District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
Revised June 6, 2013

For temporary pits, below-grade tanks, and multi-well fluid management pits, submit to the appropriate NMOCD District Office.
For permanent pits submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

Pit, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application

12095
45-35496
45-35498

Type of action:
- ☐ Below grade tank registration
- ☐ Permit of a pit or proposed alternative method
- ☐ Closure of a pit, below-grade tank, or proposed alternative method
- ☒ Modification to an existing permit/or registration
- ☐ Closure plan only submitted for an existing permitted or non-permitted pit, below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, below-grade tank or alternative request

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.
Operator: WPX Energy Production, LLC OGRID #: 120782
Address: PO Box 640/721 S Main Aztec, NM 87410
Facility or well name: Chaco 2308-09A 145H & Chaco 2308-09A 146H
API Number: 30-045-35496 & 30-045-35498 OCD Permit Number: 11627
U/L or Qtr/Qtr A Section 09 Township 23N Range 8W County: San Juan
Center of Proposed Design: Latitude 36.24600N Longitude -107.67868W NAD: ☐ 1927 ☒ 1983
Surface Owner: ☒ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.
☒ **Pit:** Subsection F, G or J of 19.15.17.11 NMAC
Temporary: ☒ Drilling ☒ Completion ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A ☐ Multi-Well Fluid Management Low Chloride Drilling Fluid ☒ yes ☐ no
☒ Lined ☐ Unlined Liner type: Thickness 20 mil ☒ LLDPE ☐ HDPE ☐ PVC ☐ Other
☒ String-Reinforced
Liner Seams: ☒ Welded ☒ Factory ☐ Other Volume: 38,265 bbl Dimensions: L 100' x W 150' x D 15'

3.
☐ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: bbl Type of fluid:
Tank Construction material:
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other
Liner type: Thickness mil ☐ HDPE ☐ PVC ☐ Other

OIL CONS. DIV DIST. 3
JUL 31 2014

4.
☐ **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

5.
Fencing: Subsection D of 19.15.17.11 NMAC *(Applies to permanent pits, temporary pits, and below-grade tanks)*
☐ Chain link, six feet in height, two strands of barbed wire at top *(Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)*
☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet
☒ Alternate. Please specify As per BLM specifications

A

6.

Netting: Subsection E of 19.15.17.11 NMAC *(Applies to permanent pits and permanent open top tanks)*

☐ Screen ☐ Netting ☐ Other_____

☐ Monthly inspections (If netting or screening is not physically feasible)

7.

Signs: Subsection C of 19.15.17.11 NMAC

☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

☒ Signed in compliance with 19.15.16.8 NMAC

8.

Variances and Exceptions:

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

Please check a box if one or more of the following is requested, if not leave blank:

☒ Variance(s): Requests must be submitted to the appropriate division district for consideration of approval.

☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

9.

Siting Criteria (regarding permitting): 19.15.17.10 NMAC

Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. **Siting criteria does not apply to drying pads or above-grade tanks.**

General siting

Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank. - ☐ NM Office of the State Engineer - iWATERS database search; ☐ USGS; ☒ Data obtained from nearby wells	☐ Yes ☒ No ☐ NA
Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit . NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☒ No ☐ NA
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. **(Does not apply to below grade tanks)** - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☒ No
Within the area overlying a subsurface mine. **(Does not apply to below grade tanks)** - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☒ No
Within an unstable area. **(Does not apply to below grade tanks)** - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☒ No
Within a 100-year floodplain. **(Does not apply to below grade tanks)** - FEMA map	☐ Yes ☒ No

Below Grade Tanks

Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption;. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No

Temporary Pit using Low Chloride Drilling Fluid (maximum chloride content 15,000 mg/liter)

Within 100 feet of a continuously flowing watercourse, or any other significant watercourse or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). (Applies to low chloride temporary pits.) - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within 300 feet from a occupied permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☒ No
Within 200 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 300feet of any other fresh water well or spring, in existence at the time of the initial application. NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☒ No

Within 100 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Temporary Pit Non-low chloride drilling fluid	
Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application; - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Permanent Pit or Multi-Well Fluid Management Pit	
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No

10.

Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

☒ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
☒ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
☒ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
☒ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
☒ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☒ Previously Approved Design (attach copy of design) API Number: 30-039-31192 or Permit Number: 11346

11.

Multi-Well Fluid Management Pit Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
☐ A List of wells with approved application for permit to drill associated with the pit.
☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
☐ Hydrogeologic Data - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

12.

Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Nuisance or Hazardous Odors, including H_2S, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection Plan
- ☐ Erosion Control Plan
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

13.

Proposed Closure: 19.15.17.13 NMAC

Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

Type: ☒ Drilling ☒ Completion ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☐ Below-grade Tank ☐ Multi-well Fluid Management Pit

☐ Alternative

Proposed Closure Method: ☐ Waste Excavation and Removal

☐ Waste Removal (Closed-loop systems only)

☒ On-site Closure Method (Only for temporary pits and closed-loop systems)

☐ In-place Burial ☐ On-site Trench Burial

☐ Alternative Closure Method

14.

Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

- ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- ☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

15.

Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC

Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria require justifications and/or demonstrations of equivalency. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 50 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☒ No ☐ NA
Ground water is between 50 and 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☒ Yes ☐ No ☐ NA
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☒ No ☐ NA
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☒ No
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☒ No

Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☒ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☒ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☒ No

16.
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

- ☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☒ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection E of 19.15.17.13 NMAC
- ☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Subsection K of 19.15.17.11 NMAC
- ☒ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☒ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☒ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☒ Waste Material Sampling Plan - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☒ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
- ☒ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☒ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☒ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

17.
Operator Application Certification:

I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): Mark Heil Title: Regulatory Specialist

Signature: Date: 7/30/2014

e-mail address: mark.heil@wpxenergy.com Telephone: 505-333-1806

18.
OCD Approval: ☒ Permit Application (including closure plan) ☐ Closure Plan (only) ☐ OCD Conditions (see attachment)

OCD Representative Signature: Approval Date: 8/6/2014

Title: Compliance Officer **OCD Permit Number:**

19.
Closure Report (required within 60 days of closure completion): 19.15.17.13 NMAC

Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.

☐ **Closure Completion Date:**

20.
Closure Method:

☐ Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)
☐ If different from approved plan, please explain.

21.
Closure Report Attachment Checklist: ***Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.***

- ☐ Proof of Closure Notice (surface owner and division)
- ☐ Proof of Deed Notice (required for on-site closure for private land only)
- ☐ Plot Plan (for on-site closures and temporary pits)
- ☐ Confirmation Sampling Analytical Results (if applicable)
- ☐ Waste Material Sampling Analytical Results (required for on-site closure)
- ☐ Disposal Facility Name and Permit Number
- ☐ Soil Backfilling and Cover Installation
- ☐ Re-vegetation Application Rates and Seeding Technique
- ☐ Site Reclamation (Photo Documentation)

On-site Closure Location: Latitude Longitude NAD: ☐ 1927 ☐ 1983

22.

Operator Closure Certification:

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

WPX Energy Production, LLC
San Juan Basin: New Mexico Assets
Modification of Chaco 2308-09A #145H & Chaco 2308-09A #146H
Temporary Pit In-place Closure Plan
(Groundwater between 50 and 100 feet below bottom of pit liner)

In accordance with Rule 19.15.17.16.E NMAC WPX Energy is requesting the following modification to the reference Temporary Pit Permit. This modification is an adjustment of in place closure method specified in the Closure Plan. This modification is a variance to Rule 19.15.17.13.D, but is consistent with the closure requirements prior to rule amendments adopted on June 28th, 2013.

