

## Sensitive Area Determination Checklist

<b>WPX Energy Rocky Mountain, LLC</b>		
<b>Person(s) Conducting Field Inspection</b>	Jennifer Belcastro	03/26/2012
	<i>Environmental Scientist</i>	
<b>Site Information</b>		
Location:	BCU 442-36-199	Time: 13:30
Type of Facility:	Proposed Well Pad	
<b>Environmental Conditions</b>	Windy; dry soil conditions.	
Temperature (°F)	55°	

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 USGS identified unnamed intermittent drainages and three unnamed unidentified ephemeral drainages.

If yes, describe location relative to facility: One USGS identified unnamed intermittent drainage is located 1,042 feet to the east and the other USGS identified intermittent drainage is located 1,240 feet to the west of the proposed facility. There is one unnamed ephemeral drainage adjacent to the southwestern corner and two unnamed ephemeral drainages adjacent to the northwestern corner 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, would tend to flow to the east or west following the natural topographical contours of the area.

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

☒ High 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): Drilling/Completions 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?

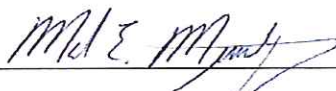
☐ High      ☒ Low

## Additional Comments:


As stated in the surface water section of this sensitive area determination, there are two USGS identified unnamed intermittent drainages and three unnamed ephemeral drainages which were identified during the site investigation. The three unnamed ephemeral drainages are adjacent to the northwestern and southwestern corners and are tributary to the USGS identified unnamed intermittent drainage located 1,240 feet west of the proposed facility. The facility, as it is currently proposed, would limit flow direction of a potential release to primarily to the eastern and western edges of the proposed facility. Therefore, the potential for a release to impact the ephemeral drainages to the west of the facility are high. The potential to impact the USGS identified intermittent drainage to the east of the facility is low due to the distance a release would have to migrate and the relatively thick vegetative cover. By COGCC decision, the close proximity of the three ephemeral drainages to the west of proposed facility would classify the facility as being in a sensitive area. However, the potential for a release to impact flowing surface water has been deemed low due to the distance a release would have to migrate, the small size of the drainages, vegetated bottoms (including several woody species), and no ordinary high water mark. These characteristics are also evident in the two unnamed USGS identified intermittent drainages. When the facility is constructed, Best Management Practices (BMPs) should be installed along the entire perimeter of the facility in the form of an earthen perimeter berm and a diversion ditch along any fill slopes, especially on the eastern and western sides. These 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 that would provide additional information pertaining to the depth to groundwater. The vegetative cover in the immediate vicinity of the facility, Piñon Juniper woodland and sage brush, does not suggest the presence of shallow groundwater.

Based on the information collected during the site investigation and desktop review, the potential to impact actual surface water features has been deemed to be moderate to high. However the potential to impact any live surface water is deemed to be low. Based on the topographical setting of the proposed facility the potential to impact ground water has been deemed low as well. Therefore, the facility can be designated as being in a non-sensitive area.

Inspector Signature(s):  Date: 5/11/2012

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

 Date: 03/26/2012

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