

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

Tony Delfin
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: 11-12-15

Well information:

Operator WPX, Well Name and Number W Lybrook Unit # 704H

API# 30-045-35728, Section 8, Township 23 N/S, Range 08 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
- ☐ Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- ☐ 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
- ☒ 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
- ☒ Submit Gas Capture Plan form prior to spudding or initiating recompletion operations
- ☒ 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.

Chad Reu
NMOCD Approved by Signature

5-13-2016
Date XC

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

MAY 10 2016

RECEIVED
NOV 12 2015

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NO-G-1403-1908
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name WESTLYBROOK UNIT NMNM-135216X
2. Name of Operator WPX Energy Production, LLC		7. If Unit or CA Agreement, Name and No. W LYBROOK UNIT #704H
3a. Address P.O. Box 640 Aztec, NM 87410	3b. Phone No. (include area code) (505) 333-1816	8. Lease Name and Well No. W LYBROOK UNIT #704H
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 1199' FSL & 1287' FWL SEC 8 23N 8W At proposed prod. zone 1016' FSL & 944' FWL SEC 6 23N 8W		9. API Well No. 30-045-35728
14. Distance in miles and direction from nearest town or post office* From Bloomfield NM travel approximately 38.7 miles to Mile Marker 112.7		10. Field and Pool, or Exploratory LYBROOK MANCOS W
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1199'		11. Sec., T., R., M., or Blk. and Survey or Area SHL: Sec 8, T23N, R8W BHL: Sec 6, T23N, R8W
16. No. of Acres in lease 160 acres		12. County or Parish San Juan County
17. Spacing Unit dedicated to this well 367.16 acres		13. State NM
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 20'		19. Proposed Depth 13113' MD / 5132' TVD
20. BLM/BIA Bond No. on file UTB000178		21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6823' GR
22. Approximate date work will start* December 1, 2015		23. Estimated duration 1 month

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) Lacey Granillo	Date 11/12/15
Title Permit Technician III		
Approved by (Signature) 	Name (Printed/Typed) AFM	Date 5/6/16
Title AFM	Office FFC	

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 Lybrook Mancos W formation at the above described location in accordance with the attached drilling and surface use plans.

The well pad surface is under jurisdiction of the BLM and FIMO and is on lease on IA lands and will be twinned with the W LYBROOK UT #703H/743H/744H

This location has been archaeologically surveyed by La Plata. Copies of their report have been submitted directly to the BLM, FIMO, BIA & NNHPD.

A new 764.' on lease access road will be built on IA/BLM lands and permitted via APD.

A new 4521.4' on lease pipeline on IA/BLM lands will be built and permitted via the APD.

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

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

NMOCD

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

CONFIDENTIAL

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

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

*API Number 30-045-35728	*Pool Code 99232 98157	*Pool Name LYBROOK MANCOS W
*Property Code 315250	*Property Name W LYBROOK UNIT	*Well Number 704H
*GRID No. 120782	*Operator Name WPX ENERGY PRODUCTION, LLC	*Elevation 6823'

