the project area.

2.1.9.1 Air Quality

- Members of the construction crew would car pool to and from the surrounding cities and towns as practicable to minimize vehicle-related emissions.
- During hot, dry and/or windy conditions, Finley would implement dust control measures (e.g., watering) approved by the BIA and Tribe's Energy and Minerals Department during surface-disturbing activities to minimize fugitive dust.
- Proposed water lines would be installed and buried to reduce incidents of freezing and to reduce the number of water-hauling trucks that could contribute to fugitive dust conditions.
- Where practicably feasible, well site telemetry would be utilized to reduce vehicle travel to the well pads, thus reducing vehicle tailpipe emissions and fugitive dust conditions.
- It is likely that 60-150 Kw diesel or natural-gas fired engines could be on site for the short term. Emissions from these engines would be low and short term and are not expected to lead to exceedences of the NAAQS.
- Per the terms set out in the Consent Decree (Civil Action No. 2:09-CV-330 TS), approved by the EPA on November 13, 2009, Finley would commit to the following air quality protective measures listed below:
    - Dehydrator emissions from new oil and/or gas production facilities that exceed 20 tons per year of VOCs would be controlled to achieve a 95 percent by weight or greater reduction of VOCs or total hazardous air pollutant emissions.
    - All emission capture, collection and pollution abatement equipment, including vent lines, connections, fittings, valves, relief valves, hatches and other appurtenances required would be maintained in good working order following manufacturer recommendations or best practices.
    - Finley would implement a fugitive inspection and repair program.

- Finley would employ tank Best Management Practices (BMPs) such as requiring thief and other tank hatches to be closed after gauging and unloading activities, installing low emission hatches, and maintaining valves in a leak-free condition.

2.1.9.2 Cultural Resources

- In accordance with the National Historic Preservation Act of 1966, as amended, the Archaeological Resources Protection Act of 1979, and the Native American Graves Protection and Repatriation Act of 1990, prior to any project-related surface disturbance, all locations proposed for surface disturbance would be examined by an archaeologist approved by the BIA and the Tribe to determine the presence of cultural resources (i.e., Class III cultural resource inventories with 100 percent pedestrian field survey would be completed). Consultation would be completed with the Utah State Historic Preservation Office prior to the onset of development, as set out in existing regulations. In accordance with current Tribal requirements, all cultural resources, regardless of their eligibility for listing to the National Register of Historic Places (NRHP) would be avoided.
- If cultural resources are uncovered during excavation activities, Finley would suspend operations at the site and immediately contact the BIA and the Tribe. Work would cease until a mitigation plan is in place.
- Prior to construction activity, Finley would inform employees, contractors and subcontractors about relevant Tribal and Federal regulations intended to protect Native American, archaeological, and cultural resources. This orientation would include training on cultural resource management and Tribal laws. All personnel would be informed that collecting artifacts is a violation of Federal law and that employees engaged in this activity would be subject to disciplinary action. If cultural resource law violations are discovered, the offending employee would be subject to disciplinary action by Finley and the violations would be reported to the BIA, Tribal Historic Preservation Office (THPO) and the Ute Tribal Business Council, for possible further action, including prosecution.

2.1.9.3 Paleontological Resources

- The geologic formations present within the project area include unique and possibly significant fossil materials. As such all locations proposed for surface disturbance would be examined by a paleontologist approved by the BIA and the Tribe to determine the presence of significant paleontological resources.
- If paleontological resources are uncovered during excavation activities, Finley would suspend all operations and would immediately contact the BIA and the Tribe's Energy and Minerals Department. Work would cease until a mitigation plan is put in place.

2.1.9.4 Water Resources, Including Waters of the United States

- If springs are encountered and impacted during construction, the spring(s) would be protected, fenced, and repaired to pre-existing conditions at the direction of the Tribe or the appropriate surface owner.
- If any work associated with construction of a proposed pipeline would require the placement of dredged or fill material in an existing wetland or would have the potential to alter the nature of existing water ways, the USACE would be notified by Finley in order to obtain the necessary permits or jurisdictional determinations pursuant to Section 404 of the Clean Water Act (CWA) of 1972.
- Surface disturbance and placement of staging areas, fueling and maintenance areas, would be avoided within 330 feet (or 100 meters) from centerline of U.S. Geological Survey (USGS)-named drainages unless no other practical alternative exists.

- No excess material (e.g., soil, overburden, etc.) would be stored within mapped 100-year floodplains of USGS-named drainages; all excess material would be relocated to appropriate locations outside of 100-year floodplains within the project area.
- Construction activities (e.g., burying pipelines, installing culverts) at perennial or USGS-named drainage crossings would be timed to avoid high flow conditions. Construction that disturbs any flowing stream would utilize either a piped stream diversion or a cofferdam and pump to divert flow around the disturbed area.
- Culverts at drainage crossings would be designed and installed to pass a 25-year or greater storm event. On perennial and USGS-named intermittent streams, culverts would be designed to allow for passage of aquatic biota. The minimum culvert diameter in any installation for a drainage crossing or road drainage would be 24 inches. Due to the likelihood of culvert maintenance and flash flooding in the project area, drainage crossings would be designed for a 100-year storm event.
- Pipelines installed beneath USGS-named drainages would be buried at a minimum depth of four feet below the channel substrate to avoid exposure by channel scour and degradation. Following burial, the channel grade and substrate composition would be returned to pre-construction conditions.

2.1.9.5 Protection from Erosion

- New and existing roads would be constructed, updated, and maintained in accordance with the "Gold Book" (BLM-USFS 2007, as revised).
- No installation activity would be performed during periods when the soil is too wet to adequately support installation equipment. If such equipment creates ruts in excess of three (3) inches deep in straight line travel routes, the soil would be deemed too wet to adequately support the equipment, and installation activities would cease until drier or frozen conditions are encountered.
- After testing of the pipeline, stabilization barriers, water bars, silt fences, or other erosion control devices would be installed in the disturbed area. In areas where steep slopes occur, spoils would be bermed and water would be directed to rock armored turnouts to prevent down-slope erosion. Erosion blankets and hand seeding would also be used in these areas.
- Minimize placement of well pads on ridgelines or steep slopes that would result in excessive fill areas. If a well pad must be placed in such sites, site specific best management practices would be constructed and maintained to minimize erosion of the fill areas and increased sedimentation from such sites.
- All storage tanks containing produced water, or other fluids which may constitute a hazard to public health or safety, would be surrounded by a secondary means of containment for the entire contents of the tank, plus freeboard for precipitation, or to contain 110 percent of the capacity of the largest tank.
- Production facilities that have the potential to leak produced water, or other fluids which may constitute a hazard to public health or safety, would be placed within appropriate containment and/or diversionary structures to prevent spilled or leaking fluid from reaching ground or surface waters.
- Notice of any reportable spill or leakage would be immediately reported to the BIA and the Tribe's Energy and Minerals Department. Oral notice would be given as soon as possible, but within no more than 24 hours, and those oral notices would be confirmed in writing within 72 hours of any such occurrence.
- No oil, lubricant, or toxic substance would be intentionally drained onto the ground surface.
- Topsoil would be salvaged and stockpiled for later use. Topsoil stockpiles would be designed to maximize surface area in order to reduce impacts to soil microorganisms.
- Areas used for spoil storage would be stripped of topsoil before soil placement.

- Erosion protection and silt retention would be provided by the installation and maintenance of silt catchment dams, where needed as feasible. At all well pad locations, soil berms would be constructed to divert water runoff away from the drilling location.
- Reroute existing upslope drainages around proposed well pad locations and all topsoil and subsoil material stockpiles. Restore natural drainage routes as part of interim reclamation actions, if appropriate.
- Construct erosion control devices (i.e., riprap, weed-free straw bales, plant woody vegetation, etc.) at culvert outlets or as directed by the surface land owner. All such devices would be completed to retain natural water flows.

2.1.9.6 Existing Facilities and Rights-of-Way

- If the proposed access roads and/or pipeline corridors cross existing fences, all fences would be braced before being cut and a temporary gate would be installed. All fences would be restored to functional condition immediately after project completion.
- Finley would repair or replace any fences, cattle guards, gates, drift fences and natural barriers that are damaged as a result of implementation of the proposed project. Cattle guards would be the preferred method of livestock control on most road corridors where fences are crossed, unless otherwise directed by the surface landowner.

2.1.9.7 Fish and Wildlife, Including Special Status Animal Species

Big Game

- In order to reduce the potential for significant adverse impacts to big game populations, construction activity within mapped crucial habitat for big game species, (i.e., antelope or mule deer), as delineated by the Tribe or BIA, may require site-specific consultation during select times of the year. Any decision to mitigate for a potential impact or to implement a restriction in crucial habitats would be determined by the BIA and the Tribe's Wildlife Biologist during the tribal consultation process of the site-specific NEPA process, or any time before construction begins. This restriction would not apply to maintenance and operation of existing facilities.
- Additional wildlife resource protection measures directed at protecting identified big game wildlife corridors would be considered. New project-related disturbances within drainages and critical corridors would be avoided where practicable. Where the disturbances cannot be avoided, their locations would be selected to minimize environmental effects and maximize maintenance of the corridor as a single unit. Specific details associated with minimization of environmental effects and mitigation as appropriate, within identified big game wildlife corridors would be determined collaboratively with the BIA, Tribe, and Finley during the onsite process.

Migratory Birds

- Screens or other devices would be installed on the stacks and on other openings of heater-treaters or fired-vessels as directed by the BIA.
- Finley would remove any visible accumulation of other than *de minimis* oil from the drilling or workover pit immediately upon release of the drilling rig to reduce the potential of entrapping or poisoning migratory birds.

Raptors

- Finley would protect and preserve communal roost sites and important foraging areas. Finley would retain mature trees and old growth stands wherever possible, particularly within 0.5 mile from surface water features.
- Finley would comply with the USFWS Utah Field Office's *Guidelines for Raptor Protection from Human and Land Use Disturbances* (Romin and Muck 2002). The USFWS Guidelines

require that prior to any surface-disturbing activities proposed between February 1 and August 31, all steep areas and areas with trees within 0.5 mile of proposed construction sites would be surveyed for the presence of raptor nests. If occupied raptor nests are found, construction, drilling, and completion would not occur within species-specific buffer radii during the species-specific active nesting season as outlined in the above-referenced guidelines, unless topographic or vegetative characteristics obscured visual and auditory impacts from the nest. Surveys conducted on private surface land would only occur at the discretion of the landowner.

2.1.9.8 Vegetation, Including Federally-listed Plant Species and Noxious and Invasive Species

Federally-listed Plant Species:

- In areas supporting potential habitat for the federally-listed Uinta Basin hookless cactus *(Sclerocactus wetlandicus)* and/or Pariette cactus (*S. brevispinus*) species:
    - Finley would conduct pre-construction plant surveys, preferably during optimum flowering periods, or as directed by the BIA. Individual *Sclerocactus* plants and/or populations would be flagged or fenced to avoid disturbance during and after construction of well pads and access roads.
    - Access roads, buried pipeline ROWs, well pads, and other facilities requiring removal of vegetation (e.g., compressor stations) would be located a distance of 100 feet from individual *Sclerocactus* plants and/or populations where possible.
    - Dust abatement practices would be implemented around individual *Sclerocactus* plants located closer than 100 feet from surface disturbing activities and monitored during construction to determine its effectiveness.
    - Dust abatement would be employed in suitable *Sclerocactus* habitat over the life of the project (LOP) during the time of the year when *Sclerocactus* species are most vulnerable to dust-related impacts (March through August).
    - Surface pipelines would be located at a minimum of 50 feet from individual *Sclerocactus* plants and/or populations where feasible.
    - Existing surface pipelines located closer than 10 feet to known *Sclerocactus* individuals would be secured in place to prevent pipeline movement.
    - All disturbed areas would be reclaimed with native plant species, or seed mixtures approved by the BIA, Ute Tribe, and USFWS.
    - Noxious weeds within 50 feet of individual *Sclerocactus* would be controlled using mechanical methods, not herbicide.
    - Erosion control measures (i.e., silt fencing) would be implemented to minimize sedimentation to *Sclerocactus* plants and populations located down slope of proposed surface disturbance activities.
- Any proposed wells or supporting infrastructure that do not meet the standards set forth above will not tier to this EA/BA and will require separate Informal or Formal Section 7 consultation, as appropriate.

Noxious and Invasive Plant Species

- Prior to surface disturbance on BIA-administered lands, Finley would conduct individual noxious weed inventories on a well-by-well basis prior to construction activities on BIA-administered surface land. The inventories would include an examination of all proposed surface disturbance (i.e., roads, pipeline, and well pads) associated with each well. The results of these inventories would include Global Positioning System (GPS) locations and associated field notes indicating the type and size of each infestation.

