

**ENVIRONMENTAL ASSESSMENT  
of  
BILL BARRETT CORPORATION'S  
PROPOSED WALLACE CREEK RADERVILLE  
FIELD DEVELOPMENT PROJECT  
NATRONA COUNTY, WYOMING**

Prepared For:

**Casper Field Office  
Bureau of Land Management  
2987 Prospector Drive  
Casper, Wyoming 82604**

and

**Bill Barrett Corporation  
1099 18<sup>th</sup> Street  
Denver, Colorado 80202**

Prepared By:

**Robert M. Anderson, CWB  
ANDERSON ENVIRONMENTAL CONSULTING  
P.O. Box 3586  
Casper, Wyoming 82602-3586  
Telephone: 307-473-1268**

**September 2003**

**TABLE OF CONTENTS**

<b><u>Document Section</u></b>	<b><u>Page</u></b>
1.0 INTRODUCTION	1
1.1 Purpose and Need .....	1
1.2 Relationship to Policies, Plans, and Programs ..	1
2.0 PROPOSED ACTION AND ALTERNATIVES	4
2.1 The Proposed Action	4
2.1.1 Construction and Drilling Operations	7
2.1.2 Completion Operations .....	10
2.1.3 Production Operations .....	10
2.1.4 Expanded Compressor Station .....	11
2.1.5 Gas Gathering System .....	11
2.1.6 Workover Operations .....	13
2.1.7 Abandonment and Reclamation .....	15
2.1.8 Produced Water Disposal .....	15
2.1.9 Hazardous Materials .....	15
2.1.10 Field Camps .....	16
2.1.11 Applicant Committed Practices .....	16
2.1.11.1 Disposal of Sewage, Garbage, and Other Waste Material ....	16
2.1.11.2 Cultural Resources .....	16
2.1.11.3 Invasive Non-Native Plant Species (Noxious Weeds) .....	17
2.1.11.4 Road Maintenance .....	17
2.1.11.5 Wildlife .....	17
2.2 The No Action Alternative	18
3.0 AFFECTED ENVIRONMENT	19
3.1 Environmental Elements Considered with Minor Effects ..	19
3.2 General Setting of the Project Area .....	21
3.3 Existing Development in the Wallace Creek Project Area .....	22
3.4 Cultural Resources .....	22
3.5 Range Management .....	25
3.6 Soils .....	26
3.7 Wildlife .....	27
3.7.1 Big Game Species .....	27
3.7.2 Upland Game Birds .....	30
3.7.3 Raptors .....	30
3.7.4 Threatened, Endangered, and Proposed Species	31
3.8 Environmental Justice	34

**TABLE OF CONTENTS - Continued**

<b><u>Document Section</u></b>	<b><u>Page</u></b>
4.0 ENVIRONMENTAL IMPACTS	35
4.1 Cultural Resources	36
4.1.1 The Proposed Action .....	36
4.1.2 The No Action Alternative .....	36
4.1.3 Mitigation and Monitoring .....	36
4.1.4 Unavoidable Adverse Impacts .....	37
4.1.5 Cumulative Impacts .....	37
4.2 Range Management	37
4.2.1 General Discussion of Livestock Disturbance	37
4.2.2 Native Forage (Vegetation) .....	38
4.2.2.1 The Proposed Action .....	38
4.2.2.2 The No Action Alternative .....	38
4.2.2.3 Mitigation and Monitoring .....	38
4.2.2.4 Unavoidable Adverse Impacts .....	39
4.2.2.5 Cumulative Impacts .....	39
4.2.3 Invasive Non-Native Species (Noxious Weeds)	39
4.2.3.1 The Proposed Action .....	39
4.2.3.2 The No Action Alternative .....	39
4.2.3.3 Mitigation and Monitoring .....	39
4.2.3.4 Unavoidable Adverse Impacts .....	40
4.2.3.5 Cumulative Impacts .....	40
4.3 Soils	40
4.3.1 The Proposed Action .....	40
4.3.2 The No Action Alternative .....	42
4.3.3 Mitigation and Monitoring .....	43
4.3.4 Unavoidable Adverse Impacts .....	43
4.3.5 Cumulative Impacts .....	43
4.4 Wildlife	43
4.4.1 The Proposed Action	43
4.4.1.1 Big Game Species	44
4.4.1.2 Raptor Species .....	44
4.4.2 The No Action Alternative .....	45
4.4.3 Mitigation and Monitoring .....	45

**TABLE OF CONTENTS - Continued**

<u>Document Section</u>	<u>Page</u>
4.4.4 Unavoidable Adverse Impacts	46
4.4.5 Cumulative Impacts .....	46
4.5 Irreversible and Irrecoverable Commitment of Resources .....	46
4.6 Short-Term Use of the Environment Versus Long-Term Productivity	46
5.0 REFERENCES	47
6.0 ABBREVIATIONS	49

**APPENDICES**

APPENDIX A	U.S. Fish and Wildlife Service List of Threatened, Endangered, and Species Proposed for Listing that May Occur Within the Wallace Creek Project Area .....	51
------------	--	----

**LIST OF TABLES**

<u>Table Number</u>	<u>Description</u>	<u>Page</u>
Table 2.1	Raderville Wells Proposed by BBC in the Wallace Creek Area	4
Table 2.2	Access Road(s) to be Either Constructed or Reconstructed to the Raderville Wells Proposed in the Wallace Creek Area .....	8
Table 2.3	Acres of Surface Disturbance Associated with Access Road and Well Pad Construction in the Wallace Creek Area .....	9
Table 2.4	Surface Disturbance Associated with the Proposed Wallace Creek Gas Gathering System .....	13
Table 3.1	Critical Elements of the Human Environment	19
Table 3.2	Cumulative Production from Wells Either Not Committed To Or Outside of the Wallace Creek Unit .....	22
Table 3.3	Previous Oil/Gas Exploration and Development Activity Within the Overall Wallace Creek Project Area .....	23
Table 3.4	Projects Inventoried for Cultural Resources within the WCPA by BBC, Acres Inventoried, and Inventory Results .....	24
Table 3.5	Grazing Allotments on Public Lands in the WCPA	26

**LIST OF TABLES - Continued**

<b><u>Table Number</u></b>	<b><u>Description</u></b>	<b><u>Page</u></b>
Table 3.6	Soil Mapping Units to be Impacted by the Proposed Action	27
Table 3.7	Summary of the Physical Characteristics of Individual Soil Mapping Units in the WCPA .....	28
Table 3.8	2003 Raptor Nesting Activity In or Adjacent to the WCPA	30
Table 4.1	Sensitivity and Acres of Disturbance for Each Individual Soil Mapping Unit Encountered Within the WCPA .....	41
Table 4.2	Estimated Erosion Rates per Acre of Surface Disturbance Calculated Both With and Without the Application of Best Management Practices in Tons/Acre/Year .....	41
Table 4.3	Estimated Erosion Rates With and Without the Application of Best Management Practices in the Reclamation of Disturbed Soils In Tons per Year .....	42

**LIST OF FIGURES**

<b><u>Figure Number</u></b>	<b><u>Description</u></b>	<b><u>Page</u></b>
Figure 1.1	General Vicinity Map	2
Figure 2.1	Raderville Wells Proposed by Bill Barrett Corporation	5
Figure 2.2	Surface Ownership in the Wallace Creek Project Area	6
Figure 2.3	Proposed Wallace Creek Gas Gathering System	14
Figure 3.1	Big Game Crucial Winter Ranges in the Wallace Creek Project Area	29
Figure 3.2	Raptor Nests In and Adjacent to the Wallace Creek Project Area	32