

### Sensitive Area Determination Checklist

WPX Energy Rocky Mountain, LLC (WPX)		
<b>Person(s) Conducting Field Inspection</b>	Ashlee Lane	4/13/12
	Biologist	
<b>Site Information</b>		
Location:	SG 43-28	Time: 1100
Type of Facility:	Existing Well Pad	
<b>Environmental Conditions</b>	Clear and Sunny, dry soil conditions	
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 (1) USGS identified unnamed intermittent drainage.

If yes, describe location relative to facility: The one (1) USGS identified unnamed intermittent drainage located 115 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. A release, if it were to migrate off the facility would likely flow to the southeast towards the unnamed intermittent drainage.

3. Is the potential to impact surface water from a facility release high or low?  
 Moderate 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 and completion 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 is one (1) USGS identified unnamed intermittent drainage which is located 115 feet to the east of the existing facility. It flows to the south approximately 260 feet and where it is diverted through a culvert under the access road. Flow then continues to the west along the north side of the frontage road. The facility, as it is currently constructed, limits flow directions of a potential release to primarily the southeastern corner where the access road enters the facility. If a potential release were to migrate off the southeastern corner of the facility, flow would be to the southeast following the access road and towards the unnamed intermittent drainage. However, it is not anticipated a release would reach live flowing surface water due to the fact the drainage flows in a low lying area north of the frontage road. Any fluids would tend to congregate in this area. In addition, the nearest culvert which diverts flow under the frontage road and I-70 is located over a quarter mile to the west of where the unnamed intermittent drainage crosses under the access road. It was also noted during the site visit that the culvert diverting flow under the frontage road and I-70 is approximately four (4) feet higher than the drainage feature. It is highly unlikely fluid levels from a potential release would be sufficient enough to reach the culvert.

Very adequate Best Management Practices (BMPs) are currently installed along the western, southern and eastern perimeter of the facility in the form of an earthen berm. A diversion ditch is installed along the northern edge to divert stormwater run on away from the facility. It is recommended during facility expansion, that the BMPs be re-installed in the form of a perimeter berm along the fill slope edges of the facility particularly along the southern, southwestern and portions of the east and southeastern sides). In addition, it is recommended that a diversion ditch, if feasible, be installed along the base of the fill slopes. All BMPs should be monitored and maintained to ensure site containment in the event of a potential release.

The State Engineer's and USGS records were reviewed and no records were revealed that would provide accurate information pertaining to the depth to groundwater. The vegetative cover in the immediate vicinity of the facility does not suggest the presence of shallow groundwater.

Based on the information collected during the site visit and desktop review, the potential to impact actual surface water features has been deemed moderate. By COGCC decision, the proximity of the unnamed intermittent drainage would classify the facility as being in a sensitive area. However, the potential to impact flowing surface water (Colorado River) is very low due to the ephemeral characteristics exhibited by the drainage in the immediate vicinity of the facility, and the fact the culvert which runs under the frontage road and I-70 is higher than the drainage feature thus preventing any hydraulic connectivity to the Colorado River. Therefore, the potential to impact live flowing surface water would be deemed very low. The potential to impact groundwater has been deemed low as well as there will be no pits or cuttings trenches on the facility. All cuttings and fluids will be managed on the surface. The facility should be designated as being in a non-sensitive area.

Inspector Signature(s): Mark E. Mumby Date: 12/6/2012  
Mark E. Mumby, *Project Manager/RPG*  
HRL Compliance Solutions, Inc.

Ashlee Lane Date: 04/23/2012  
Ashlee Lane, *Biologist*  
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