1.0 PURPOSE & NEED

1.1 INTRODUCTION

This Environmental Assessment (EA) has been prepared to analyze the effects of issuing the suspended Saddletree Draw lease UTU-81737. It has also been prepared to analyze the effects of the natural gas development proposal submitted by Enduring Resources LLC's (Enduring) for their Federal, State and private mineral leases within the Rock House Project Area (Project Area). The Rock House Project Area is located in Uintah County, Utah, about 35 miles south-southeast of Vernal, in portions of Township 10 South, Range 23 East (Sections 19-21 and 28-33), Township 10 South, Range 22 East (Section 36), and Township 11 South, Range 23 East (Sections 3-4). The Project Area encompasses approximately 4,826 acres. Approximately 70% (3,388 acres) of the 4,826-acre Project Area occurs on public lands administered by the BLM. The remaining 30% (1,438 acres) of the surface lands in the Project Area are State or privately owned.

This EA is a programmatic analysis of potential impacts that could result with the implementation of the Proposed Action or Alternatives to the Proposed Action. The EA assists the BLM in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any "significant" impacts could result from the analyzed actions. An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a statement of "Finding of No Significant Impact" (FONSI). A FONSI is a document that briefly presents the reasons why implementation of the Proposed Action or alternative will not result in "significant" environmental impacts. If the decision maker determines that this project has "significant" impacts following the analysis in the EA, then an EIS would be prepared for the project. If not, a Decision Record and FONSI would be prepared approving the selected alternative. As mention previously, this EA analyzes proposed development of Enduring's Federal, State and private leases in the Rock House Project Area. Although the impacts of the development of State and private leases are analyzed in this EA, it should be noted that the BLM does not have authority over activities on these lands.

1.2 BACKGROUND

On July 3, 2000, the Authorized Officer (AO) for the BLM Vernal Field Office (VFO) signed a FONSI/Decision Record for EA UT-080-99-69 for the Rock House #11-31 gas well. The referenced EA analyzed and disclosed environmental issues related to the construction of the Rock House #11-31 well pad, road, and pipeline located within Section 31, T10S R23E (well pad) and Sections 5 and 8, T11S R23E (road and pipeline). The Rock House #11-31 well was completed as a well capable of producing gas in paying quantities.

The BLM offered open Federal lands in the NENE, SWNE, SENW, E/2SW, SE, Section 30, and the E/2, Section 31, Township 10 South, Range 23 East, for competitive oil and gas lease at the competitive lease sale held on September 8, 2004. Enduring was the high bidder for a lease on that parcel (Parcel 234, Serial No. UTU-81737). Following the lease sale, Southern Utah Wilderness Alliance (SUWA) filed a timely protest to the sale of that and other leases. By decision dated September 30, 2005, the BLM dismissed SUWA's protest as to Parcel 234 and other leases, and proceeded to issue Lease UTU-81737 to Enduring. On April 25, 2006, SUWA filed suit in U.S. District Court for the District of Utah, challenging BLM's issuance of Lease UTU-81737 (and other leases) alleging that BLM had not complied with NEPA prior to issuance of the lease because it did not analyze the impacts of leasing on the White River wilderness inventory unit.

In the meantime, on May 9, 2005, an additional EA for oil and gas development in the Rock House Project Area (EA UT-080-04-252) was released for public comment. That document analyzed 10 wells proposed for drilling by The Houston Exploration Company (THEC), as well as a road and pipeline ROW. A public comment period was held, which ended on June 7, 2005. Based on the 25 public comment letters, the original EA (UT-080-04-252) was divided into three actions:

1) The Uintah County road realignment
2) The THEC pipeline ROW to existing state wells in Section 36
3) The THEC's (now Enduring Resources) proposed Federal wells, road, and pipeline.

These three actions were not connected (and were therefore able to be separated) for the following reasons:

1) The Uintah County road services recreationists, the general public, and grazing permitees in addition to mineral interests. Approval of the county road ROW does not depend on the approval of either the THEC pipeline ROW or the THEC wells, road, and pipeline.
2) The THEC pipeline ROW (81634) would move gas to market from the existing THEC wells in Section 36 of Township 10 South, Range 22 East. The approval of these two pipelines does not depend on the approval of either the Uintah County road, or the THEC wells, road, and pipeline.
3) The THEC gas wells, road, and pipeline are on public land and would develop Federal minerals and move them to market. The approval of the THEC gas wells, road, and pipeline do not depend on the approval of either the Uintah County road, or the THEC pipeline ROW.

The first two actions drew few comments, and a FONSI/Decision Record was signed permitting those actions on July 25, 2005, after minor revisions to the document. The majority of the public comments were concerned with the 3rd action (the ten wells with roads and pipelines). The July 25, 2005 Decision Record neither approved nor denied the ten wells with associated roads and pipelines, citing the need for further environmental analysis prior to making a decision.

As of July 1, 2005, Enduring became the operator of record for the ten wells, roads, and pipelines analyzed in the UT-080-04-252 EA, along with other wells previously proposed by THEC on State and private lands. After reviewing THEC's Proposed Action, Enduring undertook substantial changes to both expand the Proposed Action and mitigate its environmental impacts. Specific changes to the Proposed Action included, but were not limited to: expanding the project to consider 40-acre development on all of the leases within the Rock House Project Area utilizing as much directional drilling as possible; designing a water collection system that would reduce proposed traffic on Project Area roads by tens of thousands of miles thereby reducing the spread of noxious weeds, fugitive dust, impacts to recreationists and wildlife, and increasing safety on the roads; where the potential for reserve pit failure is elevated (i.e., drainages, narrow ridges) utilizing closed loop reserve systems as opposed to the standard reserve pit systems; siting the wells by taking into account topography, sensitive plant habitat, and the viewshed from areas frequently used by recreationists; and developing a restoration project for the existing Rock House Cultural Resource Site.

On September 18, 2006, Saddletree Draw lease UTU-81737 was suspended in response to Southern Utah Wilderness Alliance v. Norton, 457 F. Supp.3d. 1253 (D. Utah 2006) (appeal pending), pending further assessment of the impacts of leasing. As a result, BLM requested that Enduring remove development on Lease UTU-81737 from the Proposed Action. This revised the Proposed Action to include a total of 55 wells which would be drilled from 30 well pads. As the revised Proposed Action essentially became a completely new project, the document was assigned a new NEPA number (UT-080-05-309), and the environmental analysis was rewritten to reflect the changed circumstances. All comments submitted for the previously published UT-080-04-252 EA were taken into account as this document was written. The

new EA (UT-080-05-309) was offered for public comment period from October 20, 2006 to November 20, 2006. During the public comment period the BLM received several comment letters regarding EA UT-080-05-309. Included with these comments was a letter from Enduring Resources that requested that the BLM consider preparing a revised EA that would address a lease/no lease decision for the lands covered by Lease UTU-81737. In order to properly address this issue, it was determined that an entirely new EA would be drafted. Accordingly, this current document was written and has been assigned NEPA number UT-080-07-671.

1.3 PURPOSE OF THE PROJECT

BLM's purpose for the leasing of the Saddletree Draw lease (UTU-81737) is to ensure information is properly incorporated from ongoing inventories of public land resources, and to implement additional protective measures as necessary. BLM's purpose for the development portion of the project is to permit the exercising of the valid lease rights within the Project Area in a manner that minimizes or mitigates environmental impacts to the extent possible, and is consistent with the Book Cliffs Resource Management Plan (Book Cliffs RMP) Record of Decision (ROD) (USDI-BLM 1985), the terms and conditions of the leases, and applicable policies, regulations, and laws.

Enduring's purpose for the proposed development is to maximize the recovery of gas resources within their leased areas, while minimizing or mitigating to the extent possible the environmental impacts associated with such development. To meet this purpose, the project proposal includes applicant committed mitigation measures to address impacts to other resource values, yet facilitate the production of the maximum economically recoverable natural gas to avoid the waste of those federal gas resources.

1.4 NEED FOR THE PROJECT

As a result of the September 18, 2006 suspension decision affecting the Saddletree Draw lease (UTU-81737), BLM has full discretion in considering whether the subject parcel should be leased. Therefore, BLM's need for the leasing portion of this project is to exercise discretion in whether or not to proceed with issuing the Saddletree Draw lease (UTU-81737). BLM may decide: not to proceed with leasing, in which case it would cancel the lease; to proceed with the leasing with standard stipulations, in which case it would lift the suspension; or proceed with leasing with additional protective measures, in which case it would lift the suspension and add the stipulations.

BLM's need for the development portion of this project is to respond to the applicant's proposal. The proposal was submitted based on the fact that Enduring has valid existing rights to explore and produce the natural gas resources in the area. Mineral exploration and production are allowed on public lands in the Project Area so long as they are in conformance with the terms and conditions of the Final Book Cliffs RMP/EIS (USDI-BLM 1984) and the Book Cliffs RMP/ROD (USDI-BLM 1985).The development of these domestic oil and gas resources would help supply our present and future domestic energy needs and play an integral part in our nation's energy security. Development of federal oil and gas resources in an environmentally responsible manner is directed by federal law. These federal laws include the Mineral Leasing Act of 1920 (MLA), as amended, which provides that exploration and development of domestic oil and gas is in the best interests of the United States. The Federal Land Policy and Management Act (FLPMA) which directs BLM to manage public lands under a multiple use management system which includes the development of federal mineral resources to meet the nation's needs. Together the MLA and FLPMA instruct the BLM to administer federal minerals consistent with the property rights associated with valid existing leases. FLPMA and federal environmental laws also identify the need for BLM to manage or protect other resource values for the benefit of the American people consistent with the property rights in the valid existing leases.

1.5 CONFORMANCE WITH BLM LAND USE PLAN(S)

The management of BLM public lands and resources within the Project Area is guided and directed by the Book Cliffs ROD (USDI-BLM 1985). The Book Cliffs ROD states that the minerals management objective is to lease gas reserves while protecting or mitigating other resource values. On areas identified as available for leasing, mitigation and protection of other resource values is accomplished, as directed by the ROD, through standard stipulations, special mitigating measures, or additional protective measures such as surface use preclusion. The ROD indicates that the N2SE, SWNE, and NENE portions of Section 30 are available for lease subject to a no surface occupancy stipulation. The remainder of the Saddletree Draw lease area is identified as available for lease subject to standard stipulations. Leasing alternatives A, B, and D would be consistent with the Book Cliffs ROD. Alternative C may not be consistent in that it may impose additional protective measures on an area identified for leasing subject to standard stipulations.

The Book Cliffs ROD allows for processing of APDs and ROW grant applications in support of oil and gas leasing operations, with the impacts of construction and operation activities (e.g., construction of roads, drilling of wells, installation of pipelines, etc.) to be analyzed on a case-by-case basis. Therefore, the development portion of the project and its alternatives would be in conformance with the ROD.

BLM's consideration of an alternative that is not consistent with the governing land use plan does not trigger a legal requirement for BLM to initiate the land use plan amendment process. BLM is not proposing to amend the Book Cliffs RMP though this EA. If a land use planning decision is necessary to implement any action considered in the EA, it will be undertaken during or after the completion of the ongoing Vernal FO RMP revision process. For further information as to land use planning options and issues currently being considered by the Vernal Field Office BLM, please refer to the Vernal FO Draft RMP (2005).

1.6 RELATIONSHIPS TO STATUTES, REGULATIONS, OR OTHER PLANS

Project Area lands were and would be leased for oil or gas development under authority of the Mineral Leasing Act of 1920, as modified by the Federal Land Policy and Management Act of 1976, the Federal Onshore Oil and Gas Leasing Reform Act of 1987, and the Energy Policy Act of 2005. Noncompetitive leases are issued in accordance with 43 CFR §3110; competitive leases are issued in accordance with 43 CFR §3120. A lessee/operator has the right to explore for oil and gas on its leases as specified in 43 CFR §3101.1-2, and if a discovery is made, to produce oil and/or natural gas for economic gain, so long as those operations are conducted in conformance with the lease terms and conditions. Should the Saddletree Draw lease (UTU-81737) be issued, then the lessee/operator would also have the right to explore for and produce oil and gas in that lease as directed by the lease terms and conditions. All exploration and production operations would be conducted in accordance with 43 CFR §3160. All rights of way development would be conducted in compliance with 43 CFR §2800. For a complete list of Federal laws, statutes, regulations and executive orders to which this EA would comply, please refer to Appendix A.

