



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Kemmerer Field Office
312 Highway 189 North
Kemmerer, Wyoming 83101-9711



WYW-152773
WY090-EA07-089
Bear Canyon Exploratory Development

October 16, 2007

Dear Reader:

This Decision Record and Finding of No Significant Impacts (FONSI) on the proposed Bear Canyon Exploratory Drilling of the Bear Canyon 8-12 is being furnished for your information. The decision on the Bear Canyon 8-12 exploratory well development was based upon the analysis in the Environmental Assessment, public concerns and comments, and other multiple-use resource objectives or programs that apply to the project. The Draft Bear Canyon 8-12 Environmental Analysis was determined to address all of the submitted comments therefore the Decision Record and Finding of No Significant Impact (FONSI) are based on the attached EA.

Please contact James Roberts (307) 828-4506 or send your comments to the above address, if you have any questions or concerns about this decision.

Sincerely,

/s/ **Mark P. Meyer**

Mark P. Meyer
Acting Field Manager

Enclosure:

FONSI
Decision Record.

**FINDING OF NO SIGNIFICANT IMPACT
BEAR CANYON 8-12 EXPLORATION DEVELOPMENT**

Based on our review of the analysis in the Bear Canyon #8-12 Exploratory Well Environmental Assessment (June 2007), I have determined that the proposed action is in conformance with the approved land use plan and will not have any significant impacts on the human environment. Therefore, an environmental impact statement is not required. Further explanation of the finding is provided below.

The EA shows that adverse impacts to geology; minerals; paleontology; air quality; soils; water; vegetation, wetlands invasive/noxious weeds; range resources and other land use; wildlife; fisheries; recreation and visual resources; cultural resources; socioeconomics; transportation; health and safety; and noise would all be minor, short term, necessary and due impacts. Potentially substantial positive economic impacts may result for the company as well as the local and state governments from the authorization of this proposal.

The Kemmerer Resource Area, Resource Management Plan provides for the use of these public lands for oil and natural gas development. The Proposed Action would be in conformance with this land use plan, and an amendment to the RMP would not be necessary to implement the Proposed Action.

Approval:

/s/ Mark P. Meyer

Acting Kemmerer Field Manager

October 16, 2007

Date

**DECISION RECORD FOR
BEAR CANYON 8-12 EXPLORATORY WELL
EA NUMBER WY090-EA07-089**

SUMMARY OF THE DEVELOPMENT PROPOSAL

Fortuna (US) LP (Fortuna) proposes an exploratory well to test the potential for crude oil production on Oil and Gas Lease. The company proposes to develop an exploratory well (Bear Canyon 8-12) which would be located in Section 12 Township 23 North, Range 117 West 6th Principal Meridian Lincoln County Wyoming. The drilling, testing, and completion phase of the development are anticipated to occur during in the late fall of 2007.

The Environmental assessment (EA) cumulative analysis area covers 73.53 square miles (47,058), 25,430 acres (54 percent) of which are administered by the BLM; 5,930 acres (12.6 percent) by the state of Wyoming; 14,123 acres (30 percent) that are privately owned; and 1,575 acres (3.4 percent) of open water.

DECISION

It is the decision of the Kemmerer Field Manager to approve the Operator's proposal as defined below. Approval allows the authorization of the necessary permits and rights-of-way on public lands administered by the BLM to implement this project:

Approval is conditioned upon and subject to the following requirements:

- Fortuna will implement the applicant-committed environmental protection measures Section 2.1.12 of the EA,
- The BLM Kemmerer Field Manager or designee is the Authorized Officer (AO) for this project. Mitigation and monitoring measures may be modified by the AO as necessary to further minimize impacts. Final mitigation and monitoring requirements will be determined by the AO after reviewing the results of on-site inspections conducted by BLM and the operator personnel and recommendations from the BLM resource specialists. BLM may require additional field studies or documentation to ensure that reclamation and other resource protection goals are met.

RATIONALE FOR DECISION

The decision to approve the operator's proposed development was based on the following factors:

1. Consistency with the Kemmerer Resource Management Plan (1986):

The proposed action is in conformance with the planning direction developed for this area. The objective for oil and gas management decisions described within the Kemmerer Resource Management Plan (1986) is to "provide for leasing, exploration, and development of oil and gas while protecting other resource values."

2. National Policy:

Private exploration and development of federal oil and gas leases are an integral part of the Bureau of Land Management's oil and gas leasing program, under the authority of the *Mineral Leasing Act of 1920* and the *Federal Land Policy and Management Act of 1976*.

Decision Record, Bear Canyon 8-12 Exploratory Well

The United States continues to rely heavily upon foreign energy sources. Oil and gas leasing encourages development of domestic oil and gas reserves, and reduces the United States' dependence on foreign energy supplies. The project is in an integral part of the *Energy Policy Act* of 2006.

3. Agency statutory requirements:

The decision is consistent with all federal, state, and county authorizing actions required for implementing the Proposed Action. All pertinent statutory requirements applicable to this proposal were considered.

4. Relevant resource and economic considerations:

Project environmental impacts to resources identified in the EA were determined to be minor and all were deemed acceptable. Selection of the Proposed Action allows the operator to extract oil and gas from their lease as provided within *43 Code of Federal Regulations (CFR) 3101.1-2*. Development and production of the Proposed Action are anticipated to result in positive economic benefits, while minimizing the potential for significant impacts to the environment.

5. Application of measures to avoid and minimize environmental harm:

Federal environmental protection laws such as the *Clean Air Act*, the *Clean Water Act*, the *Historic Preservation Act*, and *Endangered Species Act* apply to all public lands and are included as part of the standard oil and gas lease terms. The adoption of the mitigation and monitoring measures identified in Chapters 2 and 4 of the project EA, along with appropriate Best Management Practices, Applicant Committed Mitigation Measures, (Section 2.1.12 of the EA and attachment 1 of this decision), and BLM Identified mitigation measures (Appendix B and attached to this decision as site-specific Conditions of Approval, Attachment 2) to be found in the APDs or ROWs, represent the best means to avoid or minimize environmental impacts.

