

**U.S. Department of the Interior  
Bureau of Land Management  
Kremmling Field Office  
P O Box 68  
Kremmling, CO 80459**

## **ENVIRONMENTAL ASSESSMENT**

NUMBER: DOI-BLM-CO-120-2009-0003

PROJECT NAME: EOG (4) Applications for Permit to Drill (APDs & ROWs)

LEGAL DESCRIPTION: T. 6 N., R. 80 W., Sec. 6  
Jackson County

KREMMLING FIELD OFFICE, KREMMLING, COLORADO

CASEFILE/PROJECT NUMBER: COC-65600, COC-73362 & COC-73363

APPLICANTS: EOG Resources, Inc. (EOG)

Background/Introduction: The Federal mineral estate administered by the Bureau of Land Management (BLM) as part of its mineral leasing program provides minerals, including fossil fuels, for the benefit and use of the American public and encourages development of domestic oil and gas reserves to reduce dependence on foreign energy supplies. Mineral development is supported by the Mineral Leasing Act (1920 30 USC 181 et. seq.) and the Federal Land Policy and Management Act (FLPMA).

Applications for Permits to Drill (APDs) were received as follows, with on-site reviews of each proposed well site occurring as soon as weather and schedules permitted:

- Damfino 2-06H APD received on 4/28/08, on-site review occurred on 4/28/08.
- Surprise 4-06H shares a well pad with Damfino 2-06H; an APD was received on 6/16/08, an on-site review occurred on 4/28/08.

On-site reviews were attended by BLM Kremmling Field Office (KFO) staff specialists Bill Wyatt, Archeologist; Paula Belcher, Hydrologist; Megan McGuire, Wildlife Biologist; Mandy Scott; Natural Resource Specialist, and Kelly Hodgson; Natural Resource Specialist. Dan Holgren and Alfreda Schulz represented EOG. Access road alignment and pad location were discussed at each of the on-site meetings.

ROW applications were received for Spicer 1-06H and Damfino 3-06H. The proposals are for well pads on BLM-administered land but directional drilling would occur for private minerals. There was an onsite for Damfino 3-06H but no onsite occurred for Spicer 1-06H.

PURPOSE AND NEED FOR THE ACTION: The BLM received APD and ROW applications from EOG for four wells on federal surface estate to explore for and develop oil and gas reserves in the United States. Lease development was essentially guaranteed when the leases were issued [Mineral Leasing Act of 1920, 30 USC 181 et. seq., as amended, and the Federal Land Policy and Management Act (FLPMA)]. Federal leases are issued for an initial term of 10-years and are valid indefinitely as long as capability to produce in paying quantities is maintained, either on a leasehold basis or on a unit basis (if the lease is contained in an approved oil/gas unit).

The BLM is preparing the Environmental Assessment (EA) to address potential impacts associated with approval of EOG's APDs and ROWs. If approved, it would further BLM's objective contained in the 1991 Oil and Gas Leasing and Development Environmental Impact Statement/Record of Decision (EIS/ROD) to: "Facilitate orderly, economic, and environmentally-sound exploration and development of oil and gas resources using balanced multiple-use management.

It is the intent of the applicant to exercise their lease rights to occupy as much of the lease surface as is reasonable for exploration and extraction of oil and gas.

#### DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

PROPOSED ACTION: EOG Resources, Inc. (EOG) proposes to drill 4 new oil wells in Jackson County in 2009.

- **Damfino 2-06H** well would be on BLM-administered surface and mineral estate, located in T. 6N., R. 80W., Sec. 6, SE1/4;
- **Surprise 4-06H**, located in T. 6N., R. 80W., sec 6: Lot 11, shares a well pad with Damfino 2-06H and would be on BLM-administered surface, but directionally drilled to private minerals;
- **Spicer 1-06H**, located in T. 6N., R. 80W., sec. 6, Lot 8, would be on BLM-administered surface, but directionally drilled to private minerals;
- **Damfino 3-06H**, located in T. 6N., R. 80W., sec. 6: Lot 11, would be on BLM-administered surface, but directionally drilled to private minerals.

See map below.

The standard Conditions of Approval are incorporated as part of the Proposed Action and included as Attachment #1. The design features developed during on-site inspections are described below, and are incorporated as part of the Proposed Action. Additionally, the surface-use plans provided by EOG are incorporated by reference as part of the Proposed Action. Surface disturbance expected from developing the four wells is shown in the following chart, based on well pad dimensions and new road construction.

Well	Well pad Disturbance (Acres)	Max Vertical Cut (ft.)	New Road disturbance (Lin. ft.)	Road Disturbance area (Acres)	Total site disturbance (Acres)	Anticipated Water Depletion plus dust abatement
Damfino 2-06H APD	2.8	7.3	450	0.16	2.96	11,221 barrels (bbls)
Damfino 3-06H ROW	2.8	15.1	2640	.97	3.77	11,874 bbls
Surprise 4-06H APD	0	0	0	0	0	10,000 bbls
Spicer 1-06H ROW	2.8	15.7	120	.11	2.9	10,082 bbls
Total	11.2	--	3210	1.24	9.63	43,177 bbls

Design features of the Proposed Action common to all well sites (summarized from Surface Use Plans available at the Kremmling Field Office):

- Well pad dimensions would be approximately 400' x 300'.
- New access roads would have a 40' wide sub-grade with a 16' wide crowned driving surface, constructed, maintained, and improved as necessary. Maximum grade of 2%.
- In the event that commercial production is established, access roads would be surfaced to an average minimum depth (after compaction) of four inches with three inch minus pit run gravel or crushed rock for all-weather access. The new roads would remain until the wells are abandoned, at which time they would be obliterated and the road and pad areas reclaimed. Topsoil must be of an adequate volume to spread to a minimum of 6" depth at final reclamation.
- All permanent above-ground structures constructed or installed on location and not subject to safety requirements would be painted Shale Green.
- Well sites with reserve pits would be fenced on three sides during drilling operations and the fourth side after the drilling rig moves off the location. Reserve pits would be lined with a 12-mil or thicker synthetic liner. Cuttings and drilling fluids would be contained in the reserve pit. The pit would be closed and reclaimed within six months of the last date of completion (weather permitting).
- All human waste, garbage and non-flammable waste materials would be contained and disposed of at a state-approved disposal site.
- EOG would maintain a file of all MSDS for all chemicals, compounds and/or substances which are used during the course of construction, drilling, completion and production operations for the project.
- EOG would maintain an Emergency Response Plan which includes notifying the BLM of all reportable spills of oil, produced water and hazardous substances.
- Fresh water would be obtained from Buffalo Creek, with the point of diversion located in

T. 7N., R. 80W., Section 28: NWSW. EOG estimates 10,000 barrels (bbls) of North Platte River Basin water would be required for drilling each well.

- Interim reclamation of the location, roads, and pits would be done within six months after completion or plugging operations are finished (weather and wildlife stipulations permitting). After the pit is dry, the reserve pit liner would be cut as close as possible to the mud surface and would be hauled to an approved disposal site. The pit would then be backfilled with no less than five feet of soil material and would be mounded over to allow for setting of the soil.
- All disturbed, unused areas would be seeded. If drilled the drill would be equipped with a depth regulator. If broadcasted, the rate would be doubled (see attached seed mixture).
- Monitoring would be conducted by a qualified Operator representative (in coordination with the BLM) following initial rehabilitation work. Monitoring areas would be re-examined at the end of the first growing season. Results would be documented in a report to the BLM.
- Construction activities would not be conducted using frozen or saturated soils or during periods when watershed damages are likely to occur.
- If proposed access roads and well pads are dry during construction, drilling and completion activities, water would be applied to help facilitate compaction during construction and to minimize soil loss as a result of wind erosion.
- Weeds would be controlled on disturbed areas within the exterior limits of the access roads and well pads. Approval would be obtained from the Authorized Officer prior to use of pesticides.
- Gravel used would be pit run gravel obtained from the John Rich gravel pit.

