

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: _____

Well information;

Operator WPX, Well Name and Number W Lybrook Unit #709H

API# 30-045-35741, Section 12, Township 23 N/S, Range 09 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
- 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 Lee
NMOCD Approved by Signature

2-18-2016
Date KC

RECEIVED

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

DEC 07 2015

APPLICATION FOR PERMIT TO DRILL OR REENTER

Farmington Field Office
Bureau of Land Management

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NO-G-1310-1841
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
2. Name of Operator WPX Energy Production, LLC		7. If Unit or CA Agreement, Name and No. NMNM 135216X
3a. Address P.O. Box 640 Aztec, NM 87410	3b. Phone No. (include area code) (505) 333-1808	8. Lease Name and Well No. W. Lybrook Unit #709H
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 836' FSL & 461' FEL SEC 12, 23N 9W At proposed prod. zone 330' FNL & 948' FEL SEC 11, 23N 9W		9. API Well No. 30-045-35741
14. Distance in miles and direction from nearest town or post office* From intersection US HWY 550 & US HWY 64 Bloomfield, NM South HWY 550 37.8 miles to MM 113.4		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) 461'	16. No. of Acres in lease 160 acres	11. Sec., T., R., M., or Blk. and Survey or Area SHL: Sec 12, T23N, R9W BHL: Sec 11, T23N, R9W
17. Spacing Unit dedicated to this well 320.0 acres	18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 20'	12. County or Parish San Juan
19. Proposed Depth 12450.52' MD / 4896' TVD	20. BLM/BIA Bond No. on file B001576	13. State NM
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6733' GR	22. Approximate date work will start* January 1, 2015	23. Estimated duration 1 month

OIL CONS. DIV DIST. 3

FEB 18 2016

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 <i>Marie E. Jaramillo</i>	Name (Printed/Typed) Marie E. Jaramillo	Date 12/315
Title Permit Technician III		
Approved by (Signature) <i>R. M. Mancoske</i>	Name (Printed/Typed)	Date 2/17/16
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 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 Unit #707H/708H/747H/748H/749H.

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

The new access of 1303' of IA is on lease access road will be built and permitted via the APD.

A new 2713.8' on lease pipeline of IA lands will be built and permitted via the APD, 1658' will be on IA surface & 1056.1' will be on BLM surface.

The facilities for the well will be located on the Remote Facilities Pad 23-8-18D located on BLM surface and will be built & permitted via the APD.

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

NMOCD AV

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

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
RECEIVED

DEC 07 2015

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-045-35741		*Pool Code 98157		*Pool Name LYBROOK MANCOS	
*Property Code 35250		*Property Name W LYBROOK UNIT			*Well Number 709H
*GRID No. 120782		*Operator Name WPX ENERGY PRODUCTION, LLC			*Elevation 6733'

