

CHECKLIST ENVIRONMENTAL ASSESSMENT

Proposed Action: Approve Drilling Permit (Form 22)

Project/Well Name: Cabin Creek CH 33X-17H

Operator: Denbury Onshore, LLC

Location: T10N, R58E, Sec 17 NW SE

County: Fallon MT; **Field (or Wildcat):** Cabin Creek

Proposed Project Date: 12/01/2022

I. DESCRIPTION OF ACTION

Denbury Onshore plans to drill a dual lateral horizontal injection well into the Charles-Madison Formation. Upper lateral 7,358' TVD / 12,246' MD. Lower lateral 7,374' TVD / 12,356' MD. Surface casing to be set at 2,000' and cemented to surface.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED

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

US Fish and Wildlife, Region 6 website

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

Montana Natural Heritage Program Website (FWP)

Heritage State Rank= S1, S2, S3, T10N R58E

Montana Cadastral Website

Surface Ownership and surface use Section 17 T10N 58E

Montana Department of Natural Resources MEPA Submittal

2. ALTERNATIVES CONSIDERED

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

Action Alternative: Denbury Onshore, LLC. would have permission to drill the well.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

3. AIR QUALITY

Long drilling time: No, 4-6 days.

Unusually deep drilling (high horsepower rig): No, triple derrick rig.

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): This is an injection well permit.

Comments: No special concerns – using rig to drill dual lateral horizontal well into the Charles-Madison Formation. Upper lateral 7,358' TVD / 12,246' MD. Lower lateral 7,374' TVD / 12,356' MD.

4. WATER QUALITY

Salt/oil based mud: Surface hole to be drilled with freshwater mud system. Intermediate hole to be drilled with oil based mud system, open hole legs will be drilled with a brine mud system.

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

Surface drainage leads to live water: No, an unnamed ephemeral drainage is located about 800' to the southeast and 700' to the northeast from location.

Water well contamination: Denbury's permit lists three water wells within ¼ mile radius. GWIC lists zero water wells within ½ radius.

Porous/permeable soils: Sandy clay.

Class I stream drainage: No class I streams in the area.

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 to be set and cemented to surface to protect ground water. (Rule 36.22.1001).

5. SOILS/VEGETATION/LAND USE

Vegetation: Area is grassland.

Stream crossings: No stream crossings anticipated.

High erosion potential: Medium cut of 12.1' and small fill of 7.2' required.
Loss of soil productivity: No, location will be restored after drilling if nonproductive.

Unusually large wellsite (Describe dimensions): No, 360' X 350' location for a one well pad.

Damage to improvements: Slight.
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: Access will be off Anticline Road, existing dirt road, and a new access of about 176' will be built into location.

Drilling fluids/solids: All drill cuttings will be collected in temporary metal pits at the surface and then hauled to a disposal facility.

6. HEALTH HAZARDS/NOISE

Proximity to public facilities/residences: No occupied dwellings within a 1,320' radius.
Possibility of H2S: Yes, possible H2S gas, slight chance from Mississippian Formations.
Size of rig/length of drilling time: Triple derrick rig, 4-6 days drilling time.

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 and requires sage grouse approval from the Sage Grouse Habitat Conservation Program. Denbury submitted Sage Grouse notification – waiting for 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 in Fallon County are the Whooping Crane, Northern Long-eared Bat, Red Knot, Black-footed Ferret, and piping Plover. The Montana Natural Heritage Program website lists three (3) species of concern: Golden Eagle, Greater Sage-Grouse, Black-billed Cuckoo.

Mitigation:

- Avoidance (topographic tolerance/exception)
- Other agency review (DFWP, federal agencies, DNRC Trust Lands)
- Screening/fencing of pits, drillsite
- Other:

Comments: Private grazing 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. No concerns.

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:	Name: John Gizicki	Date: 07/18/2022
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