

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

Environmental Assessment UT – 090 – 09 - 17

January 2009

**Cactus Park #2 Application for Permit to Drill
And
Access Road and Pipeline Right-of-Way**

Location: Secs. 19 and 30, T. 36 S., R. 25 E., SLM

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**The Cactus Park #2 Well APD,
and
Access Road and Pipeline Right-of-Way
UT – 090 – 08 - 18**

1.0 PURPOSE & NEED

1.1 Introduction

This Environmental Assessment (EA) has been prepared to disclose and analyze the environmental consequences of the Cactus Park #2 oil and gas well application for permit to drill (APD) and associated Rights-of-Way (ROW) for the access road and pipeline, as proposed by D. J. Simmons, Inc. (DJ Simmons). The EA is a site-specific analysis of potential impacts that could result with the implementation of a proposed action or alternatives to the proposed action. The EA assists the Bureau of Land Management (BLM) in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any “significant” impacts could result from the analyzed actions. “Significance” is defined by NEPA and is found in regulation at 40 Code of Federal Regulations (CFR) 1508.27. An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a statement of “Finding of No Significant Impact” (FONSI). 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 (DR) may be signed for the EA approving the selected alternative, whether the proposed action or another alternative. A DR, including a FONSI statement, documents the reasons why implementation of the selected alternative would not result in “significant” environmental impacts (effects) beyond those already addressed in the Monticello Field Office Record of Decision and Approved Resource Management Plan (RMP), November 17, 2008 (BLM 2008a).

1.2 Background

Oil and Gas Lease UTU 85275 was issued to DJ Simmons on August 8, 2008. On January 29, 2009, DJ Simmons submitted an APD to re-enter the plugged and abandoned Cactus Park #2 well, located within this lease in the Blanding sub-basin oil and gas development area of San Juan County, Utah

The well pad was originally constructed and drilled, and subsequently plugged and abandoned in 1993 by Ampolex, Inc. The location was entered upon again when Cabot Oil and Gas prepared to drill the Evergreen 3-30-36-25 exploratory well approximately 50 feet southwest of the Cactus Park #2 well bore in 2005. At that time, the well pad was prepared, a reserve pit was excavated, and a 14 inch conductor pipe was cemented to a depth of 80 feet. The Evergreen well was abandoned at this point without further drilling and the location was reclaimed.

DJ Simmons submitted the Cactus Park #2 APD pursuant to the regulations contained in 43 CFR 3160, which governs Onshore Oil and Gas Operations conducted under the authority of

the Mineral Leasing Act of 1920 and other laws and regulations. The APD includes a Surface Use Plan of Operation as required by 43 CFR 3162.3-1(f) and Onshore Oil and Gas Order Number 1 (OOGO#1).

1.3 Need for the Proposed Action

DJ Simmons has submitted an APD to reenter the Cactus Park #2 well. The underlying need for the proposed action is for DJ Simmons to exercise their valid existing right to explore for and develop oil and gas deposits within oil and gas lease UTU 85275 consistent with the terms and conditions of the lease. As stated in 43 CFR 3101.1-2, "A lessee shall have the right to use so much of the leased lands as is necessary to explore for, drill for, mine, extract, remove and dispose of all the leased resource in a leasehold subject to: Stipulations attached to the lease; restrictions deriving from specific, nondiscretionary statutes; and such reasonable measures as may be required by the authorized officer to minimize adverse impacts to other resource values, land uses or users not addressed in the lease stipulations at the time operations are proposed".

1.4 Purpose(s) of the Proposed Action

BLM is considering approval of private exploration and production from federal oil and gas leases because the activity is an integral part of BLM's oil and gas leasing program under authority of the Mineral Leasing Act of 1920, as amended by the Federal Land Policy and Management Act of 1976, the Federal Onshore Oil and Gas Leasing Reform Act of 1987, and the regulations at 43 CFR 3160. BLM would consider approval of the proposed action in a manner that avoids or reduces environmental impact, is consistent with the lease rights granted to the applicant, and prevents unnecessary or undue degradation of the public lands.

1.5 Conformance with BLM Land Use Plan(s)

Oil and Gas lease UTU 85275 was issued to DJ Simmons on August 6, 2008. At that time the San Juan Resource Area Resource Management Plan (SJRA RMP) of 1991 (BLM 1991) was in effect.

The Monticello Field Office Proposed Resource Management Plan and Final Environmental Impact Statement (PRMP/FEIS) was made available to the public in August of 2008 (BLM 2008b) and the subsequent Record of Decision and Approved Resource Management Plan (RMP) was effective on November 17, 2008 (BLM 2008a). The Reasonably Foreseeable Development Scenario for Oil and Gas (RFD) was prepared for the Monticello Planning Area in 2005 (BLM 2005). The purpose of the RFD was to predict oil and gas development for the next 15 years. This information was used to analyze the environmental impacts of oil and gas development in the PRMP/FEIS.

The proposed action is in conformance with both the SJRA RMP and the RMP. The proposed project area (PPA) is designated as available for oil and gas leasing and development subject to deer winter range timing limitations in both plans. The RMP (BLM 2008a: 79) recognizes oil and gas exploration and development as an appropriate use of public lands and contains goals and objectives to:

- Ensure a viable long-term industry related to leasable, locatable, and salable mineral development while providing reasonable and necessary protections to other resources.
- Encourage and facilitate the development by private industry of public land mineral resources in a manner that satisfies national and local needs and provides for economical and environmentally sound exploration, extraction and reclamation practices.

The RMP (BLM 2008a: Appendix B) contains stipulations applicable to surface disturbing activities. The stipulations that the Cactus Park #2 APD are subject to are as follows:

- Cultural Resources - Cultural properties eligible for or listed on the National Register of Historic Places would be surrounded by an avoidance area sufficient to avoid impacts.

Exceptions: An exception could be granted if the BLM authorized officer determines that avoidance of direct and indirect impacts to historic properties is not feasible (e.g. avoidance may cause unacceptable damage to other public land resources or affect valid existing rights).

Modification: None

Waiver: None

Purpose: Protect and preserve cultural resources and/or sites of religious significance to Native Americans.

- Deer Winter Range – No surface-disturbing activities from November 15 to April 15.

Exception: The Field Manager may grant an exception if, after an analysis, the authorized officer determines that the animals are not present in the project area or the activity can be completed so as to not adversely affect the animals. Routine operation and maintenance is allowed.