Farmington Field Office
Bureau of Land Management

¹⁰ Surface Location

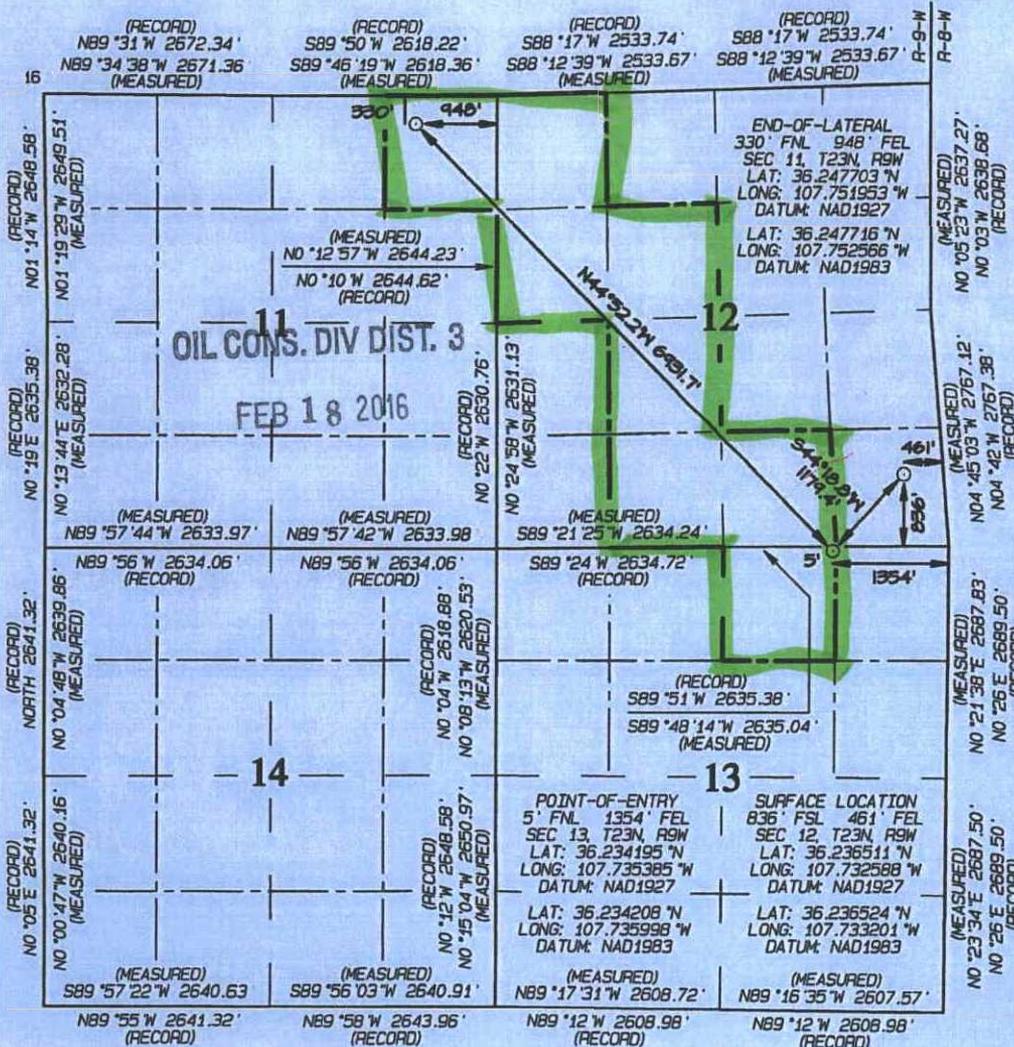
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	12	23N	9W		836	SOUTH	461	EAST	SAN JUAN

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
A	11	23N	9W		330	NORTH	948	EAST	SAN JUAN

¹² Dedicated Acres 320.0	NE/4 NE/4 (Section 11) NW/4 NW/4, S/2 NW/4 E/2 SW/4, SW/4 SE/4 (Section 12) NW/4 NE/4 (Section 13)	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: *Marie E. Jaramillo* Date: *12/31/15*
 Marie E. Jaramillo
 Printed Name
 marie.jaramillo@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: NOVEMBER 12, 2015
 Date of Survey: MAY 18, 2015
 Signature and Seal of Professional Surveyor



JASON C. EDWARDS
 Certificate Number 15269

III. MATERIALS

A. CASING PROGRAM:

CASING TYPE	OH SIZE (IN)	DEPTH (MD)	CSG SIZE	WEIGHT	GRADE	CONN
SURFACE	12.25"	320.00'	9.625"	36 LBS	J-55 or equiv	STC
INTERMEDIATE	8.75"	5,518.80'	7"	23 LBS	J-55 or equiv	LTC
PRODUCTION	6.125"	5368.8' - 12,450.52'	4.5"	11.6 LBS	P-110 or equiv	LTC
TIE BACK	6.125"	Surf. - 5368.8'	4.5"	11.6 LBS	P-110 or equiv	LTC