#### Design Features of the Proposed Action for specific wells:

##### **Damfino 2-06H:**

- The wellpad would not have a reserve pit, but be a “closed loop” system.
- Access road falls within grazing allotment, therefore a cattle guard is required where the access road leaves Hwy. 14.
- Pad cut and fill slopes would be 3-to-1 or less.

##### **Surprise 4-06H:**

- The access road would have adequate culverts and drainage design, especially as the road starts downhill west of the fence.
- Access road falls within grazing allotment, therefore a cattle guard would be required where the access road leaves Hwy. 14.
- The wellpad would not have a reserve pit, but be a “closed loop” system.
- Pad cut and fill slopes would be 4-to-1 or less.

##### **Spicer 1-06H:**

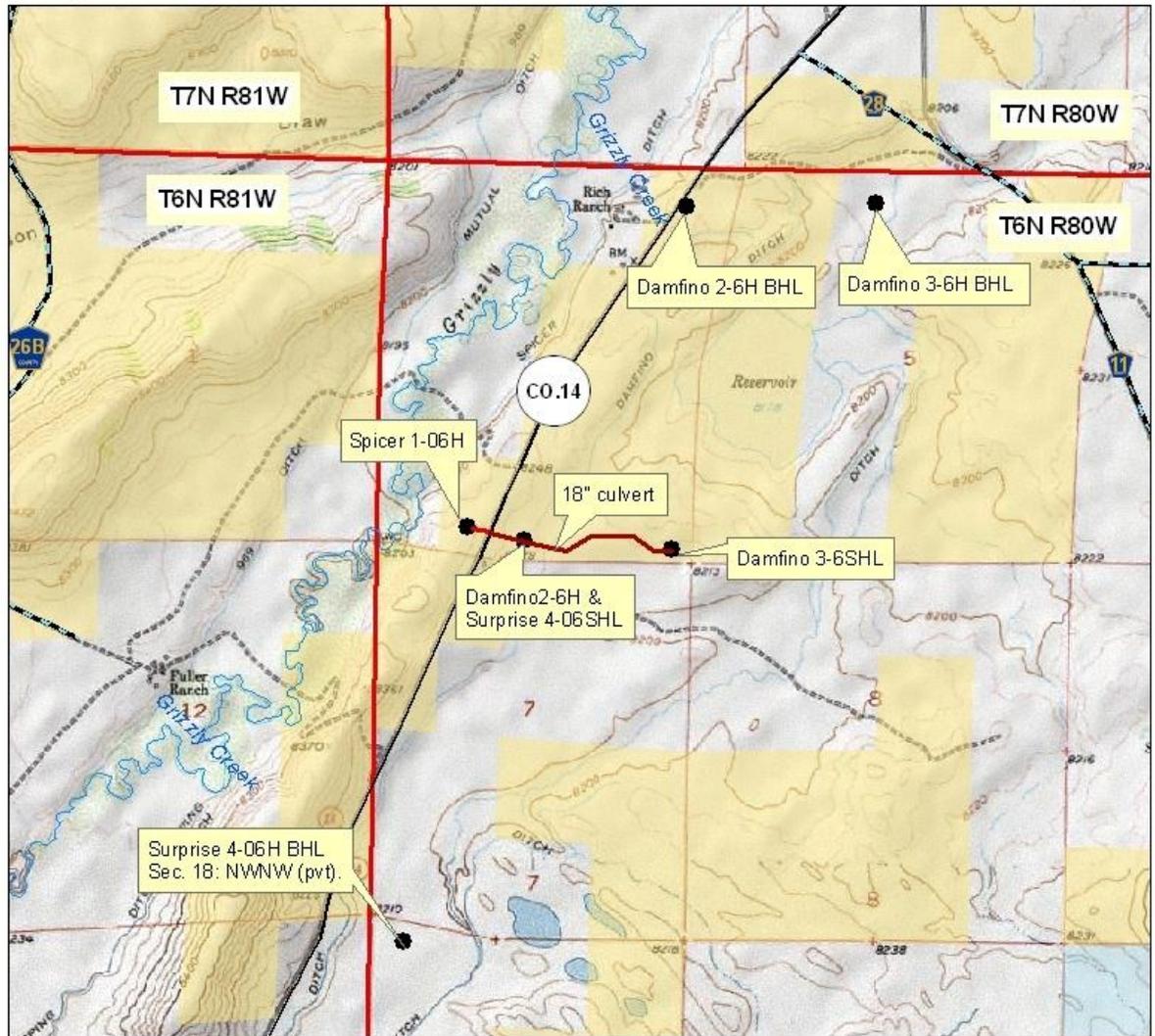
- The anticipated water depletion, due to dust abatement, is 82 barrels (bbls).
- Reserve pit would be utilized. Reserve pit would be built within the pad perimeter.
- Cut and fill slopes would be 3-to-1 or less.
- Access road falls within grazing allotment, therefore a cattle guard would be required where the access road leaves Hwy. 14.

**Damfino 3-06H:**

- 18" culvert would be installed on proposed access road.
- Access road falls within grazing allotment, therefore a cattle guard would be required where the access road leaves Hwy. 14.
- Reserve pit would be utilized. Reserve pit would be built within the pad perimeter.
- Pad cut and fill slopes would be 4-to-1 or less.



# EOG APDs Spicer 1-06H, Surprise 4-06H, Damfino 2-06H & Damfino 3-06H



1:24,000

No Warranty is made by the Bureau of Land Management as to the Accuracy, Reliability, or Completeness of this Data for Individual Use or Aggregate Use with Other Data.

Map: Spicer Peak and Coalmont  
BLM, Kremmling FO 11/14/2009

\*BHL – bottom-hole location  
\*SHL – surface-hole location

No Action Alternative: The No Action Alternative would deny one or more of the EOG proposed well-site developments and the associated access roads.

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):  
The Proposed Action is subject to the following plan:

Name of Plan: Kremmling Resource Management Plan, Record of Decision (ROD)

Date Approved: December 19, 1984 (Updated June 1999), and as amended by Record of Decision on December 5, 1991 as described in the Colorado Oil and Gas Leasing and Development Final Environmental Impact Statement (O&G EIS).

Decision Number/Page: ROD (map 3, p. 14)

Decision Language: To facilitate orderly, economic and environmentally sound exploration and development of oil and gas resources using balanced multiple-use management (ROD, p.11). Important wildlife habitat will be protected with the use of no surface occupancy, timing limitations or controlled surface use stipulations and /or lease notices on oil and gas leases, and conditions of approval (COA) on permits (ROD, p. 3).

Decision Number/Page: II-B-12 pg.14

Decision Language: Provide the opportunity to utilize public lands for development of facilities which benefit the public, while considering environmental and agency concerns.

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:

AIR QUALITY

Affected Environment: Air quality in the North Park area is generally good, with some winter inversions in the center of the area around Walden and along river valleys. The North Park area is surrounded by several Class I Air Quality Areas (i.e. areas requiring the most stringent air pollution controls). Prevailing winds in the area are from the west-southwest. There is currently one well flaring gas in the vicinity of these proposed wells. There are two 2008 permitted wells near the proposed wells (i.e. one well is a mile north and the other well is less than a mile east of the Damfino 3-06H well).

Environmental Consequences: The Proposed Action would result in localized short-term increases in carbon monoxide, nitrogen dioxide, ozone, and sulfur dioxide concentrations, but well below applicable ambient air quality standards. Hazardous air pollutant concentrations would be well below standards and the related short and long term cancer risks to well rig operators and nearby residents would be below significance levels. Minor adverse impacts to air quality would result in the immediate vicinity of the well development. These impacts would include dust or odors from oil and gas operations that can be irritable to individuals with chemical sensitivities or breathing difficulties. Since the oil and gas development would occur approximately 16 miles south of Walden, these impacts would not affect town residents or visitors.