¹⁰ Surface Location

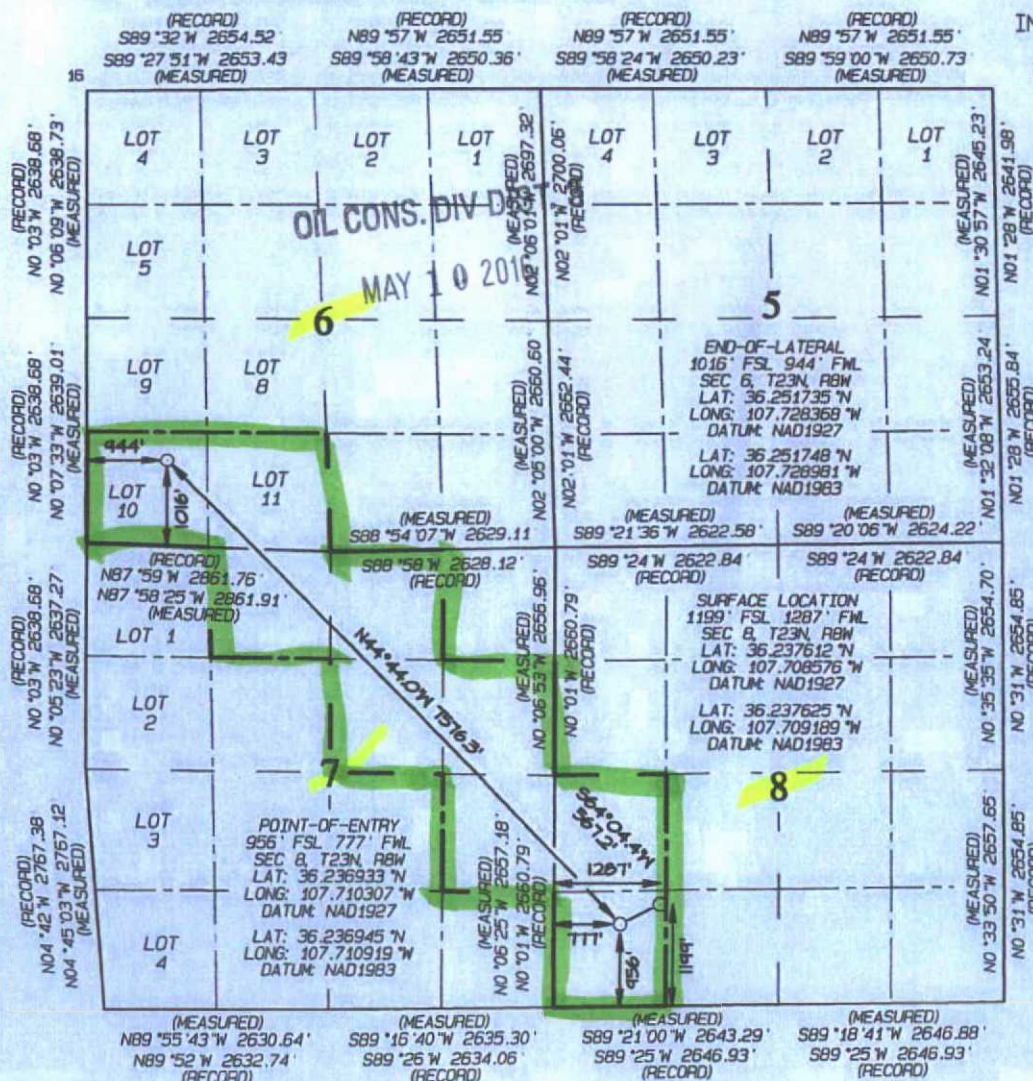
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	8	23N	8W		1199	SOUTH	1287	WEST	SAN JUAN

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	6	23N	8W	10	1016	SOUTH	944	WEST	SAN JUAN

¹² Dedicated Acres 367.16 S/2 SW/4 (Section 6) NE/4 NW/4, NW/4 NE/4 S/2 NE/4, NE/4 SE/4 (Section 7) W/2 SW/4 (Section 8)	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. R-14051 - 12,807.24 Acres
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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



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: *Lacey Granillo*
Date: 11/12/15
Printed Name: LACEY GRANILLO
E-mail Address: LACEY.GRANILLO@WPXENERGY.COM

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: OCTOBER 9, 2015
Survey Date: DECEMBER 19, 2014

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269



WPX Energy

T23N R8W

W Lybrook 2308-7B

W Lybrook UT #704H - Slot A1

Wellbore #1

Plan: Design #1 23Sep15 sam

Standard Planning Report

29 September, 2015

WPX Planning Report

Database:	COMPASS	Local Co-ordinate Reference:	Well W Lybrook UT #704H (A1) - Slot A1
Company:	WPX Energy	TVD Reference:	KB @ 6837.00usft (Aztec 920)
Project:	T23N R8W	MD Reference:	KB @ 6837.00usft (Aztec 920)
Site:	W Lybrook 2308-7B	North Reference:	True
Well:	W Lybrook UT #704H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 23Sep15 sam		

Project	T23N R8W		
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	W Lybrook 2308-7B				
Site Position:		Northing:	1,906,343.71 usft	Latitude:	36.239225
From:	Map	Easting:	537,196.07 usft	Longitude:	-107.707202
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.07 °

Well	W Lybrook UT #704H - Slot A1					
Well Position	+N/-S	-587.00 usft	Northing:	1,905,756.18 usft	Latitude:	36.237612
	+E/-W	-405.45 usft	Easting:	536,791.38 usft	Longitude:	-107.708577
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,823.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/23/2015	9.29	62.94	50,029