B. FLOAT EQUIPMENT:

- SURFACE CASING:** 9-5/8" notched regular pattern guide shoe. Run (1) standard centralizer on each of the bottom (4) joints of Surface Casing.
- 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. Place DV tool @ the top of the Chacra formation. If cement is circulated back to surface on the first stage, a cancelation device will be dropped to shift the dv tool closed and the 2nd stage cement job will be aborted at that time.
- PRODUCTION LINER:** Run 4-1/2" Liner with cement nose guide Float Shoe + 1 jt. 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/ Bbls). TOC at Surface.
- 2. Intermediate** STAGE 1: Spacer #1: 20 bbl (112 cuft) Chemwash. Lead Cement: 105 bbls, 298 sks, (587 cuft), 12.3 ppg @ 1.97 cuft/sk yield. Tail Cement: 91 bbls, 393 sks, (511 cuft), 13.5 ppg @ 1.3 cuft/sk yield. Displacement: Displace w/ +/- 217 bbl Drilling mud or water.
Total Cement: 196 bbls, 691 sks, (1098 cuft)
STAGE 2: Spacer #1: 20 bbl (112 cuft) Chemwash. Lead Cement: 33 bbls, 94 sks, (184 cuft), 12.3 ppg @ 1.97 cuft/sk yield. Tail Cement: 16 bbls, 78 sks, (90 cuft), 13.5 ppg @ 1.3 cuft/sk yield. Displacement: Displace w/ +/- 60 bbl Drilling mud or water.
Total Cement: 49 bbls, 173 sks, (274 cuft)
- 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 (694 sx /944 cuft /168 bbls). Tail Spacer: 20 BBL of MMCR. Displacement: Displace w/ +/- 140 bbl Fr Water. Total Cement (694 sx /944bbls).

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# P-110 Liner will be run to TD and landed +/- 150 ft. into the 7" 23# J-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).



WPX Energy

T23N R9W

W Lybrook 2309-12D

W Lybrook UT #709H - Slot A2

Wellbore #1

Plan: Design #1 2Nov15 sam

Standard Planning Report

02 November, 2015



WPX
Planning Report

Database:	COMPASS	Local Co-ordinate Reference:	Well W Lybrook UT #709H (A2) - Slot A2
Company:	WPX Energy	TVD Reference:	KB @ 6747.00usft (Aztec 920)
Project:	T23N R9W	MD Reference:	KB @ 6747.00usft (Aztec 920)
Site:	W Lybrook 2309-12D	North Reference:	True
Well:	W Lybrook UT #709H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 2Nov15 sam		

Project	T23N R9W		
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 2309-12D				
Site Position:		Northing:	1,905,338.99 usft	Latitude:	36.236489
From:	Map	Easting:	529,692.39 usft	Longitude:	-107.732650
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.06 °

Well	W Lybrook UT #709H - Slot A2					
Well Position	+N/-S	8.20 usft	Northing:	1,905,347.21 usft	Latitude:	36.236511
	+E/-W	18.24 usft	Easting:	529,710.62 usft	Longitude:	-107.732588
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,733.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	9.98	63.08	50,621

Design	Design #1 2Nov15 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	305.51

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	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,622.59	22.45	191.04	1,594.08	-213.13	-41.58	2.00	2.00	0.00	191.04	
4,305.98	22.45	191.04	4,074.07	-1,218.97	-237.79	0.00	0.00	0.00	0.00	
5,127.67	60.00	315.19	4,756.71	-1,104.15	-565.39	9.00	4.57	15.11	131.78	Start 60 tan #709H
5,187.67	60.00	315.19	4,786.71	-1,067.29	-602.01	0.00	0.00	0.00	0.00	End 60 tan #709H
5,350.19	74.63	315.19	4,849.22	-961.20	-707.40	9.00	9.00	0.00	0.00	
5,518.80	89.80	315.19	4,872.00	-843.03	-824.79	9.00	9.00	0.00	0.00	POE #709H
12,450.52	89.80	315.19	4,896.00	4,074.63	-5,709.95	0.00	0.00	0.00	0.00	BHL #709H