There are no comprehensive State of Utah plans for the vicinity of the Project Area. The SITLA has leased much of the nearby State lands, including lands within the Project Area, for oil and gas production. Because the objectives of SITLA are to produce funding for the State school system, and because production on Federal leases could further interest in drilling on State leases in the area, it is assumed that the alternatives analyzed are consistent with the objectives of the State.

The Proposed Action is consistent with the *Uintah County General Plan* adopted October 31, 2005 (County Plan), which encompasses the location of the proposed wells. The County Plan contains specific policy statements addressing public lands; i.e. multiple-use, resource use and development, access, and wildlife management. In general, the plan indicates support for development proposals, such as the Proposed Action, through its emphasis of multiple-use of public land management practices, responsible use, and optimum utilization of public land resources. The County, through its Plan, supports the development of natural resources as they become available or as new technology allows.

1.7 IDENTIFICATION OF ISSUES

Issues for this EA (UT 080-07-671) were identified during review of previous EA's (UT 080-04-252 and UT 080-05-309) drafted for oil and gas development in the Rock House Project Area. Additional, issues were also identified upon review of public comments for these documents. All resources considered in this EA are briefly discussed in the Interdisciplinary Team (IDT) Analysis Record Checklist (Appendix B). Rationale defining why certain resources would not be impacted by the Proposed Action is provided in Appendix B. Resources that could be affected by the Proposed Action or Alternatives are discussed and analyzed in detail in Chapters 3 and 4. Issues identified through internal scoping and assessed, as identified in Appendix B, include:

<u>Proposed Areas of Critical Environmental Concern</u>

- Issue 1: Impacts to relevant values of the proposed White River ACEC.

<u>Cultural Resources</u>

- Issue 1: Surface-disturbing activities could result in damage to, or destruction of, cultural resources.
- Issue 2: Road construction could result in increased public visitation to the project area, and therefore, increased theft or vandalism of cultural resources.

<u>Paleontological Resources</u>

- Issue 1: Disturbance of surface soils and underlying bedrock could result in the damage to or destruction of paleontological resources.
- Issue 2: Road construction could result in increased public visitation to the project area, and therefore, increased theft or vandalism of paleontological resources.

<u>Watershed Resources including Water Quality</u>

- Issue 1: Construction of proposed wells, pipelines, roads, and associated facilities would result in the removal of, or disturbance to, project area vegetation and soils. Disturbance of soils would lead to increased soil compaction, soil erosion and sediment yield. Sediments could be yielded to project area drainages and subsequently, the White River, thereby affecting water quality and aquatic habitats.
- Issue 2: Construction and operation of wells, pipelines and associated facilities could result in chemical spills being yielded to project area drainages and subsequently, the White River. Such spills have the potential to affect water quality and aquatic habitats.

Floodplains

- Issue 1: Construction of proposed wells, pipelines, roads, and associated facilities would result in the removal of, or disturbance to, project area vegetation and soils. Disturbance of soils would lead to increased soil compaction, soil erosion and sediment yield. Sediments could be yielded to project area floodplains, including the White River 100-year floodplain, thereby affecting water quality and aquatic habitats.
- Issue 2: Construction and operation of wells, pipelines and associated facilities could result in chemical spills being yielded to project area floodplains and subsequently, the White River. Such spills have the potential to affect water quality and aquatic habitats.

Wetlands/Riparian Zones

- Issue 1: Removal of wetland or riparian vegetation and disturbance to underlying soils thereby affecting water quality and aquatic habitats.

Invasive Species

- Issue 1: Removal of vegetation and disturbance to underlying soils would increase the potential for weed invasion and establishment. Traffic associated with operational activities would contribute to the potential for weed invasion.

Recreation

- Issue 1: Impacts to recreational use of the Goblin City Overlook, the John Wesley Powell Historic Campsite, and the White River.

Livestock Grazing

- Issue 1: Construction of proposed wells, pipelines, roads, and associated facilities would result in the removal of, or disturbance to, project area vegetation and soils. Removal of, or disturbance to, project area vegetation would decrease the overall vegetative productivity of the project area, as well as available forage for livestock and wildlife.

Soils including Cryptobiotic Soils

- Issue 1: Construction of proposed wells, pipelines, roads, and associated facilities would result in the removal of, or disturbance to, project area vegetation and soils including cryptobiotic soils.
- Issue 2: Disturbance of soils would subsequently lead to increased soil compaction, soil erosion and sediment yield.

Wildlife including Threatened, Endangered, and Special Status Wildlife Resources

- Issue 1: Direct loss of certain wildlife habitats.
- Issue 2: Decreased use of certain habitats through displacement of some wildlife species and habitat fragmentation.
- Issue 3: Decrease in reproductive success and nutritional condition from increased expenditure due to physical responses to disturbance.
- Issue 4: Increase in the potential for collisions between wildlife and motor vehicles.
- Issue 5: Increase in the potential for poaching and harassment of wildlife.

- Issue 6: Impacts to T&E and/or Special Status Species including the bald eagle, Mexican spotted owl, sage-grouse, and seven Colorado River fish species.

Vegetation including Threatened, Endangered, and Special Status Plant Species

- Issue 1: Removal of vegetation and disturbance to underlying soils would increase soil erosion, soil compaction, and sediment yield, thereby reducing the potential for vegetation re-establishment and changing overall plant species composition of the area.
- Issue 2: Potential impacts to populations and habitat of the special status plant species including the Graham beardtongue, White River penstemon, and Uinta Basin hookless cactus.

Visual Resources

- Issue 1: Visual modification within the landscape in the form of new lines, colors, forms, and textures would occur that may not be in compliance with BLM VRM management objectives.

Wild and Scenic Rivers

- Issue 1: Impacts to relevant values of the proposed White River Wild River Segment.

Wilderness Characteristics

- Issue 1: Impacts to size, naturalness, solitude, and primitive and unconfined recreation in the White River wilderness characteristics area.

1.8 DOCUMENT ORGANIZATION

This chapter has presented the Purpose and Need for the proposed project, as well as relevant issues, (i.e., those elements that could be affected by the implementation of the proposed project). In order to meet the purpose and need in a way that resolves the issues, the BLM has considered a range of alternatives. These alternatives are presented in Chapter 2. Chapter 3 then discloses the current environmental conditions/resources that may be impacted by implementation of these alternatives. The potential environmental impacts or consequences resulting from the implementation of the Proposed Action or other Alternatives are then analyzed in Chapter 4 for each of the identified resources. Chapter 5 then discloses the list of preparers and discusses the involvement of the public in the analysis.

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2.0 DESCRIPTION OF ALTERNATIVES

2.1 INTRODUCTION

This chapter presents the Proposed Action as submitted by Enduring (Alternative A), two additional development and leasing alternatives (Alternative B – Resource Protection Alternative; Alternative C – Leasing and Development with Restricted Surface Use), as well as the No Action Alternative (Alternative D). Narrative descriptions of the alternatives are provided in Sections 2.3 through 2.6. Seven additional alternatives for this project were considered by the BLM, but were eliminated from detailed analysis. The alternatives considered but eliminated from detailed analysis are discussed in Sections 2.8.1 through 2.8.7.

2.2 PROJECT AREA

The Rock House Project Area is located in the general area of Archy Bench, No Name canyon, Saddletree Draw, and Atchees Wash, in portions of Township 10 South, Range 23 East (Sections 19-21 and 28-33), Township 10 South, Range 22 East (Section 36), and Township 11 South, Range 23 East (Sections 3-4). The Project Area encompasses approximately 4,826 acres. Approximately 70% (3,388 acres) of the 4,826-acre Project Area occurs on public lands administered by the BLM. The remaining 30% (1,438 acres) of the surface lands in the Project Area are State or privately owned.

Currently there are 25 existing wells (1 Federal; 24 State) and 19 existing well pads (1 Federal; 18 State) in the Project Area. In addition to these existing surface developments, approximately 7.1 miles of co-located road and pipeline, and 14.1 miles of existing road also exist in the Project Area. Approximately 124 acres of surface disturbance currently exists in the 3,492-acre Project Area. In addition to developments in the Project Area, other oil and gas developments have also occurred immediately to the west along Archy Bench, and immediately to the south along Saddletree Draw and Atchees Wash.

2.3 ALTERNATIVE A –PROPOSED ACTION

2.3.1 Summary

Under Alternative A, the BLM would proceed with leasing mineral lease UTU-81737 with standard stipulations. Minerals beneath lease UTU-81737 as well as other Federal leases in the Rock House Project Area would be developed by vertically or directionally drilling from proposed or existing well pads on Federal, State or private lands. In addition, minerals beneath pre-existing State or private leases would be developed by vertically or directionally drilling from existing or proposed well pads located on State or private lands.

Under Alternative A, Enduring has proposed to drill an additional 60 gas wells from a total of 24 well pads (7 existing; 17 proposed). Of the total number of proposed wells, eleven wells would be drilled from the seven existing well pads, 33 wells would be drilled from 13 proposed well pads on BLM administered land; and 16 wells would be drilled from four proposed well pads on State and private lands. The proposed wells would be accessed via existing and proposed roads, some of which would require new ROW permits. Proposed surface pipelines, some of which would require ROW permits, would move the gas to market. Figure 2 displays the locations of the existing and proposed well pads, roads, and pipelines in the Project Area, as well as the vertical and directional drilling network that would be utilized with implementation of the Proposed Action. Table 2-1 below also describes the surface and downhole locations of each well under the Proposed Action.

Table 2-1. Proposed Surface and Downhole Well Locations under the Proposed Action

Proposed Wells: T10S R23E			
Well	**Surface Location**	**Downhole Location**	**Lease # (Downhole)**
14-28*	NENE Sec. 33 (State)	SWSW Sec. 28 (Private)	Enduring American Gilsonite OGL
12-29*	SENE Sec. 30 (Private)	SWNW Sec. 29 (BLM)	UTU-75109
13-29*	SENE Sec. 30 (Private)	NWSW Sec. 29 (BLM)	UTU-75109
14-29*	NENW Sec. 32 (State)	SWSW Sec. 29 (BLM)	UTU-75109
24-29*	NENW Sec. 32 (State)	SESW Sec. 29 (BLM)	UTU-75109
34-29*	NENW Sec. 32 (State)	SWSE Sec. 29 (BLM)	UTU-75109
44-29*	NWNW Sec. 32 (State)	SESE Sec. 29 (BLM)	UTU-75109
11-30*	NENW Sec. 30 (Private)	NWNW Sec. 30 (BLM)	UTU-76281
12-30*	NENW Sec. 30 (Private)	SWNW Sec. 30 (BLM)	UTU-76281
13-30*	NESW Sec. 30 (BLM)	NWSW Sec. 30 (BLM)	UTU-76281
14-30*	SESW Sec. 30 (BLM)	SWSW Sec. 30 (BLM)	UTU-76281
21-30	NENW Sec. 30 (Private)	NENW Sec. 30 (Private)	Enduring American Gilsonite OGL
22-30*	NENW Sec. 30 (Private)	SENW Sec. 30 (BLM)	UTU-81737
23-30	NESW Sec. 30 (BLM)	NESW Sec. 30 (BLM)	UTU-81737
24-30*	SESW Sec. 30 (BLM)	SESW Sec. 30 (BLM)	UTU-81737
31-30*	NENW Sec. 30 (Private)	NWNE Sec. 30 (Private)	Enduring American Gilsonite OGL
32-30*	NENW Sec. 30 (Private)	SWNE Sec. 30 (BLM)	UTU-81737
33-30*	SENW Sec. 30 (Private)	NWSE Sec. 30 (BLM)	UTU-81737
34-30*	SESE Sec. 30 (BLM)	SWSE Sec. 30 (BLM)	UTU-81737
41-30*	SENE Sec. 30 (Private)	NENE Sec. 30 (BLM)	UTU-81737
42-30*	SENE Sec. 30 (Private)	SENE Sec. 30 (Private)	Enduring American Gilsonite OGL
43-30*	SESE Sec. 30 (BLM)	NESE Sec. 30 (BLM)	UTU-81737
44-30*	SESE Sec. 30 (BLM)	SESE Sec. 30 (BLM)	UTU-81737
4D-31*	NENW Sec. 31 (BLM)	NWNW Sec. 31 (BLM)	UTU-76281
12-31*	SENW Sec. 31 (BLM)	SWNW Sec. 31 (BLM)	UTU-76281
13-31*	SESE Sec. 36 (State)	NWSW Sec. 31 (BLM)	UTU-76281
14-31*	SESE Sec. 36 (State)	SWSW Sec. 31 (BLM)	UTU-76281
21-31	NENW Sec. 31 (BLM)	NENW Sec. 31 (BLM)	UTU-76281
22-31	SENW Sec. 31 (BLM)	SENW Sec. 31 (BLM)	UTU-76281
24-31	SESW Sec. 31 (BLM)	SESW Sec. 31 (BLM)	UTU-76281
31-31*	NENW Sec. 31 (BLM)	NWNE Sec. 31 (BLM)	UTU-81737
32-31*	NWSE Sec. 31 (BLM)	SWNE Sec. 31 (BLM)	UTU-81737
33-31	NWSE Sec. 31 (BLM)	NWSE Sec. 31 (BLM)	UTU-81737
34-31*	NWSE Sec. 31 (BLM)	SWSE Sec. 31 (BLM)	UTU-81737
41-31*	SESE Sec. 30 (BLM)	NENE Sec. 31 (BLM)	UTU-81737
42-31	SWNW Sec. 32 (State)	SENE Sec. 31 (BLM)	UTU-81737
43-31*	NWSE Sec. 31 (BLM)	NESE Sec. 31 (BLM)	UTU-81737
44-31	SWSW Sec. 32 (State)	SESE Sec. 31 (BLM)	UTU-81737
34-32*	NWSE Sec. 32 (State)	SWSE Sec. 32 (State)	ML-47063
41-32*	NENE Sec. 32 (State)	NENE Sec. 32 (State)	ML-47063
42-32	SENE Sec. 32 (State)	SENE Sec. 32 (State)	ML-47063

