

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

**Operator:** North Range Exploration, LLC  
**Well Name/Number:** Miller #32-2 Pillars  
**Location:** SW SW SW Section 32 T3S R32E  
**County:** Yellowstone, MT; **Field (or Wildcat)** Wildcat

**Air Quality**

(possible concerns)

Long drilling time: No, 3 to 5 days drilling time.

Unusually deep drilling (high horsepower rig): No, single derrick drilling rig, 1,100' TD, Greybull Formation.

Possible H2S gas production: not likely.

In/near Class I air quality area: No, class I air quality area in the area of review.

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 small rig to drill to 1100' TD. If there are existing pipelines for natural gas in the area, associated gas can be gathered or if no gathering system nearby, associated gas can be flared under Board Rule 36.22.1220.

**Water Quality**

(possible concerns)

Salt/oil based mud: No, air or freshwater mud system.

High water table: No high water table anticipated.

Surface drainage leads to live water: No, closest drainages are an ephemeral tributary drainage to Blue Creek.

Water well contamination: No water wells in the area that could be affected. Surface hole will be drilled with freshwater and freshwater mud to 110'. Steel surface casing will be run and cemented to surface to protect ground water (rule 36.22.1001). If productive, 4 1/2" production casing will be cemented to surface.

Porous/permeable soils: No, silty sandy clay 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: 110' of surface casing cemented to surface adequate to protect freshwater zones. Also, air or freshwater and fresh water mud systems to be used (rule 36.22.1001). If productive, 4 1/2" production casing will be cemented to surface.

## Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: No, stream crossings anticipated.

High erosion potential: No high erosion anticipated, small cut, 2.4' and small fill, 4.6', required.

Loss of soil productivity: No, location will be restored after drilling in nonproductive and if productive unused portion of the drillsite will be reclaimed.

Unusually large wellsite: No, 200'X200' location size required.

Damage to improvements: Slight, surface use is prairie grazing grassland.

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: Surface access will be over existing county roads and new lease trail. About 3000' new access will be built. Cuttings will be buried in the earthen pit. Freshwater drilling fluids will be allowed to evaporate. Pit will be backfilled when dry. No special concerns

## Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: No, no residences within 1 mile from this wellsite.

Possibility of H2S: Very slight chance.

Size of rig/length of drilling time: Small drilling rig/short drilling time.

Mitigation:

Proper BOP equipment

Topographic sound barriers

H2S contingency and/or evacuation plan

Special equipment/procedures requirements

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

Comments: Adequate surface casing and operational diverter/BOP should mitigate any problems.

## 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: no species identified as threatened or endangered. NH tracker website indicates, no (0) species of concern.

Mitigation:

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

Comments: Private surface grassland. Unlikely that there may be species of concern that maybe impacted by this wellsite. .

**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 grassland. There may be possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

**Social/Economic**

(possible concerns)

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

Comments: No concerns. 1,100' Greybull Formation oil test.

**Remarks or Special Concerns for this site**

Well is a 1,100' Greybull Formation test.

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

No long term impact expected. Some short term surface impacts will occur, but will be mitigated in time.

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 P. Richmond  
(title:) Admiinsitrator  
Date: August 22, 2013

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC  
**website**  
(Name and Agency)  
Water wells in this area  
(subject discussed)

August 22, 2013  
(date)

Montana Natural Heritage Program Website  
(Name and Agency)  
Heritage Website for Location T3S R25E  
(subject discussed)

August 22, 2013  
(date)

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