DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

BOARD OF OIL AND GAS CONSERVATION

BRIAN SCHWEITZER, GOVERNOR

OIL AND GAS CONSERVATION DIVISION

STATE OF MONTANA

December 31, 2007

RECEIVED

JAN 0 3 2008

LEGISLATIVE ENVIRONMENTAL POLICY OFFICE

Mr. Todd Everts
Environmental Quality Council
Room 106, State Capitol
Helena, MT 59620

Re: Environmental Assessment Reports

Dear Todd:

Enclosed please find a copy of the environmental assessments completed by this office covering the period from October 1 through December 31, 2007 with regard to applications for permits to drill oil or gas wells on state and privately owned lands in the State of Montana.

Let us know if you require any further information.

Sincerely,

Thomas P. Richmond
Administrator

km

Encs. 150

DIVISION OFFICE
1625 ELEVENTH AVENUE
PO BOX 201601
HELENA, MONTANA 59620-1601
(406) 444-6675

TECHNICAL AND
SOUTHERN FIELD OFFICE
2535 ST. JOHNS AVENUE
BILLINGS, MONTANA 59102-4693
(406) 656-0040

NORTHERN FIELD OFFICE
201 MAIN STREET
PO BOX 690
SHELBY, MONTANA 59474-0690
(406) 434-2422

Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: Headington Oil, Limited Partnership.
Well Name/Number: Patricia 41X-15
Location: NE NE Section 15 T22N R59E
County: Richland, **MT; Field (or Wildcat)** Wildcat

Air Quality

(possible concerns)
Long drilling time: No, 40-50 days drilling time.
Unusually deep drilling (high horsepower rig): Triple derrick rig 900 HP, to drill bi-lateral Bakken horizontal well, No. 1 10,325' TVD/17,248'MD and No. 2 10,325' TVD/17,342' MD.
Possible H2S gas production: Slight
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)
X 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. Surface casing hole to be drilled with freshwater and freshwater mud.
High water table: No
Surface drainage leads to live water: Yes, unnamed ephemeral tributary drainage to the Yellowstone river is about 1/16 of a mile to the northeast and southeast of this location. Appears to be a stock pond within this ephemeral drainage.
Water well contamination: No, closest water wells are down in the alluvial bottom, about ¼ of a mile or further to the west and southwest from this location. Deepest well is 1210' in depth. This oilwell location will drill surface hole with freshwater to 1600', will run 1600' of steel surface casing and cement it to surface to protect ground waters.
Porous/permeable soils: No, sandy bentonitic soils.
Class I stream drainage: No, Class I stream drainages.

Mitigation:
X 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: 1600' 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)
Steam crossings: None
High erosion potential: No, location will require a small cut, up to 2.5' and a moderate fill, up to 12.3', required.
Loss of soil productivity: None, location to be restored after drilling well, in nonproductive. If productive unused portion of drillsite will be reclaimed.
Unusually large wellsite: No, large well site 430'X260'
Damage to improvements: Slight, 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: Access to this location will be over, existing county roads, #122 and existing oil well roads. A short access road will be built into this location, about 300' of new road will be constructed. Drilling fluids will be recycled. Completion fluids will be disposed of in a Class II disposal. Cuttings will be allowed to dry in the lined reserve pit. When dry the pit will be backfilled and restored. No concerns.

Health Hazards/Noise

(possible concerns)
Proximity to public facilities/residences: Residences 1/2 of a mile to the southeast and 3/4 of a mile to the southwest. Rau school is about 1.3 miles to the southwest. Town of Sidney is to the northwest, about 3 miles.
Possibility of H2S: Yes
Size of rig/length of drilling time: Triple drilling rig 30 to 40 days drilling time.

Mitigation:
X Proper BOP equipment
__ Topographic sound barriers
X 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. Noise should not be a problems, sufficient distance from residence to rig should mitigate this.

Wildlife/recreation

(possible concerns)
Proximity to sensitive wildlife areas (DFWP identified): None identified.
Proximity to recreation sites: Yellowstone River fishing access about 1.5 miles to the west. Little Missouri National Grasslands, about 3.5 miles to the east.
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: Private surface 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: 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.

Remarks or Special Concerns for this site

Bi-lateral Bakken horizontal well, No. 1 10,325' TVD/17,248'MD and No. 2 10,325' TVD/17,342' MD.

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: October 28, 2007

Other Persons Contacted:

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

(Name and Agency)

Water wells in Richland County

(subject discussed)

October 18, 2007

(date)

If location was inspected before permit approval:
Inspection date: _____
Inspector: _____
Others present during inspection:_____