Proposed Wells: T10S R23E			
Well	**Surface Location**	**Downhole Location**	**Lease # (Downhole)**
44-32*	NESE Sec. 32 (State)	SESE Sec. 32 (State)	ML-47063
11-33*	NESE Sec. 32 (State)	NWNW Sec. 33 (BLM)	UTU-73451
12-33*	SENE Sec. 32 (State)	SWNW Sec. 33 (BLM)	UTU-73451
13-33	NWSW Sec. 33 (BLM)	NWSW Sec. 33 (BLM)	UTU-73451
14-33*	NWSW Sec. 33 (BLM)	SWSW Sec. 33 (BLM)	UTU-73451
21-33*	NENW Sec. 33 (BLM)	NENW Sec. 33 (BLM)	UTU-73451
22-33	SENW Sec. 33 (BLM)	SENW Sec. 33 (BLM)	UTU-73451
23-33*	NWSW Sec. 33 (BLM)	NESW Sec. 33 (BLM)	UTU-73451
24-33*	NWSW Sec. 33 (BLM)	SESW Sec. 33 (BLM)	UTU-73451
31-33*	NENE Sec. 33 (BLM)	NWNE Sec. 33 (BLM)	UTU-73451
32-33*	SENW Sec. 33 (BLM)	SWNE Sec. 33 (BLM)	UTU-73451
33-33*	SESE Sec. 33 (BLM)	NWSE Sec. 33 (BLM)	UTU-73451
34-33*	SESE Sec. 33 (BLM)	SWSE Sec. 33 (BLM)	UTU-73451
41-33	NENE Sec. 33 (BLM)	NENE Sec. 33 (BLM)	UTU-75109
42-33*	NENE Sec. 33 (BLM)	SENE Sec. 33 (BLM)	UTU-73451
33-9	NESE Sec. 33 (BLM)	NESE Sec. 33 (BLM)	UTU-73451
44-33	SESE Sec. 33 (BLM)	SESE Sec. 33 (BLM)	UTU-73451
Proposed Wells: T11S R23E			
Well	Surface Location	Downhole Location	Lease # (Downhole)
24-36*	SWSW Sec. 36 (State)	SESW Sec. 36 (State)	ML-49959
43-36*	SESE Sec. 36 (State)	NESE Sec. 36 (State)	ML-49959

*These wells would be directionally drilled from the well pad location listed in column 2 to the downhole location listed in column 3. See Figure 2 for approximate placement. For emphasis: Yellow = BLM; Blue = State; White = Private.

2.3.2 Well Pads

Construction equipment for well pad construction would consist of dozers, scrapers, and graders. Topsoil from each well pad would be stripped to a depth of six inches and stockpiled for future reclamation on the periphery of each well site. On-site storage areas for the topsoil would be present at each pad location. The topsoil would be seeded with native species of plants and left in place for the life of the well, then re-spread over the location during the final reclamation process. Each well pad would originally be constructed to an area of approximately 350 feet by 250 feet (2.0 acres of land), including topsoil piles. This area would be sufficient for drilling one vertical well per well pad. If additional directional wells are to be drilled from these existing locations, an additional area of 35 feet by 250 feet (0.2 acres) would be disturbed per additional well. In all, approximately 43 acres of land (BLM = 30 acres; State/Private = 13 acres) would be disturbed by the proposed well pad construction under Alternative A.

Closed-loop drilling systems would be used in areas where the potential for reserve pit failure is elevated. These areas include narrow ridges where reserve pits would have to be constructed in fill material, and areas in or near drainages. Decisions on the necessity of closed-loop drilling would be determined on a site-specific basis during the APD process. Upon initial review of proposed well pad locations, it is estimated that one out of every four well pads would contain a reserve pit. All reserve pits would be constructed on the uphill side of the pad (in cut material) and would be fenced "sheep tight" on three sides

prior to drilling activity and closed off on the fourth side after drilling is finished. The reserve pit would be designed to prevent the collection of surface runoff and would be constructed with a minimum of one-half (1/2) of the total depth of the reserve pit in cut. Each reserve pit would be lined with an impervious plastic/vinyl liner with a permeability of less than or equal to 1×10^{-7} cm/sec to prevent drilling fluids from leaking into the surrounding environment. All well pads not possessing a reserve pit would be drilled using a closed-loop system.

2.3.3 Access Roads

Access to proposed well pads in the Rock House Project Area is via 8.4 miles of road claimed by Uintah County. Under Alternative A, Enduring would be required to realign portions of the existing County roads or construct a new road outside the existing County ROWs. Construction of new roads or upgrades to existing roads would require a 30-foot wide ROW. Initial disturbance would be approximately 31 acres (BLM = 29 acres; State/Private = 2 acres). Proposed road realignments of the Saddletree Draw and Atchees Wash roads were designed in cooperation with the BLM and Uintah County during the on-site process. New roads would be designed to provide all-weather access and support expected increases in traffic. Uintah County has applied for a Title V ROW on the new roads (i.e., Saddletree Draw Road #4230 and Atchees Wash Road #4240) along with a branch of County Road 4150 (Archy Bench). All existing roads are currently used for ongoing oil and gas operations, access to private and State lands, recreation, livestock management and other pubic lands uses. New roads constructed by Enduring for the purposes of oil and gas development would remain open to other land users. All new roads would be maintained by the Operator in accordance with the Uintah County. To ensure roads are maintained to County standards, Enduring Resources has secured a maintenance agreement and a $25,000 bond with Uintah County. When the existing roads are no longer needed, and after the County has retained a Title V right-of-way for all new road segments, Enduring would reclaim the unused road segments. No existing County roads would be reclaimed without consent of Uintah County.

The proposed access roads would be utilized year-round for maintenance of the proposed wells and production facilities, and for the transportation of fluids and/or equipment to and from those facilities. All newly constructed access roads would be constructed of native material, and would adhere to the standards outlined in the "Gold Book" *Surface Operating Standards for Oil and Gas Exploration and Development 4th Edition* (BLM and USFS 2006).

After completion of road construction activities, the 30-foot wide ROW would be reclaimed to an 18-foot wide crowned running surface as well as drainage ditches. Culverts or low water crossings would be installed along the access roads as necessary. It is anticipated that no surfacing material would be necessary. Snow removal would be performed as needed. Construction equipment could consist of dozers, scrapers, and graders. The time needed for construction of each well pad access road would be approximately 2 to 3 days. No additional temporary work areas would be needed for equipment, stockpiling, or vehicle parking other than the requested 18-foot wide running surface. As such, the total residual surface disturbance associated with road development in the Project Area would be 18 acres (BLM = 17 acres; State/Private = 1 acres).

2.3.4 Drilling Procedures

Drilling operations would be conducted in compliance with all applicable Federal Oil and Gas Onshore Orders, Utah Division of Oil, Gas, and Mining (UDOGM) rules and regulations, and local rules and regulations. Following construction of the access road and well pad, a mobile drilling rig would be transported to the well site (along with other necessary equipment) and would be erected on the well pad. Drilling would commence with the spudding of a well. Drilling operations would generally include: adding new joints of pipe at the surface as the hole deepens; circulating drilling fluids to cool the drill bit

and remove the cuttings; removing the drill string from the hole to replace worn drill bits; and setting production casing and cementing it in place.

Drilling fluids would consist of a water/gel mixture, with water being the main constituent. In order to achieve borehole stability and minimize possible damage to the gas producing formations, a potassium chloride substitute and commercial clay stabilizer may be added to the drilling fluid. Drilling fluid would be circulated by means of pump pressure from the reserve pit down the drill pipe, out jets in the bit, up the annulus (i.e., the space between the well bore and the drill pipe), and returned to the reserve pit along with drill cuttings from the well bore. No hazardous substances would be placed in this pit.

During drilling operations, a blow out preventer (a manifold mounted below the rig floor consisting of manual and hydraulic rams) would be installed to be able to seal the well bore in the event that down-hole pressure exceeds the drilling mud's hydrostatic pressure, allowing reservoir fluids to enter the well bore.

Prior to setting casing, open-hole well logs may be run to record the well's production potential. If the evaluation of the well logs concludes that sufficient gas is present and recoverable, then steel production casing would be run and cemented in place in accordance with the well design, as specified in the APD and Conditions of Approval (COAs). Evaluation logs may be run subsequent to setting and cementing production casing. All casing would be new or certified as acceptable. Surface casing would be installed to protect near-surface aquifers. Intermediate and/or production casing would subsequently be run to attain total depth.

2.3.5 Surface Facilities

On average, wells in the Rock House Project Area produce approximately 14 barrels of water per day. For the proposed wells, this produced water would be stored in steal storage tanks at each well pad. In accordance with appropriate regulations, berms would be constructed around any production facilities that would contain fluids. The berms would be constructed of compacted subsoil. They would be impervious, hold 110% of the capacity of the largest tank, and be independent of the back cut. These tanks would be periodically drained when needed, and produced water would be disposed in Section 36 T11S, R22E, at Enduring's water disposal site.

All permanent (onsite for six months or longer) above-ground structures would be painted to blend with the color of the surrounding landscape. The required color would be Olive Black, unless otherwise specified by the Authorized Officer. This would include all facilities except those required to comply with Occupational Safety and Health Act (OSHA) regulations. Structures could include, but are not limited to: the well head, separator, dehydrator, meter house, produced water tank, and condensate tank.

2.3.6 Pipelines

If the proposed wells go into production, approximately 8.9 miles of steel surface gas pipelines would be needed to transport dry gas from the proposed wells to existing and proposed gathering lines. The main collection pipelines (ROWs heading south) would be constructed of six-inch outer diameter (OD) pipe. The individual spur pipelines that would connect each well to the main pipeline would be constructed of 4-inch OD pipe.

