Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: Enerplus Resources (USA) Corporation
Well Name/Number: Lone Tree-Gayl 12-16-HLID4
Location SE SE Section 12 T23N R56E
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 drilling rig 900 HP to drill 10,449'TVD/20,237'MD single lateral Bakken Formation development well.
Possible H2S gas production: Slight
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)
X Gas plants/pipelines available for sour gas
__ Special equipment/procedures requirements
__ Other:
Comments: Existing pipeline for gas in the area..

Water Quality

(possible concerns)
Salt/oil based mud: Yes, invert oil based drilling fluids to be used to drill the main hole.. Surface casing hole to be drilled with freshwater and freshwater mud.
High water table No
Surface drainage leads to live water No, closest drainage is an unnamed ephemeral tributary drainage to Lone Tree Creek, 1/2 of a mile to the north of this location.
Water well contamination: No, closest water wells are about 5/8 of a mile to the northwest and are very shallow in depth, less than 50' in depth. Surface hole will be drilled with freshwater and freshwater muds to 2081', steel surface casing set and cemented to surface.
Porous/permeable soils No, silty sandy bentonitic 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: 2081' surface casing well below freshwater zones in adjacent water wells. Also, covering Fox Hills aquifer.

Soils/Vegetation/Land Use

(possible concerns)
Steam crossings: None
High erosion potential: No, moderate cut, up to 10.7' and small fill, up to 6.7', required.
Loss of soil productivity: None, location to be restored after drilling well, if nonproductive. If productive

unused portion of drillsite will be reclaimed.
Unusually large wellsite: No, large well site 450'X310'.
Damage to improvements: Slight
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 to this location will be over existing county road, #128 . About 233' of new access road will be built into this location off county road #128. Cuttings will be buried in the lined reserve pit. Drilling fluids will be recycled and/or hauled to a commercial Class II disposal. Pit will be squeezed with clay subsoils.

Health Hazards/Noise

(possible concerns)
Proximity to public facilities/residences: Residences, about 1mile to the south, 1.5 miles to the west and 1.75 miles northeast of this location.
Possibility of H2S: Slight
Size of rig/length of drilling time: Triple drilling rig 30 to 40 days drilling time.

Mitigation:

X 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: 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._____

Mitigation

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

Social/Economic

(possible concerns)
__ Substantial effect on tax base
__ Create demand for new governmental services
__ Population increase or relocation
Comments: No concerns. Development well is this spacing unit.

Remarks or Special Concerns for this site

Horizontal Bakken formation well TVD 10,449' MD 20,237'. Fourth well to this spacing unit.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected. Some short term surface 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): Steven Sasaki
(title:) Chief Field Inspector
Date: October 31, 2007

Other Persons Contacted:

Montana Bureau of Mines and Geology GWIC website
(Name and Agency)
Richland County water wells
(subject discussed)
October 31, 2007
(date)

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