



U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
RAWLINS FIELD OFFICE



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TIERED EA, FONSI, AND DR FORM

Tiered to & Referencing the Atlantic Rim Natural Gas Development Project Environmental Impact Statement

ENVIRONMENTAL ASSESSMENT

EA NUMBER: WY-030-07-EA-186

Lease Numbers: WYC-079940, WYC-0081348, WYC-081348A, WYW-02846, WYW-003569

Proposed Action:

Catalina A & B PODs: Natural Gas Wells, Water ReInjection Wells, Access Roads, Pipeline/Utility Corridors, Water Transfer Station, Central Delivery Point, and Appurtenant Infrastructure

Rawlins Field Office (RFO) Interdisciplinary Team (IDT)

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6/25/2007
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Location of Proposed Action (BLM-administered public lands):

Catalina Unit POD A

Well #	T	R	Sec	Aliquot
44-11	16N	92W	11	SESE
24-12	16N	92W	12	SESW
13-12	16N	92W	12	NWSW
11-13	16N	92W	13	NWNW
42-13	16N	92W	13	SENE
31-13	16N	92W	13	NWNE
22-13	16N	92W	13	SENW
11-18	16N	91W	18	NWNW
22-18	16N	91W	18	SENW
31-18	16N	91W	18	NWNE
42-18	16N	91W	18	SENE
24-7	16N	91W	7	SESW
33-7	16N	91W	7	NWSE
44-7	16N	91W	7	SESE

Catalina Unit POD B

Well #	T	R	Sec	Aliquot
31-7	16N	91W	7	NWNE
42-7	16N	91W	7	SENE
13-31	17N	91W	31	NWSW
24-31	17N	91W	31	SESW
33-31	17N	91W	31	NWSE
44-31	17N	91W	31	SESE
13-32	17N	91W	32	NWSW
24-32	17N	91W	32	SESW
20-1	16N	92W	1	Lot 11
22-1	16N	92W	1	Lot 19
31-1	16N	92W	1	Lot 15
33-1	16N	92W	1	NWSE
40-1	16N	92W	1	Lot 9
42-1	16N	92W	1	Lot 17
20-6	16N	91W	6	NENW
40-6	16N	91W	6	NENE
31-6	16N	91W	6	SWNE
11-6	16N	91W	6	SWNW
42-6	16N	91W	6	Lot 22
22-6	16N	91W	6	NESW
33-6	16N	91W	6	NWSE
44-6	16N	91W	6	SESE
13-6	16N	91W	6	NWSW
1I	16N	92W	1	SESW
31I	17N	91W	31	NWSW
6I	16N	91W	6	SWNW

See POD Master Surface Use Plan and project maps.

Applicant/Proponent: Double Eagle Petroleum Company (Double Eagle)

Conformance with Land Use Plan

This proposed action is in conformance with the Great Divide Resource Management Plan (RMP) that was approved on November 8, 1990. The RMP has been reviewed to determine if the proposed action conforms to the land use plan terms and conditions as required by 43 CFR 1610.5. Development of oil and gas reserves is in conformance with the RMP. On page 30, the RMP states "The entire planning area [Great Divide Resource Area] is open to oil and gas leasing".

The development of this project will not affect the achievement of the Wyoming Standards for Healthy Rangelands (August 1997).

Remarks:

The NOSs or APDs for the proposed action were posted for 30 days in the Rawlins Field Office Information Access Center (Public Room) for review. Notification of preparation of this EA was provided on the Wyoming BLM internet NEPA register (<http://www.wy.blm.gov/nepa/search>).

The Atlantic Rim Area Natural Gas Field Development Project Environmental Impact Statement (AREIS) was written to assess the potential foreseeable and cumulative effects of drilling operations and associated activities in the Project area. The Record of Decision (ROD) for this project was approved on March 23, 2007. The proposed action is in conformance with the AREIS.

The AREIS ROD provides for the drilling of natural gas wells and associated infrastructure, limiting total surface disturbance to 7,600 acres at any one time (not including surface disturbance that occurred prior to implementation of the Interim Drilling Policy). The ROD establishes a goal for per-well surface disturbance of 6.5 acres of short-term disturbance (less in "Category A" areas).

