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

TIERED EA, FONSI, AND DR FORM

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

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ENVIRONMENTAL ASSESSMENT **EA NUMBER**: WY-030-07-EA-232

Lease Numbers: WYW-116679, 139142, 141278, 148482, 161909, 161910, and 161914

Proposed Action:

Sun Dog Unit D and E Plans of Development (PODs), which include; 30 Coalbed Natural Gas Wells and 4 Water Re-injection Wells, Access Roads, Pipeline/Utility Corridors, and related infrastructure.

Applicant/Proponent: Anadarko E & P Company

BLM Rawlins Field Office (RFO) Interdisciplinary (Review) Team (IDT)

POD IDT Members	Title
Ben Toole	Wildlife Biologist
Nina Trapp	Archaeologist
Andy Stone	Hydrologist
Hillaire Peck	Civil Engineer
TJ Murry	Rangeland Management Specialist
Gary McDonald	Natural Resource Specialist

Prepared By:

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Gary McDonald, Sun Dog D/E POD IDT Lead

10/23/07

Date

Location of Wells and Proposed Action (BLM-administered public lands):

Sun Dog Unit POD "D"

	Well #	Aliquot	Sec	T	R
1	2-3	NWNE	3	16N	91W
2	4-3	NWNW	3	16N	91W
3	6-3	SENW	3	16N	91W
4	10-3	NWSE	3	16N	91W
5	10-3i	NWSE	3	16N	91W
6	12-3	NWSW	3	16N	91W
7	2-4	NWNE	4	16N	91W
8	4-4	NWNW	4	16N	91W
9	6-4	SENW	4	16N	91W
10	8-4	Not approved at this time			
11	16-4	SESE	4	16N	91W
12	2-5	NWNE	5	16N	91W
13	4-5	NWNW	5	16N	91W
14	4-5i	NWNW	5	16N	91W
15	6-5	SENW	5	16N	91W
16	8-5	SENE	5	16N	91W
17	8-9	SENE	9	16N	91W
18	4-10	NWNW	10	16N	91W
19	12-10	NWSW	10	16N	91W
20	10-34	NWSE	34	17N	91W
21	12-34	NWSW	34	17N	91W
22	12-34i	NWSW	34	17N	91W
23	14-34	SESW	34	17N	91W
24	16-34	SESE	34	17	91W

Sun Dog Unit POD "E"

	Well #	Aliquot	Sec	T	R
1	12-26	NWSW	26	17N	91W
2	14-26	SESW	26	17N	91W
3	2-34	NWNE	34	17N	91W
4	8-34	SENE	34	17N	91W
5	2-35	NWNE	35	17N	91W
6	4-35	NWNW	35	17N	91W
7	6-35	SENW	35	17N	91W
8	10-35	NWSE	35	17N	91W
9	12-35	NWSW	35	17N	91W
10	12-35i	NWSW	35	17N	91W
11	14-35	SESW	35	17N	91W

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 NOS or APD for the proposed action were posted for 30 days (beginning on 10/26/2006 for POD D and 11/03/2006 for POD E) 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." (AR ROD, Page 2), and development is limited to no more than 8 well sites per 640-acre section. If in the event an Operator reaches the surface disturbance cap allocation, then "...further disturbance on federal minerals will not be permitted." (AR ROD, 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 any future authorizations.

The APD's, Master Drilling Plan and Master Surface Use Plan with Water Management Plan and Conditions of Approval, contain a complete description of the proposed action. The Master Drilling and Surface Use Plans with associated documents and the Conditions of Approval are considered an integral part of this Environmental Assessment and are incorporated by reference.

Modifications, or alternatives, to the original proposal received from the operator were identified as the result of the pre-approval onsite inspections. At the on-sites, all areas of proposed surface disturbance were inspected to ensure that potential impacts to resources would be minimized. In some cases, access roads were re-routed, and well locations, pipelines, and other water management control structures were moved, modified, or dropped from further consideration to alleviate or minimize environmental impacts. In addition, site specific mitigation and/or Conditions of Approval have been applied to alleviate or reduce environmental effects of the operator's proposal. Onsite changes, implementation of committed mitigation measures contained in the Master Surface Use Plan, Drilling Program and Water Management Plan, and site specific and Standard COAs are incorporated and analyzed in the Proposed Action Alternative.

