

Dave Kubeczko - DNR

From: Dave Kubeczko - DNR
Sent: Tuesday, October 28, 2014 1:38 PM
To: dave.kubeczko@state.co.us
Subject: FW: WPX Energy Rocky Mountain LLC, Pitchers Mound Water Recycling Pit 13-35-198 Site, NWSW Sec 35 T1S R98W, Rio Blanco County, Form 2A#400639719 and Form 15#400651043 Review

Categories: Operator Correspondence

Scan No 2107123 CORRESPONDENCE 2A#400639719 15#400651043

From: Blaney, Karolina [mailto:Karolina.Blaney@wpxenergy.com]
Sent: Tuesday, September 23, 2014 10:28 AM
To: dave.kubeczko@state.co.us
Cc: Neifert-Kraiser, Angela
Subject: RE: WPX Energy Rocky Mountain LLC, Pitchers Mound Water Recycling Pit 13-35-198 Site, NWSW Sec 35 T1S R98W, Rio Blanco County, Form 2A#400639719 and Form 15#400651043 Review

Dave,
We are OK with the COAs listed below. Please let us know if there is anything else that you need in order to approve these forms.
Thank you and have a great day,

Karolina Blaney
Environmental Specialist
WPX Energy
Office: (970) 683-2295
Cell: (970) 589-0743
Fax: (970) 285-9573
karolina.blaney@wpxenergy.com

From: Shoemaker, Mike
Sent: Thursday, September 18, 2014 12:37 PM
To: dave.kubeczko@state.co.us
Cc: Neifert-Kraiser, Angela; Blaney, Karolina
Subject: RE: WPX Energy Rocky Mountain LLC, Pitchers Mound Water Recycling Pit 13-35-198 Site, NWSW Sec 35 T1S R98W, Rio Blanco County, Form 2A#400639719 and Form 15#400651043 Review

Dave,
Thanks for returning my call earlier today please see the attached Reference Area photos for this site.

Thanks,

Mike Shoemaker
Environmental Supervisor
WPX Energy Rocky Mountain, LLC
1058 CR 215
PO Box 370
Parachute, CO 81635
Office: (970) 263-2769
Cell: (970) 250-5778
mike.shoemaker@wpxenergy.com



From: Dave Kubecko - DNR [<mailto:dave.kubecko@state.co.us>]

Sent: Thursday, September 18, 2014 7:03 AM

To: Neifert-Kraiser, Angela; Blaney, Karolina

Subject: WPX Energy Rocky Mountain LLC, Pitchers Mound Water Recycling Pit 13-35-198 Site, NWSW Sec 35 T1S R98W, Rio Blanco County, Form 2A#400639719 and Form 15#400651043 Review

Angela and Karolina,

I have been reviewing the Pitchers Mound Water Recycling Pit 13-35-198 Site **Form 2A** #400639719 and **Form 15** #400651043. **COGCC requests that WPX Energy Rocky Mountain LLC, (WPX) submit revised Reference Area Pictures since those that were submitted with the Form 2A are the same as the Location Pictures.** COGCC would like to attach the following conditions of approval (COAs) based on the data WPX has submitted on or attached to the Form 2A and Form 15 prior to passing the Oil and Gas Location Assessment (OGLA) review.

Planning: The following conditions of approval (COAs) will apply:

COA 91 - Notify the COGCC 48 hours prior to start of pit site construction, pit liner installation, start of hydrostatic test, start of first use of pit for operations, pipeline testing, and start of hydraulic stimulation operations using the Form 42 (the appropriate COGCC individuals will automatically be email notified, including the LGD for hydraulic stimulation operations).

Construction: The following conditions of approval (COAs) will apply:

COA 23 - Operator must ensure secondary containment for any volume of fluids contained at well site during drilling and completion operations; including, but not limited to, construction of a berm or diversion dike, diversion/collection trenches within and/or outside of berms/dikes, site grading, or other comparable measures (i.e., best management practices (BMPs) associated with stormwater management) sufficiently protective of nearby surface water. Any berm constructed at the pit site will be stabilized, inspected at regular intervals (at least every 14 days), and maintained in good condition.