- Equipment and vehicles entering the project area from outside the project area or the Uinta Basin would be power washed to remove seeds and plant material.
- Finley would aggressively identify, treat and control noxious and invasive plant species within the project area whose presence relates directly to oil and gas activities.
- Finley would prepare a Weed Control Plan for BIA-administered surface lands.
- Finley would also prepare a Pesticide Use Proposal and would adhere to its guidance.
- Following reclamation activities, all disturbed surface would be monitored for the presence of noxious weeds. If monitoring showed increases in presence of noxious weeds, Finley would be responsible for treating these areas. Invasive plant control measures (mechanical, chemical, or hand pulling) would be conducted before seed set annually. Monitoring and treatment would be conducted until reclamation and weed ratification was deemed successful by the BIA and Tribe.

2.1.10.9 Human Health and Safety

- To protect and minimize the possibility of fires during construction, all equipment, including welding trucks, would be equipped with fire extinguishers and spark arresters.
- Where alignment of pipelines would cross or parallel roads, highways or waterways, Finley would provide warning signs to inform the public of the presence of the line.
- Vehicle users associated with the oil field would be instructed to travel at low speed and remain on existing roads and well pads at all times.
- Storage facilities may be fenced as determined necessary by the BIA during the onsite process.

2.1.10.10 Protection from Hazardous Materials Spills

- Collection pipelines would be designed to minimize potential for spills and leaks, including the following, where appropriate:
    - Pipeline crossings streams would be completed by trenching.
    - Stream banks would be stabilized with large, angular rock or wire-enclosed riprap.
    - Substrate layers should be replaced in the same order that they are removed.
    - Pipeline crossings of streams and any riparian areas would be at right angles to minimize the area of disturbance.
    - Pipelines crossing live streams would be protected by automatic shutoff valves.
- Construction methods would provide for the elimination or minimization of discharges containing sediment, organic matter, or toxic chemicals. Settling basins or cofferdams may be utilized for this purpose.
- Finley would inform their employees, contractors and subcontractors of the potential impacts that can result from accidental spills as well as the appropriate actions to take if a spill occurs.
- No produced water would be discharged into surface water drainages or allowed to flow onto the ground surface.
- Notice of any reportable spill or leakage would be immediately reported by Finley, or their contractors/subcontractors to the BIA and the Tribe's Energy and Minerals Department as required by regulation. Oral notice would be given as soon as possible, but within no more than 24 hours. Oral notices would be confirmed in writing within 72 hours of any such occurrence.

2.2 ALTERNATIVE B – NO ACTION ALTERNATIVE

The CEQ regulations require the consideration of the alternative of No Action (40 CFR 1502.14). Under the No Action Alternative, construction of the proposed 15 well pads; drilling, completion and production of 15 well bores; and the construction, operation and maintenance of the proposed wells' supporting infrastructure, which includes production-supporting gathering pipelines and access roads, would not be authorized. Lacking federal approval, neither the BIA's purpose and need, nor the operator's purpose and

need for the project would be realized. The No Action Alternative effectively constitutes denial of the Proposed Action. Other surface land uses in the project area would continue at their current rates. In addition, future exploration and/or development activities in the area would be considered on a case-by-case basis and would be subject to separate NEPA analysis.

Selection of this alternative would ensure that no American Indian lands and mineral resources, held in trust by the United States, would be developed and economic recovery of these interests would not take place.

2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER ANALYSIS

An onsite inspection of the proposed well sites and pipelines routes was conducted by BIA and the Tribe's Energy and Minerals Department Compliance Officer. The onsite inspections did not reveal any other locations to be proposed for analysis. There were no other alternatives considered aside from the Proposed Action and the No Action Alternative that would meet the purpose and need of this exploratory drilling project.

3.0 AFFECTED ENVIRONMENT

3.1 INTRODUCTION

This chapter details the existing environment in the area that would be affected under Alternative A - Proposed Action and Alternative B - No Action Alternative. Only those resources identified as issues of concern by the BIA and the Ute Tribe during the internal scoping meeting and at the onsite inspections are considered below. Other resources were also considered, but dismissed from further analysis because they would have no measurable effect on the resource, or they are not present in the project area (see Section 1.5).

For purposes of describing the affected environment, the project area is defined as the vicinity within 0.5 miles of all areas proposed for disturbance under the Proposed Action. This area was selected to ensure that areas potentially affected by direct or indirect impacts are adequately described.

3.2 GENERAL SETTING

The proposed wells and supporting infrastructure would be located on Tribal land north of the historic BLM boundary in the Leland Bench area of the Reservation, in Uintah County. Finley's existing leases are within Newfield Exploration Company's Monument Butte Exploration Development Agreement Area. The project area consists of highly dissected sandstone and mudstone rock formations and broad, sandy silt ridges. Recent alluvial deposits, older alluvial terrace deposits and rock outcrops of the Upper Eocene Uinta Formation constitute the surface geology. The elevation in the project area ranges between 5,100 to 5,300 feet above mean sea level (amsl). Human activities in the area include mineral extraction activities, including sand and gravel quarrying, and more recently intensified oil and gas industrial exploration and development. Other human activities include livestock grazing on both Tribal and fee surface land.

3.3 CULTURAL RESOURCES

In 2011 and 2012, Montgomery Archaeological Consultants, Inc. (MOAC) completed a cultural resource inventory that included the proposed 15 well locations identified in the proposed project. The objectives of the inventory were to locate, document, and evaluate cultural resources in compliance with Section 106 of the National Historic Preservation Act of 1966 (as amended) (36 CFR 800).

On January 20, 2011, MOAC personnel completed a Class I review of the proposed well locations associated with the current proposed project. On November 6th and 13th, 2012, MOAC completed field inventories involving the proposed well locations and their associated infrastructure under the auspices of the U.S. Department of Interior Permit No. 12-UT-60122, State of Utah Antiquities Project (survey) Permit No. U-12-MQ-1069i, and Ute Tribal Permit No. A012-363. An intensive pedestrian survey, considered 100 percent coverage was performed. A 10-acre parcel was identified at each proposed well location, centered on the well pad center stake. The area was surveyed by an archaeologist walking closely-spaced transects no more than 33 feet apart. Proposed access and pipeline corridors were examined with a width of 200 feet employing the same methods. Ground visibility was considered good .

The field inventories resulted in the identification of five (5) archaeological sites, of which two (2) are lithic scatter sites, one (1) lithic procurement site, one (1) prehistoric temporary camp and one (1) prehistoric lithic scatter and historic camp site. All of these sites have been evaluated as not eligible to

the NRHP. However, currently the Tribe requests that all sites, regardless of eligibility would be avoided by ground-disturbing activities.

3.4 PALEONTOLOGY

The Uinta Mountains were uplifted during the Rocky Mountain-forming Laramide orogeny in the Paleocene epoch, exposing Paleozoic-age rocks in the core of the mountains and Mesozoic-age rocks along their flanks. In conjunction with the uplift, the southerly adjacent synclinal Uinta Basin formed. From the Paleocene to the middle Eocene, sediments from freshwater lakes and water from river channels, river deltas, and floodplains filled the basin with sediments and accompanying fossils. From oldest to youngest, these rock strata consist of the Wasatch, Green River, Uinta and Duchesne River Formations. Collectively, these stratified layers represent the primary source of middle Eocene-aged vertebrate, invertebrate, and plant fossils from Utah and Colorado, and are thus of scientific importance. The project area is underlain by rocks of the Uinta Formation and alluvial deposits. The Uinta Formation is known to contain a high occurrence of vertebrate, invertebrate and plant fossils, which may vary in occurrence and predictability. Fossils in the Uinta Formation are often exposed in shallow soils with little or no vegetative cover. They may also be found on rock outcrops where extensive bedrock is exposed. Known fossil localities in the lower Uinta Formation contain fragmented fossil materials consisting mainly of turtle shells; but mammal, plant, and crocodilian fossils have also been found.

In October and November of 2012, Uinta Paleontological Associates, Inc. (Uinta Paleo) conducted paleontological field surveys that included the proposed 15 well locations identified in the proposed project. The proposed well sites and new co-located access roads and pipelines corridors involved in the Proposed Action were 100 percent pedestrian surveyed for fossil resources. Surface fossils were to be inventoried so that significant paleontological resources could be avoided during ground-disturbing activities associated with the Proposed Action. The Ute Tribe's current policy requires that fossils be left as they are found, not collected; however photographic documentation is permitted (Uinta Paleo 2012).

A review of the information on file with the Utah Geological Survey suggest that there are no known paleontological localities on the eastern edge of Leland Bench on the Randlett Quadrangle; although the west portion of Leland Bench (Windy Ridge Quadrangle) is very fossiliferous in the Uinta B/Upper Wagonhound and Uinta C/Myton members (Uinta Paleo, 2012).

The surveys were conducted in compliance with Tribal policies as well as federal and state mandates and regulations, covered under BLM Paleontological Resource Use Permit UT06-016C (which expires December 31, 2012; Utah State Paleontology Permit Utah 2010-388 [until December 31, 2012]; and, Ute Indian Tribe Access Permit A010 227 (effective between September 11, 2012 to March 31, 2013).

The field surveys resulted in the identification of mammal bone fossils as well as turtle fragments at the surface of the proposed 22-16A-4-1 well location. The remaining 14 proposed well locations, and their associated infrastructure, did not reveal any surface fossils (Uinta Paleo 2012).

3.5 SOILS

Soils in the project area are mainly derived from alluvium and residuum from sandstone, shale, limestone, and quartzite. They are mostly well-drained and are developed on alluvial fans, terraces, and flats; valley bottoms; floodplains, fill slopes, and low ridges. Approximately 30 percent of the project area is classified as badland-rock outcrop.

The water erosion potential (i.e., Kw) of a soil is dependent on particle size distribution, steepness of slope, and the amount and type of vegetative cover. The value of Kw ranges from 0.02 to 0.69; the higher the value of a soil type, the more susceptible it is to sheet and rill erosion. Due primarily to the generally level terrain involved in the project area, the majority of the proposed disturbance would involve soil types having a Kw value range between 0.10 and 0.37, indicating moderate water erosion potential.

Reclamation potential is dependent on soil structure, pH conditions, and soil salinity. The soil textures in the project area are predominately clay loams, sandy clay loam, gravelly to extremely cobbly loams; and vary from slight to strong alkalinity. Coupled with the presence of bedrock-rock outcrops in the project area, the soils in the project area are rated to be poor for reclamation potential.

The average naturally-occurring soil erosion rate for soils within the Uinta Basin has been estimated to be about 1.5 tons per acre per year (tons/ac/yr.) (BLM 1984, and references cited therein). Applying this estimate, the project area could annually lose approximately 74 tons of soil (49 acres in the project area x 1.5 tons/ac/yr).

The U.S. Geological Survey (USGS) has determined that annually, on average, approximately 278,130 tons of sediment loading is recorded at the Duchesne River gaging station, near Randlett, Utah (Williams et al. 2009). The Duchesne River gaging station is located approximately seven (7) miles north and outside of the project area. Further downstream, the USGS estimates that approximately 6.8 million tons of sediment loading occurs at the Green River in Ouray, Utah (Williams et al. 2009).

3.6 WATER RESOURCES, INCLUDING WATERS OF THE UNITED STATES

The project area is within the Green River watershed. The drainage ordination of the project area begins with smaller ephemeral drainages that empty into either the perennial Pariette Draw, near the southwest corner of the project area, or larger, unnamed ephemeral drainages that eventually empty directly into the Green River, about 3.5 stream miles downstream from the project area. The Duchesne River, located north and east outside the project area, joins the Green River about three (3) river miles upstream from the confluence of the larger unnamed streams that drain the project area.

The USACE has permitting authority over activities affecting waters of the United States (33 CFR 26, Subchapter 4, Section 1344). According to the USACE, Waters of the United States include the following water bodies:

- Surface waters, including navigable waters and their tributaries;
- All interstate waters and their tributaries;
- Natural lakes;
- All wetlands adjacent to other waters; and
- All impoundments of these waters.

The Pariette Draw, located immediately outside of the southwest corner of the project area, is a major tributary to the Green River. The Green River, being an interstate river, and having portions of which are navigable, is included as Waters of the United States.

No riparian and/or wetland zones occur within the project area.

3.7 VEGETATION, INCLUDING FEDERALLY-LISTED PLANT SPECIES AND INVASIVE AND NOXIOUS WEED SPECIES

3.7.1 General Vegetation

The vegetation communities or land cover types within the project area are mapped and described using data from the Southwestern Regional GAP Analysis Project (SWREGAP) (USGS National Gap Analysis Program 2005). This project was a cooperative effort coordinated by the USGS to create a detailed, seamless Geographic Information System (GIS) database of land cover types in Arizona, Colorado, Nevada, New Mexico and Utah. The SWReGAP data are available at a relative coarse scale (30-m pixels); no finer scale vegetation data are currently available that cover the Reservation.

Finley's existing leases and the project area are completely within the SWReGAP scrub/shrub National Land Cover Class. Two (2) specific subunits of this cover class are the Intermountain Basins mixed salt desert scrub/shrub and the Intermountain Basins big sagebrush shrubland communities. Field inspections of Finley's project area reveal about 83 percent of the project area is comprised of the Intermountain Basins mixed salt desert scrub/shrub community and the remaining 17 percent is comprised of the Intermountain Basins big sagebrush shrubland community. A brief narrative description of these two communities follows.

