

Sensitive Area Determination Checklist

Williams Production RMT Company – Valley		
Person(s) Conducting Field Inspection	Ashlee Lane	11/23/10
	Biologist	
Site Information		
Location:	KP 22-22	Time: 1400
Type of Facility:	Proposed Well Pad	
Environmental Conditions	Clear and breezy; some snow patches.	
Temperature (°F)	40s°	

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: Garfield Creek, a perennial stream tributary to the Colorado River.

If yes, describe location relative to facility: Garfield Creek is located 745' 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 potential release if it were to migrate of the facility would tend to flow to the northeast following the natural contours of the area.

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): 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 $\leq 1.0 \times 10^{-7}$ 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 perennial stream, Garfield Creek, which is tributary to the Colorado River. The facility, as it is currently proposed, would limit flow direction primarily to the northeast. Garfield Creek could potentially be impacted by a release off the northwest, northeast, and possibly the southeast sides of the proposed facility. However the potential would be deemed low due to the thick vegetative cover, and moderately high to high infiltrations rates of the underlying soil. In order to further mitigate the potential to impact Garfield Creek Best Management Practices (BMP's) should be installed along the northwest, northeast, and southeast sides of the proposed facility in the form of a perimeter berm on the facility itself and a diversion ditch along any fill slopes of the facility, especially on the northeast side. These should be monitored and maintained to ensure site containment. With the installation of the recommended BMP's, the potential to impact Garfield Creek would be considerably lower.

The State Engineer's Office and USGS records were reviewed and there are four permitted groundwater wells one of which that has very accurate data. The remainder of the well data is from old wells that were drilled in the early 1900's and have since been abandoned. The well with the best data in regards to groundwater and similar geologic setting is located 1,770 feet to the southeast of the proposed facility. Well log data indicates that the well is completed in the Wasatch Formation. The well produces from two sandstone layers located at 45 and 90 feet. The low yields of the wells indicate that these sandstone layers are tight and will not yield large amounts of water. The water level indicated on the well reports (15 feet) indicates that these sandstone layers are somewhat confined. It is not anticipated that a potential release from the proposed facility would impact these layers due to the fact the bedrock surface is shale. However it would be recommended that close attention be paid to the soil and bedrock conditions when constructing the facility especially the cuttings pit since there is no good data as to the presence of shallow groundwater. The vegetative cover does not suggest the presence of shallow groundwater but conditions still should be closely monitored during construction of the facility.

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 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): Mark E. Mumby Date: 12/01/2010

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

Ashlee Lane Date: 11/30/2010

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