

Sensitive Area Determination Checklist

Williams Production RMT Company		
Person(s) Conducting Field Inspection	Ashlee Lane	7/14/2010
Site Information		
Location:	MV 10-23	Time: 15:00
Type of Facility:	Existing Well Pad	
Environmental Conditions	Clear, calm, dry soil conditions	
Temperature (°F)	~95	

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: Wheeler Gulch a USGS indentified perennial stream tributary to Parachute Creek.

If yes, describe location relative to facility: Wheeler Gulch is located 208 feet west 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 predominantly flow to the south southwest along the access road.

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:

Wheeler Gulch in general has become an area of concern due to activities within the Canyon itself and activities on top of the Roan Plateau which has resulted in increased traffic and thus the potential for impacts to live surface water.

As stated in the surface water section of this determination, Wheeler Gulch is located 208 feet to west of the existing facility. By COGCC decision this would place the facility in a sensitive area. However it is not anticipated that a potential release, if it were to migrate off the facility as currently constructed, would directly impact Wheeler Gulch in the immediate vicinity of the facility. There are currently large berms constructed on the west side of the access road to the facility which are used primarily for traffic safety. These existing berms would tend to direct flow down the access road to the south towards a culvert which then crosses under the access road and drains into Wheeler Gulch thus potentially lessening some impacts from a release. In addition to the existing facility, due to space constraints, an expansion of the facility in the form of a small pad will be constructed to the south to house all of the ancillary equipment such as the mud tanks and frac tanks etc that are needed during drilling and completion. If possible, it would be highly recommended Best Management Practices (BMPs) in the form of a containment berms or straw bale barriers be installed around western and southern ends of this new expansion. This would lessen the potential for a release to migrate off the facility and run down the access towards the above mentioned culvert. It would also be recommend that BMP's be installed on the northeastern edge of the existing facility to mitigate the potential for a release to impact the sediment basin locate to the north of the facility which also drains directly into Wheeler Gulch. With the close proximity of the culvert drainage directly into Wheeler Gulch the potential to impact surface water would be deemed high.

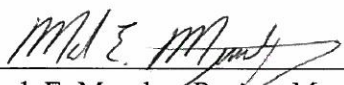
The State Engineer's Office and USGS records were reviewed and no records were revealed that would provide additional information pertaining to the depth to groundwater. The vegetative cover in the immediate vicinity of the facility, Piñon Juniper woodland and sage brush does not suggest the presence of shallow groundwater. In addition, the facility is constructed primarily in bedrock (Wasatch Fm.) which is generally impervious to flow. Therefore the potential to impact groundwater, if present, would be very low.


It should be noted that Wheeler Gulch has a spill prevention system that has been installed to aid in mitigating any potential releases to live water. All personnel working on the existing and proposed portions of the facility should know where the spill prevention devises are located and trained in the operation of these devises in the event of a potential release.

Based on the information collected during the site investigation and desktop review, the potential to impact actual surface water features, Wheeler Gulch, has been deemed to be high. Based on the topographical setting of the proposed facility the potential to impact ground water has been



deemed very low. Therefore due to the high potential to impact Wheeler Gulch, the facility both existing and proposed should be designated as being in a sensitive area.

Inspector Signature(s):  Date: 11/9/2010
Mark E. Mumby, *Project Manager/RPG*
HRL Compliance Solutions, Inc.

 Date: 11/8/2010
Ashlee Lane, *Biologist*
HRL Compliance Solutions, Inc.

Section 15 Language for Form 2A

Because this location is in a Sensitive Area (See attached SAD), Williams will employ the following BMPs to support protection of surface and ground water:

- Williams will ensure 110 percent secondary containment for any volume of fluids contained at well site during drilling and completion operations.
- Williams will implement best management practices to contain any unintentional release of fluids.
- Either a lined drilling pit or closed loop system will be implemented.