

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

**Operator:** Continental Resources, Inc.  
**Well Name/Number:** June BR 1-8HSU  
**Location:** NE SE Section 8 T24N R53E  
**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): Yes, triple derrick, 1000 HP drilling rig to drill a single lateral Bakken Formation horizontal well, 13,539'MD/9,246'TVD.

Possible H2S gas production: Slight chance of H2S.

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, 13,539'MD/9,246'TVD.

**Water Quality**

(possible concerns)

Salt/oil based mud: Yes, freshwater and freshwater mud system on surface hole and oil based saltwater mud system on mainhole. Brine water to drill horizontal lateral.

High water table: No high water table anticipated.

Surface drainage leads to live water: No, nearest drainage is Horse Creek ephemeral drainage just to the north, about 1/16 of a mile and west, about 1/8 of a mile from this location.

Water well contamination: No, all water wells are shallower than surface casing setting depth of 1900'. Closest water wells are about 1/2 of a mile to the southwest, about 5/8 of a mile to the west southwest, about east northeast and all other wells are 3/4 of a mile or further from this location. Depth of these three wells are 62', 53' and 60'.

Porous/permeable soils: No, silty clay soils.

Class I stream drainage: No Class I stream drainages in this area.

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: 1900' of surface casing cemented to surface adequate to protect freshwater zones. Surface casing hole will be drilled with freshwater and steel surface casing will be set and cemented from 1900' to protect groundwater.

## Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: No, stream crossings anticipated.

High erosion potential: Yes, moderate cut, up to 12.6' and moderate fill, up to 18.1', 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, part of the surface is a cultivated field and the other part is a grassy slope.

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 off of an existing county road #134. Will build an access road of about 1/2 mile will be built into this location. A lined reserve pit will be used to hold drill cuttings and excess drilling fluids. Oil based invert drilling fluids will be recycled after the well in finished drilling. Completion fluids and any free liquids in the reserve pit 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: Closest residence is about 3/4 of a mile to the southwest from this location.

Possibility of H2S: Slight H2S.

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 game range/refuge in the area.

Threatened or endangered Species: Listed threatened or endangered Species in Richland County, Piping Plover, Interior Lease Tern, Whooping Crane and Pallid Sturgeon. Candidate specie listed is the Greater Sage Grouse.

Mitigation:

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

Comments: Location not near to live water. Surface is private cultivated land.

No concerns.

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### 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 land.

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### Social/Economic

(possible concerns)

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

Comments: Existing producing spacing unit. This is a development well within an existing producing spacing units. No concerns

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### Remarks or Special Concerns for this site

Well is a 13,539' MD/9,246' TVD Bakken horizontal well in Richland County

### Summary: Evaluation of Impacts and Cumulative effects

No long term impacts 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: September 09, 2010

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website  
(Name and Agency)  
Richland County water wells  
(subject discussed)  
September 9, 2010  
(date)

US Fish and Wildlife, Region 6 website  
(Name and Agency)  
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA  
COUNTIES, Richland County  
(subject discussed)  
September 9, 2010  
(date)

Montana Natural Heritage Program Website  
(Name and Agency)  
Heritage State Rank= S1, S2, S3  
(subject discussed)  
September 9, 2010  
(date)

If location was inspected before permit approval:  
Inspection date: \_\_\_\_\_  
Inspector: \_\_\_\_\_  
Others present during inspection: \_\_\_\_\_