

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

**Operator:** Headinton Oil, Limited Partnership.  
**Well Name/Number:** Cundiff 21X-28  
**Location:** NE NW Section 28 T23N R57E  
**County:** Richland, MT; **Field (or Wildcat)** Wildcat

**Air Quality**

(possible concerns)

Long drilling time No, 40-50 days drilling time.  
Unusually deep drilling (high horsepower rig) Triple derrick rig 900 HP  
Possible H2S gas production Slight  
In/near Class I air quality area No  
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: Existing pipeline for gas in the area.

---

**Water Quality**

(possible concerns)

Salt/oil based mud yes to long string salt based and oil based drilling fluids. Saltwater for the horizontal openhole section. Surface casing hole to be drilled with freshwater and freshwater mud.  
High water table No  
Surface drainage leads to live water No, closest drainage is an unnamed ephemeral tributary to South Fork Lone Tree Creek, about 1/8 of a mile to the southeast of this location.  
Water well contamination No, closest water well is over 1/2 mile to the northeast and less than 200' in depth.  
Porous/permeable soils No, gumbo soils  
Class I stream drainage No, Class I stream drainages.

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: 2000' surface casing well below freshwater zones in adjacent water wells. Also, covering Fox Hills aquifer. Adequate surface casing and BOP equipment to prevent problems in and around freshwater slough.

**Soils/Vegetation/Land Use**

(possible concerns)

Stream crossings None  
High erosion potential No, moderate cut, up to 13.6' and small fill, up to 8.6', required.

Loss of soil productivity None, location to be restored after drilling well, if nonproductive: If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite No, large well site 430'X300'

Damage to improvements Slight

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 \_\_\_\_\_

Comments: Access will be over existing county roads and existing trails. A short 1/8 mile of new access road will be built into this location off an existing access. Oil based muds will be recycled, cuttings will be disposed of in a lined pit. Pit will be backfilled and/or solidified with subsoil clays and backfilled. No concerns.

### Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences residence about 3/4 mile to the east.

Possibility of H2S Slight

Size of rig/length of drilling time Triple drilling rig 40 to 50 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 cemented to surface with working BOP stack should mitigate any problems.

### Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified) n/a 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 No

Mitigation:

Avoidance (topographic tolerance/exception)

Other agency review (DFWP, federal agencies, DSL)

Screening/fencing of pits, drillsite

Other: \_\_\_\_\_

Comments: no concerns Private surface.

### 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: No concerns Private surface

**Social/Economic**

(possible concerns)

Substantial effect on tax base

Create demand for new governmental services

Population increase or relocation

Comments: No concerns

**Remarks or Special Concerns for this site**

Bakkern horizontal well 15,656' MD and 14,645' MD 10471' TVD. Second well in this spacing unit.

**Summary: Evaluation of Impacts and Cumulative effects**

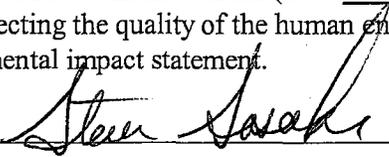
No long term impacts expected. Some short term impacts will occur.

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): Steven Sasaki

(title): Chief Field Inspector

Date: June 20, 2006



**Other Persons Contacted:**

Montana Bureau of Mines and Geology, GWIC website

(Name and Agency)

Richland County water wells

(subject discussed)

June 20, 2006

**If location was inspected before permit approval:**

Inspection date: \_\_\_\_\_

Inspector: \_\_\_\_\_

Others present during inspection: \_\_\_\_\_