

**Decision on Action and Application for Categorical Exclusion
For Activities Associated with Oil and Gas Development
Section 390, Energy Policy Act of 2005**

Nemesis POD
Yates Petroleum Corporation
WY-070-CX09-3-017
Bureau of Land Management
Buffalo Field Office

Description of the Proposed Action

Yates Petroleum Corporation, the operator, proposes to drill a Coal Bed Natural Gas (CBNG) well as follows and install an access road and utility corridor to the well location.

	POD Name	Well #	Qtr/Qtr	Section	TWP	RNG	Lease #
1	Nemesis	Carrier 13	NENE	19	49	78	WYW146910

The total short term surface disturbance for this action consists of:

- 1200 feet of access road corridorred with gas and water pipelines and buried power 35 feet width total = 1.0 acres
- Well location 100 feet x 100 feet = 0.23 acres

Total short term disturbance = 1.23 acres.

Plan Conformance

The proposed action is in conformance with the terms and the conditions of the Approved Resource Management Plan for the Public Lands Administered by the Bureau of Land Management, Buffalo Field Office (BFO), April 2001 and the PRB FEIS, as required by 43 CFR 1610.5

Plan of Operations

The proposal is designed in conformance with all bureau standards and incorporates appropriate best management practices, required and designed mitigation measures determined to reduce the effects on the environment.

A surface use plan of operations describing all proposed surface-disturbing activities has been reviewed and is approved pursuant to Section 17 of the Mineral Leasing Act, as amended.

Compliance with the Energy Policy Act of 2005

The proposed activity has been determined to be statutorily categorically excluded from NEPA documentation in accordance with Section 390 of the National Energy Policy Act of 2005.

The applicable Categorical Exclusion reference in Section 390 of the Energy Policy Act of 2005 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.*

The original Nemesis POD was approved 9-13-05 with EA# WY-070-05-157. This document has been reviewed and has been determined to consider potential environmental effects associated

with the proposed activity at a site specific level. This well was deferred from approval with the original POD due to the proximity of the well to a raptor nest. The operator was unwilling to relocate the well during the pre-approval onsite. Three years of wildlife surveys have now documented that the nest is gone.

The original proposal for this well location included a designed pad. In the fall of 2008, BLM specialists met with Yates representatives to evaluate the location for this and one other well. It was determined at that onsite that there would be no need to build a constructed pad in order to drill this well. The operator's drilling representative, Ray McDonald, and permitting agent, Bob Irwin, agreed that the well could be drilled with a slotted location. A condition of approval will be added that there will be no pad constructed at this location.

Previous inventory: The BLM reviewed and accepted Class III cultural resource inventory (BFO # 070050060) which covered the originally proposed Carrier 13 well and infrastructure. Non-Eligible site 48JO2882 will be impacted by the project. On 8/2/05, according the Wyoming State Protocol Section VII (B)(5) the Bureau of Land Management notified the Wyoming SHPO that it determined no historic properties exist within the area potential of effect.

Wildlife:

The wildlife biologist has reviewed the proposal and determined that the project is consistent with the Final Environmental Impact Statement (WY-070-02-065) and programmatic biological opinion (ES-6-WY-07-F012) from the Powder River Basin Oil and Gas Project.

The affected environment and environmental impacts for most wildlife species were analyzed and have not changed since the approval of the Nemesis POD (WY-070-05-157). However, the affected environment and environmental impacts for raptors and greater sage-grouse have changed and are discussed below.

Raptors:

At the time of the approval of the Nemesis POD, a red-tailed hawk nest was located within 420 feet of the proposed Carrier 13 well location and was active. This nest was active in 2005 and 2006. It was reported gone in 2007, 2008, and 2009 and no territorial activity has been documented within the area. It is likely that the red-tailed hawk pair that once occupied this nest will not return. Previous concerns for the potential of nest failure through nest abandonment or predation that may have occurred from visitations to this well location are no longer valid.

Sage-grouse:

Suitable sage-grouse habitat is present within the vicinity of the proposed well location. Nesting habitat occurs in sagebrush communities surrounding this location. In addition, sage-grouse scat was found during each onsite visit. Sage-grouse habitat models also indicate that the area surrounding the well location contains high quality sage-grouse nesting habitat (Doherty 2008). According to a statewide population density model that was developed based on lek attendance (Doherty 2008), the well location is contained in an area, that when combined with other similar areas, is predicted to contain 65% of the state's sage-grouse population.

The State Wildlife Agencies' Ad Hoc Committee for Consideration of Oil and Gas Development Effects to Nesting Habitat (2008) recommends that impacts be considered for leks within four miles of oil and gas developments. WGFD records indicate that seven occupied sage-grouse leks occur within four miles of the project area. These seven lek sites are identified in Table 1.