The four wells are located less than a half mile south of the Russell ranch, and less than a mile south of the Rich ranch. The Fuller ranch is about a mile to a mile and a half southwest of the wells, and due to prevailing winds, would not be expected to be impacted by most well activity. The Russell and Rich ranches are along the abandoned terrace above Grizzly Creek, at an elevation that is higher than the three wells that are east of the highway. Prevailing winds would generally carry emissions away from the ranches. At the current well density, the wells would not be expected to produce sufficient concentrations even in the low lying river bottoms to impact these ranches.

Construction of the pads and roads would create some fugitive dust, depending on the soil moisture and weather at the time. The project proponent is planning on using water to control emissions when necessary. The small amount of dust and its short duration would not impact air quality in the area. Surfacing the roads and reclaiming the portion of the pad not needed for production would help reduce dust emissions from the locations.

The concentration of wells in the area could be smaller with the No Action Alternative. If any of the applications were denied, the air quality and the dust from construction and emissions from operations would be less. If all four applications were denied, there would be no dust from construction and emissions from operations and the air quality would not be impacted.

Mitigation: None

## MIGRATORY BIRDS

**Affected Environment:** The proposed well sites would be located in sagebrush steppe habitat. Migratory birds expected to inhabit the project sites include Sage Sparrows, Horned Larks, Western Kingbirds, Common Nighthawks, Green-tailed Towhees, Red-tail Hawks, Prairie Falcons, Western Bluebirds, American Kestrels, Burrowing owls, Swainson's hawks, and golden eagles.

**Environmental Consequences:** The proposed project would eliminate a small amount of sagebrush habitat. However, no take of migratory species would be expected to occur as a result of the project. If the construction of roads and pads is completed after the peak nesting season (April 1<sup>st</sup> to July 15<sup>th</sup>), it is not likely that active nests from ground nesting species would be destroyed. If construction occurs during this period, it is possible that a few nests would be destroyed and/or the activity may cause nest abandonment. The reclamation plan, which would be implemented after project completion, would adequately restore most of the sagebrush habitat lost due to the project's construction activities. Accordingly, the Proposed Action would not have any major direct, indirect, or cumulative impacts on migratory birds.

Sagebrush habitat would not be lost with the No Action Alternative if all the applications were denied. Sage grouse nests would not be disturbed or destroyed in this scenario. If one or more of the applications were denied, the sagebrush habitat would be lost at a lesser extent and the sage grouse nests would not be disturbed as much.

**Mitigation:** None

## THREATENED, ENDANGERED, AND SENSITIVE SPECIES (includes a finding on Standard 4)

**Affected Environment:** The Proposed Action is located within the North Platte River basin, which is tributary to the Platte River System. The United States Fish and Wildlife Service (FWS) has determined that any water depletion within the Platte River jeopardizes the continued existence of one or more federally-listed threatened or endangered species and adversely modifies or destroys designated and proposed critical habitat. Depletions may affect and are likely to adversely affect the whooping crane, the interior least tern, the piping plover, and the pallid sturgeon in Nebraska.

The proposed well sites would be located in habitat occupied by Greater sage-grouse, a BLM designated sensitive species. While sage-grouse occupy the project area on a yearlong basis, the area is especially important as nesting and brood rearing for sage-grouse. Three sage-grouse breeding complexes (referred to as leks) are located within four miles of the proposed wells. The sagebrush habitat adjoining the leks provides hiding and nesting cover for sage-grouse during the breeding season.

No other threatened, endangered or sensitive species are known to inhabit the proposed project area.

**Environmental Consequences:** The Platte River Recovery Implementation Program (PRRIP), established in 2006, is implementing actions designed to assist in the conservation and recovery of the target species and their associated habitats along the central and lower Platte

River in Nebraska through a basin-wide cooperative approach agreed to by the States of Colorado, Nebraska, and Wyoming and the U.S. Secretary of the Interior. A programmatic biological opinion was completed on June 16, 2006, that covers new depletions, but the exact reasonable and prudent alternatives for federal depletions from new projects is still being determined, especially for non-agricultural related activities. The BLM is working with the USFWS, Jackson County, and the three states to develop the reasonable and prudent alternatives for non-agricultural depletions in Jackson County.

The four proposed wells are estimated to require 5.6 acre-ft of water, using the estimates of about 43,177 barrels (liquid). The operator has secured private agricultural water to use for the wells. At the current time, this non-agricultural depletion is being mitigated under Jackson County's existing agricultural depletions.

Since vegetative loss from the proposed well sites development would occur, a small amount of sage-grouse nesting habitat would be impacted by the proposed project. Most of this habitat would be restored when the well site pads are successfully reclaimed with native vegetation.

In the No Action Alternative, if all the applications were denied there would be no depletions from the North Platte River. Sage grouse leks would not be impacted. If one or more of the applications were denied, the impacts to sage grouse leks would be less. There would also be less depletions from the North Platte River.

Mitigation: None

#### WASTES- HAZARDOUS OR SOLID

Affected Environment: Some potentially hazardous materials would be used during well drilling and maintenance. In addition, solid waste would be generated during these proposed activities.

According to 29 CFR 1910.1200(g), the oil and gas operator is to maintain a file containing Material Safety Sheets (MSDS) for all chemicals, compounds, and/or substances which are utilized during the course of construction, drilling, completion, and production operations of this project. This file is to be available at all times employees are present at the site. Hazardous materials that may be present at the site include drilling mud and cementing products that are primarily inhalation hazards. Flammable or combustible motor fuels would be present. Proprietary materials necessary for well completion and stimulation such as acids and corrosives are often used. Human solid and liquid wastes would be generated primarily during the construction and drilling phases of the project.

Environmental Consequences: There would be no direct, indirect, or cumulative impacts from the Proposed Action. However, this is dependent upon responsible use of chemicals and immediate containment and adequate cleanup in the event of a release. Consequences would be dependent on the volume and nature of the material released. In most situations involving hazardous materials, there are ways to remediate the area that has been contaminated.

In the No Action Alternative, if all applications were denied, there would be no hazardous materials used and released. If one or more of the applications were denied, there would be less hazardous materials used and released.

Mitigation: None

#### WATER QUALITY, SURFACE AND GROUND (includes a finding on Standard 5)

Affected Environment: The proposed wells and roads are within the Grizzly Creek 5<sup>th</sup> order watershed, within the North Platte River Basin. The state classifies Grizzly Creek for coldwater class 1 aquatic life, water supply, agriculture, and primary contact recreation. Grizzly Creek is on the Monitoring and Evaluation List for possible water quality impairment for aquatic life uses. The Monitoring and Evaluation List identifies water bodies where there is reason to suspect water quality problems, but there is also uncertainty regarding one or more factors, such as the representative nature of the data. Water bodies that are impaired, but it is unclear whether the cause of impairment is attributable to pollutants as opposed to pollution, are also placed on the Monitoring and Evaluation List. In the past, sediment concerns have been identified as a potential problem in Grizzly Creek. The BLM has limited segments of Grizzly Creek, mostly located upstream of the proposed wells.

Ground water information is limited in the area. Two well permits have been in T. 6 N., R. 80 W., Section 6. Unfortunately, the private land owners who obtained these permits to drill wells have never filed drill logs with the state, or filed on water rights. Without these filings, it is difficult to know if the wells were drilled and to what depth. Most water wells in North Park are associated with the alluvial valleys and are shallow in depth. The Russell Ranch and the Rich Ranch in Section 6 (T. 6 N., R. 80 W.) would mostly likely be on private wells.