6. Finding of no significant impacts:

Significance is formally defined by 40 CFR 1508.27 as having two aspects: context and intensity. Base upon the analysis of potential environmental impacts contained within the EA, the Authorized Officer has determined that the Proposed Action, with implementation of the protective measures identified in Chapters 2 and 4, and site specific Conditions of Approval (Attachment 2) applied to the APD and ROW, would not cause a significant impact to the quality of human environment. An Environmental Impact Statement is not necessary.

7. Public comments, coordination, and consultation, and:

The BLM conducted public scoping for the project between December 3, 2006 and January 3, 2007. A total of thirty eight comment letters were received during the original scoping. The BLM subsequently requested comments on the prepared EA from the public, local landowners, and interested publics; and Federal and state, local and county agencies. The comment period ran from June 25, 2007 through July 15, 2007. Comments regarding the EA were received from National Park Service National Trails System, Wyoming Outdoor Council, United States Fish and Wildlife Service, Alliance for Historic Wyoming, the Oregon-California Trails Association, Wyoming Game and Fish Department and other interested members of the public. Their summarized comments and BLM's responses are in Attachment 3.

8. Consistency with the purpose and need for the proposed action.

The purpose of the proposed development is to exercise the lease holders' rights within the lease to drill for, extract, and market hydrocarbon resources. National mineral leasing policies and the regulation by which they are enforced recognize the statutory right of lease holders to develop the federal mineral resources to meet continuing national needs

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and economic demands so long as undue and unnecessary environmental degradation is not incurred.

The decision to approve Fortuna's proposal takes into account important management considerations, Federal Agency missions, and the public's need for oil and gas. The decision attempts to balance these considerations with the degree of adverse impact to the natural and physical environment. The development effort will help meet the public needs for oil and gas while at the same time allowing humans to coexist with nature in a way that allows the least degree of irreversible, irretrievable commitment of resources. The long-term productivity of the area would neither be lost nor substantially reduced as a result of approving this proposal.

ALTERNATIVES CONSIDERED INCLUDING THE PROPOSED ACTION

The EA analyzes the anticipated impacts of the proposed action and a no action alternative.

Proposed Action: The proposed action was the development of one exploration well within the Bear Canyon Oil Exploratory Project (BCOEP), the necessary access roads, and the potential installation of facilities if the well were found to be productive.

No Action: The No Action Alternative was analyzed in detail. For this project the No Action Alternative is the denial of the drilling and development proposal as submitted by Fortuna (US) LP (Fortuna). Under this alternative the existing land uses would continue in the project area, with no other development proposed for the area at this time, nor any anticipated in the reasonably foreseeable future, although it is acknowledged that, with the potential for hydrocarbon resources within the analysis area, it is reasonable that future resources are likely to be developed sometime in the future. If and when proposals are formalized, they would be subjected to analysis under the National Environmental Policy Act (NEPA).

ALTERNATIVES CONSIDERED BUT NOT ANALYZED IN DETAIL

No additional alternatives beyond those described in Section 2.1 of the EA were considered. Drilling estimations are based on the preliminary anticipated exploration of the region within the analysis area, and reasonably foreseeable drilling projections. Estimations also anticipated the future need for the production of the hydrocarbon resources and the need to transport product from the remote region to a neighboring sales location. However, the cumulative impacts addressed indicate the potential for the future need of a sales pipeline which would also assist with reducing the anticipated impacts by reducing the need for vehicular traffic into the analysis area.

COMPLIANCE AND MONITORING

Fortuna and BLM will provide qualified representatives on the ground during construction to validate construction, reclamation, other approved design, and compliance commensurate with the provisions of the Decision Record. Fortuna will be required to conduct monitoring of the project in cooperation with BLM. Fortuna will monitor reclamation to ensure that revegetation meets acceptable standards (Gold Book 2007). Appropriate remedial action will be taken by Fortuna in the event unacceptable impacts are identified.

APPEAL

This decision is subject to appeal. Under BLM regulation, this decision is subject to administrative review in accordance with 43 Code of Federal Regulations (C.F.R.) 3165. Any request for administrative review of this decision must include the information required under 43 C.F.R. 3165.3(b) (State Director Review), including all supporting documentation. Such request must be filed in writing with the State Director, Bureau of Land Management, P.O. Box 1828, Cheyenne, WY 83003, within 20 business days of the date such notice of decision was received or considered to have been received.

SIGNATURE

/s/ **Mark P. Meyer**

for _____

Mary Jo Rugwell, Kemmerer Field Manager

October 16, 2007 _____

Date

Operator Committed Mitigations

1. Noise
 - a. All vehicles and construction equipment would be appropriately muffled to minimize construction related noise.
2. Erosion and Sedimentation Control
 - a. No cross-country travel would be permitted; and all vehicles would be restricted to permitted roads and approved Rights-of-Ways.
 - b. Employees and contractors would be instructed to travel at appropriate speeds to limit disturbance to soils, vegetation, and to minimize the potential for vehicle-wildlife and vehicle-vehicle collisions.
 - c. For construction, drilling, and completion activities, Fortuna would apply dust suppressants, as needed, to roads to reduce fugitive dust from vehicle traffic. At the end of the life of the project, all surface facilities would be removed and all disturbed areas would be recontoured and reseeded.
 - d. The operator will prepare and submit a Storm Water Pollution Prevention Plan. A copy of the approved plan would be provided to be on file with the Kemmerer Field Office.
3. Air Quality
 - a. Members of the construction and drilling crew would be encouraged to car pool to and from the surrounding towns to minimize vehicle-related emissions.
 - b. For construction, drilling and completion activities. Fortuna would apply dust suppressants, as needed, to utilized roads to reduce fugitive dust from vehicle traffic for an anticipated use of 1.5 acre feet.
 - c. Fortuna would comply with EPA and Wyoming Department of Environmental Quality standards for drilling rig engines.
4. Vegetative Resources
 - a. To reduce the spread/introduction of noxious and invasive weed species via project-related vehicles and equipment into the Project Area, project employees and contractors would not be allowed to drive off-road (unless on an approved ROW).
5. Wildlife Protection
 - a. Fortuna would comply with all BLM directives concerning the restriction of construction and drilling activities during times when these activities would affect designated wildlife species.
 - b. To reduce the potential for wildlife-vehicle collisions, Fortuna would require their employees and contractors to always drive at safe speeds.
 - c. To protect wildlife from possibility of harassment or depredation by loose dogs, employees and contractors will not be allowed to have dogs within the project area.
 - d. Employees and contractors are prohibited from harassing, shooting, maiming, or killing wildlife in the project area.
6. Cultural and Paleontological Resources
 - a. If cultural or paleontological resources are discovered during construction and drilling activities, all activity within the immediate area of the impact would cease. Fortuna would immediately notify BLM of the find. The BLM and Wyoming State Historic Preservation Office representatives would then determine how to avoid impacting the site or artifact.

