

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

Operator: Highline Exploration, Inc.
Well Name/Number: L. Davenport 59-12
Location: NW SW Section 12T1S R31E
County: Big Horn, **MT;** **Field (or Wildcat)** Toluca

Air Quality

(possible concerns)

Long drilling time: No, 2 to 3 days drilling time.

Unusually deep drilling (high horsepower rig): No, 1090' TD, Belle Fourche Formation.

Possible H₂S gas production: None anticipated.

In/near Class I air quality area: No, Class I air quality area, Nearest Class I air quality area would be on the Crow Indian Reservation. Reservation boundary is about 5.5 miles to the south from this location.

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: Gas gathering line and compressor plant available to handle sweet gas.

Comments: No special concerns – using single rig to drill to 1090' TD, Belle Fourche Formation.

Water Quality

(possible concerns)

Salt/oil based mud: No, freshwater/freshwater mud or air to drill surface hole, Rule 36.22.1001. Air to drill from under surface casing to total depth.

High water table: No high water table anticipated.

Surface drainage leads to live water: Yes, closest drainage is an unnamed ephemeral tributary to Williams Coulee an ephemeral drainage also, about 1/16 of a mile northeast from this location. Within this unnamed ephemeral tributary, there are some stock ponds.

Water well contamination: No, water wells within 1 mile from this location, but there are some shallow monitoring wells (100' and shallower), about 1 mile to the southwest from this location. Surface casing will be set at 150'. Drilled surface hole with freshwater or air, Rule 36.22.1001. Surface casing will be run and cemented to surface from 150', Rule 36.22.1001.

Porous/permeable soils: No, silty sandy bentonitic soils.

Class I stream drainage: No Class I stream drainages in the area of review.

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, Rule 36.22.1001.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: No, stream crossings anticipated.
High erosion potential: No, cut or fill need. Small single self leveling rig will be used.
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, 100'X100' location size required. Will be using a self leveling drilling rig, so very little dirt work is required.
Damage to improvements: No, surface use is grassland.
Conflict with existing land use/values: ___ Slight

Mitigation

- ___ Avoid improvements (topographic tolerance)
- ___ Exception location requested
- ___ X Stockpile topsoil
- ___ Stream Crossing Permit (other agency review)
- ___ X Reclaim unused part of wellsite if productive
- ___ Special construction methods to enhance reclamation
- ___ Other _____

Comments: ___ Will use existing county freeway frontage road and existing ranch trail. About 1/2 of a mile of new access road will be built from the existing lease road, into this location. Cutting will be buried in the earthen pits. Pits will be backfilled when dry. No special concern.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: No buildings or residences within a 1 mile radius from this location. Town of Hardin is about 11 miles to the southeast from this location.

Possibility of H2S: None anticipated.

Size of rig/length of drilling time: Single drilling rig 2 to 3 days drilling time

Mitigation:

- ___ Proper BOP equipment
- ___ Topographic sound barriers
- ___ H2S contingency and/or evacuation plan
- ___ Special equipment/procedures requirements
- ___ X Other: ___ Will use a diverter and knife valve instead of a BOP. Due to the low pressure and low volume gas zone anticipated.

Comments: ___ 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: Threatened or endangered species is the Black-footed Ferret. Candidate species are the Greater Sage Grouse and the Sprague's Pipit. NH Tracker website lists two (2) species of concern. They are as follows, Black-tailed Prairie Dog and Greater Sage Grouse.

Mitigation:

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

Comments: Private surface lands. 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 is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

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: On private surface lands. 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. The Board of Oil & Gas has no jurisdiction over private surface lands.

Social/Economic

(possible concerns)

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

Comments: Development well within an established gas field, Toluca Gas Field.

No concerns.

Remarks or Special Concerns for this site

Well is a 1090' Frontier (Belle Fourche) Formation test.

Summary: Evaluation of Impacts and Cumulative effects

No long term impact 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: November 16, 2012

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website

(Name and Agency)
Big Horn County water wells
(subject discussed)
November 16, 2012
(date)

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

November 16, 2012
(date)

Montana Natural Heritage Program Website (FWP)
(Name and Agency)
Heritage State Rank= S1, S2, S3, T1S R31E
(subject discussed)

November 16, 2012
(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____