Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: Continental Resources, Inc.
Well Name/Number: Westbrook 1-22H
Location: SE SW Section 22 T27N R56E
County: Richland **, MT; Field (or Wildcat)** W/C (Bakken Formation 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 to drill a single lateral Bakken formation horizontal well, 19,251'MD/9,191'TVD.
Possible H2S gas production: Slight chance H2S gas production.
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:
X Air quality permit (AQB review)
__ Gas plants/pipelines available for sour gas
__ Special equipment/procedures requirements
__ Other:_____

Comments: No special concerns – using triple derrick rig to drill a single lateral Bakken formation horizontal well, 19,251'MD/9,191'TVD. If there are existing pipeline for gas in the area then gas must be tied into system 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, freshwater and freshwater mud system on surface hole, oil based invert mud system on mainhole and saltwater for the horizontal lateral hole.
High water table: None anticipated, in the area of review.
Surface drainage leads to live water: No, closest drainage is an unnamed ephemeral tributary drainage to Day Creek, adjacent to the northeast edge of the location. The Missouri River is about 3 miles to the north from this location.
Water well contamination: No, closest water wells nearby are about ¼ of a mile to the east, about 3/8 of a mile to the north, about ½ of a mile to the east and ¾ of a miless to the north from this location. Domestic and stock water well depths range from 65' to 200'. Surface casing will be drilled with freshwater, steel casing will be set and cement to surface from 975'.
Porous/permeable soils: No, sandy clay soils.
Class I stream drainage: Closest Class I stream drainages in the area of review is the Missouri River.

Mitigation:
__ Lined reserve pit
X Adequate surface casing
__ Berms/dykes, re-routed drainage
X Closed mud system
__ Off-site disposal of solids/liquids (in approved facility)
X Other: Closed loop mud system with a lined cuttings disposal

pit.
Comments: 975' of surface casing cemented to surface adequate to protect freshwater zones.

Soils/Vegetation/Land Use

(possible concerns)
Steam crossings: No, stream crossings anticipated. Crossing only ephemeral drainages.
High erosion potential: Yes possible high erosion from steep cuts and fills, moderate cut, up to 34.2' and moderate fill, up to 23.0' 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'X300' location size required.
Damage to improvements: No, surface use is 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: Will use existing State Highway, #16. About 421' of new access road will be built into this location, off State Highway, #16. About 4,971' of new access road will be built into this location. A closed loop mud system will be utilized in the drilling of this well. Drill cutting will be disposed of in a lined cuttings pit on the well location. Oil based drilling fluids will be recycled. Pit fluids will be recycled and/or haul to a commercial SWD disposal. Lined cuttings pit will be backfilled when dry. No special concerns.

Health Hazards/Noise

(possible concerns)
Proximity to public facilities/residences: Closest residences are about ¼ of a mile to the east from this location.
Possibility of H2S: Slight chance of H2S (Mississippian Formations).
Size of rig/length of drilling time: Triple drilling rig/short 30 to 40 days drilling time.

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

Comments: Operational BOP and adequate surface casing will mitigate any problems that may occur. 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 Sprague's Pipit. NH tracker website for this Township and Range lists two (2) species of concern. They are the Townsend's Big-eared Bat and the Eastern Red Bat.

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

Comments: Private surface lands at this surface location. 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: Private surface lands at this surface location. 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

Remarks or Special Concerns for this site

Well is a single lateral Bakken formation horizontal well, 19,251'MD/9,191'TVD.

Summary: Evaluation of Impacts and Cumulative effects

__No long term impact 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: March 9, 2012

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website
(Name and Agency)
Richland County water wells
(subject discussed)
March 9, 2012
(date)

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

March 9, 2012
(date)

Montana Natural Heritage Program Website (FWP)
(Name and Agency)
Heritage State Rank= S1, S2, S3, T27N R56E
(subject discussed)

March 9, 2012
(date)

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