Original Closure Plan:

D. WPX closures where wastes are destined for burial in place…

(8) Upon achieving all applicable waste stabilization in the temporary pit or transfer of stabilized wastes to the temporary pit or burial trench, WPX will:

(a) fold the outer edges of the trench liner to overlap the waste material in the trench prior to the installation of the geomembrane cover;

(b) install a geomembrane cover over the waste material in the lined trench or temporary pit; the operator shall install the geomembrane cover in a manner that prevents the collection of infiltration water in the lined trench or temporary pit and on the geomembrane cover after the soil cover is in place; the geomembrane cover shall consist of a 20-mil string reinforced LLDPE liner or equivalent cover that the appropriate division district office approves; the geomembrane cover shall be composed of an impervious, synthetic material that is resistant to petroleum hydrocarbons, salts and acidic and alkaline solutions; cover compatibility shall comply with EPA SW-846 Method 9090A;

(c) cover the pit/trench with non-waste containing, uncontaminated, earthen materials and construct a soil cover prescribed by the division in Paragraph (3) of Subsection H of 19.15.17.13 NMAC.

The following criteria were used for the original closure plan of the Chaco 2308-09A #145H & 2308-09A #146H, Table1 and Table 2:

Table I
Closure Criteria for Soils Beneath Below-Grade Tanks, Drying Pads Associated with Closed-Loop Systems and Pits where Contents are Removed

Depth below bottom of pit to groundwater less than 10,000 mg/l TDS	Constituent	Method*	Limit**
≤50 feet	Chloride	EPA 300.0	600 mg/kg
	TPH	EPA SW-846 Method 418.1	100 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8015M	10 mg/kg
51-100 feet	**Chloride**	**EPA 300.0**	**10,000 mg/kg**
	TPH	**EPA SW-846 Method 418.1**	**2,500 mg/kg**
	GRO+DRO	**EPA SW-846 Method 8015M**	**1,000 mg/kg**
	BTEX	**EPA SW-846 Method 8021B or 8260B**	**50 mg/kg**
	Benzene	**EPA SW-846 Method 8021B or 8015M**	**10 mg/kg**
> 100 feet	Chloride	EPA 300.0	20,000 mg/kg
	TPH	EPA SW-846 Method 418.1	2,500 mg/kg
	GRO+DRO	EPA SW-846 Method 8015M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8015M	10 mg/kg

*Or other test methods approved by the division
**Numerical limits or natural background level, whichever is greater

Table II Closure Criteria for Burial Trenches and Waste Left in Place in Temporary Pits			
Depth below bottom of pit to groundwater less than 10,000 mg/l TDS	Constituent	Method*	Limit**
25-50 feet	Chloride	EPA Method 300.0	20,000 mg/kg
	TPH	EPA SW-846 Method 418.1	100 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8015M	10 mg/kg
51-100 feet	**Chloride**	**EPA Method 300.0**	**40,000 mg/kg**
	TPH	**EPA SW-846 Method 418.1**	**2,500 mg/kg**
	GRO+DRO	**EPA SW-846 Method 8015M**	**1,000 mg/kg**
	BTEX	**EPA SW-846 Method 8021B or 8260B**	**50 mg/kg**
	Benzene	**EPA SW-846 Method 8021B or 8015M**	**10 mg/kg**
> 100 feet	Chloride	EPA Method 300.0	80,000 mg/kg
	TPH	EPA SW-846 Method 418.1	2,500 mg/kg
	GRO+DRO	EPA SW-846 Method 8015M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8015M	10 mg/kg

*Or other test methods approved by the division
**Numerical limits or natural background level, whichever is greater
[19.15.17.13 NMAC - Rp, 19.15.17.13 NMAC, 6/28/13]

Modification of Closure Plan:

The pit liner shall be removed above "mud level" after stabilization. Removal of the liner will consist of manually or mechanically cutting the liner at the mud level and removing all remaining liner. Care will be taken to remove "all" of the liner (I.e. anchored material). All excessive liner will be disposed of at a licensed disposal facility (probably San Juan Regional Landfill operated by Waste Management under NMED Permit SWM-052426).

