Sensitive Area Determination Checklist

WPX Energy Rocky Mountain, LLC (WPX)			
Person(s) Conducting Field Inspection	Jacob Forsman		
Site Information			
Location:	SG 23-32		Time: 1:45 PM
Type of Facility:	Proposed Well Pad		
Environmental Conditions	Hot and dry		
Temperature (°F)	93		

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 USGS identified unnamed intermittent drainages, and one (1) field identified unnamed ephemeral drainage.

   If yes, describe location relative to facility: The three USGS identified unnamed intermittent drainages are located 335, 605, and 790 feet to the west. The unnamed ephemeral drainage is adjacent to the southwestern edge of disturbance of the proposed 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 southwest directly towards and into the unnamed ephemeral drainage.

3. Is the potential to impact surface water from a facility release high or low?
   ☒ High during periods of flow ☒ Moderate during periods on no flow.

WPXENERGY

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

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.

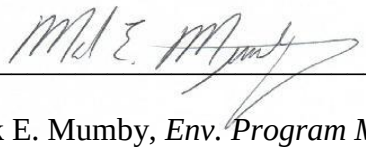
7. Is the potential to impact ground water from the facility in the event of a release high or low?
   ☐ High ☒ Low

Additional Comments:

As stated in the surface water section of this sensitive area determination, there are three (3) USGS identified unnamed intermittent drainages and one field identified ephemeral drainage located within a quarter (1/4) mile of the existing facility. The facility as it is currently proposed to be constructed, limits the direction of a potential release to the fill slope side on the southwestern side and a portion of the southeastern side. If a potential release were to migrate off the facility on these sides, flow would migrate to the west southwest directly towards and into the unnamed ephemeral drainage. During facility construction, it is 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. Consideration should also be given to possibly re-routing the unnamed ephemeral drainage further to the west to prevent flow from reaching it. All newly 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 that would provide additional information pertaining to the depth to groundwater. The closest permitted water well is located 3,374 to the southeast of the proposed facility. The depth to groundwater is noted at thirty-eight (38) feet. It is completed in the fluvial deposits (river gravels) of the Colorado River and would not be representative of the geologic conditions in the immediate vicinity of the existing facility. The facility itself, while not constructed in bedrock, is at an elevation approximately 120 feet above the Colorado River. The vegetative cover in the area consists of Greasewood and Sage Brush and does not suggest the presence of shallow groundwater. In addition, no seeps or springs were identified which would suggest the presence of shallow groundwater. Therefore based on the topographic setting of the existing facility, it could be assumed that groundwater, if present, would be in excess of 100 feet.

Based on the information collected during the site visit and desktop review, the greatest potential for impacts would be to the unnamed ephemeral and intermittent drainage located to the southwest the proposed facility. As noted above; if a potential release were to migrate off the facility on the above mentioned sides, flow would migrate towards and directly into the unnamed ephemeral drainage. From there it would flow approximately 250 to a point where it intersects the USGS identified intermittent drainage. Flow in the unnamed intermittent drainage is unimpeded to the Colorado River during periods of intermittent flow. Therefore the potential for impacts to the Colorado River would be deemed to be high during periods of flow. In addition, the close proximity of the unnamed intermittent drainage to the facility is less than 500 feet which by COGCC rule would classify it as being in a sensitive area. With the high potential for impacts to the unnamed intermittent drainage and the Colorado River during periods of intermittent flow and by COGCC rule, the facility should be classified as being in a sensitive area.

Inspector Signature(s):  Date: 7/3/2015

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HRL Compliance Solutions, Inc.

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