

**Montana Board of Oil and Gas Conservation  
Environmental Assessment**

**Operator:** Kykuit Resources, LLC  
**Well Name/Number:** Wickens #8-21-18  
**Location:** SE NE Section 8 T21N R18E  
**County:** Fergus, MT; **Field (or Wildcat):** Wildcat

**Air Quality**

(possible concerns)

Long drilling time: No, 3 to 4 days  
Unusually deep drilling (high horsepower rig): No, small single drilling rig TD 2200'.  
Possible H2S gas production: No, sweet gas production.  
In/near Class I air quality area: Not in a Class I air quality area.  
Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

Air quality permit (AQB review)  
 Gas plants/pipelines available for sour gas  
 Special equipment/procedures requirements  
 Other: \_\_\_\_\_  
Comments: Small single derrick drilling rig to drill to 2200' TD.

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**Water Quality**

(possible concerns)

Salt/oil based mud: No, freshwater and freshwater mud system to be used.  
High water table: No, high water table expected.  
Surface drainage leads to live water: Closest drainage is an unnamed ephemeral tributary drainage to Dog Creek, about 1/4 of a mile to the east of this location. Within this ephemeral drainage is a stock pond.  
Water well contamination: None, closest water wells are about 5/8 of a mile to the southwest, 5/8 of a mile to the west southwest and 3/4 of a mile to the east from this location, depth of this wells are 220', 27' and 15'. Surface hole will be drilled with freshwater to 250'. Steel surface casing will be run and cemented to surface to protect ground waters.  
Porous/permeable soils: No, sandy bentonitic soils.  
Class I stream drainage: No, Class I stream drainages nearby.

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: Adequate surface casing to be set , 250' to protect water wells.

**Soils/Vegetation/Land Use**

(possible concerns)

Stream crossings: No, streams to be crossed, only ephemeral drainages.

High erosion potential: No, no cut up to 0.0' and small fill up to 2.4', required.

Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: No, small drillsite, 200'X200'.

Damage to improvements: Slight, surface use is a 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

Other \_\_\_\_\_

Comments: Will utilize existing county road, Kucera Road. Short access off existing county road to be built, about 1/4 of a mile of new access will be built into this location. Unlined earthen pits will be utilized for drilling. Top water will be recycled to the next location and solids will be allowed to dry in the pits. When pits are dry they will be filled in with subsoil and topsoil spread. No concerns.

### Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Closest residences are about 3/4 of a mile to the east northeast of this wellsite.

Possibility of H2S: None, all formations are sweet gas producers in area of review.

Size of rig/length of drilling time: Small single derrick drilling rig/Short drilling time 3 to 4 days.

Mitigation:

Proper BOP equipment

Topographic sound barriers

H2S contingency and/or evacuation plan

Special equipment/procedures requirements

Other: \_\_\_\_\_

Comments: Adequate amount of surface casing and BOP equipment should mitigate any problems.

### Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites 8 miles to the north is the Upper Missouri River Breaks National Monument boundary.

Creation of new access to wildlife habitat: None

Conflict with game range/refuge management: None

Threatened or endangered Species: Threatened or endangered species identified are the Pallid Sturgeon and Black-Footed Ferret. Species of concern is the Greater Sage Grouse.

Mitigation:

Avoidance (topographic tolerance/exception)

- Other agency review (DFWP, federal agencies, DSL)
- Screening/fencing of pits, drillsite
- Other: \_\_\_\_\_

Comments: Private surface lands. Surface use is cultivated field. About 1320' south of a county gravel road. No concerns.

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### Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites None identified

Mitigation

- avoidance (topographic tolerance, location exception)
- other agency review (SHPO, DSL, federal agencies)
- Other: \_\_\_\_\_

Comments: Surface land is private. No concerns.

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### Social/Economic

(possible concerns)

- Substantial effect on tax base
- Create demand for new governmental services
- Population increase or relocation

Comments: No, impact expected from the drilling of this well.

### Remarks or Special Concerns for this site

No special concerns about this wellsite. This is a Cretaceous Eagle Formation test to be drilled to 2200' TD.

### Summary: Evaluation of Impacts and Cumulative effects

No significant or long term impacts expected from the drilling of this well. Some short term impacts will occur.

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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.

Prepared by (BOGC): /s/ Steven Sasaki

(title:) Chief Field Inspector

Date: July 13, 2010

Other Persons Contacted:

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Montana Bureau of Mines and Geology, GWIC website

(Name and Agency)

Fergus County water wells

(subject discussed)

May 27, 2010

(date)

US Fish and Wildlife, Region 6 website

(Name and Agency)

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

(subject discussed)

May 21, 2010

(date)

Ms. Windy Davis, Montana FWP

(Name and Agency)

Greater Sage Grouse Leks in Fergus County, Montana

(subject discussed)

July 12, 2010

(date)

If location was inspected before permit approval:

Inspection date: \_\_\_\_\_

Inspector: \_\_\_\_\_

Others present during inspection: \_\_\_\_\_