Each pipeline would be welded at its associated well pad and would then be pulled down the well's proposed access road using a dozer or backhoe. Each pipeline would then be boomed adjacent to the access road. All equipment used to install the pipe would use the access roads as a working surface. The pipelines would be installed to avoid interference with normal travel and maintenance of the roadway. A temporary corridor width of 30 feet would be needed for the installation of each pipeline, while a

permanent corridor width of 15 feet would be required for maintenance over the production life of each associated well. The pipeline construction corridor would occupy approximately 32 acres (BLM = 30 acres; State/Private = 2 acres); the permanent corridor would occupy 15 acres (BLM = 13 acres; State/Private = 2 acres).

Each pipeline would require up to one week to install, and once in place, all pipelines would be pressure-tested using water (hydrostatic testing). Water for testing would be obtained from the White River pump system described in Section 2.3.10. After hydrostatic testing and prior to discharge, the water would be tested and processed, if necessary, to ensure that it meets applicable water quality standards. Water that meets applicable water quality standards would be discharged at Enduring's water disposal facility in Section 36, T11S, R22E. Water that does not meet applicable water quality standards would be trucked to an approved water disposal facility.

2.3.7 Disturbance Summary

Table 2-2 summarizes initial surface disturbance estimates for the Proposed Action. Initial disturbance would occur at the time of construction and would last until interim reclamation efforts (see Section 2.3.12) result in reestablishment of vegetation on temporarily disturbed areas (1-3 years). Residual disturbance associated with a single producing well would last the approximately 25-year life of the well, plus an additional three to seven years until final reclamation efforts result in revegetation of disturbed areas.

Table 2-2. Summary of Initial and Residual Surface Disturbance (Acres) for the Proposed Action

Construction Activity	BLM		State/Private		Total	
	Initial	Residual	Initial	Residual	Initial	Residual
Proposed Roads	29	17	2	1	31	18
Proposed Pipelines	30	13	2	2	32	15
Well Pads	30	30	13	13	43	43
Total	**89**	**60**	**17**	**16**	**106**	**76**

2.3.8 Wastes and Hazardous Materials

All solid waste or trash would be transported for disposal to an approved solid waste disposal facility. No chemicals subject to reporting under SARA Title III (hazardous material) in an amount greater than 10,000 pounds would be used, produced, stored, transported, or disposed of annually in association with the drilling of these wells. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of in association with the drilling of these wells.

2.3.9 Invasive or Noxious Weed Species

Enduring would control noxious/invasive weeds along ROWs for roads, pipelines, well sites, or other applicable facilities through the application of herbicides or by mechanical removal. A list of noxious weeds would be obtained from the BLM or the appropriate County Extension Office. A Pesticide Use Proposal (PUP) was submitted by Enduring to the BLM Vernal Field Office in 2006. This proposal has not yet been reviewed or approved by the BLM. Assuming the BLM approves the proposal, the same methods defined in the proposal would be utilized for the Rock House Project Area.

2.3.10 Water Supply

Up to 0.75 acre-foot of water would be required for the drilling of each well. Under the Proposed Action, approximately 45 acre-feet of water would be needed to drill 60 proposed wells [Approved Application #49-2249 (T76934)]. In addition, Enduring estimates utilizing about 0.1 acre-feet per well, or an estimated total of about 6.0 acre-feet, for dust abatement. As such, total depletion associated with the Proposed Action would be approximately 51 acre-feet. The usual method of supplying water for drilling is to collect the water into tank trucks at the permitted location, and then to haul the water over existing roads to the well currently being drilled. Under this scenario, tank trucks would travel a cumulative 68,100 miles on existing and proposed roads in the Project Area during the drilling of the 60 proposed wells.

Instead of trucking all drilling water for the proposed project, Enduring has proposed a pump and truck system as described below, which would reduce the cumulative miles traveled by tank trucks to 6,900 miles. As trucks obtaining water for the proposed project would not have to travel to the water source (i.e., White River), truck traffic under this scenario would only consist of transportation of water from the three proposed water storage facilities (SENW of Section 31, NWSW of Section 33, and NESE of Section 33) to the proposed drilling sites. Utilization of the pump and truck system would reduce fugitive dust and resultant impacts to air quality and water quality, reduce the spread of noxious weeds, reduce impacts to riparian and floodplain habitats, reduce impacts to recreationists and wildlife currently utilizing the area, and increase safety on the roads.

To collect water for drilling, completion, and dust abatement, two submersible pump systems would be installed along the White River. One of the pumps would be installed at the Saddletree Draw location (NWSW Sec. 20) and one at the Atchees Wash location (SWSE Sec. 21). Each pump would be contained in a 16-inch diameter sump drilled by a truck or tractor mounted auger to a depth of 21 feet. The pumps would be powered by a trailer-mounted Baldor Mobile Power Generator, which would be placed within a lined berm outside of the White River 100-year floodplain, about 50 feet away from the Saddletree Draw pump. To provide electrical power from the Saddletree Draw generator to the two proposed water pumps, a connection line consisting of a 0.5-inch diameter Rita cable (similar to a industrial electrical cord) would be installed by hand on the ground surface between the two pumps. To collect water from the river, a 4-inch hose would run a distance of about 50 feet from each pump to collection points in the river. The hose would be placed in the active channel of the river (e.g. not in a backwater or behind a rock) parallel to the river flow. A screen (maximum of ¼-inch) would be in place on the end of the hose to prevent the intake of debris and small fish. From the pump in Saddletree Draw, a temporary plastic pipe would be installed along the drainage in Sections 19, 30, and 31 to a collection station in the SENW of Section 31 (Figure 2). From the pump in Atchees Wash, two temporary plastic pipes would be placed in the drainage from the pump to the middle of Section 28. One pipe would continue up the drainage to the west to a water storage tank in the NWSW of Section 33. The second pipe would continue to follow Atchees Wash to a water storage tank in the NESE of Section 33 (Figure 2). The temporary plastic pipe would be pulled into place by an off highway vehicle (OHV) where possible, or by hand in areas currently closed to OHV traffic. All water storage tanks would be located on proposed well pads.

The trailer-mounted generator would not be located in the 100-year floodplain of the White River and would be placed inside of a lined earthen berm to prevent contamination of adjacent waterways in the case of an accidental spill of diesel fuel. The generator site would be visited an average of three times per week by a standard pickup truck for routine maintenance.

In order to screen the generator from view along the White River, the generator would be placed within a low profile, camouflaged, portable steel building. The camouflaged building would be hidden by the

proposed earthern berms and vegetative screen would also be used to the extent possible. To help blend the proposed water pipe with the existing landscape, these structures would be painted Carlsbad Canyon.

The standard sound level for the generator is 67 dBA at 21 feet. As such, the sound level of the generator at the river (~100 feet away) can be estimated to be approximately 53.5 dBA (Harris 1991). As the generator would be placed inside of an insulated steel building, and as the muffler would be directed away from the river, the estimated sound level at the river would most likely be much less than 53.5 dBA. On May 3rd, 2006 the average sound level of the White River at the mouth of Saddletree Draw was 55.9 dBA (B&A 2006). Based upon this information, it can be assumed that although the generator may be heard from the river, it would be muffled by the natural sound of the river, and would not be the dominant sound feature.

When the water pump system (i.e., generator, pumps, connection line, water pipeline, etc.) is no longer needed, it would be removed, and the sump and bermed area for the generator would be reclaimed.

2.3.11 Waste Disposal

Where closed-loop drilling is used, drill cuttings and drilling fluids would be stored on site in metal tanks until hauled from the site for proper disposal. Where closed-loop drilling is not used, drilled cuttings and drilling fluids would be disposed of in the reserve pit. The reserve pit would be designed to prevent the collection of surface runoff and would be constructed with a minimum of one-half (1/2) of the total depth of the reserve pit in cut.

Liquid hydrocarbons produced during completion operations would be placed in test tanks on the location. Produced water would be placed in the reserve pit for a period not to exceed ninety days after initial production. An application for approval of a permanent disposal method and location, along with the required water analysis would be submitted to the Authorized Officer for review and approval during this ninety day period in accordance with Onshore Oil and Gas Order #7.

Portable, self-contained chemical toilets would be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks would be pumped and the contents thereof disposed of in a sewage disposal facility approved by the State of Utah.

Garbage and other waste material would be contained in a self-contained, portable dumpster or trash cage. Upon completion of operations, or as needed, the accumulated trash would be hauled off-site to an approved sanitary landfill. No trash would be placed in the reserve pit.

Immediately after removal of the drilling rig, all debris and other waste materials not contained in the trash cage would be removed from the well location. No potentially adverse materials or substances would be left on the location.

2.3.12 Reclamation

To assure surface reclamation would occur, Enduring has secured a reclamation bond with the BLM. Bonding is required for oil and gas lease operations in order to indemnify the U.S. government against losses from failure to meet royalty obligations, wells plugged improperly and abandoned on lease, and/or surface restoration and clean up on abandoned operations (BLM and USFS 2006).

Construction Phase - Prior to the construction of proposed well pads and access roads, the top twelve inches of soil material (if present) would be stripped and stockpiled for future reclamation efforts. Placement of the topsoil would be noted on the location plat attached to the site-specific APD. Topsoil

would be stockpiled separately from subsoil materials. Topsoil salvaged from the reserve pit, if present, would be stockpiled separately near the reserve pit.

Production Phase - Upon well completion, the well locations and surrounding area(s) would be cleared of all unused tubing, materials, trash, and debris not required for production. The portion of the well pads not required for production, the reserve pits (if present), areas around pipeline, and portions of the road ROWs not used as running surfaces or for road drainage (i.e., borrow ditches) would then be backfilled, leveled, and recontoured to mimic the adjacent terrain.

The reserve pits would be backfilled and reclaimed within 90 days from the date of well completion, weather permitting. Once reclamation activities have begun, the activities would be completed within 30 days. Prior to backfilling the reserve pits, the fence surrounding the pits and all debris in the pits would be removed. Before any dirt work associated with reserve pit restoration takes place, the reserve pits would be as dry as possible. The pit liners would be folded into the pit prior to backfilling. After backfilling, salvaged topsoil (if any) would be placed on top of the backfill material. After the reserve pits have been reclaimed, no depressions in the soil covering the reserve pit would be allowed. The object is to keep seasonal rainfall and runoff from standing or pooling over the reserve pit and seeping into the soil. Diversion ditches and water bars would be used to divert surface runoff, if needed.

After completion activities, Enduring would reduce the size of the well pad to the minimum surface area needed for production facilities and adequate room for trucks to turn around, while providing for reshaping and stabilization of cut and fill slopes. The cut and fill slopes would be reshaped to mimic the adjacent natural terrain.

Upon completion of backfilling, leveling and recontouring, the stockpiled topsoil would be evenly spread over the portion of the well pads not required for production, the reserve pits, and access road cuts and shoulders. These temporarily disturbed areas would then be reseeded with the BLM Vernal Field Office required seed mixture. The reclamation bond secured with the BLM ensures that seeding would continue (most likely 1-3 years) until reestablishment of vegetation on all temporarily disturbed areas.

Final Reclamation

If the well is to be plugged and abandoned, a subsequent report of abandonment would be submitted to the appropriate Surface Managing Agency (SMA) to obtain the appropriate surface rehabilitation conditions of approval.

In general, when the wells are plugged and abandoned, the abandoned well sites, roads and other disturbed areas would be ripped and re-contoured to their original condition as soon as practical after final abandonment. Where appropriate, these conditions include the re-establishment of appropriate soil conditions, and re-establishment of vegetation as specified. Reseeding operations would be performed after completion of other reclamation operations.

2.4 ALTERNATIVE B – RESOURCE PROTECTION ALTERNATIVE

2.4.1 Summary

The primary elements (i.e., construction, operational, decommissioning and reclamation phases) composing this Alternative are similar to those discussed under Alternative A - Proposed Action. However, as leasing decisions under this Alternative would be different than those discussed under Alternative A, implementation of the proposed development scenarios and subsequent drilling strategies

would be slightly different. This alternative is the most environmentally protective alternative that is consistent with existing property and other legal rights.

