

TABLE OF CONTENTS

1.0	PURPOSE AND NEED	1
1.1	Introduction	1
1.2	Tumbleweed Project History	1
1.3	Purpose and Need for the Proposed Action	2
1.4	Conformance with BLM Land Use Plan	2
1.5	Relationship to Statutes, Regulations, or Other Plans	2
1.6	Related and Connected Actions	3
1.7	Identification of Issues	4
1.7.1	Soils	4
1.7.2	Water Resources	4
1.7.3	Vegetation (including Special Status Plant Species and Invasive, Non-Native Weeds)	4
1.7.4	Rangeland Management and Wild Horses	5
1.7.5	Fish and Wildlife (including Special Status and threatened and endangered Species)	5
1.7.6	Recreation	6
1.7.7	Cultural Resources	6
1.7.8	Air Quality	6
1.7.9	Visual Resources	6
1.7.10	Non-WSA Lands with Wilderness Characteristics	6
1.8	Issues Considered but Dismissed from Detailed Analysis	6
1.8.1	Special Designations	7
1.8.2	Ozone	7
2.0	PROPOSED ACTION AND ALTERNATIVES	9
2.1	Proposed Action	9
2.1.1	Well Permitting Process	9
2.1.2	Well Pad Construction	10
2.1.3	Road Construction	11
2.1.4	Pipeline Construction	13
2.1.5	Drilling Operations	13
2.1.6	Well Completion	14
2.1.7	Production Operations	14
2.1.7.1	Compressor Station	15
2.1.8	Dry Hole/Non-producing Well Procedures	15
2.1.9	Surface Disturbance Estimates	15
2.1.10	Water Sources and Water Use	16
2.1.10.1	Endangered Fish and Water Depletion	16
2.1.11	Hazardous Materials and Other Wastes	17
2.1.12	Workovers	18
2.1.13	Reclamation	18
2.1.14	Required Measures	19
2.1.14.1	Air Quality	19
2.1.14.2	Cultural/Historical Resources	20
2.1.14.3	General Environmental Protection	20
2.1.14.4	Geological/Paleontological Resources	20
2.1.14.5	Health and Safety/Hazardous Materials	20
2.1.14.6	Water Resources	21
2.1.15	Applicant-Committed Environmental Protection Measures	21
2.1.15.1	Air Quality	21

2.1.15.2	Cultural/Historical Resources.....	22
2.1.15.3	Health and Safety/Hazardous Materials	22
2.1.15.4	Rangeland Management and Wild Horses	22
2.1.15.5	Soils.....	22
2.1.15.6	Vegetation	23
2.1.15.7	Water Resources.....	23
2.1.15.8	Wildlife.....	23
2.1.15.9	Paleontology.....	24
2.2	Alternative B - No Action Alternative.....	24
2.3	Alternative C – Buried Pipelines	25
2.3.1	Pipeline Construction.....	25
2.3.2	Surface Disturbance Estimates.....	26
2.4	Alternative D – Directional Drilling.....	26
2.4.1	Limitations of Directional Drilling	27
2.4.2	Surface Disturbance	27
2.5	Alternatives Considered but Eliminated from Detailed Analysis.....	28
2.5.1	Original Proposed Action That was Eliminated to Address the BLM’s Concerns (Originally Proposed Road Locations for the TUF #4-3	28
2.5.2	Directional Drilling as Suggested during the Public Comment Period for EA UT-080-05-201.....	28
3.0	AFFECTED ENVIRONMENT	31
3.1	Introduction.....	31
3.2	Resources/Issues Carried Forward for Analysis.....	31
3.2.1	Soils.....	31
3.2.2	Water Resources	32
3.2.3	Vegetation Resources.....	34
3.2.3.1	Noxious and Invasive Weeds	34
3.2.3.2	Tumbleweed II Project Area Vegetation Communities	35
3.2.4	Rangeland Management and Wild Horses	36
3.2.4.1	Rangeland Management.....	36
3.2.4.2	Wild Horses.....	36
3.2.5	Fish and Wildlife.....	36
3.2.5.1	General Wildlife Species.....	36
3.2.5.2	Big Game.....	37
3.2.5.3	Migratory Birds	38
3.2.5.4	Raptors	39
3.2.6	Special Status Species.....	40
3.2.6.1	Special Status Fish Species	40
3.2.6.2	Bald Eagle (<i>Haliaeetus leucocephalus</i>).....	41
3.2.6.3	Golden Eagle (<i>Aquila chrysaetos</i>).....	41
3.2.6.4	Greater Sage-grouse (<i>Centrocercus urophasianus</i>)	41
3.2.6.5	Mexican Spotted Owl (<i>Strix occidentalis lucida</i>)	42
3.2.7	Recreation	43
3.2.8	Cultural Resources	44
3.2.9	Air quality	46
3.2.10	Visual Resources.....	52
3.2.11	Non-WSA Lands with Wilderness Characteristics	53
4.0	ENVIRONMENTAL CONSEQUENCES	55
4.1	Introduction.....	55
4.2	Direct/Indirect Impacts	55

