

CHECKLIST ENVIRONMENTAL ASSESMENT

Proposed Action: Approve Drilling Permit (Form 22)

Project/Well Name: Iverson Bros 14-33-2H

Operator: Whiting Oil and Gas Corporation

Location: SESW Section 33 T26N R58E

County: Richland MT; **Field (or Wildcat):** Wildcat

Proposed Project Date: 10/01/2018

I. DESCRIPTION OF ACTION

Whiting Oil and Gas Corporation plans to drill a single lateral Bakken Formation horizontal well test to 20,143'MD/10,403'TVD.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED

Montana Bureau of Mines and Geology, GWIC website (Richland County Wells).

US Fish and Wildlife, Region 6 website

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA COUNTIES, Richland County

Montana Natural Heritage Program Website (FWP)

Heritage State Rank= S1, S2, S3, T26N R58E

Montana Cadastral Website

Surface Ownership and surface use Section 33 T26N R58E

Montana Department of Natural Resources MEPA Submittal

2. ALTERNATIVES CONSIDERED

No Action Alternative: The proposed well would not be drilled.

Action Alternative: Whiting Oil and Gas Corporation would have permission to drill the well.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

3. AIR QUALITY

Long drilling time: No, 30 to 40 days drilling time.

Unusually deep drilling (high horsepower rig): No, drilling rig for a 20,143' MD/10,403' TVD well.

Possible H₂S gas production: Possible in Mississippian formations.

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. AQB review.

Comments: No special concerns – using triple derrick rig to drill well to 20,143' MD/10,403' TVD. If there are no gas gathering systems nearby, associated gas can be flared under Board Rule 36.22.1220.

4. WATER QUALITY

Salt/oil based mud: Yes, oil based invert drilling fluids will be used on the mainhole. The horizontal lateral will be drilled with brine water. The surface hole will be drilled with freshwater and freshwater drilling fluids.

High water table: No high-water table anticipated at this location.

Surface drainage leads to live water: No, nearest drainages are unnamed ephemeral tributary drainage to Otis Creek, about 1/8 of a mile to the north and Fourmile Creek, an ephemeral drainage, about 1/8 of a mile to the south from this location.

Water well contamination: No water wells within a 1/2 mile radius. Surface casing will be run and cemented to surface from 2200'.

Porous/permeable soils: No, sandy clay.

Class I stream drainage: No.

Groundwater vulnerability area: 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)

Comments: Steel surface casing will be set to 2200' and cemented to surface to protect ground water. (Rule 36.22.1001).

5. SOILS/VEGETATION/LAND USE

Vegetation: Grassland.

Steam crossings: None anticipated.

High erosion potential: No, a small cut of 7.2' and a small fill of 3.3' is required.

Loss of soil productivity: None, location to be restored after drilling well, if well is nonproductive.

Unusually large wellsite (Describe dimensions): No, a large existing well pad 398'X427' location size required. An extended area of 195'X430' is required for the cuttings pit.

Damage to improvements: Slight, surface use is grassland.

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

Access Road: A new access of 675' will be built into location off County Road 142.

Drilling fluids/solids: Pit fluids will be recycled for use on Whiting Wells and then will be hauled to North Dakota to be used on other wells. The cuttings will be put in a holding tank and then hauled off to a disposal facility.

6. HEALTH HAZARDS/NOISE

Proximity to public facilities/residences: No residences within ½ mile radius.

Possibility of H2S: Possible in Mississippian formations.

In/near Class I air quality area: No.

Size of rig/length of drilling time: 3-5 days drilling time.

Mitigation:

Proper BOP equipment: Using diverter.

Topographic sound barriers

H2S contingency and/or evacuation plan

Special equipment/procedures requirements

Other:

7. WILDLIFE/RECREATION

Sage Grouse: No.

Proximity to sensitive wildlife areas (DFWP identified):

Proximity to recreation sites: None.

Creation of new access to wildlife habitat:

Conflict with game range/refuge management: None.

Threatened or endangered Species: Species identified as threatened or endangered in Richland County are the Pallid Sturgeon, Piping Plover, Interior Least Tern, Whooping Crane, Red Knot, and the Northern Long-eared Bat. MTFWP Natural Heritage Tracker website lists thirteen (13) species of concern, 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, DNRC Trust Lands, Sage Grouse Habitat Conservation Program)

Screening/fencing of pits, drillsite

Other:

Comments: Private 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.

IV. IMPACTS ON THE HUMAN POPULATION

8. HISTORICAL/CULTURAL/PALEONTOLOGICAL

Proximity to known sites: None.

Mitigation

avoidance (topographic tolerance, location exception)

other agency review (SHPO, DNRC Trust Lands, federal agencies)

Other:

9. SOCIAL/ECONOMIC

Substantial effect on tax base

Create demand for new governmental services

Population increase or relocation

Comments: No concerns.

IV. SUMMARY

No long term impacts expected. Some short term impacts will occur, but can be mitigated.

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.

EA Checklist
Prepared By:

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Date: 09/28/18