Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: Whiting Oil and Gas Corporation
Well Name/Number: Hackley 21-30H
Location: NE NW Section 30 T26N R57E
County: Richland**, MT; Field (or Wildcat)** W/C (Bakken Horizontal)

Air Quality

(possible concerns)
Long drilling time: No, 30 to 40 days drilling time.
Unusually deep drilling (high horsepower rig): No, triple derrick drilling rig to drill a single lateral Bakken Formation well, 19,690'MD/10,210'TVD.
Possible H2S gas production: Yes possible H2S, slight.
In/near Class I air quality area: No Class I air quality area.
Air quality permit for flaring/venting (if productive) Yes, DEQ permit if productive and if there are no gas lines in the area and gas will have to be flared, otherwise gas can be connected an existing gathering system.

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

Comments: No special concerns – using triple derrick drilling rig to drill a single lateral Bakken Formation well, 19,690'MD/10,210'TVD.

Water Quality

(possible concerns)
Salt/oil based mud: Yes, oil based invert mud system will be used for drilling the mainhole and saltwater for drilling the horizontal lateral. Freshwater and freshwater mud system will be used for drilling the surface hole.
High water table: No, no high water table anticipated.
Surface drainage leads to live water: Yes, nearest drainage is an unnamed ephemeral tributary drainage to South Fork Cherry Creek, about 3/8 of a mile to the southeast from this location. Within this unnamed ephemeral drainage is a stock pond.
Water well contamination: None, closest water wells are about 5/8 of a mile to the northwest, 3/4 of a mile to the northeast, ¾ of a mile to the northwest, 3/4 of a mile to the southeast and 7/8 of a mile to the northwest and 1 mile to the southwest from this location. Depth of these water wells are from 40' to 280'. Surface hole will be drilled with freshwater and freshwater mud to 1900'. Steel surface casing will be run and cemented from 1900'.
Porous/permeable soils: No, sandy clay 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: 1900' of surface casing cemented to surface adequate to protect freshwater zones and will cover the base of the Fox Hills Formation.

Soils/Vegetation/Land Use

(possible concerns)
Steam crossings: No, stream crossings anticipated.
High erosion potential: No, moderate cut, up to 15.5' and small fill, up to 5.0', required.
Loss of soil productivity: None, location to be restored after drilling well, if well is nonproductive. If productive the unused portion of drillsite will be reclaimed.
Unusually large wellsite: No, a large location, 440'X400' location size required.
Damage to improvements: Slight, surface use is a cultivated field.
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 location will be over existing state highway #16. A short access of 1027' will be built off the state highway #16 into this location. Oil based invert drilling fluids will be recycled. Completion fluids will be hauled to North Dakota to be used on other wells or hauled to a Class II Disposal. Drilling cuttings and mud solids will be fly ashed in the lined pit and buried with subsoil cover. No special concerns.

Health Hazards/Noise

(possible concerns)
Proximity to public facilities/residences: Residences about 5/8 mile to the northwest, ¾ of a mile to the southeast and 7/8 of a mile to the northwest from this location. A public church, Cherry Creek Church is about ¾ of a mile to the northwest and Cherry Creek School is about 1.25 miles to the northwest from this location.
Possibility of H2S: Slight possibility of H2S.
Size of rig/length of drilling time: Triple drilling rig/short 30 to 40 days drilling time

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

Comments: Adequate surface casing and operational BOP equipment should mitigate any problems. 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: Species identified as threatened or endangered are the Pallid Sturgeon, Interior Lease Tern, Whooping Crane and Piping Plover. Candidate species are the Greater Sage Grouse and the Sprague's Pipit. MTFWP Natural Heritage Tracker website indicates one (1) species of concern is Whooping Crane.

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

Comments: Private cultivated surface lands. There maybe species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

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 cultivated surface lands. There maybe possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

Social/Economic

(possible concerns)
__ Substantial effect on tax base
__ Create demand for new governmental services
__ Population increase or relocation
Comments: Wildcat well, no concerns.

Remarks or Special Concerns for this site

No special concerns or remarks.

Summary: Evaluation of Impacts and Cumulative effects

No significant 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): /s/Steven Sasaki _____
(title:) Chief Field Inspector_____
Date: December 17, 2011 _____

Other Persons Contacted:

_____
Montana Bureau of Mines and Geology, GWIC website
_____
(Name and Agency)
Water wells in Richland County _____
(subject discussed)
December 17, 2011 _____
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES
MONTANA COUNTIES, Richland County
(subject discussed)

December 17, 2011 _____
(date)

Montana Natural Heritage Program Website (FWP)
(Name and Agency)
Heritage State Rank= S1, S2, S3, T26N R57E
(subject discussed)

December 17, 2011_____
(date)

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