Sensitive Area Determination Checklist

WPX Energy Rocky Mountain, LLC (WPX)		
Person(s) Conducting Field Inspection	Alexander Nees *Environmental Scientist*	July 4, 2013
Site Information		
Location:	GM 24-12	Time: 9:45AM
Type of Facility:	Existing well pad expansion	
Environmental Conditions		
Mostly sunny, light breeze, dry soil		
Temperature (°F)	74	

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: Three (3) unnamed USGS Identified Intermittent Drainages and the Diamond Irrigation Ditch

   If yes, describe location relative to facility: One unnamed intermittent drainage is located 1,267 feet to the south southwest, the second unnamed intermittent drainage is located 180 feet to the north, the third unnamed intermittent drainage is located approximately 600 feet to the north, and the Diamond Irrigation Ditch is located approximately 960 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.

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 Fluids and cuttings 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 $\leq 1.0x10^{-7}$ 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 three unnamed USGS identified intermittent drainages and the Diamond Ditch all of which are located within ¼ mile of the pad location. The facility, as it is proposed to be expanded, limits the direction of a potential release to the northern and a small portion of the eastern sides. A potential release, if it were to migrate off the facility, would tend to flow to the northeast and infiltrate into a flat lying non-irrigated field. During facility expansion, Best management Practices (BMPs) should be installed along the graded edge of any fill slope sides (northern and a portion of the eastern sides). A diversion ditch should also be constructed along the toe of the same fill slope sides. 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 no records were revealed which would provide any additional information pertain to the depth to groundwater. The topographic setting of the location, the vegetative cover (bunch grasses, greasewood and cheat grass, with scattered juniper and sage), and the distance to any perennial surface water features does not suggest the presence of shallow groundwater.

Based on the information collected in the site investigation and desk top review, the potential to impact surface water features, as noted on the USGS topographic maps, would not occur. The reason being is; the two noted drainage features to the north of the facility no longer exist due to man-made modifications to the land surface. Therefore, if flow were to migrate off the facility on the northern and a portion of the eastern sides, it would tend to infiltrate into the flat lying non-irrigated fields adjacent to the facility. The noted drainage feature to the south southwest would not be impacted as it is separated from the facility by a slight ridgeline. It is not anticipated the Diamond Ditch would be impacted by a potential release as flow would be to the northeast somewhat parallel to the ditch. As noted above, the potential to impact groundwater has been deemed to be low based on the topographic setting of the facility and the fact all fluids will be manged on the surface. In addition, a potential release, if it were to migrate off the facility, would tend to be short in duration, would tend to spread out over a large area, and only infiltrate into the underlying soils a short distance further lessoning any potential impacts to groundwater. With the low potential for impacts to surface water features, actual flowing surface water, and groundwater being deemed as low, the facility can be designated as being in a non-sensitive area.

WPXENERGY

Inspector Signature(s): _____ Date: 8/7/2013

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

_____ Date: 7/9/2013

Alexander Nees, *Environmental Scientist*
HRL Compliance Solutions, Inc.