

## Sensitive Area Determination Checklist

WPX Energy Rocky Mountain, LLC (WPX)		
<b>Person(s) Conducting Field Inspection</b>	Finn Whiting	
	<i>Environmental Inspector / Geologist</i>	
<b>Site Information</b>		
Location:	GM 34-4	Time: 2:40
Type of Facility:	Existing production facility w/proposed expansion	
<b>Environmental Conditions</b>	Sunny, wet ground conditions	
Temperature (°F)	75	

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) USGS identified intermittent drainages and one (1) non-USGS identified ephemeral drainage.

If yes, describe location relative to facility: One (1) unnamed USGS identified intermittent drainage is located 493 feet to the northeast, One (1) unnamed USGS identified intermittent drainage is located 755 feet to the southwest, and the unnamed non-USGS identified ephemeral drainage is adjacent to northeastern corner of the proposed edge of disturbance.

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 facility on the northwestern side, would flow to the northwest and enter the unnamed ephemeral drainage.

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

High to actual surface water features       Low 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 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

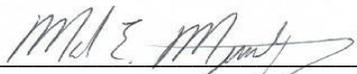
**Additional Comments:**

As stated in the surface water portion of this sensitive area determination, there are two (2) unnamed USGS identified intermittent drainages and one (1) unnamed non-USGS identified ephemeral drainage located within a ¼ mile of the existing facility. The facility as it is currently constructed and proposed to be expanded will limit the direction of a potential release to the northwestern side. If a potential release were to migrate off the facility on the northwestern side, flow would be to the northwest where it could impact the unnamed non-USGS drainage adjacent to the northeastern corner of the facility. It is not anticipated that the unnamed intermittent drainage located 493 to the northeast would be impacted by a potential release as it is separated from the facility by a natural topographic high.

Best Management Practices (BMPs) are currently installed in the form of an earthen perimeter berm along the graded edge of all fill slope sides, stormwater diversion ditches, rock armored catchment basins, and straw bale check dams. During facility expansion, it is recommended that the same BMP's be re-constructed to encompass the expanded facility footprint. All existing and re-installed 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 nearest water well (Permit number 27550) is located 6,065 feet to the northeast adjacent to Parachute Creek. The depth to groundwater is noted as being 31 feet. This well is approximately 640 feet lower in elevation. Therefore it could be assumed that the depth to groundwater, if present, in the immediate vicinity of the facility would be greater than 100 feet. The vegetative cover, which is dominated by typical upland xeric species (sage, juniper, and bunch grasses) does not suggest the presence of shallow groundwater. In addition, there were no occurrences of hydrophytic species identified during the site visit which would indicate the presence of any seeps or springs.

Based on the information collected during the site visit and desktop review, the potential to impact groundwater has been deemed to be low. The greatest potential for impacts is to the unnamed ephemeral drainage adjacent to the northeastern corner of the proposed facility expansion. This unnamed ephemeral drainage flows to the northwest approximately 1,225 feet where it enters the unnamed USGS identified drainage located 755 feet to the west of the proposed facility expansion. From this point, flow would have to migrate an additional 1,235 feet in order to impact Riley Gulch. If flow were to migrate off this facility and impact the above mentioned drainages, it is not anticipated Riley Gulch would be impacted as flow would tend to infiltrate into the channel bottom soils which have a high infiltration rates thus preventing a potential release from migrating any great distance. Therefore, with the potential for impacts to groundwater, and actual flowing surface water being deemed as low the facility can be designated as being in a non-sensitive area.

Inspector Signature(s):  Date: 9/17/2014

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

 Date: 09/12/2014

Finn Whiting, *Geologist*  
HRL Compliance Solutions, Inc.