4.2.1	Proposed Action.....	55
4.2.1.1	Soils.....	55
4.2.1.2	Water Resources.....	57
4.2.1.3	Vegetation Resources.....	58
4.2.1.4	Rangeland Management and Wild Horses.....	59
4.2.1.5	Fish and Wildlife Resources.....	61
4.2.1.6	Special Status Species.....	64
4.2.1.7	Recreation.....	68
4.2.1.8	Cultural Resources.....	69
4.2.1.9	Air Quality.....	70
4.2.1.10	Visual Resources.....	77
4.2.1.11	Non-WSA Lands with Wilderness Characteristics.....	78
4.2.2	No Action Alternative.....	79
4.2.2.1	Soils.....	79
4.2.2.2	Water Resources.....	80
4.2.2.3	Vegetation Resources.....	80
4.2.2.4	Rangeland Management and Wild Horses.....	80
4.2.2.5	Fish and Wildlife Resources.....	80
4.2.2.6	Special Status Species.....	80
4.2.2.7	Recreation.....	80
4.2.2.8	Cultural Resources.....	80
4.2.2.9	Air Quality.....	80
4.2.2.10	Visual Resources.....	81
4.2.2.11	Non-WSA Lands with Wilderness Characteristics.....	81
4.2.3	Alternative C – Buried Pipelines.....	82
4.2.3.1	Soils.....	82
4.2.3.2	Water Resources.....	82
4.2.3.3	Vegetation Resources.....	82
4.2.3.4	Rangeland Management and Wild Horses.....	83
4.2.3.5	Fish and Wildlife Resources.....	83
4.2.3.6	Special Status Species.....	83
4.2.3.7	Recreation.....	83
4.2.3.8	Cultural Resources.....	83
4.2.3.9	Air Quality.....	83
4.2.3.10	Visual Resources.....	83
4.2.3.11	Non-WSA Lands with Wilderness Characteristics.....	84
4.2.4	Alternative D – Directional Drilling.....	84
4.2.4.1	Soils.....	84
4.2.4.2	Water Resources.....	84
4.2.4.3	Vegetation Resources.....	85
4.2.4.4	Rangeland Management and Wild Horses.....	85
4.2.4.5	Fish and Wildlife Resources.....	85
4.2.4.6	Special Status Species.....	85
4.2.4.7	Recreation.....	85
4.2.4.8	Cultural Resources.....	85
4.2.4.9	Air Quality.....	86
4.2.4.10	Visual Resources.....	86
4.2.4.11	Non-WSA Lands with Wilderness Characteristics.....	86
4.2.5	Cumulative Impact Analysis.....	87
4.2.5.1	Oil and Gas.....	87
4.2.5.2	Soils.....	88