Modification: The Field Manager may modify the boundaries of the stipulation area if a portion of the area is not being used as deer winter range.

Waiver: May be granted if the deer winter range is determined to be unsuitable or unoccupied and there is no reasonable likelihood of future use of the deer winter range.

Purpose: To minimize stress and disturbance to deer during crucial winter months.

- The RMP, (BLM 2008a: appendix N) requires that oil and gas development comply with the Best Management Practices (BMP) for Raptors and their associated Habitats in Utah, August 2006.

1.6 Relationship to Statutes, Regulations, or Other Plans

Oil and gas exploration and development are subject to a range of federal, state, and local laws or requirements. Many of these require permits, approvals or consultations before

operations commence. This section describes the purposes and requirements of the major federal, state, and local statutes. While not all inclusive, the following is a list of the major laws which the proposed action is subject to.

- **Mineral Leasing Act of 1920, as amended and supplemented** - Onshore Oil and Gas Operations, including exploration and development of an oil and gas lease, are conducted under the authority of the Mineral Leasing Act, as amended and supplemented (30 U.S. C. 181 *et seq.*), and are subject to the regulations contained in 43 CFR 3160.
- **National Environmental Policy Act (NEPA)** – requires interdisciplinary approach to ensure disclosure of and proper consideration being given to the environment prior to undertaking any federal action that may impact the environment.
- **National Historic Preservation Act** - Compliance with Section 106 responsibilities of the National Historic Preservation Act are adhered to by following the BLM – State Historic Preservation Office (SHPO) protocol agreement, which is authorized by the National Programmatic Agreement between the BLM, the Advisory Council on Historic Preservation, and the National Council of State Historic Preservation Officers.
- **The Utah Oil and Gas Conservation Act** - Encourages, and promotes the development, production, and utilization of natural resources of oil and gas in the state of Utah. Prior to the commencement any surface disturbance associated with oil and gas related activity, the operator shall submit Form 3, Application for Permit to Drill, Reenter, or Deepen and obtain approval.
- **The Utah Air Conservation Act** – Empowers the State of Utah to enact rules to determine if an air quality permit or approval order is required for any operation that could reasonably be expected to become a source of air pollution. DJ Simmons may be required to obtain an approval order from the State of Utah Department of Air Quality.

In addition, DJ Simmons would:

- Comply with all applicable federal, State of Utah and local laws and regulations.
- Obtain applicable permits for the construction, drilling, completion, production and final abandonment of this well including water rights appropriations, the installation of water management facilities, water discharge permits, and relevant air quality permits.
- Obtain any necessary encroachment permits that may be required by San Juan County, UT.

San Juan County, Utah Master Plan (SJC 2008) - Page 24 of the San Juan County Master Plan contains a policy statement in support of multiple use management on federal lands, including oil and gas development. Page 53 contains an objective for responsible natural resource use and development. With respect to the mineral industry, the county would continue to support the growth and development of these industries as opportunities present themselves and new technologies develop.

1.7 Identification of Issues

An interdisciplinary team analysis record checklist was completed that identified those resources and issues that would be affected by the proposed action or alternatives (Appendix A). Resources that were identified as potentially impacted by the proposed action or alternatives are carried forward for analysis in this EA and are listed as follows:

1.7.1 Air Quality

Emissions Inventory
Threshold Levels

1.8 Summary

This chapter has presented the purpose and need of the proposed project, as well as the relevant issues, i.e., those elements of the human environment that could be affected by the implementation of the proposed action. In order to meet the purpose and need of the proposed project in a way that resolves the issues, the BLM has considered the proposed action and the no action alternatives. These alternatives are presented in Chapter 2. The potential environmental impacts or consequences resulting from the implementation of the proposed action and the no action alternative are considered in detail and are analyzed in Chapter 4 for each of the identified issues.

2.0 DESCRIPTION OF ALTERNATIVES, INCLUDING PROPOSED ACTION

2.1 Introduction

This EA contains the proposed action and the no action alternatives. The proposed action provides for the exploration and development of the leased resources and meets the purpose and need as stated in Chapter 1. The no action alternative would not allow for exploration and development of the leased resources nor does it meet the purpose and need, but is included to provide baseline information and comparison to the current management situation.

2.2 Alternative A – Proposed Action

The proposed action is to approve the Cactus Park #2 APD, subject to Conditions of Approval (COA), as subsequently described.

Access to this location would be by existing San Juan County road D0870 and the spur road to the well pad. The access road in Sec. 30, T. 36 S., R. 25 E., SLM is 1,417 feet long and is located within the oil and gas lease. The access road in Sec. 19, T. 36 S., R. 25 E., SLM, is 4,818 feet long and is located off lease and would require a Right-of-Way (ROW) grant. The APD is sufficient application for both the road and pipeline ROW grant.

Initial work would be to perform any required maintenance on County Road D0870. The existing surface disturbance of this road averages approximately 20 feet in width. All maintenance activity would occur within the previously disturbed area. The spur road, 627 feet long and averaging approximately 20 feet in width, would be reopened. The abandoned well pad would be prepared for drilling operations. When the well was previously plugged and abandoned in 2005, the well pad and the spur road were reclaimed. An area of the well pad 200 feet by 300 feet (1.4 acres) would be leveled. The reserve pit (100 feet by 35 feet by 10 feet deep) would be excavated and a synthetic liner would be installed. The top soil from both the spur road and the well pad, up to 8 inches, would be reserved for interim and final reclamation. Refer to Appendix D for surveyor drawings of the access road and well pad.

Drilling would be accomplished by using a conventional rotary drilling rig or a work-over rig. Approximately 20 truckloads would be required to transport drilling equipment and materials to the well pad. Additionally, 6 to 10 smaller vehicles would be used to transport drilling personnel and other support services. One or two water trucks would be used daily during drilling operations to supply water. Water to drill and complete the well would be hauled from Dove Creek, CO. Any fresh water encountered during drilling operations would be isolated by casing and cement. Drilling operations would continue 24 hours a day. During drilling operations, the reserve pit would be fenced on 3 sides. When drilling operations are complete the fourth side would be fenced. The fence would be constructed using steel T or wood line posts set 16.5 feet apart. Corner posts would be 6 inches or greater diameter wood and anchored by dead men. Woven wire would be placed from 0 to 32 inches, twisted smooth or barbed wire would be placed at 4 and 16 inches above the woven wire. When fencing is completed, netting would be placed over the pit and fence to below the ground level to prevent birds and small animals from gaining access to and becoming trapped in the contents of the pit.