Design	Design #1 23Sep15 sam				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (bearing)	
	0.00	0.00	0.00	311.38	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	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	
531.00	0.00	0.00	531.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,086.59	11.11	179.31	1,083.11	-53.70	0.64	2.00	2.00	0.00	179.31	
4,389.03	11.11	179.31	4,323.64	-690.11	8.28	0.00	0.00	0.00	0.00	
5,147.39	60.00	315.34	4,962.73	-507.48	-253.36	9.00	6.45	17.94	139.66	Start 60 tan 704H
5,207.39	60.00	315.34	4,992.73	-470.52	-289.88	0.00	0.00	0.00	0.00	End 60 tan 704H
5,375.44	75.13	315.34	5,056.68	-360.35	-398.75	9.00	9.00	0.00	0.00	
5,536.19	89.59	315.34	5,078.00	-247.33	-510.43	9.00	9.00	0.00	0.00	POE 704H
13,112.59	89.59	315.34	5,132.00	5,141.61	-5,835.69	0.00	0.00	0.00	0.00	BHL 704H

WPX
Planning Report

Database: COMPASS
Company: WPX Energy
Project: T23N R8W
Site: W Lybrook 2308-7B
Well: W Lybrook UT #704H
Wellbore: Wellbore #1
Design: Design #1 23Sep15 sam

Local Co-ordinate Reference: Well W Lybrook UT #704H (A1) - Slot A1
TVD Reference: KB @ 6837.00usft (Aztec 920)
MD Reference: KB @ 6837.00usft (Aztec 920)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	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
351.00	0.00	0.00	351.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
531.00	0.00	0.00	531.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,000.00	9.38	179.31	997.91	-38.30	0.46	-25.67	2.00	2.00	0.00
1,086.59	11.11	179.31	1,083.11	-53.70	0.64	-35.98	2.00	2.00	0.00
Hold 11.11 Inclination									
1,500.00	11.11	179.31	1,488.77	-133.37	1.60	-89.37	0.00	0.00	0.00
2,000.00	11.11	179.31	1,979.40	-229.73	2.75	-153.93	0.00	0.00	0.00
2,500.00	11.11	179.31	2,470.03	-326.08	3.91	-218.50	0.00	0.00	0.00
3,000.00	11.11	179.31	2,960.65	-422.43	5.07	-283.06	0.00	0.00	0.00
3,500.00	11.11	179.31	3,451.28	-518.79	6.22	-347.63	0.00	0.00	0.00
4,000.00	11.11	179.31	3,941.91	-615.14	7.38	-412.19	0.00	0.00	0.00
4,389.03	11.11	179.31	4,323.64	-690.11	8.28	-462.43	0.00	0.00	0.00
Start Build DLS 9.00 TFO 139.66									
4,500.00	7.32	241.16	4,433.40	-704.25	2.20	-467.21	9.00	-3.42	55.73
5,000.00	46.90	312.75	4,875.13	-589.77	-168.61	-263.37	9.00	7.92	14.32
5,147.39	60.00	315.34	4,962.73	-507.48	-253.36	-145.38	9.00	8.89	1.76
Hold 60.00 Inclination									
5,207.39	60.00	315.34	4,992.73	-470.52	-289.88	-93.55	0.00	0.00	0.00
Start Build DLS 9.00 TFO 0.00									
5,375.44	75.13	315.34	5,056.68	-360.35	-398.75	60.97	9.00	9.00	0.00
Start DLS 9.00 TFO 0.00									
5,500.00	86.34	315.34	5,076.71	-273.05	-485.01	183.41	9.00	9.00	0.00
5,536.00	89.57	315.34	5,078.00	-247.46	-510.30	219.29	9.00	9.00	0.00
7"									
5,536.19	89.59	315.34	5,078.00	-247.33	-510.43	219.48	9.00	9.00	0.00
POE at 89.59 Inc 315.34 deg									
6,000.00	89.59	315.34	5,081.31	82.57	-836.43	682.17	0.00	0.00	0.00
6,500.00	89.59	315.34	5,084.87	438.21	-1,187.87	1,180.97	0.00	0.00	0.00
7,000.00	89.59	315.34	5,088.43	793.85	-1,539.31	1,679.76	0.00	0.00	0.00
7,500.00	89.59	315.34	5,092.00	1,149.49	-1,890.74	2,178.56	0.00	0.00	0.00
8,000.00	89.59	315.34	5,095.56	1,505.13	-2,242.18	2,677.35	0.00	0.00	0.00
8,500.00	89.59	315.34	5,099.12	1,860.77	-2,593.62	3,176.15	0.00	0.00	0.00
9,000.00	89.59	315.34	5,102.69	2,216.41	-2,945.05	3,674.94	0.00	0.00	0.00
9,500.00	89.59	315.34	5,106.25	2,572.05	-3,296.49	4,173.74	0.00	0.00	0.00
10,000.00	89.59	315.34	5,109.82	2,927.68	-3,647.93	4,672.53	0.00	0.00	0.00
10,500.00	89.59	315.34	5,113.38	3,283.32	-3,999.36	5,171.32	0.00	0.00	0.00
11,000.00	89.59	315.34	5,116.94	3,638.96	-4,350.80	5,670.12	0.00	0.00	0.00
11,500.00	89.59	315.34	5,120.51	3,994.60	-4,702.24	6,168.91	0.00	0.00	0.00
12,000.00	89.59	315.34	5,124.07	4,350.24	-5,053.67	6,667.71	0.00	0.00	0.00
12,500.00	89.59	315.34	5,127.63	4,705.88	-5,405.11	7,166.50	0.00	0.00	0.00
13,000.00	89.59	315.34	5,131.20	5,061.52	-5,756.55	7,665.30	0.00	0.00	0.00
13,112.59	89.59	315.34	5,132.00	5,141.61	-5,835.69	7,777.62	0.00	0.00	0.00
TD at 13112.59									