Intermountain Basins Mixed Salt Desert Scrub/Shrub
The desert shrub community comprises approximately 83 percent of the project area. It is principally dominated by various species of saltbush including shadscale (*Atriplex confertifolia*) and mat saltbush (*Atriplex corrugata)*. Other native shrub species associated with this community include horsebrush (*Tetradymia canescens*), snakeweed (*Gutierrezia* spp.), spiny hopsage (*Grayia spinosa*) and rabbitbrush species (*Chrysothamnus spp*.). Native grass species include Indian ricegrass (*Achnatherum hymenoides*), needle and thread (*Stipa comata*), western wheatgrass (*Pascopyrum smithii*), galleta grass (*Hilaria jamesii),* and saltgrass (*Distichlis spicata*). Greasewood (*Sarcobatus vermiculatus*) also often dominates in areas of high surface salts.

Intermountain Basins Big Sagebrush Shrubland
Approximately 18 percent of the project area is within the desert sagebrush vegetation community. Sagebrush species, including Wyoming sagebrush (*Artemisia tridentata* var. *wyomingensis*), black sage (*A. nova*), low sage (*A. arbuscula*) or silver sagebrush (*A. cana*) dominate on various soils depending on soil depth and salinity. Other shrub species occurring in this vegetation community include *Chrysothamnus* spp., *Tetradymia canescens*, *Gutierrezia* spp., and *Atriplex* spp. Depending on soil textures native grass species include *Achnatherum hymenoides*, *Stipa comata* (more sandy soil), and *Pascopyrum smithii* (loamy textured soils).

3.7.2 Federally-listed Plant Species

In accordance with Section 7(a)(2) of the ESA, federal agencies must ensure that any federal action to be authorized, funded, or implemented does not jeopardize the continued existence of a federally-listed species, or destroy or adversely modify the listed species' critical habitat. In addition the BLM requests a report of any sightings of the Spanish bayonet (*Yucca sterlis*), a species not currently federally listed, but of interest to the BLM.

Of the six federally-listed plant species identified as potentially occurring within Uintah County, two (2) species are determined to have potential to occur within the project area. These species are Uinta Basin hookless cactus (*Sclerocactus wetlandicus*), and Pariette cactus (*Sclerocactus brevispinus*). Currently these species are listed as threatened under the ESA. The Uinta Basin hookless cactus (*Sclerocactus glaucus*) was listed as threatened under the ESA in 1979 (USFWS 1979). Recently, the Uinta Basin hookless cactus has been reclassified and three species, which were collectively recognized as Uinta Basin hookless cactus during the time of its listing, are now recognized separately; Colorado hookless cactus (*S. glaucus*), Pariette cactus (*S. brevispinus*) and Uinta Basin hookless cactus (*S. wetlandicus*). Of these three species, *S. wetlandicus* and *S. brevispinus* have the potential to occur in the project area. Refer to the "Summary of Potential for and/or Occurrence of Special Status Plant and Wildlife Species" (Appendix B) of this document for a complete list of all special status species associated with this project and the rationale for their potential to occur within or adjacent to the project area.

S. wetlandicus can be surveyed year round with the exception of when snow covers the ground; however, the official survey window for *S. brevispinus* is between March 15 and June 30. Kleinfelder received an extension from the USFWS to continue surveying past the survey window (Kleinfelder 2012). Kleinfelder conducted field surveys for *S. wetlandicus* and *S. brevispinus* in August and October 2012. Field surveys were conducted in accordance with current and respective USFWS *Sclerocactus* survey protocols. Surveys were only conducted within the 2012 *Sclerocactus* Suitable Habitat Boundary (determined by the USFWS). In accordance with USFWS requirements a 300-foot survey buffer from the edge of proposed disturbance was used for all new or upgraded development. Field surveys were conducted with 100-percent visual coverage of suitable habitat within the project area. Surveys were conducted by walking parallel transects spaced approximately three (3) feet apart within the proposed disturbance area. All survey personnel were trained and experienced with field surveys for the two (2) cactus species, as well as knowledgeable of the identification and ecology of the target species (Kleinfelder 2012). At the request of the BLM, Kleinfelder also surveyed the project area for the presence of *Yucca sterilis*.

No *Sclerocactus* or *Yucca sterilis* individuals were documented within the proposed disturbance survey buffers of the Proposed Action (Kleinfelder 2012).

3.7.3 Invasive and Noxious Weeds

The spread of invasive and noxious weeds is a concern in areas proposed for surface development activities. Noxious weeds are plants designated by a federal, state, Tribal or county government in injurious to public health, agriculture, recreation, wildlife, or property. A noxious weeds is commonly defined as a plant that grows out of place is competitive, persistent, and pernicious (James et al. 1991). Invasive weeds include plants that are not listed as noxious, but are not native to a particular region. Many consider a plant invasive if it has been introduced into an environment where it did not evolve. As a result, invasive plants do not have any natural enemies (e.g., insects or other plants) to limit their reproduction. Both invasive and noxious weeds can spread through areas undeterred, producing significant changes to native vegetation communities.

The State of Utah has identified 27 noxious weed species for the State, and Uintah County has designated Russian olive (*Elaeagnus angustifolia*) as a county-listed noxious weed. The Utah Weed Control Association's (UWCA) noxious weed list has recently been divided into three categories: Class A, Class B, and Class C. Class A species (Early Detection Rapid Response [EDRR]) and Class B species (control) are considered a high priority for control. Class C species should be managed to stop their expansion (UWCA 2009).

Noxious weeds present within the project area include perennial pepperweed/tall whitetop (*Lepidium latifolium*, Class B), Russian knapweed (*Centaurea repens*, Class B), tamarisk (*Tamarix ramosissima*, Class C), *Elaeagnus angustifolia* (a County-listed noxious weed). Invasive species present within the project area include Russian thistle (*Salsola iberica*), halogeton (*Halogeton glomeratus*) and cheatgrass (*Bromus tectorum*).

3.8 WILDLIFE, INCLUDING SPECIAL STATUS ANIMAL SPECIES

3.8.1 General Wildlife

The project area provides varied upland wildlife habitats associated with the vegetation communities discussed in Section 3.7.1. Species occurrences are typically dependent on habitat availability, carrying capacities, and the degree of existing habitat disturbance. Existing and ongoing oil and gas exploration and development activities have disturbed and are fragmenting wildlife habitats in the project area. Other ongoing land uses, including livestock grazing, agriculture, road-building, and electrical power lines installation have also affected wildlife habitats.

Most of the wildlife species that occur in the project area are common and have widespread distributions within the region. Consequently, the relationship of most of these species to the proposed project is not discussed in the same depth as those special status animal species (i.e., federally-listed, proposed for listing or candidate species under the ESA, afforded protection under other federal laws, or otherwise of high interest or unique value to the Ute Indian Tribe).

The Tribe defers to the Utah Division of Wildlife Resources (UDWR) to identify wildlife habitats on the Reservation. UDWR ranks both Tribal and non-tribal land according to its relative biological value. The two habitat values occurring in the project area are:

- *Crucial:* Habitat on which the local population of a wildlife species depends on for survival because there are no alternative ranges or habitats available. Crucial value habitat is essential to the life history requirements of the species. Degradation or unavailability of crucial value habitat would lead to significant declines in carrying capacity and/or number of the wildlife species involved.

- *Substantial:* Habitat that is utilized by a wildlife species, but is not crucial for population survival. Degradation or unavailability of substantial value habitat will not lead to substantial declines in carrying capacity and/or number of wildlife species in question.

Pronghorn antelope (*Antilocapra americana*) are the most prominent resident big game species known to occur within the project area. UDWR includes these pronghorn in the Anthro subunit of the Nine Mile herd unit. Pronghorn tend to occupy the project area on a year ‘round basis in upland habitats characterized by low rolling, wide-open, expansive areas within the desert shrub vegetation community. The UDWR has identified the project area as crucial value, year-long (fawning) habitat. UDWR population estimates and trend data suggest that as of 2008, pronghorn had an estimated population of 325 individuals, and exhibited a downward trend over the past 5- to 10-years (UDWR 2009).

Important, common upland game species within the potential to occur in the project area include, but are not limited to, dove, pheasant, rabbit, and quail. These species are typically found in open habitats.

3.8.2 Migratory Birds

The Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. 703 et seq.), was implemented for the protection of migratory birds. In addition to the MBTA, Executive Order (EO) 13186 sets forth the responsibility of federal agencies to further implement the provisions of the MBTA by integrating bird conservation principles and practices into agency activities, and by ensuring that Federal actions evaluate the effects of actions and agency plans on migratory birds.

Numerous migratory bird species may occupy the project area, including species identified as Birds of Conservation Concern (BCC) by the USFWS and species identified as priority bird species by Utah's Partners in Flight (UPIF). UPIF is a cooperative partnership among Federal, State, and local government agencies, as well as public organizations and individuals, organized to emphasize the conservation of birds not covered by existing conservation initiatives. Bird species included on the BCC list are migratory non-game birds that without additional conservation actions are likely to become candidates for listing under the ESA. The goal of the BCC list is to prevent or remove the need for additional ESA bird listings by implementing proactive management and conservation actions. BBC candidate or listed species would be consulted on with USFWS in accordance with EO 13186 (USFWS 2008a). Migratory bird species found within the project area include, but are not limited to, black-chinned hummingbird (*Archilochus alexandri)*, Brewer's sparrow (*Spizella breweri)*, gray flycatcher (*Empidonax wrightii)*, *g*reen-tailed towhee (*Pipilo chlorurus)*, sage sparrow (*Amphispiza belli)*, and sage thrasher (*Oreoscoptes montanus)*. No migratory bird species currently identified on the USFWS' list of BCC occur within the project area.

3.8.3 Raptors

The desert shrub, riparian/wetland vegetation communities, and agricultural fields in the project area provide suitable nesting and foraging habitat for a variety of raptors, or birds of prey. Table 3.8-1 identifies those raptor species with the potential to occur in or within 1 mile of the project area, and a description of their typical nesting habitats.

Table 3.8-1 Raptor Species Having Potential to Occur within the Project Area

Common Name	Scientific Name	Nesting Habitats
American kestrel	*Falco sparverius*	Holes in tree cavities, cliff crevices
Bald eagle	*Haliaeetus leucocephalus*	Large trees near rivers, marshes, or other wetland areas
Burrowing owl	*Athene cunicularia*	Prairie dog burrows
Ferruginous hawk	*Buteo regalis*	Trees, cliffs, utility structures, and rock outcrops
Golden eagle	*Aquila chrysaetos*	Cliff ledges and rock outcrops
Great-horned owl	*Bubo virginianus*	Cliff ledges or nests of other species
Northern harrier	*Circus cyameus*	Ground within thick vegetation
Osprey	*Pandion haliaetus*	Trees and cliffs near or over water
Peregrine falcon	*Falco peregrinus*	Cliff ledges
Prairie falcon	*Falco mexicanus*	Cliff ledges
Red-tailed hawk	*Buteo jamaicensis*	Cliff ledges, rock outcrops, aspen, pinyon-juniper woodlands
Short-eared owl	*Asio flammeus*	Arid grassland and shrublands
Swainson's hawk	*Buteo swainsoni*	Solitary trees and shrubs
Turkey vulture	*Cathartes aura*	Rock outcrops, caves, and tree cavities

Currently available data are limited regarding the presence of raptor nests and/or roosting areas within the project area. Data are limited because extensive raptor field inventories have not been conducted on Tribal and private surface land. The Pariette Draw, as well as the Duchesne and Green River corridors,

are all located outside the project area and support bald eagle roosting sites. Although, all raptor species and their nests and roosting sites are protected from "take" or disturbance under the MBTA, those species considered special status raptor species are addressed further in Section 3.9.5.

3.8.4 Special Status Animal Species

Special status animal species include those listed as threatened or endangered under the ESA, species proposed for listing, species of special concern, and other species identified either by the USFWS, BLM, or Tribe as unique, rare, and which have the potential to occur within the project area.

In accordance with Section 7(a)(2) of the ESA, federal agencies must ensure that any federal action to be authorized, funded, or implemented does not jeopardize the continued existence of a listed species, or destroy or adversely modify the listed species' critical habitat.

Currently 10 special status animal species occur or have the potential to occur within the project area. Refer to the "Summary of Special Status Species" (Appendix B) of this document for a list of the special status species associated with this project and the rationale for their potential to occur within or near the project area.