4.2.5.3	Water Resources.....	89
4.2.5.4	Vegetation Resources	90
4.2.5.5	Rangeland Management and Wild Horses	90
4.2.5.6	Fish and Wildlife.....	90
4.2.5.7	Special Status Species	91
4.2.5.8	Recreation.....	91
4.2.5.9	Cultural Resources	92
4.2.5.10	Air Quality.....	92
4.2.5.11	Visual Resources	97
4.2.5.12	Non-WSA Lands with Wilderness Characteristics.....	97
5.0	CONSULTATION AND COORDINATION	99
5.1	Consultation, Coordination, and Preparation.....	99
5.2	Summary of Public Participation	101
5.3	EA Preparation	125
6.0	REFERENCES AND ACRONYMS.....	126
6.1	References Cited.....	126
6.2	Acronyms and Abbreviations Used in this EA	131

LIST OF TABLES

Table 2-1	Proposed Well Pads and Wells Under the Proposed Action	9
Table 2-2.	Initial and Long-Term Surface Disturbance Estimates - Proposed Action	16
Table 2-3.	Water Source Information.....	17
Table 2-4	Seed Mixture for Reclamation on BLM Lands	18
Table 2-5.	Initial and Long-Term Surface Disturbance Estimates – Alternative C.....	26
Table 2-6.	Initial and Long-Term Surface Disturbance Estimates – Alternative D.....	27
Table 3-1.	Summary of Water Quality Analyses for Willow Creek above Diversions, USGS Gauging Station 09307500	33
Table 3-2.	UDWR Mule Deer Habitat within the Tumbleweed II Project Area	38
Table 3-3.	Migratory Bird Species Potentially Occurring Within the Tumbleweed II Project Area	39
Table 3-4.	Raptor Species with the Potential to Occur in or Near the Tumbleweed II Project Area	39
Table 3-5.	Limited Entry Hunting Opportunities within the Book Cliffs.....	43
Table 3-6.	List of Known Archaeological Sites within the Tumbleweed II Project Area Based on Class I and Class III Inventories Completed to Date	46
Table 3-7.	Temperature, Precipitation, and Snowfall at Nutters Ranch, Utah	47
Table 3-8.	Ambient Criteria Pollutant Concentrations in the Uinta Basin	50
Table 3.9.	HAP Reference Exposure Levels and Reference Concentrations	52
Table 4-1.	Annual Emissions for Development of the Proposed Action.....	71
Table 4-2.	Total Annual Production Emissions from the Proposed Action ¹	72
Table 4-3.	Tumbleweed Proposed Action Annual Emissions (tons/year) ¹	72
Table 4-4.	Criteria Pollutants Maximum Predicted Impacts from the Proposed Action, Development Phase.....	73
Table 4-5.	Criteria Pollutants Maximum Predicted Impacts from the Proposed Action, Operational Phase	74
Table 4-6.	Proposed Action Non-Carcinogenic Acute REL and RfC Impacts.....	75
Table 4-7.	Proposed Action Carcinogenic HAP Risk.....	76
Table 4-8.	Emission Reductions due to Tumbleweed II Air Quality ACEPMs	77
Table 4-9.	Cumulative Surface Disturbance from Oil and Gas Development.....	88

Table 4-10. Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison... 94
Table 4.11. Comparison of Tumbleweed II EA Greenhouse Gas Emissions to 2004 USA and
Global Totals (metric tons/year) 96
Table 5-1. List of Persons, Agencies, and Organizations Consulted..... 99
Table 5-3. List of Preparers 125

LIST OF APPENDICES

Appendix A Interdisciplinary Team Checklist
Appendix B Tumbleweed Project History
Appendix C Special Status Species Checklists
Appendix D Emissions Inventory
Appendix E Figures
Appendix F Consultation Documents

This page intentionally left blank.

