

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

**Operator:** Triangle USA Petroleum Corporation  
**Well Name/Number:** Torgerson 30-59-21-16-1H  
**Location:** Lot 4 Section 21 T30N R59E  
**County:** Roosevelt, **MT;** **Field (or Wildcat)** Wildcat

**Air Quality**

(possible concerns)

Long drilling time: No, 30-40 days drilling time.

Unusually deep drilling (high horsepower rig): Triple derrick rig drilling rig, 900-1000 HP to drill to 20,162' MD/10,288' TVD.

Possible H2S gas production: Yes, low concentrations.

In/near Class I air quality area: No 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: Existing pipeline for gas in the area. \_\_\_\_\_

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**Water Quality**

(possible concerns)

Salt/oil based mud: Yes to intermediate string hole will be oil based invert drilling fluids. Surface hole will be drilled with freshwater and freshwater mud system to be used. Horizontal leg will be drilled with brine water or oil based invert drilling fluid.

High water table: No high water table anticipated.

Surface drainage leads to live water: Yes, there are multiple stock ponds within the vicinity. Closest drainage is an unnamed ephemeral drainage with stock ponds built into this drainage, about 1/4 of a mile to the Northwest of this location. This drainage is a tributary to Sand Creek, which drains into Medicine Lake National Wildlife Refuge.

Water well contamination No, closest water wells are about 3/5 of a mile to the northwest and 4/5 of a mile to the southwest. Depths of these stockwater wells are 85' and 120'. Surface hole will be drilled with freshwater to 2000' and steel surface casing set and cemented to surface to protect shallow 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: 2,000' surface casing well below freshwater zones in adjacent water wells. Also, covering Fox Hills aquifer. Adequate surface casing and BOP equipment to prevent problems.

## Soils/Vegetation/Land Use

(possible concerns)

Steam crossings: None anticipated.

High erosion potential: No, small cut of up to 1.4' and small fill of up to 7.9', 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 510'X560', four wells planned for this well pad.

Damage to improvements: Surface use appears to be grassland.

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: Access will be over existing county road. About 40' of new access road will be built into this location from the county road. Cuttings will be buried in the lined reserve pit. Drilling fluids will be removed from the pit and disposed of in an approved facility. No concerns.

## Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Residences about ¼ of a mile to the southeast and 1 mile to the west of this location. The town of Bainville, MT is about 16 miles to the southwest of this location.

Possibility of H2S: Yes, low concentrations.

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.

## Wildlife/recreation

(possible concerns)

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

Proximity to recreation sites: Medicine Lake National Wildlife Refuge about 10 miles to the northwest from this location.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No

Threatened or endangered Species: Species identified as threatened or endangered are the Pallid Sturgeon, Interior Lease Tern, Whooping Crane and Piping Plover. Candidate specie is the Sprague's Pipit. The Montana NH Tracker lists four (4) species of concern: Baird's Sparrow, Nelson's Sparrow, Chesnut-collared Longspur, and Whooping Crane.

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: Private surface lands. 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 concerns, wildcat well.

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### Remarks or Special Concerns for this site

Horizontal Bakken formation test 20,162' MD/10,288' TVD.

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### Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected. Some short term impacts will occur, but will be mitigated in time.

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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): John Gizicki

(title): Compliance Specialist

Date: September 17, 2014

Other Persons Contacted:

Montana Bureau of Mines and Geology, Groundwater Information Center website

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(Name and Agency)

Roosevelt County water wells  
(subject discussed)  
September 17, 2014  
(date)

US Fish and Wildlife, Region 6 website  
(Name and Agency)  
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA  
COUNTIES, Roosevelt County  
(subject discussed)

September 17, 2014  
(date)

Montana Natural Heritage Program Website (FWP)  
(Name and Agency)  
Heritage State Rank= S1, S2, S3, T30N R59E  
(subject discussed)

September 17, 2014  
(date)

Montana Cadastral Website  
(Name and Agency)  
Surface Ownership and surface use Section 21 T30N R59E  
(subject discussed)

September 17, 2014

If location was inspected before permit approval:  
Inspection date: \_\_\_\_\_  
Inspector: \_\_\_\_\_  
Others present during inspection: \_\_\_\_\_