

DECISION RECORD
Section 390, Energy Policy Act of 2005 Categorical Exclusion 3 (CX3)
Yates Petroleum Corporation, Applications for Permit to Drill (APDs)
Categorical Exclusion 3 (CX3), WY-070-390CX3-14-3 for the Aerial Federal #35H
WY-070-390CX3-14-4 for the Aerial Federal #36H
Bureau of Land Management, Buffalo Field Office, Wyoming

DECISION. The BLM approves the applications for permit to drill (APDs) from Yates Petroleum Corporation (Yates) to drill 2 horizontal oil and gas wells and construct their associated infrastructure as described in the CX3 analysis, for the 390 CX3 numbers listed above, incorporated here by reference.

Compliance. This decision complies with or supports:

- Federal Land Policy and Management Act of 1976 (FLPMA) (43 USC 1701); DOI Order 3310.
- National Environmental Policy Act of 1969 (NEPA) (42 USC 4321).
- National Historic Preservation Act of 1966 (16 USC 470).
- Endangered Species Act of 1974 (16 USC 1531).
- Buffalo and Powder River Basin Final Environmental Impact Statements (FEISs), 1985, 2003 (2011).
- Buffalo Resource Management Plan (RMP) 1985, Amendments 2001, 2003, 2011.

A summary of the details of the approval follows. The CX analysis, WY-070-390CX3, for the 2 oil and gas wells, above, includes the project description, including site-specific mitigation measures which are incorporated by reference into that worksheet from earlier analysis. The proposed wells are 25 miles east of Buffalo, in Johnson County, Wyoming. Yates' well proposals have 1 APD each, along with associated infrastructure, to develop and produce oil and gas from the Shannon Formation of the Powder River Basin (PRB). All wells are horizontal bores proposed on a 640 acre spacing pattern with 1 well per location.

Approvals: BLM approves the following APDs and associated infrastructure:

Well Name/ Well #	Qtr	Sec	Twp	Rng	Surface Lease	CX Number
Aerial Federal #35H	NWNW	26	49N	78W	WYW146911	WY-070-390CX3-14-3
Aerial Federal #36H	NWNE	27	49N	78W	WYW146911	WY-070-390CX3-14-4

Limitations. See conditions of approval (COAs).

THE FINDING OF NO SIGNIFICANT IMPACT (FONSI). Congress, the Department of Interior and BLM affirmed there was no significant impact of a like-structured project when they created this CX3 analysis process and its limiting parameters. Thus a FONSI and EIS are not required.

Summary of New Information. BLM posted these APDs for 30 days and received no public comments. Since implementation of these APD proposals BLM received updated policies on Greater Sage-Grouse (GSG), NEPA, minimizing direct wildlife mortality, and migratory bird conservation.

DECISION RATIONALE. The approval of this project is because:

1. Mitigation measures and COAs analyzed in the CX3 analysis, in environmental impact statements or environmental analysis to which the CX3 tiers or incorporates by reference, will reduce environmental impacts while meeting the BLM's need.
2. The approved project conditioned by its design features and COAs, will not result in any undue or unnecessary environmental degradation. The PRB FEIS analyzed and predicted that the PRB oil and gas development would have significant impacts to the region's GSG population. The impact of this development cumulatively contributes to the potential for local GSG extirpation yet its effect is

acceptable because it is outside priority habitats and is within the parameters of the PRB FEIS/ROD and current BLM and Wyoming GSG conservation strategies. There are no conflicts anticipated or demonstrated with current uses in the area. This decision approving these APDs complies with the Energy Policy Act of 2005, Section 390, 43 CFR 1610.5, 40 CFR 1508.4, and 43 CFR 46.215.

3. To reduce the likelihood of a "take" under the Migratory Bird Treaty Act, BLM sensitive species nesting habitat removal will occur outside of the breeding season or be cleared by survey.
4. Approval of this project conforms to the terms and the conditions of the 1985 Buffalo RMP (BLM 1985) and subsequent update (BLM 2001) and amendments (BLM 2003, 2011). This project complies with the breadth and constraints of CX3, Energy Policy Act of 2005, and subsequent policy.
5. The selected alternative will help meet the nation's energy need, revenues, and stimulate local economies by maintaining workforces.
6. The operator, in their APDs, shall:
 - Comply with all applicable federal, state, and local laws and regulations.
 - Offer water well agreements to the owners of record for permitted water wells within 0.5 mile of a federal producing well in the project area (PRB FEIS ROD, p. 7).
 - Provide water analysis from a designated reference well in each coal zone.
7. The project is clearly lacking in wilderness characteristics because it is amidst mineral development.
8. This decision does not foreclose the lessee or operator to propose a new or supplementary plan for developing the federal oil and gas lease(s) in this project area, including submission of additional APDs to drain minerals in accord with lease rights and law. This decision does not foreclose the lessee or operator to propose using external pumping units via a sundry application process.
9. The operator certified there is a surface use access agreement with the landowners it posted a bond.
10. This approval is subject to adherence with all of the operating plans, design features, and mitigation measures contained in the Surface Use Plan of Operations, Drilling Plan, Water Management Plan, and information in individual APDs.

