

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

Operator: Primary Petroleum Corporation
Well Name/Number: Spring Hill 13-34-27-6
Location: SW SW Section 34 T27N R6W
County: Teton, MT; **Field (or Wildcat)** Wildcat

Air Quality

(possible concerns)

Long drilling time: No, 10 to 14 days drilling time.

Unusually deep drilling (high horsepower rig): No, triple derrick drilling rig to drill a vertical 5,000' TD Duperow Formation well test.

Possible H₂S gas production: Yes possible H₂S gas production.

In/near Class I air quality area: No Class I air quality area in the area of review.

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 5000' 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 and freshwater mud system from surface to total depth.

High water table: Possible high water table.

Surface drainage leads to live water: Yes, closest drainage is Jones Creek, about 1/16 of a mile to the north from this location, within Jones Creek is a stock pond, about 1/8 of a mile to the northeast from this location..

Water well contamination: None, closest water wells are about 1/4 of a mile to the northeast and about 3/4 of a mile to the west from this location. The wells are 135' and less in depth. This well will drill surface hole with freshwater, set 750' of steel surface casing and cement to surface.

Porous/permeable soils: No, sandy 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 high erosion possible with moderate cut slopes, moderate cut, up to 19.4' and small fill, up to 4.0', 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 hay/grass 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, Halvorson Road. Location is just off the existing county road, Halvorson Road, will utilize existing access road into the Spring Hill 14-34-27-6 well location. Cuttings will be stockpiled on location. 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 3/8 of a mile to the northeast, about 3/8 of a mile to the south southeast and about 3/4 of a mile to the west from this location.

Possibility of H2S: Yes from Mississippian and Devonian formations.

Size of rig/length of drilling time: Small drilling rig/short 10 to 14 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: About 6 miles to the southwest is Bynum Reservoir, 12.5 miles to the southwest is Blackleaf State Wildlife Management Area boundary and 15.25 miles to the west is the Lewis & Clark National Forest boundary.

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: 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 zero (0) and lists the following as a potential species of concern one (1) Eastern Screech-Owl.

Mitigation:

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

Comments: Private surface lands. 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 lands. 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 5000' 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: April 7, 2012

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website
(Name and Agency)
Teton County water wells.
(subject discussed)
April 7, 2012
(date)

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

April 7, 2012
(date)

Montana Natural Heritage Program Website (FWP)
(Name and Agency)
Heritage State Rank= S1, S2, S3, T27N R6W
(subject discussed)

April 7, 2012
(date)

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