7. Fire Protection

- a. Vehicles with catalytic converters would be restricted to existing roads and trails; parking or idling would not be permitted in portions of the roads or trails with taller vegetation.
- b. All brush build-up around mufflers, radiators, heater-treaters, and other engine parts would be avoided; periodic checks would be conducted to prevent build-up.
- c. All personnel would be advised that smoking is only allowed in company vehicles and/or designated smoking areas; and that all cigarette butts should be placed in appropriate containers and not thrown on the ground or out vehicle windows.
- d. All personnel would be advised that campfires or uncontained fires of any kind are prohibited.
- e. The crew contingency plan would include a fire communication protocol for contacting fire fighting personnel.
- f. Water would be kept onsite for fire suppression purposes.

8. Public/Crew Safety

- a. Fortuna would take all necessary precautions for the protection and safety of the public during construction of the project. Warning signs would be posted along roads to inform the public of construction activities.
- b. To further facilitate coordination with local emergency services, Fortuna would provide mapped locations of the proposed drilling locations and times to the respective emergency services personnel as applicable, in advance of any exploration drilling activities. In addition, Fortuna would have cell phones or radios onsite, as appropriate, to provide immediate communication to emergency services.
- c. Local emergency telephone numbers and GPS coordinates would be posted at the drilling locations.
- d. Vehicle traffic would be limited to approved ROWs. Vehicles would travel at speeds within set speed limits of the main access roads and at slower speeds appropriate for conditions on more remote roads and trails.
- e. At a minimum, all crew members would comply with the Occupational Safety and Health Administration (OSHA) rules and regulations.
- f. All pipelines would be flagged or marked before construction activities or post construction activities take place in the vicinity of the pipeline.

9. Geological Hazards

To protect the well bore against the small potential of a large earthquake, Fortuna would include the following measures.

- a. Thicker casing
- b. Remote control of the well bore to seal off the well downhole
- c. Blind Rams on rig (shear off the casing and drill stems resulting in a total loss of access to the well bore), and
- d. Emergency Shutdown valves.

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**CONDITIONS OF APPROVAL FOR THE
APPLICATION FOR PERMIT TO DRILL**

FOR

Well No. **BEAR CANYON 8-12 Well (Exploratory)** Lease No. WYW152773
Location T. 23 N., R. 118 W., Section 12
Operator Fortuna (US) LP

**A COPY OF THESE CONDITIONS OF APPROVAL MUST BE FURNISHED TO
YOUR FIELD REPRESENTATIVE TO INSURE COMPLIANCE**

Government Contacts

BUREAU OF LAND MANAGEMENT

Address: 312 Highway 189 North, Kemmerer, Wyoming 83101 Office Phone: (307) 828-4500

Field Manager: Mary Jo Rugwell

Assistant Field Manager: Mark Meyer

Petroleum Engineer Technician on call: _____ Message Number (307)828-4559

Petroleum Engineer: Matt Warren Work Phone (307) 828-4511
Cell Phone (307) 727-6298

Petroleum Engineer Technician: Pat Pringle Work Phone (307) 828-4528
Cell Phone (307) 727-7071

Petroleum Engineer Technician: Rich Fleming Work Phone (307) 828-4551
Cell Phone (307) 727-7781

Petroleum Engineer Technician: Dave Brewer Work Phone (307) 828-4510
Cell Phone (307) 727-8375

Natural Resource Specialist: James Roberts Work Phone (307) 828-4506
Cell Phone (307) 727-7072

Natural Resource Specialist: Dan Oles Work Phone (307) 828-4556

Conditions of Approval

1. This authorization is contingent upon receipt of and compliance with all appropriate federal, state, county and local, permits.

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2. Verbal notification shall be given to the Authorized Officer's representative at least 48 hours in advance of access road/well pad construction, seeding and the initiation of any reclamation work, including the reduction of the drill pad to a well pad.
3. The spud date will be reported orally to the Authorized Officer's representative 48 HOURS PRIOR TO SPUDDING, unless otherwise required in site specific conditions of approval.
4. Verbal notification shall be given to the Authorized Officer's representative at least 24 hours in advance of formation tests, Blowout Prevention Equipment tests, running and cementing casing (other than conductor casing), and drilling over lease expiration dates.
5. Drilling progress reports shall be filed directly to the Kemmerer Field Office on a weekly basis.
6. All Blow Out Prevention Equipment shall be isolated from the casing and tested to stack working pressure.
7. All Blow Out Prevention Equipment tests shall be performed by a suitable test pump, not the rig-mud pumps and recorded on a chart. The chart shall be submitted to the Kemmerer Field Office.
8. All Blow Out Prevention Equipment tests shall include a 5 minute low pressure test between 250 psi and 500 psi with no drop in pressure with the only exception being the chokes. The chokes are only required to have the high pressure test held for a minimum of 2 minutes.
9. Low test on Blow Out Prevention Equipment shall be performed and passed before moving onto the high test for each component.
10. This APD is valid for a period of two years from the date of approval or until the oil and gas lease expires/terminates, whichever occurs first. If the APD terminates, any surface disturbance created under the application must be reclaimed in accordance with the approved plan.