WPX
Planning Report

Database:	COMPASS	Local Co-ordinate Reference:	Well W Lybrook UT #709H (A2) - Slot A2
Company:	WPX Energy	TVD Reference:	KB @ 6747.00usft (Aztec 920)
Project:	T23N R9W	MD Reference:	KB @ 6747.00usft (Aztec 920)
Site:	W Lybrook 2309-12D	North Reference:	True
Well:	W Lybrook UT #709H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 2Nov15 sam		

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	
320.00	0.00	0.00	320.00	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	
Start Build 2.00										
1,000.00	10.00	191.04	997.47	-42.72	-8.33	-18.03	2.00	2.00	0.00	
1,500.00	20.00	191.04	1,479.82	-169.57	-33.08	-71.57	2.00	2.00	0.00	
1,622.59	22.45	191.04	1,594.08	-213.13	-41.58	-89.96	2.00	2.00	0.00	
Hold 22.45 Inclination										
2,000.00	22.45	191.04	1,942.88	-354.60	-69.17	-149.67	0.00	0.00	0.00	
2,500.00	22.45	191.04	2,404.98	-542.02	-105.74	-228.77	0.00	0.00	0.00	
3,000.00	22.45	191.04	2,867.08	-729.44	-142.30	-307.88	0.00	0.00	0.00	
3,500.00	22.45	191.04	3,329.19	-916.86	-178.86	-386.99	0.00	0.00	0.00	
4,000.00	22.45	191.04	3,791.29	-1,104.28	-215.42	-466.09	0.00	0.00	0.00	
4,305.98	22.45	191.04	4,074.07	-1,218.97	-237.79	-514.50	0.00	0.00	0.00	
Start Build DLS 9.00 TFO 131.78										
4,500.00	16.67	242.30	4,258.09	-1,268.66	-269.78	-517.33	9.00	-2.98	26.42	
5,000.00	49.24	310.23	4,682.87	-1,174.83	-489.26	-284.17	9.00	6.51	13.59	
5,127.67	60.00	315.19	4,756.71	-1,104.15	-565.39	-181.14	9.00	8.43	3.89	
Hold 60.00 Inclination										
5,187.67	60.00	315.19	4,786.71	-1,067.29	-602.01	-129.92	0.00	0.00	0.00	
Start Build DLS 9.00 TFO 0.00										
5,350.19	74.63	315.19	4,849.22	-961.20	-707.40	17.49	9.00	9.00	0.00	
Start DLS 9.00 TFO 0.00										
5,500.00	88.11	315.19	4,871.66	-856.36	-811.54	163.16	9.00	9.00	0.00	
5,518.00	89.73	315.19	4,872.00	-843.60	-824.23	180.90	9.00	9.00	0.00	
7"										
5,518.80	89.80	315.19	4,872.00	-843.03	-824.79	181.68	9.00	9.00	0.00	
POE at 89.80 Inc 315.19 deg										
6,000.00	89.80	315.19	4,873.67	-501.65	-1,163.92	656.03	0.00	0.00	0.00	
6,500.00	89.80	315.19	4,875.40	-146.92	-1,516.29	1,148.92	0.00	0.00	0.00	
7,000.00	89.80	315.19	4,877.13	207.80	-1,868.67	1,641.80	0.00	0.00	0.00	
7,500.00	89.80	315.19	4,878.86	562.52	-2,221.05	2,134.68	0.00	0.00	0.00	
8,000.00	89.80	315.19	4,880.59	917.24	-2,573.43	2,627.56	0.00	0.00	0.00	
8,500.00	89.80	315.19	4,882.32	1,271.96	-2,925.80	3,120.44	0.00	0.00	0.00	
9,000.00	89.80	315.19	4,884.05	1,626.68	-3,278.18	3,613.32	0.00	0.00	0.00	
9,500.00	89.80	315.19	4,885.78	1,981.40	-3,630.56	4,106.20	0.00	0.00	0.00	
10,000.00	89.80	315.19	4,887.52	2,336.13	-3,982.94	4,599.08	0.00	0.00	0.00	
10,500.00	89.80	315.19	4,889.25	2,690.85	-4,335.31	5,091.96	0.00	0.00	0.00	
11,000.00	89.80	315.19	4,890.98	3,045.57	-4,687.69	5,584.84	0.00	0.00	0.00	
11,500.00	89.80	315.19	4,892.71	3,400.29	-5,040.07	6,077.72	0.00	0.00	0.00	
12,000.00	89.80	315.19	4,894.44	3,755.01	-5,392.44	6,570.60	0.00	0.00	0.00	
12,450.52	89.80	315.19	4,896.00	4,074.63	-5,709.95	7,014.71	0.00	0.00	0.00	
TD at 12450.52										