The surface disturbance cap is allocated to operators "...on a prorated mineral leasehold basis." (ROD at Page 2), and development is limited to no more than 8 well sites per 640-acre section. If, in the event an Operator reaches its surface disturbance cap allocation, than "...further disturbance on federal minerals will not be permitted." (ROD at Page 3). The RFO will monitor and track disturbance areas for future proposals, in order to ascertain whether the disturbance cap would be exceeded by future authorizations.

The APDs/Master Surface Use Plan/Master Drilling Plan/Water Management Plan (Master Plan Elements), with Conditions of Approval, contain a complete description of the proposed action. The Master Plan Elements, with Conditions of Approval, are considered an integral part of this Environmental Assessment and are incorporated by reference.

The project (both PODs A & B) is located entirely within a Federal Oil & Gas Unit. No additional rights-of-way are necessary for the proposed action.

Purpose and Need for Proposed Action

Domestic natural gas production is an integral part of U.S. energy development and conservation plans due to its availability and the presence of existing market delivery infrastructure. Domestic production reduces immediate dependence upon foreign sources of energy, and maintains an adequate and stable supply of fuel to maintain economic well-being, industrial production, and national security. The environmental advantages of burning natural gas are emphasized in the Clean Air Act amendments of 1990.

In addition, the proposed action would allow Double Eagle, as leaseholder, to exercise lease rights to explore and develop oil & gas resources within the project lease areas.

For these particular wells, the production is primarily natural gas and produced water from the coal seams.

Description of Proposed Action Alternative

The proposed action entails the construction and/or reconstruction of access roads and well pads for the purpose of drilling 37 CBNG wells (14 in POD A, 23 in POD B) and 3 produced water reinjection wells (all in POD B). In addition, the proposed action provides for the construction, use, and reclamation of appurtenant gas- & water-gathering pipelines and utility corridors, including such a corridor to a proposed well on State of Wyoming estate in Section 36 (T17N/R92W). Where feasible and appropriate, the pipeline/utility corridors were located adjacent and parallel to the proposed or existing access roads and existing pipeline disturbances. The maps and illustrations attached to the EA, APDs, and Master Surface Use Plan display the locations of the proposed wells, access roads, gas- & water-gathering pipelines, and utility (primarily electrical) corridors.

A fenced Central Delivery Point (CDP) facility is proposed in POD B. This 500' x 560' facility would contain the centrally-located facilities to pump & reinject produced water, compress gas, and provide storage and measurement components (see Figure 1).

