

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

Operator: Primary Petroleum Corporation
Well Name/Number: Benton Bench 16-5-28-4
Location: SE SE Section 5 T28N R4W
County: Pondera, **MT;** **Field (or Wildcat)** Wildcat

Air Quality

(possible concerns)

Long drilling time: No, 12 to 16 days drilling time.

Unusually deep drilling (high horsepower rig): No, double/triple derrick drilling rig to drill to 5,000' TD Duperow Formation.

Possible H2S gas production: Yes possible H2S gas production.

In/near Class I air quality area: No Class I air quality area.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under rule 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 triple derrick drilling rig to drill to 5,000'

TD.

Water Quality

(possible concerns)

Salt/oil based mud: No, freshwater and freshwater mud system. Surface to total depth will be drilled with 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 Spring Creek, about 3/8 of a mile to the southeast and an unnamed ephemeral tributary drainage to the Dry Fork of the Marias River, about 1/4 of a mile to the north from this location.

Water well contamination: None, no water wells within 1 mile and further away from this well location. There is a spring, about 1/4 of a mile to the north from this location.

This well will drill surface hole with freshwater, set 750' of steel surface casing and cement to surface.

Porous/permeable soils: No, sandy silty bentonitic soils.

Class I stream drainage: None

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: 750' of surface casing cemented to surface adequate to protect freshwater zones. Freshwater mud to be used to drill from surface to total depth.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: None anticipated.

High erosion potential: Yes possible, moderate cut, up to 18.3' and moderate fill, up to 18.9', 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, 350'X350' location size required.

Damage to improvements: Slight, appears to be grazing land.

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 road, Dupuyer Road and over private farm/ranch roads. Cuttings will be stockpiled on location to dry. Cuttings will be spread over location, after rig is demobilized. Drilling fluids will be recycled to the next drilling location. No pit will be utilized. No special concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Nearest residences are about 1.125 miles to the southwest and about 1.25 miles to the northwest from this location.

Possibility of H2S: Yes H2S possible.

Size of rig/length of drilling time: Triple derrick/Double drilling rig/short 12 to 16 days drilling time.

Mitigation:

Proper BOP equipment

Topographic sound barriers

H2S contingency and/or evacuation plan

Special equipment/procedures requirements

Other: _____

Comments: No concerns. Distance is sufficient to not be a problem with noise.

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: Threatened or endangered Species listed on USFWS website for counties in Montana lists the following: Piping Plover, Grizzly Bear and Canada Lynx. Candidate species listed are the Sprague's Pipit, Wolverine and the White bark pine. NH Tracker website lists the following as species of concern two (2) Ferruginous Hawk and the Burrowing Owl.

Mitigation:

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

Comments: Private surface grazing land. 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 grazing 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, until production is established no social/economic concerns can be evaluated. No concerns

Remarks or Special Concerns for this site

Well is a 5,000' TD Duperow Formation test.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected. Some short term impacts will occur, but can be mitigated in a short 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): /s/Steven Sasaki _____

(title:) Chief Field Inspector
Date: October 31, 2011

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website
(Name and Agency)
Pondera County water wells.
(subject discussed)
October 1, 2011
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES
MONTANA COUNTIES, Pondera County
(subject discussed)
October 1, 2011
(date)

Montana Natural Heritage Program Website (FWP)
(Name and Agency)
Heritage State Rank= S1, S2, S3, T28N R4W
(subject discussed)
October 1, 2011
(date)

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