# Montana Board of Oil and Gas Conservation
# Environmental Assessment

**Operator:** Oasis Petroleum North America LLC
**Well Name/Number:** Paul Byron 2758 41-13H
**Location:** SW SW Section 13 T27N R58E
**County:** Roosevelt, **MT; Field (or Wildcat)** Wildcat (Bakken Horizontal)

## Air Quality

(possible concerns)
Long drilling time: No, 30-40 days drilling time.
Unusually deep drilling (high horsepower rig): Triple derrick drilling rig to drill a single lateral horizontal Bakken Formation test, 20,586'MD/10,220'TVD.
Possible H2S gas production: Yes, slight H2S possible.
In/near Class I air quality area: No Class I air quality area nearby.
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 H2S gas in the area._____

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## Water Quality

(possible concerns)
Salt/oil based mud: Yes to oil based invert drilling fluids for intermediate casing hole. Horizontal hole will be drilled with saltwater. Surface casing hole will be drilled with freshwater and freshwater mud system.
High water table: No high water table anticipated.
Surface drainage leads to live water: No, closest drainages are an unnamed ephemeral tributary drainage to the Muddy Creek, about 3/8 of a mile to the southwest and Muddy Creek, about ¾ of a mile to the west from this location.
Water well contamination: No, closest water wells are about 3/8 of a mile to the east, about 3/8 of a mile to the southwest, ½ of a mile to the southwest, about 5/8 of a mile to the northeast and about 5/8 of a mile to the southeast from this location. Depth of these stock and domestic wells are 26' to 228'. The operator on his permit to drill indicated that they were setting 1580' of surface casing, but to cover the Base of the Fox Hills Formation will require 1758'. This well will be drilled with freshwater and freshwater mud to 1,758' and steel surface casing will be run and cemented to surface to protect groundwater.
Porous/permeable soils: No, sandy silty 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: 1,758' surface casing will be drilled with freshwater, steel casing will be run to 1,758' and cemented back to surface, to protect freshwater zones in adjacent water wells, also covering the Fox Hills aquifer. Adequate surface casing and operational BOP equipment will prevent problems.

**Soils/Vegetation/Land Use**

(possible concerns)
Steam crossings: None anticipated.
High erosion potential: No, location will require a moderate cut of up to 19.5' and a moderate fill of up to 15.5', 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'X320'
Damage to improvements: Slight surface use appears to be grassland.
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
_X 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 county road, #327 and existing well access road. About 570' of new access road will be built into this location off the existing well access road. Oil based invert drilling fluids will be recycled. Completion fluids will hauled to a commercial Class II 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: Nearest residences are about ½ of a mile to the east northeast, about 5/8 of a mile to the southwest and about ¾ of a mile to the northeast from this location. The Town of Bainville, Montana is about 4.25 miles to the northwest from this location.
Possibility of H2S: Yes, 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: Species identified as threatened or endangered are the Pallid Sturgeon, Interior Lease Tern, Whooping Crane and Piping Plover. Candidate species is the Sprague's Pipit. NH tracker website indicates four (4) species of concern. They are the Great Blue Heron, Piping Plover, Bobolink and Whooping Crane.

Mitigation:
__ Avoidance (topographic tolerance/exception)
__ Other agency review (DFWP, federal agencies, DSL)
__ Screening/fencing of pits, drillsite
__ Other:_____
Comments: Private surface land. No live water in the immediate area. There maybe species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

**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 land. There maybe possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

**Social/Economic**

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

**Remarks or Special Concerns for this site**

An exploratory single lateral horizontal Bakken Formation test, 20,586'MD/10,220'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: January 13, 2012

Other Persons Contacted:

_____
_Montana Bureau of Mines and Geology, GWIC website _____
(Name and Agency)
Roosevelt County water wells_____
(subject discussed)
January 13, 2012_____
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA COUNTIES, Roosevelt County, Montana
(subject discussed)
January 13, 2012

Montana Natural Heritage Program Website
(Name and Agency)
Heritage State Rank= S1, S2, S3, Location T27N R58E
(subject discussed)

_January 13, 2012 _____
(date)

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