Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: Cardinal Oil, LLC.
Well Name/Number: Galt No. 1-2-34
Location: SE SW Section 2 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 2000'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:
X 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 an ephemeral tributary drainage to West Fork Froze to Death Creek, the ephemeral drainage is about adjacent to the well pad to the west and 1/8 of a mile to the east of this location.
Water well contamination: No, closest water wells are further than 1 mile in any direction from this location. Surface casing will be set at 900'. Drilled with freshwater and freshwater muds. Surface casing will be run and cemented to surface from 900'. Well will be air drilled from there to 2000' TD. If productive 4 ½" casing will be run and cemented.
Porous/permeable soils: No, very bentonitic "gumbo" soils.
Class I stream drainage: No Class I stream drainages in this area.

Mitigation:
__ Lined reserve pit
X Adequate surface casing
__ Berms/dykes, re-routed drainage
__ Closed mud system
__ Off-site disposal of solids/liquids (in approved facility)
__ Other: _____
Comments: 900' of surface casing cemented to surface adequate to protect freshwater zones.

Soils/Vegetation/Land Use

(possible concerns)
Steam crossings: No, stream crossings, only crossing ephemeral drainage.
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
_X_ Stockpile topsoil
__ Stream Crossing Permit (other agency review)
_X_ Reclaim unused part of wellsite if productive
__ Special construction methods to enhance reclamation
_X_ 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 1/8 of a mile 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 2.125 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
_X_ Other: Will utilize a Model 3022 Diverter System in place of a BOP. Typically, Eagle 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-Tailed Prairie Dog and the Interior Least Tern. Candidate species are the Greater Sage Grouse and Sprague's Pipit. Proposed species is the Mountain Plover. NH tracker website lists the Greater Sage Grouse, Black-Tailed Prairie Dog, Greater Sage Grouse and the Mountain Plover, as species of concern.

Mitigation:

__ Avoidance (topographic tolerance/exception)

__ Other agency review (DFWP, federal agencies, DSL)

__ Screening/fencing of pits, drillsite

__ Other: _____

Comments: __On private land. Accesses to surface lands are controlled by the private surface owners. 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: __On private surface lands. Accesses to surface lands are controlled by the private surface owners. No concerns.

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

__Well is a 2000' TVD Colorado Formation test.

Summary: Evaluation of Impacts and Cumulative effects

__No long term impact 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): /s/Steven Sasaki _____
(title:) Chief Field Inspector_____
Date: December 20, 2010_____

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website
_____
(Name and Agency)
Rosebud County water wells_____
(subject discussed)
December 20, 2010_____
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA COUNTIES, Rosebud County
(subject discussed)

December 20, 2010
(date)

Montana Natural Heritage Program Website (FWP)
(Name and Agency)
Heritage State Rank= S1, S2, S3, Section 2 T9N R34E
(subject discussed)

December 20, 2010_____
(date)

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