If the well should prove productive, a pipeline would be constructed and production facilities would be installed on the well pad. The pipeline would be 5,930 feet long and 2½ to 4 inches in diameter (depending on production) steel pipe. The pipeline in Sec. 30, T. 36 S., R. 25 E., SLM is 1,318 feet long and is located within the oil and gas lease. The pipeline in Sec. 19, T. 36 S., R. 25 E., SLM is 4,612 feet long, is located off lease, and would require a ROW grant. DJ Simmons has requested a 16 foot wide pipeline ROW adjacent to the D0870 road. The pipe would be placed on the surface of the ground adjacent to but just beyond the access road. The only exception to this would be a section 395 feet long where the pipe would continue along an old seismic line rather than following a switch back in the road (see map). This shortcut accounts for the difference in the length of the road (6,235 feet) and pipeline (5,930 feet). The cultural survey included a 140 foot wide corridor centered on the existing road to accommodate the road and pipeline. The pipe would be laid adjacent to the access roads just beyond the existing disturbance. Pipe laying equipment would use the driving surface of this road. If necessary, a tracked dozer would be walked along the pipeline for the purpose of clearing trees and brush. Clearing of vegetation would be minimized. The dozer blade would not be used to push a blade full of dirt. Refer to appendix D for surveyor drawings of the pipeline route.

Total acreage impacted by the project is as follows:

San Juan County Road D0870	20' wide by 5,608 ' long	2.6 acres (road maintenance)
Spur road well pad access	20' wide by 627' long	0.3 acres (re-open reclaimed road)
Well Pad	200' by 300'	1.4 acres (located on reclaimed well pad)
Pipeline	16' wide by 5,930' long	2.2 acres (minimal disturbance)
		6.5 Acres Total

Production facilities installed on the well pad would likely consist of a well head, heater treater, gas meter, and a tank battery consisting of two 400 barrel tanks, one for condensate/oil and the other for produced water. The tanks would be surrounded by a containment dike. Facilities would be grouped on the well pad to allow for maximum interim reclamation. All above ground facilities including power boxes, buildings, roofs, and any visible equipment would be painted juniper green. The reserve pit would be allowed to sufficiently dry before being backfilled with excavated material. During production the well would be visited daily or less frequently, depending on the production established. Occasionally there would be need for routine maintenance, work over operations, and shipment of product or produced water.

Portions of the access road not needed for vehicle travel, and areas of the well pad not needed for production would be reclaimed (interim reclamation). Interim reclamation of the well pad and access road would begin as soon as practicable after the well is placed in production. Interim reclamation would include cut and fill slopes and would extend to within close proximity of the wellhead and production facilities.

Final reclamation would involve recontouring all disturbed areas of the well pad and the spur road to the original contour or a contour that blends with the surrounding topography, ripping soils that were compacted by equipment operation, evenly spreading the reserved top soil, and seeding.

The following seed mix would be used for interim and final reclamation:

Species	Variety or Cultivator	PLS/A
Fourwing saltbush	<i>Atriplex canescens</i>	2.0
Antelope Bitterbrush	<i>Purshia tridentata</i>	2.0
Crested wheatgrass	<i>Agropyron desertorum</i>	2.0
Indian ricegrass	<i>Oryzopsis hymenoides</i>	2.0
Galleta grass	<i>Hillaria jamesii</i>	1.0
Scarlet globemallow or	<i>Sphaeralcea coccinea</i>	1.0
Cicer milkvetch	<i>Astragalus sabulosus</i>	1.0

Seeding can be accomplished by either broadcasting or drilling. If seed is broadcast, the seeding rate would be doubled and the seed must be covered by using some type of drag.

Conditions of Approval

The following conditions of approval (COA) would be attached to the approved APD. These COAs are compiled from the surface use plan of operations (Appendix E) contained in the APD package, BMPs, requirements to meet BLM policy, and Monticello Field Office RMP special stipulations. These COAs are designed to mitigate the impacts from the proposed action to other resource values.

Construction and Drilling

1. DJ Simmons must have an approved APD and a ROW grant prior to conducting any surface disturbing activity.
2. Cultural Resources – DJ Simmons would have qualified cultural resource personnel monitoring surface disturbing construction activity occurring in the vicinity of cultural sites, as recommended in the cultural survey report. A map would be provided to DJ Simmons or their contractor showing the locations where monitoring is required.
3. Raptors and Migratory Birds - Depending on the timing and location of activities, surveys for raptors and/or migratory birds may be required. Field surveys would be conducted as determined by the Bureau of Land Management. DJ Simmons must provide 30 days prior notification to the BLM before commencing any construction or drilling activity. The BLM would notify DJ Simmons if a raptor and/or migratory bird survey is necessary. The operator would be responsible for accomplishing this survey. Surveys would be conducted by qualified individuals according to protocol. Based on the result of the field survey, the authorized officer would determine appropriate buffers and timing limitations.
4. Crucial Deer Winter Range - The proposed project is within the area designated in the Monticello Field Office Resource Management Plan as crucial deer winter range. No surface disturbing activities can occur between November 15 and April 15 to minimize stress and disturbance to deer during crucial winter months.
5. DJ Simmons would comply with Utah Air Conservation Regulation R307-205, which prohibits the use, maintenance, or construction of roadways or the clearing of land areas greater than ¼ acre without taking appropriate dust abatement measures.
6. Maintenance work performed on San Juan County Road D0870 would occur within the extent of the existing disturbance.
7. During drilling operations, the reserve pit would be fenced on three sides. When drilling operations are complete the fourth side would be fenced. At a minimum, the fence would be constructed using steel T or wood line posts set 16.5 feet apart. Corner posts would be 6 inches or greater diameter wood, and anchored with a rock deadman.

Woven wire would be placed from 0 to 32 inches, and twisted smooth or barbed wire would be placed at 4 and 16 inches above the woven wire. When fencing is completed, netting would be placed over the pit and fence, extending to below the ground level, to prevent birds and small animals from gaining access to and becoming trapped in the contents of the pit. The netting would be supported to maintain adequate clearance between the net and the contents of the pit. The fencing and netting would be maintained until the pit is closed and reclaimed. Emergency pits associated with production would be subject to the same fencing and netting requirements as reserve pit.