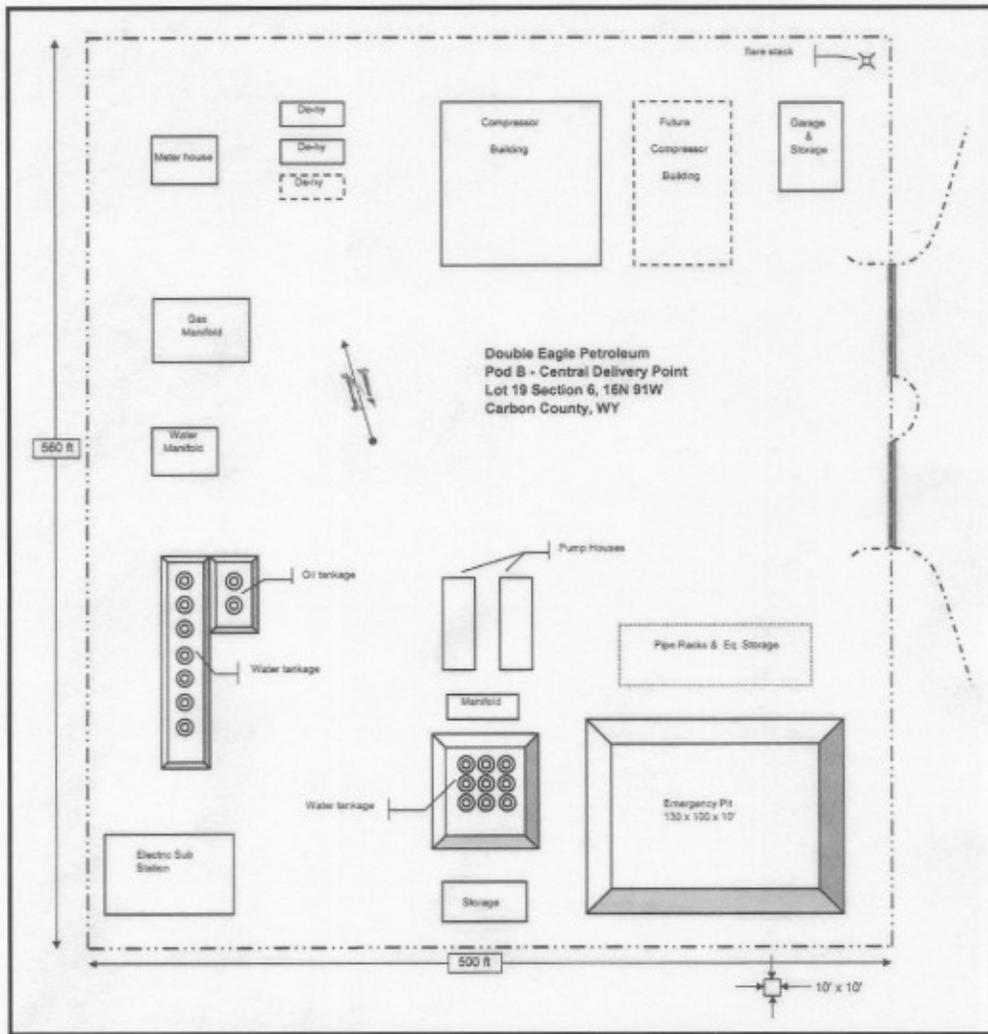


Figure 1: Central Delivery Point (POD B)

The CDP for POD A wells is already constructed and in use, built during exploratory activities (2002). In order to transfer water across topographic rises, each POD will contain a single water transfer station, see Figures 2 and 3:

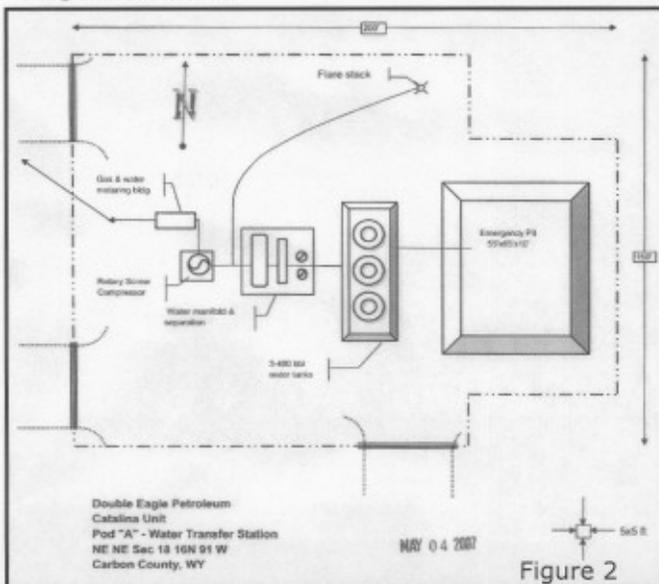


Figure 2

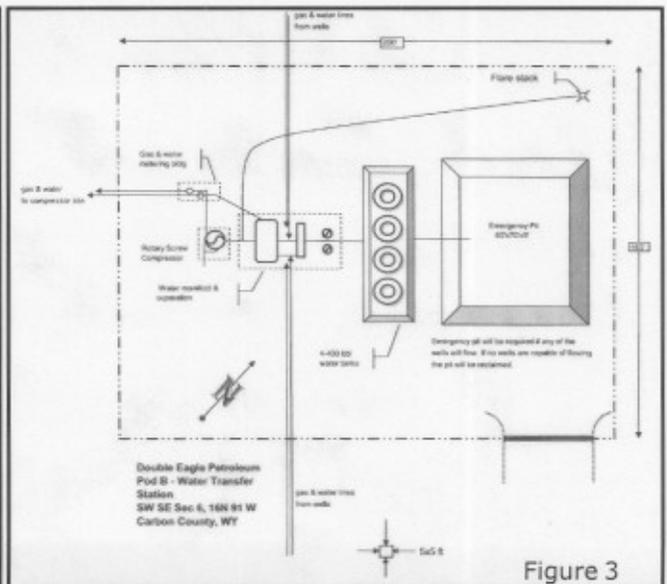


Figure 3

These stations will contain several components within their fenced areas, including water storage tanks, water pumping equipment, and an emergency pit for overflow. The pit would only be constructed and utilized should it be determined that the producing wells would flow water in the event power is lost and the well pumps cease pumping. The emergency pits will prevent the uncontrolled flow of water and subsequent surface release, should power be lost.

