

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

Operator: Sands Oil Company
Well Name/Number: Nelson-Patterson NP 41-34
Location: NW NE NE Section 34 T27N R5W
County: Teton, MT; Field (or Wildcat) Pondera

Air Quality

(possible concerns)

Long drilling time: No, 3 to 4 days drilling time.

Unusually deep drilling (high horsepower rig): No, small single derrick drilling rig, about 500 HP (Estimated) to drill to 2500' TD Madison Formation.

Possible H2S gas production: Slight H2S anticipated from Madison Formation.

In/near Class I air quality area: No not in a 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: No special concerns – using small rig to drill to 2500' TD. If there are existing pipeline for natural gas in the area then gas must be tied into system or if no gathering system nearby associated gas can be flared under Board Rule 36.22.1220, 36.22.1221 and 36.22.1222.

Water Quality

(possible concerns)

Salt/oil based mud: No, freshwater, freshwater mud system, air and/or air mist.

High water table: No high water table anticipated.

Surface drainage leads to live water: No, closest drainage is Farmers Coulee, about ¼ of a mile to the northeast from this location.

Water well contamination: No, closest water wells are about ½ of a mile to the south from this location. Surface hole in this well will be drilled to 300' with freshwater and/or air. 8 5/8" steel surface casing will be run and cemented to surface to protect ground water. (Rule 36.22.1001), if any.

Porous/permeable soils: No, gravelly bentonitic soils.

Class I stream drainage: No Class I stream drainages in the area of review.

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: 300' of surface casing cemented to surface adequate to protect freshwater zones (Rule 36.22.1001) Also, air/air mist and/or fresh water mud systems to be used.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: No, stream crossings anticipated.

High erosion potential: No, small cut and small fill, required.

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

Unusually large wellsite: No, 155'X155' location size required.

Damage to improvements: Slight, surface use is a cultivated field.

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 31 ST RD NW. a short access road will be built into this location from the county road.. Cuttings will be buried in and unlined earthen pit. Drilling fluids if used will be allowed to dry in the pit. Pits will be backfilled after drying. No special concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Closest residence is about 5/8 of a mile to the south southeast from this location. The town of Conrad, Montana is about 15.25 miles to the northeast from this location.

Possibility of H2S: Slight H2S anticipated from Madison Formation.

Size of rig/length of drilling time: Small drilling rig/short 3 to 4 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 and operational BOP (3,000 psi annular) should mitigate any problems. (BOP's 3,000 psig annular) Rule 36.22.1014. No concerns.

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: Only species identified as threatened or endangered are the Grizzly Bear and the Canada Lynx. Candidate species listed are the

Sprague's Pipit, Wolverine and the White Bark Pine. NH tracker website lists only zero (0) species of concern.

Mitigation:

- Avoidance (topographic tolerance/exception)
- Other agency review (DFWP, federal agencies, DSL)
- Screening/fencing of pits, drillsite
- Other: _____

Comments: Private surface cultivated lands. There may be 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. 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 cultivated lands. There may be 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. No concerns.

Social/Economic

(possible concerns)

- Substantial effect on tax base
- Create demand for new governmental services
- Population increase or relocation

Comments: No concerns. Existing oil and gas field, Pondera Oil Field.

Remarks or Special Concerns for this site

Well is a development oil well in the Pondera Oil Field, 2500' Madison Formation test.

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: December 20, 2012

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website _____
(Name and Agency)

Teton County water wells. _____
(subject discussed)

December 20, 2012
(date)

US Fish and Wildlife, Region 6 website _____
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES
MONTANA COUNTIES, Teton County _____
(subject discussed)

December 20, 2012 _____
(date)

Montana Natural Heritage Program Website (FWP) _____
(Name and Agency)
Heritage State Rank= S1, S2, S3, T27N R5W _____
(subject discussed)

December 20, 2012 _____
(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____