

**Montana Board of Oil and Gas Conservation
Environmental Assessment**

Operator: Continental Resources, Inc.
Well Name/Number: Ardelle 3-10H
Location: NE NW Section 10 T23N R55E
County: Richland, **MT;** **Field (or Wildcat)** W/C (Bakken Horizontal)

Air Quality

(possible concerns)

Long drilling time: No, 30 to 40 days drilling time.

Unusually deep drilling (high horsepower rig): No, triple derrick drilling rig to drill to 19,508'MD/10,137'TVD single lateral horizontal Bakken Formation well.

Possible H2S gas production: Slight.

In/near Class I air quality area: No

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

Mitigation:

Air quality permit (AQB review)

Gas plants/pipelines available for sour gas

Special equipment/procedures requirements

Other: _____

Comments: No special concerns – using triple rig to drill to 19,508'MD/10,137'TVD single lateral horizontal Bakken Formation well.

Water Quality

(possible concerns)

Salt/oil based mud: Yes, freshwater and freshwater mud system on surface hole and oil based invert mud system on mainhole. Saltwater for horizontal lateral.

High water table: No

Surface drainage leads to live water: Yes, closest surface drainage is an unnamed ephemeral tributary to East Fork Fox Creek, an ephemeral drainage also. The location is about 1/4 mile southwest and south of the tributary drainage. Within this drainage is what appears to be a stock pond about 2 miles to the south of this location.

Water well contamination: No, closest water well is about 5/8 mile to the southeast of this location and is 120' in depth. The surface casing hole will be drilled with freshwater and freshwater mud. Steel casing will be set at 1790' and cemented to surface. This should protect any shallow groundwater.

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

Class I stream drainage: No

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: 1790' of surface casing cemented to surface adequate to protect freshwater zones.

Soils/Vegetation/Land Use

(possible concerns)

Steam crossings: No, steam crossing.

High erosion potential: No, moderate cut, up to 12.0' and small fill, up to 7.5', required.

Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: No, 500'X270' location size required.

Damage to improvements: Slight, surface use is cultivated land.

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 _____

Comments: Access will be over existing county road, #328. An access road will be built from the existing county road, #328 into this location. About 2827' of new road will be constructed into this location. Drill cuttings will be disposed of in the lined reserve pit. Drilling fluids will be recycled. Completion fluids will be trucked to a commercial Class II for disposal. Pit will be backfilled after remaining fluids have evaporated. No special concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences Residences 1.25 miles to the west southwest and 1.5 miles to the northeast of this location. The town of Lambert, MT is about 6 miles to the south of this location. Landing strip about 2 miles due south of this location.

Possibility of H2S: Slight

Size of rig/length of drilling time: Triple drilling rig/short 30 to 40 days drilling time.

Mitigation:

Proper BOP equipment

Topographic sound barriers

H2S contingency and/or evacuation plan

Special equipment/procedures requirements

Other: _____

Comments: Proper BOP and surface casing cemented to surface should mitigate any problems. Lambert is far enough away from this well to not be a problem. No concerns.

Wildlife/recreation

(possible concerns)

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

Proximity to recreation sites: Fox Lake State Game Management Area, about 6 miles to the south of this location.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No

Threatened or endangered Species: None identified.

Mitigation:

- Avoidance (topographic tolerance/exception)
- Other agency review (DFWP, federal agencies, DSL)
- Screening/fencing of pits, drillsite
- Other: _____

Comments: Private surface lands. 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: No concerns. Development well is existing spacing unit.

Remarks or Special Concerns for this site

Well is 19,508' MD/10,137' TVD single lateral horizontal Bakken Formation well. Development well within this existing spacing unit.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected from the drilling of this well. Some short term impacts will occur, but will be mitigated in time.

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): Steven Sasaki
(title:) Chief Field Inspector



Date: May 28, 2008

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website.

(Name and Agency)

Richland County water wells.

(subject discussed)

May 28, 2008

(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____