

Montana Board of Oil and Gas Conservation  
Environmental Assessment

**Operator:** Continental Resources, Inc.  
**Well Name/Number:** Merritt 24-27NH  
**Location:** SE SW Section 24 T6N R61E  
**County:** Fallon, **MT;** **Field (or Wildcat)** West Cedar Hills Unit

**Air Quality**

(possible concerns)

Long drilling time: No, 25 to 35 days drilling time.

Unusually deep drilling (high horsepower rig): Yes, triple derrick drilling rig to go 13,810'MD/9,364'TVD.

Possible H2S gas production: Yes, possible 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:

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 13,810'MD/9,364'TVD.

**Water Quality**

(possible concerns)

Salt/oil based mud: Yes, freshwater and freshwater mud system on surface hole and oil based invert mud system on main hole and brine water for horizontal lateral.

High water table: No high water table anticipated.

Surface drainage leads to live water: No location is not close to any drainages.

Water well contamination: No, closest water wells are about 3/8 of a mile to the north, 3/8 of a mile to the southwest, 1/2 of a mile to the southwest, 5/8 of a mile to the northwest, 5/8 of a mile to the west, all other wells are 3/4 of a mile or further from this location in Montana. Depth of these stock and domestic water wells range from 70' to 304'. Surface hole will be drilled with freshwater and freshwater mud to 1650'. Surface casing will be cemented to surface from 1650' to protect groundwater.

Porous/permeable soils: No, sandy clay soils.

Class I stream drainage: No Class I stream drainages in the area of review.

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: 1650' of surface casing cemented to surface adequate to protect freshwater zones.

## Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: No, stream crossing required.

High erosion potential: Yes erosion possible, moderate cut, up to 19.4' and moderate fill, up to 16.8', 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: Large wellsite, 270'X400' location size required.

Damage to improvements: Slight, surface use is grass land.

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 use existing State Highway #12, unnamed county road and existing well access road. 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. 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 residences are about 7/8 of a mile to the northwest, 7/8 of a mile to the west and about 1 mile to the northeast from this location.

Possibility of H2S: Yes, H2S possible.

Size of rig/length of drilling time: Triple drilling rig 25 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: Little Missouri National Grassland is about 1 mile to the east from this location across the state line in North Dakota.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No

Threatened or endangered Species: The only listed threatened or endangered Species in Fallon County is the Whooping Crane. Candidate species are the Greater Sage Grouse and Sprague's Pipit. NH Tracker website lists the Greater Sage Grouse as a species of concern in T7N R61E.

Mitigation:

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

Comments: Federal surface lands and minerals under the control of the BLM. BLM will do surface EA.

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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: Federal surface lands and minerals under the control of the BLM. BLM will do surface EA.

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### Social/Economic

(possible concerns)

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

Comments: Federal surface lands and minerals under the control of the BLM. BLM will do surface EA.

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### Remarks or Special Concerns for this site

Well is a 13,810'MD/9,364'TVD Red River Formation test.

### Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected. Some short term surface 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: March 22, 2011

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC  
website  
(Name and Agency)  
Fallon County water wells  
(subject discussed)  
March 22, 2011  
(date)

US Fish and Wildlife, Region 6 website  
(Name and Agency)  
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA  
COUNTIES, Fallon County  
(subject discussed)  
March 22, 2011  
(date)

Montana Natural Heritage Program Website (FWP)  
(Name and Agency)  
Heritage State Rank= S1, S2, S3, T7N R61E  
(subject discussed)  
March 22, 2011  
(date)

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