

CHECKLIST ENVIRONMENTAL ASSESMENT

Proposed Action: Approve Drilling Permit (Form 22)

Project/Well Name: Burlington 31-1

Operator: Ballard Exploration Company, Inc

Location: SW SW SW Section 31 T15N R31E

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

Proposed Project Date: ASAP

I. DESCRIPTION OF ACTION

Ballard Exploration Company, Inc plans to drill a Heath formation test. 2,600' MD/TVD. Surface casing to be set at 350' and cemented to surface.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED

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

US Fish and Wildlife, Region 6 website

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

Montana Natural Heritage Program Website (FWP)

Heritage State Rank= S1, S2, S3, T15N R31E

Montana Cadastral Website

Surface Ownership and surface use Section 31 T15N R31E

Montana Department of Natural Resources MEPA Submittal

2. ALTERNATIVES CONSIDERED

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

Action Alternative: Ballard Exploration Company, Inc. would have permission to drill the well.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

3. AIR QUALITY

Long drilling time: No, normal drilling time 3 to 5 days.
Unusually deep drilling (high horsepower rig): No.

Possible H₂S gas production: Slight chance of H₂S gas production in Mississippian formations.
In/near Class I air quality area: No Class I air quality area in area of review.
Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211. AQB review.

Comments: No special concerns – No, using smaller rig to drill to 2,600'TVD/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: Surface casing will be drilled with freshwater and freshwater mud system, as well as the main hole.

High water table: No.

Surface drainage leads to live water: No, an unnamed ephemeral drainage exists about 1/10th of a mile to the southeast. This ephemeral drainage leads to Daves Coulee, which is located about 7/10th of a mile to the northeast. The Musselshell River is located about 2 miles to the southwest.

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

Porous/permeable soils: Sandy clay soils.

Class I stream drainage: No Class I stream drainages.

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

5. SOILS/VEGETATION/LAND USE

Vegetation: Grassland.

Steam crossings: No.

High erosion potential: No, location will require a medium cut, up to 19' 7" and a small fill, up to 9' 5".

Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive, at the point and time when the life of the well is over, and the well is plugged, the location will be returned to original grade and productivity per ARM 36.22.1307.

Unusually large wellsite (Describe dimensions): No, 240' X 200'.

Damage to improvements: None.

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 Highway #200 and an existing trail.

Drilling fluids/solids: Drilling fluids will be disposed of and pit will be backfilled.

6. HEALTH HAZARDS/NOISE

Proximity to public facilities/residences: No residences within a 1/2-mile radius.

Possibility of H₂S: Slight chance of H₂S gas production in Mississippian formations.

Size of rig/length of drilling time: 3 to 5 days.

Mitigation:

Proper BOP equipment

Topographic sound barriers

H₂S contingency and/or evacuation plan

Special equipment/procedures requirements

Other:

7. WILDLIFE/RECREATION

Sage Grouse: Yes, in general area. Program analysis received 10-31-2018.

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: Threatened or endangered species in Garfield County, MT are listed as: Pallid Sturgeon, Piping Plover, Interior Least Tern, and Whooping Crane. The Montana Natural Heritage Program lists two (2) species of concern, they are the Hoary Bat and Greater Sage-Grouse.

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 cultivated 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:

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
Title: Compliance Specialist

Date: 11/01/18