

Sensitive Area Determination Checklist

WPX Energy Rocky Mountain, LLC		
Person(s) Conducting Field Inspection	Jennifer Belcastro <i>Environmental Scientist</i>	03/22/13
Site Information		
Location:	SG 24-22	Time: 1400
Type of Facility:	Existing Well Pad	
Environmental Conditions	Windy; melting ground conditions	
Temperature (°F)	49°	

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 and one (1) unnamed USGS identified intermittent drainage.

If yes, describe location relative to facility: The unnamed USGS identified intermittent drainage is adjacent to and diverted around the existing facility. Kelly Gulch is located 119 feet west of the existing location.

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 to migrate off the southeastern edge of the facility, flow would migrate into a diversion ditch which connects to Kelly Gulch via a culvert. If a potential release were to migrate off the southwestern edge of the facility flow would migrate directly towards Kelly Gulch.

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 and 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) unnamed USGS identified intermittent drainage which has been diverted around the existing facility and is tributary to Kelly Gulch. Kelly Gulch is located 119 feet to the west of the existing facility and is tributary to the Colorado River. The facility, as it is proposed to be expanded, will limit the direction of a potential release to the southwestern and southeastern sides. If a potential release were to migrate off the southwestern side of the facility, flow would be directly towards Kelly Gulch. A potential release, if it were to migrate off the southeastern side of the facility, would flow directly into the existing diversion ditch to a culvert which runs under the access road and drains into Kelly gulch. During facility expansion, the existing diversion ditch on the northern side of the facility should be enlarged to accommodate all flow from the unnamed intermittent drainage. This will eliminate the potential for a release to reach Kelly Gulch from the southeastern side of the facility. Best Management Practices (BMPs) in the form of an earthen perimeter berm should be constructed along the entire graded edge of the facility on the southwestern and 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. However with the close proximity of Kelly Gulch this may not be possible. In addition, if all flow from the unnamed intermittent can be diverted along the northern side of the facility, consideration should be given to possibly eliminate the remainder of the existing diversion ditch and culvert which runs under the access road. All 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 respective to the flow regime of the existing facility. The vegetative cover in the immediate vicinity of the facility (sage brush, rabbit brush, and scattered Juniper woodland) does not suggest the presence of shallow groundwater.

Based on the information collected during the site visit and desktop review, the potential to impact groundwater water has been deemed as being low. The greatest potential for impacts is to Kelly Gulch which is located less than 500 feet to the west of the proposed facility. By COGCC decision this would classify the facility as being in a sensitive area. In addition Kelly Gulch is tributary to the Colorado River and flow, when it occurs, is uninhibited the entire distance to the river. With the high potential for impacts to Kelly Gulch and potentially the Colorado River, the facility should be designated as being in a sensitive area.

Inspector Signature(s): Mark E. Mumby Date: 4/30/2013

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

Jennifer Belcastro Date: 03/22/2013

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