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

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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.

Sunta 1 0, 14141 07505 to the appropriate time of 5 to the
Proposed Alternative Method Permit or Closure Plan Application  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.
I.         Operator:         WPX Energy Production, LLC         OGRID #:         120782           Address:         PO Box 640/721 S Main         Aztec, NM 87410
Facility or well name: Chaco 2306-07L 183H
API Number: 30-039-31191 OCD Permit Number:
U/L or Qtr/Qtr <u>L</u> Section 7 Township 23N Range 6W County: <u>Rio Arriba</u>
Center of Proposed Design: Latitude 36.23741N Longitude -107.51814W NAD: □1927 ☑ 1983
Surface Owner:   Federal  State  Private  Tribal Trust or Indian Allotment
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
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: Thicknessmil HDPE PVC Other
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

As per BLM specifications

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)	
5igns: 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	
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.	
5. 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 acceptate are provided below. Siting criteria does not apply to drying pads or above-grade tanks.	ptable source
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
<u>Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit.</u> 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
<ul> <li>Within an unstable area. (Does not apply to below grade tanks)</li> <li>Engineering measures incorporated into the design; NM Bureau of Geology &amp; Mineral Resources; USGS; NM Geological Society; Topographic map</li> </ul>	☐ 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.	Yes No
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	
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
Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 N  Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the doc 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  Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC  Design Plan - based upon the appropriate requirements of 19.15.17.12 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 19.1 and 19.15.17.13 NMAC  Previously Approved Design (attach copy of design) API Number:30-039-31192 or Permit Number:11346	NMAC 15.17.9 NMAC
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 doc 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. 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:	15.17.9 NMAC

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 attached.	documents are
☐ 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	
<ul> <li>☐ Quality Control/Quality Assurance Construction and Installation Plan</li> <li>☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC</li> <li>☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC</li> </ul>	
<ul> <li>Nuisance or Hazardous Odors, including H₂S, Prevention Plan</li> <li>Emergency Response Plan</li> <li>Oil Field Waste Stream Characterization</li> </ul>	
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 Management Pit	☐ Multi-well Fluid
☐ Alternative Proposed Closure Method: ☐ Waste Excavation and Removal	
<ul><li>☐ Waste Removal (Closed-loop systems only)</li><li>☑ On-site Closure Method (Only for temporary pits and closed-loop systems)</li></ul>	
☐ Alternative Closure Method	
Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be 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 soun provided below. Requests regarding changes to certain siting criteria require justifications and/or demonstrations of equivalency. In 19.15.17.10 NMAC for guidance.	
Ground water is less than 25 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 25-50 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 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 100 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, 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 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, 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
Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ 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

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 the area overlying a subsurface mine Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ⊠ No
<ul> <li>Within an unstable area.</li> <li>Engineering measures incorporated into the design; NM Bureau of Geology &amp; Mineral Resources; USGS; NM Geological Society; Topographic map</li> </ul>	☐ Yes ⊠ No
Within a 100-year floodplain FEMA map	☐ Yes ☑ No
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the closure plan 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.  Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.13 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 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	11 NMAC 15.17.11 NMAC
Operator Application Certification:  1 hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and believed.	ef.
Name (Print): Ben Mitchell Title: Regulatory Specialist	
Signature:	1122
e-mail address: Ben.Mitchell@wpxenergy.com Telephone: 505-333-1806	
18.  OCD Approval: Permit Application (including closure plan) Closure Plan (only) COD Conditions (see attachment)  OCD Representative Signature:	ר ואו
Approval Date. Of 170	95
Title: Comphance Office 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 is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not section of the form until an approved closure plan has been obtained and the closure activities have been completed.  Closure Completion Date:	
Closure Method:  Waste Excavation and Removal On-Site Closure Method Alternative Closure Method Waste Removal (Closed-lo If different from approved plan, please explain.	op systems only)
21.  Closure Report Attachment Checklist: Instructions: Each of the following items must be attached to the closure report. Please incomark in the box, that the documents are attached.  Proof of Closure Notice (surface owner and division)	dicate, by a check
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	
<ul><li>☐ Re-vegetation Application Rates and Seeding Technique</li><li>☐ Site Reclamation (Photo Documentation)</li></ul>	_
On-site Closure Location: Latitude Longitude NAD: ☐1927	I 11983

Operator Closure Certification:	
I hereby certify that the information and attachments submitted with this closure report belief. I also certify that the closure complies with all applicable closure requirements	t is true, accurate and complete to the best of my knowledge and and conditions specified in the approved closure plan.
Name (Print):	Title:
Signature:	Date:
e-mail address:	Telephone:

Form C-144 Oil Conservation Division Page 6 of 25

District I
1625 N. French Orive, Hobbs, NM 88240
Phone: (575) 393-5161 Fax: (575) 393-0720
District II
811 S. First Street, Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Orive, Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico Energy, Minerals & Natural Resources Department Form C-102 Revised August 1, 2011