Table I Closure Criteria for Soils Beneath Below-Grade Tanks, Drying Pads Associated with Closed-Loop Systems and Pits where Contents are Removed			
Depth below bottom of pit to groundwater less than 10,000 mg/l TDS	Constituent	Method*	Limit**
51-100 feet	**Chloride**	**EPA 300.0**	**500 mg/kg**
	TPH	**EPA SW-846 Method 418.1**	**2,500 mg/kg**
	GRO+DRO	**EPA SW-846 Method 8015M**	**500 mg/kg**
	BTEX	**EPA SW-846 Method 8021B or 8260B**	**50 mg/kg**
	Benzene	**EPA SW-846 Method 8021B or 8015M**	**0.2 mg/kg**
> 100 feet	Chloride	EPA 300.0	20,000 mg/kg
	TPH	EPA SW-846 Method 418.1	2,500 mg/kg
	GRO+DRO	EPA SW-846 Method 8015M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8015M	10 mg/kg

*Or other test methods approved by the division

**Numerical limits or natural background level, whichever is greater

Temporary Pit In-place Closure Variance:

The in-place closure method requested in this modification is intended to provide equal or better protection of fresh water, public health and the environment as required per 19.15.17.15.A(3) This method would use the 2008 pit rule closure criteria for soils beneath below grade tanks, drying pads associated with closed-loop systems and pits where contents are removed (Table 1) and closure criteria for burial tranches and waste left in place in temporary pits. These criteria are more stringent than the current rule, providing better fresh water, public health, and environmental protection. In addition, this variance would allow the operator more flexibility to meet Bureau of Land Management reclamation plan requirements and to meet NMOCD compliance by reducing the likelihood of tearing the liner upon reclamation.

envirotech
Analytical Laboratory

Analytical Report

Report Summary

Client: WPX Energy, Inc.
Chain Of Custody Number: 16791
Samples Received: 3/31/2014 10:00:00AM
Job Number: 04108-0006
Work Order: P403110
Project Name/Location: Chaco 2308-9A
145H/146H

Entire Report Reviewed By: _____ Date: 4/4/14

Tim Cain, Laboratory Manager

The results in this report apply to the samples submitted to Envirotech's Analytical Laboratory and were analyzed in accordance with the chain of custody document supplied by you, the client, and as such are for your exclusive use only. The results in this report are based on the sample as received unless otherwise noted. Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc. If you have any questions regarding this analytical report, please don't hesitate to contact Envirotech's Laboratory Staff.

5796 US Highway 64, Farmington, NM 87401 Ph (505) 632-0615 Fx (505) 632-1865
Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301 Ph (970) 259-0615 Fr (800) 362-1879
envirotech-inc.com
laboratory@envirotech-inc.com

envirotech
Analytical Laboratory

WPX Energy, Inc.	Project Name:	Chaco 2308-9A 145H/146H	
PO Box 21218	Project Number:	04108-0006	Reported:
Tulsa OK, 74121-1358	Project Manager:	Buddy Shaw	04-Apr-14 16:30

Analyical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Cuttings Pit	P403110-01A	Soil	03/18/14	03/31/14	Glass Jar, 4 oz.

