

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

**Operator:** Fidelity Exploration and Production Company

**Well Name/Number:** State 23ER-1681

**Location:** NE SW Section 16 T8S R41E

**County:** Big Horn, 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, single derrick drilling rig to drill to 1588' TD.

Possible H<sub>2</sub>S gas production: None

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 flare 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

Surface drainage leads to live water: No, closest drainage is an unnamed ephemeral tributary to Anderson Creek which is a tributary to the Tongue River. Location is about 2 miles to the east of the Tongue River.

Water well contamination: No, water wells nearby, nearest water well is 1 mile distant. Spring along Anderson Creek, about 1/2 of a mile to the north of this location. Surface hole will be drilled with freshwater to 60' and steel surface casing set and cemented from 60' to surface. Mainhole will be drilled with freshwater and freshwater drilling mud to 1588' and steel production casing will be set and cemented to surface from 1588'.

Porous/permeable soils: Localized

Class I stream drainage: None

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. Exploration well may not produce until included in development POD.

**Soils/Vegetation/Land Use**

(possible concerns)

Stream crossings: None

High erosion potential: No

Loss of soil productivity : No

Unusually large wellsite: No, small 80'X80' location size required.

Damage to improvements: No, 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. Access will be over existing county roads and ranch trails.

---

### 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: Will use a diverter in place of a BOP. Due to the fact that the coals must be dewatered before gas can flow from the well.

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 is Tongue River Reservoir, about 2.25 miles to the west 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: Montana Trust Lands surface. Trust Lands will do surface EA.

Comments; Tongue River Reservoir is closest public recreation area.

---

---

### 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: Montana Trust Lands surface. Trust Lands will do surface EA

---

---

### Social/Economic

(possible concerns)

Substantial effect on tax base

Create demand for new governmental services

Population increase or relocation

Comments: Exploration test well targeted Roberts coal beds at 1588'. 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. Wells are drilled with a small rig and casing will be set through all coal beds to 1588'. Seven inch casing is cemented to surface and perforated in the zones of interest. 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. No gas will be produced and no water discharged. Produced water will be stored in tanks on site. The water will be used for beneficial use at Fidelity's nearby approved projects and/or at the Spring Creek Coal Mine.

### 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: January 14, 2008



Other Persons Contacted:

Montana Bureau of Mines and Geology, Groundwater Information Center

(Name and Agency)  
Water wells in Big Horn County

(subject discussed)  
January 14, 2008  
(date)

If location was inspected before permit approval:

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

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

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