Water for drilling would be obtained from the pond located in NWSE of Section 12 (T16N/R92W), which collects flow from coalbed wells in the area under an approved WDEQ WYPDES permit. Water would be hauled by truck to each drill site over existing and proposed roads within the POD.

Onsite inspections of the PODs were conducted on February 22-23 and March 30, 2006. Potential impacts to resources were considered and alternate locations considered. As a result of this field inspection, several project components were moved to reduce potential impacts to soils, water resources, vegetation, and wildlife resources.

The location of the proposed development is approximately 28 miles northeast of Baggs, Wyoming, west of Highway 789. Access to the area will be from existing access roads off of 789. New roads will be constructed or reconstructed to access most well locations.

A discussion of the actions generally associated with drilling a well, including (1) a plan of operations, (2) construction of the access road and drilling pad, and (3) pipeline installation, can be located in the following portions of the AREIS or ROD:

- Chapter 2, *Proposed Action and Alternatives (AREIS)*
- Chapter 4, *Analysis of Environmental Consequences (AREIS)*
- Appendix A, *Project Reclamation Plan (ROD)*
- Appendix C, *Operator-Committed Practices (ROD)*

Mitigation and reclamation measures are described in Chapter 4 and Appendix B of the ROD (*Project Performance-Based Monitoring and Best Management Practices*). The following narratives summarize elements specific to the proposed action for this EA.

Construction

Disturbance estimates for POD B include the well pad and access road/utility/pipeline corridor for the #44-36, a State of Wyoming estate well located in Section 36 (T17N/R92W). Portions of the pads unnecessary for production operations will be reclaimed after the production facilities are constructed. The well sites and access roads will be entirely reclaimed after the wells are plugged and abandoned. For the purpose of assessing potential cumulative effects, oil and gas development may be considered long-term as transitory in nature.

POD A Well Name	Short-Term Disturbance Areas					
	Well Pad- Acres*	Road- Feet	Road- Acres**	Corridor- Feet	Corridor- Acres***	SUM- Acres
44-11 ¹	2.1	2,020	2.3	0	0.0	4.4
24-12	2.1	0	0.0	0	0.0	2.1
13-12 ¹	2.1	1,430	1.6	1,470	1.7	5.4
11-13	2.1	1,620	3.0	1,990	2.3	7.4
42-13	2.1	2,230	4.1	0	0.0	6.2
31-13	2.1	180	0.3	0	0.0	2.4
22-13	2.1	480	0.9	0	0.0	3.0
11-18	2.1	2,090	3.8	0	0.0	5.9
22-18	2.1	3,190	5.9	0	0.0	8.0
31-18	2.1	370	0.7	0	0.0	2.8
42-18	2.1	1,450	2.7	0	0.0	4.8
24-7	2.1	4,380	8.0	0	0.0	10.1
33-7	2.1	2,360	4.3	0	0.0	6.4
44-7	2.1	910	1.7	0	0.0	3.8
Xfer Station	0.7	0	0.0	0	0.0	0.7
Total:	30.1	22,710	39.3	3,460	4.0	73.4