5796 US Highway 64, Farmington, NM 87401 Ph (505) 632-0615 Fx (505) 632-1865
Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301 Ph (970) 259-0615 Fr (800) 362-1879
envirotech-inc.com
laboratory@envirotech-inc.com

envirotech
Analytical Laboratory

WPX Energy, Inc.	Project Name:	Chaco 2308-9A 145H/146H	
PO Box 21218	Project Number:	04108-0006	Reported:
Tulsa OK, 74121-1358	Project Manager:	Buddy Shaw	04-Apr-14 16:30

Cuttings Pit

P403110-01 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.05	mg/kg	1	1414003	03/31/14	03/31/14	EPA 8021B	
Toluene	ND	0.05	mg/kg	1	1414003	03/31/14	03/31/14	EPA 8021B	
Ethylbenzene	ND	0.05	mg/kg	1	1414003	03/31/14	03/31/14	EPA 8021B	
p,m-Xylene	ND	0.05	mg/kg	1	1414003	03/31/14	03/31/14	EPA 8021B	
o-Xylene	ND	0.05	mg/kg	1	1414003	03/31/14	03/31/14	EPA 8021B	
Total Xylenes	ND	0.05	mg/kg	1	1414003	03/31/14	03/31/14	EPA 8021B	
Total BTEX	ND	0.05	mg/kg	1	1414003	03/31/14	03/31/14	EPA 8021B	
Surrogate: Bromochlorobenzene		*95.8 %*		*80-120*	*1414003*	*03/31/14*	*03/31/14*	*EPA 8021B*	
Surrogate: 1,3-Dichlorobenzene		*82.6 %*		*80-120*	*1414003*	*03/31/14*	*03/31/14*	*EPA 8021B*	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	4.99	mg/kg	1	1414003	03/31/14	03/31/14	EPA 8015D	
Diesel Range Organics (C10-C28)	**88.2**	30.0	mg/kg	1	1414004	03/31/14	04/01/14	EPA 8015D	
Total Petroleum Hydrocarbons by 418.1									
Total Petroleum Hydrocarbons	**431**	19.9	mg/kg	1	1414026	04/02/14	04/02/14	EPA 418.1	
Cation/Anion Analysis									
Chloride	**395**	9.87	mg/kg	1	1414028	04/03/14	04/03/14	EPA 300.0	

5796 US Highway 64, Farmington, NM 87401 Ph (505) 632-0615 Fx (505) 632-1865
Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301 Ph (970) 259-0615 Fr (800) 362-1879
envirotech-inc.com
laboratory@envirotech-inc.com

envirotech
Analytical Laboratory

WPX Energy, Inc.	Project Name:	Chaco 2308-9A 145H/146H	
PO Box 21218	Project Number:	04108-0006	Reported:
Tulsa OK, 74121-1358	Project Manager:	Buddy Shaw	04-Apr-14 16:30

Volatile Organics by EPA 8021 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1414003 - Purge and Trap EPA 5030A										
Blank (1414003-BLK1)				Prepared & Analyzed: 31-Mar-14						
Benzene	ND	0.05	mg/kg							
Toluene	ND	0.05	"							
Ethylbenzene	ND	0.05	"							
p,m-Xylene	ND	0.05	"							
o-Xylene	ND	0.05	"							
Total Xylenes	ND	0.05	"							
Total BTEX	ND	0.05	"							
Surrogate: 1,3-Dichlorobenzene	*45.6*		*ug/L*	*50.0*		*91.2*	*80-120*			
Surrogate: Bromochlorobenzene	*45.7*		*"*	*50.0*		*91.4*	*80-120*			
Duplicate (1414003-DUP1)	**Source: P403101-01**			Prepared & Analyzed: 31-Mar-14						
Benzene	ND	0.05	mg/kg		ND				30	
Toluene	ND	0.05	"		ND				30	
Ethylbenzene	ND	0.05	"		ND				30	
p,m-Xylene	ND	0.05	"		ND				30	
o-Xylene	ND	0.05	"		ND				30	
Surrogate: 1,3-Dichlorobenzene	*47.6*		*ug/L*	*50.0*		*95.2*	*80-120*			
Surrogate: Bromochlorobenzene	*47.2*		*"*	*50.0*		*94.5*	*80-120*			
Matrix Spike (1414003-MS1)	**Source: P403101-01**			Prepared & Analyzed: 31-Mar-14						
Benzene	49.5		ug/L	50.0	ND	99.0	39-150			
Toluene	50.4		"	50.0	ND	101	46-148			
Ethylbenzene	49.8		"	50.0	ND	99.7	32-160			
p,m-Xylene	101		"	100	ND	101	46-148			
o-Xylene	50.3		"	50.0	ND	101	46-148			
Surrogate: 1,3-Dichlorobenzene	*51.4*		*"*	*50.0*		*103*	*80-120*			
Surrogate: Bromochlorobenzene	*51.7*		*"*	*50.0*		*103*	*80-120*			

