

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

Operator: Continental Resources, Inc.
Well Name/Number: David HSL
Location: NWNW 17 (surf.) to SWSW Section 20 T25N R55E (Btm hole)
County: Richland, MT; **Field (or Wildcat)** W/C (Bakken Horizontal)

Air Quality

(possible concerns)

Long drilling time: No, 30 to 35 days drilling time.

Unusually deep drilling (high horsepower rig): Triple derrick drilling rig to drill a 19,712' MD/9,740' TVD single lateral Bakken formation horizontal well.

Possible H2S gas production: Slight, chance of H2S gas production.

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 – single lateral Bakken formation horizontal well.

Water Quality

(possible concerns)

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

High water table : No high water table anticipated.

Surface drainage leads to live water: No, closest drainage is East Timber Creek a 1/2 mile to the south of this location.

Water well contamination : No water wells nearby. Surface hole will be drilled with freshwater and freshwater muds to a depth of 1490'. Surface casing will be cemented to surface.

Porous/permeable soils: No, sandy 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: surface casing cemented to surface adequate to protect freshwater zones.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: No, stream crossings.
High erosion potential : No, almost flat location.
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, 450'X400' location size required.
Damage to improvements: Slight
Conflict with existing land use/values: Slight, surface use is grassland.

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 use existing county roads, and existing well access road. New constructed road, about 1.25 miles into location. Cuttings will be buried on site in the lined reserve pit. Oil based invert drilling fluids will be recycled. Completion fluids will be recycled or hauled to a commercial disposal for injection. Pit will be allowed to dry and will be solidified with subsoils and clays before being covered with clean subsoil and topsoil. No special concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: None nearby.
Possibility of H2S: Slight chance of H2S.
Size of rig/length of drilling time: Triple drilling rig/short 30 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 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: Species identified as threatened by the USFWS are Pallid Sturgeon, Interior Lease Tern, Piping Plover and Whooping Crane. Species listed as candidate species are the Greater Sage Grouse and Spragues Pipit. NH tracker website for this Township and Range lists no species of concern.

Mitigation:

- Avoidance (topographic tolerance/exception)

Other agency review (DFWP, federal agencies, DSL)
 Screening/fencing of pits, drillsite
 Other: _____
Comments: Private CRP land. No live water nearby. 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 CRP land. No concerns

Social/Economic

(possible concerns)
 Substantial effect on tax base
 Create demand for new governmental services
 Population increase or relocation
Comments: On private CRP land. No concerns

Remarks or Special Concerns for this site

Well is a single lateral Bakken formation horizontal well.

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/Thomas Richmond
(title:) Administrator
Date: October 1, 2013

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC
website

(Name and Agency)

Richland County water wells

(subject discussed)

September 11, 2013

(date)

Montana Cadastral webste

(Name and Agency)

Ownership, topo map and aerial photo

(subject discussed)

October 1, 2013

(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____