

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

**Operator:** Headinton Oil, Limited Partnership.  
**Well Name/Number:** Darlene 41X-20  
**Location:** NE NE Section 20 T22N R59E  
**County:** Richland, MT; **Field (or Wildcat)** Wildcat

**Air Quality**

(possible concerns)

Long drilling time No, 50-60 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 gas pipelines in the area.

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**Water Quality**

(possible concerns)

Salt/oil based mud yes to long string salt based and oil based drilling fluids, horizontal lateral s to be drilled with saltwater. Surface casing hole to be drilled with freshwater and freshwater mud.  
High water table Yes, irrigated fields  
Surface drainage leads to live water yes, the Yellowstone River lies about 1/4 mile to the northwest of this location.  
Water well contamination No, deep water wells exist in this section, but surface casing will be set at 1500' well below any of these existing water wells and freshwater will be used to drill the surface hole.  
Porous/permeable soils No, gumbo sandy 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: 1500' 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, location will require small cut, up to 2.0' and no fill, 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, irrigated field..

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 Require remote lined reserve pit for cuttings and excess drilling fluids.

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Comments: Access will be from existing county gravel road. Approximately, 1/8 of a mile of new access road will be built into this location off the county gravel road.

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### Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences residence 1/8 mile to the east of this location. Rau school about 1 mile to the east and north.. Town of Sidney is 3.25 miles to the north.

Possibility of H2S Slight

Size of rig/length of drilling time Triple drilling rig 50 to 60 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. Noise should not be a problems, sufficient distance from residence to rig should mitigate this.

### 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

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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: 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**

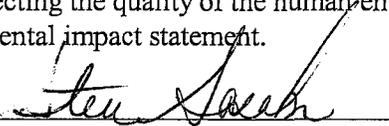
16,659' MD, 14,284' MD and 16,636 MD TVD 10,070' Triple legged Bakken horizontal well.

Existing vertical oil well in the same section.

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

No significant long term impacts from the drilling of this well. Some short term impacts will occur with the drilling of this well.

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 22, 2006

Other Persons Contacted:

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(Name and Agency)

Montana Bureau of Mines and Geology, Groundwater Information Center website.

(subject discussed)

Water wells in Richland County

(date)

June 22, 2006

If location was inspected before permit approval:

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

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

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