Sensitive Area Determination Checklist

Williams Production RMT Company		
Person(s) Conducting Field Inspection	Ashlee Lane *Biologist*	8/27/10
Site Information		
Location:	GR 14-28	Time: 1500
Type of Facility:	Proposed Cuttings Trench	
Environmental Conditions	Clear and calm	
Temperature (°F)	90°	

Has the proposed, new or existing location been designated as a sensitive area?
☒ Yes ☐ No

SURFACE WATER

1. Are there any surface water features or SWSAs adjacent to or within ¼ mile of the proposed/new or existing facility?
   ☒ Yes ☐ No

   If yes, list type of surface water feature(s), i.e. rivers, creeks, streams, seeps, springs, wetlands: Parachute Creek, a perennial stream; Starkey Gulch, an intermittent stream; pond sourced via Starkey Gulch and storm water and one irrigation ditch.

   If yes, describe location relative to facility: Parachute Creek is located 996 feet to the northeast; the old channel of Starkey Gulch is located 275 feet to the south and the new channel is located 380 feet to the northwest; the pond is located 125 feet to the northwest and the irrigation ditch is located approximately 232 feet northeast of the proposed facility.

2. Could a potential release from the facility reach surface water features?
   ☒ Yes ☐ No

   If yes, describe the pathway a release from the facility would likely follow to determine if the potential to impact surface water is high or low. A majority of any potential flow, if it were to migrate off the facility, would be to northeast and northwest with some potential to flow to the southeast.

3. Is the potential to impact surface water from a facility release high or low?
   ☒ High ☐ Low

GROUNDWATER

1. Will the proposed/new or existing facility have any pits which will contain hydrocarbons and chlorides or other E&P wastes?
   ☒ Yes ☐ No
   If yes, List the pit type(s): Cuttings trench.

2. Is the site of the proposed facility underlain by an unconfined aquifer or recharge zone?
   ☒ Yes ☐ No

3. Is the hydraulic conductivity of the underlying soil or geologic material $\leq 1.0x10^{-7}$ cm/sec?
   ☐ Yes ☒ No

4. Is the proposed facility located within 1/8 mile of a domestic water well or 1/4 mile of a public water supply well which would use the same aquifer?
   ☐ Yes ☒ No

5. Is the proposed facility located within a 100 year floodplain?
   ☐ Yes (*Sensitive Area*) ☒ No (*If no, proceed to question #6.*)

6. Is the depth to groundwater known?
   ☐ Yes (*If yes, follow instructions provided in 6(a) of this section).*
   ☒ No (*If no, follow instructions provided in 6(b) of this section*).

   (a) If yes, could a potential release from the proposed facility reach groundwater?
   ☐ Yes ☐ No
   If yes, explain:

   (b) If no:
   (i) Evaluate surrounding soils, topography, and vegetation which may suggest the presence of shallow groundwater.
   (ii) Gather information from surrounding well data in order to determine a depth to groundwater, i.e. State Engineers Office.

7. Is the potential to impact ground water from the facility in the event of a release high or low?
   ☒ High ☐ Low

Additional Comments:

As stated in the surface water section of this sensitive area determination, Starkey Gulch, is a perennial/intermittent stream located 380 feet of the proposed facility. Note that the USGS topographical map also identifies a branch of Starky Gulch 275 feet to the south of the proposed facility. A large majority of this branch no longer exists due to construction of other facilities adjacent to or in the immediate vicinity of the proposed facility. All flow in Starkey Gulch now flows in the channel northwest of the proposed facility which is a tributary to Parachute Creek. In addition the north branch of Starky Gulch lies within 500 feet of the proposed facility and by COGCC decision would place the facility within a sensitive area. In the event a potential release were to migrate of the northwestern side of the proposed facility, the potential to impact the small pond is high due to the close proximity of the pond to the proposed facility. However the potential to impact Starky Gulch is lower since once off the pad a release would tend to flow to the northeast parallel to Starky Gulch and onto an existing well pad and open field. Best Management Practices (BMPs) should be installed around the entire perimeter of the proposed facility and existing well pad to the northeast in the form of a containment berm and diversion ditch to ensure site containment. The irrigation ditches located northeast of the proposed location do not appear to have been in use for quite some time. However these ditches do eventually connect and drain into Parachute Creek approximately 1,500 feet from the proposed facility. Additional BMP's in the form of small check dams and straw bales could greatly aid in preventing a potential release, if it were to migrate of the existing well pad from potentially impacting Parachute Creek.

The State Engineers Office and USGS records were reviewed and indicated there is one permitted water well 1, 173 feet to the north northwest of the proposed facility. The depth to groundwater in this well is noted at 25 feet. The well is in close proximity to Parachute Creek and is completed in the sandy loams associated with the floodplain of Parachute Creek thus the higher water level. Based on the topographical setting of the proposed and relatively close proximity to Starky Gulch and the small pond to the west, there is the potential for shallow groundwater to be present in the immediate vicinity of the proposed facility. Very close attention to soil conditions should be noted during construction of the proposed facility (cuttings trench). If very moist soils are encountered or if signs of groundwater are present the cuttings trench should be lined to prevent any potential impacts to shallow groundwater if present.

Based on the information collected during the site investigation and desktop review, the potential to impacted surface water has been deemed moderate to high. The potential to impact groundwater may be moderate to high as well due to the close proximity of the small pond and Starkey Gulch. With the potential to impact both surface water features and potentially groundwater the facility should be designated as being in a sensitive area.

Inspector Signature(s): _____ Date: 9/8/2010

Mark E. Mumby, *Project Manager/RPG*
HRL Compliance Solutions, Inc.

_____ Date: 8/30/10

Ashlee Lane, *Biologist*

HRL Compliance Solutions, Inc.