Submit one copy to Appropriate District Office

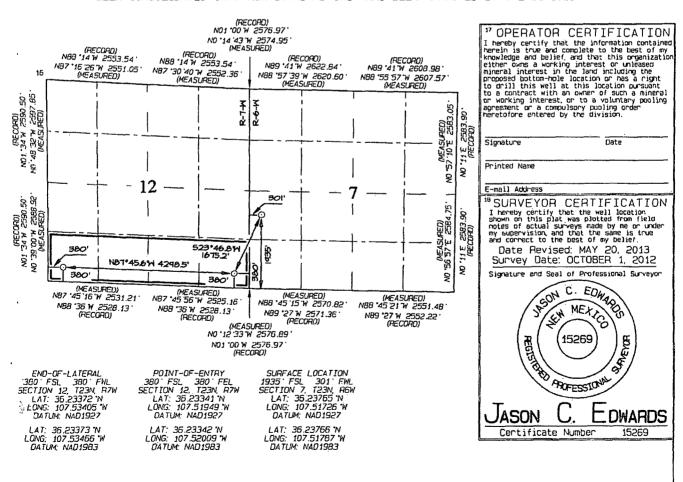
#### OIL CONSERVATION DIVISION 1220 South St. Francis Drive Santa Fe, NM 87505

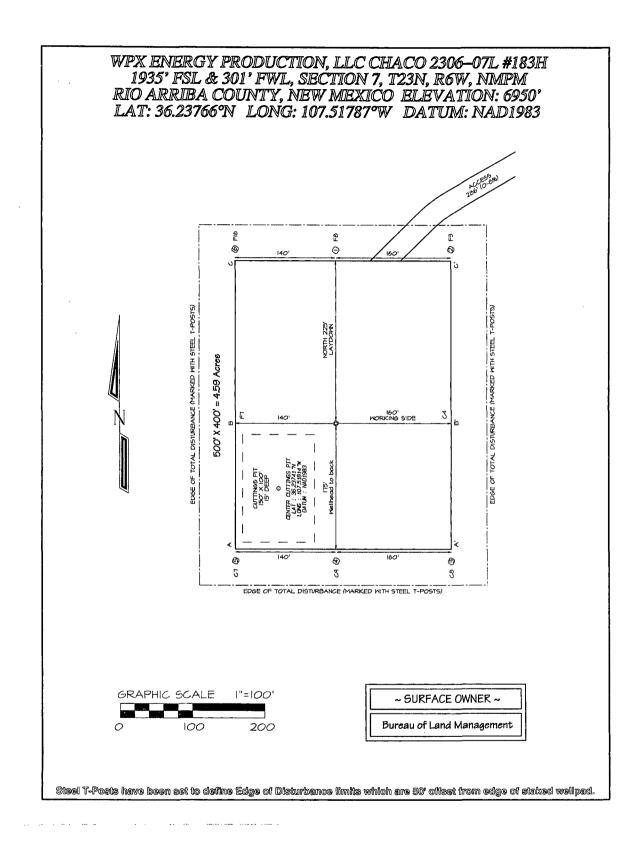
AMENDED REPORT

#### WELL LOCATION AND ACREAGE DEDICATION PLAT

MEET COOK TON AND ACTION DEDICATION TEXT									
",	API Numbe	Γ .		'Pool Coo	le	Pool Name			
				42289	)	LYBROOK GALLUP			
*Property	Code	³Property Name					Well Number		
			CHACO 2306-07L						183H
'OGRID	No.		*Operator Name					*Elevation	
12078	is			WPX ENERGY PRODUCTION, LLC 6950'			6950'		
<sup>10</sup> Surface Location									
UL or lot no.	Section	Township	Range	Lat Ion	Feet from the	North/South line	Feet from the	East/West lin	e County
L	7	23N	6W		1935	SOUTH	301	WEST	RIO ARRIBA
<sup>11</sup> Bottom Hole Location If Different From Surface									
it or lot no.	Sect ion	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West lin	e County
M	12	23N	7W		380	SOUTH	380	WEST	ARRIBA
Dedicated Acres		160.0 5/2 -	Acres Section	12	19 Joint or Infill	<sup>3A</sup> Consolidation Code	<sup>15</sup> Onder No.		

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION





#### Hydrogeological Report WPX Energy Production, LLC Chaco 2306-07L 183H

#### Regional Hydrological Context

#### **Referenced Well Location:**

The referenced well and pit is located on Bureau of Land Management land within Farmington Field Office (FFO) jurisdiction in Rio Arriba County, New Mexico. This site is positioned in the northeastern portion of the San Juan Basin, an asymmetrical syncline that extends from northwestern New Mexico into southwestern Colorado (Carson National Forest FEIS, 2008). Elevation of the referenced well is approximately 6,950 feet MSL.