Production

1. The storage tank battery would be enclosed within a compacted earthen berm (secondary containment) covered with gravel to contain any potential spills. At a minimum, the berm must be constructed in conformance with 40 CFR 112 which requires that the berm have the capacity of the largest single container and sufficient freeboard to contain precipitation.
2. All above ground facilities including power boxes, buildings, roofs, and any visible equipment would be painted juniper green.
3. All new and replacement internal combustion oil and gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 gms of NO_x per horsepower-hour. All new and replacement internal combustion oil and gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO_x per horsepower-hour. This requirement does not apply to engines of less than or equal to 40 design-rated horsepower.
4. Due to the heavy fuels present in the area of the pipeline, steel pipe would be used to reduce the risk in the event of a wildfire.
5. During pipeline construction installation equipment would use the driving surface of the access road to the extent possible. The soil surface of the pipeline ROW would not be bladed. Clearing of vegetation would be minimized. The Right of Way corridor for the road and pipeline shall not exceed 40 feet in width.
6. The pipe would be buried at all road crossings.
7. The pipe would be placed on or as near to the surface of the ground as is practical. The pipe would not be supported in an elevated position by rocks, trees, or other obstacles.
8. The operator would monitor for and control, following BLM protocols, all noxious/invasive weeds within the proposed project area during the life of the project.
9. Only material and equipment necessary for daily production activities would be kept on location. All other materials and equipment would be removed.

10. Secondary containment trays would be required for all chemical containers and covered drip pans would be required for oil and produced water load out points. Trays would be equipped with protection to prevent animals from gaining access to contents. The operator would promptly empty these trays of any spills or precipitation that may accumulate.
11. The operator would maintain all equipment free of oil and produced water leaks. If leaks develop they would be promptly repaired and any contamination removed and properly disposed of.

Interim Reclamation

1. Top soil, up to eight inches, would be salvaged from the spur road and the well pad, and reserved for interim and final reclamation.
2. Interim reclamation would begin as soon as practicable after production has been established and would be accomplished on all disturbed areas of the spur access road and well pad not required for travel or production. Interim reclamation would consist of:
 - a. Ripping areas where the soil has become compacted by the operation of equipment and vehicles.
 - b. Evenly spreading the reserved topsoil.
 - c. Seeding the prepared areas. Seed can be drilled or broad cast. If seed is broadcast, the application rate would be doubled and the seed would be covered with some type of drag.
3. Reclamation of the reserve pit would be accomplished in accordance with OOGO#1, XII, B., and the guidelines contained in the Gold Book. Closure and reclamation of the reserve pit would not occur until the pit contents are sufficiently dry. Any hydrocarbons must be removed and the pit liner removed to the solids level prior to backfilling with excavated material. Earthwork for pit closure and reclamation would be completed within six months of well completion or well plugging. If necessary, pit fluids would be pumped off and properly disposed of to allow for timely closure of the pit.

Final Reclamation

1. If the well should prove unproductive or upon final abandonment, all disturbed areas would be subject to final reclamation. Final reclamation would include:
 - a. Removal of gravel or stone that may have been placed on the roadway or well pad to allow for all weather operations.
 - b. Reserving any topsoil that was spread during interim reclamation.
 - c. Recontouring of all disturbed areas to the original contour or a contour that blends with the surrounding topography.
 - d. Spreading reserved topsoil evenly over all disturbed areas.

- e. Seeding all disturbed areas. Seed can be drilled or broad cast. If seed is broadcast, the application rate would be doubled and the seed would be covered with some type of drag.
- f. The spur access road would be barricaded with a large berm or rocks to prevent vehicle access

2. The seed mix to be used in interim and final reclamation is as follows:

Species	Variety or Cultivator	PLS/A
Fourwing saltbush	<i>Atriplex canescens</i>	2.0
Antelope Bitterbrush	<i>Purshia tridentata</i>	2.0
Crested wheatgrass	<i>Agropyron desertorum</i>	2.0
Indian ricegrass	<i>Oryzopsis hymenoides</i>	2.0
Galleta grass	<i>Hillaria jamesii</i>	1.0
Scarlet globemallow or	<i>Sphaeralcea coccinea</i>	1.0
Cicer milkvetch	<i>Astragalus sabulosus</i>	1.0

- 4. As applicable, trees, rocks, etc. that were reserved to the side during construction would be scattered after seeding operations are completed.

General

- 1. The approval of the Cactus Park #2 APD does not constitute approval for other Federal, State of Utah, or San Juan County permits that may be required. DJ Simmons is responsible for obtaining any other applicable permits.
- 2. No construction, drilling, production or routine maintenance activities would be performed during periods when the soil is too wet to adequately support construction equipment and vehicles. If such equipment and vehicles create ruts in excess of 4 inches deep, the soil shall be deemed too wet. This applies to San Juan County B and D roads. If wet weather access is necessary, the roads would be upgraded to an all weather surface. The operator would be responsible for the prompt repair of any road damage caused by activity associated with the project.
- 3. All employees, contractors, and sub-contractors of the project would be informed that cultural sites are to be avoided by all personnel, personal vehicles and company equipment. Employees would also be notified that it is illegal to collect, damage, or disturb cultural resources. If any new cultural sites are encountered, the contractor would immediately stop all construction activities and notify the Bureau of Land Management, Monticello Field Office (MFO). The MFO would then evaluate the site. Should a site be evaluated as eligible for inclusion on the National Register of Historic Places, it would be treated in the proper manner to mitigate any effects of construction, according to the guidelines set by the MFO.
- 4. Notifications - The operator would notify the Bureau of Land Management, Monticello Field Office 30 days prior to any construction or drilling operations for the purpose of determining the need for raptor and/or migratory bird surveys. The

operator would notify the Bureau of Land Management, Monticello Field Office three days prior to access road construction, well pad preparation, drilling operations, and pipeline construction.