Under Alternative B, lease UTU-81737 would be cancelled, and Enduring would not be able to develop minerals beneath this lease. Other Federal mineral leases in the Rock House Project Area would maintain pre-existing rights. Surface disturbance of a portion of the lands in UTU-81737 would be necessary to allow reasonable access to State and private leases, since those State and private lands cannot be reached without crossing BLM-administered lands. This alternative also analyzes possible ROWs across lease UTU-81737 to access pre-existing Federal leases in the Project Area. Federal minerals beneath pre-existing Federal leases would be developed by vertically or directionally drilling from proposed or existing well pads on Federal, State or private lands on the surface of pre-existing leases, or by directionally drilling from the surface of lease UTU-81737. In addition, minerals beneath pre-existing State or private leases would be developed by vertically or directionally drilling from existing or proposed well pads located on State or private lands.

2.4.2 Well Pads

As mentioned previously, there are 25 existing wells (1 Federal; 24 State) and 19 existing well pads (1 Federal; 18 State) in the Project Area. Under Alternative B, Enduring would be authorized to drill an additional 43 gas wells from a total of 20 well pads (5 existing; 15 proposed). Of the total number of proposed wells, nine wells would be drilled from five existing well pads, 21 wells would be drilled from eleven proposed well pads on BLM administered land; and 13 wells would be drilled from four proposed well pads on State and private lands. Each proposed well pad would originally be constructed to an area of approximately 350 feet by 250 feet (2.0 acres of land), including the spoils and topsoil piles. This area would be sufficient for drilling one well per well pad. If additional directional wells are to be drilled from these locations, an additional area of 35 feet by 250 feet (0.2 acres) would be disturbed per well added. In all, approximately 36 acres of land (BLM = 24 acres; State/Private = 12 acres) would be disturbed by proposed well pad construction under Alternative B.

Under Alternative A (Proposed Action), four well pads were proposed and would be utilized for development of minerals on lease UTU-81737 (SESE, NESW, SESW of Section 30; NWSE of Section 31). As mineral lease UTU-81737 would be cancelled under Alternative B, construction of these well pads for the purposes of vertically drilling would not be allowed. However, two well pads would be constructed on the surface of lease UTU-81737 under Title V of FLPMA to access the minerals beneath other pre-existing leases through directional drilling. As such, under Alternative B approximately four acres of land on the surface of UTU-81737 would be disturbed as a result of well pad construction.

Figure 3 displays the vertical and directional drilling network that would be utilized with implementation of Alternative B. Table 2-3 below also describes the surface and downhole locations of each well under Alternative B.

Table 2-3. Proposed Surface and Downhole Well Locations under Alternative B

Proposed Wells: T10S R23E			
Well	**Surface Location**	**Downhole Location**	**Lease # (Downhole)**
14-28*	NENE Sec. 33 (State)	SWSW Sec. 28 (Private)	Enduring American Gilsonite OGL
12-29*	SENE Sec. 30 (Private)	SWNW Sec. 29 (BLM)	UTU-75109
13-29*	SENE Sec. 30 (Private)	NWSW Sec. 29 (BLM)	UTU-75109
14-29*	NENW Sec. 32 (State)	SWSW Sec. 29 (BLM)	UTU-75109
24-29*	NENW Sec. 32 (State)	SESW Sec. 29 (BLM)	UTU-75109

Proposed Wells: T10S R23E			
Well	**Surface Location**	**Downhole Location**	**Lease # (Downhole)**
34-29*	NENW Sec. 32 (State)	SWSE Sec. 29 (BLM)	UTU-75109
44-29*	NWNW Sec. 32 (State)	SESE Sec. 29 (BLM)	UTU-75109
42-30*	SENE Sec. 30 (Private)	SENE Sec. 30 (Private)	Enduring American Gilsonite OGL
21-30	NENW Sec. 30 (Private)	NENW Sec. 30 (Private)	Enduring American Gilsonite OGL
31-30*	NENW Sec. 30 (Private)	NWNE Sec. 30 (Private)	Enduring American Gilsonite OGL
11-30	NENW Sec. 30 (Private)	NWNW Sec. 30 (BLM)	UTU-76281
12-30	NENW Sec. 30 (Private)	SWNW Sec. 30 (BLM)	UTU-76281
13-30	NESW Sec. 30 (BLM)	NWSW Sec. 30 (BLM)	UTU-76281
14-30	SESW Sec. 30 (BLM)	SWSW Sec. 30 (BLM)	UTU-76281
4D-31*	NENW Sec. 31 (BLM)	NWNW Sec. 31 (BLM)	UTU-76281
12-31*	SENW Sec. 31 (BLM)	SWNW Sec. 31 (BLM)	UTU-76281
13-31*	SESE Sec. 36 (State)	NWSW Sec. 31 (BLM)	UTU-76281
14-31*	SESE Sec. 36 (State)	SWSW Sec. 31 (BLM)	UTU-76281
21-31	NENW Sec. 31 (BLM)	NENW Sec. 31 (BLM)	UTU-76281
22-31	SENW Sec. 31 (BLM)	SENW Sec. 31 (BLM)	UTU-76281
24-31	SESW Sec. 31 (BLM)	SESW Sec. 31 (BLM)	UTU-76281
34-32*	NWSE Sec. 32 (State)	SWSE Sec. 32 (State)	ML-47063
41-32*	NENE Sec. 32 (State)	NENE Sec. 32 (State)	ML-47063
42-32	SENE Sec. 32 (State)	SENE Sec. 32 (State)	ML-47063
44-32*	SWSW Sec. 33 (BLM)	SESE Sec. 32 (State)	ML-47063
11-33*	NESE Sec. 32 (State)	NWNW Sec. 33 (BLM)	UTU-73451
12-33*	SENE Sec. 32 (State)	SWNW Sec. 33 (BLM)	UTU-73451
13-33	NWSW Sec. 33 (BLM)	NWSW Sec. 33 (BLM)	UTU-73451
14-33*	NWSW Sec. 33 (BLM)	SWSW Sec. 33 (BLM)	UTU-73451
21-33*	NENW Sec. 33 (BLM)	NENW Sec. 33 (BLM)	UTU-73451
22-33	SENW Sec. 33 (BLM)	SENW Sec. 33 (BLM)	UTU-73451
23-33*	NWSW Sec. 33 (BLM)	NESW Sec. 33 (BLM)	UTU-73451
24-33*	NWSW Sec. 33 (BLM)	SESW Sec. 33 (BLM)	UTU-73451
31-33*	NENE Sec. 33 (BLM)	NWNE Sec. 33 (BLM)	UTU-73451
32-33*	SENW Sec. 33 (BLM)	SWNE Sec. 33 (BLM)	UTU-73451
33-33*	SESE Sec. 33 (BLM)	NWSE Sec. 33 (BLM)	UTU-73451
34-33*	SESE Sec. 33 (BLM)	SWSE Sec. 33 (BLM)	UTU-73451
41-33	NENE Sec. 33 (BLM)	NENE Sec. 33 (BLM)	UTU-75109
42-33*	NENE Sec. 33 (BLM)	SENE Sec. 33 (BLM)	UTU-73451
33-9	NESE Sec. 33 (BLM)	NESE Sec. 33 (BLM)	UTU-73451
44-33	SESE Sec. 33 (BLM)	SESE Sec. 33 (BLM)	UTU-73451
Proposed Wells: T11S R23E			
Well	**Surface Location**	**Downhole Location**	**Lease # (Downhole)**
24-36*	SWSW Sec. 36 (State)	SESW Sec. 36 (State)	ML-49959
43-36*	SESE Sec. 36 (State)	NESE Sec. 36 (State)	ML-49959

*These wells would be directionally drilled from the well pad location listed in column 2 to the downhole location listed in column 3. See Figure 3 for approximate placement.

2.4.3 Access Roads

Under Alternative B, Enduring would be required to realign portions of the existing County roads or construct a new road outside the existing County ROWs. Construction of new roads or upgrades to existing roads would require a 30-foot wide ROW. Initial disturbance would be approximately 29 acres (BLM = 26 acres; State/private = 2 acres) of land. After completion of road construction activities, the 30-foot wide ROW would be reclaimed to an 18-foot wide running surface that would contain a crowned running surface as well as drainage ditches. As such, the total residual surface disturbance associated with road development under Alternative B would be approximately 17 acres (BLM = 16 acres; State/private = 1 acres). Proposed road realignments of the Saddletree Draw and Atchees Wash roads were designed in cooperation with the BLM and Uintah County during the on-site process. New roads would be designed to provide all-weather access and support expected increases in traffic. Uintah County has applied for a Title V ROW on the new roads (i.e., Saddletree Draw Road #4230 and Atchees Wash Road #4240) along with a branch of County Road 4150 (Archy Bench). All existing roads are currently used for ongoing oil and gas operations, access to private and State lands, recreation, livestock management and other pubic lands uses. New roads constructed by Enduring for the purposes of oil and gas development would remain open to other land users. All new roads would be maintained by the Operators in accordance with the Uintah County maintenance agreement. When the existing roads are no longer needed, and after the County has retained a Title V right-of-way for all new road segments, Enduring would reclaim the unused road segments. No existing County roads would be reclaimed without consent of Uintah County.

Under Alternative B, 2.0 miles of the total 7.8 miles of proposed access roads would be constructed on the surface of mineral lease UTU-81737 in order to allow reasonable access to State and private lands.

2.4.4 Pipelines

If the proposed wells under Alternative B were to go into production, approximately 8.3 miles of steel surface gas pipelines would be needed to transport dry gas from the proposed wells to existing and proposed gathering lines. A temporary corridor width of 30 feet would be needed for the installation of each pipeline, while a permanent corridor width of 15 feet would be required for maintenance over the production life of each associated well. The pipeline construction corridor would occupy approximately 27 acres (BLM = 25 acres; State/private = 2 acres); following interim reclamation, the permanent corridor would occupy 15 acres (BLM = 14 acres; State/private = 1 acres).

Under Alternative B, 2.3 miles of the 8.3 miles of proposed pipeline would be constructed on the surface of lease UTU-81737 under Title V of FLPMA for transportation of minerals from developed pre-existing Federal, State, and private leases.

2.4.5 Disturbance Summary

Table 2-4 summarizes initial and residual surface disturbance estimates for Alternative B. Initial disturbance would occur at the time of construction and would last until interim reclamation efforts (see Section 2.3.12) result in reestablishment of vegetation on temporarily disturbed areas (1-3 years). Residual disturbance associated with a single producing well would last the approximately 25-year life of the well, plus an additional three to seven years until final reclamation efforts result in revegetation of disturbed areas.

Table 2-4. Summary of Initial and Residual Surface Disturbance (Acres) for Alternative B

Construction Activity	BLM		State/Private		Total	
	Initial	Residual	Initial	Residual	Initial	Residual
Proposed Roads	27	16	2	1	29	17
Proposed Pipelines	25	14	2	1	27	15
Well Pads	24	24	12	12	36	36
Total	**76**	**54**	**16**	**14**	**92**	**68**

2.4.6 Water Supply

Up to 0.75 acre-foot of water would be required for the drilling of each well. Under Alternative B, approximately 32.3 acre-feet of water would be needed to drill 43 proposed wells (Section 2.3.10). In addition, Enduring estimates utilizing about 0.1 acre-feet per well, or an estimated total of about 4.3 acre-feet, for dust abatement. As such, total depletion associated with Alternative B would be approximately 36.6 acre-feet. The usual method of supplying water for drilling is to collect the water into tank trucks at the permitted location, and then to haul the water over existing roads to the well currently being drilled. Under this scenario, tank trucks would travel a cumulative 45,400 miles on existing and proposed roads in the Project Area during the drilling of the 43 proposed wells.

Under Alternative B, Enduring would obtain water for drilling, completion, and dust abatement in the same manner as the Proposed Action. Instead of trucking all drilling water for the proposed project, Enduring would implement a pump and truck system as described in Section 2.3.10, which would reduce the cumulative miles traveled by tank trucks to 4,600 miles. Again, truck traffic under this scenario would only consist of transportation of water from the three proposed water storage facilities (SENW of Section 31, NWSW of Section 33, and NESE of Section 33) to the proposed drilling sites. Utilization of the pump and truck system would reduce fugitive dust and resultant impacts to air quality and water quality, reduce the spread of noxious weeds, reduce impacts to riparian and floodplain habitats, reduce impacts to recreationists and wildlife currently utilizing the area, and increase safety on the roads.