ADMINISTRATIVE APPEAL: This decision is subject to administrative appeal in accord with 43 CFR 3165. Request for administrative appeal must include information required under 43 CFR 3165.3(b) (State Director Review), including all supporting documentation. Such a request must be filed in writing with the State Director, Bureau of Land Management, P.O. Box 1828, Cheyenne, Wyoming 82003, no later than 20 business days after this Decision Record is received or considered to have been received. Any party who is adversely affected by the State Director's decision may appeal that decision to the Interior Board of Land Appeals, as provided in 43 CFR 3165.4.

Field Manager:  Date: 12/17/13

**Categorical Exclusion 3 (CX3), WY-070-390CX3-14-3 and WY-070-390CX3-14-4
Yates Petroleum Corporation, Aerial Federal #35H and Aerial Federal #36H
Section 390, Energy Policy Act of 2005
Bureau of Land Management, Buffalo Field Office, Wyoming**

Description of the Proposal. Yates Petroleum Corporation (Yates) proposes to drill 2 conventional oil and gas wells located on 2 well pads and construct associated infrastructure as follows:

Table 1.1. Proposed Wells

Well Name/ Well #	Qtr	Sec	Twp	Rng	Surface Lease	CX Number
Aerial Federal #35H	NWNW	26	49N	78W	WYW146911	WY-070-390CX3-14-3
Aerial Federal #36H	NWNE	27	49N	78W	WYW146911	WY-070-390CX3-14-4

The proposal is to explore by drilling for, and possibly develop, oil and gas in the Shannon formation leased by Yates, under standard split jurisdiction rules. The proposed locations are 25 miles east of Buffalo, Wyoming, in Johnson County. BLM’s need for this project is to support the objectives and goals of the Buffalo Resource Management Plan (RMP) as BLM determines whether, and if so how and under what conditions to balance natural resource conservation with allowing the operator to exercise lease rights to develop fluid minerals by drilling 2 horizontal oil wells. Both wells’ surface-hole locations are on federal lease, WYW146911, as described in their APDs, surface use plan, and drilling plan, and incorporated here by reference. The fluid mineral leasing programs fall under the authority of the Mineral Leasing Act, the Federal Land Policy Management Act (FLPMA), and other laws and regulations.

Reasonably foreseeable activity is found in the Crown Prospect Federal 41-28-4978SHEH Environmental Assessment (EA), WY-070-EA13-25, 2012. This locality includes but is not limited to the approved Crown Prospect Federal 41-28-4978SHEH well and will fill-in to 80 acre spacing. This supports the development anticipated in the Powder River Basin Final Environmental Impact Statement (PRB FEIS), 2003 (2011), (see narrative in Section 2, No Action Alternative).

The project area is in the PRB geographic area (Wyoming Geographic Landforms Map). Topography is moderately rough terrain characterized by moderately incised to rugged arroyos along ephemeral dendritic drainages. The wells’ surface elevation is from 4,426 to 4,437 feet, and depths range from 8,770 to 8,797 feet. Lateral bore lengths are 4,746 to 5, 232 feet. The landform is a combination of bedrock residuum and slopewash deposits. The Powder River is 5 miles east of the proposal. The surface owners are Devon Energy, Wardner Ranch, and BLM.

Yates submitted APDs for the 2 locations to the BLM individually and on July 31, 2013. Initial onsite were conducted September 17, 3013. The onsite evaluated the proposal and BLM made recommendations to modify the surface use plans to avoid and/or mitigate environmental impacts. On September 30, 3013, BLM sent post onsite deficiencies to Yates notifying them of Onshore Oil and Gas Order No. 1 deficiencies. BLM received revisions from Yates for Aerial Federal #35H on October 18, 2013, and for Aerial #36H on October 23, 2013. A second Post-onsite Deficiency Letter for Aerial Federal #36H was sent to Yates on November 6, 2013. BLM received additional revisions from Yates for Aerial Federal #36H on November 21, 2013, and on December 12, 2013.

Drilling, Construction, and Production design features include:

- Construction of the drilling pads with dimensions of approximately 400 feet by 400 feet; the total disturbance area varies between locations due to slope and topography, i.e. cut and fill slopes
- Yates anticipates starting drilling as soon as possible upon permit approval. Approximately 60 days

are needed for drilling and 90 days for completion. Drilling and construction is year-round in the region. Weather may cause delays but delays rarely last multiple weeks. Timing limitations agreements with surface owners may impose longer temporal restrictions.