3.8.4.1 Mammals

White-tailed Prairie Dog (Cynomys leucurus)

The white-tailed prairie dog is an important upland species found in the Uinta Basin and is a species of concern for the Ute Tribe. White-tailed prairie-dogs inhabit mountain valley, semi-desert grasslands, agricultural areas, and open shrublands in western North America (Fitzgerald et al. 1994; Hall 1981). The burrowing owl is often associated with active prairie dog towns. The main threat to white-tailed prairie dog populations has been the introduction of sylvatic plague (*Yersinia pestis*) into North America since the late 1930's (Lechleitner et al. 1968; Cully 1993). Other threats include habitat loss, conversion of land for agriculture, and Federal and State-sponsored eradication campaigns. The UDWR has identified large colonies of white-tailed prairie dogs on Leland Bench and south Myton Bench (south and outside the project area).

3.8.4.2 Bird Species

***Bald Eagle* (*Haliaeetus leucocephalus*)**

The bald eagle is protected under the Bald and Golden Eagle Protection Act (BGEPA) of 1940 and the MBTA. No bald eagle nests have been documented within the project area. Winter roosting sites and foraging occurs during periods of open water along the Pariette Draw, and the Duchesne and Green Rivers.

***Golden Eagle* (*Aquila chrysaetos*)**

The golden eagle is protected under the BGEPA, based on the similarity of the juvenile bald eagle's physical appearance to that of the adult golden eagle. It is also protected under the MBTA.

3.8.4.3 Fish Species

The Pariette Draw and Duchesne River, provide water to the Green River which provides critical habitat for four federally-listed fish species of the Upper Colorado River System: the bonytail chub (*Gila elegans*), Colorado pikeminnow (*Ptychocheilus lucius*), humpback chub (*Gila cypha*), and the razorback sucker (*Xyrauchen texanus*). These four species are currently listed as endangered under the auspices of the ESA. The nearest designated critical habitat for these fish species is located in the Green River, approximately 23 miles south of the confluence of the Duchesne and Green Rivers.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 INTRODUCTION

This section describes the effects, or impacts, of implementing Alternative A – Proposed Action or Alternative B – No Action Alternative on the affected environment as describe in Section 3. Each resource in this section addresses effects in terms of direct, indirect, short/long-term, cumulative impacts, as well as the irreversible and irretrievable commitments of the resources. Impacts were evaluated quantitatively and/or qualitatively, (depending on the best available scientific data) and the nature of each resource was assessed. Both assessments assume that all ACEPMs, described in Section 2.1.8, would be implemented.

Impacts in this section are described as initial or residual. Initial and residual impacts are synonymous with "short-term" and "long-term" impacts, respectively. Initial impacts refer to those that would result from project-related activities and last until interim reclamation activities are deemed successful, usually within 7 to 8 years following interim reclamation actions. Residual impacts are those that would remain longer than interim impacts, estimated to be about 35 years, which includes 28 years for the life of a well, plus 7-years for final reclamation to become successful. Due to the poor reclamation potential in the project area, initial impacts may be more accurately portrayed as long-term impacts. It is assumed that all initial surface disturbances estimated under Alternative A could remain as long-term impacts on the landscape if reclamation efforts are *not* successful. Table 4.1-1 provides a breakdown of estimated short- and long-term impacts by project element.

Table 4.1-1 Summary of Estimated Short- and Long-term Impacts from the Proposed Action

Impacts[1]	Wells		Access Road		Pipeline Corridor		Total Acres
	Percent	Acres[2]	Percent	Acres[2]	Percent	Acres[2]	
Short-term	20	8	20	1	90	5	14
Long-term	80	31	80	4	10	<1	35
Total	**100**	**39**	**100**	**5**	**100**	**5**	**49**

[1]Short-term impacts are estimated to last from initial disturbance through successful interim reclamation, approximately 7 to 8 years. Long-term impacts are estimated to last the life of the project from initial disturbance through successful final reclamation, approximately 30 years, or longer if reclamation efforts are not successful.
[2] Refer to Table 2.1-1 of this EA.

For purposes of assessment in this EA, of the 49 total acres involved with the Proposed Action, approximately 14 acres, or 29 percent, would involve short-term impacts. The remaining 35 acres, or 71 percent, would involve long-term impacts.

Cumulative impacts, as defined by the CEQ, must take into account the incremental impacts of the Proposed Action and No Action Alternative assessed in this EA, when added to other past, present and reasonably foreseeable development (RFD) and future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time (40 CFR 1508.7).

This chapter assesses cumulative impacts from the Proposed Action and the No Action Alternative, in conjunction with other energy and non-energy activities over the next 10 years. Spatial boundaries and temporal timeframes for a Cumulative Impact Analysis Area (CIAA) can often vary by resource or issue. For the issues identified in Section 1 of this EA, the CIAA for air quality is the Uinta Basin. The CIAA for the remaining issues identified in Section 1 is the Reservation.

For purposes of assessment in this EA, it is assumed that energy-related activities would affect the greatest element of change in the CIAA. All other activities that could affect the CIAA, i.e., sand and gravel extraction, livestock grazing, road and utility corridor (pipelines and/or electrical power) construction are assumed to remain at current levels, with only minor deviations.

4.2 DIRECT AND INDIRECT IMPACTS

4.2.1 Alternative A – Proposed Action

4.2.1.1 Cultural Resources

Direct adverse impacts to cultural resources in the project area include physically altering, damaging, or destroying all or a part of any cultural materials; altering characteristics of the surrounding environment that contribute to the cultural resource's significance; introducing visual or audible elements that are out of character with the property or alter its setting; and, neglecting the cultural resource to the extent that it deteriorates or is destroyed. Direct impacts can be assessed by identifying the types and locations of proposed activities and determining the location of cultural resources that could be affected. Indirect impacts could result from project-induced changes to land use patterns.

Under Alternative A, known (surface) or potentially unknown (buried) artifacts or sites could be directly affected and irreversibly damaged or destroyed by surface-disturbing activities related to well pad, road and pipeline excavation and construction activities. These resources could also be indirectly affected by atmospheric, visual and/or auditory intrusions; and increased human visitation and traffic for the life of the proposed project. Increased human presence in the area could directly result in increased incidences of vandalism and/or theft of such resources. All of these impacts could cumulatively contribute to the alteration of the overall setting and feeling of the project area, as well as the possible loss of interpretation possibilities and research potential.

As stated in Section 3.3, five archaeological sites are within the project area; all of which have been evaluated as not eligible for listing to the national Register of Historic Places. However, current Tribal policy requires all eligible cultural resources and all prehistoric sites be avoided by ground-disturbing activities. Based on compliance with the Tribe's current policy of avoidance and Finley's committed measures outlined in Section 2.1.9.2, direct and indirect impacts to cultural resources from the Proposed Action would be effectively reduced. ***As such it is recommended that "no historic properties affected" be proposed for the Proposed Action.***

4.2.1.2 Paleontology

Direct adverse impacts to paleontological resources in the project area include physically altering, damaging, or destroying all or a part of the paleontological resource; altering characteristics of the surrounding environment that contribute to the paleontological resource's significance; and, neglecting the paleontological resource to the extent that it deteriorates or is destroyed. Direct impacts can be assessed by identifying the types and locations of proposed activities and determining the location of resources that could be affected.

Under Alternative A, known (surface) or potentially unknown (buried) paleontological resources could be directly affected and irreversibly damaged or destroyed by surface-disturbing activities related to well pad, road and pipeline excavation and construction activities. Increased human presence in the area could directly result in increased incidences of vandalism and/or theft of such resources. All of these impacts could cumulatively contribute to the alteration of the project area, as well as the possible loss of interpretation possibilities and research potential.

Based on prior and current paleontological survey data, Uinta Paleo identified surface fossiliferous material at the proposed 22-16A-4-1 well location (Uinta Paleo 2012); however, the fossils were not determined to have significant scientific importance. No other proposed well location, or its associated access route or pipeline corridor, revealed surface paleontological resources. Adherence to Finley's ACEPM for paleontological resources (refer to Section 2.1.9.3) would minimize impacts to paleontological resources in the project area.

4.2.1.3 Soils

Potential direct, indirect, short- and long-term impacts to soils include the removal of vegetation, increased susceptibility of the soils to wind and water erosion, mixing of soil horizons, soil compaction, and ultimate loss of topsoil productivity.

If not managed carefully, the segregated topsoil and subsoil materials could mix when being reapplied during reclamation, resulting in a blending of soil layers. This blending would modify physical characteristics of the soils including physical and chemical structure, texture, and rock content, potentially leading to a loss of soil productivity and reduced reclamation potential. Compaction due to construction activities would reduce soil aeration, permeability and water-holding capacities. An increase in surface runoff could be expected, potentially causing increased sheet, rill, and gully erosion. These impacts would be localized in nature. In addition to the land directly disturbed by construction activities, the affected area could include lands adjacent to the proposed construction, if excessive erosion or gullying occurs in these areas.

Alternative A would involve new surface disturbance of 49 acres. Following completion of construction activities, approximately 14 acres would be involved in interim reclamation. If interim reclamation activities are successful, the long-term or residual impacts to soils would be reduced to about 35 acres.

The proposed disturbance would directly increase the annual, naturally-occurring soil erosion in the project area of approximately 78 tons. Using studies conducted by Lusby and Toy (1976) and Frickel, et al. (1975), it is assumed that average erosion rates for disturbed soils in the project area could potentially triple from about 1.5 tons per acre per year to about 4.4 tons per acre per year due to implementation of Alternative A. Although these studies are now somewhat dated and were not conducted in the Uinta Basin, the estimated erosion rates do carry a factor of uncertainty. However, these studies do provide a meaningful comparison of the potential increased erosion that would result in the implementation of the proposed project. Using these estimates, the Proposed Action could generate about 2.9 tons of additional sediment per disturbed acre per year (4.4 additional tons of sediment per disturbed acre per year – 1.5 tons per acre per year of naturally occurring sediment loss = 2.9 tons) until the disturbed areas are successfully reclaimed. For the Proposed Action then, approximately 151 tons of additional soil could be lost annually from disturbed areas associated with the Proposed Action (49 acres of disturbance x 2.9 tons of additional sediment per acre per year. Should interim reclamation prove successful, the additional soil loss could be reduced by approximately 27 percent due to successful interim reclamation of 14 acres within the first seven (7) to eight (8) years of the LOP.

The elevated erosion rate of about 110 tons/yr. would continue until the remaining 38 acres (involved in long-term disturbance) are successfully reclaimed. Soil loss from these 38 acres could last for up to 35 years, or until the wells are P&A and successful reclamation of all disturbed areas is determined successful. Following successful final reclamation, the project area would return to its approximate pre-disturbance, naturally-occurring erosion rate. The addition of short- and long-term sediment-loading of the Green River as a result of the implementation of the Proposed Action would increase the sediment loading of the river by less than one percent. The application of ACEPMs for protection from erosion (refer to Section 2.1.9.5) and aggressive reclamation practices would minimize loss of soil from disturbed area within the project area.

An additional impact to soils from Alternative A involves the possible contamination of surface and subsurface soils from leaks or spills of hydrocarbon and natural gas condensate liquids. Sources of potential contamination include well heads, reserve pits, produced water sumps, condensate storage tanks located on well pads, leaks from pipelines, and spills of produced water or condensate from conveyance pipelines. Depending on the size and type of spill, the effect on soils would primarily consist of the potential loss of soil productivity which could inhibit plant growth and ultimate reclamation activities. Implementation of the project SPCC Plan would minimize the risk of such spills by detailing techniques to prevent spills, and outlining measures to be taken in the event of a spill. Strict cleanup efforts would be implemented and monitored by the Tribe, BIA and any other regulatory agencies required by law. Thus, under strict adherence to the SPCC Plan, the potential for impacts to soils from spills is considered to be minor.

4.2.1.4 Water Resources, Including Waters of the United States

Direct, indirect, short- and long-term impacts to water resources include increased sedimentation and turbidity to surface water as a result of additional surface disturbance and resultant increased erosion via surface runoff, depletion of water flow in the Green River due to project-related water consumption, and effects on water quality (both surface and subsurface).

The potential for impacts to water resources from Alternative A would be greatest during the period of maximum surface disturbance and would decrease in the short-term as a result of successful interim reclamation actions. Some reduced level of impact would continue for the long-term over the remaining LOP due to natural stabilization.

The Proposed Action could result in soil loss due to increased sediment loading of the drainages within the project area and ultimately the Green River downstream (refer to Section 4.4.1.1). In sufficient amounts, the additional sediment from Alternative A could clog stream channels, degrade aquatic habitat by covering stream substrates with fine sediments, and increase the turbidity within the streams during the short-term LOP act as a carrier for other pollutants (i.e., trace metals, pesticides, fertilizers, etc.).

The highest sediment loading occurs during the spring snowmelt runoff. If it is assumed that all sediment from the construction of the proposed project reaches the Green River, the increased sediment loading to the Green River would be less than one percent (110/6,800,000 = .00162 of a percent). Finley's ACEPMs relating to water resources and protection from erosion (refer to Sections 2.1.9.4 and 2.1.9.5) would lessen the erosion hazard and reduce the amount of sediment reaching the Green River.