2.5 ALTERNATIVE C – LEASING AND DEVELOPMENT WITH RESTRICTED SURFACE USE

2.5.1 Summary

The primary elements (i.e., construction, operational, decommissioning and reclamation phases) composing this Alternative are similar to those discussed under Alternative A - Proposed Action. However, as leasing decisions under this Alternative would be different than those discussed under Alternative A, implementation of the development scenarios and subsequent drilling strategies would be slightly different.

Under Alternative C, mineral lease UTU-81737 would be leased with additional stipulations. Modifications would include restricted[1] surface use for the lease area. Surface disturbance would include roads and pipelines on the surface of mineral lease UTU-81737. The roads and pipelines would be permitted under Title V of FLPMA. Minerals beneath lease UTU-81737 would only be developed by

[1] Restricted surface use would not preclude surface use. Restricted surface use would require a hard look as to whether the proposed use is necessary and whether another use would meet the same end as the proposed use.

directionally drilling from proposed or existing well pads from State or private lands or from Federal lands for which the right to develop is in place, Federal minerals beneath pre-existing leases (including State and private leases) would be developed by vertically or directionally drilling from proposed or existing well pads on Federal, State or private lands.

2.5.2 Well Pads

As mentioned previously, there are currently 25 existing wells (1 Federal; 24 State) and 19 existing well pads (1 Federal; 18 State) in the Project Area. Under Alternative C, Enduring would be authorized to drill an additional 56 gas wells from a total of 20 well pads (7 existing; 13 proposed). Of the total number of proposed wells, 13 would be drilled from the seven existing well pads, 25 wells would be drilled from nine proposed well pads on BLM land; and 18 wells would be drilled from four proposed well pads on State and private lands. Each proposed well pad would originally be constructed to an area of approximately 350 feet by 250 feet (2.0 acres of land), including the spoils and topsoil piles. This area would be sufficient for drilling one well per well pad. If additional directional wells are to be drilled from these locations, an additional area of 35 feet by 250 feet (0.2 acres) would be disturbed per well added. In all, approximately 35 acres of land (BLM = 22 acres; State/Private = 13 acres) would be disturbed by proposed well pad construction under Alternative C.

For the development of minerals on lease UTU-81737 under Alternative A (Proposed Action), four well pads were proposed (SESE, NESW, SESW of Section 30; NWSE of Section 31). As Alternative C would restrict surface use of lease UTU-91737, no well pad construction would occur on this lease under this Alternative.

Figure 4 displays the vertical and directional drilling network that would be utilized with implementation of Alternative C. Table 2-5 below also describes the surface and downhole locations of each well under Alternative C.

Table 2-5. Proposed Surface and Downhole Well Locations under Alternative C

Proposed Wells: T10S R23E			
Well	**Surface Location**	**Downhole Location**	**Lease # (Downhole)**
14-28*	NENE Sec. 33 (State)	SWSW Sec. 28 (Private)	Enduring American Gilsonite OGL
12-29*	SENE Sec. 30 (Private)	SWNW Sec. 29 (BLM)	UTU-75109
13-29*	SENE Sec. 30 (Private)	NWSW Sec. 29 (BLM)	UTU-75109
14-29*	NENW Sec. 32 (State)	SWSW Sec. 29 (BLM)	UTU-75109
24-29*	NENW Sec. 32 (State)	SESW Sec. 29 (BLM)	UTU-75109
34-29*	NENW Sec. 32 (State)	SWSE Sec. 29 (BLM)	UTU-75109
44-29*	NWNW Sec. 32 (State)	SESE Sec. 29 (BLM)	UTU-75109
11-30*	NENW Sec. 30 (Private)	NWNW Sec. 30 (BLM)	UTU-76281
12-30*	NENW Sec. 30 (Private)	SWNW Sec. 30 (BLM)	UTU-76281
14-30*	NENW Sec. 31 (BLM)	SWSW Sec. 30 (BLM)	UTU-76281
21-30	NENW Sec. 30 (Private)	NENW Sec. 30 (Private)	Enduring American Gilsonite OGL
22-30*	NENW Sec. 30 (Private)	SENW Sec. 30 (BLM)	UTU-81737
24-30*	NENW Sec. 31 (BLM)	SESW Sec. 30 (BLM)	UTU-81737
31-30*	NENW Sec. 30 (Private)	NWNE Sec. 30 (Private)	Enduring American Gilsonite OGL
32-30*	NENW Sec. 30 (Private)	SWNE Sec. 30 (BLM)	UTU-81737
33-30*	SENW Sec. 30 (Private)	NWSE Sec. 30 (BLM)	UTU-81737
41-30*	SENE Sec. 30 (Private)	NENE Sec. 30 (BLM)	UTU-81737

Proposed Wells: T10S R23E			
Well	**Surface Location**	**Downhole Location**	**Lease # (Downhole)**
42-30*	SENE Sec. 30 (Private)	SENE Sec. 30 (Private)	Enduring American Gilsonite OGL
43-30*	SENE Sec. 30 (BLM)	NESE Sec. 30 (BLM)	UTU-81737
4D-31*	SENW Sec. 31 (BLM)	NWNW Sec. 31 (BLM)	UTU-76281
12-31*	SENW Sec. 31 (BLM)	SWNW Sec. 31 (BLM)	UTU-76281
13-31*	SESE Sec. 36 (State)	NWSW Sec. 31 (BLM)	UTU-76281
14-31*	SESE Sec. 36 (State)	SWSW Sec. 31 (BLM)	UTU-76281
21-31	NENW Sec. 31 (BLM)	NENW Sec. 31 (BLM)	UTU-76281
22-31	SENW Sec. 31 (BLM)	SENW Sec. 31 (BLM)	UTU-76281
24-31	SESW Sec. 31 (BLM)	SESW Sec. 31 (BLM)	UTU-76281
31-31*	NENW Sec. 31 (BLM)	NWNE Sec. 31 (BLM)	UTU-81737
32-31*	SENW Sec. 31 (BLM)	SWNE Sec. 31 (BLM)	UTU-81737
33-31*	SESW Sec. 31 (BLM)	NWSE Sec. 31 (BLM)	UTU-81737
34-31*	SESW Sec. 31 (BLM)	SWSE Sec. 31 (BLM)	UTU-81737
41-31*	SWNW Sec. 32 (State)	NENE Sec. 31 (BLM)	UTU-81737
42-31	SWNW Sec. 32 (State)	SENE Sec. 31 (BLM)	UTU-81737
43-31*	SWSW Sec. 32 (State)	NESE Sec. 31 (BLM)	UTU-81737
44-31	SWSW Sec. 32 (State)	SESE Sec. 31 (BLM)	UTU-81737
34-32*	NWSE Sec. 32 (State)	SWSE Sec. 32 (State)	ML-47063
41-32*	NENE Sec. 32 (State)	NENE Sec. 32 (State)	ML-47063
42-32	SENE Sec. 32 (State)	SENE Sec. 32 (State)	ML-47063
44-32*	SWSW Sec. 33 (BLM)	SESE Sec. 32 (State)	ML-47063
11-33*	NESE Sec. 32 (State)	NWNW Sec. 33 (BLM)	UTU-73451
12-33*	SENE Sec. 32 (State)	SWNW Sec. 33 (BLM)	UTU-73451
13-33	NWSW Sec. 33 (BLM)	NWSW Sec. 33 (BLM)	UTU-73451
14-33*	NWSW Sec. 33 (BLM)	SWSW Sec. 33 (BLM)	UTU-73451
21-33*	NENW Sec. 33 (BLM)	NENW Sec. 33 (BLM)	UTU-73451
22-33	SENW Sec. 33 (BLM)	SENW Sec. 33 (BLM)	UTU-73451
23-33*	NWSW Sec. 33 (BLM)	NESW Sec. 33 (BLM)	UTU-73451
24-33*	NWSW Sec. 33 (BLM)	SESW Sec. 33 (BLM)	UTU-73451
31-33*	NENE Sec. 33 (BLM)	NWNE Sec. 33 (BLM)	UTU-73451
32-33*	SENW Sec. 33 (BLM)	SWNE Sec. 33 (BLM)	UTU-73451
33-33*	SESE Sec. 33 (BLM)	NWSE Sec. 33 (BLM)	UTU-73451
34-33*	SESE Sec. 33 (BLM)	SWSE Sec. 33 (BLM)	UTU-73451
41-33	NENE Sec. 33 (BLM)	NENE Sec. 33 (BLM)	UTU-75109
42-33*	NENE Sec. 33 (BLM)	SENE Sec. 33 (BLM)	UTU-73451
33-9	NESE Sec. 33 (BLM)	NESE Sec. 33 (BLM)	UTU-73451
44-33	SESE Sec. 33 (BLM)	SESE Sec. 33 (BLM)	UTU-73451
Proposed Wells: T11S R23E			
Well	**Surface Location**	**Downhole Location**	**Lease # (Downhole)**
24-36*	SWSW Sec. 36 (State)	SESW Sec. 36 (State)	ML-49959
43-36*	SESE Sec. 36 (State)	NESE Sec. 36 (State)	ML-49959

*These wells would be directionally drilled from the well pad location listed in column 2 to the downhole location listed in column 3. See Figure 4 for approximate placement.

2.5.3 Access Roads

Road development under Alternative C would be designed to minimize disturbance on the surface of lease UTU-81737. Therefore, necessary access roads would be re-routed. It should be noted that with this new road alignment, general traffic, human activity, and the overall amount of roads near and in sight of the White River would be increased as a result of this Alternative.

Under Alternative C, Enduring would be required to realign portions of the existing County roads or construct a new road outside the existing County ROWs. Road construction under Alternative C would require a 30-foot wide ROW, which would initially disturb approximately 37 acres (BLM = 30 acres; State/private = 7 acres) of land. After completion of road construction activities, the 30-foot wide ROW would be reclaimed to an 18-foot wide running surface that would contain a crowned running surface as well as drainage ditches. As such, the total residual surface disturbance associated with road development under Alternative C would be approximately 22 acres (BLM = 18 acres; State/private = 4 acres). Proposed road realignments of the Saddletree Draw and Atchees Wash roads were designed in cooperation with the BLM and Uintah County during the on-site process. New roads would be designed to provide all-weather access and support expected increases in traffic. Uintah County has applied for a Title V ROW on the new roads (i.e., Saddletree Draw Road #4230 and Atchees Wash Road #4240) along with a branch of County Road 4150 (Archy Bench). All existing roads are currently used for ongoing oil and gas operations, access to private and State lands, recreation, livestock management and other pubic lands uses. New roads constructed by Enduring for the purposes of oil and gas development would remain open to other land users. All new roads would be maintained by the Operators in accordance with the Uintah County maintenance agreement. When the existing roads are no longer needed, and after the County has retained a Title V right-of-way for all new road segments, Enduring would reclaim the unused road segments. No existing County roads would be reclaimed without consent of Uintah County.

Of the proposed roads under Alternative C, most would be re-routed to avoid disturbance on the surface of lease UTU-81737, however where no other reasonable alternative existed (i.e., NENE Section 30; SESE Section 31) proposed access roads would be constructed on the lease under Title V of FLPMA. Approximately 0.6 miles of the total 10.1 miles of proposed access roads would be constructed on the surface of mineral lease UTU-81737 to access minerals beneath Federal, State, and private leases.

2.5.4 Pipelines

If the proposed wells under Alternative C were to go into production, approximately 10.0 miles of steel surface gas pipelines would be needed to transport dry gas from the proposed wells to existing and proposed gathering lines. A temporary corridor width of 30 feet would be needed for the installation of each pipeline, while a permanent corridor width of 15 feet would be required for maintenance over the production life of each associated well. The pipeline construction corridor would occupy approximately 34 acres (BLM = 30 acres; State/private = 4 acres); following interim reclamation, the permanent corridor would occupy 18 acres (BLM = 16 acres; State/private = 2 acres).

Under Alternative C, 0.3 miles of the 10.0 miles of proposed pipeline would be constructed on the surface of lease UTU-81737 under Title V of FLPMA for transportation of minerals from developed pre-existing State, Private, and Federal leases.