- After drilling and completion, fill material and remaining spoil will be used to fill the pit and reduce the cut slope to at least 2:1 and the fill slope to at least 3:1, leaving no long term spoil pile. At interim reclamation, the pad surface area will decrease by up to 50 feet in length and 50 feet in width.
- A road network consisting of approximately 1.4 miles of existing improved roads and another 0.7 miles of new construction of crown and ditch road as access onto the 2 well pads. Existing improved access used for coalbed natural gas (CBNG) and oil field traffic will be upgraded to BLM Gold Book standards. Upgrades will add turnouts (150 feet by 10 feet) every 1,000 feet or intervisible will be made to improve overall safety and match operator's anticipated use for larger trucks and increased traffic. Estimated average daily traffic (ADT) on existing and improved roads during production activities is two trucks per day. During construction and drilling phases, ADT will include rig and ancillary equipment mobilization, drilling water and completion water hauling, and delivery of large production facility equipment such as 500 barrel fluid storage tanks, etc.
- Buried electrical cable from the meter drops to the pumping units.
- There is existing 3-phase overhead power in the project area.
- Buried gas and electric pipelines as proposed in surface use plans.
- The operator proposes to drill wells using water-based mud (WBM). Reserve pits will be used.
- If determined to be economically viable, the well would be put into production. Production facilities that would be placed on the site include a pumping unit; separator; heater-treater with separator; production tanks, produced water tank, gas meter buildings and an electric meter building. A generator will be set on location to power production facilities until permanent power is installed.
- The facilities and site would be operated and maintained for the life of the well.
- Produced water during the production phase will be stored in 1 produced water tank. These tanks will be emptied as needed using water tanker trucks. Produced water will be disposed at a permitted disposal facility.
- It is anticipated that 40,000 bbls of water will be needed for drilling and completion operations. Water will be delivered to location from the following sources: 1) Fresh water trucked from multiple sources as outlined on page 3 of respective surface use plans (SUPs); 2) Temporary above-ground pipelines (likely 3 inch O. D.) as shown on APD project maps. The operator will install 6 inch cribbing approximately every 300 feet to allow small wildlife to pass underneath.
- For completion (hydraulic fracturing (HF)) phase, the operator intends use above ground tanks for onsite water storage at the pad. The above-ground tanks do not require a separate location or additional disturbance.
- The entire well pad location will be fenced during drilling and completion operations so as to effectively keep out wildlife, livestock, unauthorized personnel, and unauthorized vehicle access.
- If the well is not found to be economically viable, all areas disturbed during construction would be reclaimed to approximate pre-disturbance condition, and the well bore would be plugged per State of Wyoming and BLM policy and regulations.

For a detailed description of design features and construction practices associated with the proposed project, refer to the surface use plans (SUP) and drilling plans included with the APDs. Also, see the subject APDs for maps showing the proposed well location and associated facilities described above. Table 1.2, below shows the total surface disturbance for the proposed action is 26.79, reduced to 20.53 acres of long term disturbance after interim reclamation of the well site.

Table 1.2. Surface Disturbance Aerial Federal #35H and Aerial Federal #36H

Facility	Construction Disturbance (Short Term)	Interim Disturbance (Long Term)
Number of Horizontal Wells	2	2
Engineered Pads with fill slopes, topsoil, spoils	2 (14.0 acres)	2 (10.28 acres)
Proposed Engineered Roads	3,739 feet (5.51 acres)	3,739 feet (5.51 acres)
Upgrade of Existing Roads (Turnouts)	4,132 feet (4.74 acres)	(4.74 acres)
Buried Electric and Gas Pipelines	2,622 feet (2.54 acres)	(0 acres)
Overhead Power	Existing	Existing
Total Acre Disturbance	26.79 Acres	20.53 Acres

BLM incorporated and analyzed the implementation of committed mitigation measures in the SUP and drilling plan, in addition to the COAs in the PRB FEIS ROD, as well as changes made at the onsite.

Plan Conformance, Compliance, and Justification with the Energy Policy Act of 2005

The Energy Policy Act of 2005, Section 390(a) subjects oil or gas exploration or development to a rebuttable presumption that the use of a categorical exclusion under the National Environmental Policy Act (NEPA) applies. Thus BLM must use an Energy Policy Act, Section 390(b), CX unless BLM rebuts the presumption. This CX analysis process is NEPA compliance categorically excluded from an EA or EIS or their analysis; it is not an exclusion from all analysis. (40 CFR 1508.4 and BLM H-1790, p. 17.) The proposal conforms to the terms and conditions of the Approved Resource Management Plan (RMP) for the public lands administered by the BLM, BFO, 1985, the PRB FEIS, 2003 (2011), and the Record of Decision (ROD) and Resource Management Amendments for the Powder River Oil and Gas Project, Amendments of 2001, 2011 as required by 43 CFR 1610.5, 40 CFR 1508.4, and 43 CFR 46.215. The Aerial Federal #35H and Aerial Federal #36H APDs and area are clearly lacking in wilderness characteristics as they are amidst extensive natural gas development. BLM finds that the conditions and environmental effects found in the senior EA and PRB FEIS remain valid, with minor variations addressed, below.

