State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

David R. Catanach Division Director
Oil Conservation Division

New Mexico Oil Conservation Division approval and conditions listed below are made in accordance with OCD Rule 19.15.7.11 and are in addition to the actions approved by BLM on the following 3160-3 APD form.

Operator Signature Date: 8-4-15
Well information;
Operator WPX, Well Name and Number Chaco 2307 07N #410H
API# 30-039-31340, Section 7, Township 23 N/S, Range 7 E/W

Conditions of Approval:
(See the below checked and handwritten conditions)

- ~~✓~~ Notify Aztec OCD 24hrs prior to casing & cement.
- ~~✓~~ Hold C-104 for directional survey & "As Drilled" Plat
- ~~✓~~ Hold C-104 for (NSL), NSP, DHC
- o Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- o Regarding the use of a pit, closed loop system or below grade tank, the operator must comply with the following as applicable:
  - A pit requires a complete C-144 be submitted and approved prior to the construction or use of the pit, pursuant to 19.15.17.8.A
  - A closed loop system requires notification prior to use, pursuant to 19.15.17.9.A
  - A below grade tank requires a registration be filed prior to the construction or use of the below grade tank, pursuant to 19.15.17.8.C
- o Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
- ✓ Regarding Hydraulic Fracturing, review EPA Underground Injection Control Guidance 84
- ✓ Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.
- ✓ Well-bore communication is regulated under 19.15.29 NMAC. This requires well-bore Communication to be reported in accordance with 19.15.29.8.

Charles Perrin
NMOCD Approved by Signature

10-29-2015
Date KC

1220 South St. Francis Drive • Santa Fe, New Mexico 87505
Phone (505) 476-3460 • Fax (505) 476-3462 • www.emnrd.state.nm.us/ocd

Form 3160-3
(September 2001)

RECEIVED
AUG 04 2015
Farmington Field Office
Bureau of Land Management

FORM APPROVED
OMB No. 1004-0136
Expires January 31, 2004

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER	5. Lease Serial No. NMNM109397
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone	6. If Indian, Allottee or Tribe Name
2. Name of Operator WPX Energy Production, LLC	7. If Unit or CA Agreement, Name and No.
3a. Address P.O. Box 640 Aztec, NM 87410	3b. Phone No. *(include area code)* (505) 333-1849
4. Location of Well *(Report location clearly and in accordance with any State requirements. *)* At surface N 956' FSL & 2223' FWL, sec 7, T23N, R7W SESW At proposed prod. zone M 1138' FSL & 270' FWL, sec 12, T23N, R8W SWSW	8. Lease Name and Well No. Chaco 2307-07N #410H 9. API Well No. 30-039-31340 10. Field and Pool, or Exploratory Basin Mancos / Lybrook Gallup 11. Sec., T., R., M., or Blk. and Survey or Area SHL: Section 7, T23N, R7W BHL: Section 12, T23N, R8W
14. Distance in miles and direction from nearest town or post office* Approximately 46.3 miles South from Bloomfield NM	12. County or Parish Rio Arriba / 13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 956'	16. No. of Acres in lease 800.48 BH / 17. Spacing Unit dedicated to this well 360.66 S/2 SW/4 Section 7, S/2 (Except NE/4SE/4) Section 12
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 40'	19. Proposed Depth 13,397 MD / 5,665 TVD / 20. BLM/BIA Bond No. on file UTB000178
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 7307' GR	22. Approximate date work will start* September 1, 2015 / 23. Estimated duration 1 month

OIL CONS. DIV DIST. 3
OCT 28 2015

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature	Name *(Printed/Typed)* Andrea Felix	Date 8-4-2015
Title Regulatory Specialist Senior		
Approved by *(Signature)* /s/ Maurice Lovato	Name *(Printed/Typed)*	Date 10/26/15
Title AFM	Office FFO	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**(Instructions on reverse)*

WPX Energy Production, LLC, proposes to develop the Basin Mancos / Lybrook Gallup Pool at the above described location in accordance with the attached drilling and surface use plans.

The well pad surface is off lease on BLM surface and is co-located with the Chaco 2307-07N #409H. The ROW # for the well pad authorization is NMNM133823

This location has been archaeologically surveyed by LaPlata Archeology. Copies of their report have been submitted directly to the BLM.

New access road is approximately 9,153.5' off lease on BLM surface. The ROW # for this authorization is NMNM133823.

New pipeline is approximately 288.2' off lease on BLM surface. The ROW #'s for this authorization are NMNM133825 and NMNM133824.