WPX
Planning Report

Database:	COMPASS	Local Co-ordinate Reference:	Well W Lybrook UT #704H (A1) - Slot A1
Company:	WPX Energy	TVD Reference:	KB @ 6837.00usft (Aztec 920)
Project:	T23N R8W	MD Reference:	KB @ 6837.00usft (Aztec 920)
Site:	W Lybrook 2308-7B	North Reference:	True
Well:	W Lybrook UT #704H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 23Sep15 sam		

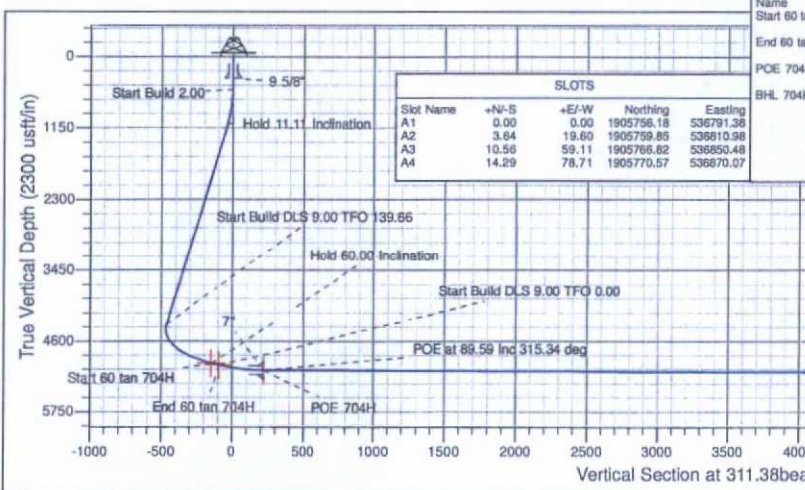
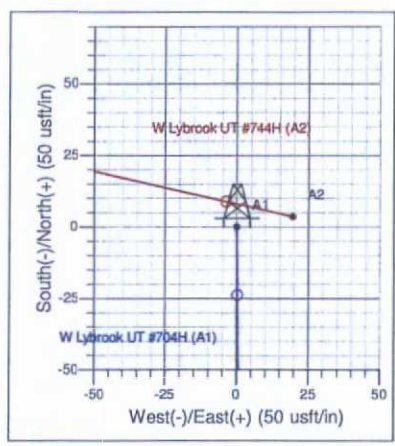
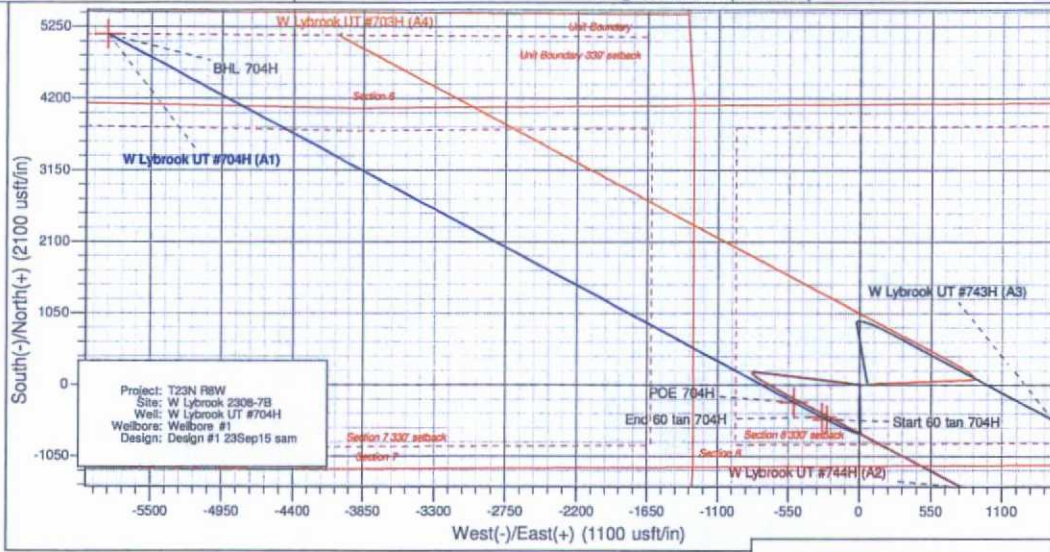
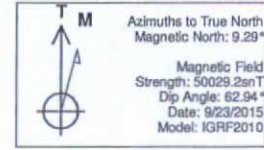
Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(bearing)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
Start 60 tan 704H	0.00	0.00	4,962.73	-507.48	-253.36	1,905,248.38	536,538.68	36.236218	-107.709436
- plan hits target center									
- Point									
End 60 tan 704H	0.00	0.00	4,992.73	-470.52	-289.88	1,905,285.29	536,502.11	36.236319	-107.709560
- plan hits target center									
- Point									
POE 704H	0.00	0.00	5,078.00	-247.33	-510.43	1,905,508.19	536,281.27	36.236933	-107.710308
- plan hits target center									
- Point									
BHL 704H	0.00	0.00	5,132.00	5,141.61	-5,835.69	1,910,890.27	530,949.08	36.251735	-107.728369
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(usft)	(usft)			(in)	(in)
351.00	351.00	9 5/8"		9.625	12.250
5,536.00	5,078.00	7"		7.000	8.750