2.5.5 Surface Disturbance

Table 2-6 summarizes initial and residual surface disturbance estimates for Alternative C. Initial disturbance would occur at the time of construction and would last until interim reclamation efforts (see Section 2.3.12) result in reestablishment of vegetation on temporarily disturbed areas (1-3 years). Residual disturbance associated with a single producing well would last the approximately 25-year life of the well, plus an additional three to seven years until final reclamation efforts result in revegetation of disturbed areas.

Table 2-6. Summary of Initial and Residual Surface Disturbance (Acres) for Alternative C

Construction Activity	BLM		State/Private		Total	
	Initial	Residual	Initial	Residual	Initial	Residual
Proposed Roads	29	18	8	4	37	22
Proposed Pipelines	30	16	4	2	34	18
Well Pads	22	22	13	13	35	35
Total	**81**	**56**	**25**	**19**	**106**	**75**

2.5.6 Water Supply

Up to 0.75 acre-foot of water would be required for the drilling of each well. Under Alternative C, approximately 42 acre-feet of water would be needed to drill 56 proposed wells located in the Project Area. In addition, Enduring estimates utilizing about 0.1 acre-feet per well, or an estimated total of about 5.6 acre-feet, for dust abatement. As such, total depletion associated with Alternative C would be approximately 47.6 acre-feet. The usual method of supplying water for drilling is to collect the water into tank trucks at the permitted location, and then to haul the water over existing roads to the well currently being drilled. Under this scenario, tank trucks would travel a cumulative 63,560 miles on existing and proposed roads in the Project Area during the drilling of the 56 proposed wells.

Instead of trucking all drilling water under Alternative C, Enduring would utilize a pump and truck system for 20 of the 56 proposed wells, which would reduce the cumulative miles traveled by tank trucks to 44,295 miles. A water pump system would not be utilized for all proposed wells under Alternative C, as water pipeline would not be allowed on the surface lease UTU-81737 due to the restricted use stipulation. As such, truck traffic under this alternative would include transportation of water from the two proposed water storage facilities (NWSW and NESE of Section 33) to the proposed drilling sites located in Section 33, as well as transportation of water from the White River to drilling sites located throughout the remainder of the Project Area. This reduced trucking mileage is anticipated to reduce the potential for the spread of noxious weeds, reduce fugitive dust, reduce impacts to recreationists, and increase safety on the roads. Although these beneficial impacts would result with implementation of the one pump system, the overall mitigation of impacts would not be as substantial as those presented in Alternatives A and B.

Pumping

To collect water for drilling and completion, one submersible pump system would be installed along the White River. The pump would be installed at Atchees Wash in the SWSE of Section 21. The pump would be contained in a 16-inch diameter sump drilled by a truck or tractor mounted auger to a depth of 21 feet. The pump would be powered by a trailer-mounted Baldor Mobile Power Generator, which would be placed within a lined berm about 50 feet outside of the White River 100-year floodplain, near Saddletree Draw. To provide electrical power from the Saddletree Draw generator to the proposed water pump, a connection line consisting of a 0.5-inch diameter Rita cable (similar to a industrial electrical cord) would be installed by hand on the ground surface between the generator and the pump. To collect

water from the river, a 4-inch hose would run a distance of about 50 feet from the pump to the collection point in the river. The hose would be placed in the active channel of the river (e.g. not in a backwater or behind a rock) parallel to the river flow. A screen (maximum ¼-inch) would be in place on the end of the hose to prevent the intake of debris and small fish. From the pump in Atchees Wash, two temporary plastic pipes would be placed in the drainage from the pump to the middle of Section 28. One pipe would continue up the drainage to the west to a water storage tank in the NWSW of Section 33. The second pipe would continue to follow Atchees Wash to a water storage tank in the NESE of Section 33 (Figure 4). The temporary plastic pipe would be pulled into place by OHV where possible, or by hand or mule in areas currently closed to OHV traffic. All water storage tanks would be located on proposed well pads. Water stored at these locations would be used to drill 19 of the 68 proposed wells. All other wells would use water trucked from the White River at the confluence of Saddletree Draw for drilling and completion activities.

The trailer-mounted generator would not be located in the 100-year floodplain of the White River. The generator would be placed inside of a lined earthen berm to prevent contamination of adjacent waterways in the case of an accidental spill of diesel fuel. The generator site would be visited an average of three times per week by a standard pickup truck for routine maintenance.

In order to screen the generator and water pipe from view along the White River, these structures would be painted Carlsbad Canyon. Vegetative screen would also be used to the extent possible. The standard sound level for the generator is 67 dBA at 21 feet. As such, the sound level of the generator at the river (~100 feet away) can be estimated to be approximately 37 dBA (Harris 1991). As the generator muffler would be directed away from the river, the estimated sound level would most likely be less than 37 dBA. On May 3rd, 2006 the average sound level of the White River at the mouth of Saddletree Draw was 55.9 dBA. Based upon this information, it can be assumed that although the generator may be heard from the river, it would be muffled by the natural sound of the river, and would not be the dominant sound feature.

When the water pump system (i.e., generator, pumps, connection line, water pipeline, etc.) is no longer needed, it would be removed, and the sump and bermed area for the generator would be reclaimed.

2.6 ALTERNATIVE D – NO ACTION

2.6.1 Summary

This alternative provides a baseline for comparison of the relative magnitude of impacts expected from the other alternatives. Therefore, under Alternative D, no construction or drilling would be allowed on Federal lands in the Rock House Project Area. In addition, lease UTU-81737 would be cancelled. However minerals beneath pre-existing State or private leases would be developed by vertically or directionally drilling from existing or proposed well pads located on State or private lands. This Alternative is not a "no development regardless of landowner" alternative because surrounding private and State leases have been issued, development of mineral resources on State and private land is outside of the jurisdiction of the BLM, and access to the majority of the State leases in the area already exists. Therefore, development on State and private leases is likely to occur regardless of which Alternative is selected in the Decision Record of this EA.

The ability to select this alternative in a Decision Record may be limited because BLM is obligated to provide reasonable access to State or private property to which the only feasible access is over Federal lands (Utah v. Andrus, 46 F. Supp. 995 (D. Utah 1979)). The referenced decision applies in this situation because: 1) due to topography, there are no alternative ways to reach the State lease in the NENE of Section 32 or the private lease in the SENE of Section 30; and 2) due to topography, there is only one

alternative way to reach the private lease in the NENW and NWNE of Section 30, the which route is shown in Alternatives A and B of this EA.

2.6.2 Well Pads

Currently there are 25 existing wells (1 Federal; 24 State) and 19 existing well pads (1 Federal; 18 State) in the Project Area. Under Alternative D, Enduring would be authorized to directionally drill four gas wells from a total of four existing well pads located on State lands. In order to accommodate the necessary equipment for directional drilling, each existing well pad would expanded by an area of 35 feet by 250 feet (0.2 acres). In all, less than one acre of State land would be disturbed by proposed well pad construction under Alternative D.

Figure 5 displays the vertical and directional drilling network that would be utilized with implementation of Alternative D. Table 2-7 below also describes the surface and downhole locations of each well under Alternative D.

Table 2-7. Proposed Surface and Downhole Well Locations under Alternative D

Proposed Wells: T10S R23E			
Well	**Surface Location**	**Downhole Location**	**Lease # (Downhole)**
34-32*	NWSE Sec. 32 (State)	SWSE Sec. 32 (State)	ML-47063
44-32*	NESE Sec. 32 (State)	SESE Sec. 32 (State)	ML-47063
24-36*	SWSW Sec. 36 (State)	SESW Sec. 36 (State)	ML-49959
43-36*	SESE Sec. 36 (State)	NESE Sec. 36 (State)	ML-49959

*These wells would be directionally drilled from the well pad location listed in column 2 to the downhole location listed in column 3. See Figure 5 for approximate placement.

2.6.3 Access Roads

Under Alternative D, Enduring would utilize existing roads to access existing well pads located on State land. No new road development would be needed.

2.6.4 Pipelines

Under Alternative D, Enduring would directionally drill four wells from four existing well pads. If these wells proved to be productive they would be attached to existing pipeline currently located on the existing wells pads. As such, no new pipeline would be constructed under Alternative D.

2.6.5 Surface Disturbance

Table 2-6 summarizes initial and residual surface disturbance estimates for Alternative D. Under this Alternative, surface disturbance would only occur on State lands and no disturbance would occur on Federal lands. Initial disturbance would occur at the time of construction and would last until interim reclamation efforts (see Section 2.3.12) result in reestablishment of vegetation on temporarily disturbed areas (1-3 years). Residual disturbance associated with a single producing well would last the approximately 25-year life of the well, plus an additional three to seven years until final reclamation efforts result in revegetation of disturbed areas.

Table 2-6. Summary of Initial and Residual Surface Disturbance (Acres) for Alternative D

Construction Activity	BLM		State/Private		Total	
	Initial	Residual	Initial	Residual	Initial	Residual
Proposed Roads	0	0	0	0	0	0
Proposed Pipelines	0	0	0	0	0	0
Well Pads	0	0	<1	<1	<1	<1
Total	**0**	**0**	**<1**	**<1**	**<1**	**<1**

2.6.6 Water Supply

Up to 0.75 acre-foot of water would be required for the drilling of each well. Under Alternative D, approximately 3.0 acre-feet of water would be needed to drill nine proposed wells located in the Project Area. In addition, Enduring estimates utilizing about 0.1 acre-feet per well, or an estimated total of about 0.4 acre-feet, for dust abatement. As such, total depletion associated with Alternative D would be approximately 3.4 acre-feet. As no water pump system would be utilized under Alternative D, water for drilling would be collected into tank trucks at one of three locations along the White River currently permitted under Application Number 49-2249 (T76934), and then to hauled over existing roads to the well currently being drilled. Under this scenario, tank trucks would travel a cumulative 4,540 miles on existing and proposed roads in the Project Area during the drilling of the four proposed wells.

2.7 COMPARISON OF ALTERNATIVES

Table 2-7 displays a quantitative comparison of the various development scenarios associated with Alternatives A thru D.

Table 2-7. Comparison of Proposed Development Scenarios by Alternative

Alternative	Number of Wells	Proposed Well Pads	Proposed Roads (miles)	Proposed Pipeline (miles)	Water Pumps	BLM		State/Private		Total	
						Initial Disturbance	Residual Disturbance	Initial Disturbance	Residual Disturbance	Initial Disturbance	Residual Disturbance
Alt. A	60	17	8.4	8.9	2	89	60	17	16	106	76
Alt. B	43	15	7.8	8.3	2	76	54	16	14	92	68
Alt. C	56	13	10.1	10.0	1	81	56	25	19	106	75
Alt. D	4	0	0.0	0.0	0	0	0	<1	<1	<1	<1

2.8 APPLICANT-COMMITTED MITIGATION MEASURES

Several procedures are described below that would be implemented by Enduring to reduce the potential environmental impacts of the proposed development activity. The following measures apply to all Federal lands within the Rock House Project Area, and would be applied under Alternatives A, B, and C. It should be noted however, that Enduring has voluntarily implemented many of these measures for their previous develops in the Project Area on State and private lands, and would continue to do so to the extent feasible on additional State and private wells. None of the following Applicant Committed Mitigation Measures would be conducted under Alternative D – No Action.

2.8.1 Cultural Resources

Prior to construction activities, a Class III (100%) inventory would be conducted in all areas proposed for surface disturbance. If sites are found, a Section 106 consultation of this inventory would occur with the Utah State Historic Preservation Officer (USHPO). If necessary consultation with the Native American Tribes having ties to the Uinta Basin would occur. Consultation between the Vernal BLM and the USHPO would provide specific mitigation as needed, including but not limited to avoidance, for any eligible sites which may be present in or near the project's footprint.

The operator would follow all Federal laws and regulations intended to protect cultural resources. In the event that cultural materials, not previously identified during the Class III inventory are identified during construction, the operator would cease construction and notify the Authorized Officer. Specific mitigation would be developed by the Authorized Officer, in consultation with USHPO, and implemented by the operator before construction work is resumed.

