

Sensitive Area Determination Checklist

WPX Energy Rocky Mountain, LLC (WPX)		
Person(s) Conducting Field Inspection	Finn Whiting	
	Geologist	
Site Information		
Location:	SG 22-32 Injection Pad	Time: 10:35
Type of Facility:	Existing production facility/proposed expansion	
Environmental Conditions	Sunny, dry ground conditions.	
Temperature (°F)	81	

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: Three (3) unnamed USGS identified intermittent drainages.

If yes, describe location relative to facility: Two (2) of the unnamed USGS identified intermittent drainages are located 688 and 1,070 feet to the west and one (1) unnamed USGS identified intermittent drainage is located 960 feet to the southeast 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.

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

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.

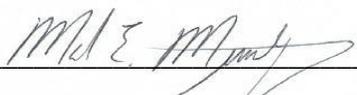
7. Is the potential to impact ground water from the facility in the event of a release high or low?
 High Low

Additional Comments:

As stated in the surface water portion of this sensitive area determination, there are three (3) unnamed USGS identified intermittent drainages located within a 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 a small portion of the southwestern side. If a potential release were to migrate off the facility, it would flow out onto a heavily vegetated gently sloping hillside where it would infiltrate into the underlying soils. During facility expansion, Best Management Practices (BMPs) should be installed in the form of an earthen perimeter berm along the graded edge of the fill slope sides. If feasible, a diversion ditch should be constructed along the toe of the fill slope sides as well. All newly installed and existing BMPs should be monitored and maintained to ensure site containment in the event of a potential release.

The State Engineers Office and USGS records were reviewed and no records were revealed which would provide any additional information pertaining to the depth to groundwater. The topographic setting of the pad and the vegetative cover, which is dominated by typical upland xeric species, suggests the absence of shallow groundwater. There are no occurrences of hydrophytic species in the immediate vicinity of the facility and no seeps or springs were identified during the site visit. Therefore it could be assumed that groundwater, if present, would be greater than 40 feet.

Based on the information collected during the site visit and desktop review, the potential to impact groundwater has been deemed as low. Although there are three unnamed USGS identified intermittent drainages; it is not anticipated any of these drainage features would be impacted by a potential release due to the fact they are isolated from the facility by natural topographic highs. With the potential to impact groundwater and surface water being deemed as low the facility can be designated as being in a non-sensitive area.

Inspector Signature(s):  Date: 7/6/2014

Mark E. Mumby, *Project Manager/RPG*
HRL Compliance Solutions, Inc.

 Date: 06/25/2014

Finn Whiting, *Geologist*
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