

Montana Board of Oil and Gas Conservation Environmental Assessment

Operator: XTO Energy, Inc.
Well Name/Number: Shaw 44X-13
Location: SE SE Section 13 T22N R59E
County: Richland, MT; Field (or Wildcat) Wildcat

Air Quality

(possible concerns)

Long drilling time: No, 25-35 days drilling time.

Unusually deep drilling (high horsepower rig): A triple derrick rig, estimated 900-1000 HP to drill a single lateral Bakken Formation Horizontal Lateral, 17,067' MD/10,245' TVD.

Possible H₂S gas production: Slight

In/near Class I air quality area: No, not in a Class I air quality area.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under rule 75-2-211.

Mitigation:

Air quality permit (AQB review)

Gas plants/pipelines available for sour gas

Special equipment/procedures requirements

Other: _____

Comments: Existing pipeline for H₂S gas and sweet gas in the area. _____

Water Quality

(possible concerns)

Salt/oil based mud: Yes to intermediate casing string hole, oil based invert drilling fluids. Saltwater for the horizontal openhole lateral. Surface casing hole to be drilled with freshwater and freshwater mud.

High water table: No high water table anticipated.

Surface drainage leads to live water: Yes, closest live water is the reservoir behind McGlynn Dam, about 1/16 of a mile to the south from this location. Closest drainage is an unnamed ephemeral tributary drainage to Bennie Peer Creek. This unnamed drainage crosses through the proposed location.

Water well contamination: None, surface hole will be drilled with freshwater and freshwater drilling fluids to 1,640', steel surface casing will be run and cemented to surface from 1640' to protect any ground and surface waters. Closest water wells are about 1/2 of a mile to the northeast and 3/4 of a mile to the west and 1 mile to the northwest from this location. Depth of these domestic and stock water wells are from 235' and 1240'. The surface hole will be drilled with freshwater and freshwater mud systems.

Porous/permeable soils: Yes, sandy clay soils.

Class I stream drainage: No, Class I stream drainage.

Mitigation:

Lined reserve pit

Adequate surface casing

Berms/dykes, re-routed drainage

Closed mud system

Off-site disposal of liquids (in approved facility)

Other: _____

Comments: 1640' of surface casing is enough surface casing to cover Base Fox Hills Formation. Surface hole will be drilled with freshwater and freshwater drilling muds to 1640'. Steel surface casing will be run to 1640' and cemented to surface. Oilbased invert drilling fluids will be recycled. Drill cuttings will be disposed of in the lined reserve pit. After the well has been completed, completions fluids will go to a commercial Class II disposal.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: None, anticipated.

High erosion potential: Possible high erosion potential, moderate cut, 16.1' and moderate fill, up to 14.5', 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: No, large well site 430'X330'.

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: Access will be over existing highway, #23, #202 and ranch road. A short new access road will be built into this location, about 0.4 of a mile. Oil based drilling fluids will be recycled. Completion fluids will be hauled to a Class II commercial disposal. Drill cuttings will be buried in the lined reserve pit. No concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Closest residences about 1/8 of a mile to the northeast from this location.

Possibility of H2S: Slight

Size of rig/length of drilling time: Triple derrick drilling rig, 25 to 35 days drilling time.

Mitigation:

Proper BOP equipment

Topographic sound barriers

H2S contingency and/or evacuation plan

Special equipment/procedures requirements

Other: _____

Comments: Adequate surface casing cemented to surface with working BOP stack should mitigate any problems.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: Little Missouri National Grasslands boundary is about 1.5 miles to the east from this location.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No, no game range/refuge in the area.

Threatened or endangered Species: Threatened or endangered species identified by USFWS in Richland County are the Pallid Sturgeon, Whooping Crane, Interior Lease Tern and Piping Plover.

Mitigation:

Avoidance (topographic tolerance/exception)

Other agency review (DFWP, federal agencies, DSL)
 Screening/fencing of pits, drillsite
 Other: _____
Comments: Private grazing surface lands. 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: Private grazing surface lands. No concerns.

Social/Economic

(possible concerns)
 Substantial effect on tax base
 Create demand for new governmental services
 Population increase or relocation
Comments: Horizontal Bakken Formation development oil well to an existing spacing unit. No concerns.

Remarks or Special Concerns for this site

Single lateral Bakken Formation development horizontal well 17,067' MD/10,245' TVD.

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: May 2, 2010

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website
(Name and Agency)
Richland County water wells
(subject discussed)
May 2, 2010
(date)

US Fish and Wildlife, Region 6 website

(Name and Agency)

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

May 2, 2010 _____

(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____