

CHECKLIST ENVIRONMENTAL ASSESSMENT

Proposed Action: Approve Drilling Permit (Form 22)

Project/Well Name: Samurai 1 SWD

Operator: Phoenix Operating LLC

State: Montana

Location: NWNW Section 4 T28N R58E

County: Roosevelt

Field (or Wildcat): Wildcat

Proposed Project Date: 4/24/2025

I. DESCRIPTION OF ACTION

Triple derrick drilling rig to drill a single SWD Well to 5586' MD.

II. PROJECT DEVELOPMENT

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

10 days from public notification opportunity to protest for hearing:

Published in Helena Independent Record on 3/6/2025.

Published in Northern Plains Independent on 3/6/2025.

No written demand for hearing has been filed per ARM 36.22.1409 as of 3/17/2025.

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

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

Montana Natural Heritage Program Website (FWP)
Heritage State Rank= S1, S2, S3, T28N R58E

Montana Cadastral Website
Surface Ownership and surface use Section 4 T28N R58E

Montana Department of Natural Resources MEPA Submittal

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 SWD Well to 5586' MD.

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 to TD after surface casing is set.

High water table: No.

Surface drainage leads to live water: No, closest drainage is Snake Creek which is characterized as an ephemeral stream and leads to Shotgun Creek about 1.8 miles to southwest.

Water well contamination: The closest water well is a domestic well drilled to 18', is located 3/10 of mile southeast. Another water well is located .40 of a mile to the South and West in grassland field that is 15' deep. Other wells identified within 1 mile radius. The surface hole will be drilled with freshwater and freshwater mud to 2,100' and steel surface casing will be run and cemented to surface to protect groundwater.

Porous/permeable soils: No, sandy clay soils.

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 2100'. Steel surface casing will be run to 2100' 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 where 4 well oil pad already exists.

Stream crossings: No Stream crossing for access road.

High erosion potential: Slight, large cut of up to 26.7 and a large fill of up to 21.6'.

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

Unusually large wellsite (Describe dimensions): A large well site 750'X 500' required for a 5-well pad. 4 Oil wells and 1 SWD well.

Damage to improvements: Slight, surface use appears to be 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 County Road 2054. A new access of 134' will be built into location.

Access already build for 4 oil well pad.

Drilling fluids/solids: Phoenix 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 occupied structures within a 1/4-mile radius. Closest occupied structure is 0.5 of a mile away in N ½ Section 5 T28N R58E. The town of Bainville, MT is about 5.5 miles to the southeast.

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: Roosevelt County are the Pallid Sturgeon, Sicklefin Chub, Interior Least Tern, Whooping Crane, Piping Plover, Northern Long-eared Bat, Leconte's Sparrow, Bobolink, Snapping Turtle, and Monarch.

Mitigation:

☐ Avoidance (topographic tolerance/exception)

☐ Other agency review (DFWP, federal agencies, DNRC Trust Lands)

☐ Screening/fencing of pits, drillsite

☐ Other:

Comments: Private cultivated land. 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:

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Date: 4/23/2025

Title: Technical Program Coordinator