#### **General Regional Groundwater Description:**

As a portion of the San Juan Basin, the FFO region is underlain by sandstone aquifers of the Colorado Plateau. The primary aquifer of potential concern at this location is the Uinta-Animas Aquifer, composed primarily of Lower Tertiary rocks in the San Juan Basin. The aquifer consists of the San Jose Formation; the underlying Animas formation and its lateral equivalent, the Nacimiento formation; and the Ojo Alamo Sandstone. The thickness of the Uinta-Animas aquifer generally increases toward the central part of the basin. In this region, the maximum thickness of the aquifer is approximately 3500 feet (USGS, 2001). This aquifer contains fresh to moderately saline water.

Groundwater generally flows toward the San Juan River and its tributaries, where it becomes alluvial groundwater or is discharged to stream flow. Additional information regarding the hydrogeologic setting can be found in the provided references.

#### **Site Specific Information:**

Surface Hydrology: The pit is located on a low North facing slope draining northeast

toward unknown tributary into Escrito Canyon.

1<sup>st</sup> Water Bearing Formation: San Jose, Tertiary

Formation Thickness: Approximately 1,900 ft. Underlying Formation: Nacimiento, Tertiary

**Depth to Groundwater:** Depth to groundwater is estimated at greater than 100 feet below

bottom of pit liner. Within a one-mile radius of this location, there is an iWATERS well with recorded water depth of 200 feet approximately 3,0008 feet from the Chaco 2306-07L Unit 183H

(see Siting Criteria Map I for details).

#### **References:**

Allen, Erin. Undated. Colorado Plateau Aquifers.

http://academic.emporia.edu/schulmem/hydro/TERM%20PROJECTS/2007/Allen/Aquifer.html.

New Mexico Energy, Minerals and Natural Resources Department, Division of Mining and Minerals. Database. 2010. Internet accessed January 2010.

New Mexico Office of the State Engineer. 2013. iWaters database. Internet accessed January 2010.

New Mexico WQCC. 2005. State of New Mexico Water Quality Act and the Water Control Commission Regulations.

United States Department of Agriculture, Forest Service. 2008. Final Environmental Impact Statement for Surface Management of Gas Leasing and Development. Jicarilla Ranger District, Carson National Forest, Rio Arriba County, New Mexico.

United States Department of the Interior. Bureau of Land Management. 2003. Final Farmington Resource Management Plan and Final Environmental Impact Statement. Farmington Field Office, Farmington, New Mexico.

United States Geological Survey. 2001. Ground Water Atlas of the United States: Arizona, Colorado, New Mexico and Utah. USGS Publication HA 730-C;

Form C-144 Oil Conservation Division Page 9 of 25



## New Mexico Office of the State Engineer Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a (R=POD has been replaced,

O=orphaned,

POD

closed)

C=the file is (quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

eters)

Q Q Q

Depth Depth Water
Y Well Water Column

SJ 01156

water right file.)

POD Number

Code Subbasin County 64 16 4 Sec Tws Rng

274330 4012555\* 1500

Average Depth to Water:

500 200 1300

(In feet)

SJ 01506

RA 2 2 1 18 23N 06W

....

1 1 3 22 23N 06W 278535

8535 4010015\* 280

200 feet

Minimum Depth: 200 feet

Maximum Depth:

200 feet

**Record Count: 2** 

**PLSS Search:** 

Township: 23N

Range: 06W

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

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Page 1 of 1

WATER COLUMN/ AVERAGE DEPTH TO WATER



### New Mexico Office of the State Engineer Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned,

C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD QQQ ~ Depth Depth, Water Y Well Water Column, Code Subbasin County 64 16 4 Sec. Tws Rng POD Number RA 3 3 4 10 23N 07W 269889 4013098\* 809 SJ 01507 1709 900 1 1 2 15 23N 07W 269856 4012864\* SJ 02233 1100 SJ 02233 CLW223636 1 1 2 15 23N 07W 269856 4012864\* 1100

Average Depth to Water: 900 feet

> 900 feet Minimum Depth:

Maximum Depth: 900 feet

**Record Count: 3** 

PLSS Search:

Township: 23N

Range: 07W

\*UTM location was derived from PLSS - see Help

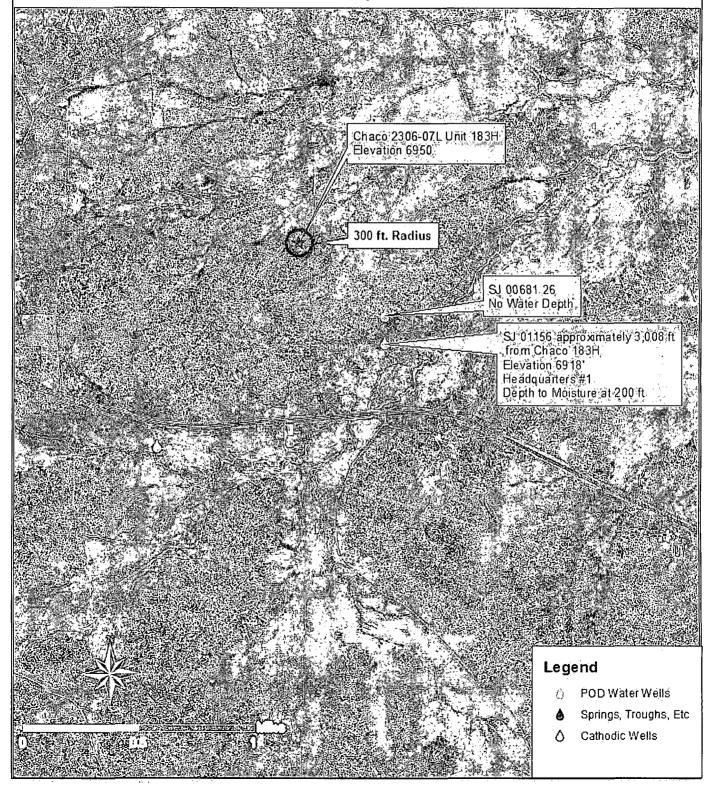
The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data

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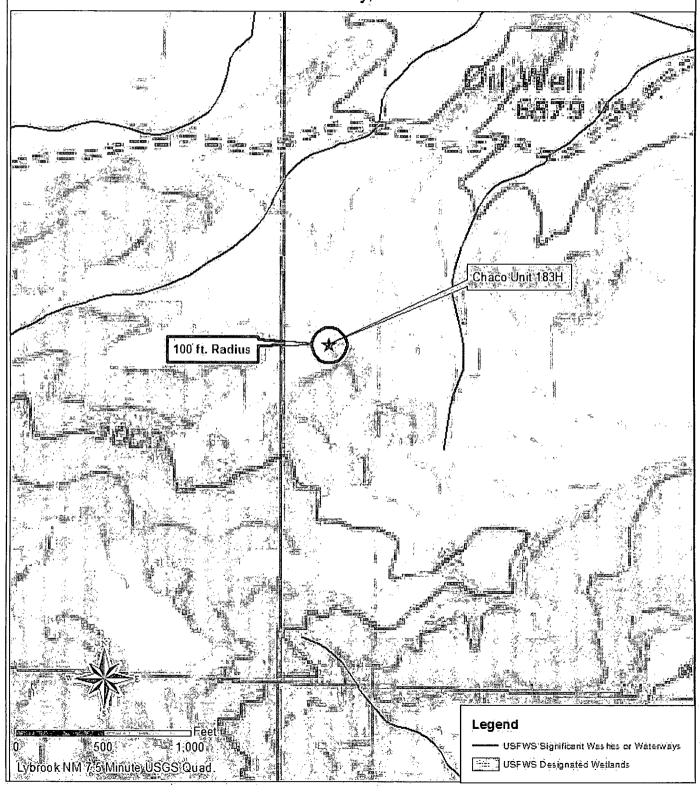
Page 1 of 1

WATER COLUMN/ AVERAGE **DEPTH TO WATER** 

Siting Criteria Map I
Water Wells, Cathodic Wells, & Springs
WPX Energy Production, LLC
Chaco 2306-07L Unit 183H
T23N, R06W, Section 7 NMPM
Rio Arriba County, New Mexico



Siting Criteria Map II
Topographic Features
WPX Energy Production, LLC
Chaco 2306-07L Unit 183H
T23N, R06W, Section 07 NMPM
Rio Arriba County, New Mexico

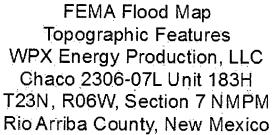


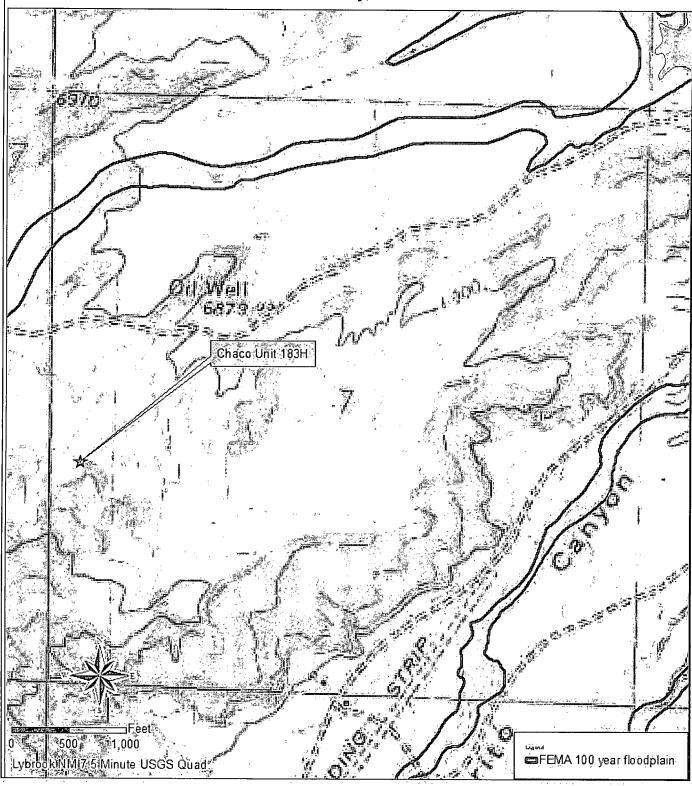
#### **FEMA Map – 100-Year Floodplain:**