All D and E POD wells are located entirely within a Federal Oil and Gas Unit, the Sun Dog Unit, and as a result no additional rights-of-way are required as part of 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 Anadarko, as leaseholder, to exercise lease rights to explore and develop oil and gas resources within the project lease areas.

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

Development of Alternatives

In reviewing the proponent's submitted proposal (APDs, Master Surface Use Plan, Master Drilling Plan, Water Management Plan, etc.), the BLM conducted onsite reviews and considered known and potentially-occurring resources and conditions in the project area. As a result of this review, project components were moved, added, or eliminated in order to reduce potential environmental impacts, and in accordance with BLM policy

and accepted Best Management Practices (BMPs). This resulted in the alteration of the proponent's submitted proposal to yield the Proposed Action, which incorporates the changes from the onsite inspections, BLM review, and mandated BLM mitigations (Conditions of Approval). The Proposed Action, then, differs from the original proposal submitted by the proponent. Since the proponent has agreed, by re-submission of the applications and POD plans, to the changes agreed upon as a result of the onsite inspections and BLM review, the Proposed Action represents a *de facto* alternative to the original submittal.

The EIS considered several alternatives to development of the oil & gas resources in the project area (see DEIS, Pages S2-S3 and FEIS Page 1-20).

The BLM interdisciplinary team, in review of this Proposed Action (as modified during onsite inspections and subsequent review), identified no unresolved resource conflicts that would necessitate development of additional alternatives.

Description of Proposed Action Alternative

The proposed action includes the construction and/or reconstruction of access roads and the construction of well pads for the purpose of drilling 30 CBNG wells (20 in POD D and 10 in POD E) and 4 produced water re-injection wells (3 in POD D and 1 in POD E). An additional well, the 8-4, was originally proposed but is not being included in this analysis due to unresolved archaeological resource concerns. In addition, the proposed action also includes the construction, operation and reclamation of associated underground gas gathering/sales pipelines, produced water-gathering pipelines and power-lines and utility corridors. The majority of pipeline/utility corridors are located adjacent and parallel to the proposed or existing access roads and existing pipeline disturbances, except where not feasible and appropriate and surface disturbance would be increased. The maps and illustrations attached to the APDs and Master Surface Use Plan display the locations of the proposed wells, access roads, gas and water-gathering pipelines, power-line (electrical) and other utility (gas and water) corridors.

Any additional facilities later determined to be necessary would be proposed and applied for via a Sundry Notice.

Water for drilling each well would be obtained from existing wells completed in the coal seams of the Mesa Verde Group within the Sun Dog Unit. Water would be hauled by truck to each drill site over existing and proposed roads within the POD. Any changes in the water source or method of transportation would first require written approval by the BLM. To protect any shallow, fresh water aquifers or sources, drilling of surface casing for each well would use either air drilling techniques, or use non-produced (fresh) water from a State permitted local source.

Onsite inspections of the POD wells, well pads, access roads and pipeline/utility corridors were conducted on May 1, 2, 3 and 23, 2007. Potential impacts to resources from the location of the well pads, access roads and corridors were reviewed and assessed. As a result, numerous pads, roads and corridors were relocated to reduce potential impacts to soils, vegetation, water, wildlife (including fisheries), cultural and recreational resources.

The location of the proposed development is approximately 22 miles north/northeast of Baggs, Wyoming, east of Highway 789. Access to the area will be from existing County Road 608 to the east off of Highway 789. Some existing roads will be reconstructed and new roads will be constructed to access 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

Well access roads, drill pads and pipeline/utility corridors must be constructed and or re-constructed in order to drill and complete operating and producing coal bed natural gas wells. This is considered a short-term disturbance. Upon completion of a well as a producer and placing into production (gas sales), portions of the well (drill) pad not needed for production operations will be reclaimed to a production pad. Upon the completion of installation of the pipelines/utilities, the pipeline/utility corridors will be finally reclaimed. Upon the successful interim reclamation of the areas of the well pad and access/utility corridors not needed for production operations, the remaining surface disturbance is considered as long-term. The entire well pad, access road and pipeline/utility corridor will be totally reclaimed subsequent to well plugging and abandonment under final reclamation.

