

## Sensitive Area Determination Checklist

<b>TEP Rocky Mountain, LLC</b>		
<b>Person(s) Conducting Field Inspection</b>	Jacob Forsman	
<b>Site Information</b>		
Location:	RU 32-12	Time: 10:00 AM
Type of Facility:	Existing Well Pad w/Proposed Expansion	
<b>Environmental Conditions</b>	Sunny and Dry	
Temperature (°F)	70	

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 409 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 directly towards Beaver Creek.

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 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 constructed and proposed to be expanded, limits the direction of a potential release to the fill slope side on a portion of the northwestern and the northeastern sides. If a potential release were to migrate off the facility on either of these sides flow would migrate 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 approximately 200 feet before migrating through a culvert which directs flow under the main road. Upon exiting the culvert on the east side flow would be directly towards Beaver Creek.

During facility expansion, 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 southwestern corner. Any existing and 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 inlet to block any potential flow from migrating through the culvert where it could potentially impact Beaver Creek.

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 7798 feet to the north of the existing facility. The depth to groundwater is noted to be approximately 130 feet. In addition, the vegetative cover in the immediate vicinity of the facility consists of Gambel Oak and Sage Brush which does not suggest the presence of shallow groundwater. Based on the topographic/geologic setting of the existing facility, it could be assumed that groundwater, if present, would be in excess of 100 feet. Therefore the potential to impact groundwater would be deemed as low.

Based on the information collected during 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/corner flow would migrate directly towards Beaver Creek. A portion of the facility also lies within the external and a small area of the intermediate Beaver Creek 317B buffer zones. In addition Beaver Creek is also less than 500 feet from the facility. Therefore by COGCC rule, the close proximity of Beaver Creek and the fact the facility lies within the 317B buffer zone classifies the facility as being in a sensitive area.

Inspector Signature(s):  Date: 6/21/2016

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