5796 US Highway 64, Farmington, NM 87401 Ph (505) 632-0615 Fx (505) 632-1865
Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301 Ph (970) 259-0615 Fx (800) 362-1879
envirotech-inc.com
laboratory@envirotech-inc.com

envirotech
Analytical Laboratory

WPX Energy, Inc.	Project Name:	Chaco 2308-9A 145H/146H	
PO Box 21218	Project Number:	04108-0006	Reported:
Tulsa OK, 74121-1358	Project Manager:	Buddy Shaw	04-Apr-14 16:30

Nonhalogenated Organics by 8015 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1414003 - Purge and Trap EPA 5030A										
Blank (1414003-BLK1)				Prepared & Analyzed: 31-Mar-14						
Gasoline Range Organics (C6-C10)	ND	5.00	mg/kg							
Duplicate (1414003-DUP1)		Source: P403101-01		Prepared & Analyzed: 31-Mar-14						
Gasoline Range Organics (C6-C10)	ND	5.00	mg/kg		ND				30	
Matrix Spike (1414003-MS1)		Source: P403101-01		Prepared & Analyzed: 31-Mar-14						
Gasoline Range Organics (C6-C10)	0.57		mg/L	0.450	ND	126	75-125			SPK1

5796 US Highway 64, Farmington, NM 87401 Ph (505) 632-0615 Fx (505) 632-1865
Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301 Ph (970) 259-0615 Fx (800) 362-1879
envirotech-inc.com
laboratory@envirotech-inc.com

envirotech
Analytical Laboratory

WPX Energy, Inc.	Project Name:	Chaco 2308-9A 145H/146H	
PO Box 21218	Project Number:	04108-0006	Reported:
Tulsa OK, 74121-1358	Project Manager:	Buddy Shaw	04-Apr-14 16:30

Nonhalogenated Organics by 8015 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1414004 - DRO Extraction EPA 3550C										
Blank (1414004-BLK1)				Prepared: 31-Mar-14 Analyzed: 01-Apr-14						
Diesel Range Organics (C10-C28)	ND	30.0	mg/kg							
Duplicate (1414004-DUP1)	Source: P403101-01			Prepared: 31-Mar-14 Analyzed: 01-Apr-14						
Diesel Range Organics (C10-C28)	ND	30.0	mg/kg		ND				30	
Matrix Spike (1414004-MS1)	Source: P403101-01			Prepared: 31-Mar-14 Analyzed: 01-Apr-14						
Diesel Range Organics (C10-C28)	254		mg/L	250	ND	101	75-125			

5796 US Highway 64, Farmington, NM 87401 Ph (505) 632-0615 Fx (505) 632-1865
Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301 Ph (970) 259-0615 Fr (800) 362-1879
envirotech-inc.com
laboratory@envirotech-inc.com

envirotech
Analytical Laboratory

WPX Energy, Inc.	Project Name:	Chaco 2308-9A 145H/146H	
PO Box 21218	Project Number:	04108-0006	Reported:
Tulsa OK, 74121-1358	Project Manager:	Buddy Shaw	04-Apr-14 16:30