Table 1. Sage-grouse leks within 4 miles of the Nemesis Carrier 13 well.

Lek Name	Legal Location	Distance from Project Area (mi)
Tear Drop	SENE S33 T50N, R78W	3.87
Tear Drop II	NWSE S32 T50N, R78W	3.66
BLM	SE S36 T50N, R79W	3.44
Indian Creek II	SESE S32 T49N, R78W	2.90
Indian Creek IV	SESE S1 T48N, R79W	3.79
Ploessers Dry Lake	SESW S35 T49N, R79W	3.47
Flying E Creek	NESE S11 T49N, R79W	2.43

Greater sage-grouse Direct and Indirect Effects

Impacts from the project to the local sage-grouse population may occur through a reduction of overall habitat quality, increased predation risk, and increased direct mortalities and will likely be manifested through declines in lek attendance as sage-grouse avoid these developed areas and seek out less disturbed leks. The additional infrastructure may impact sage-grouse through the addition of shelters and burrows for mammalian predators, and travel routes for predators, thereby increasing chances of sage-grouse mortalities cause by predation. Increased traffic will increase collision hazards for sage-grouse moving across the landscape. In addition, noise and human activities will further reduce habitat quality. Direct impacts to sage-grouse habitat and fragmentation of habitat patches will occur with the removal of sagebrush. Additional direct and indirect impacts to sage-grouse will be similar to those identified in the Nemesis POD EA (WY-070-05-157).

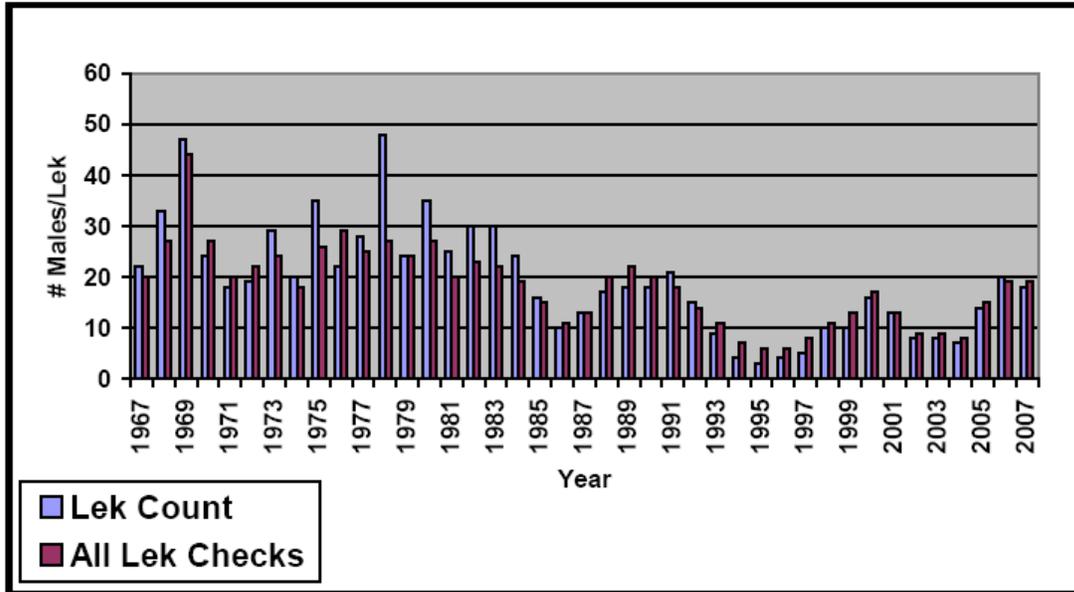
Sage-grouse cumulative effects:

Recent research suggests that the cumulative and synergistic effects of current and foreseeable CBNG development within the vicinity of the project area are likely to impact the local sage-grouse population, cause declines in lek attendance, and may result in local extirpation. The cumulative impact assessment area for this project encompasses a four mile radius from four sage-grouse leks that occur within four miles of the project boundary. Analysis of impacts up to four miles was recommended by the State Wildlife Agencies' Ad Hoc Committee for Consideration of Oil and Gas Development Effects to Nesting Habitat (2008).

The sage-grouse population within northeast Wyoming has been exhibiting a steady long term downward trend, as measured by lek attendance (Figure 1) (WGFD 2005). The figure illustrates a ten-year cycle of periodic highs and lows. Each subsequent population peak is lower than the previous peak. Long-term harvest trends are similar to that of lek attendance (WGFD 2005). The research described below suggests that these declines may

be a result, in part, of CBNG development in this region of Wyoming and that the leks within the cumulative impact assessment area may experience similar declines.

