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

**Operator:** Highline Exploration, Inc.
**Well Name/Number:** M. Lemaich 20-12
**Location:** SE NW Section 12 T1S 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, 960' TD
Possible H2S 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:
X Air quality permit (AQB review)
__ Gas plants/pipelines available for sour gas
__ Special equipment/procedures requirements
__ Other:
Comments: No special concerns – using single rig to drill to 960' TD.

## Water Quality

(possible concerns)
Salt/oil based mud: No, freshwater/freshwater mud to drill surface hole. Air to drill from under surface casing to total depth.
High water table: No
Surface drainage leads to live water: Yes, closest drainage is an unnamed ephemeral tributary to Williams Coulee an ephemeral drainage also, about 1/8 of a mile southwest from this location. Within this unnamed tributary are stock ponds.
Water well contamination: No, closest water well is over 2 miles away and is only 40' in depth. Surface casing will be set at 80'. Drilled with freshwater and freshwater mud. Surface casing will be run and cemented to surface from 80'.
Porous/permeable soils: No, silty sandy bentonitic soils.
Class I stream drainage: No

Mitigation:
__ Lined reserve pit
X Adequate surface casing
__ Berms/dykes, re-routed drainage
__ Closed mud system
__ Off-site disposal of solids/liquids (in approved facility)
__ Other:
Comments: 80' of surface casing cemented to surface adequate to protect freshwater zones.

## Soils/Vegetation/Land Use

(possible concerns)
Steam crossings: No, crossings.
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.
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 1/4 of a mile of new access road will be built from the ranch trail, 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: Closest buildings are 5.5 miles to the southeast and the town of Hardin is about 10.5 miles to the southeast of this location.
Possibility of H2S: None
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 instead of a BOP. Due to the low pressure 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: None identified.

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

Comments: On private lands. 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: On private lands. No concerns.

**Social/Economic**

(possible concerns)

__ Substantial effect on tax base

__ Create demand for new governmental services

__ Population increase or relocation

Comments: On private lands. No concerns

**Remarks or Special Concerns for this site**

Well is a 960' 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): Steven Sasaki

(title:) Chief Field Inspector

Date: October 30, 2007

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website

(Name and Agency)

Big Horn County water wells

(subject discussed)

October 30, 2007

(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____