

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

**Operator:** Petro Hunt, LLC  
**Well Name/Number:** Walter Senner 19-54-18D-2-1  
**Location:** NE SE Section 18 T19N 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 11,200' TD vertical Red River Formation Test.  
Possible H2S gas production: Yes, H2S gas production 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, 1546' to be set and cemented back to surface with proper BOP stack should mitigate any concerns. Triple rig to drill to 11,200' TD vertical Red River Formation Test.

**Water Quality**

(possible concerns)

Salt/oil based mud: Use freshwater and freshwater mud system on surface hole. Oil based invert drilling fluids 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 Thirteenmile Creek, an ephemeral drainage, about 1/16 of a mile to the southeast and south of this location. There should not be any discharge of fluids off this location.  
Water well contamination: No, closest water wells are about 1/2 of a mile to the north northwest, about 3/4 of a mile to the west northwest and about 3/4 of a mile to the northeast from this well location. Surface hole will be drilled with freshwater and steel surface casing set and cemented from 1546' 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 of review.

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: 1546' of surface casing cemented to surface adequate to protect freshwater zones. Also, fresh water mud systems to be used on surface hole.

No pits will be utilized, using closed loop drilling system . Oil based invert drilling fluid will be recycled. Completion fluids will be hauled to a permitted commercial disposal, Indian Mounds SWD #1, Richland County, Montana. Solids will be allowed to dry will be hauled to a licensed solids disposal site, Indian Hills in North Dakota.

### Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: No live stream crossings anticipated, will be crossing only ephemeral stream drainages.

High erosion potential: No, small cut, up to 2.5' and small fill, up to 5.2', 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, 430'X325' location size required.

Damage to improvements: Slight, surface use is grasslands.

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 and section line roads. Will utilize section line road to east of this location and will build about 1/8 of a mile of new access road off the section line road. No pits will be utilized, using closed loop drilling system . Oil based invert drilling fluid will be recycled. Completion fluids will be hauled to a permitted commercial disposal, Indian Mounds SWD #1, Richland County, Montana. Solids will be allowed to dry will be hauled to a licensed solids disposal site, Indian Hills in North Dakota. 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 north and 3/4 of a mile to the west northwest from this location.

Possibility of H2S: Yes H2S is possible at this location.

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 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.

Candidate species are the Greater Sage Grouse and the Sprague's Pipit. NH tracker website lists one (1) species of concern, the Preble's Shrew

Mitigation:

Avoidance (topographic tolerance/exception)

Other agency review (DFWP, federal agencies, DSL)

Screening/fencing of pits, drillsite

Other: \_\_\_\_\_

Comments: Minerals are DNRC "Trust Land". Trust Lands will do surface EA. 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: Minerals are DNRC "Trust Land". Trust Lands will do surface EA. 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.

### 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 vertical 11,200' Red River Formation Test.

**Summary: Evaluation of Impacts and Cumulative effects**

No long term impact expected. Some short term impacts will occur to the surface location.

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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: January 6, 2012

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website

(Name and Agency)  
Dawson County water wells  
(subject discussed)  
January 6, 2012  
(date)

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

January 6, 2012  
(date)

Montana Natural Heritage Program Website (FWP)  
(Name and Agency)  
Heritage State Rank= S1, S2, S3, T19N R54E  
(subject discussed)

January 6, 2012  
(date)

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