

Sensitive Area Determination Checklist

Williams Production RMT Company – Valley		
Person(s) conducting inspection	Ashlee Lane	04/27/10
Site Information		
Location:	KP 32-17 Frac Pad	Time: 1400
Type of Facility:	Proposed Frac Pad	
Environmental Conditions	Clear and windy; soil conditions are dry.	
Temperature (°F)	60s °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: An unnamed ephemeral drainage appears on the topographical map and is identified in the USGS data base; however, the onsite indicated that this drainage was not present due to land surface modifications.

If yes, describe location relative to facility: The drainage is located approximately 175 feet west of the well pad.

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. The slope off of the well pad is to the south, south west into a field. It is not likely that a release would reach surface water features because the drainage identified on the topographical maps was not visible in the field.

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): Lined multi-well frac water storage 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 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:

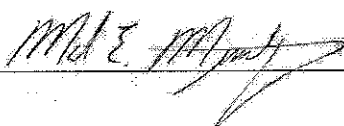
No surface water features were identified within the immediate vicinity of the proposed facility during the field investigation for the KP 32-17 well pad; therefore, the potential to impact surface water is low. The USGS topographical map indicates the presence of an unnamed ephemeral drainage approximately 175 feet west of the facility. This, according to the COGCC, would place the facility within a sensitive area since the drainage is located within 500 feet. However due to manmade changes (grading) of the area, within the immediate vicinity of the facility, the onsite did not reflect the existence of this drainage. There were no defined channels or indicators of flow where the older topographical map identifies the drainage. The proposed facility resides in a vegetated field which gently slopes to the south, south west. Best Management Practices (BMPs) should be constructed and maintained as those currently installed on the KP 32-17 well pad to ensure site containment and prevent potential releases from migrating into the field especially on the southwest and southeast sides.

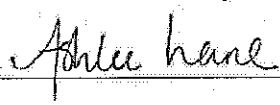
The facility lies within the COGCC Rule 317B External Buffer Zone. Although the facility is located within the External Buffer Zone, it is not likely that a potential release would affect the 317B water source of concern. The water source of concern is greater than 1000 feet to the south and south west. With adequate BMPs installed along the boundaries of the proposed facility, it is not anticipated that a potential release would reach this water source of concern. The 317B water source was not flowing during the onsite. Field investigations indicate that the water source flows early in the spring but is re-routed further upstream and used as irrigation water; subsequently, the 317B water feature of concern has no water in it most of the year and the potential to impact it is unlikely.

No water wells are located within the immediate vicinity of this facility. The nearest water well is located 4,603 feet north and has a depth to groundwater of 35 feet. However the well is in a different flow regime than that of the proposed facility so the potential to impact that source is non-existent.

There were no indicators during the original onsite conducted on the KP 32-17 well pad that suggested the presence of shallow ground water.

Based on the above explanations for the 317B area, and if adequate BMPs can be installed and maintained to prevent a potential release from migrating off of the location, the facility can be designated as being in a non-sensitive area.

Inspector Signature(s):  Date: 6/19/2010

 Date: 5/06/2010