WPX
Planning Report

Database:	COMPASS	Local Co-ordinate Reference:	Well W Lybrook UT #709H (A2) - Slot A2
Company:	WPX Energy	TVD Reference:	KB @ 6747.00usft (Aztec 920)
Project:	T23N R9W	MD Reference:	KB @ 6747.00usft (Aztec 920)
Site:	W Lybrook 2309-12D	North Reference:	True
Well:	W Lybrook UT #709H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 2Nov15 sam		

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (bearing)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Start 60 tan #709H - plan hits target center - Point	0.00	0.00	4,756.71	-1,104.15	-565.39	1,904,242.48	529,146.38	36.233478	-107.734506
End 60 tan #709H - plan hits target center - Point	0.00	0.00	4,786.71	-1,067.29	-602.01	1,904,279.30	529,109.72	36.233579	-107.734630
POE #709H - plan hits target center - Point	0.00	0.00	4,872.00	-843.03	-824.79	1,904,503.32	528,886.71	36.234195	-107.735385
BHL #709H - plan hits target center - Point	0.00	0.00	4,896.00	4,074.63	-5,709.95	1,909,415.90	523,996.44	36.247703	-107.751953

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
320.00	320.00	9 5/8"	9.625	12.250	
5,518.00	4,872.00	7"	7.000	8.750	

