

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

**Operator:** Enerplus Resources (USA) Corporation  
**Well Name/Number:** Fearless-Sherman No. 23-2H  
**Location:** NW NE Section 23T24 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, Bakken horizontal MD 19,910' and 10,374' TVD.  
Possible H<sub>2</sub>S 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.

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**Water Quality**

(possible concerns)

Salt/oil based mud yes to long string salt based and oil based drilling fluids. Surface casing hole to be drilled with freshwater and freshwater mud.  
High water table No  
Surface drainage leads to live water No, closest ephemeral drainage is First Hay Creek, about 1/4 of a mile northeast of this location.  
Water well contamination No, all water wells close by are shallower than 2000'+/-.  
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.

**Soils/Vegetation/Land Use**

(possible concerns)

Stream crossings None  
High erosion potential No, location has a moderate, cut of 13.0' and moderate fill of up to 23.3', 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 450'X310'

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 trails. About 4096' of new access is proposed to be built to access this location. Oil based muds will be recycled and cuttings will be buried in a lined pit. Any excess fluid left in the reserve pit will be hauled to a commercial disposal. Pit will be allowed to dry and subsoil clays mixed with the cuttings. No concerns.

### Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences No residences within 1 mile of this location.

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

### 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: Second Bakken horizontal development well in this section.

**Remarks or Special Concerns for this site**

No concerns

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

TVD 10,374' MD 19,910' Bakken Formation horizontal well. No long term impacts expected, some short term impacts are expected 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: April 18, 2006

Other Persons Contacted:

(Name and Agency)

Montana Bureau of Mines and Geology, Groundwater Information Center website, Richland County water wells

(subject discussed)

April 18, 2006

(date)

If location was inspected before permit approval:

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

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

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