Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: Continental Resources, Inc.
Well Name/Number: McHenry 2-35H
Location: NE NW Section 35T24N R52E
County: Richland **, MT; Field (or Wildcat)** W/C (Bakken Horizontal)

Air Quality

(possible concerns)
Long drilling time: No, 15 to 20 days drilling time.
Unusually deep drilling (high horsepower rig): No, triple derrick rig to drill a single lateral horizontal Bakken Formation test, 13,818'MD/9,157'TVD.
Possible H2S gas production: Slight chance H2S gas from Mississippian Formations.
In/near Class I air quality area: Yes, nearest Class I air quality area is the Fort Peck Indian Reservation, about 19 miles to the north from this location.
Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:
X 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 horizontal Bakken Formation test, 13,818'MD/9,157'TVD. If there is an existing gathering system for natural gas in the area, then associated gas can be gathered or if no gathering system nearby gas can be flared under Board Rule 36.22.1220.

Water Quality

(possible concerns)
Salt/oil based mud: Yes to intermediate casing string hole to be drilled with oil based invert drilling fluids (oil/water ratio of 70/30 to 80/20). Horizontal lateral will be drilled with brine water. Surface casing hole will use freshwater and freshwater mud system (Rule 36.22.1001).
High water table: No high water table anticipated at this location.
Surface drainage leads to live water: Yes, nearest drainages are unnamed ephemeral tributary drainages to East Redwater Creek, about 1/16 of a mile to the north and about 1/8 of a mile to the southeast from this location.
Water well contamination: None, closest water wells are about ½ of a mile to the southwest, about 7/8 of a mile to the southeast and about 7/8 of a mile to the northwest from this location. Surface hole will be drilled with freshwater and freshwater mud system, Rule 36.22.1001. Surface casing will be set at 1400' and cemented to surface.
Porous/permeable soils: No, silty sandy clay soils.
Class I stream drainage: No Class I stream drainages in the area of review.

Mitigation:
__ Lined reserve pit
X Adequate surface casing
__ Berms/dykes, re-routed drainage
X Closed mud system
X Off-site disposal of **liquids (in approved facility)**

X Other: Lined cuttings pit (16 mil liner) will be used since this is a closed loop mud system to be employed. Cuttings will be buried on the wellsite.

Comments: 1400' of surface casing enough to cover the base of the Fox Hills and cemented to surface adequate to protect freshwater zones, Rule 36.22.1001.

Soils/Vegetation/Land Use

(possible concerns)

Steam crossings: Crossing only ephemeral drainages.

High erosion potential: Possible high erosion potential on the cut and fill slope at this location. The location will require a moderate cut, up to 20.1' and moderate fill, up to 12.2', required.

Loss of soil productivity: No, location will be restored after drilling if unproductive. If productive, unused portion of this drilling location will be restored.

Unusually large wellsite: No a large wellsite, 400'X450' location size required for a two well location, , McHenry 2-35H and McHenry 1-35H. .

Damage to improvements: Slight, surface use is appears to be grassland.

Conflict with existing land use/values: Slight

Mitigation

__ Avoid improvements (topographic tolerance)
__ Exception location requested
X Stockpile topsoil
__ Stream Crossing Permit (other agency review)
X Reclaim unused part of wellsite if productive
__ Special construction methods to enhance reclamation
__ Other _____

Comments: Access will be over existing county road #133 and existing ranch trail. About 7519' of upgraded ranch trail and new access road will be built into this location from the existing county road. Cuttings will be buried in the lined cuttings pit. Oil based drilling fluids will be recycled. Reserve pit fluids will be hauled to a commercial disposal. Pit will be allowed to dry and then closed by filling and mixing with clay subsoils. No special concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: No residences within a 1 mile radius around this location. The town of Sidney, Montana is about 38 miles to the east southeast and the town of Lambert, Montana is about 20 miles to the southeast from this location.

Possibility of H2S: Slight chance of H2S from Mississippian Formations.

Size of rig/length of drilling time: Triple drilling rig/short, 15 to 20 days drilling time.

Mitigation:

X Proper BOP equipment
__ Topographic sound barriers
__ H2S contingency and/or evacuation plan
__ Special equipment/procedures requirements
__ Other:_____

Comments: Adequate surface casing cemented to surface with an operational BOP stack (annular and double ram (pipe and blinds) rated for 5,000 psig) should mitigate any problems, Rule 36.22.1014.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): Fox Lake Game Management Area, about 19 miles to the southeast from this location.

Proximity to recreation sites: Fox Lake Game Management Area, about 19 miles to the southeast from this location.

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 Least Tern, Whooping Crane and Piping Plover. Candidate specie is the Sprague's Pipit and the Greater Sage Grouse. NH tracker website indicate one (1) species of concern in this township and range, the Iowa Darter.

Mitigation:

__ Avoidance (topographic tolerance/exception)

__ Other agency review (DFWP, federal agencies BLM, DSL)

__ Screening/fencing of pits, drillsite

__ Other: _____

Comments: Private grazing surface lands. There may be 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 are discovered at this location. No concern, no fluids will leave location.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites: None identified.

Mitigation

__ avoidance (topographic tolerance, location exception)

__ other agency review (SHPO, DSL, federal agencies BLM)

__ Other:_____

Comments: Private grass surface lands. There may be 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.

Social/Economic

(possible concerns)

__ Substantial effect on tax base

__ Create demand for new governmental services

__ Population increase or relocation

Comments: Wildcat well. No concerns

Remarks or Special Concerns for this site

Continental will drill a single lateral Bakken Formation horizontal well test, 13,818'MD/9,157'TVD. No special concerns.

Summary: Evaluation of Impacts and Cumulative effects

No significant long term impacts expected, some short term 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: May 10, 2013

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website
(Name and Agency)
Water wells in Richland County
(subject discussed)
May 10, 2013

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

May 10, 2013
(date)

Montana Natural Heritage Program Website
(Name and Agency)
Heritage State Rank= S1, S2, S3 T24N R52E
(subject discussed)

May 10, 2013
(date)

Montana Cadastral Website
(Name and Agency)
Surface Ownership and surface use Section 35 T24N R52E
(subject discussed)

May 10, 2013
(date)

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