

Sensitive Area Determination Checklist

TEP Rocky Mountain, LLC		
Person(s) Conducting Field Inspection	Jacob Forsman	
Site Information	Existing Well Pad w/ Proposed Expansion	
Location:	TR 43-32-597 Well Pad	Time: 2:40
Type of Facility:	Existing Well Pad	
Environmental Conditions	Breezy/Sunny Conditions	
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: There is one (1) unnamed USGS identified intermittent drainage.

If yes, describe location relative to facility: The unnamed USGS identified intermittent drainage is located 712 feet to the northwest 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 to migrate of the northwestern side flow would flow would be towards the unnamed USGS identified intermittent drainage.

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 trench along the northeastern and southeastern sides 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 is one (1) unnamed USGS identified intermittent drainage located within ¼ mile of the existing facility. The existing facility, as it is currently proposed to be expanded will limit the direction of a potential release to the northwestern and southwestern sides. If a potential release were to migrate off the southwestern side, flow would be to the south following the natural contours of the area. If a potential release were to migrate of the northwestern side flow would be to the northwest again following the natural contours of the area. During facility expansion, Best Management Practices (BMP's) should be installed in the form of an earthen perimeter berm on the fill slope sides. If feasible, a diversion ditch should be constructed at the base of the fill slope sides as well. When complete, all the newly installed (BMP's) 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 closest permitted water well is located 9,811 feet (~1.9 miles) to the west southwest and would not be an accurate representation of the depth to groundwater in the immediate vicinity of the existing facility. However the vegetative cover, in the immediate vicinity of the facility, consists of service berry, oak brush, and, sage brush and does not suggest the presence of shallow groundwater. In addition, based on the topographic setting of the existing facility (ridgeline) and the elevation above the valley floor to the west (~500 feet); it could be assumed that the depth to groundwater would most likely be in excess of 100 feet if not greater. Therefore the potential to impact groundwater would be deemed as low.

However, as noted in the groundwater section of this SAD, a cuttings trench will be constructed on the northeastern and southeastern sides. It should be noted that the facility resides in the Uinta Formation which tends to be fractured both horizontally and vertically. This can result in fluid migration in the subsurface over large distances. Therefore the cuttings trench should be closely monitored to ensure no materials (especially fluids) other than cuttings are placed in the trench to eliminate any potential impacts to groundwater.

Based on the information collected during the site visit and desktop review, the greatest potential for impacts from a release would be to the unnamed USGS identified intermittent drainage located to the northwest of the existing facility. It is not anticipated that a small release would ever reach the drainage features due to the heavy vegetative cover, and the moderately high infiltration rates of the underlying soils based on information from the NRCS. If a potential release were large enough to reach the unnamed intermittent drainage, it is still unlikely that it would migrate any great distance as the channel is non-existent and the fluids from a release would infiltrate into the underlying soil. Therefore the potential to impact any flowing surface water features would be deemed to be low. With the low potential for impacts to surface water



features, actual flowing surface water, and groundwater, the facility can be classified as being in a non-sensitive area.

Inspector Signature(s):  Date: 4/13/2017

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

 Date: 4/10/2017

Jacob Forsman, *Environmental Scientist*
HRL Compliance Solutions, Inc.