Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: G3 Operating LLC
Well Name/Number: Sorensen 1-34-27H
Location: SW SE Section 34 T30N R56E
County: Roosevelt **, MT; Field (or Wildcat)** Wildcat

Air Quality

(possible concerns)
Long drilling time: No, 30-35 days drilling time.
Unusually deep drilling (high horsepower rig): Triple derrick drilling rig to drill a single lateral horizontal Bakken Formation well, 19,260'MD/9,782'TVD.
Possible H2S gas production: Slight chance H2S gas production.
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:
X Air quality permit (AQB review)
X Gas plants/pipelines available for sour gas
__ Special equipment/procedures requirements
__ Other:_____
Comments: Existing pipeline for H2S gas in the area._____

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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, freshwater, and freshwater mud system to be used.
High water table: No high water table anticipated.
Surface drainage leads to live water: Yes, closest drainages are ephemeral tributary drainages to Sheep Creek, about ¼ of a mile to the northwest, ¼ of a mile to the south and ½ of a mile to the west from this location. Within theses drainages are stock ponds.
Water well contamination: No, closest water wells are about ¾ of a mile to the northeast and ¾ of a mile to the east northeast from this location. Depth of these stock and domestic water wells are from 37' to 140'. This well will be drilled with freshwater and freshwater mud to 2,000' and steel surface casing will be run and cemented to surface to protect groundwater.
Porous/permeable soils: Yes, sandy silty soils.
Class I stream drainage: No, Class I stream drainages.

Mitigation:
X Lined reserve pit
X 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 will be drilled with freshwater, steel casing will be run to 2,000' and cemented back to surface. To protect freshwater zones in adjacent water wells. Also, covering Fox Hills aquifer. Adequate surface casing and operational BOP equipment will prevent problems.

Soils/Vegetation/Land Use

(possible concerns)
Steam crossings: None anticipated.
High erosion potential: No, location will require a small cut of up to 6.9' and small fill of up to 11.4', required.
Loss of soil productivity: No, location to be restored after drilling, if nonproductive. If productive unused portion of this drillsite will be reclaimed.
Unusually large wellsite: No, very large well site 381'X500'.
Damage to improvements: Slight surface use appears to be a hay field.
Conflict with existing land use/values: Slight

Mitigation
__ Avoid improvements (topographic tolerance)
__ Exception location requested
_X Stockpile topsoil
__ Stream Crossing Permit (other agency review)
_X Reclaim unused part of wellsite if productive
__ Special construction methods to enhance reclamation
_X Other Requires DEQ General Permit for Storm Water Discharge Associated with Construction Activity, under ARM 17.30.1102(28).

Comments: Access will be over an existing county road. New access road will be built into this location, about 369' off the existing county road into this location. 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(fly-ashed) on the well 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: Residences about ¾ of a mile to the northeast, ¾ of a mile to the east northeast and 1.25miles to the southeast from this location. The Town of Froid, MT about 3.6 miles to the northwest from this location.
Possibility of H2S: Yes, slight.
Size of rig/length of drilling time: Triple drilling rig 30 to 35 days drilling time.

Mitigation:
_X 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: 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 ten (10) species of concern. They are: Grasshopper Sparrow, Sprague's Pipit, Great Blue Heron, Burrowing Owl, Ferruginous Hawk, Chestnut-collared Longspur, Sedge Wren, Yellow Rail, Boblink and Whooping Crane. One (1) species identified as a "Potential Species of Concern" is the Eastern Screech-Owl.

Mitigation:
__ Avoidance (topographic tolerance/exception)
__ Other agency review (DFWP, federal agencies, DSL)
__ Screening/fencing of pits, drillsite
__ Other:_____
Comments: Private surface hay land. 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 hay land. 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

G3 Operating, LLC plans to drill a single lateral horizontal Bakken Formation wildcat well to 19,260'MD/9,782'TVD.

Summary: Evaluation of Impacts and Cumulative effects

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

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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 20, 2011

Other Persons Contacted:

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Montana Bureau of Mines and Geology, GWIC website _____
(Name and Agency)

Roosevelt County water wells
(subject discussed)
December 20, 2011
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA COUNTIES, Roosevelt County, Montana
(subject discussed)
December 20, 2011

Montana Natural Heritage Program Website
(Name and Agency)
Heritage State Rank= S1, S2, S3, T30N R56E
(subject discussed)

December 20, 2011
(date)

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