Sensitive Area Determination Checklist

Williams Production RMT Company			
Person(s) Conducting Field Inspection	Ashlee Lane		3/24/11
	Biologist		
Site Information			
Location:	RWF 32-36		Time: 1030
Type of Facility:	Existing Well Pad		
Environmental Conditions	Cloudy and calm, soils are moist from recent precipitation events		
Temperature (°F)	38 °		

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: There are two unnamed USGS identified intermittent streams and Beaver Creek, a USGS identified perennial stream tributary to the Colorado River.

   If yes, describe location relative to facility: The first unnamed intermittent drainage is located 268 feet west, and the second is located approximately 1,000 feet north of the existing facility. Beaver Creek is located 896 feet east of the 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. If a release were to migrate off the western or northern sides; flow would tend to be to the west and northwest towards the above mentioned unnamed intermittent drainages.

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

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): Drilling pit

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≤ $1.0x10^{-7}$ 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, there are three USGS identified drainages in the vicinity of the location: two are unnamed intermittent drainages to the north and west of the facility; and the other is Beaver Creek, a perennial drainage east of the location which is ultimately tributary to the Colorado River. The facility as it is currently constructed, limits flow direction of a potential release primarily to the western side and northern sides of the facility. Therefore, it is not anticipated that Beaver Creek, to the east, would be impacted by a potential release due to the fact the eastern portion of the facility is cut into the hillside thus eliminating the potential for a surface release to impact this drainage feature. In addition, there is a ridgeline which separates the facility from Beaver Creek thus any flow from a potential release would tend to flow to the northwest following the natural contours of the area. The greatest potential for impacts would be to the unnamed USGS identified drainage located 268 feet to the west of the facility. By the COGCC 500 foot rule this would classify the facility as being in a sensitive area. However, the site investigation revealed that the unnamed intermittent drainage does not have a defined channel. It can be better defined as a low lying depression that has a fairly thick vegetated bottom (including several woody species) and does not show signs of flow during any time of the year. Furthermore, it is not hydraulically connected to any drainage features which would be tributary to any perennial streams or the Colorado River. It terminates in an open field approximately 1.2 miles northwest the facility. It is not anticipated that the unnamed intermittent drainage to the north would be impacted by a potential release. The distance a potential release would have to migrate is approximately 1,000 feet. Given the existing and natural site characteristics, the moderate to high infiltration rates of the underlying soil, and the thick vegetative cover, would tend to mitigate any flow prior to reaching the drainage. The drainage exhibits more ephemeral characteristics in the immediate vicinity of the facility such as a poorly defined channel and a vegetated bottom (including several woody species), indicating it does not flow a majority of the time. Best Management Practices (BMPs) are currently installed on in the form of a perimeter berm on the fill slope edges of the facility and a diversion ditch along the edges of the fill sopes on the western and northern sides of the facility. These BMPs should be monitored and maintained to ensure site containment in the event of a release.

The State Engineer's Office and USGS records were reviewed and revealed that there is one permitted water well 1,207 feet northeast of the facility. The well records indicate that the static water level is 60 feet. However, the well construction report indicates that the screened interval in the well is from 180 to 200 feet indicating that the depth to water is actually deeper and the system is under confined conditions resulting in the higher static water level. The well is also located at a lower elevation than that of the facility which would make the depth to groundwater even greater. The vegetative cover in the immediate vicinity of the facility, Piñon-juniper woodland and sage brush steppe, does not suggest the presence of shallow groundwater. Therefore, the potential to impact groundwater would be deemed low.

Based on the information collected during the site visit and desk top review, the potential to impact any flowing surface water has been deemed low. The potential to impact actual surface water features has been deemed high due to the close proximity of one surface water feature. However, as stated above, the surface water feature most likely to be impacted by a potential release is not hydraulically connected to any surface water features which would be tributary to live water or the Colorado River. The potential to impact groundwater has been deemed low as well. Therefore, the facility should be classified as being in a non-sensitive area.

Inspector Signature(s): _____ Date: 4/19/2011

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

_____ Date: 4/14/2011

Ashlee Lane, *Biologist*
HRL Compliance Solutions, Inc.