

## Sensitive Area Determination Checklist

<b>WPX Energy Rocky Mountain, LLC (WPX)</b>		
<b>Person(s) Conducting Inspection</b>	<b>Field</b>	Alexander Nees Finn whiting
<b>Site Information</b>		
Location:	RGU 11-26-198	Time: 12.30
Type of Facility:	Proposed well pad	
<b>Environmental Conditions</b>	Sunny with scattered clouds, steady breeze, dry surface	
Temperature (°F)	62	

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: There are two (2) USGS identified intermittent drainages.

If yes, describe location relative to facility: One of the USGS identified intermittent drainages is located 586 feet to the north and the second USGS identified intermittent drainage is located 508 feet to the south southwest of the proposed 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, could impact either drainage depending on the location of the release. See additional comments section.

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

High       Low

## GROUNDWATER

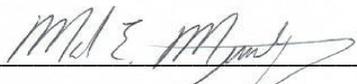
1. Will the proposed/new or existing facility have any pits which will contain hydrocarbons and chlorides or other E&P wastes?  
 Yes       No  
 If yes, List the pit type(s): A cuttings trench along the northern and eastern edges of the facility.
  
2. Is the site of the proposed facility underlain 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 are two (2) USGS identified unnamed intermittent drainages in fairly close proximity to the proposed facility. The first is located approximately 586 feet to the north and the second is located 508 feet to the south southwest of the proposed facility. The facility, as it is proposed to be constructed, limits the direction of a potential release to portions of the northern and southern sides and the entire western side. If a potential release were to migrate off the northern and southern fill slope sides, flow would be towards the unnamed intermittent drainages. Potential flow off the western side would tend to infiltrate into the heavily vegetated area to the west. During facility construction, it is recommended Best Management Practices (BMPs) be installed in the form of an earthen perimeter berm along the graded edge of all fill slope sides. In addition, a diversion ditch should be constructed (if feasible) along the toe of the fill slope sides as well. All 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 it was revealed that there are no permitted wells within the ¼ mile radius which would provide any additional information in regards to the depth to groundwater. The vegetative cover (Piñon juniper woodland, sagebrush, and scattered serviceberry) does not suggest the presence of any shallow groundwater.

Based on the information collected during the site investigation and desktop review, the greatest potential for impacts would be to the unnamed intermittent drainages located to the north and south southwest of the facility. A potential release, if it were to migrate off the fill slope sides of northern or southern sides, would tend to flow towards both drainages. As noted above, a release of the western side would tend to infiltrate into the heavily vegetated area to the west of the facility and flow would not impact either of the above noted drainages. Based on the observations from the site visit, both drainages exhibit ephemeral characteristics in the immediate vicinity of the facility, and the vegetative cover in the bottoms of both drainages indicate flow does not occur a vast majority of the time. Even if a potential release were to impact the unnamed intermittent drainages, it is not anticipated that any flowing intermittent surface water (Yellow Creek) would be impacted by a potential release. This is due to the distance (> 2.5 miles) a potential release would have to migrate in order to reach and potentially impact Yellow Creek. In addition, the high infiltration rates of the channel bottom soils would prevent a release from migrating any great distance as well. With the potential for impacts to surface water features, actual flowing surface water, and groundwater being deemed as low, the facility can be designated as being in a non-sensitive area.

Inspector Signature(s):  Date: 8/27/2013

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 Date: 5/23/2013

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