The applicable categorical exclusion from the Energy Policy Act of 2005, Section 390, is exclusion number (b)(3) which is *drilling an oil or gas well within a developed field for which an approved land use plan or any environmental document prepared pursuant to NEPA analyzed such drilling as a reasonably foreseeable activity, so long as such plan or document was approved within 5 years prior to the date of spudding the well.*

BLM has 3 requirements to use a Section 390 CX3, (BLM H-1790, Appendix 2, #3, p. 143):

- 1) The proposed APDs are in a developed oil or gas field (any field with a completed confirmation well).

Table 1.3 is a list of existing/approved oil and gas development that is within or adjacent to the Aerial Federal #35H and Aerial Federal #36H project area. This information shows the reader that BLM conducted analysis.

Table 1.3. Oil & Gas NEPA Analyses Adjacent to, Overlapping, & Incorporated Here by Reference

NEPA Document Name	NEPA Document or #	# Wells	Decision Date
Aerial Federal 34H	WY-070-390CX3-13-49	1 Oil	4/10/2013
Sahara POD	WY-070-EA13-72	21 Oil	03/05/2013
Crown Prospect Federal 41-28-4978SHEH	WY-070-EA13-25	1 Oil	12/28/2013
Federal 21-10SH-4978SH	WY-070-390CX1-12-088	1 Oil	09/25/2012

NEPA Document Name	NEPA Document or #	# Wells	Decision Date
Federal 23-4SH-4978SH	WY-070-390CX1-12-088	1 Oil	09/25/2012
Barlow Ranch Federal 074974-3NH	WY-070-EA12-173	1 Oil	08/10/2012
Mufasa Fed 11-31H	WY-070-EA12-062	1 Oil	04/20/2012
Wardner Ranch 24-23-4978SH	WY-070-390CX1-12-034	1 Oil	11/15/2011
Wardner Ranch 44-22-4978SH	WY-070-390CX1-12-034	1 Oil	11/15/2011
Aerial POD	WY-070-EA06-170	CBNG	05/08/2006
Juniper Draw Kestrel POD	WY-070-EA06-323	22 CBNG	09/29/2006
Juniper Draw Merlin POD	WY-070-EA05-262	13 CBNG	09/02/2005
Nemesis POD	WY-070-EA05-157	43 CBNG	09/13/2005
Skyward POD	WY-070-EA05-187	32 CBNG	09/23/2005
Juniper Draw Addition POD	WY-070-EA-04-087	16 CBNG	05/05/2004
Federal W-67912 15-15(aka USA 15-15)	WY-3109/82-439-P	1 Oil	03/03/1982
Powder River Basin FEIS & Record of Decision & Decision Record	WY-070-02-065 & WY-070-EA08-135		04/30/2003 08/5/2011

The area had historic conventional oil and gas exploration and production, and recent CBNG development. The project area is adjacent to or inside the boundaries of 6 CBNG plans of development (PODs) that include 137 wells; see Table 1.3. There are 806 oil and gas wells within a 4 mile radius of the area for this proposal (Wyoming Oil and Gas Conservation Commission as of March 20, 2012).

There is an existing NEPA document (and the RMP) containing a reasonably foreseeable activity scenario for this proposal. There are several existing NEPA documents that reasonably foresaw activity to spud additional wells to fill in 80 acre well-spacing. BLM reviewed these documents and determined they considered the potential environmental effects associated with this proposed activity at a site specific level. In addition, all approved EAs tier into the PRB FEIS, 2003 (2011).

- 2) The PRB FEIS 2003 (2011) analyzed foreseeable development in the PRB. The PRB foreseeable development included 3,200 oil wells and drilling CBNG wells on 80 acre-spacing resulting in about 51,000 CBNG wells and 3,200 oil wells. The Aerial Federal #35H and Aerial Federal #36H are in the foreseeable development scenario of 80 acre well-spacing that was analyzed in EAs in Table 1.3 and in the PRB FEIS's Appendix A.

Table 1.4. EAs Which Account for Reasonably Foreseeable Activity Scenario

POD Name	Environmental Assessment #	Approved Wells	Decision Date
Crown Prospect Federal 41-28-4978SHEH	WY-070-EA13-25	1 Oil	12/28/2013
Barlow Ranch Federal 074974-3NH	WY-070-EA12-173	1 Oil	08/10/2012

- 3) The tiered NEPA documents were finalized or supplemented within 5 years of spudding (drilling) the proposed well.

The Aerial Federal #35H and Aerial Federal #36H Section 390 CXs tiers to the approved EAs listed in Tables 1.3, 1.4, and 1.5.

Table 1.5. NEPA Document Finalized Within Anticipated Spud Date of Aerial Federal #35H and Aerial Federal #36H

POD Name	Environmental Assessment #	Approved Wells	Decision Date
Crown Prospect Federal 41-28-4978SHEH	WY-070-EA13-25	1 Oil	12/28/2013

In summary, the EAs in Tables 1.3 to 1.5 analyzed in detail the anticipated direct, indirect, residual, and cumulative effects that would result from the approval of these APDs and associated support structure in Aerial Federal #35H and Aerial Federal #36H wells are similar to both the qualitative and quantitative analysis in the above tiered-to and incorporated EAs. The BLM reviewed the EA and found that the EA considered potential environmental effects associated with the proposal at a site specific level. The APDs’ surface use and drilling plans are incorporated here by reference and show adequate protection of surface lands and ground water, including the Fox Hills formation. The proposals’ acres of surface disturbances are within the analysis parameters of the PRB FEIS.