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11. Approval of this APD does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. In addition, approval of this APD does not imply that the operator has legal access to the drilling location. When crossing private surface 43 CFR 3814 regulations must be complied with and when crossing public surface off-lease the operator must have an approved rights-of-way.
12. A complete copy of the approved APD must be at the drill site during the construction of the roads and drill pad, the drilling of the well, and the completion of the well.
13. The operator is responsible for informing all persons associated with this project that they shall be subject to prosecution for damaging, altering, excavating or removing any archaeological, historical, or vertebrate fossil objects or sites. If archaeological, historical, or vertebrate fossil materials are discovered, the operator is to suspend all operations that further disturb such materials and immediately contact the Authorized Officer. Operations are not to resume until written authorization to proceed is issued by the Authorized Officer.

Within five (5) working days, the Authorized Officer will evaluate the discovery and inform the operator of actions that will be necessary to prevent loss of significant cultural or scientific values. The operator is responsible for the cost of any mitigation required by the Authorized Officer. The Authorized Officer will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the Authorized Officer that the required mitigation has been completed, the operator will be allowed to resume operations.

14. The operator shall notify the Authorized Officer, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony. The operator shall immediately stop all activities in the vicinity of the discovery and protect it until notified to proceed by the Authorized Officer
15. All survey monuments found within the area of operations shall be protected. Survey monuments include, but are not limited to: General Land Office and Bureau of Land Management Cadastral Survey Corners, reference corners, witness points, U. S. Coast and Geodetic benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments. In the event of obliteration or disturbance of any survey monuments, the incident shall be reported in writing to the Authorized Officer.
16. The operator shall be responsible for the prevention and suppression of fires on public lands caused by its employees, contractors or subcontractors. During conditions of extreme fire danger, surface use operations may be limited or suspended in specific areas.
17. New hard-band drill pipe shall not be rotated inside any casing. Hard-band drill pipe shall be considered new until it has been run at least once.
18. A liner must be installed in the proposed reserve pit. The liner must have a permeability less than 10^{-7} cm/sec and have a burst strength equal to or exceeding 300 pounds per square inch (psi), a puncture strength of 160 psi or greater and a grab tensile strength of 150 psi or greater. Liner must be installed no more than one month prior to commencing drilling activities.

All pits must maintain two feet of free board to ensure that reserve pits are not in danger of over flowing. Operators must shut down drilling operations until the problem is corrected if leakage is found outside the pit. In the event that any hydrocarbon material is released into the reserve or production pits, it shall be removed within seven (7) days of the discharge event. Prior to removal of such material the pit shall be flagged.
19. A sundry notice must be submitted and approved prior to any pit closures or reclamation work. An additional sundry notice (subsequent report) must be submitted including the date of initial seeding and a copy of the seed tags used for each well location.

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20. The operator must comply with all applicable Federal, State, and local laws and regulations, existing or hereafter enacted or promulgated, with regard to any Hazardous Materials (Hazmat), as defined in this paragraph, that will be used, produced, transported, stored on or within any of the area affected by this proposal, or used in the construction, operation, maintenance, or termination of operations. "Hazardous Materials" means any substance, pollutant, or contaminant that is listed as hazardous under the CERCLA or 1980, as amended, 42 U.S.C. 9601 et seq., and its recalculations. The definition of hazardous substance under CERCLA includes any "Hazardous waste" as defined in the RCRA of 1976, as materials also includes any nuclear or byproduct material as defined by the Atomic Energy Act of 1954, as amended. 42 U.S.C. 2011 et seq. The term does not include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCLA section 101(14), 42 U.S.C. 9601(14), nor does the term include natural gas.

The operator agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 421 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act of 1976, 42 U.S.C. 6901 et seq.) on the Proposed action (unless the release or threatened release is wholly unrelated to the Proposed action). This agreement applies without regard to whether a release is caused by the operator, its agent, or unrelated parties.

21. Construction activity shall not be conducted using frozen or saturated soil material or during periods when watershed damage is likely to occur.
22. The contents of the reserve pit(s) shall be allowed to dry. Any fluids that will not dry after one year shall be moved to a site approved by the Wyoming Department of Environmental Quality.
23. All permanent above-ground structures, e.g., production equipment, not subject to safety requirements shall be painted to blend with the natural color of the landscape. The color selected for this project shall match Shale Green (5Y 4/2) or be an acceptable substitute pre-approved by the local manager. Standard environmental color chart is attached.
24. Rat and mouse holes shall be filled and compacted from the bottom to the top immediately upon release of the drilling rig from the location.
25. All storage batteries constructed as components of the project, including drain sumps and sludge holdings at compressor facilities, will be surrounded by a containment dike of sufficient capacity to contain the entire storage capacity of the largest facility plus one foot of freeboard or 110 percent of the capacity of the largest vessel. The entire area of the berm must be sealed with an impervious liner to prevent the migration of fluids into the ground.
26. All vehicles shall use only the authorized access road, as depicted in this approval. Vehicles shall not use any other access route into the drill/well pad and any ancillary facilities including, but not limited to any two-tracks, pipeline rights-of-way etc..
27. The Holder shall be responsible for total control of all invasive/noxious weed species on any and all disturbed sites. The Holder is responsible for consultation with the Authorized Officer and/or local authorities for acceptable weed control methods, and shall comply with the following:

Use of pesticides/herbicides shall comply with all applicable Federal and State laws. Pesticides/herbicides shall be used only in accordance with their registered uses within limitations imposed by the Secretary of the Interior. Prior to the use of the pesticides/herbicides, the Holder shall obtain from the Authorized Officer, written approval of a Pesticide/Herbicide Use Proposal Plan showing the type and quantity of material to be used, pest(s) to be controlled, method of application, locations of storage and disposal of containers, and any other information deemed necessary by the Authorized Officer.

Applicator(s) of chemicals used must have completed the pesticide/herbicide certification training and have a current up to date Certified Pesticide/Herbicide Applicator's License.

