

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

Operator: Big Snowy Resources, LP
Well Name/Number: #32-1 Pillars
Location: SE NE SW Section 32 T3S R25E
County: Yellowstone, MT; **Field (or Wildcat)** Wildcat

Air Quality

(possible concerns)

Long drilling time: No, 3 to 4 days drilling time.

Unusually deep drilling (high horsepower rig): No, small single derrick drilling rig to drill to 1100' TD

Possible H2S gas production: No, no H2S gas anticipated

In/near Class I air quality area: Not in a Class I air quality area, but location is about 2 miles from the Crow Indian Reservation which is a 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 – using small rig to drill to 1100' TD, Greybull Formation test

Water Quality

(possible concerns)

Salt/oil based mud: No, freshwater or freshwater mud system and/or air/mist

High water table : No, high water table anticipated

Surface drainage leads to live water: No, closest drainage is an unnamed ephemeral tributary drainage to Spring Creek, about 1/8 of a mile to the northwest from this location.

Water well contamination : No, closest water wells are about 1 mile to the north, 1.25 miles to the southwest and 1.25 miles to the southeast from this location. Depth of these water wells range from 37' to 100' in depth. If productive 4 1/2" production casing will be cemented.

Porous/permeable soils: No, silty clay soils

Class I stream drainage: No Class I stream drainages nearby.

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: 110' of surface casing cemented to surface adequate to protect freshwater zones. Also, air and/or fresh water mud systems to be used. 4 1/2" production casing will be cemented.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: No, stream crossings anticipated. Will cross only ephemeral drainages.

High erosion potential: No, small cut of about 9.0' and small fill of about 9.6', required.

Loss of soil productivity: No, location will be restored after drilling if nonproductive and if productive unused portion of the drillsite will be reclaimed.

Unusually large wellsite: No, 200'X200' location size required.

Damage to improvements: Slight, surface use is grazing land.

Conflict with existing land use/values Slight to none.

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: Surface access will be over existing county roads and existing two track roads. A short access road will be built off an existing two track trail. Cuttings will be buried in the earthen pit. Fluids will be allowed to evaporate. Pit will be backfilled when dry. No special concerns

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Closest residence is about 1 1/4 miles to the north northeast of this wellsite.

Possibility of H2S: None anticipated.

Size of rig/length of drilling time: Small drilling rig/short 3 to 4 days drilling time.

Mitigation:

Proper BOP equipment

Topographic sound barriers

H2S contingency and/or evacuation plan

Special equipment/procedures requirements

Other: _____

Comments: Wahinton Rotating control Diverter head Model 3022 Diverter will be used instead of a BOP. No concerns

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 on the USFW website are Black-Footed Ferret and Whooping Crane. Candidate species

are the Greater Sage Grouse and Sprague's Pipit. NH Tracker website lists four(4) species of concern Black-tailed prairie dog, Greater Sage Grouse, Yellow-billed Cuckoo and Common Sagebrush Lizard.

Mitigation:

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

Comments: Private surface grazing lands. No live water nearby. No rock outcrops on wellsite, No sagebrush only grass grazing land. No prairie riparian forest nearby. 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 is on private grazing lands.

Social/Economic

(possible concerns)

- Substantial effect on tax base
- Create demand for new governmental services
- Population increase or relocation

Comments: Wildcat well, until production is established tax, governmental services and population effects cannot be assessed. No concerns.

Remarks or Special Concerns for this site

Well is a 1,100' Greybull Formation test. No special concerns.

Summary: Evaluation of Impacts and Cumulative effects

No long term impact expected. Some short term surface impacts will occur, but will be mitigated in time.

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: August 5, 2011

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC
website
(Name and Agency)
Water wells in Yellowstone County

(subject discussed)
August 5, 2011
(date)

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

August 5, 2011
(date)

Montana Natural Heritage Program Website (FWP)
(Name and Agency)
Heritage State Rank= S1, S2, S3, T3S R25E
(subject discussed)

August 5, 2011
(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____