Total Petroleum Hydrocarbons by 418.1 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1414026 - 418 Freon Extraction										
Blank (1414026-BLK1)				Prepared & Analyzed: 02-Apr-14						
Total Petroleum Hydrocarbons	ND	20.0	mg/kg							
Duplicate (1414026-DUP1)		Source: P403110-01		Prepared & Analyzed: 02-Apr-14						
Total Petroleum Hydrocarbons	400	20.0	mg/kg		431			7.45	30	
Matrix Spike (1414026-MS1)		Source: P403110-01		Prepared & Analyzed: 02-Apr-14						
Total Petroleum Hydrocarbons	2500	20.0	mg/kg	2000	431	104	80-120			

5796 US Highway 64, Farmington, NM 87401 Ph (505) 632-0615 Fx (505) 632-1865
Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301 Ph (970) 259-0615 Fr (800) 362-1879
envirotech-inc.com
laboratory@envirotech-inc.com

envirotech
Analytical Laboratory

WPX Energy, Inc.	Project Name:	Chaco 2308-9A 145H/146H	
PO Box 21218	Project Number:	04108-0006	Reported:
Tulsa OK, 74121-1358	Project Manager:	Buddy Shaw	04-Apr-14 16:30

Cation/Anion Analysis - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1414028 - Anion Extraction EPA 300.0										
Blank (1414028-BLK1)				Prepared & Analyzed: 03-Apr-14						
Chloride	ND	9.86	mg/kg							
LCS (1414028-BS1)				Prepared & Analyzed: 03-Apr-14						
Chloride	488	9.91	mg/kg	495		98.4	90-110			
Matrix Spike (1414028-MS1)		Source: P403110-01		Prepared & Analyzed: 03-Apr-14						
Chloride	877	9.93	mg/kg	497	395	97.2	80-120			
Matrix Spike Dup (1414028-MSD1)		Source: P403110-01		Prepared & Analyzed: 03-Apr-14						
Chloride	900	9.84	mg/kg	492	395	103	80-120	2.54	20	

5796 US Highway 64, Farmington, NM 87401 Ph (505) 632-0615 Fx (505) 632-1865
Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301 Ph (970) 259-0615 Fr (800) 362-1879
envirotech-inc.com
laboratory@envirotech-inc.com

envirotech
Analytical Laboratory

WPX Energy, Inc.	Project Name:	Chaco 2308-9A 145H/146H	
PO Box 21218	Project Number:	04108-0006	Reported:
Tulsa OK, 74121-1358	Project Manager:	Buddy Shaw	04-Apr-14 16:30

Notes and Definitions

SPK1	The spike recovery for this QC sample is outside of control limits.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

5796 US Highway 64, Farmington, NM 87401 Ph (505) 632-0615 Fx (505) 632-1865
Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301 Ph (970) 259-0615 Fr (800) 362-1879
envirotech-inc.com
laboratory@envirotech-inc.com

CHAIN OF CUSTODY RECORD

16791

Client: WPX	Project Name / Location: Chaco 2308-9A 145H/146H	ANALYSIS / PARAMETERS
Email results to: Buddy Shaw	Sampler Name: Bobby Lee	
Client Phone No.:	Client No.: 04108-00016	

Sample No./ Identification	Sample Date	Sample Time	Lab No.	No./Volume of Containers	Preservative HNO3	Preservative HCl	TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	CO Table 910-1	TPH (418.1)	CHLORIDE				Sample Cool	Sample Intact
cuttings Pit	3/18/14	2:00 PM	P403110-01	1			✓	✓							✓	✓				Y	Y

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	3/31/14	10:15 AM		3/31/14	10:15
Relinquished by: (Signature)			Received by: (Signature)		

Sample Matrix
Soil ☒ Solid ☐ Sludge ☐ Aqueous ☐ Other ☐ _____

☐ Sample(s) dropped off after hours to secure drop off area.

envirotech
Analytical Laboratory

0.7°C

5795 US Highway 64 • Farmington, NM 87401 • 505-632-0615 • Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301 • laboratory@envirotech-inc