Plan of Operations

The proposal conforms to all BLM standards and incorporates appropriate best management practices, required and designed mitigation measures determined to reduce the effects on the environment. BLM reviewed and approved a surface use plan of operations describing all proposed surface-disturbing activities pursuant to Section 17 of the Mineral Leasing Act, as amended. This CX3 analysis also incorporates and analyzes the implementation of committed mitigation measures contained in the SUP, drilling plan, in addition to the Standard COAs found in the PRB FEIS ROD, Appendix A.

Traffic, light and heavy duty trucks, will increase with approval of the wells. Yates did not supply specific information related to traffic in the surface use plan therefore BLM has made assumptions based on operations conducted by other operations on similar projects. Mobilizing the drilling rig and associated equipment requires 50 or more truckloads. The Operator did not estimate what the ADT would be, yet BLM anticipates 2-10 vehicle trips per day during drilling operations.

The other anticipated impact associated with hydraulic fracturing (HF) involves the large amount of heavy truck traffic (200-700 trucks/well) to transport water storage containers, water and other HF materials to the location as well as truck traffic anticipated for removing the storage tanks and flow-back fluid from the HF. The operator’s surface use plan does not provide specific information of the HF operations but BLM anticipates the process to be a 24 hour operation lasting approximately 2 weeks. During the production phase of the well, heavy trucks are expected to visit the well every 1 to 2 days to haul oil or water from the location, in addition to pumper traffic from equipment inspections.

Well Pad

The well sites to facilitate horizontal well drilling and HF operations require a constructed well pad including cut and fill slopes which may be large in scale compared to typical CBNG well locations depending on site topography. Yates’ 2 proposed well pads are 400 by 400 feet working area. Total disturbance area for each pad varies dependent upon topography, slope, and dirt balance. Additional information on the impacts to soil resources, and its influence on cumulative effects from energy development is found in the affected environment and environmental effects sections (Section 3.2 and 4.4) of the Barlow Ranch Federal 074974-3NH, WY-070-EA12-173, incorporated here by reference.

Typical industry practice of a combination of horizontal drilling and HF allows for greater well bore to oil production zone contact and thereby reduces the number of surface locations need to effectively recover the fluid mineral resource. Initial pad size is reduced through interim reclamation if the wells produce. If the wells are unsuccessful, then reclamation accounts for the entire surface disturbance.

Anticipated impacts occurring include soil rutting and mixing, compaction, increased erosion potential, and loss of soil productivity. The most notable impacts would occur in association with the construction of well pads and roads. Construction of these facilities requires grading and leveling, with the greatest level of effort required on more steeply sloping areas. Construction activities mix the soil profiles with a corresponding loss of soil structure. Mixing may result in removal, dilution, or relocation of organic matter and nutrients to depths where it would be unavailable for vegetative use. Less desirable inorganic compounds such as carbonates, salts, or weathered materials could be relocated and have a negative impact on revegetation.

Rutting affects the surface hydrology of a site as well as the rooting environment. The process of rutting physically severs roots, thus reducing soil aeration and infiltration thereby degrading the rooting environment. Rutting may result in topsoil and subsoil mixing, thereby reducing soil productivity. Rutting also disrupts natural surface water hydrology by diverting and concentrating water flow thus accelerating erosion. Soil mixing typically results in a decrease in soil fertility and a disruption of soil structure. Soil compaction results from the construction of wells and associated facilities, continued vehicle and heavy equipment traffic during operational activities. Factors affecting compaction include soil texture, moisture, organic matter, clay content and type, pressure exerted, and the number of passes by vehicle traffic or machinery. Compaction leads to a loss of soil structure; decreased infiltration, permeability, and soil aeration; as well as increased runoff and erosion.

Soil productivity would decrease, primarily as a result of profile mixing and compaction along with the loss in vegetative cover. These impacts would begin immediately as the soils would be subjected to grading and construction activities and impacts would continue for the term of operations. An important component of soils in Wyoming's semiarid rangelands, especially in the Wyoming big sagebrush/grassland cover type, are biological soil crusts, or cryptogamic¹ soils that occupy ground area not covered with vascular plants. Biological soil crusts are important in maintaining soil stability, controlling erosion, fixing nitrogen, providing nutrients to vascular plants, increasing precipitation infiltration rates, and providing suitable seed beds (Belnap et al. 2001). They are adapted to growing in severe climates; however, they take many years to develop (20 to 100) and can be easily damaged or destroyed by surface disturbances associated with construction activities. These impacts, singly or in combination, could increase the potential for valuable soil loss, reduction in soil quality, invasive/noxious/poisonous plant spread, invasion and establishment, and increased sedimentation and salt loads to the watershed system, if applicable mitigation measures are not used.

