

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

**Operator:** Apache Corporation  
**Well Name/Number:** Jayhawk Wescoe-35-7H-B  
**Location:** SE NE Section 34 T36N R47E  
**County:** Daniels, **MT;** **Field (or Wildcat)** Wildcat

**Air Quality**

(possible concerns)

Long drilling time: No, 20 to 30 days drilling time.

Unusually deep drilling (high horsepower rig): No, triple derrick drilling rig to drill a vertical pilot hole to 11,000'TVD Deadwood Formation and plugback to 6,200'TVD and drill a Middle Bakken Formation single lateral horizontal well test, 11.420'MD/7,088'TVD.

Possible H2S gas production: Possible H2S gas from Mississippian, Duperow, Interlake, Red River, Winnipeg and Deadwood Formations.

In/near Class I air quality area: Yes, closest Class I air quality area is the Fort Peck Indian Reservation, about 13.8 miles to the south from this location.

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: No special concerns – using a triple derrick drilling rig to drill a vertical pilot hole to 11,000'TVD Deadwood Formation and plugback to 6,200'TVD and drill a Middle Bakken Formation single lateral horizontal well test, 11.420'MD/7,088'TVD. If there are existing pipelines for natural gas in the area then associated gas must be tied into gathering system or if no gathering system nearby for gas, gas can be flared under Board Rule 36.22.1220.

**Water Quality**

(possible concerns)

Salt/oil based mud: Yes, freshwater and freshwater gel polymer mud system on surface hole. Mainhole will be drilled with a oil based invert mud system. Horizontal lateral will be drilled with a freshwater polymer mud system.

High water table: No high water table anticipated at this location.

Surface drainage leads to live water: No, closest drainage is an unnamed ephemeral tributary drainage to Butte Creek, about 1/8 of a mile to the south from this location. Butte Creek is about 3/4 of a mile to the south from this location.

Water well contamination: No, no water wells are within a 1 mile radius from this location. Surface hole will be drilled with freshwater and surface casing set and cemented to surface at 1050'. (Rule 36.22.1001)

Porous/permeable soils: No, sandy clay soils.

Class I stream drainage: No, Class I stream drainage in the area of review.

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: Lined cuttings pit will be constructed on the location for the disposal of the drill cuttings.

Comments: 1050' of surface casing cemented to surface adequate to protect freshwater zones. Also, fresh water mud systems to be used. (Rule 36.22.1001)

### Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: None

High erosion potential: No, moderate cut, up to 11.0' and small fill, up to 9.0', required.

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

Unusually large wellsite: No, a large well site, 400X500' location size for two (2) wells, Jayhawk Wescoe-34-7H-B and the Jayhawk Wescoe-35-8H-T.

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 use existing county road, Chabot Road. An access will be built along the east section line, about 7390' will be built into this location. Cuttings will be buried on site in the lined cuttings pit. Drilling fluids and completion fluids will be hauled to commercial Class II saltwater disposal facility. Solids will be allowed to dry in the lined cuttings pit. Pit will be back filled when dry with clay subsoils and then topped with topsoil. No special concerns.

### Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: No residences within a one mile radius from this location. The town of Scobey, Montana is about 6 miles to the southeast from this location.

Possibility of H<sub>2</sub>S: Possible H<sub>2</sub>S gas from Mississippian, Duperow, Interlake, Red River and Deadwood Formations.

Size of rig/length of drilling time: Triple drilling rig 25 to 30 days drilling time.

Mitigation:

- Proper BOP equipment
- Topographic sound barriers
- H<sub>2</sub>S contingency and/or evacuation plan
- Special equipment/procedures requirements

Other: H2S safety equipment, air cascade system with work packs and H2S emergency escape packs. H2S safety training for all rig employees.

Comments: Adequate surface casing and operational BOP should mitigate any problems. (BOP's 5,000 psig annular, pipe and blind rams) rule 36.22.1014. No concerns.

### 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: No

Conflict with game range/refuge management: No

Threatened or endangered Species: Species identified as threatened or endangered are the Whooping Crane. Candidate species is the Sprague's Pipit. NH tracker website indicates one (2) species of concern: the Northern Redbelly Dace and the Iowa Darter.

Mitigation:

Avoidance (topographic tolerance/exception)

Other agency review (DFWP, federal agencies, **DNRC Trust Lands**)

Screening/fencing of pits, drillsite

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

Comments: Private surface land, cultivated. State of Montana minerals, DNRC Trust Lands will do surface EA. There may be species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands. State of Montana Trust Lands minerals, Trust Lands will do a surface EA.

### Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites None identified.

Mitigation

avoidance (topographic tolerance, location exception)

other agency review (SHPO, **DNRC Trust Lands**, federal agencies)

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

Comments: Private cultivated surface land. State of Montana minerals, DNRC Trust Lands will do surface EA. There may be possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands. State of Montana Trust Lands mineral. Trust Lands will do a surface EA.

### Social/Economic

(possible concerns)

Substantial effect on tax base

Create demand for new governmental services

Population increase or relocation

Comments: Wildcat well. No concerns

**Remarks or Special Concerns for this site**

Well is a wildcat exploratory to drill a vertical pilot hole to 11,000'TVD Deadwood Formation and plugback to 6,200'TVD and drill a Middle Bakken Formation single lateral horizontal well test, 11.420'MD/7,088' TVD.

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

No, long term impacts expected. 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: December 3, 2012 \_\_\_\_\_

Other Persons Contacted:

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Montana Bureau of Mines and Geology, GWIC website

\_\_\_\_\_  
(Name and Agency)  
Daniels County water wells \_\_\_\_\_  
(subject discussed)  
October 19, 2012 \_\_\_\_\_  
(date)

US Fish and Wildlife, Region 6 website  
(Name and Agency)  
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA COUNTIES, Daniels County, Montana  
(subject discussed)  
October 19, 2012

Montana Natural Heritage Program Website  
(Name and Agency)  
Heritage State Rank= S1, S2, S3, Location T36N R47E  
(subject discussed)

December 3, 2012 \_\_\_\_\_  
(date)

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