According to FEMA records, this site is not located in a 100-year floodplain (see attached FEMA map).

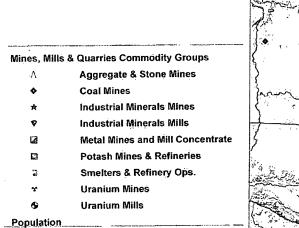
#### Siting Criteria Compliance Demonstrations:

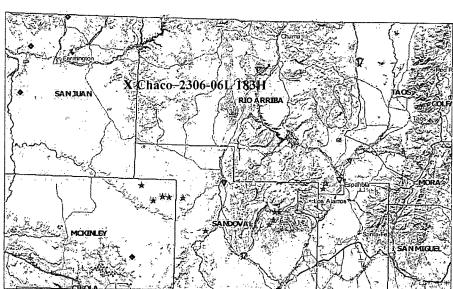
The Chaco 2306-07L 183H well is not located in an unstable area. The location is not situated over a mine or a steep slope. Excavated pit material will not be located within 100 feet of a continuously flowing water course or within 100 feet of any other significant water course, lakebed, sinkhole, or playa lake (see Siting Criteria Map II). The site is not within 100 feet of any reported riparian areas or wetlands (see attached USFWS wetland map); within 300 feet of any private, domestic fresh water well or spring; or within 300 feet of any other fresh water well or spring (see Siting Criteria Map I). The pit will not be within any incorporated municipal boundaries or defined municipal freshwater well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. The location of the proposed pit is not within 300 feet of any permanent residence, school, hospital, institution, or church.





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#### WPX Energy Production, LLC San Juan Basin: New Mexico Assets

Temporary Pit Design and Construction Plan (Groundwater > 100 feet below bottom of pit liner)

In accordance with Rule 19.15.17 NMAC, the following plan describes the general design and construction (D&C) of temporary pits on WPX Energy Production, LLC (WPX) locations in the San Juan Basin of New Mexico. This is WPX's standard procedure for all temporary pits. For those temporary pits which do not conform to this standard plan, a separate well specific D&C plan will be developed and utilized.

#### General Plan Requirements:

- WPX will design and construct a temporary pit to contain liquids and solids associated with drilling, completion and workover of oil and gas wells which will prevent contamination of fresh water resources and protect public health and the environment.
- 2. Prior to excavation of the pit, topsoil will be stripped and stockpiled within the construction zone for later use during restoration.
- 3. WPX will post a well sign, not less than 12" by 24", on the well site prior to construction of the temporary pit. This sign will list the operator on record, the location of the well site by unit letter/section/township/range, and emergency telephone number(s).
- 4. WPX shall construct all new fences utilizing 48" steel mesh field-fence (hogwire) on the bottom with a single strand of barbed wire on top. T-posts will be installed every 12 feet and corners shall be anchored utilizing a secondary T-post or similar bracing. Temporary pits will be fenced at all times excluding drilling/completion and/or workover operations when the rig is present on site, at which time the "front" side of the fence will be temporarily removed for operational purposes.
- 5. WPX shall construction the temporary pit so that the foundation and interior slopes are firm and free of rocks, debris, sharp edges or irregularities to meet manufacturers' specifications and potential liner failure.
- 6. WPX shall construct the pit so that the slopes are no steeper than two horizontal to one vertical. Where steeper slopes are required due to surface owner and right-a-way restriction, an engineer's certification of stability will be provided with the well pit application.
- 7. Pit well will be walked down by a crawler type tractor following construction and prior to liner installation.
- 8. All temporary pits will be lined with a 20-mil, string reinforced, LLDPE liner, complying with EPA SW-846 method 9090A requirements.
- 9. Geotextile will be installed beneath the liner when rocks, debris, sharp objects or irregularities cannot be avoided.
- 10. All liners will be anchored in the bottom of a compacted earth-filled trench consistent with manufacturer's specifications and at least 18 inches deep.
- 11. WPX will minimize liner seams and orient them up and down, not across slope faces. Factory seams will be used whenever possible. Field seams will be overlapped per manufacturers' specifications. WPX will minimize the number of field seams in corners and irregularly shaped areas.
- 12. The liner shall be protected from any fluid force or mechanical damage through the use of mud pit slides (secondary liner placed over the primary liner), and/or a manifold system.
- 13. The pit shall be protected from run-on by construction of diversion ditches around the location or around the perimeter of the pit in as necessary.
- 14. The volume of the pit shall not exceed 10 acre-feet, including freeboard
- 15. Temporary blow pits will be constructed to allow gravity flow to discharge into the lined reserve pit.
- 16. Only the upper portion of the blow pit will be unlined as allowed in the Rule 19.15.17.11.F(11) NMAC.