Finley proposes to use approximately 21 ac-ft. of water with the Proposed Action (refer to Section 2.1.5). The average flow in the Green River at Ouray is about 4.1 million ac-ft. per year (Williams et al. 2009). Assuming that all water withdrawn from the sources identified in Table 2.1-2 depletes the flow to the Green River, Alternative A could potentially deplete the flow by less than one percent (21 ac-ft./ 4,100,000 ac-ft. = .000512 of a percent). Thus, the project-related flow depletion would be negligible from a hydrologic standpoint.

Accidental spillage of potentially toxic substances due to loss of containment from tanks containing glycol, "fracking" fluids, or petroleum products could potentially occur under Alternative A. Water contamination could occur from a direct spill into a drainage, canal, river or pond; or indirectly from migration of petroleum from contaminated soils adjacent to surface water. The magnitude of these impacts would be dependent on the proximity of the spill to surface water features, the volume of material spilled, the permeability of the soils in the affected area, the topography involved, and the timing and intensity of precipitation.

Specific actions under Alternative A could reduce or minimize impacts to surface waters from accidental spills or loss of containment. Specific actions including the project's SPCC Plan would be implemented to minimize the chance that petroleum products and other chemicals would leave the site and contaminate surface waters. Strict cleanup efforts would be initiated within 24 hours as required by existing federal regulations.

"Fracking" would be conducted as part of the completion actions outlined in Alternative A (refer to Section 2.1.3.4). "Fracking" is commonly used to enhance the recovery of natural gas from relatively impermeable "tight" sandstones, and involves the injection of water or other fluids, and sand or other "proppant" into the geologic formation. "Fracking" would occur at depths that are at least 6,000 feet or more below the surface. Any shallow groundwater zones encountered during drilling of the proposed wells would be properly protected as required by law and subsequent regulations. All hydrocarbon-producing zones would be cemented off and tested. After the completion of drilling operations, the producing formation would be logged and production casing run and cemented in accordance with the drilling program approved in the APD. All water-bearing formations in the borehole would be isolated and any possible mixing between the hydrocarbon-bearing zones and the shallow groundwater aquifers would be effectively eliminated.

Waters of the United States could be affected by increased sediment resulting from implementation of the Proposed Action, as discussed above. However, implementation of ACEPMs that reduce soil erosion, would also minimize impacts to Waters of the United States. In addition, Finley would consult with the USACE to acquire the appropriate permits prior to initiation of surface disturbing actions involving Waters of the United States. Adherence to any terms and conditions stated on the permits would further reduce impacts to Waters of the United States.

4.2.1.5 Vegetation, Including Federally-listed Plant Species and Invasive and Noxious Weed Species

Removal of existing vegetation and disturbance to existing soils associated with Alternative A - Proposed Action would have both direct and indirect impacts on vegetation resources. Direct impacts would include removal of vegetation and modification of species composition and structure. Indirect impacts include increase potential for weed invasion, increased exposure of soils to accelerated erosion, increased potential for fugitive dust, and degradation and loss of topsoil and soil microorganisms, affecting the likelihood of successful reclamation.

Because of the ecological edge effect, areas adjacent to previously disturbed areas have most likely changed over time, and may hold more exotic and invasive species than the surrounding undisturbed landscape (Hansen and Clevenger 2005; Rowley et al. 1999).

Under Alternative A, approximately 49 acres of vegetation would be initially disturbed during construction activities. Table 4.6-1 provides a breakdown of the estimated initial (short-term) and residual (long-term) surface disturbance by vegetation community following final reclamation actions.

Table 4.6-1. Estimated Initial and Residual Disturbance by Vegetation Community for Alternative A - Proposed Action

Vegetation Community or Land Cover Type	Estimated Initial Surface Disturbance (acres)	Estimated Residual Disturbance (acres)
Desert Shrub	11	26
Sagebrush	3	6
Greasewood	< 1	3
Total	**14**	**35**

Of the 49 acres of initial surface disturbance, a direct short-term impact to vegetation would be approximately 14 acres (or about 29 percent of the total disturbance). Long-term, or residual, impacts to vegetation following reclamation activities would involve approximately 35 acres.

Specific actions set out under Alternative A, such as stockpiling topsoil for reclamation, controlling noxious weeds, and applying dust abatement, would reduce impacts to vegetation communities and increase the likelihood of successful reclamation in the project area. In addition, ACEPMs set out in Section 2.1.8 which includes added weed control actions, protection from erosion and measures to reduce soil impacts would further reduce indirect impacts to the involved vegetation communities.

Federally-listed Plant Species

Uinta Basin hookless cactus (*Sclerocactus wetlandicus*) and Pariette hookless cactus (*S. brevispinus*)

The 2012 field surveys revealed no *Sclerocactus* individuals were documented within any of the proposed disturbance survey buffers (Kleinfelder 2012). Thus direct impacts to *Sclerocactus* individuals would be effectively minimized. Indirect effects would fall under two categories: loss or modification of potential habitat and potential increases in illegal collection due to increased access into the project area.

Specifically, surface disturbing activities and construction of project-related infrastructure would reduce and/or fragment potential habitat within the project area. Habitat modification could be compounded by invasive weed species, which may compete with cactus plants, potentially resulting in loss of individuals and degradation of suitable habitat. Deposition of fugitive dust from construction activities and vehicle traffic on unpaved roads could further contribute to habitat loss and fragmentation of habitat. Fugitive dust from areas cleared of vegetation could affect photosynthesis, respiration, transpiration and allow the penetration of phytotoxic gaseous pollutants (Farmer 1993). Increased access into the project area could lead to a potential increase in illegal collection of *Sclerocactus* individuals. However, given that vehicle access onto Tribal land is restricted to those with access permits, and enforced by Tribal police, illegal trespass is limited.

Based on the Finley's actions dealing with reclamation (refer to Section 2.1.8) and ACEPMs listed for protection from erosion (refer to Section 2.1.9.5), and vegetation, including federally-listed plant species (refer to Section 2.1.9.8) indirect impacts to *Sclerocactus* would be minimized. Also, as stated in the last bullet of Section 2.1.9.8, , any proposed well not meeting the stated ACEPM standards for *Sclerocactus* would be cause to reinitiate Section 7 consultation with the USFWS. As such, the Proposed Action ***"may affect, is not likely to adversely affect"*** the Uinta Basin hookless cactus (*Sclerocactus wetlandicus* and/or the Pariette cactus (*S. brevispinus*.

Invasive and Noxious Weed Species

Impacts to existing vegetation for proliferation of noxious and invasive weed species would be partially mitigated by proper storage of topsoil, timely reclamation of disturbed acres with perennial plant species, and subsequent control of emerging noxious and invasive weed species. Under Alternative A, interim reclamation activities would occur on approximately 14 acres of the proposed disturbance. Thus, approximately 27 percent of the proposed new surface disturbance would be reclaimed and successfully revegetated in the short-term. The opportunity for noxious and invasive weed species to invade and/or proliferate would be minimized in these reclaimed areas. The remaining 38 acres would be involved with reclamation activities following abandonment of the well and/or project area, i.e., resulting in long-term or residual impacts to vegetation within the project area. Throughout the LOP Finley has committed to implement effective weed control actions. The interim reclamation activities, coupled with effective weed control actions throughout the project area, would effectively minimize impacts to existing vegetation resources for the proliferation of noxious and invasive weed species.

4.2.1.6 Wildlife, Including Special Status Animal Species

Surface disturbance directly affects general wildlife habitat from construction activities and the increased human presence in the area. In general these impacts include increased habitat loss/fragmentation , and increased displacement from or avoidance of disturbed areas. Disturbance from temporary construction activities and increased human presence including vehicle/equipment traffic could displace wildlife from their preferred habitats. When displaced, wildlife could move into less suitable habitats or into habitats where inter- and intra-specific competition for resources may occur; or onto agricultural land becoming a nuisance resulting in financial loss for the farmer/rancher. Displacement and competition for resources could also cause increased general stress in some individuals, resulting in deteriorated physical condition, decreased reproductive success, and general loss of wildlife species in the area. Other direct impacts to wildlife include potential mortality caused by contaminants in water and forage sources and possible collisions between wildlife and motor vehicles operating in the area.

Under Alternative A, approximately 49 acres would be affected by the proposed surface disturbing activities. These activities would reduce habitat availability within the project area for a variety of common wildlife species, but would be expected to have minor direct impact to general wildlife because:

- Many of the general wildlife species found in the project area have widespread distributions (see Section 3.8.1) due in part to the extensive distribution of their preferred habitats both within the project area and throughout the surrounding area and the Uinta Basin.
- While some individuals of the wildlife populations in the project area may be displaced to areas outside the project area from ongoing energy exploration and development activities, members of the wildlife populations are still commonly observed in the project area.

Implementation of Alternative A would result in direct and indirect impacts to 49 acres of crucial value, year-long (fawning) pronghorn habitat. The potential impacts to pronghorn could include disruption of foraging/migration patterns and increased harassment and/or poaching. Direct and indirect impacts to pronghorn, would be reduced due to specific actions and ACEPMs that minimize impacts to vegetation, ensure increased likelihood of successful reclamation and aggressive weed control, as well as safety actions that reduce the potential for animal: vehicle collisions. Specifically, assuming successful reclamation, approximately 27 percent (14 acres) of the proposed surface disturbance would be reclaimed in the short-term (about 7- to 8-years), thereby reducing habitat loss, modification and/or fragmentation for pronghorn residing in the project area over the long-term.

Migratory Birds

Under Alternative A, impacts to migratory birds within the project area would vary depending on loss of habitat types and species' or individual birds' sensitivities to disturbance. For purposes of assessment in this EA, impacts to migratory birds within the project area are discussed together. Approximately 49 acres of vegetation utilized by migratory birds for nesting and foraging habitats would be lost under Alternative A. Approximately 14 acres (or about 27 percent of the estimated total disturbance) would be involved in interim reclamation conducted within 2- or 3-years following initial disturbance. The remaining 35 acres of disturbance could persist for the LOP, which is projected to be about 35 years. ACEPM commitments involving successful interim and final reclamation, in conjunction with weed control efforts would reduce impacts by restoring the needed forage and cover types required by migratory birds.

Other impacts to migratory birds would be dependent upon seasonal timing of the proposed activities. Should the proposed activities occur when the migratory birds are moving through or residing within the project area, impacts from Alternative A could have a greater impact to breeding and nesting migratory birds. These impacts include increased noise levels and human presence during sensitive breeding/nesting periods that could result in nest abandonment and potential loss of young birds. Should the proposed activities occur in the fall and winter months, after the normal time the migratory birds have left the

project area, impacts from Alternative A to migratory birds would be reduced. Displacement for individual and nesting pairs of migratory birds would be greater on birds identified as Priority Species by the UPIF due to their smaller population size and limited habitat availability in relation to more abundant migratory bird species that populate the project area.

Raptors

The project area provides up to 49acres of foraging and roosting site habitat for raptors in the project area. Implementation of Alternative A could directly and indirectly affect raptors as discussed above for both general wildlife and migratory birds. Surface-disturbing activities, and associated increased/concentrated human activity in close proximity of an active raptor nest (i.e., about 0.25 mile, depending on the species) could lead to increased stress in adults resulting in nest abandonment, avoidance of affected areas, and deterrence from establishing other nesting sites in the vicinity. Steidl and Anthony (2000) suggest that disturbance activities result in the greatest energetic costs to nestlings, increasing their mortality, thus directly reducing the species populations.

In addition to the above, raptors could be affected by a loss or change in prey habitat and/or species. This affect would be also compounded for carrion-foraging raptors, such as eagles, by introducing an increased potential for collisions with vehicles. Finley would commit to requiring operators and their contractors to comply with posted and/or designated (lowered) speed limits in the project area, thus reducing the likelihood for animal:vehicle related collisions. Successful interim and final reclamation actions could restore prey habitat losses for raptor species over time: thus reducing this impact for raptor species.

Other ACEPMs, including conducting raptor surveys prior to the active breeding season and postponing any surface disturbance during the nesting season for that species within the species-specific buffer described in Utah Field Office *Guidelines for Raptor Protection from Human Land Use Disturbances* (Romin and Muck 2002), would reduce both direct and indirect impacts to raptors utilizing lands in the project area (refer to Section 2.1.9.7).

Special Status Animal Species

Mammals

White-tailed Prairie Dogs

Implementation of Alternative A would affect approximately 49 acres of white-tailed prairie dog foraging and breeding habitat. Direct impacts to white-tailed prairie dogs include damage to or destruction of occupied burrows, fragmentation of towns and foraging areas, and increased potential for animal:vehicle collisions from increased vehicle usage in the project area. Finley would commit to requiring operators and their contractors to comply with posted and/or designated (lowered) speed limits in the project area, thus reducing the likelihood for animal:vehicle related collisions. Successful interim and final reclamation actions would restore some habitat losses for white-tailed prairie dogs over time, thus reducing this impact for this species. The general impacts discussed above for general wildlife are applicable for the white-tailed prairie dogs. Thus, direct and indirect impacts to white-tailed prairie dogs from implementation of Alternative A would be minor in scope and duration.

