

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

Operator: Pinnacle Gas Resources, Inc.
Well Name/Number: Hosford 12-22-07-41
Location: NW SW Section 22 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, a single derrick drive in drilling rig to drill to 1800' TD.

Possible H₂S gas production: No

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: 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: No high water table.

Surface drainage leads to live water: Yes, closest drainage is an unnamed ephemeral tributary drainage to the Tongue River, about 1/8 of a mile to the east of this location. .

The Tongue River is about 1/4 of a mile to the east of this location.

Water well contamination: No, closest water wells are domestic water well, about 5/8 of a mile to the northeast of this location. These water wells are 44' 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 to drill the surface hole to about 180'. Water/mud re-cycled to next location. The steel 8 5/8" surface casing will be run to about 180' and cemented to surface. Also, the production casing 5 1/2" will be cemented to surface.

Soils/Vegetation/Land Use

(possible concerns)
Steam crossings: None anticipated.
High erosion potential: No, location relatively flat. Will use self leveling drilling rig, so no cut or fill required.
Loss of soil productivity: No surface use is grazing land.
Unusually large wellsite: No, small 100'X120' location size required.
Damage to improvements: Slight, surface use is grassland.
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: Yes, residences about 1/4 of a mile to the southeast and 5/8 of a mile to the northeast from this location.
Possibility of H2S: None anticipated.
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 Requires DEQ General Permit for Storm Water Discharge Associated with Construction Activity, under ARM 17.30.1102(28).
Comments: Diverter will be used in place of a BOP. 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 7.5 miles to the south southwest from this location.
Creation of new access to wildlife habitat: No
Conflict with game range/refuge management: No
Threatened or endangered Species: Listed threatened or endangered are Black-footed Ferret and Interior Least Tern. Species of concern, Greater Sage Grouse.
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 7.5 miles to the southwest. Surface location and access are on private 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: Location on private surface lands. No concerns.

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 Fort Union coal beds at 1800'.

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. POD is awaiting approval with the submission of the Environmental Assessment by Pinnacle Gas . Well is part of ongoing development in and near CX Field. 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: May 18, 2010

Other Persons Contacted:

Montana Bureau of Mines and Geology, Groundwater Information Center

(Name and Agency)
Water wells in Rosebud County

(subject discussed)
May 18, 2010
(date)

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

May 18, 2010

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____