Environmental Consequences: A review of each pad and road's runoff pathway was done, and except for Damfino 3-06H, the pathways are intercepted by irrigation ditches, or the highway berm, prior to reaching any surface waters. Damfino 3-06H's runoff would drain towards the southwest to an ephemeral drainage that also carries irrigation wastewater. The channel travels to the northeast and is ultimately tributary to Buffalo Creek, a tributary of Grizzly Creek. The drainage supports wetland vegetation and, at least seasonally, could carry sediment loads to Buffalo Creek, which is more than two miles to the north. By reducing the pad's cut and fill (as discussed during the onsite, and pad was re-staked), and best management practices to reduce soil erosion, the amount of runoff from the pad should be minimized and unlikely to be measurable in the drainage, much less in Buffalo Creek.

Each of the four wells would disturb more than one acre and would require a stormwater permit (or waiver) from the state of Colorado. It is the applicant's responsibility to obtain the permit and to implement all required best management practices to protect water quality and reduce nonpoint source pollution.

Ground water quality protection is reviewed by the Little Snake Field Office to ensure drilling, casing, and production procedures adhere to state and federal laws protecting ground water quality. Two of the wells would have lined reserve pits to contain drilling fluids on site. Due to the proximity of a possible shallow water table, the Damfino 2-06H and Surprise 4-06H wells

would use closed systems and no pits would be constructed on the pad. This would further ensure that no ground water contamination occurs.

In the No Action Alternative, the sediment load in Buffalo Creek would be lessened if one or more of the applications were denied. Ground water would not be as impacted. If all applications were denied, ground water would not be impacted and there would not be a concern for the sediment load in Buffalo Creek.

Mitigation: None

## SOILS

**Affected Environment:** Soil information is from the Jackson County Soil Survey. The wells are mapped as occurring in loam to sandy loam soils, with topsoil depths that range from four to eight inches. The Damfino 3-6H is mapped as a Tealson-Rock land association, where the Tealson sandy loams have soft sandstone within two feet from the surface. The Spicer 1-06H is mapped as occurring in Cryorthents, which are dry exposures with little to no horizon development. To the north of the pad is Cabin sandy loams, which have about four inches of topsoil.

**Environmental Consequences:** The pads and roads are proposed in areas of gentle (0-3%) slopes, on soils that have slow to medium rates of runoff. The Damfino 3-06H well pad was relocated during the onsite to reduce the cut and fill by moving it to the south. The new location would have less soil disturbance and have better topsoil than the uphill location. The access road was also rerouted to move away from the drainage. This increased the length of the road, but improved the location and the impact to visuals.

The Spicer 1-06H location appears to be on the side of a gentle hill, with the access road coming straight up the hill. Although the road length is kept to a minimum, this route is generally up a 3-7% grade to a pad that has a maximum cut of 15 feet. It appears that by moving the pad slightly to the northeast, cut and fill volumes could be reduced. There may also be a potential to move the pad to the south to the top of the hill. Cut and fill amounts might be reduced, but wind erosion and visuals may not be as favorable as moving to the northeast.

In the No Action Alternative, if all the applications were denied, soils would not be impacted and topsoil would not be removed. No new roads would be built. If one or more of the applications were denied, soils would be impacted less and less topsoil would be removed. There would be less new road built.

Mitigation: None

## WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

**Affected Environment:** The proposed wells would be constructed in sagebrush steppe habitat which is occupied by a variety of terrestrial wildlife. Mule deer and Rocky Mountain elk move through the project area at various times in the year en-route to summer and winter range. Pronghorn and small mammals including badgers, coyotes, and a variety of small rodents inhabit

the area on a yearlong basis. The Spicer 1-06H well is adjacent to Grizzly Creek and thus is identified as a concentration area for moose as well as winter habitat.

**Environmental Consequences:** The proposed project is not expected to conflict with terrestrial wildlife, since habitat disturbance would be minimal. Most vegetative disturbances associated with the project would be reclaimed. Harassment or disturbance of wildlife would also be minimal since drilling activities would be short-term in isolated areas, and not likely to occur during periods of animal concentration (except for Spicer 1-06H in big game winter range, see mitigation below). Animals may temporarily avoid the project area during and after operations due to noise, increased activity, and unfamiliar surroundings. The Proposed Action would not result in any major direct, indirect or cumulative impacts to the area's terrestrial wildlife.

**Mitigation:**

- If EOG's drilling on the Spicer 1-06H well occurs during the period of Dec 1 through April 30, EOG would be required to consult with the BLM to discuss potential big game winter issues.

In the No Action Alternative, if all applications were denied big game winter range would not be disturbed and wildlife would not be harassed. If one or more of the applications were denied, there would be less big game winter range disturbance and not as much harassment of the wildlife.

## NOISE

**Affected Environment:** Sound levels in the project area would vary greatly, depending on proximity to existing residences, roadways, or other sources. These sound levels would fluctuate with variations in weather conditions including temperature, wind, humidity, and the general topography of the area. No background noise studies have been conducted, but the project area is located near Highway 14, with noise disturbance already present.

**Environmental Consequences:** There would be a short-term increase in noise levels in the project area while drilling activities occur. The distance to existing residences, the temporary nature of the drilling noise, and the use of quiet electric motors and well lubricated pumpjacks would limit any harmful effects of noise occurring under the Proposed Action.

In the No Action Alternative, if all applications were denied, the noise level would not increase. If one or more of the applications were denied, there would be less of an increase in noise level.

**Mitigation:** None

## CUMULATIVE IMPACTS SUMMARY:

The geographic scope for the cumulative impact analysis is Jackson County. The 1991 Colorado Oil and Gas Leasing Final Environmental Impact Statement (O&G EIS) forecasted, for Kremmling Field Office, a total of 225 wells, of which 108 development and wildcat wells would be drilled on BLM lands (Appendix B, B20 & 21). Cumulative impacts for this

forecasted development were analyzed in the O&G EIS based upon oil and gas surface disturbance totaling 2044 acres (Appendix B-2).

In regards to past actions regarding oil and gas activity, oil and gas was first discovered in northeastern Jackson County in 1926 by Continental Oil Company. This discovery marked the beginning of oil and gas development in the North McCallum Field. In 1952, oil was discovered in the Coalmont area southwest of Walden. Since that time, 13 fields have been discovered and developed, all in the North Park (Jackson County) area. Within these 13 fields, approximately 475 wells have been completed and approximately 50% of these wells were completed as dry holes.

In regards to present actions, there has been recent interest in the Coalmont Niabrara formation in southern Jackson County. To date, there are 24 approved drilling permits for Jackson County, of these there have been several wells (three to seven) drilled on private surface and two on federal surface.

In regards to future actions, there are approximately 12 additional wells planned for development within Jackson County. When added to the impacts of all of the other actions in Jackson County, the cumulative impacts from this proposal are well within the 1% cumulative surface impacts projected for the Resource Area in the O&G EIS.

PERSONS / AGENCIES CONSULTED: No comments were received from the tribes (see attachment for Native American tribe list). The proposed project was listed on the Kremmling Field Office internet NEPA register and NEPA public room board. No comments were received from the public.

INTERDISCIPLINARY REVIEW: See IDT-RRC in Appendix 1.

# FONSI

## CO-120-2009-0003-EA

Based on the analysis of potential environmental impacts contained in the attached environmental assessment, and considering the significance criteria in 40 CFR 1508.27, I have determined that the Proposed Action will not have a significant effect on the human environment. An environmental impact statement is therefore not required.

### DECISION RECORD

DECISION: It is my decision to authorize the Proposed Action as described in the attached EA. This decision is contingent on meeting all mitigation measures and monitoring requirements listed below.