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS"

NMOCD

District I
1625 N. French Drive, Hobbs, NM 88240
Phone: (575) 393-6161 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 Drive, Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

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

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

☐ AMENDED REPORT

RECEIVED

AUG 04 2015

Farmington Field Office
Bureau of Land Management

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-039-31340	97232 / 42289	BASIN MANCOS / LYBROOK GALLUP

4 Property Code	5 Property Name	6 Well Number
315025	CHACO 2307-07N	410H

7 OGRID No.	8 Operator Name	9 Elevation
120782	WPX ENERGY PRODUCTION, LLC	7307'

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	7	23N	7W		956	SOUTH	2223	WEST	RIO ARRIBA

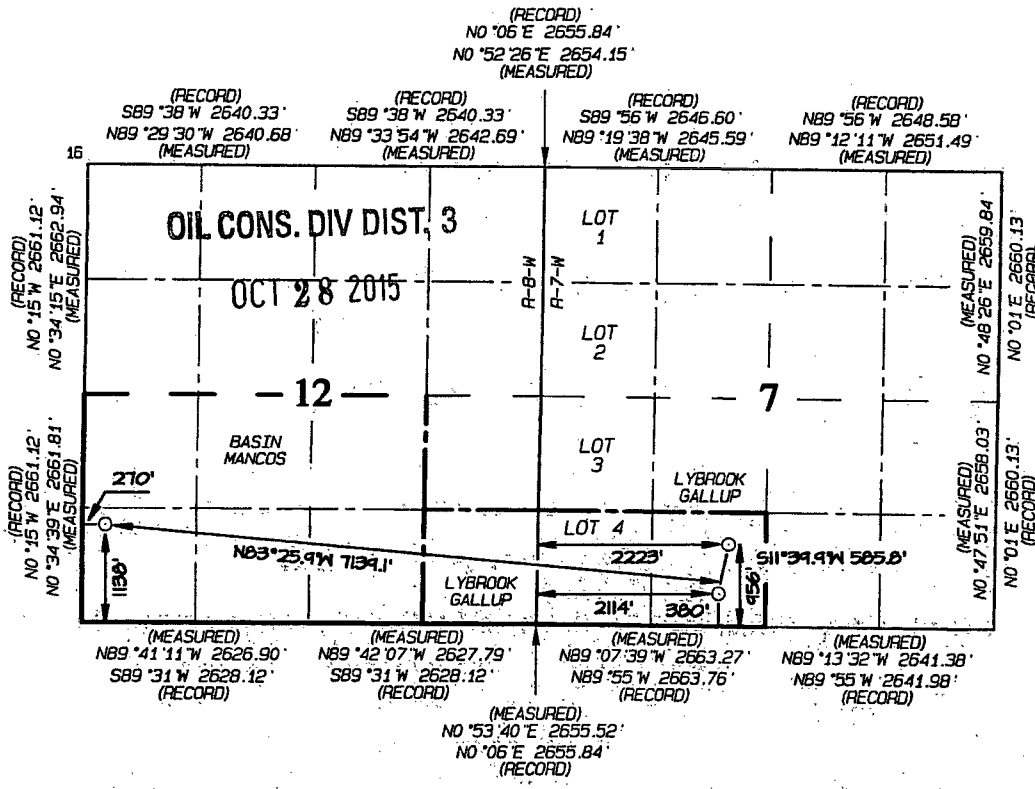
11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	12	23N	8W		1138	SOUTH	270	WEST	SAN JUAN

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
360.66 S/2 SW/4 - Sec 7 S/2 (Except NE/4 SE/4) - Sec 12			

240 = MANCOS 120.ele = GALLUP

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



END-OF-LATERAL
1138' FSL 270' FWL
SECTION 12, T23N, R8W
LAT: 36.237380 °N
LONG: 107.640564 °W
DATUM: NAD1927

LAT: 36.237393 °N
LONG: 107.641173 °W
DATUM: NAD1983

POINT-OF-ENTRY
380' FSL 2114' FWL
SECTION 7, T23N, R7W
LAT: 36.235414 °N
LONG: 107.616482 °W
DATUM: NAD1927

LAT: 36.235427 °N
LONG: 107.617091 °W
DATUM: NAD1983

SURFACE LOCATION
956' FSL 2223' FWL
SECTION 7, T23N, R7W
LAT: 36.236994 °N
LONG: 107.616108 °W
DATUM: NAD1927

LAT: 36.237007 °N
LONG: 107.616717 °W
DATUM: NAD1983

17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom-hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature 8-4-2015 Date

Andrea Felix
Printed Name

andrea.felix@wpxenergy.com
E-mail Address

18 SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date Revised: JULY 21, 2015
Date of Survey: JUNE 5, 2015

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS
Certificate Number 15269

WPXENERGY

WPX ENERGY

Operations Plan

(Note: This procedure will be adjusted on site based upon actual conditions)

DATE: 07/28/2015

FIELD: BASIN MANCOS / LYBROOK GALLUP

WELL NAME: CHACO 2307-07N #410H

SURFACE: Federal

SH Location: SESW 7 23N-07W
Rio Arriba CO., NM

ELEVATION: 7307'

BH Location: SWSW 12 23N-08W
San Juan CO., NM

MINERALS: Federal

MEASURED DEPTH:

I. GEOLOGY:

Surface formation – San Jose / Nacimiento

A. **FORMATION TOPS:** (KB)

Name	MD	TVD	Name	MD	TVD
Ojo Alamo	1426	1416	Point Lookout	4537	4468
Kirtland	1740	1724	Mancos	4736	4663
Picture Cliffs	2122	2099	Gallup	**5100**	5020
Lewis	2233	2208	**Kickoff Point**	**5090**	5010
Chacra	2540	2509	Top Target	5954	5705
Cliff House	3645	3593	**Landing Point**	**6259**	5772
Menefee	3692	3639	Base Target	6259	5772
			TD	13397	5665

B. **MUD LOGGING PROGRAM:** Mudlogger on location from surface csg to TD.

C. **LOGGING PROGRAM:** LWD GR from surface casing to TD.

D. **NATURAL GAUGES:** Gauge any noticeable increases in gas flow. Record all gauges in Tour book and on morning reports.

II. DRILLING

A. **MUD PROGRAM:** LSND mud (WBM) will be used to drill the 12-1/4" Surface hole, the 8 ¾" Directional Vertical hole, and the curve portion of the wellbore. A LSND (WBM) or (OBM) will be used to drill the lateral portion of well. Treat for lost circulation as necessary. Obtain 100% returns prior to cementing. Notify Engineering of any mud losses.

B. **BOP TESTING:** While drill pipe is in use, the pipe rams and the blind rams will be function tested once each trip. The anticipated reservoir is expected to be less than 1300 psi, so the BOPE will be tested to **250 psi (Low) for 5 minutes** and **1500 psi (High) for 10 minutes**. Pressure test surface casing to **600 psi for 30 minutes** and intermediate casing to **1500 psi for 30 minutes.** Utilize a BOPE Testing Unit with a recording chart and appropriate test plug for testing. The drum brakes will be inspected and tested each tour. **All tests and inspections will be recorded in the tour book as to time and results.**

III. MATERIALS

A. CASING PROGRAM:

CASING TYPE	OH SIZE (IN)	DEPTH (MD) (FT)	CASING SIZE (IN)	WEIGHT(LB)	GRADE
Surface	12.25"	320'	9.625"	36#	J-55
Intermediate	8.75"	6259'	7"	23#	K-55
Prod. Liner	6.125"	6109' - 13397'	4-1/2"	11.6#	N-80
Tie-Back String	N/A	Surf. - 6109'	4-1/2"	11.6#	N-80

B. FLOAT EQUIPMENT:

1. SURFACE CASING: 9-5/8" notched regular pattern guide shoe. Run (1) standard centralizer on each of the bottom (4) joints of Surface Casing.

2. INTERMEDIATE CASING: 7" cement nose guide shoe with a self-fill insert float. Place float collar one joint above the shoe. Install (1) centralizer on each of the bottom (3) joints and one standard centralizer every (3) joints to 2,500 ft. Run (1) centralizer at 2,700 ft., 2,500 ft., 2,300ft., 2,000ft., 1,500 ft., and 1,000 ft.

3. PRODUCTION LINER: Run 4-1/2" Liner with cement nose guide Float Shoe + 2jts. of 4-1/2" casing + Landing Collar + 4-1/2" pup joint + 1 RSI (Sliding Sleeve) positioned inside the 330ft Hard line. Centralizer program will be determined by Wellbore condition and when Lateral is evaluated by Geoscientists and Reservoir Engineers. Set seals on Liner Hanger. Test TOL to 1500 psi for 15 minutes.

4. TIE-BACK CASING: None

C. CEMENTING:

(Note: Volumes may be adjusted onsite due to actual conditions)

1. SURFACE: 5 bbl Fresh Water Spacer, 100 sx (160 cu.ft.) of 14.5 ppg Type I-II (Neat G) + 20% Fly Ash cement w/ 7.41 gal/sack mix water ratio @ 1.61 cu ft/sx yield. Calculated @ volume + 50% excess. WOC 12 hours. Test csg to 600psi. Total Volume: (160 cu-ft/100 sx/ Bbls).TOC at Surface.

2. INTERMEDIATE: 20 bbl (112 cu-ft) Mud Flush III spacer + Lead: +/- 700 sx Foamed 50/50 Poz Cement. 13.0 ppg + 0.1% Halad 766 + 0.2% Versaset + 1.5% Chem-Foamer 760 (Yield :1.43 cu-ft/ sk. / Vol: 1001 cu-ft / 178.3 Bbls.) + TAIL: 100 sx 13.5 #/gal. + 0.2% Versaset + 0.15% HALAD-766 (Yield: 1.28 cu-ft / sk / Vol: 128 cu-ft / 22.8 Bbls.). + Fresh Water Displacement (1,362 cu-ft / +/- 242 Bbls) + 100 sx Top-Out Cement Premium: Yield: (1.17 cu-ft/ sk / (Vol: 117 cu-ft / 20.8 Bbls). WOC 12 hrs. Test Casing to 1500 PSI for 30 minutes. Total Cement Volume: (900 sx / 1246 cu-ft / 222 bbls). Mix with +/- 84,000 SCF Nitrogen. TOC at surface.