2.3 Alternative B – No Action

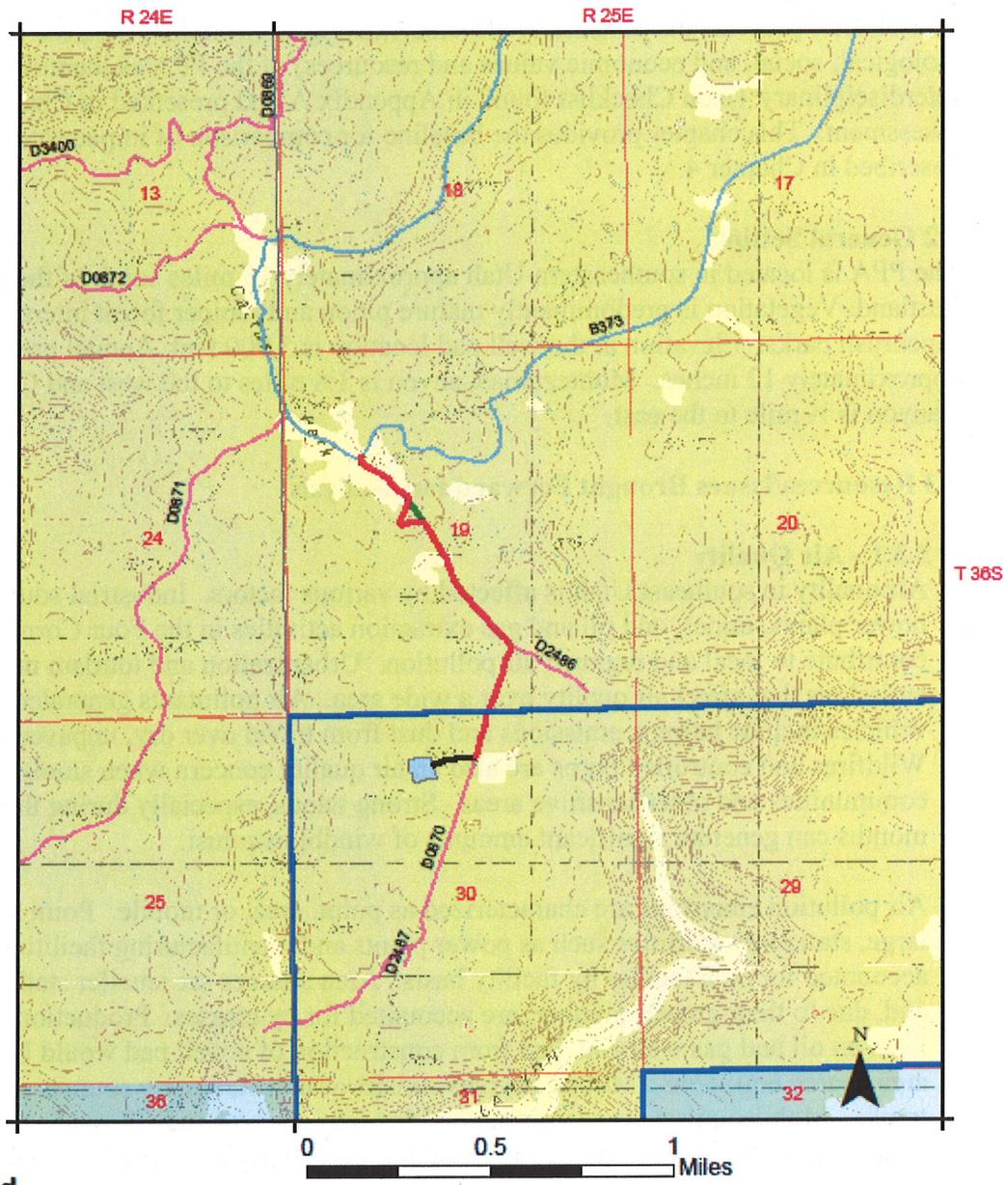
The BLM NEPA Handbook (H-1790-1) states that for EAs on externally initiated proposed actions, the No Action Alternative generally means that the proposed activity would not be approved. This option is provided for in 43 CFR 3162.3-1 (h)(2) if BLM determines that the proposal would violate lease stipulations, applicable laws, or regulations. The No Action Alternative is presented for baseline analysis of resource impacts.

Under the no action alternative the BLM would deny the proposal as contained in the Cactus Park #2 APD if the operations were determined to violate standard lease terms, lease stipulations, or non-discretionary laws such as the National Historic Preservation Act or the Endangered Species Act. If the lease operations were not approved there would be no opportunity for the operator to produce oil and gas from the lease holding. There would be no surface disturbing activity associated with exploration and development of the lease. Other uses such as livestock grazing and dispersed recreational use would continue. The PPA contains San Juan County “B” and other unimproved roads, an existing surface petroleum pipeline, and producing and abandoned oil and gas well locations.

The BLM’s authority to implement the No Action Alternative may be limited because oil and gas leases allow drilling in the lease area subject to the stipulations of the specific lease agreement. The BLM can deny the APD only if the proposal would violate lease stipulations, applicable laws or regulations; or BLM could impose restrictions to prevent undue or unnecessary environmental degradation.

Figure 2.1 – Project Area Map

CACTUS PARK #2 APD PROJECT



Legend

- | | | |
|--------------------------------|---------------------------------|-----------------|
| Access Road and Pipeline Route | Land Status | SJ County Roads |
| Pipeline Shortcut | Bureau of Land Management (BLM) | B Road |
| Spur Access to Pad | State | D Road |
| Cactus Park #2 Well Pad | | |
| O&G Lease UTU 85275 | | |

3.0 AFFECTED ENVIRONMENT

3.1 Introduction

This chapter presents the potentially affected existing environment (i.e., the physical, biological, social, and economic values and resources) of the PPA as identified in the Interdisciplinary Team Checklist found in Appendix A and presented in Chapter 1 of this assessment. This chapter provides the baseline for comparison of impacts/consequences described in Chapter 4.

3.2 General Setting

The PPA is located in southeastern Utah approximately 15 miles south of the community of Eastland. Vegetation is predominantly mature pinon and juniper forest interspersed with sagebrush parks. Elevation at the well pad location is 5,900 feet. Annual precipitation is approximately 12 inches. Montezuma Canyon is 1½ miles to the west and Coal Bed Canyon is ½ mile to the east.

