

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

Operator: Petro Hunt, LLC
Well Name/Number: Karlan 18-55-19B-1-1
Location: NE NW Section 19 T18N R55E
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 11,100' 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 11,100' 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 Morgan Creek, an ephemeral drainage, about 1/8 of a mile to the northeast from this location. There should not be any discharge of fluids off this location.

Water well contamination: No, no water wells within 1 mile from this well location in any direction. 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: Yes, sandy 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 10.0' and small fill, up to 8.3', 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' X 350' 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 county highway #540. Will build 3672' of access road off the county highway. Pits will be lined. Oil based invert drilling fluid will be recycled. Completion fluids will be hauled to a permitted commercial disposal. Solids will be allowed to dry in the lined reserve pit and then backfilled. No special concerns

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Closest residences are about 1 1/8 of a mile to the southeast from this wellsite. School house, about 2 miles to the south southwest 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 and H2S contingency and/or evacuation plan sufficient to mitigate any concerns for H2S.

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 "Species of Concern" Hoary Bat and the Great Blue Heron.

Mitigation:

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

Comments: Private cultivated 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 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 11,100' 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 2, 2011

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website

(Name and Agency)

Dawson County water wells

(subject discussed)

June 2, 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 2, 2011

(date)

Montana Natural Heritage Program Website (FWP)

(Name and Agency)

Heritage State Rank= S1, S2, S3, T18N R55E

(subject discussed)

June 2, 2011

(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____