

Sensitive Area Determination Checklist

Williams Production RMT Company – Valley		
Person(s) conducting inspection	Ashlee Lane	01/26/10
Site Information	Proposed	
Location:	PA 22-21	Time: 900
Type of Facility:	Well Pad	
Environmental Conditions	Snow flurries, site conditions frozen with 8-10" of snow in the area	
Temperature (°F)	20°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: Cottonwood Gulch, a perennial stream; one unnamed intermittent drainage, and one unnamed ephemeral drainage.

If yes, describe location relative to facility: Cottonwood Gulch is approximately 460 feet to the east of the proposed facility, the unnamed intermittent drainage is approximately 355 feet to the north of the proposed facility, and the unnamed ephemeral drainage is approximately 250 feet to the southwest 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. If a potential release were to migrate off the location, flow would be to the north, south, east, and southwest.

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:

- (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 ☒ Low

Additional Comments:

The potential for a release, if it were to migrate off the proposed facility, to contact live surface water is high. The proposed facility will be constructed on top of a small plateau which abruptly slopes to the north, east, and south southwest. These abrupt slopes all have a potential direct connection to Cottonwood Gulch with the east side of the facility posing the greatest risk. In order to prevent or mitigate any potential release from migrating off site and potentially affecting Cottonwood Gulch; adequate best management practices (BMPs) should be installed during the construction of the facility.

The depth to ground water is not known. No ground water well data is available for the area from the Colorado Division of Water Resources indicating that there are no water wells within 1/8-1/4 mile of the proposed location. However, based on the elevation difference between the proposed facility and Cottonwood Creek it can be assumed that groundwater, if present, would be at a depth sufficient enough that a potential release from then facility would have no impact. Additional indicators of shallow groundwater (vegetation) within the immediate vicinity of the proposed location on top of the plateau were not observed during the site visit.

The vegetation surrounding the immediate location of the proposed facility is high desert shrubs with Piñon Juniper Forest. Vegetation adjacent to Cottonwood Gulch is laden with riparian inhabiting vegetation (i.e. Cottonwood trees and Willows). Therefore it is the opinion of HCSI that the proposed PA 22-21 well pad be considered a sensitive area due to the proximity of the location to Cottonwood Gulch.

Inspector Signature(s):  Date: 02/16/10

 Date: 02/16/10