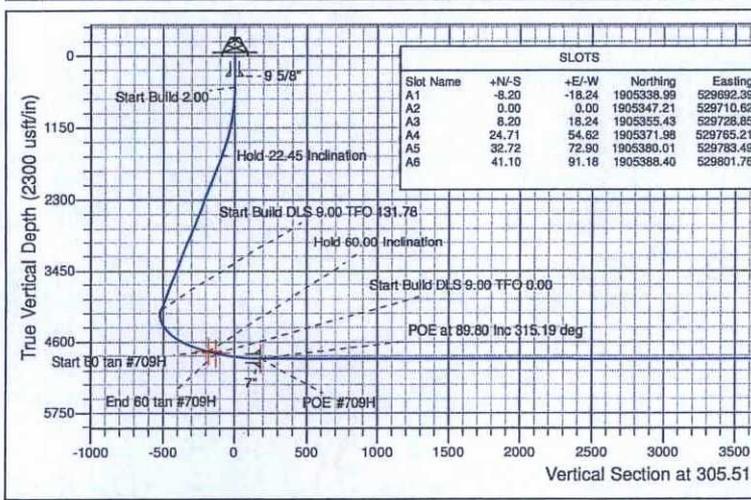
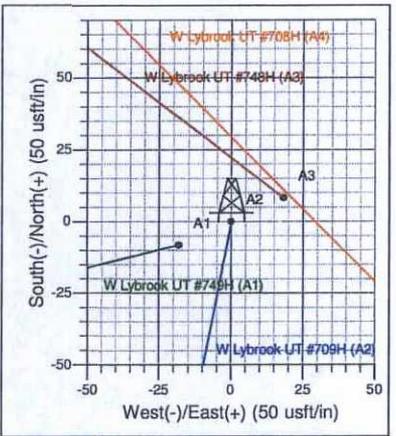
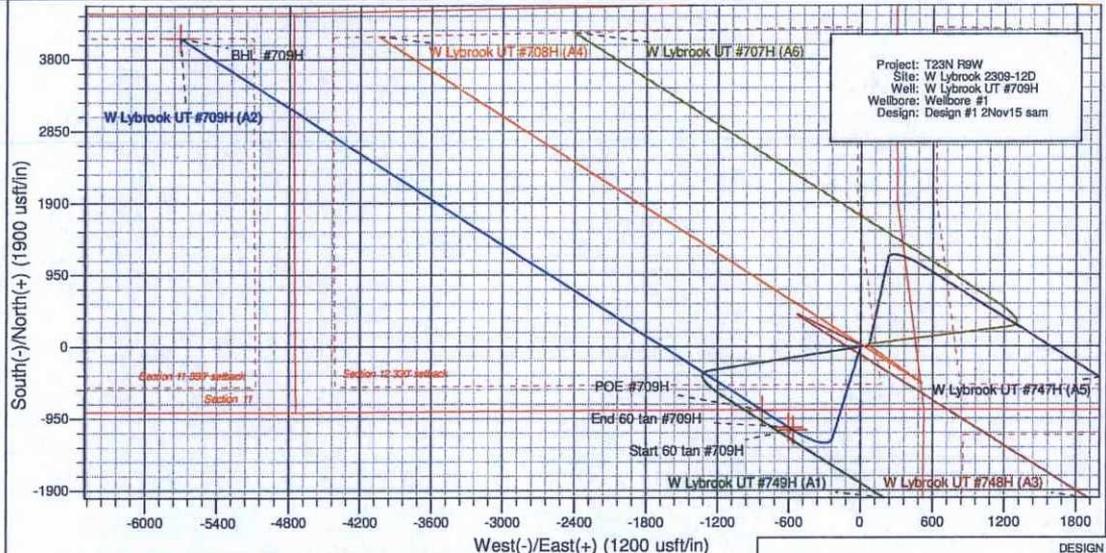
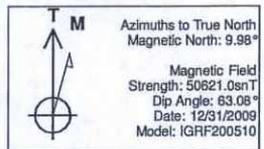
Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
500.00	500.00	0.00	0.00	Start Build 2.00	
1,622.59	1,594.08	-213.13	-41.58	Hold 22.45 Inclination	
4,305.98	4,074.07	-1,218.97	-237.79	Start Build DLS 9.00 TFO 131.78	
5,127.67	4,756.71	-1,104.15	-565.39	Hold 60.00 Inclination	
5,187.67	4,786.71	-1,067.29	-602.01	Start Build DLS 9.00 TFO 0.00	
5,350.19	4,849.22	-961.20	-707.40	Start DLS 9.00 TFO 0.00	
5,518.80	4,872.00	-843.03	-824.79	POE at 89.80 Inc 315.19 deg	
12,450.52	4,896.00	4,074.63	-5,709.95	TD at 12450.52	



Well Name: W Lybrook UT #709H
 Surface Location: W Lybrook 2309-12D
 NAD 1927 (NADCON CONUS), US State Plane 1927 (Exact solution) New Mexico West 3003
 Ground Elevation: 6733.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1905347.21	529710.62	36.236511	-107.732588	A2

KB @ 6747.00usft (Aztec 920)



SLOTS				
Slot Name	+N/-S	+E/-W	Northing	Easting
A1	-8.20	-18.24	1905338.99	529692.39
A2	0.00	0.00	1905347.21	529710.62
A3	8.20	18.24	1905355.43	529728.85
A4	24.71	54.82	1905371.98	529765.21
A5	32.72	72.90	1905380.01	529783.49
A6	41.10	91.18	1905388.40	529801.76