Surface disturbance estimates for POD D and E including the well pads and access road/utility/pipeline corridors and are presented in the Tables below:

Sun Dog D	**Short Term Disturbance Areas**				
Well #	Well Pad-Acres*	Road-L. Feet	Corridor-Acres**	Road-Acres***	SUM-Acres
8-9	2.2	3088	2.1	3.5	7.8
12-10	2.2	2565	1.8	2.9	6.9
2-3	2.2	102	0.1	0.1	2.4
10-3	2.2	355	0.2	0.4	2.8
10-3i	0		0	0	0
2-4	2.2	1471	1	1.7	4.9
2-5	2.2	170	0.1	0.2	2.5
4-3	2.2	2498	1.7	2.9	6.8
4-4	2.2	2235	1.5	2.6	6.3
4-5	2.2	2325	1.6	2.7	6.5
4-5i	0		0	0	0
6-3	2.2	505	0.3	0.6	3.1
6-4	2.2	2194	1.5	2.5	6.2
6-5	2.2	161	0.1	0.2	2.5
8-4	Not approved at this time				
8-5	2.2	5393	3.7	6.2	12.1
12-3	2.2	167	0.1	0.2	2.5
16-4	2.2	0	0	0	2.2
4-10	2.2	5334	3.7	6.1	12
10-34	2.2	217	0.1	0.2	2.5
12-34	2.2	3534	2.4	4.1	8.7
12-34i	0	0	0	0	0
14-34	2.2	408	0.3	0.5	3.0
16-34	2.2	258	0.2	0.3	2.7
Total	**44**	**32980**	**22.5**	**37.9**	**104.5**

Sun Dog E	Short Term Disturbance Areas				
Well #	Well Pad- Acres*	Road-L. Feet	Corridor-Acres**	Road-Acres***	SUM-Acres
12-26	2.2	111	0.1	0.1	2.4
14-26	2.2	116	0.1	0.1	2.4
2-34	2.2	3169	2.2	3.6	8
8-34	2.2	1186	0.8	1.4	4.4
2-35	2.2	3821	2.6	4.4	9.2
4-35	2.2	1065	0.7	1.2	4.1
6-35	2.2	138	0.1	0.2	2.5
10-35	2.2	991	0.7	1.1	4
12-35	2.2	189	0.1	0.2	2.5
14-35	2.2	337	0.2	0.4	2.8
12-35i	0	0	0	0	0
Total	**22**	**11123**	**7.6**	**12.7**	**42.3**

* Well pad surface disturbance areas are approximately 2.2 acres, including spoil piles and cut/fill slopes. Injection wells (i) are co-located on same pad with production wells representing no additional surface disturbance.
** This assumes a corridor surface disturbance with widths equal to 30 feet. .
*** This assumes new road surface disturbance with widths equal to 50 feet.

The proposed action (for both POD D and Pod E) will result in approximately 147 acres of short-term disturbance, comprised of new or reconstructed access roads and adjacent & parallel pipelines and utilities, as detailed above.

The average short-term per-well disturbance for POD D is 5.2 acres for Sun Dog D (again, assuming no additional disturbance for the injection wells) and 4.2 acres for POD E. 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 or reconstruct existing access roads to the proposed well locations. The new constructed or reconstructed roads will be constructed to meet BLM specifications for a "Resource Road", as specified in BLM Manual Section 9113. Proper drainage structures will be constructed/installed along the access roads. The width of the access road travel-way (travel surface) will be a minimum of 14 feet within an average right-of-way width of 40 to 50 feet. Unless prohibited by terrain and or excessive surface disturbance or other such circumstances the access road right-of-way will be combined with the pipeline/utility right-of-way into a road/utility corridor that will be a total of 80 feet in width. In addition, some local connector or collector roads between multiple well locations will be constructed to a minimum 16-20 feet wide travel width within the 80 feet wide corridor.

The access roads including utility corridors would be reclaimed during production operations to the maintenance width of approximately 30 to 40 feet. Utility corridors upon completion of pipeline/power-line installation along with any unneeded access road would be recontoured, ripped, seeded, and revegetated.

Well Sites

In order to drill and complete the wells an approximate 220 by 300 or 220 by 350 feet 1.8 or 2.0 acre drill pad will be constructed for each well location. Some well locations will also include an additional produced water injection well, identified by an "i" at the end of the well number. In the event the wells become producers, cut and fill portions of the well site will be brought back to grade and reclaimed along with any other unneeded portions of the well site. Soil stockpiles will be re-spread or stabilized, and reseeded with native vegetation. The well pad will be reduced to less than one-half acre for the duration of production operations. Unless

otherwise authorized and in conjunction with interim pad reclamation, the reserve pits will have been dried and backfilled within 180 days of well completion or plugging and abandonment. The entire well pad will be recontoured, ripped, seeded, and revegetated during final reclamation upon final plugging and abandonment.