3. PRODUCTION LINER: **Spacer #1:**10 bbl (56.cu-ft) Water Spacer. **Spacer #2:** 40 bbl 9.5 ppg (224.6 cu-ft) Tuned Spacer III. **Spacer #3:** 10 bbl Water Spacer. **Lead Cement:** Extencem ™ System. Yield 1.29 cu ft/sk, 13.5 ppg, (405 sx / 519.68 cu ft. / 92.6 bbls). **Tail Spacer:** 20 BBL of MMCR. **Displacement**: Displace w/ +/- 140 bbl Fr Water. Total Cement (520 cu ft / 92.6 bbls).

IV. COMPLETION

A. CBL

1. Run CCL for perforating.

B. PRESSURE TEST

1. Pressure test 4-1/2" casing to 4500 psi max, hold at 1500 psi for 30 minutes. Increase pressure to Open RSI sleeves.

C. STIMULATION

1. Stimulate with approximately 2,805,000# 20/40 mesh sand and 340,000# 16/30 mesh sand in 619,113 gallons water with 42,696 mscf N2 for 17 stages.
2. Isolate stages with flow through frac plug.
3. Drill out frac plugs and flowback lateral.

D. RUNNING TUBING

1. *Production Tubing:* Run 2-7/8", 6.5#, J-55, EUE tubing with a SN on top of bottom joint. Land tubing near Top of Liner.

- Although this horizontal well will be drilled past the applicable setbacks, an unorthodox location application is not required because the completed interval in this well, as defined by 19.15.16.7 B(1) NMAC,will be entirely within the applicable setbacks . This approach complies with all applicable rules, including 19.15.16.14 A(3) NMAC, 19.15.16.14 B(2) NMAC, 19.15.16.15 B(2)NMAC, and 19.15.16.15. B(4) NMAC.

NOTE:

Installation of RSI sleeves at Toe of Lateral.

Proposed Operations:

A 4-1/2" 11.6# N-80 Liner will be run to TD and landed +/- 150 ft. into the 7" 23# K-55 Intermediate casing with a Liner Hanger and pack-off assembly then cemented to top of liner hanger.

After cementing and TOL clean up operations are complete, the TOL will be tested to 1500 psi (per BLM).

A 4-1/2" 11.6# N-80 tie-back string with seal assembly will be run and stung into the PBR of the liner hanger, tested to 1500 PSI and hung off at the surface. After Stimulation and Testing operations are complete the 4-1/2" tie-back string will be removed from the well.

WPXENERGY

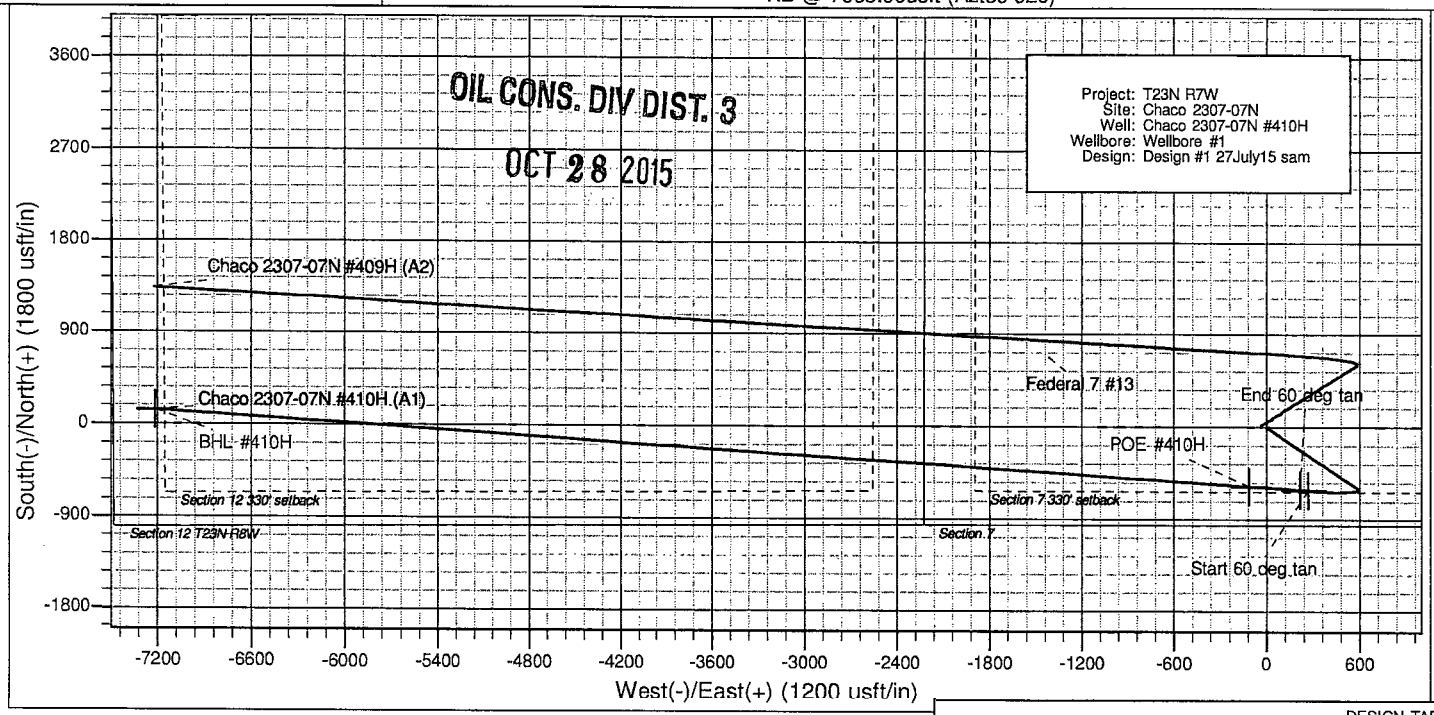
Well Name: Chaco 2307-07N #410H
Surface Location: Chaco 2307-07N
NAD 1927 (NADCON CONUS) , US State Plane 1927 (Exact solution) New Mexico West 3003
Ground Elevation: 6991.00

