

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

Operator: Zenergy Operating Company
Well Name/Number: Wilson 14-23H
Location: NW NW Section 14 T27N R59E
County: Roosevelt, MT; Field (or Wildcat) Wildcat

Air Quality

(possible concerns)

Long drilling time: No, 25-35 days drilling time.
Unusually deep drilling (high horsepower rig): Triple derrick drilling rig, 900 HP-1000HP, to drill a single lateral horizontal Bakken Formation test, 19,642'MD/10,559'TVD.
Possible H2S gas production: Yes, slight.
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:

- Air quality permit (AQB review)
 - Gas plants/pipelines available for sour gas
 - Special equipment/procedures requirements
 - Other: _____
- Comments: Existing pipeline for H2S gas in the area.

Water Quality

(possible concerns)

Salt/oil based mud: Yes to intermediate string hole will be oil based invert drilling fluids. Horizontal hole will be drilled with produced brine water. Surface casing hole will be drilled with freshwater and freshwater mud system to be used.
High water table: No high water table anticipated.
Surface drainage leads to live water: Yes, closest drainage is an unnamed ephemeral tributary drainage to Deer Creek about 1/8 of a mile to the northeast from this location. Deer Creek is a tributary drainage to Horse Tied Creek about 1.5 mile to the northwest from this location.
Water well contamination: No, water wells within 1 mile and further from this location. This well will be drilled with freshwater and freshwater muds to 2,200' and steel surface casing will be run and cemented to surface to protect groundwater.
Porous/permeable soils: No, 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: 2,200' surface casing will be drilled with freshwater and cemented back to surface. Well below freshwater zones in adjacent water wells. Also, covering Fox Hills aquifer. Adequate surface casing and BOP equipment to prevent problems.

Soils/Vegetation/Land Use

(possible concerns)

Steam crossings: None anticipated. Will utilize existing ranch trails and crossings of ephemeral drainages.
High erosion potential: Yes, location will require a moderate cut of up to 17.3' and a moderate fill of up to 23.6', required.

Loss of soil productivity: No, location to be restored after drilling, if nonproductive. If productive unused portion of this drillsite will be reclaimed.

Unusually large wellsite: No, large well site 430'X330'

Damage to improvements: Surface use is 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: Access will be over existing county gravel road and existing farm road. New access road will be built into this location from the existing ranch, about 1.1 miles into this location. Oil based invert drilling fluids will be recycled. Reserve pit fluids will be trucked to a commercial disposal. Cuttings and solids will be buried/solidified on site in the lined reserve pit. The pit will be allowed to dry and the pit backfilled. No concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Residence about 3/4 of a mile to the northwest from this location. The Town of Bainville, MT about 7.1 miles to the northwest from this location.

Possibility of H2S: Yes, slight.

Size of rig/length of drilling time: Triple 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: None identified.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No

Threatened or endangered Species: Listed threatened or endangered species are Pallid Sturgeon, Interior Least Tern, Whooping Crane and Piping Plover in Roosevelt County.

Mitigation:

Avoidance (topographic tolerance/exception)

Other agency review (DFWP, federal agencies, DSL)

Screening/fencing of pits, drillsite

Other: _____

Comments: Private surface lands. No live water near location. 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 surface lands.

Social/Economic

(possible concerns)

Substantial effect on tax base

Create demand for new governmental services

Population increase or relocation

Comments: Wildcat horizontal well, unknown it well will be successful. No concerns

Remarks or Special Concerns for this site

To drill a single lateral horizontal Bakken Formation exploratory test, 19,642'MD/10,559'TVD.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected, some short term impacts will occur, but can be mitigated.

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: August 19, 2010

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website

(Name and Agency)

Roosevelt County water wells

(subject discussed)

August 19, 2010

(date)

US Fish and Wildlife, Region 6 website

(Name and Agency)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA
COUNTIES, Roosevelt County, Montana
(subject discussed)
August 19, 2010

If location was inspected before permit approval:

Inspection date: __ _____

Inspector: _____

Others present during inspection: _____