

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

**Operator:** Bayswater Exploration & Production, LLC  
**Well Name/Number:** Nordahl 2-11  
**Location:** NW NE Section 11 T1N R21E  
**County:** Stillwater, **MT;** **Field (or Wildcat)** Lake Basin

**Air Quality**

(possible concerns)

Long drilling time: No, 3 to 4 days drilling time.  
Unusually deep drilling (high horsepower rig): No small single derrick drilling rig, 2950' TD.  
Possible H<sub>2</sub>S gas production: None  
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: No special concerns – using small rig to drill to 2950' TD.

**Water Quality**

(possible concerns)

Salt/oil based mud: No, freshwater or freshwater mud system and/or air/mist.  
High water table: No  
Surface drainage leads to live water: No, closest drainage is an unnamed ephemeral tributary drainage to Big Lake, typically a dry lake bed, about 3/4 of a mile to the northwest of this location.  
Water well contamination: No, closest water well is about 1/4 of a mile to the east from this location, well is only 165' in depth. Surface casing will be drilled to 540' with air/freshwater and if productive 4 1/2" production casing will be cemented to surface.  
Porous/permeable soils: No, sandy clay 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: 540' of surface casing cemented to surface adequate to protect freshwater zones. Also, air and/or fresh water mud systems to be used. 4 1/2" production casing will be cemented.

**Soils/Vegetation/Land Use**

(possible concerns)

Steam crossings: No, crossings.

High erosion potential: No, no cut and no fill required. Will be using small self leveling drilling rig.

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, 100'X100' location size required.

Damage to improvements: Slight, surface use is cultivated fields.

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, Columbus Molt road and Nordahl Road and existing two track road. A short access road will be built off an existing two track trail. Cuttings will be buried in the earthen pit. 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: Yes, 1/2 mile to the east southeast, 1 mile to the southeast and 1 mile to the northwest of this wellsite. It appears to be a school, Peterson School, about 3/4 of a mile to the northwest of this location.

Possibility of H2S: None

Size of rig/length of drilling time: Small drilling rig/short 3 to 4 days drilling time

Mitigation:

Proper BOP equipment

Topographic sound barriers

H2S contingency and/or evacuation plan

Special equipment/procedures requirements

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

Comments: Operational BOP will be required.

### 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: None identified.

Mitigation:

Avoidance (topographic tolerance/exception)

Other agency review (DFWP, federal agencies, DSL)

Screening/fencing of pits, drillsite

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

Comments: Private surface lands. 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: Private surface lands. 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 2950' Big Elk 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.

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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): Steven Sasaki 

(title:) Chief Field Inspector

Date: December 17, 2007

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website

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

Water wells in Stillwater County

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

December 17, 2007

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

If location was inspected before permit approval:

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

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

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