

Sensitive Area Determination Checklist

WPX Energy Rocky Mountain, LLC (WPX)		
Person(s) Conducting Field Inspection	Alexander Nees <i>Environmental Scientist</i>	7-23-13
Site Information		
Location:	RGU 41-8-298	Time: 1:15 PM
Type of Facility:	Proposed well pad expansion	
Environmental Conditions	Mostly sunny, light intermittent breeze, dry soil	
Temperature (°F)	92	

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: One unnamed non-USGS identified ephemeral drainage.

If yes, describe location relative to facility: The unnamed non-USGS identified ephemeral drainage is located approximately 650 feet to the west of the facility expansion.

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 migrate to the north northwest following the natural contours of the area.

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): Cuttings trench on south central side of the facility.

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

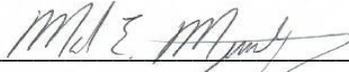
Additional Comments:

As stated in the surface water section of this sensitive area determination, there are no USGS identified surface water features within a ¼ mile of the existing facility. One (1) unnamed non-USGS identified ephemeral drainage was identified during the site visit and is located approximately 650 feet to the west of the proposed facility expansion. The facility, as it is currently constructed and proposed to be expanded, limits the direction of a potential release to the northern and a small portion of the eastern and western sides. If a potential release were to migrate off the facility, flow would be to the north following the natural contours of the area. During facility expansion, it is recommended Best Management Practices (BMPs) be installed in the form of an earthen perimeter berm along the graded edge of the fill slope sides. This would include the northern and portions of the eastern and western sides. As the topography is relatively flat, a diversion ditch should be constructed as well along the toe of the fill slope sides. All installed BMPs should be monitored and maintained to ensure site containment in the event of a release.

The State Engineer's Office and USGS records were reviewed and no records were revealed which would provide additional information pertaining to the depth of groundwater. The facility is located on a xeric ridge top, and vegetation is uniformly typical of arid uplands in the area (a mixture of juniper woodlands and sagebrush meadows). There are no indications of seeps, springs, or hydrophytic vegetation in the area, and no adjacent uplands to provide infiltration zones for subsurface flow and subsequently shallow groundwater. The nearest permitted wells are located approximately 3,100 feet to the northeast of the facility. Although the completion data is confidential, applications for nearby wells indicate completion depths greater than 500 feet. Therefore it could be assumed that the depth to groundwater in the immediate vicinity of the proposed facility expansion would be greater than 500 feet.

Based on the information collected during the site investigation and desktop review, the greatest potential for impacts would be to the unnamed non-USGS identified ephemeral drainage feature located approximately 650 feet to the west. Although the drainage feature is in fairly close proximity to the facility, a potential release would have to be very large in order to reach the drainage feature. Potential flow off the facility would tend to migrate predominantly to the north nearly parallel to the drainage. In addition, due to the relatively flat topography, flow would tend to spread out over a large area which is fairly heavily vegetated and would most likely infiltrate into the underlying soils which have a moderate to high infiltration rate. If a potential release were to reach the drainage feature, it is not anticipated it would migrate any great distance down channel. This would be due to the fact that the drainage feature, in the immediate vicinity of the facility, displays typical characteristics of an ephemeral channel, including a vegetated bottom with upland vegetation including juniper and sagebrush, and very little evidence of channel scouring which would indicate significant flows. In addition, the catchment area of drainage is very small, its gradient is quite mild, and any release would have to travel a significant distance to reach any intermittent surface water (>3 miles). With the low potential for impacts to surface

water features, flowing surface water and groundwater all being deemed as low, the facility can be designated as being in a non-sensitive area.

Inspector Signature(s):  Date: 12/6/2013

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 Date: 7/25/2013

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