Pipeline/Utility Corridors

The produced water and gas sales and gathering pipelines and power-lines would be buried upon completion of construction and installation, and the surface disturbed areas reclaimed soon thereafter. Upon well plugging and abandonment and or pipeline/power-line abandonment, the pipelines/power-lines would be properly abandoned in accordance with BLM procedures for abandonment and the right-of-ways and corridors adequately reclaimed. Major crossings of drainages have been engineered to insure design/construction adequacy and erosion protection. All channel 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).

Produced Water Disposal

Produced water from the proposed wells would be gathered and transported via buried water pipelines to existing and proposed water re-injection wells within the PODs and the Sun Dog Unit. Produced water collection, transport and disposal, is addressed in detail in the MSUP and appended Sun Dog Unit Water Management Plan (WMP).

The only method of produced water disposal considered and analyzed under the "proposed action" and this EA is subsurface re-injection using underground injection disposal wells permitted by the State of Wyoming and approved by BLM.

At new injection facilities, it is anticipated that subsurface water sumps will be constructed in lie of above ground storage tanks. Any modifications to this proposal will be submitted via a Sundry Notice for review prior to approval.

Monitoring wells

As described and detailed in Appendix B of the Atlantic Rim ROD and the Sun Dog Water Management Plan, the Unit Operator shall be responsible for drilling, completing, and equipping one set of three shallow groundwater-monitoring wells completed in water-bearing sandstone units stratigraphically above the principle producing coal beds in the upper Mesaverde Group prior to production of any of the wells in the two PODs.

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 of the "Proposed Action" Alternative

	Affected			Affected	
Critical Element	Yes	No	Critical Element	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 and 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, visual and recreational, soil, vegetation, and wildlife resources were conducted.

The affected environment and analysis of environmental impacts are discussed in the AREIS to which this EA is tiered. Air quality impacts are also disclosed and analyzed in the AREIS. A map showing the known wildlife resources in the project vicinity is attached.

Halogeton and other invasive and/or 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.

Cultural:

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 have wells and infrastructure located inside of the two-mile buffer of contributing segments of a historic trail ("Rawlins to Baggs Road"). As a result, SHPO consultation was necessary and a visibility analysis required on those well locations and related infrastructure. The AREIS also required a "Programmatic Agreement" or "Memorandum of Agreement" between the affected parties, i.e. landowner (BLM), operator and SHPO to address the necessary mitigation to minimize impact to the trail view-shed from these wells and associated disturbances. As a result, restrictions or stipulations in the form of COA were added to the MSUP APD authorizations as appropriate. Those stipulations are summarized below:

For all wells and associated infrastructure in POD D and E:
1) *Standard cultural stip (under general permitting requirements)*
2) *All surface facilities will be painted a color compatible with the local environment.*
3) *The access road will be surfaced with material compatible with the local environment.*
4) *The Operator shall select and use a seed mix most applicable to each disturbed location, with the goal of restoring individual sites to closely resemble the pre-disturbance native plant communities, as provided in Appendix A of the ROD, "Project Reclamation Plan."*

Additional mitigation measures are stipulated for individual wells and/or infrastructure within two-miles of the Rawlins-Baggs Road which have viewshed or visibility concerns, which include:

POD E wells: 2-35, 10-35, 2-34, 8-34, 12-26, 4-35, 6-35, 12-35, and 14-35
POD D wells: 12-10 (1 only), 2-4, 4-3 (1 only), 6-4 (1 only), 12-3 (1 only), 10-34 (2 only), 12-34 and 12-34i (1 only), and 14-34

These additional mitigation measures include:

1) *Unless otherwise authorized, the pipelines/utilities will be plowed or ripped into the un-bladed surface (using technology that does not require trenching). If such techniques are infeasible due to terrain or geology, the surface will be brush-hogged and the utilities will be placed no farther than the outside edge of the ditch slope.*
2) *No blading will be allowed outside the staked well location for placement or removal of the topsoil stockpile.*

Other, site-specific Conditions of Approval (such as archaeological monitor, barrier fencing, etc.), are also applied, as applicable.