POD B		Short-Term Disturbance Areas				
Well Name	Well Pad-Acres*	Road-Feet	Road-Acres**	Corridor-Feet	Corridor-Acres***	SUM-Acres
31-7 ¹	2.1	1,010	1.2	2,030	2.3	5.6
42-7	2.1	1,370	2.5	0	0.0	4.6
13-31 ²	3.2	2,730	5.0	0	0.0	8.2
24-31	2.1	0	0.0	0	0.0	2.1
33-31	2.1	1,680	3.1	0	0.0	5.2
44-31	2.1	2,100	3.9	0	0.0	6.0
13-32	2.1	2,010	3.7	0	0.0	5.8
24-32	2.1	1,660	3.0	0	0.0	5.1
20-1	2.1	2,900	5.3	0	0.0	7.4
22-1	2.1	2,600	4.8	0	0.0	6.9
31-1	2.1	380	0.7	0	0.0	2.8
33-1	2.1	1,340	2.5	0	0.0	4.6
40-1	2.1	3,140	5.8	2,730	3.1	11.0
42-1	2.1	1,900	3.5	0	0.0	5.6
20-6	2.1	1,540	2.8	0	0.0	4.9
40-6	2.1	2,010	3.7	0	0.0	5.8
31-6	2.1	1,880	3.4	0	0.0	5.5
11-6 ²	3.2	2,780	5.1	0	0.0	8.3
42-6	2.1	1,260	2.3	0	0.0	4.4
22-6	2.1	260	0.5	0	0.0	2.6
33-6	2.1	3,190	5.9	0	0.0	8.0
44-6	2.1	740	1.4	700	0.8	4.3
13-6 ¹	2.1	1,930	2.2	0	0.0	4.3
11 ^{1,3}	0.0	1,390	1.6	1,820	2.1	3.7
31I ²	0.0	0	0.0	0	0.0	0.0
6I ²	0.0	0	0.0	0	0.0	0.0
Xfer Station	0.7	1,130	2.1	0	0.0	2.8
CDP	6.4	0	0.0	0	0.0	6.4
44-36 (WY)	2.1	1,620	3.0	0	0.0	5.1
Total:	59.7	44,550	79.0	7,280	8.3	147.0

*Well pad disturbance areas are approximately equal to 300' x 300' (2.1 acres), including stockpiles and cut & fill slopes for all single-well locations. For wells co-located with injection wells (see ², below), the disturbance areas are approximately equal to 400' x 350' (3.2 acres).

**Assumes new road disturbance and adjacent/parallel pipelines & utilities width equal to 80 feet, unless no adjacent pipeline is proposed (see ¹, below).

***Assumes corridor disturbance width equal to 50 feet.

¹No adjacent pipeline is proposed along this road segment, in which case the disturbance width is assumed to equal 50 feet

²Well is co-located with another proposed well (disturbance area accounted for in production wells, and so injection wells are assigned no additional disturbance)

³Well is located on an existing disturbed area

The proposed action will result in approximately 220.4 acres of short-term disturbance, comprised of new or reconstructed access roads and adjacent & parallel pipelines and utilities (118.3 acres), drill/well pads (82.0 acres), Central Delivery Point (6.4 acres), water transfer stations (1.4 acres), and non-adjacent pipeline/utility corridors (12.3 acres).

The average per-well disturbance for POD A is 5.2 acres (73.4 acres/14 CBM wells), and for POD B is 6.1 acres (147.0 acres/24 CBM wells). The proposed action is located outside of "Category A" area, and thus is subject to a "disturbance goal" of 6.5 acres per well. Both PODs, then, meet the disturbance goal provided in the AREIS ROD.

Access

The operator proposes to construct new access roads to access the well locations. The new roads will be constructed to BLM specifications for a "Resource Road", as specified in BLM Manual Section 9113.

Adequate drainage structures will be constructed or installed. The travelway will be at least 14 feet wide and will have an average right-of-way width of 50 feet (80 feet, including adjacent & parallel pipeline/utility corridors). The access roads would be reclaimed during production operations to the maintenance width, or to approximately 30 feet in width. Upon completion of the project, unnecessary access roads would be recontoured, ripped, seeded, and revegetated.

In order to construct the access road to POD B, an existing stock pond reservoir will be upgraded to serve as a channel crossing (west of the 11-6/6I location).

Well Site

Should the wells become productive, cut portions of the well site will be backfilled and the unused portions of the well site and soil stockpile sites will be stabilized and reseeded with native vegetation. The well size will be reduced to less than one-half acre for the duration of production operations. Reserve pits will be dried within 180 days. Upon completion of the project, the well pads would be recontoured, ripped, seeded, and revegetated.

Pipeline/Utility Corridors

The pipelines would be buried after construction and the disturbed area reclaimed as soon after construction as reasonable. Upon completion of the project, the pipelines would be evacuated and abandoned in-place. Several pipeline crossings of ephemeral or intermittent channels are proposed (see POD maps).