3.3 Resources/Issues Brought Forward for Analysis

3.3.1 - Air Quality

Air quality in southeast Utah is affected by various factors. Industrial sources such as power plants, mines, and oil and gas extraction activities in the Four Corners region contribute to local and regional air pollution. Urbanization and tourism may create emissions that affect air quality over a wide area. Air pollutants generated by motor vehicles include tailpipe emissions and dust from travel over dry, unpaved road surfaces. Wildfires and controlled burns are also an air quality concern when smoke inundates communities and other sensitive areas. Strong winds, especially during the spring months can generate significant amounts of windblown dust.

Air pollution emissions are characterized as point, area, or mobile. Point sources are large, stationary facilities such as power plants and manufacturing facilities and are accounted for on a facility by facility basis. Area sources are smaller stationary sources and, due to their greater number, are accounted for by classes. Production emissions from an oil and gas well and dust from construction of a well pad would be considered area source emissions. Mobile sources consist of non stationary sources such as cars and trucks. Mobile emissions are further divided into on-road and off-road sources. Engine exhaust from truck traffic to and from oil and gas locations would be considered on-road mobile emissions. Engine exhaust from drilling operations would be considered off road mobile emissions.

The Clean Air Act required the Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) (EPA, 2008) for pollutants considered harmful to public health and the environment. The Utah Division of Air Quality (UDAQ) is responsible to ensure compliance with the NAAQS within the state of Utah. The following table shows NAAQS for the EPA designated criteria pollutants (<http://epa.gov/air/criteria.html>):

National Ambient Air Quality Standards

Pollutant	Primary Standards		Secondary Standards	
	Level	Averaging Time	Level	Averaging Time
Carbon Monoxide (CO)	9 ppm (10 µg/m ³)	8-hour ⁽¹⁾	None	
	35 ppm (40 µg/m ³)	1-hour ⁽¹⁾		
Lead (Pb)	0.15 µg/m ³ ⁽²⁾	Rolling 3-Month Average	Same as Primary	
	1.5 µg/m ³	Quarterly Average	Same as Primary	
Nitrogen Dioxide (NO _x)	0.053 ppm (100 µg/m ³)	Annual (Arithmetic Mean)	Same as Primary	
Particulate Matter (PM ₁₀)	150 µg/m ³	24-hour ⁽³⁾	Same as Primary	
Particulate Matter (PM _{2.5})	15.0 µg/m ³	Annual ⁽⁴⁾ (Arithmetic Mean)	Same as Primary	
	35 µg/m ³	24-hour ⁽⁵⁾	Same as Primary	
Ozone (O ₃)	0.075 ppm (2008 std)	8-hour ⁽⁶⁾	Same as Primary	
	0.08 ppm (1997 std)	8-hour ⁽⁷⁾	Same as Primary	
	0.12 ppm	1-hour ⁽⁸⁾	Same as Primary	
Sulfur Dioxide (SO ₂)	0.03 ppm	Annual (Arithmetic Mean)	0.5 ppm (1300 µg/m ³)	3-hour ⁽¹⁾
	0.14 ppm	24-hour ⁽¹⁾		

⁽¹⁾ Not to be exceeded more than once per year.

⁽²⁾ Final rule signed October 15, 2008.

⁽³⁾ Not to be exceeded more than once per year on average over 3 years.

⁽⁴⁾ To attain this standard, the 3-year average of the weighted annual mean PM_{2.5} concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m³.

⁽⁵⁾ To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m³ (effective December 17, 2006).

⁽⁶⁾ To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm. (effective May 27, 2008)

⁽⁷⁾ (a) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.

(b) The 1997 standard—and the implementation rules for that standard—would remain in place for implementation purposes as EPA undertakes rulemaking to address the transition from the 1997 ozone standard to the 2008 ozone standard.

⁽⁸⁾ (a) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is ≤ 1.

(b) As of June 15, 2005 EPA has revoked the 1-hour ozone standard in all areas except the fourteen 8-hour ozone nonattainment Early Action Compact (EAC) Areas. For one of the 14 EAC areas (Denver, CO), the 1-hour standard was revoked on November 20, 2008. For the other 13 EAC areas, the 1-hour standard was revoked on April 15, 2009.

The UDAQ issued the Division of Air Quality 2009 Annual Report (UDAQ, 2009) that includes information on areas of the state where monitoring data shows that levels of criteria pollutants exceed NAAQS. These areas are referred to as non-attainment areas. At present, San Juan County is considered in attainment for all criteria pollutants. The UDAQ 2009 Annual Report also includes an emissions inventory (EI), conducted in 2005, by county. The following table shows the EI for San Juan County in tons per year (tpy):

Table 3-1 San Juan County Emissions Inventory (2005)

Pollutant	tpy
PM ₁₀	1,602
PM _{2.5}	395
SO _x	368
NO _x	1,626
VOC	65,138
CO	21,925

Although not listed as a NAAQS criteria pollutant, volatile organic compounds (VOC) are also considered in this EA as they, along with NO_x, are precursors to the formation of ozone and are listed by UDAQ as a pollutant that, if the threshold is exceeded, would require an approval order.

UDAQ requires a New Source Review Permit (NSR), also known as an approval order, for any new or modified source of air pollution emissions. A small source exemption from obtaining an approval order is available for any stationary source if emissions are less than 5 tpy of: SO₂, CO, NO_x, PM₁₀, O₃, and VOC. The UDAQ Modeling Guidelines, Revised December 17, 2008 (Utah, 2008) require dispersion modeling if SO₂ or NO_x is greater than 40 tpy, PM₁₀ is greater than 5 tpy, CO is greater than 100 tpy, or lead is greater than 0.6 tpy.

This EA will address emissions of total particulate matter of less than 10 micrometers (PM₁₀) from heavy construction operations, mobile off road engine exhaust emissions from drilling activities, venting and flaring emissions from completion and testing activities, and emissions from ongoing production activities. This EA will not consider mobile on road emissions as they are dispersed, sporadic, temporary, and not likely to cause or contribute to exceedance of the NAAQS.

4.0 ENVIRONMENTAL IMPACTS

4.1 Introduction

The purpose of this section is to analyze the impacts on the affected environment described in Chapter 3.0, including both the natural and human environment, for each of the alternatives presented in Chapter 2.0.

