

Montana Board of Oil and Gas Conservation Environmental Assessment

Operator: Oasis Petroleum North America LLC
Well Name/Number: Susie 4 2758 42-10B
Location: SE SW Section 10 T27N R58E
County: Roosevelt, MT; Field (or Wildcat) Wildcat

Air Quality

(possible concerns)

Long drilling time: No, 25-30 days drilling time.

Unusually deep drilling (high horsepower rig): Triple derrick drilling rig to drill a single lateral horizontal Bakken Formation test, 20,740' MD/10,200' TVD.

Possible H2S gas production: Yes, slight H2S possible, from Mississippian Formations.

In/near Class I air quality area: No Class I air quality area nearby.

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: If there are existing pipeline for natural gas in the area then associated gas must be tied into system or if no gathering system nearby associated gas can be flared under Board Rule 36.22.1220.

Water Quality

(possible concerns)

Salt/oil based mud: Yes to oil based invert drilling fluids for intermediate casing hole. Horizontal hole will be drilled with saltwater. Surface casing hole will be drilled with freshwater and freshwater mud system, rule 36.22.1001.

High water table: No high water table anticipated.

Surface drainage leads to live water: No, closest drainage is an unnamed ephemeral tributary to Little Muddy Creek, an ephemeral drainage and a stock pond, about adjacent to the southeast corner from this location. Also a large stock pond exists about 3/8 of a mile to the northeast from this location.

Water well contamination: No, closest water wells are about 3/8 of a mile to the south southeast, about 5/8 of a mile to the south southeast, about 5/8 of a mile to the north, about 3/4 of a mile to the east, about 7/8 of a mile to the northeast, about 7/8 of a mile to the east, about 7/8 of a mile to the southeast, about 1 mile to the northeast and all other water wells are further than 1 mile from this location. Depth of these water wells range from 32' to 310'. This proposed oil well will be drilled with freshwater and freshwater mud to 2,041' and steel surface casing will be run and cemented to surface to protect groundwater, rule 36.22.1001.

Porous/permeable soils: No, sandy silty clay soils.

Class I stream drainage: Yes, Class I stream drainage is the Missouri River, about 2.6 miles to the southeast from this location.

Mitigation:

Lined reserve pit

Adequate surface casing

Berms/dykes, re-routed drainage

Closed mud system

Off-site disposal of **liquids (in approved facility)**

Other: _____

Comments: 2,041' of 13" surface casing hole will be drilled with freshwater, 9 5/8" steel casing will be run to 2,041' and cemented back to surface, to protect freshwater zones in adjacent water wells. Surface casing will cover the Fox Hills aquifer, rule 36.22.1001. Adequate, surface casing and operational BOP equipment should prevent any problems, rule 36.22.1014. Stock pond will be drained and filled in, as the surface owner no longer has any cattle or need for the stock pond.

Soils/Vegetation/Land Use

(possible concerns)

Steam crossings: No crossing anticipated.

High erosion potential: Yes this location because of the moderate cut and fill has a high erosion potential, location will require a moderate cut of up to 24.9' and moderate fill of up to 25.2', required.

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

Unusually large wellsite: Yes, a very large well location, 620' X 360'. Designed for 2 wells, Susie 4 2758 42-10B and Susie 3 2758 42-10B.

Damage to improvements: Slight surface use appears to be grazing 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 an existing county roads and existing well lease road. New access road will be built into this location, about 1640' into this location from the existing well lease road. Oil based invert drilling fluids will be recycled. Completion fluids will hauled to a commercial Class II disposal. Cuttings and solids will be buried/solidified on site in the lined reserve pit. The pit will be allowed to dry and the pit backfilled. No concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Nearest residences are about 1.325 mile to the southeast and 1.125 miles to the southwest from this location. The Town of Bainville, MT is about 2.125 miles to the north from this location.

Possibility of H2S: Yes, slight, from Mississippian Formations.

Size of rig/length of drilling time: Triple drilling rig 25 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 (5,000 psig annular and double ram pipe and blinds), rule 36.22.1014.

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 Pallid Sturgeon, Interior Lease Tern, Whooping Crane and Piping Plover. Candidate species is the Sprague's Pipit. NH tracker website indicates fourteen (14) species of concern. They are the Great Blue Heron, Piping Plover, Bobolink, Whooping Crane, Least Tern, Northern Redbelly Dace, Blue Sucker, Iowa Darter, Shortnose Gar, Sturgeon Chub, Sicklefin Chub, Paddle Fish, Sager and Pallid Sturgeon,

Mitigation:

- Avoidance (topographic tolerance/exception)
- Other agency review (DFWP, federal agencies, DSL)
- Screening/fencing of pits, drillsite
- Other: _____

Comments: Private surface grassland. There maybe 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.

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 grassland. There maybe 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.

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

An exploratory single lateral horizontal Bakken Formation test, 20,740' MD/10,200'TVD.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected, some short term impacts will occur, but can be mitigated.

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: May 30, 2013

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website
(Name and Agency)
Roosevelt County water wells
(subject discussed)
May 30, 2013
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA
COUNTIES, Roosevelt County, Montana
(subject discussed)
May 30, 2013

Montana Natural Heritage Program Website
(Name and Agency)
Heritage State Rank= S1, S2, S3, Location T27N R58E
(subject discussed)
May 30, 2013
(date)

Montana Cadastral Website
(Name and Agency)
Ownership and surface use Location: Section 10 T27N R58E
(subject discussed)
May 30, 2013
(date)

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