Enduring Resources has initiated and agreed to fund a historically-sensitive stabilization and restoration project for the Rock House (42Un5015). The goals of the project are to 1) preserve the integrity of the existing stone cabin; 2) slow the natural agents of deterioration; 3) reduce possible public hazards; 4) place an interpretive sign or kiosk; and 5) construct an appropriate fence surrounding the structure. This would involve extensive stabilization and restoration of the stone walls that make up the structure of the cabin, the pine log roof, and the historic fencing. In addition, the project would incorporate an interpretive sign or kiosk that would inform visitors to the site of the historical significance of the Rock House. This stabilization and restoration effort is consistent with Federal and State objectives toward responsible environmental stewardship and the principles of sustainable multiple use.

Enduring and its contractors would ensure that all vehicular traffic, personnel and equipment movement, and construction activities would be confined to the existing roadways and/or cleared access routes. In addition, Enduring and its contractors would inform their employees about Federal regulations intended to protect cultural resources. All personnel would be informed that collecting artifacts, including arrowheads, is a violation of Federal law.

2.8.2 Paleontological Resources

Because of the potential for fossil resources to occur in the Uinta Formation in the Project Area, paleontological surveys would be conducted by an SMA-approved paleontologist prior to any surface disturbance. If significant fossils are encountered during the survey, the paleontologist would assess and document the discovery, and either collect the fossils or recommend the area be avoided so as not to destroy the resource. The SMA would determine the need for further monitoring of the area or mitigation of the site during ground-disturbing activities.

If fossils are encountered by the proponent during excavation, construction would be suspended, and the SMA would be notified. Construction would not resume until the fossils are assessed by the SMA Authorized Officer, and appropriate mitigation measures are developed and implemented.

2.8.3 Floodplains

Well pads located within the 100-year floodplains of Atchees Wash would be drilled using a closed-loop system.

Well pads located within the 100-year floodplains of Atchees Wash would be surrounded by berms to divert runoff from the natural land surfaces around the well pads.

Silt fencing or other approved erosion control methods would also be utilized as deemed necessary by the SMA during the APD process.

To reduce impacts to floodplains in the Project Area, Enduring would implement a water pump system that would eliminate truck traffic along the White River and reduce overall truck traffic in the Project Area. This in turn would also reduce fugitive dust and the spread of noxious weeds (see **Section 2.3.10**).

2.8.4 Wetlands and Riparian Zones

To reduce impacts to wetlands and riparian zones in and around the Project Area, Enduring would implement a water pump system that would eliminate truck traffic along the White River and reduce overall truck traffic in the Project Area. This in turn would also reduce fugitive dust and the spread of noxious weeds (see **Section 2.3.10**).

2.8.5 Noxious and Invasive Weeds

During the construction phase of the project, Enduring would implement an intensive reclamation and weed control program after each segment of project completion. Ensuring would reseed all portions of wells pads and the ROW not utilized for the operational phase of the project. Post-construction seeding application would continue until determined successful by the appropriate SMA. Weed control would be conducted through an Approved Pesticide Use and Weed Control Plan from the AO.

Enduring would implement a water pump system that would reduce truck traffic in the Project Area, therefore decreasing the potential spread of noxious weeds (see **Section 2.3.10**).

2.8.6 Recreation

To prevent illegal travel of OHVs in closed areas within ¼-mile of the White River, Enduring would place signs in appropriate places along their proposed access roads identifying where OHV travel would be closed.

2.8.7 Livestock Grazing

To reduce impacts to livestock grazing in and around the Project Area, Enduring would implement a water pump system that would reduce truck traffic and the spread of noxious weeds (see **Section 2.3.10**).

2.8.8 Soil Resources

To reduce impacts to soil resources in and around the Project Area, Enduring would implement a water pump system that would eliminate truck traffic along the White River and reduce overall truck traffic in the Project Area. This in turn would also reduce fugitive dust and the spread of noxious weeds (see **Section 2.3.10**)..

2.8.9 Threatened, Endangered, and Sensitive Animal Species and other Wildlife Species

Enduring and/or their contractors would use a maximum of ¼-inch mesh screening device on the pump intake while pumping water to help avoid the intake of fish. If impinged fish are observed on the intake, Enduring would immediately contact the USFWS and UDWR.

Enduring and/or their contractors would avoid pumping from low flow environments (slow moving water, backwaters, eddies, or the mouth of tributaries).

To prevent contamination of adjacent waterways in the case of an accidental spill of diesel fuel, the trailer mounted generator would be located outside of the White River 100-year floodplain and would be placed inside of a lined earthen berm.

To prevent contamination of adjacent waterways in the case of a spill or pipeline rupture, any tanks or storage facilities associated with proposed wells located within the 100-year floodplain of Atchees Wash would be placed outside of the 100-year floodplain and would be equipped with automatic emergency shut-off valves.

No surface-disturbing activities would occur near active raptor nests during the nesting season. Spatial and seasonal buffers outlined in FW35 of the Diamond Mountain RMP (BLM 1994) would be applied to all active raptor nests occurring in the Project Area.

To prevent the disturbance of bald eagles utilizing winter roosts along the White River, from November 1 through March 31 the water pump generator would only be operated during hours of the day when bald eagles are not typically at roost sites (i.e., 9:00 AM to 4:00 PM). In addition, the generator would be placed inside of an insulated steel building that would reduce noise impacts.

To reduce impacts to wildlife utilizing habitats in and around the Project Area, Enduring would implement a water pump system that would eliminate truck traffic along the White River and reduce overall truck traffic in the Project Area. This in turn would also reduce noise impacts and the spread of noxious weeds (see **Section 2.3.10**).

2.8.10 Vegetation including Special Status Plant Species

Prior to any surface disturbance, all well pad sites and access roads in potential Graham beardtongue, White River penstemon, and Uinta Basin hookless cactus habitat would be examined by a SMA-approved botanist to determine if the species are present. These surveys would be conducted within the proper seasonal timeframe, as determined by the SMA and FWS. If the species is present, Enduring Resources would implement appropriate avoidance or mitigation measures, including movement of roads, pipelines and well pads, and design modifications to limit the potential impacts of decreased surface water flows and increased sedimentation to plants and habitats. Specific details regarding avoidance and mitigation measures are defined in detail in Appendix C – Conservation Measures for Special Status Plant Species.

To reduce impacts to vegetation including Special Status Plant Species in the Project Area, Enduring would implement a water pump system that would eliminate truck traffic along the White River and reduce overall truck traffic in the Project Area. This in turn would also reduce fugitive dust and the

spread of noxious weeds (see **Section 2.3.10**). In addition, water would be used for dust abatement on all existing roads throughout the Project Area for the life of the project.

2.8.11 Visual Resources

To reduce impacts to visual resources in and around the Project Area, Enduring would implement a water pump system that would eliminate truck traffic along the White River and reduce overall truck traffic in the Project Area. This in turn would also reduce fugitive dust and the spread of noxious weeds (see **Section 2.3.10**)

In order to screen the generator from view along the White River, the generator would be placed within a low profile, camouflaged, portable steel building. The camouflaged building would be hidden by the proposed earthern berms and vegetative screen would also be used to the extent possible.

2.8.12 Wild and Scenic Rivers

To reduce impacts to Wild and Scenic Rivers in and around the Project Area, Enduring would implement a water pump system that would eliminate truck traffic along the White River and reduce overall truck traffic in the Project Area. This in turn would also reduce fugitive dust and the spread of noxious weeds (see **Section 2.3.10**).

2.8.13 Air Quality

Enduring would obtain all necessary air quality permits to construct, test, and operate facilities.

As the project is subject to UDAQ R307-205-2, Fugitive Dust, Enduring would use water at construction sites and along roads, as necessary, to abate fugitive dust.

To reduce impacts to air quality in and around the Project Area, Enduring would implement a water pump system that would reduce truck traffic and associated fugitive dust (see **Section 2.3.10**).

2.9 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

The following alternatives were considered, but were eliminated from detailed analysis.

2.9.1 One Well per Well Pad

The original proposal considered drilling 60 gas wells from 60 individual well pads, which also required the construction of about 25 additional miles of individual roads and pipelines. This would require a minimum of approximately 303 acres of surface disturbance in the 4,826 acre Project Area as compared to the 106 acres that would be disturbed under Alternative A (Proposed Action). In preliminary discussions with the BLM, Enduring committed to minimizing surface disturbance by maximizing the drilling of multiple wells from single well pads, thus, the One Well per Well Pad alternative was eliminated from detailed analysis.

2.9.2 Buried Pipeline Alternative

This alternative considered burying the proposed pipelines adjacent to the proposed roads. This alternative was rejected due to the presence of hard well-cemented sandstone at or near the ground surface, which would have made reclamation of this increased surface disturbance difficult. Furthermore, this alternative does not meet the Purpose and Need for the project; the BLM's obligation to minimize or eliminate environmental impacts from public land uses, nor Enduring's goal to develop their leases in an environmentally sound, but also technically and economically viable manner.

2.9.3 Alternative Well Locations

Numerous alternative well locations and road and pipeline configurations were initially considered but dismissed due to site-specific resource concerns or feasibility issues. All alternative locations within the Project Area would have impacts similar to, or in the case of topography, greater impacts than the anticipated impacts of the proposed locations. As such, this alternative did not Enduring's purpose for the project which is to maximize the recovery of gas resources within their leased areas, while minimizing or mitigating to the extent possible the environmental impacts associated with such development, and the alternative was eliminated from detailed analysis.

2.9.4 Directional Drilling from outside the Wilderness Characteristics Area

An alternative that considered drilling directionally from outside the wilderness characteristics area was considered, but dismissed. For directional drilling to be effective at extracting gas from the random, vertically stacked, lenticular reservoirs present beneath the Project Area, the surface location has to be approximately ½ mile or less from the downhole target. All potential drilling locations reviewed outside of the wilderness characteristics area were greater than ½ mile in distance from the lease, and therefore, precluded Enduring's ability to drill their leases within these areas. This alternative does not meet the Purpose and Need for the project and therefore, was eliminated from further analysis.

2.9.5 Lease Exchange

The public has previously suggested exchange of the leases as an alternative to approval of the APDs. Exchange of the leases is not separately analyzed in detail for the following reasons:

1) FLPMA requires that assets exchanged must be of equal value. Since only the 11-31 well has been drilled on one of four BLM leases, it would be impossible to establish a value for the four leases, as would be required before contemplating an exchange.

2) Environmental impacts in the Project Area under the lease exchange alternative would be identical to the impacts resulting from the No Action Alternative (which is analyzed in detail in this EA), because the Proposed Action would not be implemented. It would be impossible at this time to analyze the environmental impacts of exploration at other sites involved in such an exchange (i.e., sites of the other Federal leases or assets that would be traded to the applicant) because those sites are unknown.

Furthermore, this alternative does not meet the BLM's purpose of recognizing valid and existing lease rights or Enduring's purpose of developing the leases in an environmentally sound and economically or technically feasible manner.

2.9.6 Closing the Area to Future Leasing

Previous individual public comments on the Rock House project had suggested closure of the White River area to further leasing as an alternative to approval of the APDs. This alternative is beyond the scope of the project and does not meet the underlying need for the proposal, which is for the lease holder to work under the lease rights that were granted by the BLM. Closure of lease UTU-81737 was analyzed in detail under Alternative B of this EA. Closure of the White River area to future leasing would not affect the rights already granted by the other four existing Federal leases as well as existing State and private leases. Furthermore, this alternative does not meet the BLM's purpose of recognizing valid and existing lease rights or Enduring's purpose of developing the leases in an environmentally sound and economically or technically feasible manner.

2.9.7 Trucking Water Instead of Developing a Water Pump System

An alternative was developed that considered supplying water for drilling by collecting the water into tank trucks at the permitted location, and then hauling the water over existing roads to the proposed wells. Under this scenario, tank trucks would travel a cumulative 68,100 miles on existing and proposed roads in the Project Area.

This alternative was rejected because Enduring's proposed water pump system would reduce the cumulative miles traveled by tank trucks to 6,900 miles. This reduced trucking mileage would reduce fugitive dust and resultant impacts to air quality and water quality, reduce the spread of noxious weeds, reduce impacts to recreationists and wildlife currently utilizing the area, and increase safety on the roads.

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