

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

**Operator:** Petro Hunt, LLC  
**Well Name/Number:** State 19-54-36B-4-1  
**Location:** SE NW Section 28 T19N R54E  
**County:** Dawson, **MT;** **Field (or Wildcat)** W/C

**Air Quality**

(possible concerns)

Long drilling time: 20-25 days drilling time for a vertical Red River Formation test.  
Unusually deep drilling (high horsepower rig): No, large triple drilling rig for a 11,425' 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 a 11,425' TD vertical Red River Formation test.

**Water Quality**

(possible concerns)

Salt/oil based mud: Use freshwater and freshwater mud system on surface hole. Salt saturated drilling fluid system for the 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 ephemeral drainage, South Fork Thirteen Mile Creek, about ¼ of a mile to the south from this location. There should not be any discharge of fluids off this location.

Water well contamination: No, closest water wells are about 3/8 of a mile to the west, 5/8 of a mile to the southwest and ¾ of a mile to the north northwest 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 in the area.

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.

High erosion potential: No, small cut, up to 9.2' and moderate fill, up to 11.5', 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 is cultivated 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: 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 roads. Will utilize section line trails and will build and upgrade about 8,253' of new access road into this location. Pits will be lined. Salt saturated drilling fluids and completion fluids will be hauled to a permitted commercial Class II disposal, Indian Mounds SWD #1, Richland County, Montana. Solids will be allowed to dry in the lined reserve pit and then backfilled. Topsoil will be spread and seeded to vegetation per landowner specification. No special concerns

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## Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Closest residences are about 5/8 of a mile to the southwest and 1.125 miles to the southwest from this wellsite.

Possibility of H2S: Yes possible.

Size of rig/length of drilling time: Triple drilling rig 20 to 25 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.

## 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 the only species of concern as the Preble's Shrew.

Mitigation:

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

Comments: DNRC Trust Lands minerals, Trust Lands will do surface EA. Private cultivated surface lands. Not close to live 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: DNRC Trust Lands minerals, Trust Lands will do surface EA. 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.

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### Remarks or Special Concerns for this site

Well is a 11,425' TD vertical Red River Formation test.

### Summary: Evaluation of Impacts and Cumulative effects

No long term impact expected. Some short term impacts will occur.

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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: May 12, 2011

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website

(Name and Agency)

Dawson County water wells

(subject discussed)

May 12, 2011

(date)

US Fish and Wildlife, Region 6 website

(Name and Agency)

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

(subject discussed)

May 12, 2011

(date)

Montana Natural Heritage Program Website (FWP)

(Name and Agency)

Heritage State Rank= S1, S2, S3, T19N R54E

(subject discussed)

May 12, 2011

(date)

If location was inspected before permit approval:

Inspection date: \_\_\_\_\_

Inspector: \_\_\_\_\_

Others present during inspection: \_\_\_\_\_