

Sensitive Area Determination Checklist

Williams Production RMT Company – Valley		
Person(s) conducting inspection	Ashlee Lane	02/16/10
Site Information	Existing	
Location:	KP 24-23	Time: 1030
Type of Facility:	Well Pad	
Environmental Conditions	Clear and calm with 10-12" of snow cover.	
Temperature (°F)	30°F	

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: Intermittent tributary of Garfield Creek, a perennial creek, and one unnamed ephemeral drainage.

If yes, describe location relative to facility: The intermittent tributary of Garfield Creek is approximately 355 feet to the north and the unnamed ephemeral drainage is approximately 225 feet to the south. Measurements are from the center point 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. See comments.

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 and possibly an emergency flare 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 5(a) of this section.*)

☐ No (*If no, follow instructions provided in 5(b) of this section.*)

- (a) If yes, could a potential release from the proposed facility reach groundwater?

☒ Yes ☐ No

If yes, explain: See comments below for further clarification.

- (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.
- (iii) Drill a soil boring to determine depth to groundwater or
- (iv) Model hydro geologic conditions to determine if the potential to impact groundwater is high or low.

7. Is the potential to impact ground water from the facility in the event of a release high or low?

☒ High-if shallow groundwater is present ☒ Low-if shallow groundwater is not present

Additional Comments:

It is not likely that a release from the facility would reach surface water features due to the topographical setting of the facility. If a release were to migrate off the facility to the north, including the access road, it would most likely be contained to the low lying area adjacent to Garfield Creek Road. If any further migration of fluids were to occur, in the event of a larger release, flow would be to the west adjacent to Garfield Creek Road. If a release were to migrate off of the south side of the facility, it could potentially impact the unnamed ephemeral drainage. However based on topographical data the ephemeral drainage feature becomes non-existent just over a quarter mile west of the facility. A potential release off the west side of the facility would not likely have any potential impacts to the irrigated fields approximately one eighth of a mile to the west due to thick vegetative cover between the facility and the fields.

Containment berms are currently installed along the north and east sides of the facility. However, in order to provide further protection from any potential release, it would be strongly recommended to extend the containment berm along the south and west sides of the facility to mitigate the potential for a release to migrate off site.

The Colorado Division of Water Resources identifies two (2) domestic water wells downgradient to the northwest of the facility. Although they are located at a distance greater than one eighth of a mile, historical and current well data indicate the presence of shallow groundwater from an interval between 18 and 76 feet. The older well has since been abandoned. The newer well has been completed at a depth of 220 to 340 feet with a pumping level of 300 feet. The zone with shallow groundwater is sealed off with sand and cement. There is also one water well upgradient of the facility approximately 1,254 feet to the south east which has a depth to water of 77 feet.

Based on the data available, it is difficult to determine if the shallow groundwater present downgradient of the facility is a result of irrigation of the fields to the east and south or whether or not it naturally occurring and encompasses a larger area including that around the existing facility. In addition, if shallow groundwater is present, it could potentially discharge into the unnamed tributary of Garfield Creek. Unless it can be determined that shallow groundwater is not present at the KP 24-23 facility it should be designated as being in a sensitive area. This determination could potentially be modified if a soil boring was drilled either on the eastern or western areas adjacent to the pad. If no groundwater was encountered or was at a sufficient depth where it would not be impacted by a potential release, the facility could possibly be designated as being in a non-sensitive area.

Inspector Signature(s):  Date: 03/2/2010

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