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N/-S	+E/-W	Comment	
(usft)	(usft)	(usft)	(usft)		
531.00	531.00	0.00	0.00	Start Build 2.00	
1,086.59	1,083.11	-53.70	0.64	Hold 11.11 Inclination	
4,389.03	4,323.64	-690.11	8.28	Start Build DLS 9.00 TFO 139.66	
5,147.39	4,962.73	-507.48	-253.36	Hold 60.00 Inclination	
5,207.39	4,992.73	-470.52	-289.88	Start Build DLS 9.00 TFO 0.00	
5,375.44	5,056.68	-360.35	-398.75	Start DLS 9.00 TFO 0.00	
5,536.19	5,078.00	-247.33	-510.43	POE at 89.59 Inc 315.34 deg	
13,112.59	5,132.00	5,141.61	-5,835.69	TD at 13112.59	



Well Name: W Lybrook UT #704H
 Surface Location: W Lybrook 2308-7B
 NAD 1927 (NADCON CONUS) , US State Plane 1927 (Exact solution) New Mexico West 3003
 Ground Elevation: 6823.00
 Slot A1
 +N/-S +E/-W Northing Easting Latitude Longitude
 0.00 0.00 1905756.18 536791.38 36.237612 -107.708576
 KB @ 6837.00usft (Aztec 920)



DESIGN TARGET DETAILS									
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape	
Start 60 tan 704H	4962.73	-507.48	-253.36	1905248.37	536538.67	36.236218	-107.709436	Point	
End 60 tan 704H	4992.73	-470.52	-289.88	1905285.29	536502.11	36.236319	-107.709559	Point	
POE 704H	5078.00	-247.33	-510.43	1905508.19	536281.27	36.236933	-107.710307	Point	
BHL 704H	5132.00	5141.61	-5835.69	1910890.27	530949.08	36.251735	-107.728368	Point	

ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation	
531.00	531.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00	
1083.11	1086.59	11.11	179.31	-53.70	0.64	-35.96	53.71	Hold 11.11 Inclination	
4323.64	4389.03	11.11	179.31	-690.11	8.28	-462.43	690.16	Start Build DLS 9.00 TFO 139.66	
4962.73	5147.39	60.00	315.34	-507.48	-253.36	-145.38	1035.18	Hold 60.00 Inclination	
4992.73	5207.39	60.00	315.34	-470.52	-289.88	-93.55	1087.14	Start Build DLS 9.00 TFO 0.00	
5096.68	5375.44	75.13	315.34	-360.35	-396.76	80.97	1242.02	Start DLS 9.00 TFO 0.00	
5078.00	5536.19	89.59	315.34	-247.33	-510.43	219.48	1400.91	POE at 89.59 Inc 315.34 deg	
5132.00	13112.59	89.59	315.34	5141.61	-5835.69	7777.52	8977.13	TD at 13112.59	



