

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

Operator: Petro Hunt, LLC
Well Name/Number: Kolberg 18-54-8D-4-1
Location: SE SE Section 8 T18N R54E
County: Dawson, **MT;** **Field (or Wildcat)** W/C

Air Quality

(possible concerns)

Long drilling time: 20-30 days drilling time for a vertical Red River Formation test.
Unusually deep drilling (high horsepower rig): No, large triple drilling rig for 11,150' TD vertical Red River Formation Test.

Possible H2S gas production: Yes possible.

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 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, adequate surface casing, 2000' to be set and cemented back to surface with proper BOP stack should mitigate any concerns. Triple rig to drill to 11,150' TD vertical Red River Formation Test.

Water Quality

(possible concerns)

Salt/oil based mud: Use freshwater and freshwater mud system on surface hole. Invert oil based mud for mainhole from the base of surface casing to TD.

High water table: No high water table expected.

Surface drainage leads to live water: No, nearest drainage is an unnamed ephemeral tributary drainage to Morgan Creek, an ephemeral drainage, about 1/4 of a mile to the east from this location. Morgan Creek is about 1.125 miles to the northeast from this location. There should not be any discharge of fluids off this location.

Water well contamination: No water contamination. Closest water wells are about 1/2 of a mile to the northwest. 5/8 of a mile to the northwest and 3/4 of a mile to the southwest from this well location. Surface hole will be drilled with freshwater and steel surface casing set and cemented from 2000' to protect surface waters and the Fox Hill aquifer.

Porous/permeable soils: No, sandy clay soils.

Class I stream drainage: No Class I stream drainages.

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: 2000' of surface casing cemented to surface adequate to protect freshwater zones. Also, fresh water mud systems to be used on surface hole.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: No stream crossings anticipated, only ephemeral drainages.

High erosion potential: Yes, moderate cut, up to 12.9' and moderate fill, up to 14.6', 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: Large, 440'X350' location size required.

Damage to improvements: Slight, surface use appears to be cultivated fields.

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: Requires DEQ General Permit for Storm Water Discharge Associated with Construction Activity, under ARM 17.30.1102(28).

Comments: Access will be over existing state highway #254 and existing county road, #544. Will build 4585' of new access road off the county road into this location.

Pits will be lined with a 20 mil liner. Oil based invert drilling fluid will be recycled.

Completion fluids will be hauled to a permitted commercial disposal, Indian Mounds SWD #1, Section 15 T23N R55E. Solids will be allowed to dry in the lined reserve pit and then backfilled with subsoils. No special concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Closest residences are about 1/2 of a mile to the northwest from this wellsite. School house, about 1.125 miles to the east from this location.

Possibility of H2S: Yes possible.

Size of rig/length of drilling time: Triple drilling rig 20 to 30 days drilling time.

Mitigation:

Proper BOP equipment

Topographic sound barriers

H2S contingency and/or evacuation plan

Special equipment/procedures requirements

Other: _____

Comments: No concerns. Proper BOP stack and adequate surface casing should be able to control any problems that occur. Distance to nearest residence H2S alarms and equipment on location sufficient to protect rig crews.

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 by USFWS are the Pallid Sturgeon, Interior Lease Tern and the Whooping Crane. Species of concern is the Greater Sage Grouse and the Sprague's Pipit. NH tracker website lists no "Species of Concern".

Mitigation:

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

Comments: Private cultivated surface lands not close to water. 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 cultivated 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.

Remarks or Special Concerns for this site

Well is a vertical 11,150' Red River Formation Test.

Summary: Evaluation of Impacts and Cumulative effects

No long term impact expected. Some short term 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): /s/ Steven Sasaki

(title:) Chief Field Inspector

Date: June 10, 2011

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website

(Name and Agency)

Dawson County water wells

(subject discussed)

June 10, 2011

(date)

US Fish and Wildlife, Region 6 website

(Name and Agency)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA
COUNTIES, Dawson County

(subject discussed)

June 10, 2011

(date)

Montana Natural Heritage Program Website (FWP)

(Name and Agency)

Heritage State Rank= S1, S2, S3, T18N R54E

(subject discussed)

June 10, 2011

(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____