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Pesticide/Herbicide Application Records for the areas and acres treated must be submitted to the BLM Kemmerer Field Office each year. This includes the following:

- Brand or Product name
- EPA registration number
- Total amount applied (use rate #A.I./acre)
- Date of application
- Location of application
- Size of area treated
- Method of treatment (air/ground)
- Name of applicator
- Certification number
- Amount of surfactants or dyes used in spraying operation

The record information must be recorded no later than 14 days following the pesticide/herbicide application and must be maintained for ten years

28. All graveling of roads and well pad turn around areas must be completed no later than one (1) year, after the completion of drilling activities.
29. Any disturbance outside of the construction corridors for roads and pipelines, must have prior written approval.
30. If snow removal outside the roadway is undertaken, equipment used for the operations will be equipped with shoes to keep the blade six (6) inches off the ground surface. Special precautions shall be taken where the surface of the ground is uneven to ensure that equipment blades do not destroy vegetation.
31. **Prior to any new surface-disturbing activities between February 1 and July 31, Fortuna or their contractor would survey all areas within ¼-mile of proposed surface disturbance for the presence of raptor nests. If occupied/active raptor nests are found, construction would not occur for up to a ¾-mile radius during the critical nesting season for that species within the species-specific buffer.**
32. **Prior to any new surface-disturbing activities between February 1 through August 15, Fortuna or their contractor would survey all areas within 1-mile of proposed surface disturbance for the presence of active ferruginous hawk nesting sites. If occupied/active nests are found, construction would not occur for up to a 1-mile radius during the critical nesting season for that species within the species-specific buffer.**
33. **Construction, drilling, completion and surface disturbing activities, will be prohibited during the period from March 15 through July 15 for the protection of Greater Sage Grouse nesting/early brood rearing habitat.**

The holder may request an exception in writing to the above stipulation. Any exceptions to the stipulation must be approved in writing by the authorized officer prior to conducting any surface disturbing or prior to conducting activities disruptive to wildlife. The exception request must explain the reason(s) for the exception, why the proposed activities will not impact the species or their habitat, and the dates for which the exception is requested. Data supporting the exception must accompany the written request.

34. **Construction, drilling, completion and surface disturbing activities, will be prohibited along the six miles of identified, Crucial Big Game winter range, during the period from November 15 through April 30.**

The holder may request an exception in writing to the above stipulation. Any exceptions to the stipulation must be approved in writing by the authorized officer prior to conducting any surface disturbing or prior to conducting activities disruptive to wildlife. The exception request must explain the reason(s) for the exception, why the proposed activities will not impact the species or their

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habitat, and the dates for which the exception is requested. Data supporting the exception must accompany the written request.

35. Construction, drilling, completion and surface disturbing activities, will be prohibited during the period from May 1 through June 30 for the protection of elk calving.

The holder may request an exception in writing to the above stipulation. Any exceptions to the stipulation must be approved in writing by the authorized officer prior to conducting any surface disturbing or prior to conducting activities disruptive to wildlife. The exception request must explain the reason(s) for the exception, why the proposed activities will not impact the species or their habitat, and the dates for which the exception is requested. Data supporting the exception must accompany the written request.

36. The operator will be required to complete snow removal to maintain access, they will install “wildlife get off gaps” at ½ mile intervals along the road to allow for wildlife to cross plowed snow drifts.
37. The operator will contain all produced fluids within tanks until given written approval by the Authorized Officer of the proposed disposal location.
38. The operator will not store materials (i.e. drums, pipe, and miscellaneous equipment) on location without prior approval from the Authorized Officer.
39. If the well is found to be productive the operator in coordination with BLM and WGFD must develop a mitigation and monitoring plan that would minimize the long-term direct and indirect impacts associated with the continued development of the area. This plan would be developed to offset the identified impacts of long term development on sensitive resources values (i.e. elk crucial winter range, elk calving, recreation, etc).
40. All regular traffic and routine travel related to the authorized APD will be prohibited on the Dempsey Road (BLM Road 4211) between the hours of 10:00 a.m. and 4:00 p.m. Exceptions may occur during emergencies that threaten human health and safety. Other exceptions may be granted on a case by case basis, upon request in advance of planned travel, with written permission of the Authorized Officer.
41. All production facilities, including static components (structures and equipment) and dynamic elements (flare flames), may not exceed 12 feet in total visible height above the ground surface.
42. The recommended seed mix for the project area is shown below. These species are suitable to the area and have the best chance to successfully revegetate disturbed areas. Reseeding should be completed after September 1 and prior to ground frost, or after frost has melted and prior to May 15. Fall seeding after the potential for germination is the preferred method. Additional seedings may be necessary in order to attain successful revegetation where soils are stable and vegetative composition and establishment are similar to other naturally occurring disturbances. At that time BLM determines the actions are acceptable for bond release.

Table 4.7-1. Recommended Seed Mix

Plant Species	Scientific Name	Drill Seeding Rate (lb/acre of pure live seed)
Thickspike or western wheatgrass	<i>Elymus lance-latus</i> or <i>Pascopyrum smithii</i>	3.0
Bluebunch wheatgrass	<i>Pseudoroegneria spicata</i>	4.0
Canby bluegrass	<i>Poa secunda</i> var. Canby	2.0
Indian ricegrass	<i>Oryzopsis hymenoides</i>	2.0
Great Basin wildrye	<i>Elymus cinereus</i>	2.0

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White yarrow or Lewis Flax	<i>Achillea millefolium</i> or <i>Linum lewisii</i>	0.5
Total		13.5

The holder may request an exception in writing to the above conditions of approval. Any exceptions to the conditions of approval must have prior written approval from the authorized officer. The exception requests must explain the reason(s) for the exception, and the conditions that exist that would no longer require the condition of approval. All data supporting the exception must accompany the written request.

Decisions on waivers, exceptions, or modifications submitted after drilling has commenced are final for Department of Interior and are not subject to administrative review by the State Director or appeal pursuant to 43 CFR part 4.

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Comments and Responses

1. Wyoming Outdoor Council

- a. *The BLM must fully recognize and exert its retained rights and legal responsibilities even where leases have been issued:*

BLM did consider the relationships between the standard lease form and its regulations for “Surface Rights at 43 CFR 3101.1-2.” The site specific mitigation measures were omitted from the original EA submission that was provided for comments. BLM feels that these site specific mitigations, BMPs and operator Committed mitigations would minimize the overall impacts resulting from the proposed action to an acceptable level. It was determined that the overall impacts resulting from the proposed action would not result in an undue or unnecessary degradation of the environment.

