Sensitive Area Determination Checklist

WPX Energy Rocky Mountain, LLC			
Person(s) Conducting Field Inspection	Jennifer Belcastro		12/02/11
	Environmental Scientist		
Site Information			
Location:	KP 32-26		Time: 1400
Type of Facility:	Proposed Well Pad		
Environmental Conditions	Overcast; frozen ground conditions		
Temperature (°F)	41°F		

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: One unnamed USGS identified intermittent drainage and one unnamed USGS identified irrigation ditch.

   If yes, describe location relative to facility: The unnamed drainage is located 1035 feet southwest of the proposed facility. The unnamed irrigation ditch is located adjacent to the proposed edge of disturbance on the north side 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. If a potential release was to migrate off the northern edge of the proposed facility, flow would be down the fill slope and directly into the irrigation ditch.

   Is the potential to impact surface water from a facility release high or low?
   ☒ High during the irrigation season (late spring, summer, and early fall)
   ☒ Low during periods of no flow (late fall, winter, and early spring)

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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):

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≤ $1.0x10^{-7}$ 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 is one USGS identified unnamed irrigation ditch located adjacent to the northern edge of disturbance of the proposed facility. The facility, as it currently is proposed, would limit the direction of a potential release to the northern side. If a release were to migrate off the facility, it could potentially impact the irrigation ditch and the irrigated fields directly to the north. In addition, if a potential release was to impact the irrigation ditch it could also flow further to the west impacting the unnamed USGS identified intermittent drainage and other irrigated fields. It would be highly recommended that Best Management Practices (BMPs) be installed along the entire fill slope sides of the proposed facility. This would include the northern side as well as portions of the western and eastern sides of the proposed facility. The BMPs should be constructed in the form of an earthen perimeter berm along the graded edge and a diversion ditch along the toe of the fill slope sides. These should be monitored and maintained to ensure site containment in the event of a release thus preventing any potential impacts to the irrigation ditch. Consideration should also be given in regards to installing a culvert along the irrigation ditch on the northern side of proposed facility. This would further mitigate any potential impacts to the ditch and fields located to the north and northwest of the proposed facility.

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 within the immediate vicinity of the facility. The nearest water well is located 2,738 feet north and has a depth to groundwater of 9 feet. However, the well is located in the fluvial sediments adjacent to Baldy Creek which would account for the higher groundwater levels. Based on the topographical setting of the proposed facility, it does not lie within the fluvial sediments of Baldy Creek. In addition, the vegetative communities and cover in the immediate vicinity of the proposed facility does not suggest the presence of shallow groundwater.

Based on the information collected during the site investigation and desktop review, the potential to impact surface water features and live surface water during periods of active irrigation would be deemed to be high. Based on the topographical setting of the proposed facility the potential to impact groundwater has been deemed to be low. With the high potential for impacts to surface water features and live surface water the facility should be designated as being in a sensitive area.

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Inspector Signature(s): _____ Date: 1/4/2012

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

_____ Date: 12/02/2011

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