

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

**Operator:** Anschutz Exploration Corporation  
**Well Name/Number:** Heart Butte 1-32-30-10  
**Location:** NW SW Section 32 T30N R10W  
**County:** Glacier, **MT; Field (or Wildcat)** W/C

**Air Quality**

(possible concerns)

Long drilling time: 20 to 40 days drilling time.

Unusually deep drilling (high horsepower rig): Yes, triple derrick drilling rig for a 9,250' TD vertical hole. Formation at total depth is the Lodgepole.

Possible H2S gas production: Yes H2S possible, in all Mississippian Formations.

In/near Class I air quality area: Yes, Class I air quality area, Blackfeet Reservation.

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: Triple derrick drilling rig to drill a vertical hole to 9,250' TD, a wildcat Lodgepole Formation test. If there is an existing pipeline for gas in the area and gas can be gathered or if no gathering system nearby gas can be flared under Board Rule 36.22.1220.

**Water Quality**

(possible concerns)

Salt/oil based mud: Yes, will use an oil based invert drilling fluids from under surface casing to total depth. Freshwater and freshwater mud system will be used on drilling surface hole.

High water table: No high water table anticipated in the area of review.

Surface drainage leads to live water: Yes, closest surface drainages are unnamed tributary drainages to Badger Creek, about ¼ of a mile to the east and ¼ of a mile to the west from this location.

Water well contamination: No water well contamination. Closest water well is further than 1 mile away to the southeast from this location in section 4 T29N R10W. Depth of this domestic water well is 24'.

Porous/permeable soils: Yes, sandy silty soils.

Class I stream drainage: Closest Class I stream drainage is the Badger Creek, about 5/8 of a mile to the northeast from this location.

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: 1000' of surface casing cemented to surface adequate to protect freshwater. Also, fresh water mud systems to be used on surface hole.

### Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: None anticipated.

High erosion potential: No, moderate cut, up to 10.5' and small fill required up to 1.6', 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: No, large, 400'X350' location size required.

Damage to improvements: Slight, surface use is grassland.

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: Using existing county roads, Heart Butte Road. Access off existing county road, approximately 280' of new road will be constructed into this location. Oil based drill cuttings will be solidified and buried in a separate lined reserve pit from the freshwater drill cuttings. Freshwater drilling fluids and cuttings will be allowed to dry in a separate pit from the oil based cuttings. Oil based drilling fluids will be recycled back to the drilling fluid company. Oil based drill cuttings will be solidified and buried in a separate lined pit from the water based cuttings. Pits will be backfilled when dry. No special concerns

### Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Closest residences are about 3/8 of a mile to the northeast and about 3/8 of a mile to the southeast from this wellsite.

Possibility of H2S: Yes possible H2S.

Size of rig/length of drilling time: Triple derrick drilling rig to drill for about 20 to 40 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 occurs. General wind directions are from the north and west.

### Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): Lewis & Clark National Forest boundary is about 5.5 miles to the west from this location.

Proximity to recreation sites: Lewis & Clark National Forest boundary is about 5.5 miles to the west from this location.

Creation of new access to wildlife habitat: No.

Conflict with game range/refuge management: No

Threatened or endangered Species: Species identified as threatened or endanger in Glacier County are Grizzly Bear, Canada Lynx and Bull Trout. Species identified as Species of Concern are the Meltwater Ledian Stonefly, Sprague's Pipit, Wolverine and the Whitebark Pine. NH Tracker Website lists one (1) species of concern identified as the Grizzly Bear. NH Tracker Website lists one (1) Potential species of concern identified as the Tennessee Warbler.

Mitigation:

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

Comments: Private surface grasslands. 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 are discovered at this location. Horizontal lateral possible will cut federal minerals.

### 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: Private surface grasslands. There maybe possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. Horizontal lateral possible will cut federal minerals.

### Social/Economic

(possible concerns)

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

Comments: Rank wildcat well. Social and economic impacts are unknown at this time.

**Remarks or Special Concerns for this site**

Well is a vertical Lodgepole Formation test hole to 9,250'TD.

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

No long term impacts expected. Some short term impacts will occur.

---

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: May 16, 2012

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website  
(Name and Agency)  
Glacier and Pondera County water wells  
(subject discussed)  
May 16, 2012  
(date)

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

May 16, 2012  
(date)

Montana Natural Heritage Program Website (FWP)  
(Name and Agency)  
Heritage State Rank= S1, S2, S3, T30N R10W  
(subject discussed)

May 16, 2012  
(date)

If location was inspected before permit approval:

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

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

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