

Sensitive Area Determination Checklist

Williams Production RMT Company		
Person(s) Conducting Field Inspection	Ashlee Lane	10/12/10
	<i>Biologist</i>	
Site Information		
Location:	Federal 399-1-3	Time: 1200
Type of Facility:	Existing Well Pad	
Environmental Conditions	Clear and calm	
Temperature (°F)	70°	

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 ephemeral drainages tributary to Wagonroad Gulch.

If yes, describe location relative to facility: The first unnamed ephemeral drainage is located approximately 200 feet to the west southwest and the second unnamed ephemeral drainage is located approximately 530 feet to the northeast 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. A potential release, if it were to migrate off the facility, would tend to flow to the northwest and northeast towards the unnamed ephemeral drainages.

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

☒ Moderate to High to actual surface water features ☒ Low to any flowing surface water

GROUNDWATER

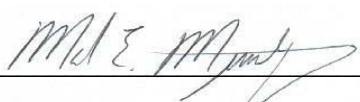
1. Will the proposed/new or existing facility have any pits which will contain hydrocarbons and chlorides or other E&P wastes?
☒ Yes ☐ No
If yes, List the pit type(s): Multi-well pits.
2. Is the site of the proposed facility underlain by an unconfined aquifer or recharge zone?
☐ Yes ☒ No
3. Is the hydraulic 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:

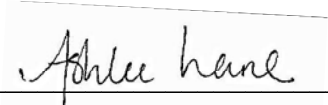
As stated in the surface water section of this sensitive area determination there are two unnamed ephemeral drainages located to the west and northeast of the existing facility. The first unnamed ephemeral drainage tributary to Wagonroad Gulch is located approximately 200 feet west of the existing facility. By COGCC decision this would place the facility in a sensitive area. However the drainage in the immediate vicinity of the facility has poorly defined channel, no ordinary high water mark (OHWM), and a fairly thick vegetated bottom indicating that the drainage does not flow a majority of the time. The second unnamed ephemeral drainage also tributary to Wagonroad Gulch is located 530 feet to the northeast of the facility and exhibits the same characteristics as the drainage to the west indicating that it does not flow a majority of the time as well. The facility, as it is currently constructed, limits flow directions primarily to the west and northeast. Any flow off the western and northeastern sides would tend to flow towards the unnamed ephemeral drainages. Both unnamed ephemeral drainages to the west and northeast of the facility as well as Wagonroad Gulch, could potentially be impacted by a release off the existing facility. This would be due to the relative close proximity of the unnamed ephemeral drainages to the facility. The unnamed ephemeral drainage to the west of the existing facility would have the greatest potential to impact Wagonroad Gulch due to its close proximity to the facility. The unnamed ephemeral drainage to the northeast of the facility would most likely not impact Wagonroad Gulch due to the distance a release would have to travel (~3,800 ft). Although identified on the USGS topographic maps as intermittent, Wagonroad Gulch exhibits ephemeral characteristics in the immediate vicinity of the proposed facility. The lack of a well defined channel, OHMW, and a vegetated bottom suggests that flow does not occur in Wagonroad Gulch a majority of the time as well. When the pad is expanded, Best Management Practices (BMP's) should be installed along the northern, northeastern, and western sides of the facility in the form of a perimeter berm on the facility itself and a diversion ditch along any fill slopes of the facility. These should be monitored and maintained to ensure site containment. With the installation of the recommended BMP's, the potential to impact the above noted drainages would be considerably lower.

The State Engineer's Office and USGS records were reviewed and no records were revealed 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, it would be highly recommended that the pit be lined in accordance to COGCC criteria and tested prior to placement of any materials into it.

Based on the information collected during the site investigation and desktop review, the potential to impact actual surface water features has been deemed to be moderate to high. However the potential to impact any live surface water (Yellow Creek if flowing) is deemed to be low due to the distance a potential release would have to migrate (~2.25 miles). 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: 10/26/2010

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

 Date: 10/15/2010

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