

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

**Operator:** Continental Resources, Inc.  
**Well Name/Number:** Wagner 1-17H  
**Location:** NW NE Section 17 T26N R55E  
**County:** Richland, **MT;** **Field (or Wildcat)** W/C (Bakken Fm 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, 900-1000 HP to drill a single lateral Bakken Formation well to 19,913'MD/10,029' TVD.

Possible H2S gas production: Slight chance H2S gas.

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 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 a single lateral Bakken Formation to 19,913'MD/10,029' TVD.

**Water Quality**

(possible concerns)

Salt/oil based mud: Yes, oil based invert mud system on the mainhole and saltwater for the horizontal hole. Surface hole will be drilled with a freshwater and freshwater mud system.

High water table: No high water table anticipated.

Surface drainage leads to live water: Yes, closest drainages are unnamed ephemeral tributary drainages to East Charley Creek, about 3/8 of a mile to the west and about 1/4 of a mile to the south from this location. Within these ephemeral drainage are stock ponds.

Water well contamination: No, closest water wells are about 5/8 of a mile to the southeast and about 7/8 of a mile to the northeast from this location. Surface hole will be drilled with freshwater drilling fluids. Surface casing will be set and cemented from 1540' to surface.

Porous/permeable soils: No, sandy 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: 1540' of surface casing cemented to surface adequate to protect freshwater zones and to cover the Fox Hills Formation.

## Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: None

High erosion potential: No, moderate cut, up to 15.4' and moderate fill, up to 14.7' 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 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: Will use existing county road, #146. An access of about 191' will be built into this location off the existing county road. Oil based invert drilling fluids will be recycled. Cuttings and mud solids will be buried in the lined pit. Brine drilling fluids and completion fluids will be trucked to a Class II disposal. No special concerns

## Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: No residences within 1 mile from this location.

Possibility of H2S: Slight chance of H2S.

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: Adequate surface casing and operational BOP should mitigate all 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: Species identified as threatened or endangered are the Pallid Sturgeon, Interior Lease Tern, Whooping Crane and Piping Plover.

Candidate species are the Greater Sage Grouse and the Sprague's Pipit. NH tracker

site lists only two (2) "Species of Concern" the Eastern Red Bat and the Whooping Crane.

Mitigation:

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

Comments: Private surface grasslands. There maybe species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

### **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 grasslands. There maybe possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

### **Social/Economic**

(possible concerns)

- Substantial effect on tax base
- Create demand for new governmental services
- Population increase or relocation

Comments: Wildcat well. No concerns

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### **Remarks or Special Concerns for this site**

Well is a single lateral Bakken Formation 19,913'MD/10,029' TVD.

### **Summary: Evaluation of Impacts and Cumulative effects**

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

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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: December 20, 2011

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website

(Name and Agency)

Richland County water wells

(subject discussed)

December 20, 2011

(date)

US Fish and Wildlife, Region 6 website

(Name and Agency)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES

MONTANA COUNTIES, Richland County

(subject discussed)

December 20, 2011

(date)

Montana Natural Heritage Program Website

(Name and Agency)

Heritage State Rank= S1, S2, S3, T26N R55E

(subject discussed)

December 20, 2011

(date)

If location was inspected before permit approval:

Inspection date: \_\_\_\_\_

Inspector: \_\_\_\_\_

Others present during inspection: \_\_\_\_\_