RATIONALE: The Proposed Action, to permit the drilling of the wells and associated rights-of-way will allow for energy exploration in an environmentally sound manner. The design features of the Proposed Action and mitigation measures included below will ensure that the applicable natural resources are adequately protected.

MITIGATION MEASURE:

- If EOG's drilling on the Spicer 1-06H wells occur during the period of Dec 1 through April 30, they will be required to consult with the BLM to discuss potential big game winter issues.

MONITORING:

Paleontological monitoring will be required during construction of the well pads, access roads and reserve pits because of the surface/near surface exposures of Coalmont formation bedrock and high potential for discovery of significant fossil resources. Monitoring is defined here as having a qualified and BLM permitted paleontologist present during 100% of ground disturbing activities. Monitoring will be completed by the proponent and their paleontological contractor.

NAME OF PREPARER: Kelly Hodgson and Susan Cassel

NAME OF ENVIRONMENTAL COORDINATOR: Joe Stout

DATE: 1/16/09

SIGNATURE OF AUTHORIZED OFFICIAL: /s/David Stout

DATE SIGNED: 1/16/09

ATTACHMENTS:

- 1). Standard Conditions of Approval
- 2). Seed mix

APPENDICES:

- Appendix 1 – Interdisciplinary Team Analysis Review Record and Checklist  
Appendix 2 – Native American Tribe List

Attachment #1

**CONDITIONS OF APPROVAL FOR APPLICATIONS FOR PERMIT TO DRILL  
(APDs)**

Operator: EOG Corporation

The Bureau of Land Management, Kremmling Field Office, address and telephone contacts are:

Address: 1116 Park Av., Kremmling, CO, 80459  
Office Phone: (970) 724-3000 Fax: (970) 724-9590  
Natural Resource Specialist: Kelly Hodgson, Office Phone (970) 724-3015

The Bureau of Land Management, Little Snake Field Office, address and telephone contacts are:

Address: 455 Emerson Street. Craig, CO, 81625  
Office Phone: (970) 826-5000 Fax: (970) 826-5022  
Petroleum Engineer: Stanley Eng, Office Phone (970) 826-5075  
Assistant Field Manager: Jerry Strahan Office Phone (970) 826-5099

All lease and/or unit operations are to be conducted in such a manner to ensure full compliance with the applicable laws, regulations (43 CFR Part 3160), Onshore Oil and Gas Orders No. 1, 2, 3, 4, 5, 6 and 7, Notice to Lessees, and the approved plan of operations. Approval of this application does not relieve you of your responsibility to obtain other required federal, state, or local permits. A copy of the approved Form 3160-3 and the pertinent drilling plan, along with any advisory narratives and conditions of approval, shall be available at the drillsite to authorized representatives at all times. The operator is considered fully responsible for the actions of his subcontractors.

Your review and appeal rights are contained in 43 CFR 3165.3 and 3165.4.

**CONDITIONS OF APPROVAL**

**STANDARD CONDITIONS**

1. The Kremmling Field Office and the Little Snake Field Office (970) 826-5000 will be given 48-hour notification prior to commencing construction and/or reclamation work.
2. Notify Little Snake Field Office at (970) 826-5000 at least **48**-hours in advance to witness running and cementing of surface casing and testing of the BOPE.
3. The notice of spud will be reported orally to the Little Snake Field Office at (970) 826-5000 at least **48**-hours after spudding. This notice shall include spud date, time, details of spud (hole, casing, cement, etc.), API well number, and date the rotary rig was moved on location. If the spudding occurs on a weekend or holiday, wait until the following regular workday to make this report. The oral notice shall be followed by written notification within 5 working days.
4. No hazardous materials, hazardous wastes, or trash will be disposed of on public lands or on private surface overlying the oil and gas lease. If a release does occur, it will be reported to the Kremmling Field Office immediately at (970) 724-3000.
5. The wellsite disturbance area will be brush cleared and topsoil salvaged before any excavation or fill commences.
6. All survey stakes representing the leveled drill pad, the crest of excavations, the toe of embankments, the reserve pit, and the access road will be in place prior to construction. Staking shall include the well location, two 200-foot directional reference stakes, the exterior dimensions of the drill pad, reserve pit and other areas of surface disturbance, cuts and fills, and centerline flagging of new roads with road flagging being visible from one to the next.

7. Construction activities will not be allowed to commence if the topsoil cannot be separated from the subsoil during adverse environmental conditions (i.e. when soils are frozen or muddy).
8. Surface disturbance and vehicular travel will be limited to the approved location and approved access route. Any additional area needed will be approved in advance.
9. Drainage for runoff water will be provided to divert runoff water away from the reserve pit, cut and fill portions of the well location and the topsoil stockpile. Runoff water that concentrates and forms rills on the well location will be diverted and/or dispersed to prevent erosion of the fill slopes. Any ditches designed to provide runoff drainage will be constructed on a minimal grade and will release water onto undisturbed ground without causing accelerated erosion. The operator will take additional measures if erosion is occurring within the runoff water drainage system.
10. If fossils are discovered during construction or other operations, all activity in the area will cease and the Field Office Manager will be notified immediately. An assessment of significance will be made within an agreed timeframe. Operations will resume only upon written notification by the Authorized Officer.

### **STANDARD STIPULATIONS**

11. If cultural or paleontological resources are discovered during exploration operations under this license, the licensee shall immediately notify the Field Officer Manager and shall not disturb such discovered resources until the Field Officer Manager issues specific instructions.
  - a. Within 5 working days after notification, the Field Office Manager shall evaluate any cultural resources discovered and shall determine whether any action may be required to protect or to preserve such discoveries.
  - b. The cost of data recovery for cultural resources discovered during exploration operations shall be borne by the licensee, if the licensee is ordered to take any protective measures. Ownership of cultural resources discovered shall be determined in accordance with applicable law.
  - c. The operator is responsible for informing all persons who are associated with the operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are encountered or uncovered during any project activities, the operator is to immediately stop activities in the immediate vicinity of the find and immediately contact the Authorized Officer at (970) 724-3000. Within five working days the Authorized Officer will inform the operator as to:
    1. Whether the materials appear eligible for the National Register of Historic Places;
    2. The mitigation measures the operator will likely have to undertake before the identified area can be used for project activities again and,
  - d. If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the Authorized Officer will assume responsibility for whatever recordation, and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation costs. 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 then be allowed to resume construction.
  - e. Pursuant to 43 CFR 10.4(g) (Federal Register Notice: Monday December 4, 1995, Vol 60, No. 232) the holder of this authorization must notify the Authorized Officer, by telephone (970) 724- 3000, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the Authorized Officer.
12. The reserve pit will be designed to exclude runoff water and maintain a 2-foot freeboard between the maximum

fluid level and the lowest point of containment. The reserve pit will not be used for disposal of any materials or fluids, except for materials or fluids specifically addressed in the drilling program or having a subsurface origin. If oil or oily substance is in the reserve pit, it must be removed within 30 days after the drilling rig is removed. Netting will be installed if oily substance is present in the reserve pit.