Birds

Bald Eagle

Implementation of Alternative A could affect roosting and foraging opportunities for bald eagles in adjacent areas. Should all the proposed construction elements of Alternative A not be completed prior to the next breeding season, Alternative A could affect new bald eagle nest sites that could be established within and near the project area. Potential impacts would be as discussed above for general wildlife, migratory birds and raptor species. However, as set forth in the ACEPMs in Section 2.1.9.7, prior to any

surface-disturbing activities between January 1 and August 31 and within a range of one (1) mile from the proposed surface disturbance (per Romin and Muck 2002), a BIA biologist or BIA-approved contractor would survey all areas scheduled for construction. If an occupied nest is found, construction would be postponed until after the young have fledged and left the nest, generally accepted to be August 31. Implementation of the ACEPM set out in Section 2.1.9.7 involving raptor species, as well as other measures that would reduce impacts to vegetation and water resources would further minimize impacts to bald eagles that choose to reside within the project area.

Golden Eagle

Implementation of Alternative A could affect foraging golden eagles that likely utilize the project area and surrounding region. Impacts to golden eagles would be very similar to those identified and assessed above for other raptors, including the bald eagle. As with the bald eagle, Finley would commit to conducting current year raptor surveys within 0.5 mile from the proposed surface disturbance (per Romin and Muck 2002) (refer to ACEPM in Section 2.1.9.7). The surveys would be conducted by a BIA biologist or BIA-approved contractor on all areas scheduled for construction. If an occupied nest is found, construction would be postponed until after the young have fledged and left the nest, generally accepted to be August 31. Implementation of this ACEPM, as well as other measures that would reduce impacts to vegetation and water resources would further minimize impacts to golden eagles that choose to reside within the project area and surrounding region.

Fish

Based on the similarity of their affected habitats within the Green River, about 23 miles downstream of the project area, and potential impacts associated with Alternative A, the assessment for the bonytail chub, Colorado pikeminnow, humpback chub, and razorback sucker (collectively known as the Upper Colorado River endangered fish) as well as the bluehead sucker, flannelmouth sucker, and roundtail chub (managed under a Conservation Agreement) are discussed together within this EA.

The estimated 21 ac-ft. of water needed for the proposed drilling, completion and fugitive dust control actions would result in a depletion to the Green River, thus directly affecting the Colorado River endangered fish and the Conservation Agreement fish species and their habitats. The proposed water usage for Alternative A would constitute less than one percent of the total average annual flow in the Green River (21 ac-ft. / 4,100,000 ac-ft. = .000512 of a percent).

Implementation of Alternative A could also degrade USFWS-designated critical habitat for the Upper Colorado River endangered fish and the State sensitive fish species by increasing sedimentation loads and increasing the potential for exposure to hazardous substances to the rivers (refer to Section 4.5.1 which discusses impacts from the Proposed Action on water resources). Degradation of habitat related to increased sedimentation would be minimized by actions set out in Alternative A, including ACEPMs, which include provisions to implement interim and final reclamation, implement effective storm water management plan actions, and design specific elements of the Proposed Action to further reduce or minimize erosion from the project area. Impacts related to the increased potential for exposure to hazardous substances from spills and/or leaks from the proposed development would be minimized by strict implementation of and adherence to the specific action items of the general and site-specific SPCC plan action that contain and/or control contaminated water.

The specific actions outlined in the Proposed Action dealing with reclamation, storm water management, design features to reduce soil loss would effectively reduce effects to the Upper Colorado River endangered fish and their habitats, However, because of the estimated depletion of 21 ac-ft. of water, the Proposed Action ***"may affect, is likely to adversely affect"*** the Upper Colorado River fish and their USFWS-designated critical habitats in the Green River.

4.2.2 Alternative B – No Action

4.2.2.1 Cultural Resources

Under Alternative B, the Proposed Action would not be implemented. Thus the proposed surface disturbance would not occur and direct impacts to cultural resources would not result. Other ongoing uses of the project area would continue at the current rate and/or trend.

4.2.2.2. Paleontology

Under Alternative B, the Proposed Action would not be implemented. Thus the proposed surface disturbance would not occur and direct impacts to paleontological resources would not result. Other ongoing uses of the project area would continue at the current rate and/or trend.

4.2.2.3 Soils

Under Alternative B, the Proposed Action would not be implemented. Thus the proposed surface disturbance would not occur and direct, indirect, short- and long-term impacts to soil resources would not occur. Other ongoing uses of the project area would continue at the current rate and/or trend. The natural erosion rate of 1.5 tons per acre per year would likely continue over the long-term.

4.2.2.4 Water Resources, Including Waters of the United States

Under Alternative B, the Proposed Action would not be implemented. Thus the proposed project disturbance would not occur and direct, indirect, short- and long-term impacts to water resources would not occur. Other ongoing uses of the project area would continue at the current rate and/or trend.

4.2.2.5 Vegetation, Including Federally-listed Plant Species and Noxious and Invasive Weed Species

The proposed project would not be implemented under Alternative B. However, current land-use trends in the area would continue. These uses and trends could directly and indirectly affect vegetation resources, including federally-listed plant species and noxious and invasive weed species. All such projects and their impacts to vegetation resources, including federally-listed plant species and noxious and invasive weed species, would be assessed in site-specific NEPA documents.

4.2.2.6 Wildlife, Including Special Status Animal Species

The proposed project would not be implemented under Alternative B. However, current land-use trends in the area would continue. These uses and trends could directly and indirectly affect wildlife, including special status animal species. All such federally-related projects and their impacts to wildlife, including special status animal species would be assessed in site-specific NEPA documents.

4.3 CUMULATIVE IMPACTS

4.3.1 Cultural Resources

The magnitude of cumulative impacts to cultural resources may be greater or lesser depending on the cultural resource site-density present in the project area; the significance of the cultural resources present, and the final magnitude and scope of reasonable future actions.

Alternative A could cumulatively affect cultural resources in the project area by introducing atmospheric, visual, and auditory intrusions, increased visitation and pedestrian traffic during exploratory drilling and operations, vandalism, erosion and unknown impacts to unidentified cultural resources and landscapes, all of which could contribute to an alteration of the overall historic setting and feeling of the CIAA.

Project-related activities could incrementally and cumulatively add to the loss of important cultural resources across the CIAA. These types of impacts could present consequences for the breadth, completeness, and interpretive value of the archaeological record.

Cumulative impacts to cultural resources from Alternative A would be effectively reduced through the implementation of the specific construction actions for access roads and pipelines identified in the Proposed Action, including the ACEPMs; adherence to Federal regulations and Tribal policies protecting cultural resources, and through consultation processes with the State Historic Preservation Office (SHPO) and THPO. However, these actions would not prevent all cumulative impacts from occurring.

Under Alternative B, the proposed development would not occur and would not contribute to the cumulative impacts to cultural resources from other ongoing actions taking place within the project area.

4.3.2 Paleontology

The magnitude of cumulative impacts to paleontological resources may be greater or lesser depending on the fossil site density present in the project area; the significance of the paleontological resources present, and the final magnitude and scope of reasonable future actions.

Alternative A could cumulatively affect paleontological resources in the project area by introducing atmospheric, visual, and auditory intrusions, increased visitation and pedestrian traffic during exploratory drilling and operations, vandalism, erosion and unknown impacts to unidentified paleontological resources and landscapes, all of which could contribute to an alteration of the overall historic setting and feeling of the CIAA.

Project-related activities could incrementally and cumulatively add to the loss of important paleontological resources across the CIAA. These types of impacts could present consequences for the breadth, completeness, and interpretive value of the paleontological record.

Cumulative impacts to paleontological resources from Alternative A would be effectively reduced through the implementation of the specific construction actions for access roads and pipelines identified in the Proposed Action, including the ACEPMs; adherence to Federal regulations and Tribal policies protecting paleontological resources. However, these actions would not prevent all cumulative impacts from occurring.

Under Alternative B, the proposed development would not occur and would not contribute to the cumulative impacts to paleontological resources from other ongoing actions taking place within the CIAA.

4.3.3 Soils

Other activities within the CIAA that could increase surface disturbance and contribute to soil erosion in the project area include intensified oil and gas exploration and development, sand and gravel extraction, livestock grazing, and road and utility corridor construction. Such activities would damage or remove existing vegetation, thus increasing the potential for soil erosion in localized areas and adding to the cumulative adverse effects across the CIAA.

When combined with other ongoing oil and gas activities currently underway and/or proposed for the CIAA, Alternative A would cause further impacts to soils as discussed above. However, strict adherence to implementation of the SPCC Plan, and ACEPMs relative to erosion control and reclamation would minimize cumulative impacts to soil resources.

Under Alternative B, the proposed development would not occur and would not contribute to the possible cumulative impacts to soil resources from other ongoing actions taking place within the project area.

4.3.4 Water Resources, Including Waters of the United States

In the CIAA (i.e., the project area), construction of oil and gas facilities and its associated infrastructure would likely have the greatest potential impact on surface water resources due to increased erosion and sedimentation rates, the increased number of road/pipeline water crossing, and increased water usage. Implementation of Alternative A, when considered with other reasonably foreseeable actions, would cumulatively contribute to existing soil disturbance, thus affecting surface water quality. In addition, past and RFD activities would increase the chance that accidental spills of potentially toxic substances could contaminate both surface and/or groundwater resources within the CIAA. However, strict adherence to regulatory requirements in this regard would minimize the likelihood and scale of such impacts. Other uses, including sand and gravel extraction, livestock grazing, road and utility corridor construction would also contribute to cumulative impacts to water resources, but the incremental contribution is impossible to quantify.

Under Alternative B, the proposed development would not occur and would not contribute to the cumulative impacts to water resources from other ongoing actions taking place within the CIAA (i.e., the project area).

4.3.5 Vegetation, Including Federally-listed Plant Species and Noxious and Invasive Weed Species

Past, present and other RFD activities in the CIAA that have affected or will continue to affect vegetation communities include continued and increased oil and gas development, sand and gravel extraction, livestock grazing, road and utility line construction and operation Implementation of the Proposed Action, when combined with all past, present and RFD activities in the CIAA, would incrementally affect the overall productivity, composition and community structure of vegetation within the project area and thus the CIAA. These impacts could result from direct removal or fragmentation of plant communities, competition with invasive and noxious weeds, increased soil compaction and erosion, increased fugitive dust and degradation and/or loss of topsoil and soil microorganisms; thus affecting the site-s ability to be successfully reclaimed.

When analyzed cumulatively, the proposed surface disturbance associated with Alternative A would have minimal impacts on vegetation within the CIAA due to the relatively small area involved. Yet each acre of disturbance would incremental add to other existing or ongoing present and future surface disturbances in the CIAA, thus incrementally adding to the overall native vegetation loss and potentially increasing the invasion or proliferation of invasive and noxious weeds.

Cumulative impacts for general vegetation resources would be minimized in accordance with this EA. Under Alternative A, specific actions taken to reduce soil loss, to increase the likelihood of reclamation success, aggressive weed control management, and dust abatement practices would reduce impacts to vegetation by minimizing soil loss, decreasing fragmentation of plant communities and reducing fugitive dust and the potential for competition with invasive and noxious weed species. Based on the implementation of actions outlined in Section 2 of the EA, including the ACEPMs, cumulative impacts to vegetation would be reduced; however, it is anticipated that such measures would not prevent or preclude all cumulative impacts from occurring.

The CIAA for the federally-listed plant species is the Reservation. Non-federal activities on the Reservation have the potential to cumulatively affect these federally-listed plant species. Non-federal activities that could contribute to cumulative impacts from existing and reasonably foreseeable federally-authorized activities include energy and mineral exploration and development, road construction and use, vegetation conversion from expanded agricultural practices, and livestock grazing. Quantified data on the future extent of these non-federal activities are difficult to obtain, but it must be assumed that some level of these activities are certain to occur. Impacts from these activities would lead to cumulative contributions of habitat loss and fragmentation of *Sclerocactus* habitat, increased sedimentation, effects from weed invasion, and a cumulative decrease in the potential for the plant's overall recovery. These impacts could be compounded by other losses resulting from non-human induced conditions, such as prolonged drought conditions and/or extensive flooding.

Invasive and noxious weed species are a major concern in the Uinta Basin. Weed management areas have been established involving interagency planning and coordination and treatment to control or eliminate stands of invasive and noxious species. Past, present and other RFD activities within the CIAA that have or will continue to support the introduction and proliferation of weeds into unaffected areas include oil and gas development, livestock grazing, agricultural practices, wildlife habitat enhancement and water resource enhancement projects. Implementation of Alternative A would incrementally contribute to the introduction and/or spread of weeds in the CIAA by reducing the overall visual character of an area, competing with, or eliminating native or desired plant species, reducing or fragmenting wildlife habitats, and increasing soil erosion. It is assumed that contribution of Alternative A to cumulative impacts would be proportionate to the amount of surface disturbance proposed.

