

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

Operator: Devon Energy Production Company
Well Name/Number: Crowe-DIR 23-1
Location: SE SE Section 14 T31N R15E
County: Hill, MT; **Field (or Wildcat)** Tiger Ridge (Bullhook Unit)

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 2500'TVD/2750'TMD.

Possible H2S 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 rule 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 2500'TVD/2750'TMD.

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 drainage to Beaver Creek, about 1/8 of a mile to the south and north of this location.

Water well contamination: No water wells of record within 1 mile of this location. There is a spring about 5/8 of a mile to the west in Beaver Creek, not registered on GWIC website, but have been shown spring.

Porous/permeable soils: No, sandy bentonitic soils.

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: 150' of surface casing cemented to surface adequate to protect freshwater zones. Also, fresh water mud systems to be used.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: No, stream crossings.

High erosion potential: No, small cut, up to 7.0' and small fill, up to 8.0', 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, 250'X250' location size required.
Damage to improvements: No
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 _____

Comments: Access will be over existing county roads and existing private access road. About 5/8 of a mile of new access road will be built into this location. Drilling fluids will be trucked to a private stock pond, with surface owner approval and/or allowed to dry in the pits. Cuttings and mud solids will be left in the pits. Pits will be allowed to dry before being back filled. No special concerns

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Closest residences are about 5/8 of a mile to the west of this wellsite.

Possibility of H2S: None

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: No concerns

Wildlife/recreation

(possible concerns)

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

Proximity to recreation sites: Yes, Beaver Creek County Park 3/4 mile to the South of wellsite.

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: _____

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites None identified. Private surface lands.

Mitigation

avoidance (topographic tolerance, location exception)

other agency review (SHPO, DSL, federal agencies)

Other: _____

Comments: 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: No concerns. Development well within the Tiger Ridge Gas Field.

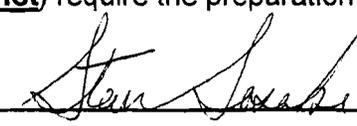
Remarks or Special Concerns for this site

Well is a 2500'TVD/2750'TMD directional Eagle Formation test on the north side of Bear Paw Mountains

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected. Some short term impacts will occur, but can 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): Steven Sasaki 

(title:) Chief Field Inspector

Date: June 2, 2008

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website.

(Name and Agency)

Hill County waterwells.

(subject discussed)

June 2, 2008

(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____