## WPX Energy Production, LLC San Juan Basin: New Mexico Assets

Temporary Pit Maintenance & Operating Plan (Groundwater > 100 feet below bottom of pit liner)

In accordance with Rule 19.15.17 NMAC, the following plan describes the general operations and maintenance (O&M)of temporary pits on WPX Energy Production, LLC (WPX) locations in the San Juan Basin of New Mexico. This is WPX's standard procedure for all temporary pits. For those temporary pits which do not conform to this standard O&M plan, a separate well specific O&M plan will be developed and utilized.

#### General Plan Requirements:

- 1. WPX will operate and maintain a temporary pit to contain liquids and solids associated with drilling, completion and workover of oil and gas wells which will prevent contamination of fresh water resources and protect public health and the environment.
- 2. WPX will to the extent practical conserve drilling fluids for reuse by transferring liquids to pits ahead of the rigs. All other fluids will be disposed by evaporation or transport to Basin Disposal, Inc in Bloomfield, New Mexico (Permit # NM-01-005).
- 3. WPX shall maintain at least two (2) feet of vertical freeboard for a temporary pit.
- 4. WPX shall remove all free liquids from a temporary pit within 30 days from the date the drilling or workover rig is released.
- 5. Only fluids and solids generated during the drilling/completion/workover process may be discharged into a temporary pit. Other miscellaneous soild waste or debris will not be allowed.
- 6. WPX will not discharge or store any hazardous waste as defined under RCRA 40CFR 261 and 19.15.1.7.W(3) NMA in any temporary pit.
- 7. If any pit liner's integrity is compromised, or if any penetration of the liner occurs:
  - a. Above the liquid's surface, WPX shall repair the damage or replace the liner as necessary. WPX will notify the NMOCD Aztec District Office by phone or email within 48-hours of discovery.
  - b. Leak below the liquid's surface, WPX shall suspend operations, remove all liquids above the damaged liner within 48 hours, and repair the damage or replace the liner. WPX will notify and report to NMOCD as follows:
    - i. If the release is less than 25 bbls, the Aztec District Office by phone or email within 48-hours of discovery and repair.
    - ii. If the release is suspected to be greater than 25 bbls, the Aztec District Office and the Environmental Bureau Chief by phone for immediate verbal notification pursuant to 19.15.3.116.8 (1)(d).
  - c. Written Spill/Release reports will be submitted on Form C-141 per 19.15.3.116.C NMAC within 15 days to the Aztec District Office.
- 8. The liner shall be protected from any fluid force or mechanical damage through the use of mud pit slides (secondary liner placed over the primary liner), and/or a manifold system.
- 9. Diversion ditches, around the location or around the perimeter of the pit, shall be maintained as protection from run-on.
- 10. WPX shall immediately remove any visible layer of oil from the surface of a temporary pit following cessation of drilling/completion/workover operations. Oil absorbent booms will be utilized to contain and remove oil. An oil absorbent boom will stored on-site until the pit is covered.
- 11. WPX will inspect the temporary pits as follows to ensure compliance with this plan:
  a. Daily during drilling or workover operations. Inspections will be included
  - with the IADC reports.
  - b. Weekly as long as liquids remain in the pit. Electronic copies of the inspections will be kept at the WPX San Juan Basin office.

- a. Copies of the inspections will be filed with the NMOCD Aztec District office upon pit closure.
- 12. WPX shall remove all free liquids from a blow/flare (cavitation) pit within 48 hours after completing operations. WPX may request additional time to remove liquids from the Aztec District office if it is not feasible to meet the 48 hour requirement.

## WPX Energy Production, LLC San Juan Basin: New Mexico Assets

Temporary Pit In-place Closure Plan (Groundwater >100 feet below bottom of pit liner)

In accordance with Rule 19.15.17.13 NMAC, the following plan describes the general requirements of temporary pits on WPX locations in the San Juan Basin of New Mexico. This is WPX's standard closure procedure for all temporary pits. For those closures which do not conform to this standard closure plan, a separate pit specific closure plan will be developed and utilized.

