

# Montana Board of Oil and Gas Conservation Environmental Assessment

**Operator:** Cardinal Oil, LLC.

**Well Name/Number:** Galt No. 1-12-34

**Location:** NE NW Section 12 T9N R34E

**County:** Rosebud, MT; Field (or Wildcat) W/C

## Air Quality

(possible concerns)

Long drilling time: No, 2 to 3 days drilling time.

Unusually deep drilling (high horsepower rig): No, a small single derrick drilling to drill to 2500'TVD.

Possible H2S gas production: None anticipated.

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 single derrick drilling rig to drill to 2000'TVD.

## Water Quality

(possible concerns)

Salt/oil based mud: No, freshwater and freshwater mud system on surface hole and mainhole to be drilled with air and/or air mist.

High water table: No high water table anticipated.

Surface drainage leads to live water: No, closest drainage is Froze to Death Creek, about 1/4 of a mile to the northwest of this location.

Water well contamination: No, -no water wells in area. Well will be drilled with freshwater and freshwater muds. Surface casing will be run and cemented to surface from 350'. Well will be air drilled from there to 2500' TD. If productive 4 1/2" casing will be run and cemented.

Porous/permeable soils: No, very bentonitic "gumbo" soils.

Class I stream drainage: No

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

### Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: No, stream crossings.

High erosion potential: None to very little dirt work required, will be using a self leveling drilling rig.

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, small location of 200'X200' size required.

Damage to improvements: Slight, surface use is grazing 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: Will use existing state highway, #12, existing county roads and existing ranch trails. About 1.5 miles of new access road will be built from the existing ranch trail into this location. Cuttings will be buried in the unlined earthen pit. Fluids will be allowed to dry in the pit. Pit will be backfilled when dry. No special concern.

### Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Closest buildings are in Ingomar, Montana about 2 miles to the northeast of this location.

Possibility of H2S: None anticipated.

Size of rig/length of drilling time: Single derrick drilling rig/short 2 to 3 days drilling time

Mitigation:

Proper BOP equipment

Topographic sound barriers

H2S contingency and/or evacuation plan

Special equipment/procedures requirements

Other: Will utilize a Model 3022 Diverter System in place of a BOP.

Typically, Eagle and Greenhorn Formation will only have low pressure sweet gas.

Comments: 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: The only threatened or endangered species listed for Rosebud County are the Black-Footed Ferret and the Interior Least Tern.

Mitigation:

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

Comments: On private land. Access to surface lands are controlled by the private surface owners. 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: On private surface lands. Access to surface lands are controlled by the private surface owners. No concerns.

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### Social/Economic

(possible concerns)

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

Comments: No concerns.

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### Remarks or Special Concerns for this site

Well is a 2500' TVD Eagle Formation test.

### Summary: Evaluation of Impacts and Cumulative effects

No long term impact expected, some short term 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): Thomas Richmond

(title:) Administrator

Date: September 13, 2013

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website

\_\_\_\_\_  
(Name and Agency)

Rosebud County water wells

\_\_\_\_\_  
(subject discussed)

September 13, 2013

\_\_\_\_\_  
(date)

US Fish and Wildlife, Region 6 website

(Name and Agency)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA

COUNTIES, Rosebud County

(subject discussed)

September 13, 2013

(date)

If location was inspected before permit approval:

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

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

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