

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

**Operator:** Pinnacle Gas Resources, Inc.  
**Well Name/Number:** Wildcat 11FG-33-07-41  
**Location:** NE SW Section 33 T7S R41E  
**County:** Rosebud, MT; **Field (or Wildcat)** Wildcat

**Air Quality**

(possible concerns)

Long drilling time: No, 2 to 3 days drilling time.  
Unusually deep drilling (high horsepower rig): No, 1300' TD.  
Possible H<sub>2</sub>S gas production: No  
In/near Class I air quality area: No  
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: Wells flaring methane gas temporarily during initial stages of production. Flaring of commercial quantities of gas is prohibited.

**Water Quality**

(possible concerns)

Salt/oil based mud: No, freshwater and freshwater mud system.  
High water table: Possible  
Surface drainage leads to live water: Yes, Tongue River about 1/8 of a mile east and north from this location.  
Water well contamination: No, closest water well is a stock water well on the Diamond Cross Ranch in the Tongue River bottom land, about 1/2 mile to the northeast of this location. This water well is 20' in depth. Next water well is a stock water well on the Diamond Cross Ranch, about 1 mile to the northeast in the Tongue River bottom land. This water well is 81' in depth.  
Porous/permeable soils: Localized  
Class I stream drainage: No

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: Will use fresh water, native clay mud. Water/mud re-cycled to next location. Surface casing will be set below any freshwater horizons. The steel surface casing will be cemented to surface. Also, the production casing 5 1/2" will be cemented to surface. Exploration well may not produce until included in development POD.

## Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: None

High erosion potential: No, location relatively flat. Will use self leveling drilling rig, so no cut or fill required.

Loss of soil productivity: No

Unusually large wellsite: No, 100'X120' location size required.

Damage to improvements: No, surface use is irrigated field.

Conflict with existing land use/values: No

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: No special concerns for this site. Very small location and pit area. Truck mounted rig does not require much location preparation.

## Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: None nearby.

Possibility of H2S: None

Size of rig/length of drilling time: Small drilling rig/short 2 to 3 days drilling time

Mitigation:

Proper BOP equipment

Topographic sound barriers

H2S contingency and/or evacuation plan

Special equipment/procedures requirements

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

Comments: No special concerns

## Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None in the immediate area. Closest recreation site would be Tongue River Reservoir, about 4.5 miles to the southwest of this location.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No

Threatened or endangered Species: None identified.

Mitigation:

Avoidance (topographic tolerance/exception)

Other agency review (DFWP, federal agencies, DSL)

Screening/fencing of pits, drillsite

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

Comments: Tongue River Reservoir is closest public recreation area, about 4.5 miles to the southwest.

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**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: Location on fee surface. No concerns.

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**Social/Economic**

(possible concerns)

Substantial effect on tax base

Create demand for new governmental services

Population increase or relocation

Comments: Exploration test well will targeted Flowers Goodale coal beds at 1300'. May not produce until included in an approved Plan of Development, therefore no social or economic impacts are likely—cumulative effects on socio-economics of the region are described in 2003 Statewide EIS.

**Remarks or Special Concerns for this site**

Well is a shallow coal bed methane test. Well is then drilled with a small rig and surface casing, 8 5/8" will be set and cemented to surface to protect shallow groundwater. The small rig will drill out of the surface casing to total depth and then production casing set to the top of the coal. 5 1/2 inch casing is cemented surface. Partial de-watering is expected to reduce pressure and release methane gas to the cleat system; this partial de-watering is expected to reduce, but not eliminate water in the coal aquifer. The water quality in the coal bed aquifer wells is variable—this test well will provide water quality data for the tested interval.

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

Relatively minor impacts associated with this well, which cannot produce until included in an approved POD. Well is part of ongoing development in and near CX Field and will eventually use existing production facilities and compressors. No impacts are expected which differs significantly from those described in the EIS.

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): Steven Sasaki

(title:) Chief Field Inspector

Date: October 20, 2007

Other Persons Contacted:

Montana Bureau of Mines and Geology, Groundwater Information Center

(Name and Agency)

Water wells in Rosebud County

(subject discussed)

October 20, 2007

(date)

If location was inspected before permit approval:

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

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

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