

# Montana Board of Oil and Gas Conservation Environmental Assessment

**Operator:** Shakespeare Oil Company, Inc.  
**Well Name/Number:** State 1-25  
**Location:** NE NE Section 25 T36N R54E  
**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 1000 HP, 10,600'TVD Red River formation test well.

Possible H2S gas production: slight chance

In/near Class I air quality area: No

Air quality permit for flaring/venting (if productive): Yes, if productive. DEQ air quality permit required, under rule 75-2-211.

Mitigation:

Air quality permit (AQB review)

Gas plants/pipelines available for sour gas

Special equipment/procedures requirements

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

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

## Water Quality

(possible concerns)

Salt/oil based mud: Yes, oil base mud system out from under surface casing to total depth., Surface casing freshwater, and freshwater mud system to be used.

High water table: possible

Surface drainage leads to live water: No, closest drainage is McCoy Creek, on the south of this location..

Water well contamination: None, 3 shallow water wells in section are significantly shallower than the surface casing setting depth of 1500'. Surface hole will be drilled with freshwater and freshwater mud system. Steel surface casing will be set at 1500' and cemented to surface to protect ground water.

Porous/permeable soils: No, sandy clay 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 should mitigate any problems that might occur.

## Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: None

High erosion potential: No, location is in hay meadow and will require a small cut - fill,

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' X 400'

Damage to improvements: Slight, surface use is cultivated 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 use existing highway 16 and a short access road. Oil based muds and completion fluids will be either recycled or hauled to a commercial disposal well. Cuttings will be disposed of in the lined reserve. The reserve pit will be allowed to dry and then backfilled with subsoil. No Concerns.

### Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Residences about 3/8 mile to the east. The town of Raymond, MT is about 2 miles to the North 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): None identified.

Proximity to recreation sites: None identified.

Creation of new access to wildlife habitat: None identified.

Conflict with game range/refuge management: No

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: Surface location is private land. No concerns.

**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. No concerns.

**Social/Economic**

(possible concerns)

Substantial effect on tax base

Create demand for new governmental services

Population increase or relocation

Comments: No concerns.

**Remarks or Special Concerns for this site**

This is a wildcat Red River Formation Test. No special concerns.

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

Short term impacts expected, no long term impacts anticipated.

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): Thomas Richmond

(title:) Administrator

Date: October 1, 2013

Other Persons Contacted:

\_\_\_\_\_  
\_\_\_\_\_

(Name and Agency)

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

(subject discussed)

Sheridan County water wells

October 1, 2013

(date)

If location was inspected before permit approval:

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

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

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