13. The perimeter of the reserve pit and production pits, if any, will be fenced with woven wire with 2 strands of barbed wire, properly spaced, on the top and all held in place by side posts and corner H-braces to inhibit entry by livestock and wildlife. The fence will be maintained until backfilling or removal of facilities occurs.
14. In the event downhole operations threaten to exceed the required 2-foot freeboard, regarding reserve pit fluids, immediate notification will be provided to the Authorized Officer with concurrent steps taken to minimize the introduction of additional fluids, until alternative containment methods can be approved.
15. Reserve pit fluids will be allowed to evaporate through one entire summer season (May-September) after drilling is completed, unless an alternative method of disposal is approved. After the fluids evaporate, the reserve pit mud will be allowed to dry sufficiently to allow backfilling. The backfilling of the reserve pit will be completed within 30 days after dry conditions exist and will meet the following minimum requirements:
  - a. Backfilling will be done in such a manner that the mud and associated solids will be confined to the pit and not squeezed out and incorporated in the surface materials.
  - b. There will be a minimum of 5 feet of cover, or return to approximate original contour on the pit.
  - c. When the work is completed, the pit areas will support the weight of heavy equipment without sinking and over time shall not subside over 6-inch depth.
16. If installed, production facilities will be located on cut portions of the existing drill pad.
17. In the event production is established, all land surfaces that are to remain free of vegetation (roads and well location) will be monitored for and protected from wind erosion; dry powdery soil will be treated to minimize wind erosion.
18. Prior approval is required to remove reserve pit fluids from the reserve pit; a request of this type will need to include the destination of the fluids and if the destination is not a State approved facility, the request will include State approval of the destination. Fluids may be moved to another reserve pit within the same field with verbal approval of the authorized officer.
19. All pits, cellars, rat holes and other bore holes unnecessary for further lease operations, excluding the reserve pit, will be backfilled immediately after the drilling rig is released. Pits, cellars and/or bore holes that remain on location must be fenced as specified for the reserve pit in the applicant's Surface Use Plan.
20. In the event a producing well is established, all new production equipment which has open-vent exhaust systems will be constructed in such a way to prevent the entry and perching of birds and bats.
21. All permanent structures (on-site for six months or longer) constructed or installed (including oil well pumpjacks) will be painted a flat, non-reflective, earthtone color to match the standard environmental colors, as determined by the Rocky Mountain Five-State Interagency Committee. All facilities will be painted within six months of installation. Facilities required to comply with OSHA (Occupational Safety and Health Act) will be excluded.
22. Surface facilities should appear to blend in to the existing landscape to the greatest possible extent. Facilities should not be located on ridgelines or extend above them. Facilities should be minimal in size (or located underground) and colored and texture to blend in with the surroundings.
23. A containment berm must be installed around all storage tanks, including temporary tanks. Compaction and construction of the berm surrounding the tank or tank battery will be designed to prevent lateral movement of fluids through the utilized materials, prior to storage of fluids. The berm must be constructed to contain at minimum 110 percent of the storage capacity of the largest tank within the berm. All loading lines will be placed inside the berm.

24. Control of noxious weeds will be required through successful vegetation establishment and/or herbicide application. It is the responsibility of the lease operator to insure compliance with all local, state, and federal laws and regulations, as well as labeling directions specific to the use of any given herbicide.

### **RECLAMATION PERFORMANCE STANDARDS**

25. The lessee is required to use the reclamation practices necessary to reclaim all disturbed areas. Reclamation will ensure surface and subsurface stability, growth of a self-regenerating permanent vegetative cover and compatibility with post land use. The vegetation will be diverse and of the same seasonal growth as adjoining vegetation. Post land use will be determined by the Authorized Officer but normally will be the same as adjoining uses.

Reclamation practices which must be applied or accomplished are: re-grading to the approximate original contour, effectively controlling noxious weeds, separating, storing and protecting topsoil for redistribution during final abandonment, seeding and controlling erosion. If topsoil is not present, or quantities are insufficient to achieve reclamation goals, a suitable plant growth media will be separated, stored and protected for later use. Reclamation will begin with the salvaging of topsoil and continue until the required standards are met. Topsoil that is stored for 1 year or longer will be seeded with naturally occurring species to retain topsoil vigor. If use of the disturbed area is for a short time (less than one year), practices which ensure stability will be used as necessary during the project, and reclamation, with the exception of vegetative establishment, will be completed within one year. If use of the area is for greater than one year, interim reclamation is required on the unused areas. Interim reclamation of the unused areas will begin immediately upon completion of the permanent facility(s).

For both short and long term projects vegetative establishment will be monitored annually. If the desired vegetation is not established by the end of the second growing season, practices necessary for establishment will be implemented prior to the beginning of the next growing season. Interim reclamation, unless otherwise approved, will require meeting the same standards as final abandonment with the exception of original contour.

Annual reports consisting of reclamation practices completed and the effectiveness of the reclamation will be provided to the Kremmling Field Office. The first report will be due in January following initiation of reclamation practices and annually thereafter until final abandonment is approved.

There are numerous reclamation practices and techniques that increase the success rate of reclamation and stabilization. With the exception of those stated above, it is the lessee's prerogative to use those they choose to accomplish the objective. Additional site specific mitigations may be specified and required. However, it is recommended that state-of-the-art reclamation, stabilization, and management practices be used to achieve the desired objective in a timely and cost-effective manner.

The following definitions and measurements will be used to accomplish and determine if reclamation has been achieved:

Permanent vegetative cover will be accomplished if the basal cover of perennial species, adapted to the area, is at least ninety (90) percent of the basal cover of the undisturbed vegetation of adjoining land or the potential basal cover as defined in adjacent undisturbed areas.

Diversity will be accomplished if at least two (2) perennial genera and three (3) perennial species that are adapted to the area make up the basal cover of the reclaimed area in precipitation zones thirteen (13) inches or less. One species will not make up more than fifty (50) percent of the perennial vegetation by basal cover.

Self-regeneration and adaptation to the area will be evident if the plant community is in good vigor, there is evidence of successful reproduction, and the species are those commonly found in the area.

Surface stability will be accomplished if soil movement as measured by deposits around obstacles, depths of truncated areas, and height of pedestalling, is not greater than three tenths (0.3) of an inch and if erosion channels (rills, gullies, etc.) are less than one (1) inch in depth and at intervals greater than ten (10) feet.

If this standard is not met by the end of the second growing season, two alternatives exist depending on the severity of the erosion:

If erosion were greater than two (2) times the allowable amount, corrective action would have to be taken by the responsible company at that time;

If erosion is less than or equal to two (2) times the allowable amount, and it is determined the erosion occurred during vegetative establishment and the site may become stable, no corrective action would be required at that time. Another measurement would be performed a year later to determine if stability standards had been met. If the original measurements have not increased by more than the allowed standard, the standard would be considered met. However, if the increase were greater than the allowed standard, corrective action would be required.

Subsurface stability (mass wasting event) is of concern if disturbance has included excavation over four (4) feet in depth and greater than 10,000 square feet in area on slopes thirty five (35) percent and greater, or on any erosion-prone slope. When these conditions occur, length of liability for reclamation and final abandonment will continue for ten (10) years following re-contouring to original contour or for such time that climatic patterns provide two (2) consecutive years in which measurable precipitation totals at least 120 percent of average from October 1 through September 30, as measured by data averaged from nearby regional weather stations. The Authorized Officer may waive this stipulation, or portions of it. Such waiver will be documented and justified when not applicable, or when objectives are accomplished through another method.

#### **SITE SPECIFIC CONDITIONS**

- If the Surface Use Plan, submitted to the Kremmling Field Office as part of the applications, is altered, the authorized officer must be contacted.
- If EOG's drilling on the Spicer 1-06H well occurs during the period of Dec 1 through April 30, EOG will be required to consult with the BLM to discuss potential big game winter issues.
- Paleontological monitoring will be required during construction of the well pads, access roads and reserve pits because of the surface/near surface exposures of Coalmont formation bedrock and high potential for discovery of significant fossil resources. Monitoring is defined here as having a qualified and BLM permitted paleontologist present during 100% of ground disturbing activities. Monitoring will be completed by the proponent and their paleontological contractor.

