

CHECKLIST ENVIRONMENTAL ASSESSMENT

Proposed Action: Approve Drilling Permit (Form 22)

Project/Well Name: Western Natural Gas 10-21

Operator: Avanti Energy Montana, Inc.

Location: NE SE Section 21 T37N R4E

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

Proposed Project Date: 8/10/2022

I. DESCRIPTION OF ACTION

Avanti Energy Montana, Inc. plans to drill a well for a Souris River/Flathead formation test 5,500' TVD / 5650' MD.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS, OR INDIVIDUALS CONTACTED

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

US Fish and Wildlife, Region 6 website

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

Montana Natural Heritage Program Website (FWP)

Heritage State Rank= S1, S2, S3, T37N R4E

Montana Cadastral Website

Surface Ownership and surface use Section 21 T37N R4E

Montana Department of Natural Resources MEPA Submittal

2. ALTERNATIVES CONSIDERED

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

Action Alternative: Avanti Energy Montana, Inc. would have permission to drill the well.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

3. AIR QUALITY

Long drilling time: No, 2-4 days drilling time.

Unusually deep drilling (high horsepower rig): No, drilling rig for a 5,500' TVD / 5650' MD well. The objective formation is the Souris River/Flathead.

Possible H₂S gas production: Possible in Mississippian and Devonian 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 rig to drill well for a Souris River/Flathead formation test 5,500' TVD / 5650' MD. 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: Freshwater based mud will be used on surface hole. On production hole, oil-based mud will be utilized.

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

Surface drainage leads to live water: No, several ponds within ¼ mile.

Water well contamination: No water wells within ½ of a mile radius.

Porous/permeable soils: Possibly, 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 1,500' and cemented to surface to protect ground water. (Rule 36.22.1001).

5. SOILS/VEGETATION/LAND USE

Vegetation: Grassland.

Stream crossings: None anticipated.

High erosion potential: No, a small cut of 5.3' and a small fill of 8.3' is required.

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

Unusually large wellsite (Describe dimensions): No, 350' X 350'.

Damage to improvements: Slight, surface use is grass land.

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 of Schaffer Road, a private road, and existing 2-track.

Drilling fluids/solids: Drilling waste will be buried on site in lined cuttings pit.

6. HEALTH HAZARDS/NOISE

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

Possibility of H2S: Possible in Mississippian and Devonian formations.

In/near Class I air quality area: No.

Size of rig/length of drilling time: 2-4 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: No.

Proximity to sensitive wildlife areas (DFWP identified): None.

Proximity to recreation sites: None.

Creation of new access to wildlife habitat: None.

Conflict with game range/refuge management: None.

Threatened or endangered Species: Species identified as threatened or endangered in Liberty County is the Grizzly Bear. MTFWP Natural Heritage Tracker website lists six (6) species of concern, Grizzly Bear, Sprague's Pipit, Ferruginous Hawk, Chestnut-collared Longspur, and Thick-billed Longspur.

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. No concerns.

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: 6/27/22