

Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: Encore Operating, LP
Well Name/Number: Pennel Unit 31X-01AH
Location: NW NE Section 31 T7N R59E
County: Fallon, MT; Field (or Wildcat) Pennel

Air Quality

(possible concerns)
Long drilling time 50-60 days drilling time
Unusually deep drilling (high horsepower rig) No, triple drilling rig to drill to casing point 8605' and workover rig to drill two opposing horizontal legs to 11,186' MD
Possible H2S gas production yes
n/near Class I air quality area no
Air quality permit for flaring/venting (if productive) DEQ permit, if well is productive with associated gas and no gas gathering available.

Mitigation:

- Air quality permit (AQB review)
- Gas plants/pipelines available for sour gas
- Special equipment/procedures requirements
- Other: _____

Comments: no special concerns.

Water Quality

(possible concerns)
Salt/oil based mud use freshwater and freshwater mud system on surface, oil based invert emulsion mud to casing point, and freshwater polymer for the horizontal legs.
High water table no
Surface drainage leads to live water Yes, unnamed ephemeral drainage that lead to stock ponds close to this location.
Water well contamination none, all water wells shallower than 1700'.
Porous/permeable soils no, bentonite 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: 1700' of surface casing cemented to surface adequate to protect freshwater zones. Also, fresh water mud systems to be used on surface hole. Reserve pit liquids to be recycled or hauled to a commercial disposal. Solids will be allowed to dry, pit liner folded over the top of the solids, spoil dirt to fill pit, top soil spread over pit area, and seeded to land owners specification.

Soils/Vegetation/Land Use

(possible concerns)
Steam crossings none.
High erosion potential no, moderate cut, up to 16.2' and small fill, up to 6.8', 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 Large, 270'X400' location size required.
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 over existing county roads and trails. A short access of 400' will be built into this location. No special concerns

Health Hazards/Noise

(possible concerns)
Proximity to public facilities/residences Yes, 1 mile to the southeast, 1/2 of a mile to the south. The town of Baker is 1.5 miles to the south of this location.
Possibility of H2S yes.
Size of rig/length of drilling time Triple drilling rig 20 to 30 days drilling time to casing point. Workover rig another 14 days 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 surface casing should be able to control any problems that occurs.

Wildlife/recreation

(possible concerns)
Proximity to sensitive wildlife areas (DFWP identified) n/a None, identified
Proximity to recreation sites Baker Lake 2 miles to the south of this location.
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: on private land

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

Well is a 11,186' 2 legged horizontal Red River formation test.

Summary: Evaluation of Impacts and Cumulative effects

No, significant impacts expected from the drilling of this well.

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: January 11, 2006

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website

(Name and Agency)
Fallon County water wells

(subject discussed)

January 11, 2006

(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____