

CHECKLIST ENVIRONMENTAL ASSESSMENT

Proposed Action: Approve Drilling Permit (Form 22)

Project/Well Name: Heather 8-5-32-29 #4H

Operator: Kraken Operating LLC

State: Montana

Location: SESW T26N R57E Sec. 8

County: Richland

Field (or Wildcat): Wildcat

Proposed Project Date: TBD

I. DESCRIPTION OF ACTION

Triple derrick drilling rig to drill a single lateral horizontal Bakken Formation test, 31,852' MD/10,378' TVD.

II. PROJECT DEVELOPMENT

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

10 days from public notification opportunity to protest for hearing:

- Published in the Helena Independent Record on 12/27/2025.
- Published in the Roundup on 12/24/2025.

A protest was received on 1/6/2026. The protest was heard and denied on 2/13/2026.

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

US Fish and Wildlife, ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA COUNTIES, Richland County

Montana Natural Heritage Program Website (FWP)
Heritage State Rank= S1, S2, S3, T26N R57E

Montana Cadastral Website
Surface Ownership and surface use Section 8 T26N R57E

Montana Department of Natural Resources MEPA Submittal

USDA Natural Resources Conservation Service-Soils Map

B. ALTERNATIVES CONSIDERED

No Action Alternative: Permit to drill the well would not be issued by BOGC.

Action Alternative: Referred to the BOGC for further environmental review.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

A. AIR QUALITY

Long drilling time: No, 5-10 days.

Unusually deep drilling (high horsepower rig): No

Emission sources: Vehicles traveling on county road to location, combustion engines on location during drilling operations. Fugitive dust from traveling operations and location during active drilling.

Possible H₂S gas production: Potentially 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 – Triple derrick drilling rig to drill a single lateral horizontal Bakken Formation test, 31,852' MD/10,378' TVD. If there are no gas gathering systems nearby, associated gas can be flared under Board Rule 36.22.1220.

B. WATER QUALITY

Salt/oil-based mud: Steel surface casing hole will be drilled with freshwater and freshwater mud system to 2080', Rule 36.22.1001. Will drill with oil-based invert drilling fluids for the intermediate casing hole. Horizontal hole will be drilled with saltwater.

High water table: No.

Surface drainage leads to live water: There is an unnamed ephemeral drainage approximately 254' east of the location. This drainage has a confluence with the Missouri River approximately 3.39 miles north of location.

Water well contamination: There are three water wells within a ½ miles radius. All three wells have not assigned uses, and have no well test data details assigned. The closest is approximately 1031' southwest, the next is approximately 1256' south, and the last is approximately 2288' southwest. The surface hole will be drilled with freshwater and freshwater mud to 2080' and steel surface casing will be run and cemented back to the surface to protect groundwater.

Porous/permeable soils: No, badlands.

Class I stream drainage: None.

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)

Other:

Comments: Steel surface casing will be run to 2080' and cemented back to surface to protect freshwater zones (Fox Hills aquifer) in adjacent water wells, Rule 36.22.1001. Adequate surface casing and BOP equipment to prevent problems, (5,000 psi annular and double ram), Rule 36.22.1014.

C. SOILS/VEGETATION/LAND USE

Vegetation: Badlands.

Stream crossing: None anticipated.

Erosion potential: Low, cut of up to 9.7' and fill of up to 6.9'.

Loss of soil productivity: No, location will be restored after drilling if unproductive.

Unusually large wellsite (Describe dimensions): A well site of 504' X 465' required for a four-well pad.

Damage to improvements: None, badlands.

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: From County Road 146, travel northeast along County Road 339 for approximately 0.2 miles to the junction of County Road 339 and an existing road to the southeast. Turn right and proceed approximately 0.5 miles to the beginning of the proposed access road for the Russel well pad to the northeast. Follow this proposed road approximately 67' to the junction of this road the proposed +/- 575' access road to the Heather XL pad.

Drilling fluids/solids: Kraken Operating LLC will not be utilizing a drilling pit. Drilling fluids and solids will be transported to a state approved disposal facility.

Comments:

D. HEALTH HAZARDS/NOISE

Proximity to public facilities/residences: There are no occupied structures within a ¼ mile radius. The closest occupied structure is approximately 1.23 miles southeast in NENE Section 17 T26N R57E.

Possibility of H2S: Possibility in Mississippian formations.

Size of rig/length of drilling time: 5-10 days.

Mitigation:

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

E. 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: No.

Conflict with game range/refuge management: No.

Threatened or endangered species within 5 miles: Sprague's Pipit, Red-headed Woodpecker, Golden Eagle, Piping Plover, Whooping Crane, Bobolink, Loggerhead Shrike, Bald Eagle, Least Tern, Greater Short-horned Lizard, Plains Hog-nosed Snake, Blue Sucker, Sauger, Sturgeon Chub, Paddlefish, Pallid Sturgeon, and Northern Redbelly Dace.

Mitigation:

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

Comments: Badlands. There may be species of concern that may be 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

A. HISTORICAL/CULTURAL/PALEONTOLOGICAL

Proximity to known sites:

Mitigation:

- Avoidance (topographic tolerance, location exception)
- Other agency review (SHPO, DNRC Trust Lands, federal agencies)

Other: The Board of Oil & Gas has no jurisdiction over private surface lands.

B. 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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Title: Compliance Technician

Date: 3/3/2026