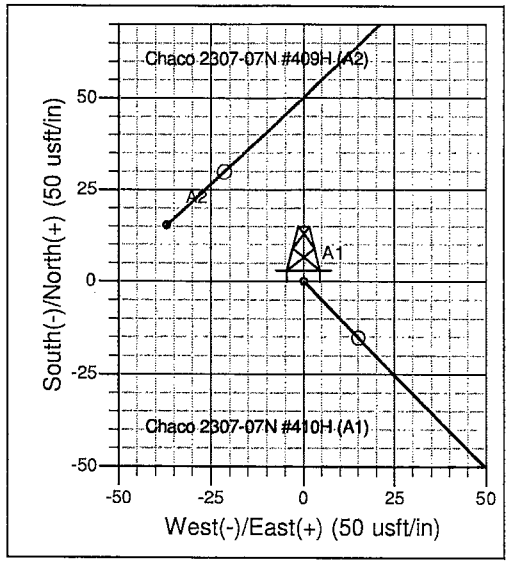
+N/-S	+E/-W	Northing	Easting	Latittude	Longitude	Slot
0.00	0.00	1905579.33	564061.29	36.2369940	-107.6161080	A1

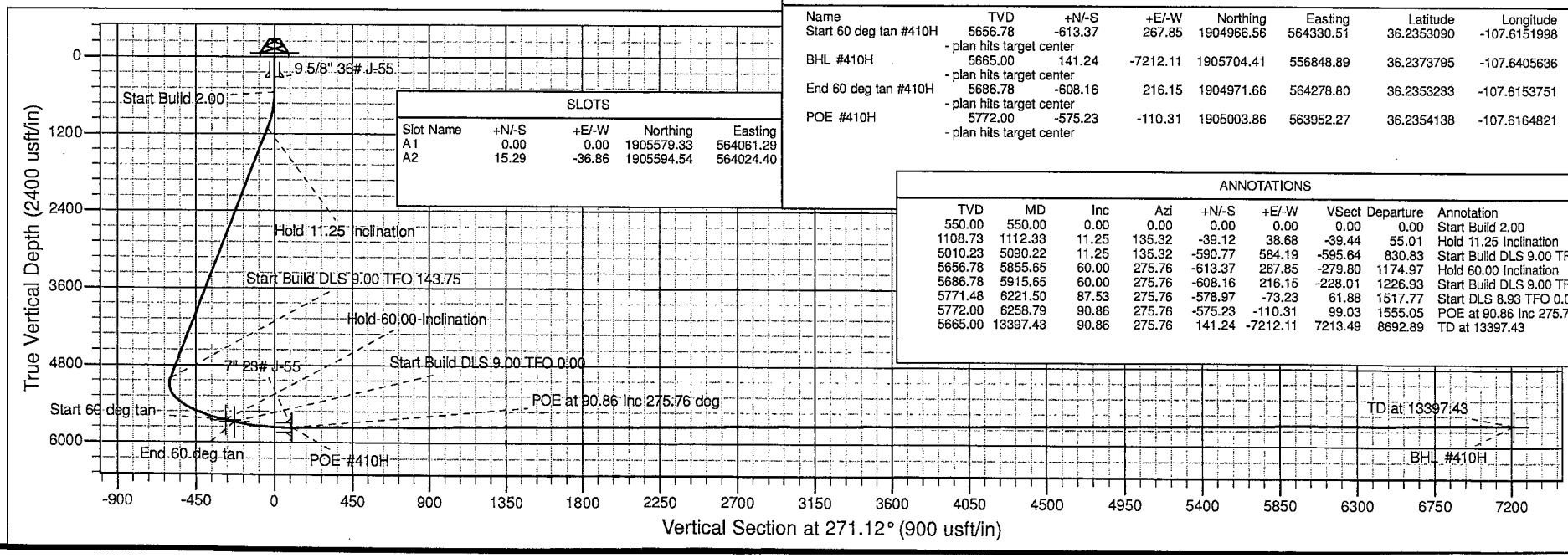
KB @ 7005.00usft (Aztec 920)