1.0 PURPOSE AND NEED

1.1 INTRODUCTION

This Environmental Assessment (EA) has been prepared to analyze Stewart Petroleum Corporation's (Stewart) proposed exploratory natural gas drilling on their Federal leases. Stewart's leases are located in portions of Townships 14 - 15 South, Range 21 East (T14-15S: R21E), in Uintah County, Utah, approximately 32 miles south of Ouray, Utah and form the Tumbleweed II Project Area boundary (see **Figure 2-1**¹). The Proposed Action and analyses within this EA evaluates the construction and drilling of up to nine deep, exploratory wells from seven well pads (Tumbleweed Unit Federal #4-3, #5-8, #9-3, #9-11, #17-4, #17-12, and #18-9), and the construction of production facilities, roads, and pipelines on Federal and State lands in the Tumbleweed II Project Area (**Figure 2-1 – Appendix E**). The majority of the leases fall within the Tumbleweed Federal Exploratory Oil and Gas Unit (TUF). However, given that two of Stewart Petroleum's leases boundaries extend beyond the TUF boundaries, the Project Area illustrated in **Figure 2-1** is defined by Stewart Petroleum's leasehold boundaries (i.e., Federal Lease Numbers UTU-74858, UTU-72667, UTU-72018, UTU-72059, and UTU-84256), rather than the TUF boundaries.

Surface ownership in the Tumbleweed II Project Area consists of 5,704 acres of Federal land administered by the BLM and 1,951 acres of State land cooperatively managed by the State of Utah School and Institutional Trust Lands Administration (SITLA) and the Utah Division of Wildlife Resources (UDWR). Mineral ownership for the proposed wells in this EA is entirely Federal.

The EA is a site-specific analysis of potential impacts that could result with the implementation of Alternative A - the Proposed Action, Alternative B - the No Action Alternative, Alternative C – Buried Pipeline Alternative, or Alternative D - Directional Drilling Alternative. 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 alternatives. An EA provides analysis for determining whether a “Finding of No Significant Impact” (FONSI) can be issued or whether it would be necessary to prepare an Environmental Impact Statement (EIS). A FONSI is a document that briefly presents the reasons why implementation of the selected alternative would not result in “significant” environmental impacts (effects). If the decision maker determines that this project would result in “significant” impacts, then an EIS would be prepared.

If a FONSI is issued, the selected alternative would be approved via the Decision Record. This decision would be contingent upon Stewart meeting all Conditions of Approval (COAs) listed in the Decision Record, and subsequent approval of individual Applications for Permit to Drill (APDs) and right-of-way (ROW) grants.

1.2 TUMBLEWEED PROJECT HISTORY

This EA was preceded by the original *Tumbleweed Exploratory Drilling Environmental Assessment (EA-UT-080-05-201)* (BLM 2007a), for which a Decision Record and FONSI were signed on September 21, 2007. Since September 2007, a number of events have occurred that have prompted the publication of this current Tumbleweed II Exploratory Natural Gas Drilling Project EA, including for example, an appeal and State Director remand of the original 2007 Decision Record; completion of the 2008 Vernal RMP; BLM approval and subsequent rescinding of two Categorical Exclusions for the TUF #19-1 and TUF #18-8; addition of an air quality analysis to Chapters 3 and 4; addition of a directional drilling

¹ Figures are included in **Appendix E**.

alternative; etc. The Draft EA for the Tumbleweed II project was made available to the public for a 15+ day review period held from September 30 to October 16,, 2009. Detailed information on the history of the 2007 Tumbleweed exploratory drilling project and the rationale for publishing this new Tumbleweed II Exploratory Natural Gas Drilling Project EA is included in Appendix B.

1.3 PURPOSE AND NEED FOR THE PROPOSED ACTION

The BLM’s purpose and need for the proposed project is to determine where and under what conditions the BLM would allow Stewart Petroleum to explore their current leases within the Tumbleweed II Project Area in accordance with their valid lease rights. National mineral leasing policies, and the regulations by which they are enforced, recognize the statutory right of leaseholders to explore and develop mineral resources to meet continuing national needs and economic demands, so long as undue and unnecessary environmental degradation is not incurred. Increased development of oil and gas resources in an environmentally responsible manner is necessary to satisfy the Federal Energy Policy (set out by the National Energy Policy Development Group in 2001). The BLM’s objectives are to consider approval of the Proposed Action and alternatives in a manner that is consistent with management objectives identified in the RMP, is consistent with the lease rights granted to Stewart Petroleum, and is consistent with the BLM’s authority to authorize the project so long as undue and unnecessary environmental degradation is not incurred.