COA 44 - The access road will be constructed and maintained as to not allow any sediment to migrate from the access road to nearby surface water or any drainages leading to surface water.

COA 6 - Additional containment shall be required where temporary or permanent pumps and other necessary equipment or chemicals are located.

COA 74 - Operator will use adequately sized containment devices for all chemicals and/or hazardous materials stored or used on location.

COA 76 - Strategically apply fugitive dust control measures, including enforcing established speed limits on private roads, to reduce fugitive dust and coating of vegetation and deposition in water sources.

COA 58 - Berms or other containment devices shall be constructed to be sufficiently impervious (corrugated steel with poly liner) to contain any spilled or released material around crude oil, condensate, and produced water storage tanks.

Drilling/Completions: The following conditions of approval (COAs) will apply:

COA 25 - Flowback and stimulation fluids must be sent to tanks, separators, or other containment/filtering equipment before the fluids can be placed into any pipeline, storage vessel, or pit located on the nearby well pad where hydraulic stimulation operations are taking place; or into tanker trucks for offsite disposal. The flowback and stimulation fluid tanks, separators, or other containment/filtering equipment must be placed on the well pad in an area constructed to be sufficiently impervious to contain any spilled or released material.

Material Handling and Spill Prevention: The following conditions of approval (COAs) will apply to the Form 2A for any permanent surface or buried pipelines (poly or steel) used during operations at the water recycling pit site or nearby well pads:

COA 45 - Operator shall pressure test pipelines in accordance with **Rule 1101.e.(1)** prior to putting into initial service any temporary surface or permanent buried pipelines and following any reconfiguration of the pipeline network.

COA 55 - Operator will utilize, to the extent practical, all existing access and other public roads, and/or existing pipeline right-of-ways, when placing/routing the surface pipelines. This will reduce surface disturbance and fragmentation of wildlife habitat in the area.

Material Handling and Spill Prevention: The following conditions of approval (COAs) will apply to the Form 2A if any temporary surface pipelines (poly or steel) are used during operations at the water recycling pit site or nearby well pads:

COA 49 - Operator must routinely inspect the entire length of the surface pipeline to ensure integrity. Operator shall conduct daily inspections of surface poly pipeline routes for leaks during active transfer of fluids and implement best management practices to contain any unintentional release of fluids along all portions of the surface pipeline route where temporary pumps and other necessary equipment are located. Inspections shall be conducted by viewing the length of the pipeline; operator will endeavor to minimize surface disturbance during pipeline monitoring. In addition, pump stations along the surface poly or steel pipeline route will be continuously monitored when operating in order to swiftly respond to such a failure.

COA 54 - Operator will implement BMPs necessary to mitigate a potential for a release of fluids to impact streams, intermittent streams, ditches, and drainage crossings. For these crossings: if poly pipe is used on the surface, operator will ensure appropriate containment by either installing over-sized pipe "sleeves" which extend the length of the crossing and beyond to a distance deemed adequate to capture (catchment basins) and/or divert any possible release of fluids and prevent fluids from reaching the stream or drainage; installing over-sized pipe "sleeves" which extend the length of the crossing and installing shut off valves on either side of crossing instead of catchment basins; or develop an alternative means for containment. For all other pipeline materials, operator will implement BMPs necessary to mitigate a potential for E&P fluids to reach groundwater or flowing surface water.

