Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: Wapiti Exploration, LLC
Well Name/Number: Markuson 3-16
Location: SE NW Section 3T33N R3E
County: Toole, **MT; Field (or Wildcat)** Wildcat

Air Quality

(possible concerns)
Long drilling time no, 2 to 3 days drilling time.
Unusually deep drilling (high horsepower rig) no, 1,120 TD
Possible H2S gas production no
n/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 small rig to drill to 1,120' TD

Water Quality

(possible concerns)
Salt/oil based mud no, freshwater or freshwater mud system and/or air and air mist.
High water table no
Surface drainage leads to live water no, closest drainage is an ephemeral drainage is Kinyon Coulee, about ¾ of a mile to the southeast of this location.
Water well contamination no, water wells within 1 mile of this location.
Porous/permeable soils no, bentonite 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: 500' of surface casing cemented to surface adequate to protect freshwater zones. Also, air and/or fresh water mud systems to be used. 4 ½" production casing will be cemented to surface.

Soils/Vegetation/Land Use

(possible concerns)
Steam crossings no, crossing.
High erosion potential no, small cut, up to 2.9' and small fill, up to 3.8', required.

Loss of soil productivity no, location will be restored after drilling in nonproductive and if productive unused portion of the drillsite will be reclaimed.
Unusually large wellsite no, 200'X200' location size required.
Damage to improvements slight, surface use is cultivated field.
Conflict with existing land use/values Slight surface use is cultivated field.

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: Surface access will be over existing county roads and existing two track trails. About 3/8 mile of new access will be constructed off the existing two track trail. Cuttings will be buried in the earthen pit. Fluids will be allowed to evaporate. Pit will be backfilled when dry. No special concerns

Health Hazards/Noise

(possible concerns)
Proximity to public facilities/residences yes, about ¾ of a mile to southeast of the wellsite,
Possibility of H2S none
Size of rig/length of drilling time Small drilling rig/short 2 to 3 days drilling time

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

Comments: No concerns using a hydril BOP.

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: Private Surface.

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. No concerns in a cultivated field.

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 1,120' Bow Island Formation test

Summary: Evaluation of Impacts and Cumulative effects

No long term impact expected. Some short term surface impacts will occur, but will be mitigated in time.

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: May 16, 2006

Other Persons Contacted:

Montana Bureau of Mines and Gelogy, GWIC website

(Name and Agency)

Water wells in Yellowstone County

(subject discussed)

May 16, 2006

(date)

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