

## Sensitive Area Determination Checklist

<b>TEP Rocky Mountain, LLC</b>		
<b>Person(s) Conducting Field Inspection</b>	Tanner Ridgway	
<b>Site Information</b>		
Location:	SR 23-12	Time: 13:00 PM
Type of Facility:	Proposed well pad	
<b>Environmental Conditions</b>	Cloudy, scattered showers	
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: Beaver Creek a USGS identified perennial stream

If yes, describe location relative to facility: Beaver Creek is located 1,082 feet to the east 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. A potential release, if it were to migrate off the facility, would flow to the northeast towards Beaver Creek.

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

☐ High      ☒ Low to Moderate

## 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 west side of 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:**

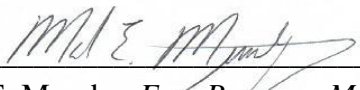
As stated in the surface water section of this sensitive area determination, there is one (1) USGS identified perennial stream (Beaver Creek) located within a quarter (1/4) mile of the existing facility. The facility as it is currently proposed, limits the direction of a potential release to the fill slope on the northeastern side. If a potential release were to migrate off the facility on flow would be to the northeast down the hillside where it would be intercepted by a roadside bar ditch. Flow would then migrate to the north down the bar ditch where it potentially could enter two (2) culverts which direct flow under the main county road. Upon exiting the culvert on the east side flow would continue down a heavily vegetated hillside towards Beaver Creek.

During facility construction, it would be highly recommended that Best Management Practices (BMPs) be installed along all fill slope sides of the facility. The BMPs should be in the form of an earthen perimeter berm along the graded edge of all fill slope sides. If feasible, a diversion ditch should be constructed along the toe of the fill slope sides as well. In addition, a raised pad entrance would mitigate any potential flow off the southeastern side down the access road leading to the facility. All newly installed BMPs should be monitored and maintained to ensure site containment in the event of a potential release. Consideration should also be given to have some sort of flow inhibiting device at the culvert inlets to block any potential flow from migrating through the culverts where it could potentially impact Beaver Creek.

The State Engineer's Office and USGS records were reviewed and it was revealed that there are no permitted water wells within a ¼ mile radius of the proposed facility which would provide any additional information pertaining to the depth to groundwater. The vegetative cover in the immediate vicinity of the proposed facility (primarily oak brush and sagebrush) and the topographic setting does not suggest the presence of shallow groundwater. The nearest observed water source is a spring located 8,382 feet to the southeast at an elevation approximately 1,000 feet higher than the proposed facility elevation. The feature is visible on the aerial imagery however no such features can be identified in the immediate vicinity of the proposed facility. Wells drilled further to the north and east in relatively the same topographic settings exhibit water levels ranging from 88 to greater than 100 feet. Therefore it could be assumed that the depth to groundwater from the proposed facility surface would be in excess of 100 feet. As noted in the groundwater section of this SAD, the proposed facility will have a cuttings trench on the southwestern side. Even though it is assumed the depth to groundwater could be greater than 100 feet, 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 would be to Beaver Creek located to the east of the existing facility. As noted above; if a potential release were to migrate off the facility on the above mentioned side, flow would migrate directly towards Beaver Creek if it migrated through the two above mentioned culverts. However, upon exiting the culverts on the eastern side of the main county road, flow would be

out onto the heavily vegetated hill side. If flow were to migrate out onto the hillside, the heavy vegetative cover would tend to inhibit flow and allow any fluids to infiltrate into the underlying soil. There is also a smaller access road to other facilities in the area which would further inhibit flow from reaching Beaver Creek. Therefore the potential to impact Beaver Creek would be low in the event of a smaller release and only moderate in the event of a very large release. Although the potential to impact surface water is low to moderate and groundwater is low, the facility lies within the external buffer zone of the Beaver Creek 317B area. Therefore by COGCC rule, the 317B buffer zone classifies the facility as being in a sensitive area.

Inspector Signature(s):  Date: 10/1/2016  
Mark E. Mumby, *Env. Program Manager/RPG*  
HRL Compliance Solutions, Inc.