

Sensitive Area Determination Checklist

WPX Energy Rocky Mountain, LLC (WPX)		
Person(s) Conducting Field Inspection	Jennifer Belcastro <i>Environmental Scientist</i>	03/20/13
Site Information		
Location:	PA 13-32	Time: 1430
Type of Facility:	Existing Well Pad	
Environmental Conditions	Sunny, mild, dry soil conditions	
Temperature (°F)	53°	

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: There are three (3) unnamed USGS identified intermittent drainages.

If yes, describe location relative to facility: One USGS identified intermittent drainage is located 408 feet north; the second USGS identified intermittent drainage is located approximately 383 feet south, and the third USGS identified intermittent drainage is located approximately 574 feet to the east 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 to migrate off the facility, flow would be to the southeast.

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

High to actual surface water features Moderate to actual 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
 If yes, List the pit type(s): Cuttings and fluids will be managed on the surface.

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 three (3) unnamed USGS identified intermittent drainages located within ¼ mile of the existing facility. The facility, as it is currently constructed and proposed to be expanded, limits the direction of a potential release to primarily the southeastern side and a portion of the northeastern side. If a potential release were to migrate off the southeastern or northeastern side of the facility, flow would be to the southeast somewhat parallel to the two unnamed intermittent drainages. However, the greatest potential for impacts would be to the unnamed intermittent drainage to the south of the existing facility. Although the drainage is very poorly defined, there are numerous small rills which eventually lead to the large intermittent drainage located to the east of the facility. It is not anticipated the intermittent drainage to the north of the facility would be impacted by a potential release as it is at a slightly higher elevation and flow would tend to be more to the south southeast. In addition, it is not anticipated the large unnamed intermittent drainage to the east would be directly impacted by a release off the facility. Impacts to this drainage would occur if flow from a release reached it via the drainage to the south of the facility. Therefore, during facility expansion, it is recommended that Best Management Practices (BMPs) be installed in the form of an earthen perimeter berm around any fill slope sides of the facility along the graded edge. If feasible a diversion ditch should be constructed along the toe of the fill slope sides of the facility. 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 to groundwater. The topographical setting of the facility and the vegetative cover would not suggest the presence of shallow groundwater.

Based on the information collected during the site visit and desktop review, the potential to impact surface water features has been deemed high. The unnamed intermittent drainage to the east of the facility is tributary to the Colorado River. In addition, this drainage flows into the Battlement Mesa SWSA area (317B area). The potential to impact groundwater has been deemed to be low. With the high potential for impacts to the intermittent drainages to the south and east and the fact the larger drainage flows into the Battlement Mesa SWSA the facility should be designated as being in a sensitive area.