4.2 Direct and Indirect Impacts

4.2.1 Alternative A – Proposed Action

4.2.1.1 Air Quality

The construction, drilling, completion, testing, and production of an oil and gas well results in various emissions that affect air quality. Construction activities result in emissions of particulate matter (PM₁₀). Well drilling activities result in engine exhaust emissions of oxides of nitrogen (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC). Completion and testing of the well result in emissions of VOC, NO_x, and CO. Ongoing production results in the emission of NO_x, CO, VOC, and PM₁₀.

An EI has not been conducted for the Cactus Park #2 APD project. A MFO typical oil and gas well EI is estimated for the purpose of this analysis. This typical well is based on the following analysis assumptions contained in the PRMP/FEIS (BLM 2008b: 4-10 to 4-15), the RFD (BLM 2005), and previous oil and gas development in the MFO:

- Each oil and gas well would cause 9.6 acres of surface disturbance. This acreage is divided into 5.5 acres for road and pipeline construction and 4.1 acres for well pad construction.
- Construction activity for each well is assumed to be 10 days. It is further assumed that, based on the acreage disturbed, 4.5 days would be spent in well pad construction and 5.5 days would be spent in road and pipeline construction.
- Control efficiency of 25% for dust suppression would be achieved as a result of compliance with Utah Air Quality regulation R307-205.
- Post construction particulate matter (dust) emissions are likely to occur on a short term basis due to loss of vegetation within the construction and staging areas. Assuming appropriate interim reclamation, these emissions are likely to be minimal to negligible and will not be considered in this EA.
- Drilling operations would require 14 days.
- Completions and testing operations would require 3 days.
- Well pad, road, and pipeline construction activity emissions (PM₁₀); and off road mobile exhaust emissions from drilling activities will be considered.
- Off road mobile exhaust emissions from heavy equipment during construction activities and on road mobile emissions will not be considered as they are dispersed, sporadic, temporary, and not likely to cause or contribute to exceedance of the NAAQS.

The estimated EI for a MFO typical well includes particulate matter of less than 10 micrometers in diameter (PM₁₀), nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC). Emissions of sulfur dioxide (SO₂) and lead (Pb) from oil and gas development activities are insignificant and are not included.

Oil and Gas development does not emit ozone (O₃). However, the formation of ozone at the lower levels of the atmosphere is related to emissions of NO_x and VOC. The Uinta Basin Air Quality Study (UBAQS), June 30, 2009 (EIC 2009) was prepared to predict the impact of oil and gas development on air quality, primarily in the Uinta Basin of northeastern Utah. However, as stated in the overview (ECI 2009: OV-10), the 2012 future emissions projections apply the entire 12-km modeling domain, which contains San Juan County (ECI. 2009: OV-7). The UBAQS estimated that ozone levels for the 12-km modeling domain would continue to meet the NAAQS standard through 2012.

Emission factors for activities of the proposed action were based on information contained in the EPA's Emission Factors & AP 42, Volume I, Fifth Edition (EPA.1995), available at: <http://www.epa.gov/ttn/chief/ap42/index.html>. The production emissions from oil storage tanks was estimated based on the emission factor contained in the Colorado Department of Public Health and Environment PS Memo 05-01, Oil & Gas Atmospheric Condensate Storage Tank Batteries Regulatory Definitions and Permitting Guidance (CDPHE 2009), available at: <http://www.cdphe.state.co.us/ap/down/ps05-01.pdf>. A detailed EI spread sheet is contained in appendix B. A summary of the EI is contained in the following table:

Table 4-1 – Emissions inventory summary

	Construction Emissions (Tons)	Drilling Emissions (Tons)			Completions Emissions (Tons)				Ongoing Production Emissions (Tons/year)			
	PM10	NOX	CO	VOC	VOC	NOx	CO	PM10	NOX	CO	VOC	PM10
Typical Well	0.34	13.31	1.83	0.23	0.85	0.07	0.07	0.00	0.01	0.01	6.44	0.00000
Sub Total	0.34	13.31	1.83	0.23	0.85	0.07	0.07	0.00	0.01	0.01	6.44	0.00000

	PM10	NOx	CO	VOC	
Activity Emissions (Total emissions for drilling and completion the well)	0.34	13.37	1.89	1.08	Tons
Production Emissions (Ongoing annual emissions for the well)	0.00000	0.01	0.01	6.44	tpy

This MFO typical well emissions inventory assumes a new well pad and associated road and pipeline construction resulting in 9.6 acres of surface disturbance, and new well bore drilling. The Cactus Park #2 APD differs from the typical well in that the well pad and the access road have been previously constructed, the well bore has been previously drilled,

and the total area of disturbance is 6.5 acres. The Cactus Park #2 proposed action would require less construction and drilling activity with a corresponding and unquantified reduction in emissions.

Based on the estimated emissions for a MFO typical well, DJ Simmons would be required to obtain an approval order from UDAQ as emissions of VOC from ongoing production (stationary source) are estimated to exceed five tons per year. Dispersion modeling would not be required.

4.2.1.2 Monitoring and/or Compliance

DJ Simmons would have qualified cultural resource personnel monitoring surface disturbing construction activity occurring in the vicinity of cultural sites identified during the cultural survey.

BLM personnel would monitor all phases of the project to assure compliance with the conditions of approval and the regulations contained in 43 CFR 3160.

For interim and final reclamation, the BLM would monitor reclamation efforts annually to determine if additional reclamation is required.

4.2.2 No Action alternative

Under the No Action Alternative, the proposed well would not be drilled and the associated access road and pipeline tie would not be constructed. There would be no direct, indirect, or cumulative impacts from the proposed action. Impacts from existing uses would continue. These include impacts from past and present oil and gas development (producing locations and surface pipelines), livestock grazing, and dispersed recreation.

4.3 Cumulative Impacts Analysis

“Cumulative impacts” are those impacts resulting from the incremental impact of an action when added to other past, present, or reasonably foreseeable actions regardless of what agency or person undertakes such other actions.

4.3.1 Air Quality

4.3.1.1 Cumulative Impact Area

The PRMP/FEIS (BLM 2008b) analyzed the impacts to air quality from the emissions of oil and gas development on BLM lands in the MFO planning area. The regional base year EI (2005) to which these emissions are compared is the sum of San Juan and Grand counties. Therefore, the area of San Juan and Grand counties is the cumulative impact area.

