

Sensitive Area Determination Checklist

WPX Energy Rocky Mountain, LLC (WPX)		
Person(s) Conducting Field Inspection	Jake Forsman <i>Environmental Scientist</i>	04/30/2013
Site Information		
Location:	PA 543-27	Time: 2:00
Type of Facility:	Existing Well Pad Expansion	
Environmental Conditions	Sunny, mild, dry soil conditions	
Temperature (°F)	71°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: Two (2) unnamed USGS identified intermittent drainages, Three (3) non-USGS ephemeral drainages which were identified during the site visit.

If yes, describe location relative to facility: One (1) USGS identified intermittent drainage is located 735 feet to the northeast and the second USGS identified intermittent drainage is located 507 feet to the west of the existing facility. The three (3) identified ephemeral drainages are adjacent to the facility on the northeastern, southeastern and southwestern corners.

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 facility on the southeastern, southwestern corners, or the southern side, flow would be directly into the unnamed ephemeral drainages.

3. Is the potential to impact surface water from a facility release high or low

☒ High to actual surface water features ☒ Low to actual live flowing surface water

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 Cutting and fluids will be managed on the surface
 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 (2) unnamed USGS identified intermittent drainages and three (3) unnamed non-USGS identified ephemeral drainages which were identified during the site visit. The facility, as it is proposed to be expanded, limits the direction of a potential release to the southern side and the southeastern and southwestern corners. A potential release, if it were to migrate off either of these sides/corners, would flow directly into the unnamed ephemeral drainages feature adjacent to the southeastern and southwestern corners. During facility expansion, it is recommended that Best management Practices (BMPs) be installed in the form of an earthen perimeter berm along the graded edge of any fill slope sides most notably on the southern and a portion of the western side. If feasible, a diversion ditch should be constructed along the toe of the same fill slope sides. All installed BMPs should be monitored and maintained to ensure site containment in the event of a potential 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 to groundwater. The topographic/geologic setting and vegetative cover in the immediate vicinity of the facility (rabbit brush, greasewood, and sagebrush) does not suggest the presence of shallow groundwater.

Based on the information collected during the field investigation and desktop review, the greatest potential for impacts are to the two (2) unnamed ephemeral drainages, identified during the site investigation, adjacent to the southeastern and southwestern corners of the facility. If a potential release were to migrate off the facility and impact these drainages, flow would be to the south towards the USGS identified intermittent drainage located 507 feet to the west. However, it is not anticipated this drainage would be impacted due to the distance a potential release would have to migrate in order to reach it and the moderate to high infiltration rates of the channel bottom soils. Even if flow were to reach the intermittent drainage to the west, it is not anticipated any live flowing surface water would be impacted as the drainage flows into a very large man-made catchment basin approximately 1,900 feet to the south of the confluence of the eastern most ephemeral drainage and the intermittent drainage virtually eliminating the potential to impact any live flowing surface water. The unnamed intermittent drainage located to the northeast of the existing facility would not be impacted by a potential release as it is separated from the facility by the natural topography and a very large berm which directs flow into the unnamed ephemeral drainage adjacent to the southeastern side. As noted above, the potential to impact groundwater has been deemed to be low. Although the potential for impacts to surface water features has been determined to be high, the potential to impact any live flowing surface water has been deemed to be very low. With the potential for impacts to flowing surface water and groundwater being deemed as low the facility can be designated as being in a non-sensitive area.

Inspector Signature(s):  Date: 8/1/2013

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 Date: 04/30/2013

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