

Sensitive Area Determination Checklist

WPX Energy Rocky Mountain, LLC		
Person(s) Conducting Field Inspection	Jennifer Belcastro <i>Environmental Scientist</i>	01/29/13
Site Information		
Location:	GM 21-12	Time: 1300
Type of Facility:	Existing Well Pad	
Environmental Conditions	Cloudy; frozen ground conditions	
Temperature (°F)	27°	

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: Parachute Creek, a USGS identified perennial Stream.

If yes, describe location relative to facility: Parachute Creek is located 818 feet to the southwest 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.

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 All cuttings and fluids will be managed on the surface.

If yes, List the pit type(s):

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?

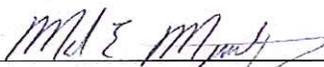
High Low

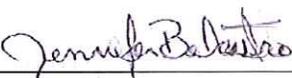
Additional Comments:

As stated in the surface water section of this sensitive area determination, Parachute Creek is located 823 feet southwest of the existing facility. The facility, as it proposed to be expanded, limits the direction of a potential release to primarily the southwestern side. If a potential release were to migrate off the facility, flow would be to the southwest towards Parachute Creek. However, it is not anticipated Parachute Creek would be impacted by a potential release due to the fact flow from a potential release would tend to congregate and infiltrate into the underlying soil in the flat lying area adjacent to the southwestern side of the facility. In addition, there is a large earthen berm located approximately 250 feet to the southwest which would further inhibit flow from a potential release from impacting Parachute Creek. During facility expansion, Best Management Practices (BMPs) should be installed along the northwestern, southwestern, and southeastern sides of the facility. These should be in the form of an earthen perimeter berm along the graded edges of the expanded facility. A diversion ditch should also be installed along the edge of disturbance on the same sides. Although recommended, this may not be feasible due to the relatively flat topographic setting of the facility. All installed BMPs 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 one record was revealed which would provide some additional information pertaining to the depth to groundwater. There is one permitted groundwater well located approximately 1,200 feet to the northwest of the existing facility. The depth to groundwater in the well is noted at 20 feet. The vegetative cover which includes elm and cottonwood also suggests the presence of relatively shallow groundwater confirming the depth to groundwater noted in the well to the northwest.

Based on the information collected during the site visit and desk top review, the potential to impact actual flowing surface water, has been deemed to be low. The potential to impact groundwater, even though it may be relatively shallow, would be deemed low as well. This is due to the fact there will be no pits and all cuttings and fluids will be managed on the surface. The potential to impact groundwater from an overland release would be low as well due to the fact a release of this nature would be short in duration, would migrate out over a larger area, and would infiltrate into the underlying soils a short distance (<1 foot). With the potential to impact both surface water and groundwater being deemed low the facility can be designated as being in a non-sensitive area.

Inspector Signature(s):  Date: 2/26/2013
 Mark E. Mumby, *Project Manager/RPG*
 HRL Compliance Solutions, Inc.

 Date: 1/29/2013
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