To minimize the impacts to the soil resources and to promote successful reclamation consistent with the Wyoming BLM Reclamation Policy, BLM will require that interim reclamation be implemented as soon as is practicable. Re-contouring and interim reclamation will be initiated as soon as is practicable but not more than 6 months from the date of the last well completion incorporating stored soil material into that portion of the well pad not needed for well production. The entire Project area is dominated by soils that have been identified to have severe erosion potential that will require disturbed areas to be stabilized (stabilization efforts may include mulching, matting, soil amendments, etc.) in a manner which eliminates accelerated erosion until a self-perpetuating native plant community has stabilized the site in accordance with the Wyoming Reclamation Policy. Stabilization efforts shall be finished within 30 days of the initiation of construction activities.

Open Reserve Pit versus Closed Loop Drilling System

It is the Yates' intent to drill the Aerial Federal #35H and Aerial Federal #36H with open reserve pits excavated on location. Drilling fluid and drill cuttings would be caught and disposed of on location in reserve pits 100 by 150 feet and 12 feet deep. Yates' SUP for each APD and associated well pad diagrams

¹ A brown crust composed of an association between algae, lichen, mosses, and fungi.

included plans for managing drilling fluid. Following drilling operations, pits will be allowed to dry prior to back filling and will be closed as soon as possible.

An alternate option for managing drilling mud and BLM's preference would be using a closed loop system. This alternative is consistent with Wyoming BLM's Instruction Memorandum No. WY-2012-007 (November 15, 2011), incorporated here by reference. Use of enclosed tanks and closed loop or semi-closed loop systems is environmentally preferable to the use of open pits and is to be encouraged by the BLM. The operator chooses to use open reserve pits as opposed to a closed loop system.

Closed tanks and closed systems minimize waste, entry by wildlife, fugitive emissions that affect air quality, and reduce the risk of soil and groundwater contamination. In addition, the use of tanks instead of pits expedites the ability to complete interim reclamation. Although Yates anticipates 6-12 months for the pits to dry naturally, BLM will require reserve pits to be closed as soon as practical but no later than 6 months after the well is completed.

Access Road & Construction

The other anticipated impact associated with HF involves the large amount of heavy truck traffic (200-700 trucks/well) to transport water storage containers, water and other HF materials to the location as well as truck traffic anticipated for removing the storage tanks and flow-back fluid from the HF. There is increased soil disturbance associated with construction and/or upgrade of the roads with a minimum running surface of 16 feet and 18 foot sub-grade greatly increasing the soil disturbance depending on site topography. Geomorphic effects of roads and other surface disturbance range from chronic and long-term contributions of sediment into waters of the state to catastrophic effects associated with mass failures of road fill material during large storms. Roads can affect geomorphic processes primarily by: accelerating erosion from the road surface and prism itself through mass failures and surface erosion processes; directly affecting stream channel structure and geometry; altering surface flow paths, leading to diversion or extension of channels onto previously un-channelized portions of the landscape; and causing interactions among water, sediment, and debris at road-stream crossings. The operator proposes to construct approximately 0.7 miles of new access road and upgrade (turnouts) approximately 1.4 miles of existing roads. The operator is responsible for the construction of the road to meet Bureau 9113 road standards. The road reconstruction should be completed, including any culverts, low water crossings and required surfacing, before the drilling rig or other drilling equipment moves onto the pad in order to protect erodible soils as well as to maintain safe operations.

Wildlife

A BLM wildlife biologist reviewed the proposed APDs and determined that they, combined with the COAs (and design features), are: (1) consistent with the FEIS and its supplements, the RMP and the above tiered EAs; and (2) consistent with the programmatic biological opinion (ES-6-WY-02-F006), which is an update from the PRB FEIS, Appendix K. The biologist performed onsite visits to the project area on September 17, 2013. The affected environment and environmental effects for wildlife are discussed in, and anticipated to be similar to the Sahara POD EA, WY-070-EA13-72. Site specific information is described below for known species suspected to occur in the project area as depicted in Table W.1.(Summary of Sensitive Species Habitat and Project Effects) and Table W.2.(Summary of Threatened and Endangered Species Habitat and Project Effects) located in the project file.

Aerial Federal #35H and Aerial Federal #36H:

Migratory Birds

The proposed well pads are in migratory bird habitat for sage-brush obligate species. Nesting season for Brewer's sparrows (a BLM Special Statues Species (SSS)) typically occurs mid-May to mid-July. Some young fledge in late July. Sage thrashers (BLM sensitive species) may lay a second clutch of eggs as late as mid-July. Lark sparrows in northern latitudes lay eggs from early May to mid-July (information on

breeding habits available on the Birds of North America Online website: <http://bna.birds.cornell.edu/bna>). GSG timing limitations on surface disturbing activities will mitigate impacts to nesting migratory birds from March 15 to June 30. However, several species of birds, listed above, are likely to still have eggs or nestlings into July. BLM biologists have observed active Brewer’s sparrow nests containing eggs during the last week of June. Only a percentage of known nests are active any given year, so the protections for migratory birds from June 30 to July 31 will depend on how many raptor and mountain plover nests are active. The least restrictive measures (in this case only applying GSG timing limitations) are inadequate to protect all nesting migratory birds that may inhabit the project area.

