

CHECKLIST ENVIRONMENTAL ASSESSMENT

Proposed Action: Approve Drilling Permit (Form 22)

Project/Well Name: Shiv Roy 33-11-1H

Operator: Morning Star Operating

State: Montana

Location: NENE Section 33 T25N R54E

County: Richland

Field (or Wildcat): Wildcat

Proposed Project Date: 8/1/2025

I. DESCRIPTION OF ACTION

Triple derrick drilling rig to drill a single lateral horizontal Bakken Formation test, 21,528'MD/9,871'TVD.

II. PROJECT DEVELOPMENT

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

10 day from public notification opportunity to protest for hearing:

Published in Helena Independent Record on 6/12/2025.

Published in Sidney Herald on 6/14/2025.

No written demand for hearing has been filed per ARM 36.22.601 as of 6/25/2025.

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, T25N R54E

Montana Cadastral Website
Surface Ownership and surface use Section 33 T25N R54E

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, 21,528' MD/9,871' 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: Surface casing hole will be drilled with freshwater and freshwater mud system, Rule 36.22.100.1. 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: No, closest drainage is no named ephemeral drainage approximately 2,150' to east of location. Ephemeral drainages travels northeast to confluence of another ephemeral drainage 2.2 miles to northeast and meets up with East Charlie Creek 5 miles to the northeast of location. Another ephemeral drainage to the west is approximately 3,000' from location named Middle Charlie Creek. Middle Charlie Creek drainage comes to a confluence of other ephemeral drainages approximately 2.25 miles to the northwest of location.

Water well contamination: 3 water wells lie within ½ mile radius of location. The closest water well is the Vaira, Paul domestic well located about 1,900' to the south of location 200' deep with static water level of 80'. Next closest water well is about 2,400' to the northeast of location is the Strand Leonard domestic water well with total depth 156' and a static water level of 95'. The 3rd water well within ½ mile of location is the Scott Huff domestic water well approximately 2,400' to northeast of location with a total depth of 55' and static water level of 12'.

Porous/permeable soils: slight, sandy silty loams.

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

Comments: Surface hole will be drilled with a freshwater mud system to 1,600'. Steel surface casing will be run to 1,600' and cemented back to surface to protect freshwater zones in adjacent water wells, Rule 36.22.1001. Also, covering Fox Hills aquifer. 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: Cultivated field.

Stream crossings: None anticipated.

High erosion potential: Slight, cut of up to 21' and fill of 16.9' required.

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

Unusually large wellsite (Describe dimensions): Well site 400'X 400' required for a single-well pad.

Damage to improvements: No, cultivated field.

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 from CR 137. A new access of 340' will be built into location.

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

D. HEALTH HAZARDS/NOISE

Proximity to public facilities/residences: No existing dwelling within a 1/4-mile radius. Closest existing dwelling is 2,393' to the Northeast of location. The town of Sidney, MT is about 30 miles to the southeast of location. The town of Lambert, MT is about 15 miles to the south of location.

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: Richland County are the Pallid Sturgeon, Sicklefin Chub, Interior Least Tern, Whooping Crane, Piping Plover, Red Knot, and the Northern Long-eared Bat.

Mitigation:

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

Comments: Private cultivated field. 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

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:

Name: Ben Davis

Date: 7/22/2025

Title: Technical Program Coordinator