4.3.1.2 Past and Present Actions

Air quality in the impact area is affected by local and regional point, area and mobile emissions. Every three years, UDAQ conducts an EI, by county, for the State of Utah. This EI includes information about the quantity and characteristics of the various air

pollutants released by all emission sources in the state. The most recent EI was done in 2005 (base year) and is included in the UDAQ 2009 Annual Report, January 2010 (UDAQ 2010).

4.3.1.3 Reasonable Foreseeable Action Scenario

The PRMP/FEIS (BLM2008b) analyzed impacts to air quality based on the RFD (BLM 2005) predicted levels of oil and gas development. The air quality impact analyses for the proposed plan was based on 72 wells being drilled on BLM lands in the next 15 years. Of these 72 wells, it was assumed that 37 wells would produce oil and/or gas and the remainder would be dry holes. The analyses included emissions from compressors, glycol dehydrators, flaring, and particulate matter (PM₁₀ and PM_{2.5}).

4.3.1.4 Cumulative Impact Analysis

The proposed action would result in emissions estimated in this chapter and detailed in Appendix C. The proposed action is within the development levels predicted in the RFD (BLM 2005) and analyzed in the PRMP/FEIS (BLM.2008b). Annual emissions from oil and gas development in the MFO on BLM lands for the next 15 years and the percent change from the regional base year are summarized in Table 4-2 (BLM 2008b: 4-29):

Table 4-2 - Future Annual Oil and Gas Emissions

Pollutant	Estimated Emissions under Proposed Plan (t/year)	Regional Base-year (t/year)	Percent change from Regional Base-year
CO	145	40,032	<1%
NO _x	42	3,237	1%
PM ₁₀	31	2,453	1%
VOC	292	101,941	<1%

As stated in the PRMP/FEIS (BLM. 2008b, p. 4-773) it is reasonable to assume that oil and natural gas exploration and development would continue within the levels predicted by the RFD (BLM. 2005) over the next 15 years. Accordingly, it is likely that potential air quality impacts from mineral development would continue at the current level.

Assuming appropriate application of control measures and strict adherence to existing regulatory and permitting processes, no appreciable cumulative, long-term adverse air quality effects are projected for oil and gas development.

4.3.2 No Action alternative

The No Action alternative would be to deny the APD and would result in no accumulated impacts.

5.0 CONSULTATION AND COORDINATION

5.1 Introduction

The issue identification section of Chapter 1 identifies those issues analyzed in detail in Chapter 4. The ID Team Checklist provides the rationale for issues that were considered but not analyzed further. The issues were identified through the public and agency involvement process described in sections 5.2 and 5.3 below.

5.2 Persons, Groups, and Agencies Consulted:

List of all Persons, Agencies and Organizations Consulted for Purposes of this EA.

Name	Purpose & Authorities for Consultation or Coordination	Findings & Conclusions
D. J. Simmons, Inc.	Consultation and coordination was conducted for the purpose of refining the proposed action.	The proposed action has been refined and conditions of approval have been formulated to meet BLM regulatory and policy requirement.
Utah State Historic Preservation Office (SHPO)	Consultations for undertakings, as required by National Historic Preservation Act	The SHPO has concurred with the determinations made by the BLM in letter received 05/10/10.
Native American Tribes (See list of consulted tribes in Appendix C.	Consultation as required by the American Indian Religious Freedom Act of 1978 and the National Historical Preservation Act.	Consultation letters were sent on 03/17/10. As of 05/17/10 no expressions of concern have been received..
Leonard Herr, BLM Utah State Office	Physical Scientist (air quality)	Leonard Herr provided comments and advice for the preparation of the Air Quality portions of the EA.

5.3 Summary of Public Participation

The proposed action EA was posted to the Environmental Notification Bulletin Board on 02/17/09. On 05/24/10 the Southern Utah Wilderness Alliance requested that public comments be taken for the Cactus Park #2 APD EA.

5.4 List of Preparers

Table 5.1 List of Preparers

Name	Title	Responsible for the Following Section(s) of this Document
Tammy Wallace	Wildlife Biologist	Fish and Wildlife; Threatened, Endangered, or Candidate Animal Species; Water Resources.
Brian Quigley	Outdoor Recreation Planner	Areas of Critical Environmental Concern; Recreation; Wild and Scenic Rivers; Wilderness and Wilderness Study Areas (WSA); Areas with Wilderness Characteristics.
Laird Naylor	Archaeologist	Cultural Resources, Paleontology.
Cliff Giffen	Natural Resource Specialist	Team Lead: Air Quality, Environmental Justice; Socio-Economics,
Jed Carling	Rangeland Management Specialist	Prime or Unique Farmlands; Invasive Species and Noxious Weeds; Livestock Grazing; rangeland Health Standards; Woodland and Forestry; Vegetation excluding USFS Designated Species; Wild Horses and Burros.
Paul Curtis	Rangeland Management Specialist	Floodplains; Soils; Threatened, Endangered of Candidate Plant Species; Wetlands and Riparian Zones.
Paul Plemons	Fuels Technician	Fuels and fire Management.
Ted McDougall	Geologist	Geology; Mineral Resources; Energy Production.
Maxine Deeter	Realty Specialist	Lands and Access; Visual Resources.
Don Simonis	Archaeologist	Native American Religious Concerns.
Jeff Brown	Petroleum Engineering Technician	Hazardous or Solid Wastes.

6.0 REFERENCES AND ACRONYMS

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6.2 List of Acronyms Used in this EA.

ACRONYM	NAME OR TERM
APD	Application for Permit to Drill
BLM	Bureau of Land Management
BMP	Best Management Practice(s)
CFR	Code of Federal Regulations
COA	Conditions of Approval
DJ Simmons	D. J. Simmons, Inc., Proponent
DR	Decision Record
EA	Environmental Assessment
EI	Emissions Inventory
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
FONSI	Finding of No Significant Impact
MFO	Monticello Field Office
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
OOGO#1	Onshore Oil and Gas Order #1
PPA	Proposed Project Area
RFD	Reasonably Foreseeable Development Scenario For Oil and Gas for the Monticello Planning Area.
RMP	Record of Decision and Approved Resource Management Plan, November 17, 2008
ROD	Record of Decision
ROW	Right-of-Way
SHPO	Utah State Historic Preservation Office
SJRA RMP	San Juan Resource Area (Monticello Field Office) Resource Management Plan of 1991
TPY	Tons per Year
UDAQ	Utah Department of Environmental Quality, Division of Air Quality