

Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: Continental Resources, Inc.
Well Name/Number: Tolksdorf 1-1H
Location: NW NW Section 1 T26N R53E
County: Richland, **MT;** **Field (or Wildcat)** W/C

Air Quality

(possible concerns)

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

Unusually deep drilling (high horsepower rig): Yes, triple derrick, 1000 HP drilling rig to drill a single lateral Bakken Formation horizontal well, 18,442'MD/9,256'TVD.

Possible H₂S gas production: Slight.

In/near Class I air quality area: No not in a class I air quality area.

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 a single lateral Bakken Formation horizontal well, 18,442'MD/9,256'TVD.

Water Quality

(possible concerns)

Salt/oil based mud: Yes, freshwater and freshwater mud system on surface hole and oil based mud system on main hole. Brine water in the horizontal lateral.

High water table: No high water table anticipated.

Surface drainage leads to live water: No, closest drainage is an unnamed ephemeral tributary drainage to Frog Coulee, about 1/8 of a mile to the south from this location. Within this ephemeral drainage is a stock pond, about 3/8 of a mile to the southeast from this location.

Water well contamination: No, closest stock water wells are about 3/4 of a mile to the southwest and 3/4 of a mile to the southeast from this location. Surface hole will be drilled with freshwater and freshwater muds to 1890'. Surface casing will be cemented to surface from 1890'.

Porous/permeable soils: No, sandy clay soils.

Class I stream drainage: No Class I stream drainages in the area of review.

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: 1890' of surface casing cemented to surface adequate to protect freshwater zones.

Soils/Vegetation/Land Use

(possible concerns)

Steam crossings: No, stream crossing required.

High erosion potential: Yes, moderate cut, up to 16.2' and moderate fill, up to 19.5', 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: Large wellsite, 500'X270' location size required.

Damage to improvements: Slight, surface use is 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 use existing county road, County Road 148. A new access road will be built into this location off the existing county road, about 939'. A lined reserve pit will be used to hold drill cuttings and drilling fluids. Oil based invert drilling fluids will be recycled. Completion fluids will be trucked to a Class II Disposal. Cuttings will be allowed to dry in the reserve pit, after drying the cuttings will be buried in the lined reserve pit. No special concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: No residences within 1 mile of this location. St. Bernards church is about 5/8 of a mile to the west from this location.

Possibility of H2S: Slight.

Size of rig/length of drilling time: Triple drilling rig 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: Adequate surface casing and operational BOP should mitigate any problems. No concerns

Wildlife/recreation

(possible concerns)

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

Proximity to recreation sites: None identified.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No

Threatened or endangered Species: Listed threatened or endangered Species in Richland County, Piping Plover, Interior Lease Tern, Whooping Crane and Pallid Sturgeon.

Mitigation:

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

Comments: Private surface lands, grassland. 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: On 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

Remarks or Special Concerns for this site

Well is a wildcat, single lateral Bakken Formation horizontal well, 8,442'MD/9,256'TVD.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected. Some short term surface 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: July 24, 2010

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC
website
(Name and Agency)
Richland County water wells
(subject discussed)
July 24, 2010
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES
MONTANA COUNTIES, Richland County
(subject discussed)
July 24, 2010
(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____