- b. *Construction of the well will not exceed a well density that would cause unnecessary and undue degradation of public lands.*

The proposed action analyzes the initial exploratory well development within the project area. Since the proposal is an individual well and future developments would be analyzed as a field is defined it is difficult to identify that well density being authorized under the proposed action would cause any unnecessary and undue degradation of the public lands.

- c. *The well will be drilled directionally from an existing well pad or similarly disturbed area.*

The current proposed action is a direction well bore which is being proposed to allow for the well to be screened from sensitive resource values and to avoid placement of the well location within a sensitive resource area. In addition, the operator has indicated the potential for future wells within the area to be drilled from the existing pad in order to aid with field development if necessary.

- d. *Existing roads will be utilized for access.*

The proposed location requires the use of approximately 30 miles of existing access roads in an as is condition. The proposed action will only result in 250 feet of newly constructed access road. In addition, since the well has the potential to encounter H₂S zones during drilling the development would normally require the construction of a second H₂S escape road, however, under this situation the operator has indicated that the escape route would not be a constructed road but would be a marked trail that will be brush beat to remove vegetation to limit the overall impacts associated with the development.

- e. *Power lines, pipelines, and other facilities will be located on existing rights-of-way.*

The proposed action does not include any additional facilities or rights-of-way. However, if the well is found to be capable of producing economic quantities of hydrocarbon resources the operator may require additional facilities. It is BLM policy that were possible those facilities would be placed within or parallel existing rights-of-ways to minimize impacts resulting from multiple rights-of-way through a given area.

- f. *“Closed Loop” drilling fluid systems will be required to the maximum extent possible.*

The operators proposed action incorporates the use of a completely “Closed Loop” drilling system. The proposal does not require the construction of any pit

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and all fluids will be hauled to an approved Wyoming Department of Environmental Quality disposal facility.

- g. *No flaring will be allowed except in emergency situations where necessary to protect health and safety.*

The proposal will not incorporate a flare system. The operator's proposal includes the use of an incinerator for all actions where flaring would be necessary during drilling, completion, and production of the proposed action. The incinerator is designed to limit the visibility of any necessary flaring and to reduce the environmental impacts associated with flaring.

- h. *BLM will fully utilize its authority to ensure and require that bonding is sufficient to ensure reclamation and compliance.*

BLM has reviewed the operators submitted bond and determined that the bond provided by the operator will be sufficient to cover all liability associated with plugging and abandonment (including reclamation) of the proposed well location.

BLM in coordination with the operator will monitor the reclamation and compliance with Gold Book (2007) standards, which includes compliance with Executive Order 13112 (dealing with invasive species).

- i. *Ongoing operations will be conditions such that the minimum amount of disturbance occurs.*

The operator has submitted a number of Best Management Practices including the use of remote monitoring and control of the well in order to minimize the overall impacts associated with mineral development. During field development it is anticipated that product will be removed initially by truck (since anticipated oil discovery), however, in the event that production can be economically transported through pipeline the operator has indicated that this would be the preferred method of transportation of product out of the analysis area.

- j. *The visual impacts of both well drilling and the completed well will be minimized to the maximum extent possible.*

The proposed placement of the proposed drilling location was chosen to aid in minimizing the visual impacts to all aspects of the analysis area. While visual impacts from lighting and other impacts associated with the placement of the drill rig are high these are temporary and have been mitigated to the greatest extent possible. The long term visual impacts of the well pad are anticipated to be reduced so that they would not be visible to the casual observer from any of the identified key observation points. The operator has included in its proposal an interim reclamation plan, use of incineration unit, and other mitigation measures which are anticipated to fully mitigate any impacts to the visual resources of the area.

- k. *Lighting, both during drilling and during ongoing operations, will be minimized the fullest extent.*

Lighting during the drilling phase of the proposed action will be directed inwards towards the rig to minimize the amount of visual impacts it may create. However, due to the limited number of visual observers it is anticipated that the overall impacts of lighting would be limited.

No lighting is anticipated during the production phase and would require further environmental analysis prior to placing lighting on the proposed location.

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Therefore, long term lighting impacts are not anticipated during this phase of the development.

1. *Minimize the well size both during initial drilling and for ongoing operations.*
The current well pad proposed size is required to handle the large rig that would be necessary to drill to the necessary total depth proposed by the operator. The well location is large enough such that if the well is found productive that future wells may be drilled off the existing disturbance.

Upon completion of all drilling actions the operator will be required to reduce the unnecessary and unused portions of the well location to a smaller well pad size that is of sufficient size to allow for the placement of necessary facilities and potentially the placement of a work over rig. The entire well pad will be seeded to reduce impacts resulting from erosion and to limit that area available for invasive weed establishment.

- m. *Surface Use Plan of operations shall require compliance with and incorporate by reference all applicable water pollution control requirements and permits of the Environmental Protection Agency and the State of Wyoming.*

The operator has submitted an approved Storm Water Pollution Prevention Plan (SWPPP) for record to the Kemmerer Field Office and is incorporated by record.

In addition, if the well is found to be productive a copy of the Spill Prevention Control and Counter measure (SPCC) plan will be provided to the BLM and EPA in accordance with *40 CFR Part 112*.

2. Alliance for Historic Wyoming and Oregon-California Trails Association

- a. *The interpretation of the large power line structures as features that dominate the view from the trail is used as justification for further intrusions on the landscape.*
Fortuna followed BLM's advice to locate and design the Bear Canyon 8-12 Well so that it will not be visible from the NHT. Consequently, the proposed well location requires that Fortuna directionally drill to their desired down hole target at greater cost than a straight drill from a surface location that would have been visible from the NHT. Our efforts to design the proposed well out of view from the NHT used BLM's Visual Resource Management (VRM) program, which was also the model for our current *Guidelines for Determination of Visual Effects of an Undertaking on the Integrity of a Historic Setting*, found in Appendix C of our Protocol in:

Programmatic Agreement Among the Bureau of Land Management, Advisory Council on Historic Preservation, and the National Council of State Historic Preservation Officers Regarding the Manner in which BLM Will Meet its Responsibilities Under the National Historic Preservation Act, State Protocol Between the Wyoming Bureau of Land Management State Director and the Wyoming State Historic Preservation Officer (http://wyoshpo.state.wy.us/SHPOweb2002/images/BLM_PROTOCOL/mainpage.htm).