Produced Water Disposal

Produced water from the proposed action would be gathered to existing water injection facilities within the unitized area. Produced water would be disposed of into the Trout Creek, Cherokee Creek, Deep Creek and Nugget formations.

The existing Water Management Plan also indicates that "The pending water-treatment facility and WPDES permit will also provide an important water management option." This is referring to a proposal under consideration by the RFO ("Catalina Unit CBNG Produced Water Disposal Project EA", WY-030-07-EA-001), and being analyzed under separate NEPA analysis. The proposed action for this EA does not consider surface disposal of produced water under WYPDES #WY0054038. The only means of produced water disposal considered in this action would be by reinjection using disposal wells permitted by the BLM and State of Wyoming.

No Action Alternative

NEPA regulations require that alternative analyses in NEPA documents "include the alternative of no action" (40 CFR 1502.14(d)). For this analysis, "no action" means that the BLM would reject the proponent's proposal and "the proposed activity would not take place."

Potential Environmental Impacts- Proposed Action Alternative

Critical Element	Affected		Critical Element	Affected	
	Yes	No		Yes	No
Air Quality	X		T & E Species		X
ACEC's		X	Wastes, Hazardous/Solid	X	
Cultural Resources	X		Water Quality		X
Prime/Unique Farmlands		X	Wetlands/Riparian Zones	X	
Floodplains		X	Wild & Scenic Rivers		X
Native Amer. Rel. Concerns		X	Wilderness		X
Environmental Justice		X	Invasive, Nonnative Species	X	

In addition to the critical elements referenced above, reviews of potential effects upon paleontological-, recreational-, soil-, vegetation-, visual-, and wildlife-resources were conducted. See maps in Figures 4 - 6.

The affected environment and analysis of environmental impacts are discussed in the AREIS to which this EA is tiered.

Air quality impacts are disclosed and analyzed in the AREIS.

Class III cultural resources inventory were conducted for the project areas. Archaeological resources identified will be avoided or, as necessary, a monitor will review construction to ensure no cultural artifacts are disturbed. Both PODs are located outside of the two-mile buffer to contributing segments of historic trails. As such, no additional SHPO consultation is necessary, nor is a visibility analysis required.

Halogeton and other noxious weeds are a significant concern for this project area. COAs have been added to control the spread, establishment, and plant community changes associated with weed infestation.

Portions of the proposed action are located within crucial winter range for mule deer, and within protection buffers of nesting raptors. Two sage grouse leks are known to exist within two miles of the project area. One of the APDs in POD B (#20-6) is located within the ¼-mile buffer of the lek perimeter, and can not be situated to adequately mitigate the potential effects to grouse at the adjacent lek. As a result, authorization of this APD will be deferred until additional mitigation measures have been developed to re-consider the proposal. No mountain plover habitat was identified as being affected within the project area. Seasonal restrictions have been added to the APD authorizations, as appropriate:

Catalina Unit POD A Wildlife Stips

Well Name	Raptor ¹	CWR ²	Grouse ³
44-11	X	X	X
24-12	X	X	X
13-12	X	X	X
11-13	X	X	X
42-13	X		X
31-13	X		X
22-13	X		X
11-18	X		X
22-18	X		X
31-18	X		X
42-18	X		X
24-7	X		X
33-7	X		X
44-7	X		
Xfer Station	X		

Catalina Unit POD B Wildlife Stips

Well Name	Raptor ¹	CWR ²	Grouse ³
31-7	X		X
42-7	X		X
13-31/31I	X	X	X
24-31	X	X	X
33-31	X		X
44-31	X		X
13-32	X		X
24-32	X		X
20-1	X	X	X
22-1	X	X	X
31-1	X	X	X
33-1	X	X	X
40-1	X		X
42-1	X		X
40-6	X		X
31-6	X		X
11-6/6I	X		X
42-6	X		X
22-6	X		X
33-6	X		X
44-6	X		X
13-6	X		X
1I	X	X	X
Xfer Station	X		X
CDP	X		X
44-36 (WY)	X	X	X

¹Construction, drilling and other activities potentially disruptive to nesting raptors are prohibited during the period of February 1 to July 31 for the protection of raptor nesting areas.

²Construction, drilling and other activities potentially disruptive to wintering wildlife are prohibited during the period of November 15 to April 30 for the protection of big game crucial winter habitat.

