

Sensitive Area Determination Checklist

WPX Energy Rocky Mountain, LLC (WPX)		
Person(s) Conducting Field Inspection	Alexander Nees <i>Environmental Scientist</i>	07-29-2013
Site Information		
Location:	RMV 12-16	Time: 8:30AM
Type of Facility:	Existing well pad expansion	
Environmental Conditions	Overcast, light intermittent breeze, damp soil.	
Temperature (°F)	65	

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 USGS identified intermittent drainage.

If yes, describe location relative to facility: The unnamed USGS identified intermittent drainage is located 761 feet to the west of the facility.

2. Could a potential release from the facility reach surface water features?

Yes No

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 Fluids and cuttings 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 if this sensitive area determination, there is one USGS identified intermittent drainage located 761 feet to the west of the existing facility. The facility, as it is proposed to be expanded, limits the direction of a potential release to the southern and a small portion of the southwestern sides. A potential release, if it were to migrate of the facility, would tend to flow to the southeast following the natural contours of the area. Fluids from a potential release would tend to infiltrate into the surrounding soils or could potentially migrate down the existing stormwater controls already in place and congregate in the sediment basin just to the north of the RMV 130-16 well pad. 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 the fill slope sides of the facility. This would include the southern and a small portion of the western side. Due to the relatively flat topography a diversion ditch should be constructed along the toe of the fill slope sides mentioned above. 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 vegetative cover in the immediate vicinity of the existing facility does not suggest the presence of shallow groundwater. In addition, there is one permitted monitoring well located approximately 2,400 feet to the southwest which is installed in the same geologic setting as that of the facility. The depth to groundwater in the well is in excess of 100 feet.

Based on the information collected during the field investigation and desktop review, the potential to impact surface water has been deemed to be low. This is due to the fact that fluids from a potential release would tend to flow to the southeast somewhat parallel to and away from the USGS identified intermittent drainage to the west. As noted above, fluids would tend to infiltrate into the underlying soil or be captured by the stormwater controls already in place. As noted above the potential to impact groundwater has been deemed to be low as well. With the very low potential for impacts to surface water features and groundwater, the facility can be designated as being in a non-sensitive area.

Inspector Signature(s):  Date: 7/30/2013

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

 Date: 7/29/2013

Alexander Nees, *Environmental Scientist*
HRL Compliance Solutions, Inc.