

## Sensitive Area Determination Checklist

WPX Energy Rocky Mountain, LLC (WPX)		
<b>Person(s) Conducting Field Inspection</b>	Jennifer Belcastro <i>Environmental Scientist</i>	3/22/13
<b>Site Information</b>		
Location:	SG 21-27	Time:
Type of Facility:	Existing Well Pad	
<b>Environmental Conditions</b>		
Partly sunny, scattered areas of standing water on surface, snowmelt complete		
Temperature (°F)	~48	

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: Kelly Gulch a USGS identified intermittent drainage tributary to the Colorado River; One (1) USGS identified unnamed intermittent drainage; and one (1) small ephemeral drainage feature

If yes, describe location relative to facility: Kelly Gulch is located 606 feet to the northeast and the unnamed USGS intermittent drainage is located approximately 666 feet to the southwest 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. If a potential release were migrate off the southwestern side of the facility flow would tend to migrate towards the unnamed intermittent drainage to the southwest.

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):

Cuttings will be stored in a cuttings trench on the north edge of the pad.

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?

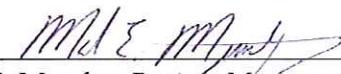
High       Low

**Additional Comments:**

As stated in the surface water section of this sensitive area determination, there are two (2) USGS identified intermittent drainages to the northeast and southwest of the existing facility. The facility, as it is proposed to be expanded, will limit the direction of a potential release to the southwestern and a portion of the southeastern sides. A potential release, if it were to migrate off the southwestern side of the facility, would tend to flow to the southwest following the natural contours of the area. However, based on the current layout of the facility, a majority of any potential release would tend to be mitigated by storm water controls already in place off the southwestern side. It is not anticipated the Kelly Gulch would be impacted by a potential release due to the fact a ridgeline separates the facility from Kelly Gulch. During facility expansion, it is recommended Best Management Practices (BMPs) in the form of an earthen perimeter berm be constructed along the entire graded edge of the facility on the southwestern and a portion of southeastern sides. If feasible, consideration should be given in regards to installing a diversion ditch along the fill slope sides of the facility as well. This along with the stormwater controls already in place would prevent a potential release from reaching the unnamed intermittent drainage to the southwest of the existing facility. All existing and newly installed BMPs should be monitored and maintained to ensure site containment in the event of a 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 of groundwater. The vegetative cover in the immediate vicinity of the facility is typical xeric desert salt scrub with scattered junipers, and does not indicate the presence of shallow groundwater.

Based on the information collected during the site visit and desktop review, the potential to impact groundwater has been deemed as being low. The greatest potential for impacts would be to the unnamed intermittent drainage located to the southwest of the existing facility in the event of a large release. However, with the storm water controls already in place, the moderate to high infiltration rates of the underlying soil, and with the installation of new BMPs during facility expansion the potential to impact the drainage would still be deemed to be very low. With the potential for impacts to surface water features and groundwater being deemed low, the facility can be designated as being in a non-sensitive area.

Inspector Signature(s):  Date: 5/24/2013  
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 Date: 5/23/2013  
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