

Sensitive Area Determination Checklist

Williams Production RMT Company		
Person(s) Conducting Field Inspection	Jennifer Belcastro	01/06/2012
	<i>Environmental Scientist</i>	
Site Information		
Location:	GM 41-4	Time: 0930
Type of Facility:	Existing Well Pad	
Environmental Conditions	Overcast, winter conditions; soil conditions are dry and frozen.	
Temperature (°F)	35°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: Riley Gulch, a USGS identified intermittent drainage which is tributary to Parachute Creek. One USGS identified unnamed intermittent drainage which is tributary to Riley Gulch.

If yes, describe location relative to facility: Riley Gulch is located 240 feet to the northwest, and the unnamed USGS identified intermittent drainage is located approximately 200 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. If a potential release were migrate off the northwestern or northeastern edges of the existing facility.

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):

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 intermittent drainages located within a quarter (1/4) mile of the existing facility. Riley Gulch, a USGS identified intermittent drainage, is located 204 feet northwest and the an unnamed USGS identified intermittent drainage tributary to Riley Gulch is located approximately 200 feet to the northeast of the existing facility. By COGCC decision this would classify the facility as being in a sensitive area. The facility, as it is currently constructed and proposed to be expanded, limits the flow directions of a potential release to the northwestern and northeastern sides. If a potential release were to migrate off the northwestern or northeastern edges of the facility flow would be to northwest following the natural contours of the area directly towards Riley Gulch. The potential to impact the unnamed intermittent drainage would be deemed to be somewhat lower due to the fact flow would tend to be parallel to the drainage due to the topographical setting of the facility. In order to mitigate any potential impacts to Riley Gulch and the unnamed intermittent drainage, it is recommended Best Management Practices (BMPs) be installed along the fill slope edges of the facility. When facility expansion occurs, BMPs in the form of an earthen perimeter berm should be installed along the graded edge and a diversion ditch should be constructed along the toe of the fill slope to contain any fluids that could potentially migrate off site. These should be monitored and maintained to ensure sight containment in the event of a potential release. In addition, due to the steep hillside located to the southeast, consideration should be given in regards to installing a diversion ditch above the facility (cut slope side) to prevent storm water run-on. This recommendation is based on observations made during the site visit where a potential for storm water to migrate onto the proposed expansion was identified.

The State Engineers 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 existing facility (sage brush, rabbit brush, shadscale, and snake weed, with some Piñon juniper woodland) does not suggest the presence of shallow groundwater. No seeps or springs were identified within the quarter (1/4) mile buffer zone during the site investigation.

Based on the information collected during the field investigation and desktop review, the potential to impact surface water features has been deemed high. The potential to impact groundwater has been deemed low due to the fact no pit will be constructed on the facility and all cuttings and completion fluids will be managed on the surface. Due to the close proximity of Riley Gulch and the unnamed intermittent drainage the facility should be designated as being in a sensitive area.

Inspector Signature(s): Mark E. Mumby Date: 02/16/2012

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