Stewart’s need for the project is to fulfill its obligations and responsibilities under its Federal leases to explore, develop and produce commercial quantities of hydrocarbons. Specifically, the purpose of the project is for Stewart Petroleum to drill up to nine² deep, exploratory wells from seven well pads in order to explore for, test, and potentially develop natural gas from the Dakota, Entrada and Wingate geologic formations, and if successful, produce commercial quantities of oil and/or gas under the terms and stipulations of Stewart’s Federal leases in Uintah County, Utah.

1.4 CONFORMANCE WITH BLM LAND USE PLAN

Policies for exploration, development, and land use decisions within the Tumbleweed II Project Area are contained in the Vernal Field Office Approved RMP (BLM 2008a). The Approved RMP allows for processing of APDs and ROW grant applications in support of oil and gas operations, with the impacts of construction and operation activities (e.g., construction of roads, drilling of wells, operation of compressor stations, etc.) to be analyzed on a case-by-case basis. The management objective of the Approved RMP for energy resources is to 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. Implementation of the Proposed Action, Alternative C, or Alternative D would respond to this objective by allowing Stewart to explore natural gas resources in the Tumbleweed II Project Area, while avoiding, minimizing, or mitigating the potential effects of construction, drilling, completion, and operational activities on biotic and abiotic resources. Therefore, the Proposed Action and Alternatives C and D would be in conformance with the Approved RMP.

1.5 RELATIONSHIP TO STATUTES, REGULATIONS, OR OTHER PLANS

This EA was prepared in accordance with NEPA and in compliance with all applicable regulations and laws passed subsequently, including Council of Environmental Quality (CEQ) regulations (40 Code of

² As discussed in **Appendix B**, the TUF #18-9 was drilled and completed in 2007. However, given that the DR approving that well was remanded, the surface disturbance and impacts of that existing well pad, well, and associated facilities are fully analyzed within this new EA.

Federal Regulations [CFR], Parts 1500-1508), U.S. Department of the Interior (USDI) requirements (Department Manual 516, Environmental Quality), and guidelines listed in the BLM’s NEPA Handbook, H-1790-1 (BLM 2008b).

Although the majority of construction would occur on Federal lands, a small portion would occur on State lands managed by the SITLA in Section 16, T14S R21E. There are no comprehensive SITLA guidance documents for the vicinity of the Tumbleweed II Project Area. However, because SITLA’s objectives are to produce funding for the State school system; because production on Federal leases in the region could potentially lead to drilling and production on State lands; and because the State has shown support for similar projects, the Proposed Action and Alternatives C and D are consistent with the objectives of the State.

The proposed natural gas exploration is also consistent with the Uintah County Public Lands Implementation Plan (Uintah County 2003) and the Uintah County General Plan (Uintah County 2005). These plans include information about public lands multiple-use, resource use and development, access, and wildlife management. The Public Lands Implementation Plan specifically states, “Uintah County’s economy is based upon extractive mineral industries and would continue to be in the foreseeable future. The County supports maintaining and increasing renewable resource values, but the vital importance of the minerals industry should be given the highest priority possible. Utilizing Best Management Practices (BMPs) has demonstrated that the minerals industry and renewable resources can thrive at the same time.” Based on this information and because the State has shown support for similar projects, the Proposed Action and Alternatives C and D are consistent with the objectives of Uintah County.

