

CHECKLIST ENVIRONMENTAL ASSESSMENT

Proposed Action: Approve Drilling Permit (Form 22)

Project/Well Name: Keith 14-13

Operator: Avanti Energy Montana, LLC

Location: SE SW Section 13 T36N R6E

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

Proposed Project Date: 11/1/2022

I. DESCRIPTION OF ACTION

Avanti Energy Montana, LLC plans to drill a well for a Souris River/Flathead formation test 6331' MD / TVD.

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, T36N R6E

Montana Cadastral Website

Surface Ownership and surface use Section 13 T36N R6E

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, LLC would have permission to drill the well.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

3. AIR QUALITY

Long drilling time: No, 3-5 days drilling time.

Unusually deep drilling (high horsepower rig): No, drilling rig for a 6,331' MD / TVD well. The objective formation is the Souris River/Flathead.

Possible H₂S gas production: Possible in Mississippian and Devonian formations. Potentially in Mowry. H₂S has been detected in neighboring wells.

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 to 6,331' MD / 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: 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, nearest drainage is an unnamed ephemeral drainage located about ½ of a mile to the south from the proposed location.

Water well contamination: GWIC lists a well about ½ of a mile to northeast and is listed as a 28' deep monitoring well. Another 43' deep monitoring well is listed as about 1/2 mile to the northeast from the proposed location. Another 18' monitoring well is listed as about 1/2 of a mile to the northeast. Five more monitoring wells are located within the area with depths ranging from 13' to 23' 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: 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: Cultivated field.

Stream crossings: None anticipated.

High erosion potential: No, a small cut of 1.2' and a small fill of 5.0' is required.

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

Unusually large wellsite (Describe dimensions): No, 300' X 300'.

Damage to improvements: Slight, surface use is for cultivation.

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 Road 1800 East, an existing access road and a new access of about 600' will be built into location.

Drilling fluids/solids: Drilling waste will be buried on site in 16 ml lined cuttings pit.

6. HEALTH HAZARDS/NOISE

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

Possibility of H2S: Possible in Mississippian and Devonian formations. Potentially in Mowry. H2S has been detected in neighboring wells.

In/near Class I air quality area: No.

Size of rig/length of drilling time: 3-5 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 are the Red Knot and Grizzly Bear. Potential species is the Whitebark Pine and candidate species is the Monarch Butterfly. MTFWP Natural Heritage Tracker website lists two (2) species of concern, Sprague's Pipit and Veery.

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:	Name: John Gizicki	Date: 10/7/22
	Title: Compliance Specialist	