#### 19.15.17.13 CLOSURE AND SITE RECLAMATION REQUIREMENTS:

- A. Closure plans shall describe the proposed closure method and the proposed procedures and protocols to implement and complete the closure.
- C. WPX closures where wastes are destined for disposal at division approved off-site facilities. This subsection applies to temporary pits, the operator of any temporary pit will not commence closure without first obtaining approval of the closure plan submitted with the permit application or registration pursuant to 19.15.17.9 NMAC.
- (2) WPX will close the temporary pit by first removing all contents and, if applicable, synthetic liners and transferring those materials to a division approved facility.
  - (3) WPX will test the soils beneath the temporary pit as follows.
    - (a) At a minimum, a five point composite sample to include any obvious stained or

wet soils, or other evidence of contamination shall be taken under the liner or the below-grade tank and that sample shall be analyzed for the constituents listed in Table I of 19.15.17.13 NMAC.

- (b) If any contaminant concentration is higher than the parameters listed in Table I of
- 19.15.17.13 NMAC, the division may require additional delineation upon review of the results and the operator must receive approval before proceeding with closure.
- (c) If all contaminant concentrations are less than or equal to the parameters listed in Table I of 19.15.17.13 NMAC, thenWPX can proceed to backfill the pit or excavation with non-waste containing, uncontaminated, earthen material.
- D. WPX closures where wastes are destined for burial in place or into nearby division approved pits or trenches. This subsection applies to waste from temporary pits, when such waste may be disposed of in place in the existing temporary pit or disposed of at a nearby temporary pit or burial trench that is not a permitted commercial facility regulated under 19.15.36 NMAC. A nearby temporary pit or burial trench that receives waste from another temporary pit must be onsite within the same lease.
- (1) WPX will not commence closure without first obtaining approval of the closure plan submitted with the permit application.
  - (2) WPX will demonstrate and comply with the siting criteria set forth in Subsection

#### C of 19.15.17.10 NMAC.

- (3) WPXwillI remove all free liquids reasonably achievable from the pit and dispose of such liquids at a division approved facility.
- (4) WPX when closing a temporary pit will stabilize or solidify the remaining temporary pit contents to a capacity sufficient to support the final cover of the temporary pit. WPX will not mix the contents with soil or other material at a mixing ratio of greater than 3:1, soil or other material to contents. The waste mixture must pass the paint filter liquids test (EPA SW-846, Method 9095 or other test methods approved by the division).
- (5) WPX will collect, at a minimum, a five point composite of the contents of the temporary pit to demonstrate that, after the waste is solidified or

stabilized with soil or other non-waste material at a ratio of no more than 3:1 soil or othernon-waste material to waste, the concentration of any contaminant in the stabilized waste is not higher than the parameters listed in Table II of 19.15.17.13 NMAC.

- (6) If, after appropriate stabilization, the concentrations of all contaminants in the contents from a temporary pit is less than or equal to the parameters of listed in Table II of 19.15.17.13 NMAC, WPX may either proceed to dispose of wastes in an existing temporary pit or construct a burial trench for disposal of these wastes.
- (7) If the concentration of any contaminant in the contents, after mixing with soil or non- waste material to a maximum ratio of 3:1, from a temporary pit or drying pad/tank associated with a closed- loop system is higher than constituent concentrations shown in Table II of 19.15.17.13 NMAC, then closure must proceed in accordance with Subsection C of 19.15.17.13 NMAC.
- (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.
- (9) If WPX has removed the wastes and the liner to a burial trench pursuant to this subsection, the operator shall test the soils beneath the temporary pit as follows.
  - (a) At a minimum, a five point composite sample to include any obvious stained or

wet soils, or other evidence of contamination shall be taken under the liner or the below-grade tank and that sample shall be analyzed for the constituents listed in Table I of 19.15.17.13 NMAC.

- (b) If any contaminant concentration is higher than the parameters listed in Table I of
- 19.15.17.13 NMAC, the division may require additional delineation upon review of the results and the operator must receive approval before proceeding with closure.
- (c) If all contaminant concentration are less than or equal to the parameters listed in Table I of 19.15.17.13 NMAC, then WPX can proceed to backfill the pit, pad, or excavation with non-waste containing, uncontaminated, earthen material.
  - E. Closure notice.
    - (1) WPX will notify the surface owner by certified mail, return receipt requested

that the operator plans closure operations at least 72 hours, but not more than one week, prior to any closure operation. Notice shall include well name, API number and location. Evidence of mailing of the notice to the address of the surface owner shown in the county tax records is sufficient to demonstrate compliance with this requirement.

(2) WPX will notify the appropriate division district office verbally and in writing at least 72 hours, but not more than one week, prior to any closure operation. The notice shall include the operator's name and the location to be

closed by unit letter, section, township and range.

If the closure is associated with a particular well, then the notice shall also include the well's name, number and API number.

- (4) When onsite burial occurs on private land, WPX will file a deed notice identifying the exact location of the onsite burial with the county clerk in the county where the onsite burial occurs.
  - F. Closure report and burial identification.
- (1) Within 60 days of closure completion, WPX will submit a closure report on form C-144, with necessary attachments to document all closure activities including sampling results; information required by 19.15.17 NMAC; and details on back-filling, capping and covering, where applicable. In the closure report, the operator shall certify that all information in the report and attachments

is correct and that the operator has complied with all applicable closure requirements and conditions specified in the approved closure plan. If the operator used a temporary pit, the operator shall provide a plat of the pit location on form C-I 05 within 60 days of closing the temporary pit.

