

CHECKLIST ENVIRONMENTAL ASSESMENT

Proposed Action: Approve Drilling Permit (Form 22)

Project/Well Name: Lange 3-6

Operator: A.B. Energy, LLC

Location: SWSE Section 7 T36N R6E

County: Liberty MT; **Field (or Wildcat):** Bear's Den

Proposed Project Date: 12/8/2018

I. DESCRIPTION OF ACTION

A.B Energy, LLC plans to drill a well for an Swift formation test 2,400' MD / TVD. Surface casing to be set at 380'.

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 7 T36N R6E

Montana Department of Natural Resources MEPA Submittal

2. ALTERNATIVES CONSIDERED

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

Action Alternative: A.B. Energy, 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 2,400' MD / TVD well.

Possible H2S gas production: None anticipated.

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 2,400' 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 with chemical and gel will be used for all drilling operations.

High water table: No high-water table anticipated at this location.

Surface drainage leads to live water: No, an unnamed ephemeral drainage is located about 340' to the north and 800' to the southwest. A stock pond exists 2/5 of a mile to the east. Sage Creek is located about 1.1 miles to the northwest.

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

Porous/permeable soils: No, sandy clay.

Class I stream drainage: No.

Groundwater vulnerability area: NA

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

5. SOILS/VEGETATION/LAND USE

Vegetation: Grassland.

Stream crossings: None anticipated.

High erosion potential: Slight, a large cut of 22.6' and a small fill of 8.2' is required.

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

Unusually large wellsite (Describe dimensions): No, a location size of 150' X 150' will be used.

Damage to improvements: Slight, surface use is grassland.

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 Bears Den Rd and an existing trail.

Drilling fluids/solids: Landowner requested that cuttings and mud be disposed of in her reservoir 400 yards east of well site to help reduce water loss through the dam.

6. HEALTH HAZARDS/NOISE

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

Possibility of H2S: None anticipated.

In/near Class I air quality area: No.

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

Mitigation:

- Proper BOP equipment: 3,000#.
- 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 is the Red Knot, Grizzly Bear, and Whitebark Pine. MTFWP Natural Heritage Tracker website lists two (2) species of concern, the 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. Timing restrictions are in place to reduce disturbance to Sage Grouse. The Board of Oil & Gas has no jurisdiction over private surface lands.

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: 11/26/18
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