

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

**Operator:** Kodiak Oil & Gas (USA) Inc.  
**Well Name/Number:** Christensen Trust 13-10  
**Location:** SW SW Section 10 T34N R57E  
**County:** Sheridan, MT; **Field (or Wildcat)** Wildcat

**Air Quality**

(possible concerns)

Long drilling time No, 20-30 days drilling time.  
Unusually deep drilling (high horsepower rig) Triple derrick rig 600 HP, 7820' TVD Mission Canyon well.  
Possible H2S gas production yes  
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.

Mitigation:

- Air quality permit (AQB review)
- Gas plants/pipelines available for sour gas
- Special equipment/procedures requirements
- Other: \_\_\_\_\_

Comments: Associated gas to be flared or if a pipeline is run to a sweetening facility then it can be hooked up.

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**Water Quality**

(possible concerns)

Salt/oil based mud yes to long string, production hole, salt based drilling fluids. Surface casing freshwater, and freshwater mud system to be used.  
High water table No  
Surface drainage leads to live water none, no live water nearby. Nearest drainage is about 1/16 of a mile to the south of this location. It appears to be an unnamed ephemeral drainage which drains to a low land area to the southeast.  
Water well contamination None, water wells in the area are 120' or shallower. Significantly shallower than the surface casing setting depth of 1500'.  
Porous/permeable soils No, gumbo gravelly soils  
Class I stream drainage No, Class I stream drainages.

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: 1500' surface casing well below freshwater zones in adjacent water wells. Also, covering Fox Hills aquifer. Adequate surface casing and BOP equipment to prevent problems in and around freshwater slough.

**Soils/Vegetation/Land Use**

(possible concerns)

Stream crossings None

High erosion potential No, location will require a moderate cut of up to 13.0' and moderate fill, up to 14.3', required.

Loss of soil productivity None, location to be restored after drilling well, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite No, large well site 300'X400'

Damage to improvements slight

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 use existing county roads in the area except for a short access to the location off existing county road. About 638' of new access road will be built. Cuttings will be buried in the lined reserve pit. Drilling fluids and hydrocarbons will be removed to commercial disposal. Pit will be allowed to dry after all fluids have been removed. The pit after drying will be backfilled.

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### Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences buildings 1 mile to south and 1/4 mile to the northwest of this location.

Possibility of H2S Yes

Size of rig/length of drilling time Triple drilling rig 20 to 30 days drilling time.

Mitigation:

Proper BOP equipment

Topographic sound barriers

H2S contingency and/or evacuation plan

Special equipment/procedures requirements

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

Comments: Adequate surface casing cemented to surface with working BOP stack should mitigate any problems. Sufficient distance between location and buildings noise should not be a problem.

### Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified) n/a None identified.

Proximity to recreation sites

Creation of new access to wildlife habitat No

Conflict with game range/refuge management No

Threatened or endangered Species No

Mitigation:

Avoidance (topographic tolerance/exception)

Other agency review (DFWP, federal agencies, DSL)

Screening/fencing of pits, drillsite

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

Comments: 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 location is private land.

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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 concerns

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**Remarks or Special Concerns for this site**

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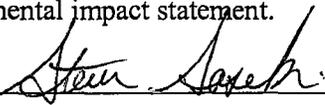
**Summary: Evaluation of Impacts and Cumulative effects**

Short term impacts expected, no long term impacts anticipated.

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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 4, 2006

Other Persons Contacted:

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(Name and Agency)

Montana Bureau of Mines and Geology, Groundwater Information Center GWIC website

(subject discussed)

Sheridan County water wells

May 4, 2006

(date)

If location was inspected before permit approval:

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

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

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