CHECKLIST ENVIRONMENTAL ASSESMENT

Proposed Action: Approve Drilling Permit (Form 22)
Project/Well Name: ML&E Bowes Dome 10-30-32N-20E
Operator: Montana Land and Exploration, Inc

Location: NW SE Section 30 T32N R20E
County: Blaine **MT; Field (or Wildcat):** Bowes Oil Field

Proposed Project Date: 10/24/2017

I. DESCRIPTION OF ACTION

Small rig to drill an Upper Bowes Formation test, 3510'MD/TVD.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED

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

US Fish and Wildlife, Region 6 website
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA COUNTIES, Blaine County

Montana Natural Heritage Program Website (FWP)
Heritage State Rank= S1, S2, S3, T32N R20E

Montana Cadastral Website
Surface Ownership and surface use Section 30 T32N R20E

Montana Department of Natural Resources MEPA Submittal

2. ALTERNATIVES CONSIDERED

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

Action Alternative: Montana Land and Exploration, Inc would have permission to drill the well.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

3. AIR QUALITY

Long drilling time: No, 3-4 days.
Unusually deep drilling (high horsepower rig): No

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 small rig to drill an Upper Bowes Formation test, 3510'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: Surface casing hole will be drilled with freshwater and freshwater mud system, Rule 36.22.100.1. Main hole will be drilled with freshwater as well.
High water table: No.
Surface drainage leads to live water: No, closest drainage is Lonetree Coulee 900 feet to the south of location and an unnamed ephemeral drainage to the Milk River 1/5 of a mile to the north. The Milk River is about 4 miles to the Northwest.

Water well contamination: No water wells within a 1 mile radius. This proposed oil well will be drilled with freshwater and freshwater mud to 430' and steel surface casing will be run and cemented to surface to protect groundwater.

Porous/permeable soils: No, sandy silty clay soils.
Class I stream drainage: None.
Groundwater vulnerability area: Yes, in groundwater vulnerability area.

Mitigation:
__ Lined reserve pit
X Adequate surface casing
__ Berms/dykes, re-routed drainage
__ Closed mud system
X 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: 430' surface casing will be drilled with freshwater, steel casing will be run to 430' and cemented back to surface, to protect freshwater zones in adjacent water wells, Rule 36.22.1001. Adequate surface casing and BOP equipment to prevent problems, (3,000 psi annular and double ram), Rule 36.22.1014.)

5. SOILS/VEGETATION/LAND USE

Vegetation: Grassland.
Steam crossings: None anticipated.
High erosion potential: Possible No, small cut of 1.0' and a small fill of 3.7' required.
Loss of soil productivity: No, location will be restored after drilling if unproductive.

Unusually large wellsite (Describe dimensions): No, 250'X250' required.
Damage to improvements: Slight.
Conflict with existing land use/values: Slight.

Mitigation
__ Avoid improvements (topographic tolerance)
__ Exception location requested
_X_ 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 over existing trail. A new access of 375' will be built into location.

Drilling fluids/solids: The drilling fluids will be allowed to settle in the unlined reserve pit and the free water removed, tested, and spread on an approved landowner site or left in the pit to evaporate. The solids will be allowed to dry and then mix-bury-cover method in spring 2018.

6. HEALTH HAZARDS/NOISE

Proximity to public facilities/residences: No residences within a 1 mile radius.
Possibility of H2S: None anticipated.
Size of rig/length of drilling time: 3-4 days.

Mitigation:
_X_ Proper BOP equipment
__ 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: No.
Conflict with game range/refuge management: No.
Threatened or endangered Species: Listed threatened or endangered species in Richland County are the Pallid Sturgeon, Black-footed Ferret, and Piping Plover. The Montana Natural Heritage Program website lists five (5) species of concern, the Peregrine Falcon, Northern Redbelly Dace, Iowa Darter, Northern Pearl Dace, and Sauger.

Mitigation:
__ Avoidance (topographic tolerance/exception)
__Other agency review (DFWP, federal agencies, DNRC Trust Lands)
__ 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	**Date:**	09/12/17
	Title:	Compliance Specialist		