Under the VRM program and Appendix C of the Protocol, the Visual Contrast Rating (VCR) system is used to determine the visual impact of a

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proposed undertaking on historic properties like the Sublette Cutoff NHT. Seven key factors are considered in VCR analyses: landform, vegetation, water, color, adjacent scenery, scarcity and cultural modifications. Cultural modifications are existing structures and other developments introduced into the landscape by humans, and they may detract from the scenery in the form of a negative intrusion or complement the scenic quality. We interpret the existing large power line structures as negative intrusions that detract from the scenery in the foreground of the NHT's setting, although we still manage the background to maintain the integrity of the setting. Our analysis in no way used the existing intrusion of the power lines as a justification for further degradation of the trail segment, because we required that the well be sited and designed so that it will be minimally visible, if at all visible from the trail. Our objectives for this NHT segment are to maintain its integrity of setting by requiring that all potential developments be designed so that they create "No Contrast" ("project elements will not be seen"), or result in a "Weak Contrast" that will not dominate the setting (Protocol Appendix C.II.E).

- b. *The concern that classification of trail segments as non-contributing may jeopardize adjoining contributing segments through degradation of their integrity.*

In recognition of this problem in our previous approach, we now require specification of the National Register qualities of integrity that contribute to each trail segment. By refining our definition of specific contributing qualities of trail segments, we are better able to manage proposals so that those qualities are preserved. We consider this segment of the Sublette Cutoff, between White Hill and Rock Creek Ridge, to have excellent integrity of location, setting and association, as well as outstanding historical documentation by the emigrants who used it. Therefore, our management objectives are to protect the segment from visual intrusion and surface disturbance and maintain the integrity of setting. Our design requirements for the Bear Canyon 8-12 Well were developed to meet those objectives.

- c. *Interpretation of the term "casual observer" to mean that we believe trail enthusiasts are not dedicated to the appreciation and preservation of NHTs.* In fact, we are deeply cognizant of the great dedication of groups like yours who are our partners in the preservation and management of trail resources. That is why we consult with the Alliance for Historic Wyoming when we are analyzing potential effects of proposed undertakings on NHTs. In this case, we did not coin the term "casual observer" but rather, incorporated it into our discussion because it is used in BLM's VRM program. In BLM Manual Handbook 8410-1 which describes the process of Visual Resource Inventory, the *Objectives for Visual Resource Classes* use the phrase "Management activities may be seen, but should not attract the attention of the casual observer" for VRM Class II, and "Management activities may attract attention but should not dominate the view of the casual observer" for VRM Class III. Appendix C of the Protocol incorporated similar terms in the definition of a "Weak Contrast" as "project elements, or portions of the elements, can be seen but will not dominate the setting or attract the

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attention of the casual observer because the basic elements of form, line, color and texture found in the setting are repeated by the project's physical elements." We designed the Bear Canyon 8-12 Well so that it would have a weak contrast, if it is at all visible from the Sublette Cutoff. The summary of our analysis incorporated the term "casual observer" because of its use in the definition of "Weak Contrast."

d. *Issues involving the use of the Dempsey Road because it is actually the Sublette Cutoff.*

To see the relationship between the actual Sublette Cutoff NHT and the Dempsey Road (BLM Road 4211), please refer to figures in *An Analysis of the Proposed Fortune Energy Well Bear Canyon #8-12 on the Sublette Cutoff (48LN225), Lincoln County, Wyoming*, which we sent as Enclosure A with our letter dated May 25, 2007. Figures 3, 7, 8 and 11 depict the Dempsey Road as a solid red line labeled "BLM Road 4211," while the trail is shown as a solid maroon line, labeled "BLM GIS Sublette Cutoff," to the west of the road. Figures 7, 8 and 11 also depict blue lines that represent the actual locations of trail ruts identified and mapped by Sagebrush Consultants, LLC, with Global Positioning System technology, that refine the locations of trail traces. Also refer to Figures 14 and 15 which show the locations of the Dempsey Road ("Existing Upgraded Road") in black and the Sublette Cutoff in red, in a regional view at a larger scale. Please note that several of the figures document that the original upgrading of the Dempsey Road destroyed the trail trace in three places: adjacent to Emigrant Spring, northwest of "Bear Canyon 7-23 Well," and northwest of the intersection of the existing upgraded road to the Bear Canyon 8-12 Well with the Dempsey Road. Because trail traces no longer exist beneath the upgraded road, we do not manage those portions of the Dempsey Road as the Sublette Cutoff NHT. You may also refer to Figure 6 on page 9 in *Analysis of the Fortuna Energy Well Bear Canyon #7-23, on the Sublette Cutoff (48LN225), Lincoln County, Wyoming* (Enclosure B with our letter dated May 25, 2007), for a photograph of the upgraded Dempsey Road and adjacent trail trace.

The Dempsey Road was upgraded as a major crowned-and-ditched gravel road in August of 1984 by Amoco Production Company (as operator), after BLM authorized a right-of-way grant to Natural Gas Corporation of California (as lessee) to build an access road to their Coke Mountain Unit 2-A Well. When the well was plugged and abandoned in 1988, the right-of-way was closed in 1989 and the road was relinquished to BLM, who has routinely maintained BLM Road 4211 in its crowned-and-ditched condition since that time. Although Fortuna plans to use the existing upgraded Dempsey Road (BLM Road 4211) in its current condition, BLM's right-of-way grant authorizing that use will require that they maintain the road's good condition. That means that Fortuna will be required to grade and re-gravel the crowned travel way of the road if their use results in degradation of its current condition. However, the extent of Fortuna's road maintenance will not go beyond the edges of the travel way nor exceed routine maintenance that BLM has performed for the past 18 years, and it will not cause any new disturbance beyond the barrow ditches. The intact trail trace is present with good integrity west of the Dempsey Road to the north of Emigrant Spring. Current routine maintenance by BLM and future proposed maintenance by

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Fortuna will not affect the trail trace in any way because the intact ruts are well beyond the barrow ditches of the upgraded road.