In May 1997 the Utah BLM published *Standards for Rangeland Health and Guidelines for Grazing Management for BLM Lands in Utah*. These standards for rangeland health were developed to ensure that various services, activities, and all renewable resources of the land are environmentally sustainable, and that non-renewable resources are recovered in ways that ensure the long-term health of the land managed by the BLM. The Proposed Action and alternatives carried through in this assessment is consistent with these standards. These standards cover upland soils, riparian systems, natural ecosystems, and water quality.

1.6 RELATED AND CONNECTED ACTIONS

In this EA, all connected actions are included in the Proposed Action. As defined by the CEQ (40 CFR, Part 1508), connected actions are closely related and therefore should be discussed in the same impact statement. Actions are connected if they:

- (i) Automatically trigger other actions which may require environmental impact statements.
- (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously.
- (iii) Are interdependent parts of a larger action and depend on the larger action for their justification.

Related actions are similar in time or place to the proposed project, but are independent of the proposed project. Projects related to the proposed exploratory drilling in the Tumbleweed II Project Area are discussed in the following paragraphs.

Seismic exploration within the Tumbleweed II Project Area was analyzed and approved in the *Bill Barrett Corporation Tumbleweed 3D Seismic Survey Environmental Assessment, Uintah County, Utah* (Tumbleweed 3-D Seismic EA) (EA No. UT-080-2003-409) (BLM 2005a). The Tumbleweed 3-D Seismic EA was a related action because the geologic data gathered during the seismic project were used to help identify site-specific placement of the proposed wells considered in this EA. The Tumbleweed

seismic project is not a connected action because: 1) the seismic project was conducted independently of these wells; and 2) these wells would have been proposed by Stewart and could be drilled regardless of the presence or absence of the seismic data.

The proposed pipeline in this EA would tie into the existing Winter Ridge pipeline, which was analyzed in the *Questar Gas Management Company's Winter Ridge Pipeline Environmental Assessment* (Winter Ridge EA) (EA No. UT-080-06-362). The proposed pipeline in this EA would tie into the existing Wolf Point compressor station, which was analyzed in Pioneer's *Wolf Point Pipeline Project Environmental Assessment* (Wolf Point EA) (EA No. UT-080-2000-0006). The existing pipeline and existing compressor station are considered related actions because they are tied into delivering gas from the proposed exploration wells to market. The existing Winter Ridge pipeline and Wolf Point compressor station, and their associated EAs, are not connected actions because the pipeline and compressor service other ongoing oil and gas projects/fields, and were approved and installed independent of the Tumbleweed exploratory drilling proposal, and would continue to be used for other projects regardless of the Tumbleweed proposal.

1.7 IDENTIFICATION OF ISSUES

As part of internal scoping, BLM resource specialists in the Vernal Field Office reviewed Stewart's Proposed Action and conferred with other agencies to assess the type and magnitude of potential impacts to affected resources. The potential issues listed below are consistent with relevant concerns and potential issues presented in **Appendix A** (Interdisciplinary Team [IDT] Checklist). These potential issues are carried forward for analysis in the Environmental Consequences section (**Chapter 4.0**) of this EA.

1.7.1 SOILS

- Issue 1: Construction of proposed well pads, pipelines, roads, and associated facilities would result in the removal or disturbance of vegetation and soils.
- Issue 2: Disturbance of soils could lead to increased soil erosion, sediment yield, and impacts to biological soil crusts.

1.7.2 WATER RESOURCES

- Issue 1: Construction of proposed well pads, pipelines, roads, and associated facilities could result in direct and indirect impacts to surface water quality. The applicability of a Nationwide General Permit would be coordinated with the Army Corps of Engineers. (USACE).
- Issue 2: Construction and operation of wells, pipelines, and associated facilities could potentially result in chemical spills that could be yielded to Tumbleweed II Project Area drainages and subsequently, the Green River.

1.7.3 VEGETATION (INCLUDING SPECIAL STATUS PLANT SPECIES AND INVASIVE, NON-NATIVE WEEDS)

- Issue 1: Removal of vegetation and disturbance to underlying soils could increase soil erosion, soil compaction, and sediment yield.
- Issue 2: Removal of vegetation and disturbance to underlying soils could increase the potential for weed invasion and establishment.