DESIGN TARGET DETAILS									
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape	
Start 60 tan #709H	4756.71	-1104.15	-565.39	1904242.47	529146.38	36.233478	-107.734505	Point	
End 60 tan #709H	4786.71	-1067.29	-602.01	1904279.29	529109.72	36.233579	-107.734629	Point	- plan hits target center
POE #709H	4872.00	-843.03	-824.79	1904503.32	528886.71	36.234195	-107.735385	Point	- plan hits target center
BHL #709H	4896.00	4074.63	-5709.95	1909415.90	523996.44	36.247703	-107.751953	Point	- plan hits target center

ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	V Sect	Departure	Annotation	
500.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00	
1594.08	1822.59	22.45	191.04	-213.13	-41.58	-89.98	217.15	Hold 22.45 Inclination	
4074.07	4305.98	22.45	191.04	-1218.97	-237.79	-514.50	1241.95	Start Build DLS 9.00 TFO 131.78	
4756.71	5127.67	60.00	315.19	-1104.15	-565.39	-181.14	1656.75	Hold 60.00 Inclination	
4786.71	5187.67	60.00	315.19	-1067.29	-602.01	-129.92	1708.71	Start Build DLS 9.00 TFO 0.00	
4849.22	5350.19	74.63	315.19	-961.20	-707.40	17.49	1858.25	Start DLS 9.00 TFO 0.00	
4872.00	5518.80	83.80	315.19	-843.03	-824.79	181.68	2024.81	POE at 89.80 Inc 315.19 deg	
4896.00	12450.52	89.80	315.19	4074.63	-5709.95	7014.71	8956.49	TD at 12450.52	

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
 - 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 Figures 4a and 4b 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
 - 1. No chemicals subject to reporting under Superfund Amendments and Reauthorization Act Title III in an amount equal to or greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling, testing, or completing of these wells.
 - 2. No extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities will be used, produced, stored, transported, or disposed of annually in association with the drilling, testing, or completing of these wells.
 - 3. All fluids (i.e., scrubber cleaners) used during washing of production equipment will be properly disposed of to avoid ground contamination or hazard to livestock or wildlife.
- G. Produced Water:
 - 1. WPX Energy will dispose of produced water from this well at one of the following facilities:
 - a. Lybrook Yard WDW #1, API #30-039-27533, NMOCD permit #SWD-907, operated by Elm Ridge Resources, located in NE $\frac{1}{4}$, Section 14, Township 23 North, Range 7 West
 - b. Jillson Federal #1, NMOCD order #R-10168, operated by ConocoPhillips, located in NW $\frac{1}{4}$, Section 8, Township 24 North, Range 3 West
 - c. Basin Disposal, permit #NM-01-005, located in the NW $\frac{1}{4}$, Section 3, Township 29 North, Range 11 West
 - d. Sunco SWD #001, API #30-045-28653, NMOCD permit SWD-457, operated by Key Energy, located in NW $\frac{1}{4}$, Section 2, Township 29 North, Range 12 West

Directions from the Intersection of US Hwy 550 & US Hwy 64
in Bloomfield, NM to WPX Energy Production, LLC Remote Facilities Pad 23-8-18D
451' FNL & 896' FWL, Section 18, T23N, R8W, N.M.P.M., San Juan County, NM

Latitude: 36.232985°N Longitude: 107.728379°W Datum: NAD1983

From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Southerly on US Hwy 550 for 37.8 miles to Mile Marker 113.4;

Go Right (South-westerly) on County Road #7890 for 0.8 miles to new access on left-hand side of existing roadway which continues for 110.8' to staked WPX Remote Facilities Pad 23-8-18D location.

3,000 PSI rated Choke system

