Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: Orion Energy Partners, L.P.
Well Name/Number: State 16-43H
Location: NE SE Section 16 T25N R59E
County: Richland, **MT; Field (or Wildcat)** Wildcat

Air Quality

(possible concerns)
Long drilling time: No, 30-40 days drilling time.
Unusually deep drilling (high horsepower rig): Triple derrick rig 900 HP to drill a single lateral horizontal Ratcliffe Formation well, 13,014'MD/8862'TVD.
Possible H2S gas production: Yes
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:
X Air quality permit (AQB review)
__ Gas plants/pipelines available for sour gas
__ Special equipment/procedures requirements
__ Other:_____
Comments:

Water Quality

(possible concerns)
Salt/oil based mud: Yes to long string invert oil based drilling fluids. Surface casing freshwater, and freshwater mud system to be used. Horizontal hole will be drilled with freshwater.
High water table: No
Surface drainage leads to live water: Yes, North Fork Fourmile Creek, about 1/8 of a mile to the southwest and southeast of this location and about ¼ of a mile to the south from this location.
Water well contamination: None, surface hole will be drilled with freshwater to 1800'. Surface casing will be run and cemented to surface. Closest nearby water well, about 1/2 of a mile to the southeast of this location and is 160' deep.
Porous/permeable soils: No, silty sandy clay soils
Class I stream drainage: No, Class I stream drainages.

Mitigation:
X Lined reserve pit
X Adequate surface casing
__ Berms/dykes, re-routed drainage
__ Closed mud system
__ Off-site disposal of solids/liquids (in approved facility)
__ Other: _____
Comments: 1800' surface casing 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
High erosion potential: No, location requires a small cut, up to 5.1' and a small fill, up to 1.9', required.
Loss of soil productivity: None, location to be restored after drilling well, if nonproductive. If productive, unused portion of the drilling pad will be reclaimed.

Unusually large wellsite: No, large well site 300'X400'
Damage to improvements: Slight, surface use appears to be a cultivated field.
Conflict with existing land use/values: Slight

Mitigation

__ Avoid improvements (topographic tolerance)
__ Exception location requested
_X_ Stockpile topsoil
__ Stream Crossing Permit (other agency review)
_X_ Reclaim unused part of wellsite if productive
__ Special construction methods to enhance reclamation
__ Other _____

Comments: Access will be over existing county gravel road, #353. A short access road into location will be built from county road, #353, about 591'. Cuttings will be buried in the lined reserve pit. Drilling fluids will be recycled to the next location. Completion fluids in the reserve pit will be hauled to a commercial Class II disposal site. Pit will be backfilled with subsoil and topsoil spread over the top. No concerns.

Health Hazards/Noise

(possible concerns)
Proximity to public facilities/residences: Yes, residence about ¼ of a mile to the east southeast of this location. The town of Dore, North Dakota is about 3.25 miles to the east northeast and Fairview, Montana about 5.5 miles to the southeast of this location.
Possibility of H2S: Yes
Size of rig/length of drilling time: Triple drilling rig 30 to 40 days drilling time.

Mitigation:

_X_ Proper BOP equipment
__ Topographic sound barriers
_X_ 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: Missouri River is about 5 miles to the northeast.
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)
_X_ Other agency review (DFWP, federal agencies, DSL)
__ Screening/fencing of pits, drillsite
__ Other:_____

Comments: State Trust Lands surface. Trust Lands will do surface EA.

Historical/Cultural/Paleontological

(possible concerns)
Proximity to known sites: None identified

Mitigation

__ avoidance (topographic tolerance, location exception)
X other agency review (SHPO, DSL, federal agencies)
__ Other:_____
Comments: State Trust Lands surface. Trust Lands will do surface EA.

Social/Economic

(possible concerns)
__ Substantial effect on tax base
__ Create demand for new governmental services
__ Population increase or relocation
Comments: No concerns

Remarks or Special Concerns for this site

This will be a single lateral horizontal Ratcliffe Formation well, 13,014'MD/8862'TVD.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected from the drilling of this well. Some short term 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): Steven Sasaki
(title:) Chief Field Inspector
Date: December 11, 2007
Other Persons Contacted:

_____
Montana Bureau of Mines and Geology, GWIC website
(Name and Agency)
Water wells in Richland County
(subject discussed)
December 11, 2007
(date)

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