

Montana Board of Oil and Gas Conservation Environmental Assessment

Operator: Denbury Onshore, LLC
Well Name/Number: Unit 44X-09A
Location: SE SE Section 9 T11N R57E
County: Wibaux, MT; Field (or Wildcat) Pine Field

Air Quality

(possible concerns)

Long drilling time: No, 15-25 days drilling time.

Unusually deep drilling (high horsepower rig): No, triple drilling rig for 9,900' TD, vertical development well.

Possible H₂S gas production: Yes, possible H₂S gas.

In/near Class I air quality area: No Class I air quality area in 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 triple derrick drilling rig to drill a vertical 9,900' TD Winnipeg Formation well test. If existing gathering system for associated gas is in the area, 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: Use freshwater and freshwater mud system for drilling surface hole (Rule 36.22.1001) and main hole will utilize oil based invert drilling mud system (9.3-10.1 lbs./gal) to TD.

High water table: No, high water table anticipated at this location.

Surface drainage leads to live water: No, closest drainage is an unnamed ephemeral tributary drainages to Cabin Creek, about ¼ of a mile southeast from this location

Water well contamination: None, closest water wells are about 1/8 of a mile to the northwest, about 3/8 of a mile to the northeast, about 5/8 of a mile to the northwest, about 5/8 of a mile to the northeast and about 1 mile to the southwest from this location. These water wells range in depth from 170' to 896' in depth. Surface casing will be set below all known water wells in the area, 1800'. Surface hole will be drilled with freshwater and freshwater muds, rule 36.22.1001.

Surface casing will be set to 1800' and cemented back to surface.

Porous/permeable soils: No, sandy clay soils.

Class I stream drainage : No Class I stream drainages in the area of review.

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: 1800' of surface casing will be cemented to surface and is adequate to protect freshwater zones. Also, fresh water mud systems to be used on surface hole, rule 36.22.1001. Drilling reserve pit will be lined with a 12 mill liner, rule 36.22.1005. Oil base invert drilling fluids will be recycled and completion fluids will be hauled to a

commercial Class II disposal. Solids will be left on site in the lined reserve pit after being allowed to dry and stabilized. The pit liner will be folded over the top of the solids and buried with a minimum of 4' of spoil dirt to fill pit over the top of the cuttings.

Soils/Vegetation/Land Use

(possible concerns)

Steam crossings: None anticipated.

High erosion potential: Yes possible high erosion potential due to a moderate cut slopes at this well site. Location will need a moderate cut, up to 13.9' and small fill, up to 9.7', required.

Loss of soil productivity : None, location to be restored after drilling well, if well is nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: Large, 310'X325' location 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 _____

Comments: All of the access will be over existing county roads and existing lease roads. About 91' of new road will be constructed into this location off the existing lease road. No special concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Oil field buildings and facilities are the only structures nearby. Unknown if they are any residences nearby. Either way the drilling of this well should not pose any problems.

Possibility of H2S: Yes H2S possible.

Size of rig/length of drilling time: Triple drilling rig 15 to 25 days drilling time.

Mitigation:

Proper BOP equipment

Topographic sound barriers

H2S contingency and/or evacuation plan

Special equipment/procedures requirements

Other: Standard H2S safety equipment and crew training and certification should be adequate for this well.

Comments: No special concerns. Proper BOP stack, rule 36.22.1014 (5000 psig annular with double blind rams and pipe rams) and surface casing should be able to control any problems that could occur.

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: Species identified as threatened or endangered are the Pallid Sturgeon, Interior Least Tern and Whooping Crane. Candidate species are the Greater Sage Grouse and the Sprague's Pipit. MTFWP Natural Heritage Tracker website lists four (4)

species of concern. They are the Golden Eagle, Greater Sage Grouse, Black-Billed Cuckoo, and the Red-headed Woodpecker. NH tracker website lists one (1) Potential species of concern, Eastern Screech Owl.

Mitigation:

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

Comments: The surface ownership is private land. There may be species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

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 land. 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 desire to preserve these sites or not, if they are found during construction of this 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, a development oil well within the Pine Oil Field.

Remarks or Special Concerns for this site

Well is a 9,900' vertical Winnipeg Formation well test in the Pine oil field.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts 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: January 30, 2013 _____

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website

(Name and Agency)

Wibaux County water wells

(subject discussed)

January 30, 2013

(date)

US Fish and Wildlife, Region 6 website

(Name and Agency)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA
COUNTIES, Wibaux County

(subject discussed)

January 30, 2013

(date)

Montana Natural Heritage Program Website (FWP)

(Name and Agency)

Heritage State Rank= S1, S2, S3, T11N R57E

(subject discussed)

January 30, 2013

(date)

Montana Cadastral Website

(Name and Agency)

Surface Ownership and surface use Section 9 T11N R57E

(subject discussed)

January 30, 2013

(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____