

CHECKLIST ENVIRONMENTAL ASSESMENT

Proposed Action: Approve Drilling Permit (Form 22)

Project/Well Name: Unit 35-15R

Operator: Denbury Onshore, LLC

Location: 8S-54E-35 SW SE

County: Powder River **MT;** **Field (or Wildcat):** Bell Creek

Proposed Project Date: 09/01/2019

I. DESCRIPTION OF ACTION

Denbury plans to drill an injection well in the tertiary CO₂/Waterflood program. The TD of this vertical well is 4,490' in the Muddy Sand Formation. Solids will be contained in metal pits and then hauled to a licensed disposal facility. Surface casing to be set at 710' and will be cemented back to surface.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED

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

US Fish and Wildlife, Region 6 website

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA COUNTIES, Powder River County

Montana Natural Heritage Program Website (FWP)

Heritage State Rank= S1, S2, S3, T8S R54E

Montana Cadastral Website

Surface Ownership and surface use Section 35 T8S R54E

Montana Department of Natural Resources MEPA Submittal

2. ALTERNATIVES CONSIDERED

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

Action Alternative: Denbury would have permission to drill well.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

3. AIR QUALITY

Long drilling time: No.

Unusually deep drilling (high horsepower rig): No.

Possible H₂S gas production: None anticipated

In/near Class I air quality area: No

Comments: No special concerns – using small rig to drill to 4,490' TD.

4. WATER QUALITY

Salt/oil based mud: Yes, light brine mud system on production hole. Freshwater and freshwater mud system for drilling surface hole (Rule 36.22.1001).

High water table: No

Surface drainage leads to live water: An unnamed ephemeral drainage is located about 425' to the northeast and 3/10 of a mile to the southwest. These drainages lead to Belle Creek.

Water well contamination: No, the nearest water well is a stockwater well 3/10 of a mile to the southwest and is 416' deep. A domestic water well exists 7/10 of a mile to the southwest and is 140' deep.

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:

5. SOILS/VEGETATION/LAND USE

Vegetation: Grassland.
Steam crossings: No
High erosion potential: Yes, large cut of 20.7' and large fill of 21.7' required.
Loss of soil productivity: No

Unusually large wellsite (Describe dimensions): No, 200' X 250'.

Damage to improvements: No.
Conflict with existing land use/values: None.

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: Ranch Creek road and existing dirt road.

Drilling fluids/solids: Solids will be contained in metal pits and then hauled to a licensed disposal facility.

6. HEALTH HAZARDS/NOISE

Proximity to public facilities/residences: No residences within a ½ mile radius.
Possibility of H2S: None anticipated.
Size of rig/length of drilling time: 3 to 5 days.

Mitigation:

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

7. WILDLIFE/RECREATION

Sage Grouse: In General Habitat. Waiting for Sage Grouse letter.
Proximity to sensitive wildlife areas (DFWP identified): None.
Proximity to recreation sites: None.
Creation of new access to wildlife habitat: No.
Conflict with game range/refuge management: No.
Threatened or endangered Species: Species listed as endangered or threatened are the Whooping Crane, Pallid Sturgeon, and the Northern Long-eared Bat. The Montana Natural Heritage Program lists two (2) species of concern: the Black-tailed Prairie Dog and the Ferruginous Hawk.

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: Sage Grouse Habitat Conservation Program to limit work times. Private grassland.

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. No concerns.

Comments: Private Grassland.

IV. IMPACTS ON THE HUMAN POPULATION

8. HISTORICAL/CULTURAL/PALEONTOLOGICAL

Proximity to known sites:

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: 08/29/19

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