- Issue 3: Traffic associated with operational activities could contribute to weed invasion.
- Issue 4: The project has the potential to affect existing vegetation treatments in the Tumbleweed II Project Area.
- Issue 5: The project has the potential to affect woodland resources.

1.7.4 RANGELAND MANAGEMENT AND WILD HORSES

- Issue 1: Construction of proposed well pads, pipelines, roads, and associated facilities could result in the removal or disturbance of browse and forage.
- Issue 2: Removal or disturbance of vegetation could decrease the overall vegetative productivity of the Tumbleweed II Project Area, and could reduce available forage for livestock, wild horses, and wildlife.
- Issue 3: The removal of vegetation, increased traffic activity, and project-related noise could temporarily cause livestock and wild horses to forage in adjacent, undisturbed areas, thereby causing increased grazing impacts in those areas.
- Issue 4: Fragmentation of rangeland may impact livestock movement throughout the Horse Point pasture of the Winter Ridge Allotment as well as the current wild horse herd in the Winter Ridge Herd Area.
- Issue 5: Integrity of water sources throughout Horse Point Pasture may be impacted and subsequent displacement of both livestock and wild horses may occur. Horses could be displaced into Willow Creek and Meadow Creek. Livestock/wildlife ponds are located within the Project Area and the integrity of those water sources could be impacted by the proposed project.

1.7.5 FISH AND WILDLIFE (INCLUDING SPECIAL STATUS AND THREATENED AND ENDANGERED SPECIES)

- Issue 1: The alternatives could result in a loss of wildlife habitat due to construction of well pads, pipelines, roads, and associated facilities.
- Issue 2: The alternatives could result in a temporary decrease in wildlife use of Tumbleweed II Project Area habitats (i.e., displacement) during construction, drilling, and completion activities.
- Issue 3: The alternatives could result in a temporary decrease in reproductive success and nutritional condition of wildlife caused by increased energy expenditure that could occur due to physical responses to noise and visual disturbance during construction, drilling, and completion.
- Issue 4: The alternatives could result in a temporary increase in the potential for collisions between wildlife and motor vehicles due to increased traffic during construction, drilling, and completion.
- Issue 5: Water depletion, sedimentation, or spills may occur and could impact fish.

Issue 6: The removal of vegetation and visual and noise disturbances during construction, drilling, completion, and operational activities could potentially affect fish and wildlife including special status species.

1.7.6 RECREATION

Issue 1: Surface disturbance, the placement of permanent structures and facilities, and increased human activity could decrease opportunities for primitive and unconfined recreation.

Issue 2: New road construction could provide increased access to motorized uses.

Issue 3: Temporary decrease in wildlife use of habitats (i.e., displacement) could reduce hunting opportunities.

1.7.7 CULTURAL RESOURCES

Issue 1: Surface-disturbing activities could adversely affect archaeological resources.

Issue 2: Road construction and operation could result in indirect impacts to cultural resources throughout the Tumbleweed II Project Area (e.g., increased visitation and pedestrian traffic, vandalism, OHV or other motorized vehicle use, and erosion).

1.7.8 AIR QUALITY

Issue 1: Emissions from earth-moving equipment, vehicle traffic, drilling and completion activities, separators, oil storage tanks, dehydration units, and daily tailpipe and fugitive dust emissions could adversely affect air quality.

1.7.9 VISUAL RESOURCES

Issue 1: Surface disturbance and oil and gas production facilities would introduce noticeable visual intrusions and change the visual character of the landscape.

1.7.10 NON-WSA LANDS WITH WILDERNESS CHARACTERISTICS

Issue 1: Surface disturbance and the installation of new roads, pipelines, and production facilities would impact the area's naturalness, solitude, and primitive recreation opportunities.

