

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

**Operator:** Kykuit Resources, LLC  
**Well Name/Number:** Arntzen #22-1  
**Location:** NW SW Section 22 T19N R18E  
**County:** Fergus, MT; **Field (or Wildcat)** Wildcat

**Air Quality**

(possible concerns)

Long drilling time: No short, 6 to 7 days drilling time.  
Unusually deep drilling (high horsepower rig): No, small single drilling rig TD 4500'.  
Possible H2S gas production: Yes, slight.  
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 4,500' 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 Middle Fork Salt Creek, about 1/32 of a mile to the north of this location.  
Water well contamination: None, closest water wells are about 1/2 of a mile to the southwest and 5/8 of a mile to the south of this location, depth of this well is 140' and 277'.. 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.

High erosion potential: No, small cut up to 2.4' and small fill up to 4.5', 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 grazing land.

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, Christina W and two track ranch trail. Short access off existing trail to be build 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.

### Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: No residences within 1 mile or further from this location.

Possibility of H2S: Yes, slight.

Size of rig/length of drilling time: Small single derrick drilling rig/Short drilling time 6 to 7 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: None identified.

Creation of new access to wildlife habitat: None

Conflict with game range/refuge management: None

Threatened or endangered Species: None identified.

Mitigation:

Avoidance (topographic tolerance/exception)

Other agency review (DFWP, federal agencies, DSL)

Screening/fencing of pits, drillsite

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

Comments: Private surface lands. 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 Mississippian Madison Formation test to be drilled to 4500' TD.

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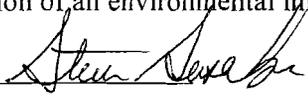
**Summary: Evaluation of Impacts and Cumulative effects**

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): Steven Sasaki 

(title:) Chief Field Inspector

Date: May 2, 2008

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Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website

(Name and Agency)

Fergus County water wells

(subject discussed)

May 2, 2008  
(date)

If location was inspected before permit approval:

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

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

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