#### **REGULATORY REMINDERS**

- A. This permit is valid for a period of one year from the date of approval. Any requests for extensions must be submitted prior to the end of the one-year period. If the permit terminates, any surface disturbance created under the permit must be rehabilitated in accordance with the approved plan within 90 days of termination, unless otherwise approved by the Authorized Officer. An expired permit may be reinstated at the Authorized Officer's discretion; however, future operations may require a new application be filed for approval.
- B. All drilling operations, unless otherwise specifically approved in the APD, must be conducted in accordance with Onshore Oil and Gas Order No. 2; Drilling Operations.
- C. All 7-Day Requirement responses are made part of this APD.
- D. There shall be no deviation from the proposed drilling and/or workover program as approved, without prior approval from the Kremmling and Little Snake Field Offices. Safe drilling and operating practices must be observed.
- E. Approval of this application 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.
- F. No location will be constructed or moved, no well will be plugged, and no drilling or workover equipment will be removed from a well to be placed in a suspended status without prior approval of the Kremmling and Little Snake Field Offices. If operations are to be suspended for more than 30 days, prior approval for certain well

operations must be obtained and notification given before resumption of operations in accordance with 43 CFR 3162.3-2 and 3162.3-4.

- G. In the case of newly drilled dry holes or failures, and in emergency situations, oral approval for subsurface abandonment operations may be granted by the Little Snake Field Office. Oral approvals must be confirmed in writing (Notice of Intention to Abandon (Form 3160-5)) within 15 days. Unless the plugging is to take place immediately upon receipt of oral approval, the appropriate resource area must be notified at least 48 hours in advance of the plugging of the well, in order to provide a representative the opportunity to witness plugging operations.
- H. Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (Form 3160-4) must be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with Onshore Oil and Gas Order No. 1. Daily drilling reports, a copy of all logs, core descriptions, core analyses, well-test data, geologic summaries, sample descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations (with Form 3160-4) will be filed and sent to the Little Snake Field Office, 455 Emerson Street, Craig, Colorado 81625. Samples (cuttings, fluid, and/or gas) will be submitted only when requested by the Authorized Officer.
- I. Section 102 (b) (3) of the Federal Oil and Gas Royalty Management Act of 1982, as implemented by the applicable provisions of the operating regulations at Title 43 CFR 3162.4-1 (c), requires that "not later than the fifth business day after any well begins production on which royalty is due anywhere on a least site or allocated to a lease site, or resumes production in the case of a well which has been off production for more than 90 days, the operator shall notify the authorized officer by letter or sundry notice, Form 3160-5, or orally to be followed by a letter or sundry notice, or the date on which such production has begun or resumed."

The date on which a well commences production, or resumes production after having been off production for more than 90 days is to be construed as follows:

1. For an oil well, the date on which liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank or the date on which liquid hydrocarbons are first produced into a permanent storage facility, whichever occurs first;
2. For a gas well, that date on which gas is first measured through sales metering facilities or the date on which associated liquid hydrocarbons are first sold or shipped from a temporary storage facility, whichever occurs first. For purposes of this provision, a gas well shall not be considered to have been off production unless it is incapable of production.

If you fail to comply with this requirement in the manner and time allowed, you shall be liable for a civil penalty of up to \$10,000 per violation for each day such violation continues, not to exceed a maximum of 20 days. See Section 109(c) (3) of the Federal Oil and Gas Royalty Management Act of 1982 and the implementing regulations at Title 43 CFR 3163.2(e) (2).

- J. This APD is approved subject to the requirement that, should the well be successful (completed for production or recompleted for production in a new interval), the Little Snake Field Office must be notified when it is placed in a producing status. Such notification may be provided orally if confirmed in writing, and must be received in the Little Snake Field Office by not later than the 5<sup>th</sup> business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following information items:
  1. Operator name
  2. Well name, number, and location
  3. Date well was placed on production
  4. The lease, or communitized tract, or unit participating area to which the well's production is attributable.
- K. A separate Monthly Report of Operations, Form 3160-6, shall be submitted for each lease, unit participating area, or communitization agreement, beginning with the month in which drilling operation commence, in accordance with 43 CFR 3162.4-3. This report shall be sent to Minerals Management Service, Production Accounting Division, P.O. Box 17110, Denver, Colorado 80217.

- L. If at any time the facilities located on public lands authorized by the terms of the lease are no longer included in the lease (due to contraction in the unit or other lease or unit boundary change) the BLM will process a change in authorization to the appropriate statute. The authorization will be subject to appropriate rental or other financial obligation determined by the Authorized Officer.
- M. All produced liquids must be contained, including the dehydrator vent/condensate line effluent. All production pits must be bermed and fenced.
- N. Gas produced from this well may not be vented or flared beyond an initial, authorized test period of 30 days or 50 MMCF following completion, whichever comes first, without the prior written approval of the authorized officer. Should gas be vented or flared without approval beyond the authorized test period, you may be directed to shut the well in until the gas can be captured or approval to continue venting or flaring is granted and you may be required to compensate the lessor for that portion of the gas that was vented or flared without approval which is determined to have been avoidably lost.
- O. Produced water from newly completed wells may be temporarily disposed of into the reserve pit for a period of up to 90 days. During the 90-day periods, an application for approval of a permanent disposal method and location will be submitted according to Onshore Order No. 7 for approval.
- P. A schematic facilities diagram as required by CFR 43, Part 3162.7-5, shall be submitted to the Little Snake Field Office within 60 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with 3162.7-5(b).
- Q. The permit holder is required to use certified weed free hay, straw and mulch on BLM lands in Colorado should the use or storage of hay, straw or mulch be necessary. Any person who knowingly and willfully violates this regulation may be subject to a fine of not more than \$1,000 or imprisonment of not more than 12 months, or both as defined in 43 USC 1733(a).

Attachment #2

Seed Mix

SEED NAME	Drill Seeding Rate	
	Application Rate PLS/Acre	Seeds/SQ. FT.
<b>Grasses</b>		
Western wheatgrass Pascopyrum smithii, variety. Arriba	2.97	7.5
Thickspike Wheatgrass Elymus lanceolatus var. Critana	2.13	7.5
Bluebunch wheatgrass Pseudoroegneria spicata, var. Secar (Alternate var. Goldar)	2.51	7.5
Sheep fescue Festuca ovina, var. Covar	.62	7.5
<hr/> Total	<hr/> 8.23	<hr/> 30
<b>Forbs</b>		
Alfalfa var. Ladak	.73	3.5
Big sagebrush Artemisia tridentata ssp. wyomingensis	.06	3.5
<hr/> Total	<hr/> .79	<hr/> 7

- \* Big sagebrush and Alfalfa may be seeded when it would be better for success
- \* Broadcast seeds at twice the rate

*(Seed tags must be submitted to BLM after seeding.)*

**\* do not seed prior to October 1, to avoid sprouting.**

**MULCH**

Native Hay or Straw 2,000 lbs. X acres =

- Mulch is optional but it will help reclamation results.
- Must be Certified Noxious Weed Free

Appendix 1

**INTERDISCIPLINARY TEAM ANALYSIS REVIEW RECORD AND CHECKLIST:**

**Project Title:** EOG APD and ROW Applications  
**Project Leader:** Kelly Hodgson and Susan Cassel

**Consultation/Permit Requirements:**

Consultation	Date Initiated	Date Completed	Responsible Specialist/ Contractor	Comments
Cultural/Archeological Clearance/SHPO	NA	1/9/09	BBW	Cultural inventory reports (CR-08-17, CR-08-19, and CR-08-20) were conducted on the proposed project locations. No sites that are eligible to the national Register were located. The proposed actions are a “no effect,” there are no historic properties that would be affected.
Native American	5/9/09	1/9/09	BBW	To date no Native American tribe has identified any areas of traditional spiritual concern within the project locations.
T&E Species/FWS	N/A	N/A	M.McGuire	
Permits Needed (i.e. Air or Water)			P. Belcher	The applicant is responsible for obtaining a stormwater permit from the state, and for securing a legal water source.

