

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

Operator: Orion Energy Partners, L.P.
Well Name/Number: Octopus Spring 33-44H
Location: SE SE Section 33 T26N 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 Ratcliffe Formation horizontal well, 13,620' MD/9211' 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:

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, unnamed ephemeral tributary drainage to the Missouri River, about 1/4 of a mile to the south from this location. Within this ephemeral drainage are stock ponds.

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 wells, beyond 1 mile radius.

Porous/permeable soils: No, silty 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: 1800' surface casing well below freshwater zones in adjacent water wells. Based upon Base of Fox Hills aquifer map, surface casing should be set to 1889'. Adequate surface casing and BOP equipment to prevent problems.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: None

High erosion potential: No, location requires a moderate cut, up to 18.2' and a moderate fill, up to 11.0', 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 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, #142. A short access road into location will be built from county road, #142, about ¼ of a mile into this location. Cuttings will be buried in the lined reserve pit. Drilling fluids will be recycled. Completion fluids in the reserve pit will be hauled to a commercial Class II disposal site. Lined reserve pit will be closed with subsoil and finished with topsoil. No concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Yes, residence about 1.25 miles to the southwest and 1.5 miles to the west of this location. The town of Nohly, Montana is about 3 miles to the north of this location.

Possibility of H2S: Yes

Size of rig/length of drilling time: Triple drilling rig 30 to 40 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: Missouri River is about 3 mile 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)
- Other agency review (DFWP, federal agencies, DSL)
- Screening/fencing of pits, drillsite
- Other: _____

Comments: Private surface lands. No concerns.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites: None identified

avoidance (topographic tolerance, location exception)
 other agency review (SHPO, DSL, federal agencies)
 Other: _____
Comments: Private surface. No concerns.

Social/Economic

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

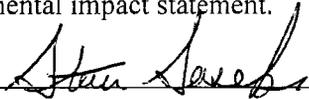
Remarks or Special Concerns for this site

This will be a single lateral Ratcliffe Formation horizontal well, 13,620' MD/9211'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: _____