To reduce the likelihood of a “take” under the MBTA, the BLM biologist recommends that pad construction (vegetation removal) occur outside of the breeding season for the greatest quantity of BLM sensitive passerines (May 1- July 31) where suitable nesting habitat for sagebrush obligates is present. This restriction would apply to habitat removal, unless a pre-construction nest search (within approximately 10 days of construction planned May 1-July 31) is completed. If surveys will be conducted, the operator will coordinate with BLM biologists to determine protocol. The nest search will consist of in areas where vegetation will be removed or destroyed. The BLM recommends the well pad and associated infrastructure have timing limitations applied for well pad construction during the nesting season for sagebrush obligate passerines (May 1 to July 31).

Effects to migratory birds from surface disturbing and disruptive activities associated with development of the proposed well are similar to the wells previously analyzed in the CX3, Covering Bonita Federal Com. 11H-WY-070-390CX3-13-41, Lone Moose Federal Com. 13H-WY-070-390CX3-13-73, Cousins Federal Com. 22H-WY-070-390CX3-13-74 and Rocky Butte Federal Com. 29H-WY-070-390CX3-13-75 on pp. 6-9 (all approved under one consolidated CX3 NEPA document) referenced in Table W1.1, below. The BLM determined that the proposal is in compliance with Instruction Memorandum No. WY-2013-005 Interim Management Guidance for Migratory Bird Conservation Policy on Wyoming Bureau of Land Management (BLM) Administered Public Lands Including the Federal Mineral Estate.

BLM recommends taking measures to ensure excluding migratory birds from facilities posing a mortality risk, including, but not limited to, heater treaters, flare stacks, secondary containment, and standing water or chemicals where escape may be difficult or hydrocarbons or toxic substances are present.

Table W1.1 NEPA Analyses, Incorporated by Reference Here, for Wildlife Analysis

#	Well Name & #	Qtr	Sec	Twp	Rng	CX Number
1	Bonita Federal Com 11H	NENE	10	43N	73W	WY-070-390CX3-13-41
2	Cousins Federal Com 22H	SWSE	2	43N	74W	WY-070-390CX3-13-74
3	Lone Moose Federal Com 13H	NWNW	26	44N	74W	WY-070-390CX3-13-73
4	Rocky Butte Federal Com 29H	NENW	4	43N	73W	WY-070-390CX3-13-75

Water Resources

The historical use for groundwater in this area was for stock water or domestic water. A search of the WSEO Ground Water Rights Database showed no registered stock and domestic water wells within 1 mile of these proposed wells, other than CBNG wells dual-permitted as stock water wells. For additional information on groundwater, refer to the PRB FEIS, 2003, pp. 3-1 to 3-36.

Adherence to the drilling COAs, the setting of casing at appropriate depths, following safe remedial procedures in the event of casing failure, and using proper cementing procedures should protect any fresh water aquifers above the target coal zone. This will ensure that ground water will not be adversely impacted by well drilling and completion. The operator will run surface casing to 2,400 feet, total vertical depth to protect shallow aquifers.

Table 1.6. Casing Set and Cementing Depths in relation to the Fox Hills

Well Name/ Well #	Total Depth of Surface Casing (feet)	Total Depth of Intermediate Casing (feet)	Depth to Fox Hills (feet)
Aerial Federal #35H	2,400	9,031	6,797
Aerial Federal #36H	2,400	9,053	6,818

The Fox Hills, the deepest penetrated fresh water zone in the PRB lies well above the target formation. Table 1.6 shows the depths where casing will be set and cemented in place. The operator will verify that there is competent cement across the zone, from 100 feet above to 100 feet below the Fox Hills formation. This will ensure that ground water will not be adversely impacted by well drilling and completion operations.

At the time of permitting, the volume of water that will be produced in association with these federal minerals is unknown. The operator will have to produce the wells for a time to be able to estimate the water production. In order to comply with the requirements of Onshore Oil and Gas Order #7, Disposal of Produced Water, the operator will submit a sundry to the BLM within 90 days of first production which includes a representative water analysis as well as the proposal for water management. Historically, the quality of water produced in association with conventional oil and gas has been such that surface discharge would not be possible without treatment. Initial water production is quite low in most cases. There are 3 common alternatives for water management: Re-injection, deep disposal or disposal into pits. All alternatives would be protective of groundwater resources when performed in compliance with state and federal regulations.

