Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: Petro Hunt, LLC
Well Name/Number: Dietz 19-54-24C-3-1
Location: SW SW Section 24 T19N R54E
County: Dawson **, MT; Field (or Wildcat)** W/C

Air Quality

(possible concerns)
Long drilling time: 20-25 days drilling time for a vertical Red River Formation test.
Unusually deep drilling (high horsepower rig): No, large triple drilling rig for a 11,350' TD vertical Red River Formation test.
Possible H2S gas production: Yes possible H2S from Mississippian, Devonian, Silurian and Ordovician Formations.
In/near Class I air quality area: No Class I air quality area.
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: No special concerns, adequate surface casing, 1677' to be set and cemented back to surface with proper BOP stack should mitigate any concerns. Triple rig to drill a 11,350' TD vertical Red River Formation test. 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 associated gas can be flared under Board Rule 36.22.1220.

Water Quality

(possible concerns)
Salt/oil based mud: Yes, will utilize an oil based invert drilling fluid system for the mainhole, from the base of surface casing to TD. Will use freshwater and freshwater mud system on surface hole, rule 36.22.1001.
High water table: No high water table expected.
Surface drainage leads to live water: No, nearest drainage is an unnamed ephemeral tributary drainage to Thirteen Mile Creek, about ¼ of a mile to the west from this location. There should not be any discharge of fluids off this location.
Water well contamination: No, closest water wells are about 5/8 of a mile to the south and all other wells are further than 1 mile from this well location. Surface hole will be drilled with freshwater and steel surface casing set and cemented from 1677' to protect surface waters and the Fox Hill aquifer, rule 36.22.1001.
Porous/permeable soils: No, sandy clay soils.
Class I stream drainage: No, Class I stream drainages in the area.

Mitigation:
__ Lined reserve pit
X Adequate surface casing
__ Berms/dykes, re-routed drainage
X Closed mud system

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

_X_ Other: _Liquids will be trucked to Indian Mounds SWD #1 for injection in Richland County, Montana. Cuttings solids will be trucked and disposed of at Indian Mounds or Little Missouri Special Waste Landfill in North Dakota.

Comments: 1677' of surface casing cemented to surface adequate to protect freshwater zones. Also, fresh water mud systems to be used on surface hole, rule 36.22.1001 .

Soils/Vegetation/Land Use

(possible concerns)

Steam crossings: No stream crossings anticipated.

High erosion potential: Yes, this location has a high erosion potential on the cut and fill slopes. The location will require a moderate cut, up to 19.3' and moderate fill, up to 14.7', 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: Large, 285'X240' location size required for the Dietz 19-54-24C-3-1 well.

Damage to improvements: Slight, surface use is grazing land.

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
__ Other:_____

Comments: Access will be over existing county road, #523. Will construct about 1.25 miles of new access road into this location. No pits will be constructed. Oil based invert drilling fluids will be recycled. Completion fluids will be hauled to a permitted commercial Class II disposal, Indian Mounds SWD #1, Richland County, Montana. Solids will be trucked to Indian Hills or Little Missouri Special Waste Landfill in North Dakota. Topsoil will be spread and seeded to vegetation per landowner specification. No special concerns

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: No residences within a 1 mile radius around this wellsite.

Possibility of H2S: Yes possible H2S.

Size of rig/length of drilling time: Triple drilling rig 20 to 25 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. Proper BOP stack and adequate surface casing should be able to control any problems that occur.

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 by USFWS are the Pallid Sturgeon, Interior Least Tern and the Whooping Crane. Species of concern is the Greater Sage Grouse and the Sprague's Pipit. NH tracker website lists three (3) species of concern as the Preble's Shrew, Northern Redbelly Dace and the Sauger.

Mitigation:

__ Avoidance (topographic tolerance/exception)

_X Other agency review (DFWP, federal agencies, DSL)

__ Screening/fencing of pits, drillsite

__ Other: _____

Comments: Private grazing surface lands. Not close to live water. 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. No concerns.

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: Private grazing surface lands. 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. Montana Board of Oil and Gas has no jurisdiction over private surface lands. 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

Well is a 11,350' TD vertical Red River Formation test.

Summary: Evaluation of Impacts and Cumulative effects

No long term impact 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: July 31, 2013

Other Persons Contacted:
Montana Bureau of Mines and Geology, GWIC website
(Name and Agency)
Dawson County water wells
(subject discussed)
July 31, 2013
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA COUNTIES, Dawson County
(subject discussed)
July 31, 2013
(date)

Montana Natural Heritage Program Website (FWP)
(Name and Agency)
Heritage State Rank= S1, S2, S3, T19N R54E
(subject discussed)
July 31, 2013
(date)

Montana Cadastral Website
(Name and Agency)
Surface Ownership and surface use Section 24 T19N R54E
(subject discussed)
July 31, 2013
(date)

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