Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: Anschutz Exploration Corporation
Well Name/Number: Southwest Browning 3-3-31-12
Location: SE NE Section 3 T31N R12W
County: Glacier **, MT; Field (or Wildcat)** W/C

Air Quality

(possible concerns)
Long drilling time: No 15 to 20 days drilling time.
Unusually deep drilling (high horsepower rig): Yes, triple derrick drilling rig for a 8,000'TD vertical hole. Formation at total depth is the Cretaceous Kootenai Formation.
Possible H2S gas production: No, no H2S anticipated.
In/near Class I air quality area: Yes, Class I air quality area, Blackfeet Reservation.
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)
__ Gas plants/pipelines available for sour gas
__ Special equipment/procedures requirements
__ Other:____

Comments: Triple derrick drilling rig to drill a vertical hole to 8,000'TD. If there are existing pipeline for gas in the area then gas must be tied into gathering 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, will use an oil based invert drilling fluids from under surface casing to total depth. Freshwater and freshwater mud system will be used on drilling surface hole.
High water table: No high water table anticipated in the area of review.
Surface drainage leads to live water: Closest surface drainages are an unnamed ephemeral tributary drainage to Willow Creek, about ¼ of a mile to the south, Elk Creek, about 1 1/16 miles to the southwest and an unnamed ephemeral tributary drainage to the Two Medicine Creek, about 1 1/16 of a mile to the east from this location.
Water well contamination: No water well contamination. No water wells within a 1 mile radius from this location. Surface casing hole will be drilled with freshwater to 1000'. Steel surface casing will be run and cemented to surface from 1000' to protect ground waters.
Porous/permeable soils: Yes, sandy gravelly clay soils.
Class I stream drainage: Closest Class I stream drainage is the Two Medicine River, about 4 miles to the south from this location.

Mitigation:
_X_ Lined reserve pit
_X_ Adequate surface casing
__ Berms/dykes, re-routed drainage
_X_ Closed mud system
__ Off-site disposal of solids/liquids (in approved facility)

__ Other: ____

Comments: 1000’ of surface casing cemented to surface adequate to protect freshwater. Also, fresh water mud systems to be used on surface hole. Oil based drilling fluids will be recycled. Reserve pit will be used for freshwater solids. Closed loop mud system will keep oil based cuttings from mixing with freshwater cuttings. Oil based mud cuttings will be solidified using the Soli-Bond Process. Freshwater cuttings reserve pit will be filled when dry. Surface hole will be drilled with freshwater drilling fluids utilizing lined surface pit.

Soils/Vegetation/Land Use

(possible concerns)

Steam crossings: None anticipated.

High erosion potential: No, moderate cut, up to 12.3’ and moderate fill required up to 10.0’, required.

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

Unusually large wellsite: No, large, 400’X400’ location size required.

Damage to improvements: Slight, surface use is grassland.

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: Using existing state highway, #2. Access off existing state highway on to a private ranch property, will have to constructed, about ½ mile of new road into this location. Freshwater drilling fluids and cuttings will be allowed to dry in the pit. A closed loop drilling mud system will be used with the oil based drilling fluids from under surface casing to total depth. Oil based drilling fluids will be recycled back to the drilling fluid company. Oil based drill cuttings will be solidified with a Soli-Bond Process and buried in a separate lined pit from the water based cuttings. Pits will be backfilled when dry. No special concerns

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: There are no residences within a 1 mile radius from this wellsite. The town of Browning, Montana is about 8 miles to the northeast from this location.

Possibility of H_2S: No H_2S anticipated, Cretaceous formations are non-H_2S gas producing formations.

Size of rig/length of drilling time: Triple derrick drilling rig to drill for about 15 to 20 days drilling time.

Mitigation:

_X_ Proper BOP equipment

__ Topographic sound barriers

__ H2S contingency and/or evacuation plan
__ Special equipment/procedures requirements
__ Other:____

Comments: No concerns, General wind directions are from the north, northwest and west. Since this well will not drill known H2S bearing formations, H2S contingency and evacuation plan are not required. Formations in this area are not anticipated to be over pressured, surface casing and BOP configurations (5,000 psig annular and double ram with pipe and blinds) should be able to control any problems that could occur. (BOP's 5,000 psig annular, pipe and blind rams) rule 36.22.1014

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): Glacier National Park boundary is about 6 miles to the west from this location.
Proximity to recreation sites: Glacier National Park boundary is about 6.5 miles to the west from this location.
Creation of new access to wildlife habitat: No, tribal allotted surface lands.
Conflict with game range/refuge management: No, Tribal Alloted surface lands.
Threatened or endangered Species: Species identified as threatened or endanger in Glacier County are Grizzly Bear, Canada Lynx, Bull Trout, Sprague's Pipit, Wolverine and the Whitebark Pine. NH Tracker website (FWP) species identified as species of concern are the Wolverine, Canada Lynx, Fisher, Grizzly Bear, Black Tern, Long-billed Curlew, Western Toad and Westslope Cutthroat Trout.

Mitigation:
__ Avoidance (topographic tolerance/exception)
_X_ Other agency review (DFWP, **federal agencies**, DSL)
__ Screening/fencing of pits, drillsite
__ Other: ____

Comments: Tribal Alloted surface grassland. 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 Tribal Alloted surface lands. BLM will do surface EA and permit.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites None identified.

Mitigation
__ avoidance (topographic tolerance, location exception)
_X other agency review (SHPO, DSL, **federal agencies**)
__ Other:____

Comments: Tribal Alloted surface grassland. 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 Tribal Alloted surface lands. BLM will do surface EA and permit.

Social/Economic

(possible concerns)

__ Substantial effect on tax base

__ Create demand for new governmental services

__ Population increase or relocation

Comments: _Rank wildcat well. Social and economic impacts are unknown at this time.

Remarks or Special Concerns for this site

Well is a vertical Cretaceous Kootenai Formation test hole to 8,000'TD.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected. Some short term impacts will occur.

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:_August 15, 2012______________

Other Persons Contacted:

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_Montana Bureau of Mines and Geology, GWIC website______________________
(Name and Agency)
_Glacier County water wells_________ __
(subject discussed)
August 15, 2012
(date)

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

August 15, 2012____
(date)

Montana Natural Heritage Program Website (FWP)
(Name and Agency)
Heritage State Rank= S1, S2, S3 T31N R12W
(subject discussed)

August 15, 2012____

(date)

If location was inspected before permit approval:
Inspection date: _______________
Inspector: ____________________
Others present during inspection: _____________