Portions of the proposed actions (wells, pads, access roads and pipeline/power-line right-of ways/corridors) are located within two mile (protective buffer) of sage grouse leks, within one mile (protective buffer) of nesting raptors (ferruginous hawks) and within crucial winter range for mule deer. Numerous well locations, roads and corridors were relocated outside these areas or buffer zones where practical, and several were relocated on the outside or edge of "No Surface Occupancy" (NSO) or "Controlled Surface Use" (CSU) areas or zones for these wildlife resources. The NSO or CSU is a one mile radius from the lek perimeter for sage-grouse and one-quarter mile from the nest for ferruginous hawks. Mountain plover habitat was identified for a few locations. As a result of the above, seasonal restrictions or stipulations in the form of COA were added to the MSUP APD authorizations as appropriate. Those stipulations are summarized below:

Sun Dog Unit POD "D" Wildlife Stipulations

Well Name	Raptor[1]	Grouse[2]	Plover[3]
2-3	NA	2	NA
4-3	1	2	NA
6-3	NA	2	NA
10-3	NA	2	NA
10-3i	NA	2	NA
12-3	NA	2	NA
2-4	1	2	NA
4-4	1	2	NA
6-4	1	2	NA
16-4	NA	2	NA
2-5	1	2	NA
4-5	1	2	NA
4-5i	1	2	NA
6-5	1	2	NA
8-5	1	2	NA
8-9	NA	2	NA
4-10	NA	2	NA
12-10	NA	2	NA
10-34	1	2	NA
12-34	1	2	NA
12-34i	1	2	NA
14-34	1	2	3
16-34	1	2	NA

Sun Dog Unit POD "E" Wildlife Stipulations

Well Name	Raptor[1]	Grouse[2]	Plover[3]
12-26	1	2	NA
14-26	NA	2	NA
2-34	1	2	NA
8-34	1	2	NA
2-35	NA	2	NA
4-35	1	2	NA
6-35	NA	2	NA
10-35	NA	2	NA
12-35	NA	2	NA
12-35i	NA	2	NA
14-35	NA	2	NA

1 Raptor Stipulations: Construction, 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.

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

3 Plover Stipulations: Construction, drilling and other activities potentially disruptive to breeding and nesting plover are prohibited during the period of April 10 to July 10 for the protection of nesting plover/habitat.

Exceptions to Stipulations: In some instances, the operator may request consideration of a temporary exception to wildlife seasonal restrictions or stipulations. Such exceptions may be granted on a limited individual case by case basis if a determination is made by a BLM wildlife biologist that the wildlife resource will not be adversely impacted.

The fisheries biologist attended onsite inspections and considered potential impacts to Muddy Creek's 6840 BLM Sensitive fish species and determined that no additional mitigation or monitoring requirements for the

proposed action were necessary.

Other site-specific findings by the interdisciplinary review team are provided in the review documents that accompany the POD MSUP and well APDs and this EA in the BLM RFO lease/well and POD/Unit files.

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

Anadarko 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.

Anadarko or any contracted company working for Anadarko 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

Interim reclamation is typically initiated and completed within 6 months of drilling completion. The drill pads will be reduced to a less than one-half 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 35 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 and development on nearby private (fee) and or state leases.

Residual Impacts/Cumulative Impacts:

The potential residual and cumulative impacts are discussed in the AREIS, Chapter 5, and Cumulative Impacts Analysis. The proposed action entails the addition of 30 CBNG wells (20 in POD D and 10 in POD E) and 4 produced water re-injection wells (3 in POD D and 1 in POD E).

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.

Additional mitigation measures are addressed in the AREIS, under; Appendix A: Reclamation Plan; Appendix C Hazardous Materials, and; Appendix D Wildlife Protection Plan. All recommended mitigation for that portion of the proposed action on public land, is part of the proposed action and plan of operation found in the well POD MSUP with COA and APDs.

Persons/Agencies Contacted and or Consulted:

Mary Mondragon	Regulatory Analyst	Anadarko E&P Company
Cathy Flansburg	Regulatory Analyst	Anadarko E&P Company
Gary Sundberg	Permitting Consultant	Anadarko E&P Company
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Ben Toole	Wildlife Biologist	BLM, Rawlins Field Office
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Andy Warren	Rangeland Supervisor	BLM, Rawlins Field Office
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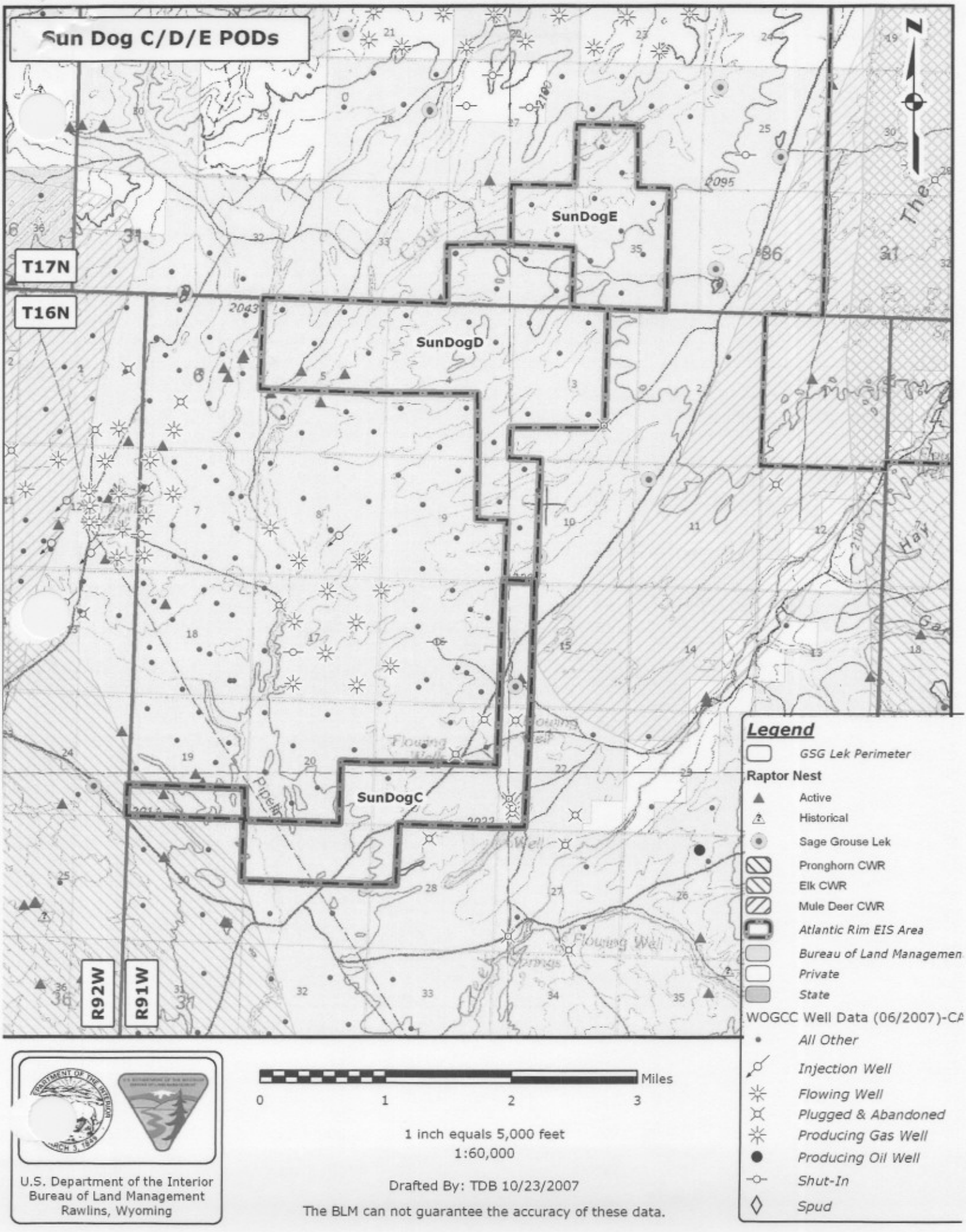
Sun Dog C/D/E PODs
N
SunDogE
SunDogD
SunDogC
T17N
T16N
R92W
R91W
Legend
GSG Lek Perimeter
Raptor Nest
Active
Historical
Sage Grouse Lek
Pronghorn CWR
Elk CWR
Mule Deer CWR
Atlantic Rim EIS Area
Bureau of Land Managemen
Private
State
WOGCC Well Data (06/2007)-CA
All Other
Injection Well
Flowing Well
Plugged & Abandoned
Producing Gas Well
Producing Oil Well
Shut-In
Spud
Miles
0
1
2
3
1 inch equals 5,000 feet
1:60,000
Drafted By: TDB 10/23/2007
The BLM can not guarantee the accuracy of these data.
U.S. Department of the Interior
Bureau of Land Management
Rawlins, Wyoming