Under Alternative B, the proposed development would not occur and would not contribute to the cumulative impacts to vegetation resources, including federally-listed plant species and invasive and noxious weeds from other ongoing actions taking place within the CIAA.

4.3.6 Wildlife, Including Special Status Animal Species

Past actions in the CIAA have caused direct habitat loss and/or degradation of habitat, contributed to habitat fragmentation, displaced individual wildlife species, increased collisions between wildlife and vehicles, and potentially contributed to the poaching and general harassment of wildlife. Other past and present actions, including sand and gravel extraction, livestock grazing, road and utility corridor construction have made contributions to the cumulative impacts to wildlife; however, the greatest element of change is the increasing energy development in the CIAA.

While surface disturbance corresponds to general wildlife habitat loss, due to the specific needs of the wildlife species involved, a direct correlation between surface disturbance and resultant wildlife habitat modifications or loss cannot be determined. However, surface disturbance is considered an indicator of habitat loss. Each acre of vegetative and wildlife habitat disturbance in the project area would be additive to other losses of habitat, foraging areas, breeding areas, ground cover, and increased habitat fragmentation within the CIAA. Additional development activities could displace wildlife or preclude wildlife species from using areas of more intense human activity. Such displacement would last until the disturbed areas are successfully reclaimed and revegetated, encouraging wildlife to return. Other impacts would cause or increase a disruption of migratory routes and seasonal ranges, general distress or result in deteriorated physical conditions, decrease reproductive success, increase mortality and, ultimately decrease wildlife populations. UDWR reports that overall populations of pronghorn antelope within the Greater Natural Buttes Oil and Gas Field have decreased since the late 1990s due to habitat loss and drought (BLM 2012).

Cumulative impacts to special status animal species would be similar to those discussed above for general wildlife. However, given the limited species population numbers and/or limited extent of suitable breeding and foraging habitats, cumulative impacts to special status animal species are expected to be more severe. Such impacts would last until the disturbed areas are successfully reclaimed and revegetated that recreate the suitable and desired breeding and foraging habitats. This assessment assumes cumulative impacts to special status animal species would be similar in nature to those discussed above for wildlife. However, given their ongoing habitat losses, sensitivity to disturbance and decline to overall population numbers, special status animal species would be expected to be more sensitive to impacts related to development within the CIAA than other, more common wildlife species. Based on these sensitivities, existing and RFD land uses have reduced and would likely continue to reduce the quality and quantity of suitable habitats in the CIAA for special status animal species.

Alternative A would involve disturbance to approximately 49 acres of wildlife habitat and could increase sediment loading of Green River downstream. Implementation of specific project actions and ACEPMs outlined in Section 2.1.8 would effectively lessen, but not totally eliminate the additive impact of Alternative A, along with other ongoing and RFD activities in the CIAA. As such, the cumulative impacts to wildlife, including special status animal species, could affect but would not likely cause a trend toward federal listing of the bald eagle, golden eagle, greater sage grouse and other wildlife species of concern that currently occur in, or may be found in the CIAA.

Existing and RFD uses have and will likely continue to affect population sizes and habitat quality in the CIAA for the Upper Colorado River endangered fish and Conservation Agreement fish species in the Green River. Cumulative water depletions, both ongoing and new, would reduce the ability of the Upper Colorado River to sustain the physical habitat and biological environments required by these fish species. These depletions could be lessened by acquisition of water rights using funds secured as part of the Recovery Program; however, such acquisitions would not fully mitigate the cumulative impacts to the endangered fish and Conservation Agreement fish species in the Green River. . However, these actions would not completely mitigate cumulative impacts to the Upper Colorado River endangered fish species. As such cumulative water depletions to the Upper Colorado River ***"may affect, are likely to adversely affect"*** the Upper Colorado River endangered fish species and the USFWS-designated critical habitats.

Although under Alternative B the Proposed Action would not be implemented, other ongoing and RFD water-using and water affecting project will likely continue. The scale and magnitude of the resultant impacts would depend on the anticipated water usage and environmental protecting actions implemented. As such continued and anticipated new cumulative water depletions to the Upper Colorado River from implementation of Alternative B ***"may affect, are likely to adversely affect"*** the Upper Colorado River endangered fish species and the USFWS-designated critical habitats.

4.4 IRREVERSIBLE AND IRRETRIEVABLE IMPACTS

4.4.1 Cultural Resources

Cultural resources are a non-renewable resource. Damage or destruction of cultural resources from implementation of Alternative A or the resultant increased traffic in the project area would represent an irreversible impact to the cultural resources. However, the ACEPMs set out in Alternative A would reduce the potential for damage and/or destruction of cultural resources in the project area.

As the proposed project would not be implemented under this alternative, no irreversible impacts to cultural resources would be anticipated. However, continuation of ongoing, non-related actions could result in damage to or destruction of cultural resources in the project area.

There would be no irretrievable impacts to cultural resources as a result of the implementation of Alternative A or B.

4.4.2 Paleontology

Paleontological resources are a non-renewable resource. Damage or destruction of paleontological resources from implementation of Alternative A or the resultant increased traffic in the project area would represent an irreversible to paleontological resources. However, the ACEPMs set out in Alternative A would reduce the potential for damage and/or destruction of paleontological resources in the project area.

As the proposed project would not be implemented under this alternative, no irreversible impact to paleontological resources would be anticipated. However, continuation of ongoing, non-related actions in the project area, i.e., sand and gravel extraction, livestock grazing, road and utility corridor (pipeline and power line) construction, could result in damage to or destruction of paleontological resources in the project area.

There would be no irretrievable impacts to paleontological resources from Alternative A or B.

4.4.3 Soils

The increased erosion resulting from Alternative A would translate to a loss of soil from the project area. Thus there would be irretrievable impacts to soil resources from Alternative A. There would be no irreversible impacts to soils from Alternative A. There would be no irreversible or irretrievable impacts to soil resources from Alternative B.

4.4.4 Water, Including Waters of the United States

There would be no irreversible or irretrievable impacts to water resources, including Waters of the United States, from implementation of Alternative A or B.

4.4.5 Vegetation, Including Federally-listed Plant Species and Noxious and Invasive Species

There would be no irreversible or irretrievable impacts to vegetation resources, including federally-listed plant species and invasive and noxious weeds from implementation of Alternative A or B.

4.4.6 Wildlife

There would be no irreversible or irretrievable impacts to wildlife, including special status animal species from implementation of Alternative A or B.

4.5 RECOMMENDED MITIGATION MEASURES

4.5.1 Cultural Resources

Although Finley would adhere to the Tribe's current policy of avoidance and their ACEPMs outlined in Section 2.1.9.2, two mitigation measures are recommended involving the proposed 25-3A-4-1 well location and its associated access route and pipeline corridor. Specifically:

- Place the proposed access road and pipeline corridor within the southeastern portion of the lithic scatter site revealed within the APE of the proposed access route and pipeline corridor. This portion of the cultural resource site has been previously disturbed by construction of a road into

an existing nearby well pad, and the undertaking would not affect the remaining integrity of the cultural resource.

- Relocate the proposed pipeline corridor to the south side of the existing road. If road improvements are required for the undertaking, then a temporary fence should be erected along the north side of the road (i.e., the southern boundary of the cultural resource site).

These actions would effectively mitigate adverse impacts to cultural resources within the project area.

4.5.2 Paleontologoy

To effectively minimize direct impacts to paleontological resources in the project area from initiation of ground-disturbing activities, it is recommended that a qualified paleontologist be present to monitor excavation activities associated with the proposed 22-16A-4-1 well location, and perform spot-checks during ground disturbance activities associated with proposed 23-16A-4-1, 25-3A-4-1, 26-5A-4-1; 27-1A-4-1; 27-2A-4-1 and 27-3A-4-1 well locations.

4.5.3 Soils

To minimize damage or death to essential micro-organisms living in the topsoil from possible mixing with subsoil materials during construction activities, the area to be disturbed should be pre-tested to determine the depth of the topsoil layer. It is recommended that prior to construction of the well pad, at least one test pit should be dug to expose the soil layers to determine the site-specific depth of the topsoil. Additional test pits may be needed on sites having different surface soils or uneven/hilly terrain. The more accurately determined topsoil would then be stripped and stockpiled separately.

5.0 CONSULTATION AND COORDINATION

5.1 INTRODUCTION

As described in **Section 1**, issues pertinent to this EA were identified from data collection and during onsite inspections of the proposed wells and pipeline locations. Those issues were assessed in detail in **Section 4**.

5.2 PERSONS, GROUPS AND AGENCIES CONSULTED

Table 5.2-1 lists those persons, groups, and agencies consulted for Newfield's proposed project.

Table 5.2-1 Persons, Groups, and Agencies Consulted

Name	Purpose & Authorities for Consultation or Coordination	Findings and Conclusions
Utah State Historic Preservation Office	Consultation for undertakings as required by the NHPA (16 U.S.C. 470)	BIA initiated and consulted with the SHPO for all projects identified in the Proposed Action.
U.S. Fish & Wildlife Service	Consultation for undertakings as required by the ESA (16 U.S.C. 1531 et seq.)	BIA initiated and consulted with the USFWS for all projects identified in the Proposed Action. On XXX the USFWS determined that the proposed project would result in …….

5.3 LIST OF PREPARERS

Table 5.3-1 lists those staff responsible for resource-specific sections of this document.

Table 5.3-1 Leland Bench Drilling Project Environmental Assessment and Biological Assessment

BIA, Uintah and Ouray Agency		
Name	**Responsibilities**	
Jordan O. Christopher	BIA Project Lead and Environmental Protection Specialist	
Finley Resources, Inc.		
Name	**Responsibilities**	
Zachery Archer	Production Foreman	
Kleinfelder		
Name	**Responsibilities**	**Responsible for the Following Sections in this Document**
Jean Sinclear	Senior Project Manager	Development of EA Document
Brad Norling	Principal Professional	Technical Review
Lindsey Hockert	GIS Specialist	GIS Mapping and Calculations

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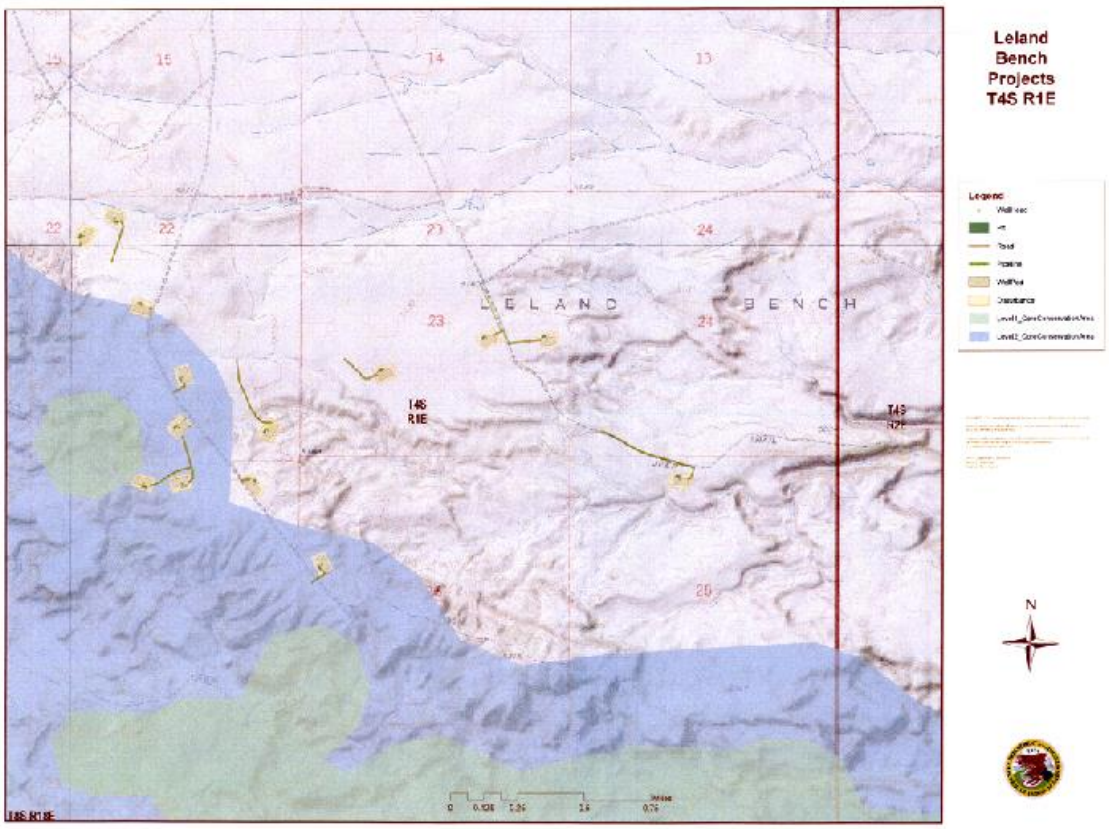
APPENDIX A: FIGURES



