

## Sensitive Area Determination Checklist

WPX Energy Rocky Mountain, LLC (WPX)		
<b>Person(s) Conducting Field Inspection</b>	Ashlee Lane	03/15/11
	<i>Biologist</i>	
<b>Site Information</b>		
Location:	RGU 33-24-198	Time: 1300
Type of Facility:	Existing Well Pad	
<b>Environmental Conditions</b>	Melting conditions; soils are saturated; 1-8" of snow occurring in patches.	
Temperature (°F)	50°s	

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 333 feet 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. A potential release, if it were to migrate off the facility, would tend to flow to the northeast following the natural topographic contours of the area. Flow would be towards the unnamed drainage.

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

☒ Moderate to actual surface water features

☒ Low to any 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): Multi-well pit.
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:**

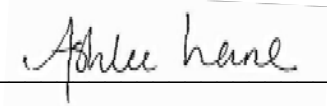
As stated in the surface water section of this sensitive area determination, there is one USGS identified unnamed intermittent drainage located 333 feet east of the existing facility. The facility, as it is currently constructed, limits flow directions of a potential release to primarily to the northeastern side. If a potential release were to migrate off of this side of the facility, it would tend to flow to the northeast towards the unnamed intermittent drainage. By COGCC decision this would classify the facility as being in a sensitive area. However, the potential to impact this drainage feature, and any flowing surface water, is low due to the following: the topography, immediately east-northeast of the facility is relatively flat; there is relatively thick vegetative cover consisting of Piñon juniper woodland and sage brush; the underlying soils have a moderate to high infiltration rate; and the distance to any flowing (live) surface water, if any, is greater than 5 miles. In addition, the drainage in the immediate vicinity of the facility exhibits more ephemeral characteristics such as a poorly defined channel in many areas and a vegetated bottom indicating it most likely experiences flow during snowmelt and after significant precipitation events. Therefore, the potential to impact any live surface water has been deemed low. Best Management Practices (BMPs) are currently installed around a majority of the facility in the form of an earthen perimeter berm and a diversion ditch adjacent to the base of the fill slopes on the northwestern, northeastern, and southeastern sides. These BMPs should be monitored and maintained, especially on the northeastern side, to ensure site containment in the event of a release further lessening any potential impact to the unnamed drainage northeast of the facility.

The State Engineer's Office and USGS records were reviewed and no records were revealed that would provide additional information pertaining to the depth to groundwater. The vegetative cover in the immediate vicinity of the existing facility (Piñon juniper woodland and sage brush) does not suggest the presence of shallow groundwater. The nearest permitted water well is located 6,710 feet to the northeast and has a reported depth to groundwater of 477 feet. It is not anticipated that ground water would be impacted; therefore, this location should be considered non-sensitive from a groundwater water perspective.

Based on the information collected during the site investigation and desktop review, the potential to impact surface water features has been deemed moderate; however, the potential to impact any flowing surface water or groundwater has been deemed extremely low. Therefore, the facility should be designated as being in a non-sensitive area.

Inspector Signature(s):  Date: 3/25/2011

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

 Date: 3/15/2011

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