

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 1-24-597 Well Pad	Time:
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 are two (2) unnamed USGS identified intermittent drainage.

If yes, describe location relative to facility: One unnamed USGS identified intermittent drainage is located 445 feet to the north and the second unnamed USGS intermittent drainage is located 679 feet to the southeast 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 access road on the northeastern side, flow would flow migrate towards the unnamed USGS identified intermittent drainage located 445 feet to the northwest.

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 northwestern side 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:

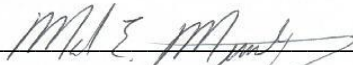
As stated in the surface water section of this sensitive area determination, there are two (2) unnamed USGS identified intermittent drainages located within ¼ mile of the existing facility. The existing facility, as it is currently proposed to be expanded will limit the direction of a potential release to the access road on the northeastern side, a portion of the southeastern side, and the southwestern side. If a potential release were to migrate down the access road on the northeastern side, flow could migrate off the road and towards the intermittent drainage feature to the north. If a potential release were to migrate of the southeastern and southwestern sides flow would migrate out onto the heavily vegetated hillside 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. It would also be recommended to construct a drive over berm at the entrance and exit points of the facility to prevent any fluid migration down the access road. 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 10983 feet (~2.0 miles) to the northeast 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 nearest valley floor to the west (~200 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 northwestern side. 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 north of the existing facility. The only instance where the drainage could be potentially impacted is; if a release migrated off the facility on the access road where it enters the facility on the northeastern side. It is not anticipated that the unnamed intermittent drainage to the southeast would be impacted by potential release 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. Although the potential for impacts to surface water features, actual flowing surface water, and groundwater have been deemed to be low, by COGCC rule the close proximity of the unnamed intermittent drainage to the north (<500 feet) would classify the facility as being in a sensitive area.

Inspector Signature(s):  Date: 4/14/2017
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 Date: 4/10/2017
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