Fortuna also plans to use another existing upgraded road east of the Dempsey Road to reach the proposed well, depicted in light gray as “Exxon #1 Access Road” and in red as “Exxon Rock Slide #1 Road Reroute” in Figure 6 on page 7 in *An Analysis of the Proposed Fortune Energy Well Bear Canyon #8-12 on the Sublette Cutoff (48LN225), Lincoln County, Wyoming*. This road was constructed in 1989 by Exxon Corporation to reach their Rock Slide #1 Well, which was plugged and abandoned in 1992. The well pad was reclaimed and the upgraded road was left in place at the request of the grazing lessees, although it has not been maintained since 1992. Fortuna’s right-of-way grant will have the same requirements for maintenance of this road as for the Dempsey Road, with authorization of additional blading and re-graveling prior to well construction to bring the road back to good condition that will support heavy equipment traffic. Because it is an existing development, Fortuna’s proposed use and maintenance of the Exxon Rock Slide #1 Road will not affect the trail trace in any way or create a new intrusion in its setting.

- e. *Noise and visual disruptions of heavy equipment traffic for dedicated trail visitors, who would expect a high degree of solitude.*

We know that the Dempsey Road has always received moderately heavy traffic during the summer from ranchers, sheep herders and local residents traveling the back road between Kemmerer and Cokeville, and heavy traffic during the fall when hunters are also present in great numbers. We also recognize the temporary effect of heavier traffic during construction of the well. Appendix C of the Protocol does not require setting assessments “for temporary construction elements (i.e. those elements that will be in place less than one year).” As a general guideline, we do not define temporary construction elements of less than one year duration as permanent impacts that merit formal determinations of effect. However, if you retain a great concern over the temporary effects of heavy equipment traffic on trail visitors, we may add a Condition of Approval to the approved Application for Permit to Drill (APD) that Fortuna restrict daily travel to and from the well to the early and late hours of the day when trails enthusiasts would be less likely to be in the area.

- f. *Potential for winter construction to unearth undocumented graves.*

We hope that our explanation of the condition and use of the Dempsey Road will clarify that there is no possibility for traffic and routine maintenance on the existing upgraded road to encounter graves. Moreover, new construction of the well pad one and three quarter mile east of the Sublette Cutoff NHT has no potential to encounter graves because of the distance from the trail, with an intervening canyon that emigrants would not have crossed.

- g. *The project’s effect on historic employment patterns because of the negative impact on the setting of the Sublette Cutoff and people’s ability to enjoy that resource.*

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Because the project was designed so that it should not be visible from the Sublette Cutoff and will not have an adverse effect on the trail's setting, there should not be any local economic impacts to heritage tourism.

- h. *Visibility of the flare or incinerator placed on the well pad for permanent operations, described in the EA.*

We plan to authorize this APD with visible elements of production facilities no greater than 12 feet in height. Should the producing well require taller structures or elements with higher visibility, they will be authorized separately under a Sundry Notice and we will initiate further consultation with you that specifically analyzes structures with visibility greater than 12 feet in height. If such a scenario is pursued, Fortuna must provide special design plans which may require that higher visibility facilities be sited off the well pad at lower elevations so that a flare will not be seen from the trail. However, Fortuna will not know the specifications of potential production facilities until they complete a producing well, at which time we will analyze the effects of particular facilities on the trail setting.

- i. *Concern over the mitigation measure proposed in the DEA, involving preconstruction documentation and public access through interpretive displays or deposition in historical archives.*

This type of mitigation measure would only result from a determination that an undertaking will have an *adverse effect* on a historic property such as an NHT, and could only be accomplished through direct consultation with affected interests like your organization, as well as with the State Historic Preservation Officer (SHPO). The end product of such consultation would be a Memorandum of Agreement signed by BLM, SHPO, the operator and all affected interests, representing agreement among all parties that special mitigation measures are mutually acceptable. At this point, all of our efforts to reach a "No Contrast" or "Weak Contrast" for the proposed Bear Canyon 8-12 Well in the setting of the Sublette Cutoff are pursuant to a determination that the undertaking will have *no adverse effect* on the trail. In reaching that goal, no such mitigation measures will be necessary because we have required special designs and conditions that do not cause adverse effects to the National Register qualities of the historic property.

3. Wyoming Game and Fish Department and Interested Publics

- a. *Project would have negative impacts, associated with development, to wintering mule deer, elk, and moose.*

The new construction, development and production of the proposed action would fall outside of all of the Wyoming Game and Fish designated crucial big game winter range habitats. In addition, the existing Dempsey Road only crosses small portions of those habitats identified for crucial winter ranges identified for any of the big games species. The proposed well would be drilled during a time frame when limited number of these species would be present within those habitats and potential snow depths would preclude the use of the area by these animals.

The major sensitive big game resource identified within the EA was the utilization of the Dempsey Road during elk parturition. The BLM will apply a seasonal

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restriction on all activity or surface disturbing activities from May 1 through June 30 to protect this sensitive resource.

Based upon Wyoming Game and Fishes 2005 corridor data, no identified mule deer, elk, or antelope migration corridors would be impacted by the proposed action. The closest identified migration corridor is for moose which is located within the section where impacts would be the greatest. Although the corridor could be impacted it is anticipated that through the proposed mitigation measures, applied BMPs, and conditions of approval the impact would be reduced. The anticipated greatest impacts would result during drilling and completion phases of development and may temporarily displace moose through increased human presence. The use of remote monitoring and remote control, and other mitigations it is anticipated that moose would not abandon the use of this migration corridor.

- b. *Proposed Access Road passes within ¼ mile of active greater sage-grouse lek (Nancy Hill Grave lek).*

Based upon the GPS location of this lek provided by Game and Fish data submission the lek is approximately 1600 feet from the road. Construction, drilling, and completion activities associated with this development are anticipated to occur outside of the March 1 through April 15 time frame where travel restrictions would be necessary within ¼ mile of the lek. In addition, the operator has committed to limiting the number of trips necessary to the location, the timing of those trips, and has also committed to the installation of remote monitoring and control of the well to result in fewer pumper visits during sensitive time periods.

While the proposal will result in direct impacts to sage grouse nesting ranges the timing for construction, drilling, and completion would be restricted to reduce the impacts resulting from this impact.