- (2) If WPX elects to conduct onsite burial under Subsection D of 19.15.17.13 NMAC, we will report the exact location of the onsite burial on form C-105 filed with the division.
- (3) WPXwill place a steel marker at the center of an onsite burial. The steel marker shall be not less than four inches in diameter and shall be cemented in a three-foot deep hole at a minimum. The steel marker shall extend at least four feet above mean ground level and at least three feet below ground level. The operator name, lease name and well number and location, including unit letter, section, township and range, and that the marker designates an onsite burial location shall be welded, stamped or otherwise permanently engraved into the metal of the steel marker. A person shall not build permanent structures over an onsite burial without the appropriate division district office's written approval. A person shall not remove an onsite burial marker without the division's written permission.
- G. Timing requirements for closure. WPXwillclose a temporary pit within the following time periods.
  - (1) WPX will close a permitted permanent pit within 60 days of cessation of

operation of the pit in accordance with a closure plan approved by the appropriate office.

- (2) WPX will close a permitted temporary pit within six months from the date that the operator releases the drilling or workover rig. The operator shall note the date of the drilling or workover rig's release on form C-105 or C-103, filed with the division, upon the well's or work-over's completion. The appropriate division district office may grant an extension not to exceed three months.
  - H. Reclamation of pit locations, onsite burial locations and drying pad locations.
    - (1) Site contouring.
- (a) Once the operator has closed a pit or trench, the operator shall reclaim the pit location including associated access roads to a safe and stable condition that blends with the surrounding undisturbed area. The operator shall substantially restore the impacted surface area to the condition that existed prior to oil and gas operations by placement of the soil cover as provided in Paragraph (2) of Subsection H of 19.15.17.13 NMAC, recontour the location and associated areas to a contour that approximates the original contour and blends with the surrounding topography and re-vegetate according to Paragraph (5) in Subsection H of 19.15.17.13 NMAC.
- (b) WPX may propose an alternative to the re-vegetation or recontouring requirement if the operator demonstrates to the appropriate district office that the proposed alternative provides equal or better prevention of erosion, and protection of fresh water, public health and the environment. The proposed alternative shall be agreed upon by the surface owner. The operator shall

submit the proposed alternative, with written documentation that the surface owner agrees to the alternative, to the division for approval.

- (C) Areas reasonably needed for production operations or for subsequent drilling operations shall be compacted, covered, paved, or otherwise stabilized and maintained in such a way as to minimize dust and erosion to the extent practicable.
- (3) Soil cover designs for reclamation of pit locations and onsite burial locations. The soil cover for burial in-place or trench burial shall consist of a minimum of four feet of non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0. The soil cover shall include either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater.
- (4) The operator shall construct the soil cover to the site's existing grade and prevent ponding of water and erosion of the cover material.
  - (5) Reclamation and re-vegetation.
- (a) Reclamation of areas no longer in use. All areas disturbed by The closure of pits and below-grade tanks, except areas reasonably needed for production operations or for subsequent drilling operations, shall be reclaimed as early and as nearly as practicable to their original condition or their final land use and shall be maintained to control dust and minimize erosion to the extent practicable.
- (b) Topsoils and subsoils shall be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns. The disturbed area then shall be reseeded in the first favorable growing season following closure of a pit.
- (C) Reclamation of all disturbed areas no longer in use shall be considered complete when all ground surface disturbing activities at the site have been completed, and a uniform vegetative cover has been established that reflects a life-form ratio of plus or minus fifty percent (50%) of predisturbance levels and a total percent plant cover of at least seventy percent (70%) of pre-disturbance levels, excluding noxious weeds.
- (d) Other regulatory requirements. The re-vegetation and reclamation obligations imposed by other applicable federal or tribal agencies on lands managed by those agencies shall supersede these provisions and govern the obligations of any operator subject to those provisions, provided that the other requirements provide equal or better protection of fresh water, human health and the environment.
  - (e) The operator shall notify the division when reclamation and revegetation are

complete.

Table I

	Chloride	EPA 300.0	20,000 mg/kg
> 100 feet	ТРН	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

<sup>\*</sup>Or other test methods approved by the division

<sup>\*\*</sup>Numerical limits or natural background level, whichever is greater

Table II

	Chloride	EPA Method 300.0	80,000 mg/kg
> 100 feet	ТРН	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

<sup>\*</sup>Or other test methods approved by the division

<sup>\*\*</sup>Numerical limits or natural background level, whichever is greater [19.15.17.13 NMAC - Rp, 19.15.17.13 NMAC, 6/28/13]