Cultural Resources

Aerial Federal #35H

Previously reviewed and accepted Class III cultural resource inventories (BFO #'s 70030068, 70060008) adequately covered the proposal area. Non-eligible site 48JO2943 may be impacted by the proposal. No historic properties are in the area of potential effect (APE). On December 9, 2013 Seth Lambert, BLM Archaeologist, notified the Wyoming State Historic Preservation Office (SHPO) following section VI(A)(1) of the Wyoming State Protocol, of a finding of no effect for the proposal.

Aerial Federal #36H

Previously reviewed and accepted Class III cultural resource inventories (BFO #'s 70030068, 70060008) adequately covered the proposal area. Non-eligible site 48JO2504 may be impacted by the proposal. No historic properties are in the APE. On December 9, 2013 Seth Lambert, BLM Archaeologist, notified the Wyoming State Historic Preservation Office (SHPO) following section VI(A)(1) of the Wyoming State Protocol, of a finding of no effect for the proposed project.

If any cultural values [sites, artifacts, human remains (Appendix L PRB FEIS and ROD)] are observed during operation of this lease/permit/right-of-way, they will be left intact and the Buffalo Field Manager notified. Further discovery procedures are in the Standard COA (General)(A)(2).

This consolidated CX analysis also tiers to and incorporated by reference the following – either as senior NEPA analysis or as substantially similar analysis in the semi-arid sage-brush, short grass prairie:

#	POD / Well Name	NEPA Document #	# / Type Wells	Decision Date
1	Sahara POD	WY-070-EA13-72	21 Oil	3/2013
2 ^a	Mufasa Fed 11-31H Well	WY-070-EA12-062	1 Oil	3/2012
3	Spruce 1 POD	WY-070-CX3-12-95 & -107	2 Oil	5/2012
4 ^b	Samson's Hornbuckle Field	WY-060-EA11-1181	48 Oil Well Pads	8/2011

a. Those sections describing and analyzing hydraulic fracturing, and supporting analysis, Section 3.7.12 and 4.8.2.

- b. Those sections describing and analyzing hydraulic fracturing and its supporting analysis to include but not limited to traffic, water, and air quality.

Literature Cited

Belnap, J. J. H. Kaltenecker, R. Rosentreter, J. Williams, S. Leonard and D. Eldridge. 2001. Biological Soil Crusts: Ecology and Management.

Temple, S.A., and B.A. Wilcox. 1986. Introduction: Predicting effects of habitat patchiness and fragmentation. In Wildlife 2000: Modeling Habitat Relationships of Terrestrial Vertebrates, ed. J. Verner, M.L. Morrison, and C.J. Ralph, 261-62. Madison: University of Wisconsin Press.

Temple S.A., and J. R. Cary. 1988. Modeling dynamics of habitat-interior bird populations in fragmented landscapes. Conservation Biology, 2 :340-347.

U.S. Department of the Interior 1985, Bureau of Land Management, Buffalo Field Office. Buffalo Resource Management Plan Final Environmental Impact Statement, Record of Decision; see also Approved Resource Management Plan for Public Lands Administered by the Bureau of Land Management Buffalo Field Office 2001; and see: Powder River Oil and Gas Project Environmental Impact Statement and Resource Management Plan Amendment. 2003.

Persons & Agencies Consulted (YPC, APC – Yates, Anadarko Petroleum Corp., Respectively)

Name	Agency	Title	Name	Agency	Title
Denis Camino	YPC	Land Agent	Jeb Tachick	YPC	Federal Regulatory Agent
Rebecca Byram	Devon Energy	Devon Regulatory Agent	Jerry Geer	APC	Landowner Relations
Preston Farnsworth	Devon Energy	Senior Landman	Debby Green	BLM	NRS
Seth Lambert	BLM	Archeologist	John Kelley	BLM	NEPA Coordinator
J Bunderson	BLM	Civil Engineer	Casey Freise	BLM	NRS Supervisor
Will Robbie	BLM	Petroleum Engineer	Bill Ostheimer	BLM	NRS Supervisor
Arnie Irwin	BLM	Soil Scientist	Kathy Brus	BLM	NRS Supervisor
Scott Jawors	BLM	Wildlife Biologist	Chris Durham	BLM	Asst. Field Manager
Karen Klaausen	BLM	LIE	Clark Bennett	BLM	Asst. Field Manager
Kerry Aggen	BLM	Geologist	Duane Spencer	BLM	Field Office Manager

Decision and Rationale on Action

The COAs provide mitigation and further the justification for this decision and may not be segregated from project implementation without further NEPA review. I reviewed the plan conformance statement and determined that the proposed Aerial Federal #35H and Aerial Federal #36H APDs and infrastructure conform to the applicable land use plans. I reviewed the proposal to ensure the appropriate exclusion category as described in Section 390 of the Energy Policy Act of 2005 is correct. It is my determination that there is no requirement for further environmental analysis.



 Field Manager

12/17/13

 Signature Date

Contact Person, Debby Green, Natural Resource Specialist, Buffalo Field Office, 1425 Fort Street, Buffalo WY 82834, 307-684-1100.