Issue 2: Based on the placement of the proposed exploratory gas wells and associated roads and pipelines, the Wolf Point inventoried area (11,802 acres) would no longer qualify as a wilderness characteristics area.

1.8 ISSUES CONSIDERED BUT DISMISSED FROM DETAILED ANALYSIS

Sections 1.8.1 and 1.8.2 discuss issues that were considered within the original *Tumbleweed Exploratory Drilling EA (EA UT-080-05-201)* (BLM 2007a) or brought up during the public comment period for that EA, which are not carried forward for analysis in this EA.

1.8.1 SPECIAL DESIGNATIONS

Public comments received by the BLM in 2007 on the original draft *Tumbleweed Exploratory Drilling EA (EA UT-080-05-201)* requested that the BLM include analysis of impacts to the potential Main Canyon Area of Critical Environmental Concern (ACEC) and potential Book Cliffs Special Recreation Management Area (SRMA). In response, the BLM included detailed information within the final *Tumbleweed Exploratory Drilling EA (EA UT-080-05-201)* (BLM 2007a) on how proposed development could impact these areas. Some of the background information for these areas is included in Appendix B of this current Tumbleweed II EA. However, the original analyses 2007 can be found in *Tumbleweed Exploratory Drilling EA (UT-080-05-201)* (BLM 2007a), which is available as part of the public record for this project.

On October 31, 2008 the Vernal Field Office released the Record of Decision and Approved RMP (Approved RMP) (BLM 2008a). Within the Approved RMP, neither the potential Main Canyon ACEC nor the potential Book Cliffs SRMA was designated. Because an assessment of impacts to these areas has already been included within the Approved RMP, and decisions have already been made to not carry these areas forward for management, analysis of potential effects to the former potential Main Canyon ACEC or former potential Book Cliffs SRMA—within this site-specific EA is not appropriate. However, potential impacts to individual resource components of these areas (e.g., cultural resources, recreation, etc.) are analyzed as appropriate within this current Tumbleweed II EA.

1.8.2 OZONE

Public comments received on the original *Tumbleweed Exploratory Drilling EA (UT-080-05-201)* (BLM 2007a) asserted that the BLM failed to address potential effects of the project on air quality. Since that time and in response to that public comment, the BLM completed an air quality analysis for the project. An affected environment discussion for air quality has been prepared and is included in **Section 3.2.10** of this EA. Direct and indirect impacts on air quality are discussed in the alternative-specific analyses in Chapter 4.0. Cumulative effects are discussed in **Section 4.2.5.10**.

During the preparation of this EA, the BLM, including the Utah BLM's State Office Air Quality Specialist, discussed and dismissed from consideration inclusion of project-specific photochemical grid modeling for ground level ozone (i.e., ozone modeling) in the EA. Ozone is a regional airshed issue and the complex photochemical reactions that occur in the formation of ozone are dependent upon, among other things, the total pollutant concentrations resulting from all emission sources within a regional airshed, regional climate patterns, and regional transport of emissions.

Ozone modeling requires a detailed and comprehensive accounting of regional ozone precursors (NO_x, VOC) to accurately model ozone formation. Due to the relatively small size of the project, and ozone precursor emission levels, the results of a project-level ozone analysis would not provide any new substantive information that would further inform BLM decision-making through the NEPA process beyond the information provided from a regional ozone analysis. The emissions from the Proposed Action would not result in any substantive change in the regional cumulative VOC and NO_x emission inventory included in the WRAP Phase III study for the Uinta Basin, 2006 Baseline Emissions, (WRAP, 2009). In addition, given the emission levels of the Proposed Action when compared to regional emissions inventories, the margin of uncertainty associated with such a project-level analysis would likely make the results statistically immaterial. The potential cumulative ozone impact from the Proposed Action cannot be modeled with any accuracy due to the level of the emissions from the Proposed Action, the size of the project, and the lack of a computer model sensitive enough to detect and analyze such changes in the regional emissions inventory.

This page intentionally blank.