Figure 1 Male sage-grouse lek attendance within northeastern Wyoming, 1967-2007.



Research has shown that declines in lek attendance are correlated with oil and gas development. Several studies have shown that well density can be used as a metric for evaluating impacts to sage-grouse, as measured by declines in lek attendance (Braun et al. 2002, Holloran et al. 2005, and Walker et al. 2007). These studies indicated that oil or gas development exceeding approximately one well pad per square mile, resulted in calculable impacts on breeding populations, as measured by the number of male sage-grouse attending leks (State Wildlife Agencies' Ad Hoc Committee for Sage-Grouse and Oil and Gas Development 2008).

In its *Recommendations for Development of Oil and Gas Resources within Important Wildlife Habitats* (2009), WGFD categorized levels of oil and gas development into thresholds that correspond to moderate, high, and extreme impacts to habitat effectiveness for various species of wildlife, based on well pad densities and acreages of disturbance. All three levels of impact result in a loss of habitat function by directly eliminating habitat; disrupting wildlife access to, or use of habitat; or causing avoidance and stress to wildlife. Impacts to sage-grouse are categorized by number of well pad locations per square mile within two miles of a lek and within identified nesting/brood-rearing habitats greater than two miles from a lek. Moderate impacts occur when well density is between one and two well pad locations per square mile or where there is less than 20 acres of disturbance per square mile. High impacts occur when well density is between two and three well pad locations per square mile or when there are between 20 and 60 acres of disturbance per square mile. Extreme impacts occur when well density exceeds three well pad locations per square mile or when there are greater than 60 acres of disturbance per square mile. Extreme impacts mean those where the function of an

important wildlife habitat is substantially impaired or lost. No greater sage-grouse leks are located within two miles of the proposed project.

Declines in lek attendance associated with oil and gas development may be a result of a suite of factors including avoidance (Holloran et al. 2005, Holloran et al. 2007, Aldridge and Boyce 2007, Walker et al. 2007, Doherty et al. 2008, WGFD 2009), loss and fragmentation of habitat (Connelly et al. 2000, Braun et al. 2002, Connelly et al. 2004, WGFD 2004a, Rowland et al. 2005, WGFD 2005, Naugle et al. in press), reductions in habitat quality (Braun et al. 2002, WGFD 2003, Connelly et al. 2004, Holloran et al. 2005) and changes in disease mechanisms (Naugle et al. 2004, WGFD 2004b, Walker et al. 2007, Cornish pers. comm.).

The BFO Resource Management Plan (BLM 2001) and the PRB FEIS Record of Decision (BLM 2003) included a two-mile timing limitation on surface-disturbing activities around sage-grouse leks. The two-mile measure originated with the Western Association of Fish and Wildlife Agencies (WAFWA) (BLM 2004). Wyoming BLM adopted the two-mile recommendation in 1990 (BLM 1990).

The two-mile recommendation was based on early research which indicated between 59% and 87% of sage-grouse nests were located within two miles of a lek (BLM 2004). These studies were conducted within vast contiguous stands of sagebrush, such as those that occur in Idaho's Snake River plain. Additional research across more of the sage-grouse's range have since indicated that nesting may occur much farther than two miles from the breeding lek (BLM 2004). Holloran and Anderson (2005), in their Upper Green River Basin study area, reported that only 45% of their sage-grouse hens nested within 1.9 miles of the capture lek. Moynahan and Lindberg (2004) found that only 36% of their sage-grouse hens nested within 1.9 miles of the capture lek. Habitat conditions, and, thus, sage-grouse biology, within the BFO are more similar to Moynahan's north-central Montana study area than the Upper Green River area. Moynahan's study area occurred in mixed-grass prairie and sagebrush steppe, dominated by Wyoming big sagebrush (Moynahan et al. 2007). In a typical landscape in the Powder River Basin, energy development within two miles of leks is projected to reduce the average probability of lek persistence from 87% to 5% percent (Walker et al. 2007). Recent research in the Powder River Basin suggests that impacts to leks from energy development are discernable out to a minimum of four miles, and that some leks within this radius have been extirpated as a direct result of energy development (Walker et al. 2007, Walker 2008, Naugle et al. *In press*). Based on these studies, the BLM has determined that a two-mile timing limitation is insufficient to reverse the population decline.