T M
Azimuths to True North
Magnetic North: 9.28°
Magnetic Field
Strength: 50062.8snT
Dip Angle: 62.96°
Date: 6/29/2015
Model: IGRF2010

OIL CONS. DIV DIST. 3
OCT 28 2015







SLOTS

Slot Name	+N/-S	+E/-W	Northing	Easting
A1	0.00	0.00	1905579.33	564061.29
A2	15.29	-36.86	1905594.54	564024.40

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Start 60 deg tan #410H	5656.78	-613.37	267.85	1904966.56	564330.51	36.2353090	-107.6151998	Point
	- plan hits target center							
BHL #410H	5665.00	141.24	-7212.11	1905704.41	556848.89	36.2373795	-107.6405636	Point
	- plan hits target center							
End 60 deg tan #410H	5686.78	-608.16	216.15	1904971.66	564278.80	36.2353233	-107.6153751	Point
	- plan hits target center							
POE #410H	5772.00	-575.23	-110.31	1905003.86	563952.27	36.2354138	-107.6164821	Point
	- plan hits target center							

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation
550.00	550.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
1108.73	1112.33	11.25	135.32	-39.12	38.68	-39.44	55.01	Hold 11.25 Inclination
5010.23	5090.22	11.25	135.32	-590.77	584.19	-595.64	830.83	Start Build DLS 9.00 TFO 143.75
5656.78	5855.65	60.00	275.76	-613.37	267.85	-279.80	1174.97	Hold 60.00 Inclination
5686.78	5915.65	60.00	275.76	-608.16	216.15	-228.01	1226.93	Start Build DLS 9.00 TFO 0.00
5771.48	6221.50	87.53	275.76	-578.97	-73.23	61.88	1517.77	Start DLS 8.93 TFO 0.02
5772.00	6258.79	90.86	275.76	-575.23	-110.31	99.03	1555.05	POE at 90.86 Inc 275.76 deg
5665.00	13397.43	90.86	275.76	141.24	-7212.11	7213.49	8692.89	TD at 13397.43

WPX Energy

T23N R7W
Chaco 2307-07N
Chaco 2307-07N #410H - Slot A1

Wellbore #1

Plan: Design #1 27July15 sam

Standard Planning Report

27 July, 2015

WPX

Planning Report

Database:	San Juan	**Local Co-ordinate Reference:**	Well Chaco 2307-07N #410H (A1) - Slot A1
Company:	WPX Energy	**TVD Reference:**	KB @ 7005.00usft (Aztec 920)
Project:	T23N R7W	**MD Reference:**	KB @ 7005.00usft (Aztec 920)
Site:	Chaco 2307-07N	**North Reference:**	True
Well:	Chaco 2307-07N #410H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 27July15 sam		

Project T23N R7W

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico West 3003		

Site Chaco 2307-07N

Site Position:		**Northing:**	1,905,594.54 usft	**Latitude:**	36.2370360
From:	Lat/Long	**Easting:**	564,024.40 usft	**Longitude:**	-107.6162330
Position Uncertainty:	0.00 usft	**Slot Radius:**	13.20 in	**Grid Convergence:**	0.13 °

Well Chaco 2307-07N #410H - Slot A1

Well Position	**+N/-S**	-15.29 usft	**Northing:**	1,905,579.33 usft	**Latitude:**	36.2369940
	+E/-W	36.86 usft	**Easting:**	564,061.30 usft	**Longitude:**	-107.6161080
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	6,991.00 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/29/2015	9.28	62.96	50,063

Design Design #1 27July15 sam

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	271.12

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
550.00	0.00	0.00	550.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,112.33	11.25	135.32	1,108.73	-39.12	38.68	2.00	2.00	0.00	135.32	
5,090.22	11.25	135.32	5,010.23	-590.77	584.19	0.00	0.00	0.00	0.00	
5,855.65	60.00	275.76	5,656.78	-613.37	267.85	9.00	6.37	18.35	143.75	Start 60 deg tan #410
5,915.65	60.00	275.76	5,686.78	-608.16	216.15	0.00	0.00	0.00	0.00	End 60 deg tan #410H
6,221.50	87.53	275.76	5,771.48	-578.97	-73.23	9.00	9.00	0.00	0.00	
6,258.79	90.86	275.76	5,772.00	-575.23	-110.31	8.93	8.93	0.00	0.02	POE #410H
13,397.43	90.86	275.76	5,665.00	141.24	-7,212.11	0.00	0.00	0.00	0.00	BHL #410H