WPX Energy

Operations Plan

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

<u>Date:</u>	November 10, 2015	<u>Field:</u>	Lybrook Manos W
<u>Well Name:</u>	W Lybrook UT #704H	<u>Surface:</u>	IA
<u>SH Location:</u>	SWSW Sec 8-23N-08W	<u>Elevation:</u>	6823' GR
<u>BH Location:</u>	SWSW Sec 6-23N-08W	<u>Minerals:</u>	IA

Measured Depth: 13,112.59

I. GEOLOGY: SURFACE FORMATION - NACIMIENTO

A. FORMATION TOPS (KB)

NAME	MD	TVD	NAME	MD	TVD
OJO ALAMO	838	837	POINT LOOKOUT	3880	3824
KIRTLAND	1048	1045	MANCOS	4070	4011
PICTURED CLIFFS	1431	1421	GALLUP	4426	4360
LEWIS	1544	1532	KICKOFF POINT	5,147.39	4,962.73
CHACRA	1808	1791	TOP TARGET	5358	5052
CLIFF HOUSE	2904	2866	LANDING POINT	5,536.19	5,078.00
MENEFEE	2953	2915	BASE TARGET	5,536.19	5,078.00
			TD	13,112.59	5,132.00

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 3/4" 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)	CSG SIZE	WEIGHT	GRADE	CONN
SURFACE	12.25"	320'	9.625"	36 LBS	J-55 or equiv	STC
INTERMEDIATE	8.75"	5,536.19	7"	23 LBS	J-55 or equiv	LTC
PRODUCTION	6.125"	5386.19 - 13,112.59	4.5"	11.6 LBS	P-110 or equiv	LTC
TIE BACK	6.125"	Surf. - 5386.19	4.5"	11.6 LBS	P-110 or equiv	LTC

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 2,500 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.

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/ Bbbs). 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 Bbbs.) + 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 Bbbs.). + Fresh Water Displacement (1,362 cu-ft / +/- 242 Bbbs) + 100 sx Top-Out Cement Premium: Yield: (1.17 cu-ft/ sk / (Vol: 117 cu-ft / 20.8 Bbbs). 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. PROD. 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 1.36 cuft/sk 13.3 ppg (757 sx /1030 cuft /183 bbls). Tail Spacer: 20 BBL of MMCR. Displacement: Displace w/ +/- 140 bbl Fr Water. Total Cement (757 sx /1030bbls).

I.
COMPLETION

A. **CBL**

Run CCL for perforating

A. **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.

B. **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.

C. **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:

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).

No Tie back string will be ran in this well. All stimulation will be performed down the 7" casing.

- c. The construction zone near corner 6 of the West Lybrook UT Nos. 701H & 702H well pad may be shortened to accommodate drainage and badland hills.
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 pads within 120 days of the well pads being constructed, the operator will consult with the BLM to address a site-stabilization plan.

D. Production Facilities

1. As practical, accesses 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 on the Remote Facilities Pad, to minimize visual impact to the extent practicable.
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 areas not needed for operation will be reclaimed. When the well is plugged, final reclamation will occur within the remainder of the project areas. 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 a 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

1. Any spills of non-freshwater fluids will be immediately cleaned up and removed to an approved disposal site.

D. Sewage

1. Portable toilets will be provided and maintained during construction, as needed (see Figure 4 in Appendix B for the location of toilets).

E. Garbage and other water material

1. All garbage and trash will be placed in a metal trash basket. The trash and garbage will be hauled off site and dumped in an approved landfill, as needed.

F. Hazardous Waste

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

in Bloomfield, NM to WPX Energy Production, LLC W Lybrook Unit #704H

1199' FSL & 1287' FWL, Section 8, T23N, R8W, N.M.P.M., San Juan County, NM

Latitude: 36.237625°N Longitude: 107.709189°W Datum: NAD1983

From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Southerly on US Hwy 550 for 38.7 miles to Mile Marker 112.7;

Go Right (Southerly) on County Road #7900 for 0.2 miles to begin proposed access on right-hand side of County Road #7900 which continues for 764.1' to staked WPX W Lybrook Unit #704H location.

3,000 PSI rated Choke system