Even with a timing limitation on construction activities, sage-grouse may avoid nesting within CBNG fields because of the activities associated with operation and production. A timing limitation does nothing to mitigate loss and fragmentation of habitat and changes in disease mechanisms. Rather than limiting mitigation to only timing restrictions, more effective mitigation strategies may include, at a minimum, burying power lines (Connelly et al. 2000b); minimizing road and well pad construction, vehicle traffic, and industrial noise (Lyon and Anderson 2003, Holloran 2005); and managing produced water to

prevent the spread of mosquitoes with the potential to vector West Nile Virus in sage grouse habitat (Walker et al 2007). Walker et al. (2007) recommend maintaining extensive stands of sagebrush habitat over large areas (at least one mile in size) around leks to ensure sage-grouse persistence. The size of such a no-development buffer would depend on the amount of suitable habitat around the lek and the population impact deemed acceptable. Connelly et al. (2000) recommended locating all energy-related facilities at least two miles from active leks. Other researchers have recommended avoiding areas within four miles of a lek and within areas of mapped nesting and brood-rearing habitat outside the four-mile perimeter (Walker et al. 2007, Walker 2008, Naugle et al. *In press*).

Several guidance documents are available that recommend practices that would reduce impacts of development on greater sage-grouse. These include *Northeast Wyoming Sage-Grouse Conservation Plan* (Northeast Wyoming Sage-grouse Working Group 2006), *Sage-Grouse Habitat Management Guidelines for Wyoming* (Bohne et al. 2007), *Recommendations for Development of Oil and Gas Resources within Important Wildlife Habitats* (WGFD 2009), *Bureau of Land Management National Sage-Grouse Habitat Conservation Strategy* (USDI 2004), and *Greater Sage-Grouse Comprehensive Conservation Strategy* (Stiver et al. 2006).

The Powder River Basin Oil and Gas Project FEIS (BLM 2003) states that “the synergistic effect of several impacts would likely result in a downward trend for the sage-grouse population, and may contribute to the array of cumulative effects that may lead to its federal listing. Local populations may be extirpated in areas of concentrated development, but viability across the Project Area (Powder River Basin) or the entire range of the species is not likely to be compromised (pg. 4-270).” Based on the impacts described in the Powder River Basin Oil and Gas Project FEIS and the findings of more recent research, the entire Nemesis project area actions may have contributed to a decline in male attendance at the seven leks that occur within four miles of the project area, and, potentially, extirpation of the local grouse population. The proposed action of one additional well within the project area will likely not contribute any additional cumulative impacts to these seven leks than has already occurred.

Decision and Rationale on Action

I have decided to implement the approval of the drilling of the Nemesis Carrier 13 well and the construction of the access road with the installation of the utility corridor with the following Conditions of Approval (COAs):

1. The operator will comply with all the plans, terms, and conditions of approval from the original Nemesis POD EA# WY-070-05-157 approved 09-13-2005.
2. The disturbance width associated with the access road and utility corridor will be less than 35 feet.
3. Construction of a pad at this well location is not authorized. Surface disturbance will be limited to a 120 foot by 30 foot (maximum size) slot for the drilling of the well.
4. Due to fragile, erodable soils and the potential for soil degradation, the pipeline corridor and well location will require that a protective surface treatment on all disturbed areas be in place within 30 days of disturbance. Surface treatments may include vegetative growth, mulch, matting, netting or tackifiers.

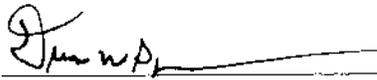
5. The following conditions will alleviate impacts to sage-grouse:
 - a. No surface disturbing activities are permitted from March 1 to June 15. This condition will be implemented on an annual basis for the life of the project. This condition affects the ENTIRE project area.
 - b. A sage-grouse survey will be conducted by a biologist following the most current WGFD protocol. All survey results shall be submitted in writing to a Buffalo BLM biologist and approved prior to surface disturbing activities.
6. For any questions regarding these COAs or the original Nemesis POD COAs, please contact Kathy Brus at (307)684-1087.

The above COAs and/or terms and conditions provide justification for this decision and may not be segregated from project implementation without further NEPA review. In addition, I have reviewed the plan conformance statement and have determined that the proposed activity is in conformance with the applicable land use plan(s). Further, I have reviewed the proposal to ensure the appropriate exclusion category as described in Section 390 of the Energy Policy Act of 2005 has been correctly applied. It is my determination that no further environmental analysis is required.

The above described action must be completed by 10-16-2011

Implementation Date

This project will be implemented on or after the below date.



Duane W. Spencer
Field Manager

10/19/09
Date

Administrative Review or Appeal Opportunities

This decision is subject to administrative review in accordance with 43 CFR 3165. Any request for administrative review of this decision 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.

Contact Person

For additional information concerning this decision, contact
Kathy Brus, Supervisory Natural Resource Specialist
Buffalo Field Office BLM
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