WPX

Planning Report

Database:	San Juan	**Local Co-ordinate Reference:**	Well Chaco 2307-07N #410H (A1) - Slot A1
Company:	WPX Energy	**TVD Reference:**	KB @ 7005.00usft (Aztec 920)
Project:	T23N R7W	**MD Reference:**	KB @ 7005.00usft (Aztec 920)
Site:	Chaco 2307-07N	**North Reference:**	True
Well:	Chaco 2307-07N #410H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 27July15 sam		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
320.00	0.00	0.00	320.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8" 36# J-55									
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
550.00	0.00	0.00	550.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,000.00	9.00	135.32	998.15	-25.08	24.80	-25.29	2.00	2.00	0.00
1,112.33	11.25	135.32	1,108.73	-39.12	38.68	-39.44	2.00	2.00	0.00
Hold 11.25 Inclination									
1,500.00	11.25	135.32	1,488.95	-92.88	91.84	-93.65	0.00	0.00	0.00
2,000.00	11.25	135.32	1,979.35	-162.22	160.41	-163.56	0.00	0.00	0.00
2,500.00	11.25	135.32	2,469.75	-231.56	228.98	-233.47	0.00	0.00	0.00
3,000.00	11.25	135.32	2,960.15	-300.90	297.55	-303.38	0.00	0.00	0.00
3,500.00	11.25	135.32	3,450.54	-370.24	366.11	-373.29	0.00	0.00	0.00
4,000.00	11.25	135.32	3,940.94	-439.58	434.68	-443.21	0.00	0.00	0.00
4,500.00	11.25	135.32	4,431.34	-508.92	503.25	-513.12	0.00	0.00	0.00
5,000.00	11.25	135.32	4,921.74	-578.26	571.82	-583.03	0.00	0.00	0.00
5,090.22	11.25	135.32	5,010.23	-590.77	584.19	-595.64	0.00	0.00	0.00
Start Build DLS 9.00 TFO 143.75									
5,500.00	28.49	267.25	5,404.99	-625.06	512.17	-524.31	9.00	4.21	32.20
5,855.65	60.00	275.76	5,656.78	-613.37	267.85	-279.80	9.00	8.86	2.39
Hold 60.00 Inclination									
5,915.65	60.00	275.76	5,686.78	-608.16	216.15	-228.01	0.00	0.00	0.00
Start Build DLS 9.00 TFO 0.00									
6,000.00	67.59	275.76	5,724.00	-600.57	140.90	-152.63	9.00	9.00	0.00
6,221.50	87.53	275.76	5,771.48	-578.97	-73.23	61.88	9.00	9.00	0.00
Start DLS 8.93 TFO 0.02									
6,258.79	90.86	275.76	5,772.00	-575.23	-110.31	99.03	8.93	8.93	0.00
POE at 90.86 Inc 275.76 deg									
6,259.00	90.86	275.76	5,772.00	-575.21	-110.52	99.24	0.00	0.00	0.00
7" 23# J-55									
6,500.00	90.86	275.76	5,768.38	-551.02	-350.28	339.42	0.00	0.00	0.00
7,000.00	90.86	275.76	5,760.89	-500.83	-847.70	837.73	0.00	0.00	0.00
7,500.00	90.86	275.76	5,753.40	-450.65	-1,345.12	1,336.04	0.00	0.00	0.00
8,000.00	90.86	275.76	5,745.90	-400.47	-1,842.54	1,834.34	0.00	0.00	0.00
8,500.00	90.86	275.76	5,738.41	-350.29	-2,339.96	2,332.65	0.00	0.00	0.00
9,000.00	90.86	275.76	5,730.91	-300.11	-2,837.38	2,830.95	0.00	0.00	0.00
9,500.00	90.86	275.76	5,723.42	-249.92	-3,334.79	3,329.26	0.00	0.00	0.00
10,000.00	90.86	275.76	5,715.92	-199.74	-3,832.21	3,827.57	0.00	0.00	0.00
10,500.00	90.86	275.76	5,708.43	-149.56	-4,329.63	4,325.87	0.00	0.00	0.00
11,000.00	90.86	275.76	5,700.93	-99.38	-4,827.05	4,824.18	0.00	0.00	0.00
11,500.00	90.86	275.76	5,693.44	-49.19	-5,324.47	5,322.49	0.00	0.00	0.00
12,000.00	90.86	275.76	5,685.95	0.99	-5,821.89	5,820.79	0.00	0.00	0.00
12,500.00	90.86	275.76	5,678.45	51.17	-6,319.31	6,319.10	0.00	0.00	0.00
13,000.00	90.86	275.76	5,670.96	101.35	-6,816.73	6,817.40	0.00	0.00	0.00
13,397.43	90.86	275.76	5,665.00	141.24	-7,212.11	7,213.49	0.00	0.00	0.00
TD at 13397.43									