**(NP) = Not Present**  
**(NI) = Resource/Use Present but Not Impacted**  
**(PI) = Potentially Impacted and Brought Forward for Analysis.**

NP NI PI	Discipline/Name	Date Review Comp.	Initials	Review Comments (required for Critical Element NIs, and for elements that require a finding but are not carried forward for analysis.)
<b>CRITICAL ELEMENTS</b>				
PI	Air Quality <b>Belcher</b>	1/6/09	PB	See write-up
NP	Areas of Critical Environmental Concern <b>Cassel</b>	1/13/09	SC	There are no Areas of Critical Environmental Concern in the proximity of the proposed project area.
NP	Cultural Resources <b>Wyatt</b>	1/9/09	BBW	No significant cultural resource sites were located. The project is a “no effect,” there are no historic properties that would be affected.
NP	Environmental Justice <b>Cassel</b>	1/13/09	SC	According to the most recent Census Bureau statistics (2000), there are no minority or low income communities within the Kremmling Planning Area.
NP	Farmlands, Prime and Unique <b>Belcher</b>	1/5/09	PB	There are no prime or unique farmlands that would be impacted. Farmlands of state or local importance are near the project and are not expected to be impacted.
NI	Floodplains <b>Belcher</b>	1/5/09	PB	The proposed well pads and roads are located in upland areas and are not within the floodplain.
NP	Invasive,	1/2/09	MS	There are currently no invasive or non-native

	Non-native Species	<b>Scott</b>			species threatening the project area. Under the design features of the proposed action EOG Resources, Inc. will be responsible for monitoring and controlling any invasive species found.
PI	Migratory Birds	<b>McGuire</b>	12/31/08	MM	See analysis in EA.
NI	Native American Religious Concerns	<b>Wyatt</b>	1/9/09	BBW	To date no native American tribe has identified any areas of spiritual concern within the project locations.
PI	T/E, and Sensitive Species (Finding on Standard 4)	<b>McGuire</b>	12/31/08	MM	See analysis in EA.
PI	Wastes, Hazardous and Solid	<b>Hodgson</b>	10/08/08	KH	See analysis in EA.
PI	Water Quality, Surface and Ground (Finding on Standard 5)	<b>Belcher</b>	1/6/09	PB	See write-up.
NI	Wetlands & Riparian Zones (Finding on Standard 2)	<b>Belcher</b>	1/6/09	PB	The wells and road are located out of any riparian or wetland zones. No indirect impacts are expected.
NP	Wild and Scenic Rivers	<b>Windsor</b>	1/7/09	AW	There are no eligible Wild and Scenic River segments in the proposed project area.
NP	Wilderness	<b>Windsor</b>	1/7/09	AW	There is no designated Wilderness or Wilderness Study Areas in the proposed project area.
<b>NON-CRITICAL ELEMENTS</b> (A finding must be made for these elements)					
PI	Soils (Finding on Standard 1)	<b>Belcher</b>	1/6/09	PB	See Soils Section.
PI	Vegetation (Finding on Standard 3)	<b>Torma</b>	1/5/09	PT	See vegetation section
NP	Wildlife, Aquatic (Finding on Standard 3)	<b>McGuire</b>	12/31/08	MM	No aquatic wildlife present on the proposed well sites and roads.
PI	Wildlife, Terrestrial (Finding on Standard 3)	<b>McGuire</b>	12/31/08	MM	See analysis in EA.
<b>OTHER NON-CRITICAL ELEMENTS</b>					
NI	Access/Transportation	<b>Monkouski</b>	1/5/09	JJM	The county road and proposed new roads would remain open to the public, hence there would be no impact to access of the areas within the proposal. Once wells are abandoned the road and pad areas would be obliterated and reclaimed.
NI	Fire	<b>Wyatt</b>	1/9/2009	BBW	All sagebrush or woody biomass material generated from road access and well pad construction should be either masticated and spread to a depth of no deeper than 3" in any one location.
NP	Forest Management	<b>Belcher</b>	01/05/09	KB	There are no impacts to Forest Resources.
NI	Geology and Minerals	<b>Hodgson</b>	10/8/08	KH	The proposed casing and cementing programs follow Onshore Order #2 and appear to be adequate to protect and/or isolate all resources.
NI	Hydrology/Water Rights	<b>Belcher</b>	1/6/09	PB	Hydrology impacts are in the Soils and Water Quality sections. The applicant has secured the use of private water rights, which are administered by the state of Colorado and not by the BLM.
PI	Paleontology	<b>Rupp</b>	11/21/08	FGR	Bedrock exposures of the Coalmont formation were inventoried by the KFO archaeologist for Spicer 1-06H, Damfino 2-6H/Surprise 4-06SHL, and Damfino 3-6SHL well locations

				and access roads as applicable. Fossilized wood was the only fossil discovery on the surface. However, because of the surface/near surface exposures of Coalmont formation bedrock and high potential for discovery of significant fossil resources, paleontological monitoring will be required during construction of the Spicer 1-06H, Damfino 2-6H/Surprise 4-06SHL, and Damfino 3-6SHL well pads, access roads and reserve pits Monitoring is defined here as having a qualified and BLM permitted paleontologist present during 100% of ground disturbing activities. Monitoring will be completed by the proponent and their paleontological contractor.
PI	Noise <b>Monkouski</b>	1/5/09	JJM	See analysis in EA.
NI	Range Management <b>Torma</b>	12/5/09	PT	Cattle guards will be installed for access locations on BLM access grazing allotments. The loss of vegetation will not affect AUM allocation for these allotments Surprise 4-06H allotment 07113 Spicer 1-06H allotment 07066 Damfino 3-06H and 2-06H allotment 07131
NI	Lands/ Realty Authorizations <b>Cassel</b>	1/9/09	SC	There are no leases or permits in the location of the proposed action. There are several ROW's: Mountain Parks Electric (COC-26524, COC-8481, COC-8482, COC-67953); Centurytel of Eagle (COC-63796, COC-25110); and COC-63796 for an access road for Russell Clinton. The powerlines and telephone lines are within highway or County Road ROW's and will not be impacted by the proposed action. The access road for Russell Clinton will not be used for the Spicer 1-06H as it is a school bus stop and would be a safety issue.
NI	Recreation <b>Monkouski</b>	1/5/09	JJM	Existing recreational uses in the general area include hunting; wildlife viewing; and driving for pleasure. The project area is currently classified as 'Open' in the Off-Highway Vehicle plan adopted in 1988. Motorized vehicle traffic is encouraged to remain on existing, well defined roads and trails. Cross country travel is discouraged to protect vegetation, soil, visual, and wildlife values. There are no known conflicts with recreation management sections of the RMP and there are no recreation activity plans or other special recreation designations for this area. The Proposed Action would not cause any impacts to the recreation resource.
NI	Socio-Economic <b>Cassel</b>	1/13/09	SC	There is always an economic benefit to the county when wells are drilled and the State when production occurs.
NI	Visual Resources <b>Windsor</b>	1/8/09	AW	The proposed developments are within VRM class III. The impacts to visual resources would be minimized through the curvilinear design of the access road to the Damfino well pads. The proposed ROWs and well pads

				would be visible from Hwy 14, but the level of change to the landscape would be moderate to low. The development would attract the attention of the casual observer, but would not dominate the landscape. The proposed action with the Damfino access road following the alignment that was staked during the on-site visit would be consistent with VRM Class III objectives.
NI	Cumulative Impact Summary <b>Cassel</b>	1/13/2009	SC	See Analysis in EA
<b>FINAL REVIEW</b>				
	P&E Coordinator <b>J. Stout</b>	1/16/09	JS	
	Field Manager <b>D. Stout</b>			

Appendix 2

**NATIVE AMERICAN TRIBES CONTACTED:**

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