Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: Chaparral Energy, LLC
Well Name/Number: Kemp 1-33
Location: NE SE Section 33 T25N R55E
County: Richland **, MT; Field (or Wildcat)** Wildcat

Air Quality

(possible concerns)
Long drilling time: No, 20-30 days drilling time.
Unusually deep drilling (high horsepower rig): Triple derrick rig 1000 HP, vertical Red River Formation test to 12,000'.
Possible H2S gas production: Possible H2S.
In/near Class I air quality area: No Class I air quality area in or near this well site.
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 gas in the area.

Water Quality

(possible concerns)
Salt/oil based mud: Yes to oil based invert drilling fluids for drilling mainhole out from under surface casing. Surface casing hole to be drilled with freshwater and freshwater mud.
High water table: No high water table anticipated.
Surface drainage leads to live water: Yes, nearest drainage is the East Charlie Creek, about 3/8 of a mile to the northwest from this location.
Water well contamination: No, closest water well is about 1/2 of a mile to the northwest from this location. Depth of this water well is 300'. All other water wells are over 1 mile distance from this well. Surface hole will be drilled with freshwater. Surface casing will be set to 1800' and cemented to surface.
Porous/permeable soils: No, sandy silty clay 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: 1800'+/- surface casing well below freshwater zones in adjacent water wells. Also, covering Fox Hills aquifer. Adequate surface casing and BOP equipment to prevent any problems.

Soils/Vegetation/Land Use

(possible concerns)
Steam crossings: No stream crossings anticipated.
High erosion potential: No, location has a moderate cut of 9.6' and a moderate fill of 3.6', required.

Loss of soil productivity: _None, location to be restored after drilling well, if well is nonproductive. If well is productive, unused portion of drillsite will be reclaimed.
Unusually large wellsite: No, large well site 330'X260'.
Damage to improvements: Slight, surface use appears 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: Oil based muds will be recycled, cuttings will be disposed of in a lined reserve pit, completion fluids will be hauled to Class II disposal. Pit will be allowed to dry, fly ash pit contents and backfilled with subsoil. Access will be over existing county roads, #201 and well access road. About 485' of new road will be built into this location from the existing wellsite.

Health Hazards/Noise

(possible concerns)
Proximity to public facilities/residences: Closest residences are about ½ of a mile to the northwest, 5/8 of a mile to the southeast and about 7/8 of a mile to the south southwest and south southeast from this location.
Possibility of H2S: _Yes possible H2S.__
Size of rig/length of drilling time: Triple drilling rig 20 to 30 days drilling time.

Mitigation:
_X_ Proper BOP equipment
__ Topographic sound barriers
__ H2S contingency and/or evacuation plan
__ Special equipment/procedures requirements
__ Other:_____

Comments: _1800' is adequate surface casing cemented to surface with working BOP stack should mitigate any problems. Distance sufficient to mitigate noise.

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: None identified.
Conflict with game range/refuge management: _None
Threatened or endangered Species: _Species identified as threatened by the USFWS are Pallid Sturgeon, Piping Plover, Interior Lease Tern and Whooping Crane in Richland County. Listed Candidate species are the Greater Sage Grouse and Sprague's Pipit. NH tracker website indicates no species of concern in this Township and Range.

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

Comments: __Private surface grasslands. No concerns.

_____

_____

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 grasslands. No concerns._____

_____

_____

Social/Economic

(possible concerns)

__ Substantial effect on tax base

__ Create demand for new governmental services

__ Population increase or relocation

Comments: _No concerns. _____

_____

_____

Remarks or Special Concerns for this site

__A vertical Red River Formation well to be drilled to 12,000'._

_____

Summary: Evaluation of Impacts and Cumulative effects

12,000' vertical Red River Formation well. 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:_____January 13, 2011_____

Other Persons Contacted:

_Montana Bureau of Mines and Geology, Groundwater Information Center website

_____

(Name and Agency)

_Richland County water wells _____

(subject discussed)

_January 13, 2011_____

(date)

_USFWS Threatened, Endangered, Proposed and Candidate Species Montana Counties website, Richland County_____

(Name and Agency)
Threatened or Endangered Endanger species _____
(subject discussed)
January 13, 2011_____
(date)

Montana Natural Heritage Program Website (FWP)
(Name and Agency)
Heritage State Rank= S1, S2, S3, T25N R55E
(subject discussed)

_January 13, 2011_____
(date)

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