

Montana Board of Oil and Gas Conservation Environmental Assessment

Operator: EOG Resources, Inc.
Well Name/Number: Diamond 3-16H
Location: SE SE Section 16 T29N R56E
County: Roosevelt, MT; **Field (or Wildcat)** Wildcat

Air Quality

(possible concerns)

Long drilling time: No, 25-35 days drilling time.

Unusually deep drilling (high horsepower rig): No, triple derrick rig 1000 HP to go to 15,172' MD/9,786' TVD.

Possible H₂S gas production: Slight

In/near Class I air quality area: No Class I air quality area.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under rule 75-2-211.

Mitigation:

Air quality permit (AQB review)

Gas plants/pipelines available for sour gas

Special equipment/procedures requirements

Other: _____

Comments: Gas pipeline system in the area to take associated gas.

Water Quality

(possible concerns)

Salt/oil based mud: Yes to intermediate casing string hole to be drilled with oil based invert drilling fluids. Horizontal laterals will be drilled with oil based invert drilling fluid. Surface casing hole to be drilled with freshwater and freshwater mud.

High water table: No high water table anticipated.

Surface drainage leads to live water: Yes, closest drainage is Sheep Creek, about 1/4 of a mile to the north from this location

Water well contamination: No, closest water wells are about 1/2 of a mile, 3/8 of a mile and 1/4 of a mile away from this location. Surface casing will be drilled with freshwater, casing set to 1830' and cemented back to surface.

Porous/permeable soils: No, sandy silty clay soils.

Class I stream drainage No, Class I stream drainages.

Mitigation:

Lined reserve pit

Adequate surface casing

Berms/dykes, re-routed drainage

Closed mud system

Off-site disposal of solids/liquids (in approved facility)

Other: _____

Comments: 1830' surface casing well below freshwater zones in adjacent water wells. Also, covering Base of the Fox Hills aquifer. Surface hole will be drilled with freshwater and freshwater muds to 1830'+. Steel surface casing will be run and cemented to surface from 1830'.

Soils/Vegetation/Land Use

(possible concerns)

Steam crossings: None anticipated.

High erosion potential: Possible, location will require a small cut, up to 9.0' and small fill, up to 6.9', required.

Loss of soil productivity: Slight, location to be restored after drilling well if well is nonproductive. If productive unused portion of wellsite will be reclaimed.

Unusually large wellsite: No, location is a large wellsite, 330' X 450' in size.

Damage to improvements: Slight, surface use appears to be grassland.

Conflict with existing land use/values: Slight

Mitigation

Avoid improvements (topographic tolerance)

Exception location requested

Stockpile topsoil

Stream Crossing Permit (other agency review)

Reclaim unused part of wellsite if productive

Special construction methods to enhance reclamation

Other: Requires DEQ General Permit for Storm Water Discharge Associated with

Construction Activity, under ARM 17.30.1102(28).

Comments: Access will be over existing county gravel roads. About 440' of new access road will be built off the existing county road into this location. Oil based drilling fluids will be recycled. Freshwater surface hole cuttings will be buried on site. Oil based drill cuttings will be buried in the lined reserve pit. Completion pit fluids will be hauled to a permitted Class II saltwater disposal. Pit will be backfilled when dry. No concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Residences about 5/8 of a mile to the northeast and about 3/4 of a mile to the south southeast from this location. Ebenezer Church about 1.125 mile to the south from this location.

Possibility of H2S: Slight to none.

Size of rig/length of drilling time: Triple drilling rig 25 to 35 days drilling time.

Mitigation:

Proper BOP equipment

Topographic sound barriers

H2S contingency and/or evacuation plan

Special equipment/procedures requirements

Other: _____

Comments: Adequate surface casing cemented to surface with working BOP stack should mitigate any problems. Noise should not be a problems, sufficient distance from residence to rig should mitigate this.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified in the area.

Proximity to recreation sites: None identified in the area.

Creation of new access to wildlife habitat: None

Conflict with game range/refuge management: None

Threatened or endangered Species: Threatened or endangered species listed in Richland county by USFW service are Pallid Sturgeon, Piping Plover, Interior Lease Tern and Whooping Crane.

Mitigation:

Avoidance (topographic tolerance/exception)

Other agency review (DFWP, federal agencies, DSL)

Screening/fencing of pits, drillsite

Other: _____
Comments: Private surface land. No concerns.

Historical/Cultural/Paleontological

(possible concerns)
Proximity to known sites None identified.
Mitigation
 avoidance (topographic tolerance, location exception)
 other agency review (SHPO, DSL, federal agencies)
Other: _____
Comments: Private surface lands. No concerns.

Social/Economic

(possible concerns)
 Substantial effect on tax base
 Create demand for new governmental services
 Population increase or relocation
Comments: Bakken Formation single lateral horizontal oil well. No concerns.

Remarks or Special Concerns for this site

15,172' MD/9,786' TVD single lateral horizontal Bakken formation oil well.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected, only some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/Steven Sasaki
(title): Chief Field Inspector
Date: June 18, 2010

Other Persons Contacted:

(Name and Agency)
Montana Bureau of Mines and Geology, Groundwater Information Center
website.
(subject discussed)

Water wells in Roosevelt County _____

(date)

June 18, 2010

US Fish and Wildlife, Region 6 website

(Name and Agency)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA
COUNTIES, Roosevelt County

(subject discussed)

June 18, 2010 _____

(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____