³Construction, drilling, reclamation and other potentially disruptive activities are prohibited during the period of March 1 to July 15 for the protection of sage grouse.

In some instances, the proponent may request consideration of a temporary exception to wildlife seasonal restrictions. Such an exception may be granted if a determination is made that the wildlife resource will not be adversely impacted.

Two pipeline crossings of an ephemeral/intermittent channel are proposed in POD B (from the #44-6 and #31-7 to the water transfer station). These crossings will comply with current BLM policies and mitigation measures appropriate to the crossings (see "Hydraulic Considerations for Pipelines Crossing Stream Channels," BLM Technical Note 423, April 2007).

Site-specific findings by the interdisciplinary review team are provided on the attached review documents.

Description of Impacts:

A discussion of the actions generally associated with drilling projects and their associated impacts may be found in the Atlantic Rim Environmental Impact Statement and Record of Decision.

Hazardous Materials

Double Eagle has indicated that some hazardous materials could be used during drilling, completion, and production of their proposed wells. The term "hazardous material" as used here means: 1) any substance, pollutant, or contaminant (regardless of quantity) listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended, 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA, 2) any hazardous waste as defined in the Resource Conservation and Recovery Act (RCRA) of 1976, as amended, and 3) any nuclear or nuclear byproduct as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq.

It is possible that wastes created or transported during implementation of the proposed action (i.e., waste motor oils, drilling/completion additives) could be accidentally released to the environment. The operator will be required to comply with the Hazardous Materials Management Plan provided in Appendix C of the AREIS. Numerous State and Federal rules and regulations also apply that govern the handling, storage, and disposal of hazardous substances.

Double Eagle or any contracted company working for Double Eagle will have Material Data Safety Sheets available for all chemicals, compounds, or substances which are used during the course of construction, drilling, completion, and production operations for this project. Additionally, all chemicals will be handled in an appropriate manner to minimize the potential for leaks or spills to the environment.

Impacts to soils, surface and groundwater resources, wildlife, vegetation, and human health could result from the accidental exposure of hazardous materials. However, since the project operations will strictly comply with all applicable federal and state laws concerning hazardous materials, the Hazardous Materials Management Plan for this project, and the operator's Spill Prevention Control and Countermeasure Plan, no significant impacts are anticipated.

Reclamation

Reclamation typically commences within 6 months of drilling completion. The drill pads will be reduced to a less than 1/2-acre production well site at each location. Total reclamation of all new disturbances will take place as the wells and facilities are no longer productive or needed and are plugged and abandoned. Appendix A of the ROD contains the reclamation success criteria by which the reclamation status will be judged. The approved Master Surface Use Plan and Conditions of Approval also contain reclamation measures pertaining to reclamation standards.

Description of Mitigation Measures and Residual Impacts:

Mitigation of potential effects is part of the proposed action, and specific mitigation details can be found in the Master Plan Elements including the Conditions of Approval. Residual impacts resulting from the proposed action would include permanent loss of oil and/or gas reserves should the wells become productive. In addition, the well pads, production equipment, and the access roads could remain in place for 30 years or more (until plugging and abandonment, final reclamation).

Potential Environmental Impacts- No Action Alternative

Under the No-Action Alternative, the proposed action would not be authorized. The 40 wells would not be constructed or drilled, and gas production from the proponent's lease would not occur. Existing development would continue to occupy the project area, along with impacts associated from the existing development.

Residual Impacts/Cumulative Impacts:

The potential residual and cumulative impacts are discussed in the AREIS, Chapter 5, *Cumulative Impacts Analysis*. The proposed action entails the addition of 40 CBNG wells and appurtenant facilities.

Standard mitigation guidelines are addressed in the ROD's Appendix A, *Project Reclamation Plan*. Additional mitigation measures are also provided in Appendix B, *Performance-Based Monitoring and Best Management Practices*, and Appendix C, *Operator-Committed Practices*. All needed mitigation, for that portion of the proposed action on public land, is part of the proposed action.

The access roads and well/production pads may remain visible for a period of approximately 20 to 30 years after they are abandoned and reclaimed. The oil and gas resource will be permanently lost. All needed mitigation is part of the proposed action.