WPX

Planning Report

Database:	San Juan	**Local Co-ordinate Reference:**	Well Chaco 2307-07N #410H (A1) - Slot A1
Company:	WPX Energy	**TVD Reference:**	KB @ 7005.00usft (Aztec 920)
Project:	T23N R7W	**MD Reference:**	KB @ 7005.00usft (Aztec 920)
Site:	Chaco 2307-07N	**North Reference:**	True
Well:	Chaco 2307-07N #410H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 27July15 sam		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Start 60 deg tan #410H - plan hits target center - Point	0.00	0.00	5,656.78	-613.37	267.85	1,904,966.56	564,330.52	36.2353090	-107.6151998
BHL #410H - plan hits target center - Point	0.00	0.00	5,665.00	141.24	-7,212.11	1,905,704.41	556,848.89	36.2373795	-107.6405636
End 60 deg tan #410H - plan hits target center - Point	0.00	0.00	5,686.78	-608.16	216.15	1,904,971.66	564,278.81	36.2353233	-107.6153751
POE #410H - plan hits target center - Point	0.00	0.00	5,772.00	-575.23	-110.31	1,905,003.86	563,952.27	36.2354137	-107.6164821

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
320.00	320.00	9 5/8" 36# J-55	9.62	12.25
6,259.00	5,772.00	7" 23# J-55	7.00	8.75

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
550.00	550.00	0.00	0.00	Start Build 2.00
1,112.33	1,108.73	-39.12	38.68	Hold 11.25 Inclination
5,090.22	5,010.23	-590.77	584.19	Start Build DLS 9.00 TFO 143.75
5,855.65	5,656.78	-613.37	267.85	Hold 60.00 Inclination
5,915.65	5,686.78	-608.16	216.15	Start Build DLS 9.00 TFO 0.00
6,221.50	5,771.48	-578.97	-73.23	Start DLS 8.93 TFO 0.02
6,258.79	5,772.00	-575.23	-110.31	POE at 90.86 Inc 275.76 deg
13,397.43	5,665.00	141.24	-7,212.11	TD at 13397.43

3. The well pad will be leveled to provide space and a level surface for vehicles and equipment. Excavated materials from cuts will be used on fill portions of the well pad to level the pad. Construction of the well pad will require a maximum fill of approximately 3 feet on the northern edge, and a cut of 5 feet at the northeast corner to create a level well pad. No additional surfacing materials will be required for construction.
4. As determined during the onsite on June 18, 2015, the following best management practices will be implemented:
    a. Diversions will be installed upon reclamation.
    b. No additional fill would be required to construct the pad.
    c. Corner 5 will be rounded off and reduced within the construction zone due to archeology. An arch fence will be installed to protect the site as specified in the COA's
5. All project activities will be confined to permitted areas only.
6. Construction equipment may include chain saws, a brush hog, scraper, maintainer, excavator, and a dozer.
7. If drilling has not been initiated on the well pad within 120 days of the well pad being constructed, the operator will consult with the BLM to address a site-stabilization plan.

D. Production Facilities
    1. As practical, access will be a teardrop-shaped road through the production area so that the center may be revegetated.
    2. Within 90 days of installation, production facilities would be painted Juniper Green to blend with the natural color of the landscape and would be located, to the extent practical, to reasonably minimize visual impact.
    3. Berms will be constructed around all storage facilities sufficient in size to contain the storage capacity of tanks. Berm walls will be compacted with appropriate equipment to assure containment.

After the completion phases and pipeline installation, portions of the project area not needed for operation will be reclaimed. When the well is plugged, final reclamation will occur within the remainder of the project area. Reclamation is described in detail in the Reclamation Plan (Appendix C).

7.0 Methods for Handling Waste

A. Cuttings
    1. Drilling operations will utilize a closed-loop system. Drilling of the horizontal laterals will be accomplished with water-based mud. All cuttings will be placed in roll-off bins and hauled to a commercial disposal facility or land farm. WPX will follow Onshore Oil and Gas Order No. 1 regarding the placement, operation, and removal of closed-loop systems. No blow pit will be used.
    2. Closed-loop tanks will be adequately sized for containment of all fluids.

B. Drilling Fluids
    1. Drilling fluids will be stored onsite in above-ground storage tanks. Upon termination of drilling operations, the drilling fluids will be recycled and transferred to other permitted closed-loop systems or returned to the vendor for reuse, as practical. All residual fluids will be hauled to a commercial disposal facility.

C. Spills

Directions from the Intersection of US Hwy 550 & US Hwy 64

in Bloomfield, NM to WPX Energy Production, LLC Chaco 2307-07N #410H

956' FSL & 2223' FWL, Section 7, T23N, R7W, N.M.P.M., Rio Arriba County, NM

Latitude: 36.237007°N Longitude: 107.616717°W Datum: NAD1983

From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Southerly on US Hwy 550 for 46.3 miles to Mile Marker 104.9;

Go Right (Southerly) for 0.1 miles to fork in roadway;

Go Right (North-westerly) for 0.4 miles to existing Beth Greiger #1 location on which new access continues for 9153.5' to staked WPX Chaco 2307-07N #410H location.

3000 PSI BOP Schematic