Groundwater/Surface Water Baseline Sampling: Based on recent COGCC rule changes, COGCC will attach the following additional condition of approval (COA) to the Form 2A to provide the COGCC with some baseline data for surface water and/or groundwater:

COA 9 - Groundwater Testing: Prior to pit operations, operator shall sample at a minimum two (2) domestic water wells or springs within a one (1) mile radius of the proposed oil and gas location. Testing preference shall be given to domestic water wells and springs over surface water. If possible, the water wells or springs selected should be on opposite sides of the water recycling pit site not exceeding a one (1) mile radius. If water wells or springs on opposite sides of the water recycling pit site cannot be identified, then the two (2) closest wells or springs within a one (1) mile radius of the water recycling pit site shall be sampled. The groundwater sample locations shall be surveyed in accordance with **Rule 215**. Sampling and analysis shall be conducted in conformance with **Rule 609. STATEWIDE GROUNDWATER BASELINE SAMPLING AND MONITORING**.

Initial baseline testing shall include: pH, specific conductance, total dissolved solids (TDS), dissolved gases (methane, ethane, propane), alkalinity (total bicarbonate and carbonate as CaCO₃), major anions (bromide, chloride, fluoride, sulfate, nitrate and nitrite as N, phosphorus), major cations (calcium, iron, magnesium, manganese, potassium, sodium), other elements (barium, boron, selenium and strontium), presence of bacteria (iron related, sulfate reducing, slime and coliform), total petroleum hydrocarbons (TPH) and BTEX compounds (benzene, toluene, ethylbenzene and xylenes). Hydrogen sulfide shall also be measured using a field test method. Field observations such as pH, temperature, specific conductance, odor, water color, sediment, bubbles, and effervescence shall also be included. COGCC recommends that the latest version of EPA SW 846 analytical methods be used where possible and that analyses of samples be performed by laboratories that maintain state or national accreditation programs.

If free gas or a dissolved methane concentration greater than 1.0 milligram per liter (mg/l) is detected in a water well, gas compositional analysis and stable isotope analysis of the methane (carbon and hydrogen: 12C, 13C, 1H and 2H) shall be performed to determine gas type. If test results indicated thermogenic or a mixture of thermogenic and biogenic gas, then the operator shall submit to the Director an action plan to determine the source of the gas. If the methane concentration increases by more than 5.0 mg/l between sampling periods, or increases to more than 10. mg/l, the operator shall notify the Director and the owner of the water well immediately.

After 90 days, but less than 180 days of use of the pit for completion operations, a “second” test shall be performed for the same analytical parameters listed above and repeated once every 12 months. Additional test(s) may be required if changes in water quality are identified during follow-up testing. The Director may require further water well sampling at any time in response to complaints from water well owners. Copies of all test results described above shall be provided to the Director and the landowner where the water quality testing well is located within three (3) months of collecting the samples used for the test. The analytical data and surveyed well locations shall also be submitted to the Director in an electronic data deliverable format. Documented refusal to grant access by well owner or surface owner (for water well or spring sampling), or if no water wells or springs are located/identified within one mile, shall not constitute a violation of this COA.

COA 32 - Surface water sample from the unnamed intermittent stream located approximately 662 feet to the north of the pit site (if water is present), shall be collected prior to pit use and every 12 months (until pit closure) to evaluate potential impacts from pit operations. At a minimum, the surface water samples will be analyzed for pH, specific conductance, total dissolved solids (TDS), dissolved gases (methane, ethane, propane), alkalinity (total bicarbonate and carbonate as CaCO₃), major anions (bromide, chloride, fluoride, sulfate, nitrate and nitrite as N, phosphorus), major cations (calcium, iron, magnesium, manganese, potassium, sodium), other elements (barium, boron, selenium and strontium), presence of bacteria (iron related, sulfate reducing, slime forming), total petroleum hydrocarbons (TPH) and BTEX compounds (benzene, toluene, ethylbenzene and xylenes). Field observations such as odor, water color, sediment, bubbles, and effervescence shall also be documented. The location of the sampled surface water shall be surveyed in accordance with **Rule 215**.

