Sensitive Area Determination Checklist

Williams Production RMT Company			
Person(s) Conducting Field Inspection		Ashlee Lane Biologist	12/04/10
Site Information			
Location:	RGU 22-27-198		Time: 1200
Type of Facility:	Existing Well Pad		
Environmental Conditions	Clear; slight breeze; soil conditions dry.		
Temperature (°F)	50°		

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: One (1) unnamed intermittent drainage tributary to Yellow Creek.

   If yes, describe location relative to facility: The unnamed intermittent drainage is located 1,031 feet to the east of the existing 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.

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 $\leq 1.0 \times 10^{-7}$ 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 is one USGS indentified unnamed ephemeral drainage, tributary to Yellow Creek, located to the east of the existing facility. The facility, as it is currently constructed, would limit flow direction primarily to the east with some potential for flow to the north and west. It is not anticipated that the unnamed ephemeral drainage to the east would be impacted by a release off the facility due to the fairly thick vegetative cover, the gently sloping hillside above the drainage, and the moderate to high infiltration rate of the underlying soils. Although identified on the USGS topographic maps as intermittent; the unnamed drainage exhibits ephemeral characteristics in the immediate vicinity of the proposed facility. The lack of a well defined ordinary high water mark (OHMW) and a vegetated bottom suggests that flow does not occur a majority of the time. The existing facility currently has excellent Best Management Practices (BMPs) in the form of a perimeter berm on the graded edge of the facility itself and a diversion ditch along the fill slopes of the facility on the north, west, and east sides. These should be monitored and maintained to ensure site containment. With proper monitoring and maintenance of the existing BMPs the potential to impact the above noted drainage would be considerably lower.

The State Engineer's Office and USGS records were reviewed and revealed that there are two (2) permit applications for solution mining wells in section 27. These applications were denied by the State Engineers office; therefore, no records are available that would provide additional information pertaining to the depth to groundwater. The vegetative cover in the immediate vicinity of the facility, Piñon Juniper woodland and sage brush does not suggest the presence of shallow groundwater. The facility resides in the Uintah formation, which like the Green River Formation, tends to be fractured both vertically and horizontally which allows fluids to migrate in the subsurface over large distances. Based on the topographical setting of the facility, it is not anticipated that an overland release would impact groundwater due to the short duration time involved and the fact it would spread out over a large area. The greatest potential for impact to groundwater, if present, would be from a release that occurred over a longer period of time such as a leaking pit. However, to lessen any potential to impact groundwater, no materials (i.e. fluids) should be placed in the cuttings trench other than cuttings.

Based on the information collected during the site investigation and desktop review, the potential to impact surface water features has been deemed to be low. Based on the topographical setting of the proposed facility the potential to impact ground water has been deemed low as well. Therefore the facility can be designated as being in a non-sensitive area.

Inspector Signature(s): _____ Date: 1/17/2013

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

_____ Date: 12/07/2012

Ashlee Lane, *Biologist*
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