Montana Board of Oil and Gas Conservation
Environmental Assessment

Proposed Action: Approve Drilling Permit (Form 22)
Operator: Whiting Oil and Gas Corporation
Well Name/Number: Iversen Federal 34-32-1H
Location: SW SE Section 32 T26N R58E
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, 21,323'MD/10,399'TVD.
Possible H2S gas production: Yes possible H2S gas, slight chance from Mississippian Formations.
In/near Class I air quality area: No Class I air quality area in the area of review.
Air quality permit for flaring/venting (if productive) Yes, 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: No special concerns – using triple derrick drilling rig to drill a single lateral horizontal Bakken Formation well, 21,323'MD/10,399'TVD. If existing gas gathering system for natural gas in the area, associated gas can be gathered or if no gathering system nearby, associated gas can be flared under Board Rule 36.22.1220.

Water Quality

(possible concerns)
Salt/oil based mud: Yes, oil based invert mud system will be used for drilling the mainhole (oil/water ratio 70/30 invert mud) and saltwater for drilling the horizontal lateral. Freshwater and freshwater mud system will be used for drilling the surface hole, Rule 36.22.1001.
High water table: No, high water table at this well location.
Surface drainage leads to live water: No, nearest drainages are unnamed ephemeral tributary drainage to Fourmile Creek and Otis Creek ¼ mile to the northeast, and 2/5 a mile to the northwest. Fourmile Creek is about 1 mile to the southeast and Otis Creek about 1-1/5 miles to the northeast. A stock pond is located 2/5 a mile to the southwest.
Water well contamination: None, closest water well is about 1 mile to the southeast andall other wells in the area are about a mile or further from location. Depth of this stock water well is 100'. Surface hole will be drilled with freshwater and freshwater mud, rule 36.22.1001. The proposed surface casing depth is inadequate and a new recommended depth of 1800' has been established.
Porous/permeable soils: No, sandy silty clay soils.
Class I stream drainage: No Class I stream drainages in the area of review.

Mitigation:

__ Lined reserve pit
_X_ Adequate surface casing
__ Berms/dykes, re-routed drainage
_X_ Closed mud system
_X_ **Off-site disposal/recycling of liquids (in approved facility**)
_X_ Other: _____

Comments: The proposed surface casing depth is inadequate and a new recommended depth of 1800' has been established to cover the base of the Fox Hills Formation, Rule 36.22.1001.

Soils/Vegetation/Land Use

(possible concerns)
Steam crossings: No, stream crossings anticipated.__
High erosion potential: Using existing wellpad.
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, a very large location, 425'X510' location size required for 4 well locations, Iversen Federal 34-32-1H, Iversen Federal 34-32-2H, Iversen Federal 34-32-3H and Iversen Federal 34-32-4H.
Damage to improvements: Slight, surface use is cultivated land.
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 county road, #142. An access road of 528' exists off the county road into this location. Oil based invert drilling fluids will be recycled. Cuttings will be stored in containers on site and will be disposed of off location. No special concerns.

Health Hazards/Noise

(possible concerns)
Proximity to public facilities/residences: Yes, nearest residences, about 4/5 of a mile to southeast from this location. The town of Fairview, Montana is about 11.5 miles to the southeast from this location.
Possibility of H2S: Slight possibility of H2S from Mississippian Formations.
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. (BOP's 5,000 psig annular, pipe and blind rams) rule 36.22.1014. 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 Least Tern, Whooping Crane and Piping Plover. Candidate species are the Greater Sage Grouse and the Sprague's Pipit. MTFWP Natural Heritage Tracker website indicates thirteen (13) species of concern is the Great Blue Heron, Piping Plover, Whooping Crane, Least Tern, Northern Redbelly Dace, Blue Sucker, Iowa Darter, Shortnose Gar, Sturgeon Chub, Sicklefin Chub, Paddlefish, Sauger, and Pallid Sturgeon.

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

Comments: Private cultivated surface lands. There may be 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 may be 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

Whiting Oil and Gas to drill a wildcat single lateral horizontal Bakken Formation well, 21,323'MD/10,399'TVD.

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/John Gizicki
(title:) Compliance Specialist
Date: January 29, 2015

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website
(Name and Agency)
Water wells in Richland County
(subject discussed)
January 29, 2015
(date)

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

January 29, 2015
(date)

Montana Natural Heritage Program Website (FWP)
(Name and Agency)
Heritage State Rank= S1, S2, S3, T26N R58E
(subject discussed)

January 29, 2015
(date)

Montana Cadastral Website
(Name and Agency)
Surface Ownership and surface use Section 32 T26N R58E
(subject discussed)

January 29, 2015 _____
(date)

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