Sensitive Area Determination Checklist

Williams Production RMT Company			
Person(s) Conducting Field Inspection	Jennifer Belcastro *Environmental Scientist*	6/16/2011	
Site Information			
Location:	TR 11-1-698	Time: 1330	
Type of Facility:	Existing Well Pad		
Environmental Conditions	Sunny; windy; soil conditions are dry.		
Temperature (°F)	71°		

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: Two unnamed USGS identified intermittent drainages.

   If yes, describe location relative to facility: One unnamed USGS identified drainage is located 692 feet west, and the other unnamed drainage is located approximately 1,323 feet southeast 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. If a potential release were to migrate off the western side of the facility it would tend to flow along the access road and down the hillsides to the west or to the north. . There is also a slight possibility that a potential release could migrate off the northeastern corner where there is a low spot in the existing perimeter berm. Flow would be to the northeast.

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): Production 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 $\leq 1.0x10^{-7}$ 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, one unnamed USGS identified drainage is located 692 feet west and the other unnamed USGS identified drainage is 1,323 feet southeast of the existing facility. Additionally there is an unnamed USGS identified drainage that is just outside of the ¼ mile buffer, 1,508 feet northwest of the facility. The facility, as it is currently constructed, limits the flow directions from a potential release to the west near the access road. Therefore, the greatest potential for impact is to the unnamed drainage feature located to the west of the existing facility. However, it is not anticipated that a release would impact the drainage due to the thick vegetative cover consisting of sage brush, service berry, and grasses, and the moderate to high infiltration rates of the underlying soils. In addition the drainage in the immediate vicinity west of the facility is very poorly defined. The entire bottom of the drainage is vegetated with service berry and grasses' indicating that flow does not occur a majority of the time, if at all. Best management Practices are currently installed in the form of a perimeter berm and diversion ditch around the entire facility with the exception of the access road. As stated in the surface water section, the earthen perimeter berm on the northeastern corner of the facility should be enlarged in order to prevent fluids from migrating off the facility in this area. These BMPs should be monitored and maintained in order to ensure site containment in the event of a release.

The State Engineer's Office and USGS records were reviewed and no records were revealed that would provide additional information pertaining to the depth of groundwater. The vegetative cover in the immediate vicinity of the facility: service berry, sage brush, and grass, do not suggest the presence of shallow groundwater. No springs or seeps were identified within 1/4 mile of the facility. 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 would be from a release that occurred over a longer period of time such as a leaking pit. Although there were no springs or seeps identified during the site visit, it would still be highly recommended that the pit be lined in accordance to COGCC criteria and tested prior to placement of any materials into it further minimizing any potential impacts to groundwater.

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

Inspector Signature(s): _____ Date: 6/27/2011

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

_____ Date: 6/16/2011

Jennifer Belcastro, *Environmental Scientist*
HRL Compliance Solutions, Inc.