

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

Operator: Headington Oil, Limited Partnership.
Well Name/Number: Butch 11X-30
Location: NW NW Section 31 T26N R52E
County: Richland, MT; **Field (or Wildcat)** Wildcat

Air Quality

(possible concerns)

Long drilling time No, 60-70 days drilling time.
Unusually deep drilling (high horsepower rig) Triple derrick rig 900 HP
Possible H2S gas production slight
In/near Class I air quality area No
Air quality permit for flaring/venting (if productive) Yes, if productive. 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: Existing gas pipelines in the area.

Water Quality

(possible concerns)

Salt/oil based mud yes to long string salt based and oil based drilling fluids. Horizontal legs will be drilled with saltwater. Surface casing hole to be drilled with freshwater and freshwater mud.
High water table No
Surface drainage leads to live water. No, closest drainage is an unnamed ephemeral tributary drainage to Long Grass Creek which lies 3/8 mile southwest of this location. . A stock pond exists, called Candee pond about 1/2 mile to the south of this location in this tributary drainage to Long Grass Creek.
Water well contamination No, all water wells nearby are less than 1000' in depth. Surface hole will be drilled with freshwater and steel surface casing set and cemented from 1000'.
Porous/permeable soils No, gumbo soils
Class I stream drainage No, Class I stream drainages.

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' surface casing well below freshwater zones in adjacent water wells. Also, covering Fox Hills aquifer. Adequate surface casing and BOP equipment to prevent problems in and around freshwater slough.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings None
High erosion potential No, moderate cut, up to 13.7' and moderate fill, up to 19.5', required.

Loss of soil productivity None, location to be restored after drilling well, if well is nonproductive. If productive, unused portion of drillsite will be reclaimed.
Unusually large wellsite No, large well site 430'X300'
Damage to improvements Slight
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 along existing county road. A short access from county road into this location will be built, about 300'. Cuttings will be disposed of in the lined reserve pit. Drilling pit fluids will either be recycled to the next location or hauled to a commercial disposal. Pit will be allowed to dry and then backfilled. No special concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences None nearby
Possibility of H2S Slight
Size of rig/length of drilling time Triple drilling rig 60 to 70 days drilling time.

Mitigation:

- Proper BOP equipment
- Topographic sound barriers
- H2S contingency and/or evacuation plan
- Special equipment/procedures requirements
- Other: _____

Comments: Adequate surface casing cemented to surface with working BOP stack should mitigate any problems. Distance sufficient to mitigate noise problems.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified) n/a 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 No

Mitigation:

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

Comments: 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: Private surface

Social/Economic

(possible concerns)

Substantial effect on tax base

Create demand for new governmental services

Population increase or relocation

Comments: No concerns

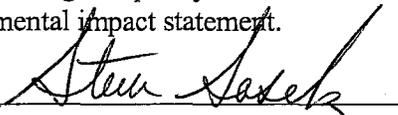
Remarks or Special Concerns for this site

This is a 3 legged Bakken horizontal well test, 14,728' MD, 12,446' MD, 14,256' MD, 8558' TVD..

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): Steven Sasaki 

(title): Chief Field Inspector

Date: June 23, 2006

Other Persons Contacted:

(Name and Agency)

Montana Bureau of Mines and Geology, Groundwater Information Center website.

(subject discussed)

Water wells in Richland County

(date)

June 23, 2006

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____