Form 15 Earthen Pit Construction: The following conditions of approval (COAs) will apply to both the Form 2A and the Form 15 Pit Permit:

- COA 47** - The multi-well pit must be double-lined. The pit will also require a leak detection system (Rule 904.e).
- COA 66** - Delivery and vacuum truck hoses will not be allowed to be placed directly onto the pit liner. Operator will construct a loading/unloading station located next to the pit, to deliver fluids to or remove fluids from the pit by truck. The loading/unloading station shall be designed and utilized to prevent hoses from being dropped into the pits and dragged over the liner, which could lead to liner damage. The loading/unloading station will be the only permitted access for manual fluids transfers to or from the pit. Vehicles will not be allowed to approach the pit any closer than the loading/unloading station. Each station will have a catch basin in case a leak occurs while operations personnel are connecting or disconnecting hoses. Signs clearly marking the truck loading/unloading station shall be provided and maintained by the operator.
- COA 61** - Operator must submit a professional engineer (PE) approved/stamped as-built drawing (plan view and cross-sections) of the multi-well pit within 30 calendar days of construction.
- COA 22** - After installation of the uppermost liner and prior to operating the pit, the synthetic liner(s) shall be tested by filling the pit with at least 70 percent of operating capacity of water, measured from the base of the pit (not to exceed the 2-foot freeboard requirement). The operator shall monitor the pit for leaks for a period of 72 hours prior to either draining the pit or commencing operations. Operator shall notify the COGCC 48 hours prior to start of the hydrotest using the Form 42. Hydrotest monitoring results must be maintained by the operator for the life of the pit and provided to COGCC prior to using the pit via a Form 4 Sundry.
- COA 39** - No portion of any pit that will be used to hold liquids shall be constructed on fill material, unless the pit and fill slope are designed and certified by a professional engineer, subject to review and approval by the director prior to construction of the pit. The construction and lining of the pit shall be supervised by a professional engineer or their agent. The entire base of the pit must be in cut.
- COA 59** - The multi-well pit must be fenced and netted. The operator must maintain the fencing and netting until the pit is closed.
- COA 6** - Additional containment shall be required where temporary or permanent pumps and other necessary equipment or chemicals are located.
- COA 74** - Operator will use adequately sized containment devices for all chemicals and/or hazardous materials stored or used on location.

COA 40 - Operator will implement measures to ensure that adequate separation of hydrocarbons from the influent occurs to prevent accumulation of oil on the surface of stored completions fluids. Operator shall also employ a method for monitoring buildup of phase-separated hydrocarbons on the surface of stored fluids.

COA 41 - No oil is permitted on the surface of completions fluids.

COA 19 - This multi-well pit will comply with **Rule 902. PITS - GENERAL AND SPECIAL RULES**. e. Pits used for a period of no more than three (3) years for storage, recycling, reuse, treatment, or disposal of E&P waste or fresh water, as applicable, may be permitted in accordance with **Rule 903** to service multiple wells. The three year time clock will start from the date of first use after hydrostatic testing and be based on submittal of the Form 42 providing that date.

COA 24 - The operator shall submit, and receive approval of, a reuse and recycling plan per **Rule 907.a.(3)**, prior to any offsite reuse/recycling of pit fluids.

COA 27 – The multi-well pit shall be closed in accordance with Rule 905. Closure of Pits, and Buried or Partially Buried Produced Water Vessels; with an approved Site Investigation and Remediation Workplan, Form 27.

COGCC would appreciate your concurrence with attaching theses COAs to the Form 2A and Form 15 permits prior to passing the OGLA review. If you have any questions, please do not hesitate to call me at [\(970\) 309-2514](tel:9703092514) (cell), or email. Thanks.

Dave

David A. Kubeczko, PG
Oil and Gas Location Assessment Specialist
Western Colorado



Colorado Oil & Gas Conservation Commission
Northwest Area Office
796 Megan Avenue, Suite 201
Rifle, CO 81650
FAX: (970) 625-5682
Cell: (970) 309-2514
dave.kubeczko@state.co.us | www.colorado.gov/cogcc

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