APPENDIX B: SUMMARY OF SPECIAL STATUS SPECIES

Summary of Potential for and/or Occurrence of Special Status Species in Finley's Leland Bench Drilling Project

Species	Status[1]	Habitat Association[2]	Potential for Occurrence Within the Proposed Project Area and Cumulative Effects Area[2]	Eliminated From Detailed Analysis (Yes/No)
Wildlife Species				
Mammals				
Black-footed ferret *Mustela nigripes*	FE	Semi-arid grasslands and mountain basins. It is found primarily in association with active prairie dog colonies that contain suitable burrow densities and colonies that are of sufficient size.	None: In Duchesne County, the USFWS considers all active prairie dog towns or complex of towns large enough to support ferrets (at least 100 acres) to be potential black-footed ferret reintroduction habitat. Currently, the distribution of this species in Utah is limited to a nonessential, experimental population reintroduced into Coyote Basin, which is located approximately 30 miles east of the project area. Although several white-tailed prairie dog colonies occur in the project area, no colonies meeting the USFWS and UDWR's black-footed ferret habitat criteria occur in the project area. Thus it is not reasonable that the project area would be utilized as a potential future black-footed reintroduction site.	Yes
Brown (Grizzly) Bear *Ursus arctos*	FT	Although the grizzly or brown bear, *Ursus arctos*, once occurred throughout western North America, Europe, and Asia, its distribution has been greatly reduced. In North America, the brown bear now occurs only in Alaska, parts of Canada, and in the northwestern United States.	None: The brown bear was extirpated from Utah in 1920s.	Yes
Canada lynx *Lynx canadensis*	FT	Primarily occurs in Douglas-fir, spruce-fir, and subalpine forests at elevations above 7,800 feet above mean sea level (amsl). The lynx uses large woody debris, such as downed logs and windfalls.	None: If extant in Utah, this species most likely occurs in montane forests in the Uinta Mountains. No potential habitat for the species occurs within the project area.	Yes
Birds				
Mexican spotted owl *Strix occidentalis lucida*	FT; PIF	In Utah, found primarily in rocky canyons. Nests in caves or crevices. Roosts on ledges or in trees in canyons. The species prefers mesic (moister/cooler) canyons with mixed conifer or riparian components. Breeding and nesting season: March through August.	None: No Mexican spotted owl nests or suitable habitat have been identified within the project area.	Yes
Greater sage-grouse *Centrocercus urophasianus*	FC; PIF	Inhabits upland sagebrush habitat in rolling hills and benches. Breeding occurs on open leks (or strutting grounds), and nesting and brooding occurs in upland areas and meadows in proximity to water and generally within a 2-mile radius of the lek. During winter, sagebrush habitats at submontane elevations commonly are used.	Low: The species is widespread, but declining, with extant populations found in Duchesne County.	Yes

Species	Status[1]	Habitat Association[2]	Potential for Occurrence Within the Proposed Project Area and Cumulative Effects Area[2]	Eliminated From Detailed Analysis (Yes/No)
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FC; PIF	Riparian obligate and usually occurs in large tracts of cottonwood/willow habitats. However, this species also has been documented in lowland deciduous woodlands, alder thickets, deserted farmlands, and orchards. Breeding season: late June through July.	None: This species is known to occur at the Ouray NWR and along the Green River, east and outside the project area.	Yes
Northern goshawk *Accipiter gentilis*	CAS	Generally found in a wide variety of forest types including deciduous, coniferous, and mixed forests. Typically occurs within mature and old growth forests and generally selects larger tracts of forest over smaller tracts. In the western U.S., characteristically nests in coniferous forests including those dominated by ponderosa pine, lodgepole, or in mixed forests dominated by various coniferous species including: Douglas-fir, cedar, hemlock, spruce, and larch. Western birds also nest in deciduous forests dominated by aspen, paper birch, or willow.	None: No northern goshawk nests or suitable habitat have been identified within the project area.	Yes
Bald eagle *Haliaeetus leucocephalus*	BGEPA	In Utah, breeding occurrences are limited to 10 locations within four counties (Carbon, Daggett, Duchesne, Grand, and Salt Lake Counties). Winter habitat typically includes areas of open water, adequate food sources, and sufficient diurnal perches and night roosts.	Moderate: Winter roosting areas for this species occur along the Duchesne and Green Rivers, which are outside of the project area. Currently no nests are known to occur along these rivers.	**No**
Golden eagle[3] *Aquila chrysaetos*	BGEPA	Found in mountainous areas, canyons, shrublands, and grasslands, and in shrub-steppe habitats in winter.	High: Nesting and foraging habitat is found throughout the area. This species is known to nest within the project area.	**No**
Fish				
Bonytail chub *Gila elegans*	FE	Is endemic to the Colorado River system within main channels of large rivers, and favors swift currents.	Moderate: This species occurs in the Green River downstream of the project area. The closest USFWS-designated critical habitat is located approximately 61 miles south of the project area.	**No**
Colorado pikeminnow *Ptychocheilus lucius*	FE	Known from the Colorado River system. Uses large swift rivers.	Moderate: This species occurs in the Green River downstream of the project area. The closest USFWS-designated critical habitat is located approximately 23 miles downstream of the project area.	**No**
Humpback chub *Gila cypha*	FE	Is endemic to the Colorado River system within deep, swift-running rivers, with canyon-shaded environments.	Moderate: This species occurs in the Green River downstream of the project area. The closest USFWS-designated critical habitat is located approximately 61 miles south of the project area.	**No**
Razorback sucker *Xyrauchen texanus*	FE	Endemic to large rivers of the Colorado River system.	Moderate: This species occurs in the Green River downstream of the project area. The closest USFWS-designated critical habitat is located approximately 23 miles downstream of the project area.	**No**

Species	Status[1]	Habitat Association[2]	Potential for Occurrence Within the Proposed Project Area and Cumulative Effects Area[2]	Eliminated From Detailed Analysis (Yes/No)
Plant Species				
Barneby's ridgecress *Lepidium barnebyanum*	FE	Tribal land in Duchesne County. West Tavaputs Plateau, Indian Canyon. Uinta Formation. Shallow, fine textured soils, intermixed with rock fragments on white shale outcrops and ridges, included with similar cushion-shaped plant species on barren inclusions in pinyon juniper woodlands; elevation range of 6,200-6,500 feet amsl.	None: Known populations occur in Indian Canyon drainage in central Duchesne County, west and outside the project area.	Yes
White River penstemon *Penstemon scariosus* var. *albifluvis*	FC	Uintah County. Green River Formation; South East of Bonanza; shale slopes; semi-barren mixed desert shrub or pinyon-juniper communities; elevation range of 5,000-6,000 feet amsl; flowers late May-June.	None: No potential habitat. The geological formation and soils associated with this species do not occur in the project area.	Yes
Graham's beardtongue *Penstemon grahamii*	PT	Duchesne and Uinta Counties. Sparsely vegetated areas with shadscale, desert buckwheat species, horsebrush, ryegrass and pinyon-juniper woodlands on shale ledges and talus outcrops of the Green River formation; elevation 4,600-6,700 feet elevation; flowers late May-June.	None: No potential habitat. The geological formation and soils associated with this species do not occur in the project area.	Yes
Flowers' beardtongue *Penstemon flowersii*	FC	Tribal and private lands along the Duchesne and Uintah County line, in the vicinity of Roosevelt, Utah. Semi-barren, gravelly clay slopes of the Uinta Formation; elevations ranging from 4,890 to 5,410 feet; flowers May-June. In 2011, the USFWS petitioned to list this species. At the conclusion of the listing review, the Service determined that listing of this species was not warranted at that time.	None: No potential habitat. The geological formation and soils associated with this species do not occur in the project area.	Yes
Clay reed-mustard *Schoenocrambe argillacea*	FT	Uintah County. Book Cliffs; clay soils rich in gypsum overlain with sandstone talus derived from a mixture of shales and sandstones from the contact zone of upper Uinta and lower Green River Formations; mixed desert shrub, Indian ricegrass and pygmy sagebrush communities; elevation range of 5,000-5,650 feet amsl; flowers May-early June.	None: The northernmost occurrence of this species is known from Brown Canyon, located southeast and outside of the project area. The contact zone between the Uinta Formation and the Green River Formation occurs south and outside the project area.	Yes
Shrubby reed-mustard *Schoenocrambe suffrutescens*	FE	Duchesne, and Uintah Counties. Green River Formation; Badlands Cliffs, Gray Knolls, Little Rock Pack Mountain; calcareous shale; mixed desert shrub, pinyon-juniper or mountain brush communities; elevation range of 5,400-6,000 feet amsl; flowers late May - mid-August.	None: The geological formation and soils associated with this species do not occur in the project area. Known populations occur south and southeast, but outside of the project area.	Yes

Species	Status[1]	Habitat Association[2]	Potential for Occurrence Within the Proposed Project Area and Cumulative Effects Area[2]	Eliminated From Detailed Analysis (Yes/No)
Pariette cactus *Sclerocactus brevispinus*	FT	Duchesne, and Uintah Counties. Pariette cactus habitat is a sparsely vegetated desert shrubland dominated by saltbush (*Atriplex spp*.), rabbitbrush (*Chrysothamnus spp*.), and horsebrush (*Tetradymia spp*.) species. Pariette cactus grows on fine soils in clay badlands derived from the Wagonhound Member of the Uinta Formation. The species is restricted to one population in an area on the Duchesne-Uintah county boundary on BLM, Ute Tribe, State and private land. The total species population is estimated to be about 11,000 individuals on approximately 18,000 acres. Based on exposures of the Wagonhound Member with an associated desert shrub vegetation community, the total habitat for the Pariette cactus on BIA-administered lands is estimated to be approximately 1,786 acres; elevation range of 4,700-5,400 feet amsl.	Extremely High: The geological formation and soils associated with this highly restricted species do occur in the project area.	**No**
Uinta Basin hookless cactus *Sclerocactus wetlandicus*	FT	Duchesne, and Uintah Counties. Populations of Uinta Basin hookless cactus are found on clay soils derived from the Green River and Duchesne Formations, often covered with cobbles and pebbles from tertiary or quaternary alluvium. Habitat for the species generally consists of gravelly or rocky surfaces on river terrace deposits and lower mesa slopes. The species occurs on varying exposures, but is more abundant on south-facing exposures on slopes up to about 30 percent grade, and where terrace deposits break from level tops to steeper side slopes; elevation range of 4,700-6,000 feet amsl.	Extremely High: The geological formation and soils associated with this species occur in the project area.	**No**

Species	Status[1]	Habitat Association[2]	Potential for Occurrence Within the Proposed Project Area and Cumulative Effects Area[2]	Eliminated From Detailed Analysis (Yes/No)
Ute ladies '-tresses *Spiranthes diluvialis*	FT	Daggett, Duchesne, and Uintah Counties. When the species was listed in 1992, known populations were primarily moist meadows associated with perennial stream terraces, floodplains and oxbows at elevations between 400-6850 feet. Since 1992, data has expanded the number of vegetation and hydrology types occupied by this species to include seasonally flooded river terraces, sub-irrigated or spring-fed abandoned stream channels and valley and lake shores. Additionally, populations have been discovered along irrigation canals, levees, irrigated meadows, excavated gravel pits, roadside barrow pits, reservoirs and other human-modified wetlands. Ute ladies'-tresses is more often associated with early to mid-seral ecological states (either naturally occurring or resulting from fire/livestock grazing regimes), tend to avoid alkaline soils, and prefer sites subject to seasonal flooding followed by slower flow rates that allow for deposition of sediment and organic material. The elevation range has been expanded to 7200 – 7000 feet amsl; flowers late July – September.	None to Very Low: The species has been documented in riparian and wetland areas associated with the Duchesne and Strawberry Rivers, near the Town of Duchesne, and along irrigation ditches and canals north of U.S. Highway 40, well to the north and outside of the project area. Due to the high alkaline soils in the project area, no potential habitat for this species occurs in the project area, nor is it likely that potential habitat for this species occurs downstream from and outside of the project area.	Yes

[1] Wildlife Source: (USFWS 2009; UNHP-UDWR 2009a; Parrish et al. 2002); Plant Source: (USFWS 2009; BLM 2008)
[2] Wildlife Source: (Bosworth 2003; UNHP-UDWR 2009;); Plant Source: (Kleinfelder 2012; UDWR 1998; UNPS 2009; UNHP-UDWR 2005; USFWS 1990, USFWS 2007, USFWS 2008, USFWS 2009b, Welsh et al. 1993;)
[3] Species was retained for analysis purposes based on its documented presence in the Project Area and special protection provided under the BGEPA.

Federally Listed Species:

- FE = Federally listed as endangered;
- FT = Federally listed as threatened;
- PT = Proposed for listing as threatened;
- FC = Federally listed as candidate

Other Status (Wildlife):

- BGEPA = Bald and Golden Eagle Protection Act
- PIF = Partners in Flight species of concern, Colorado Plateau, Utah Mountains, potentially in the Vernal Field Office.

Appendix B Additional References

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