

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 #702H

API# 30-045-35726, Section 9, 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 Hill  
NMOCD Approved by Signature

5-13-2016  
Date KE

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

RECEIVED  
NOV 12 2015

5. Lease Serial No.  
NMNM109399  
6. If Indian, Allottee or Tribe Name

1a. Type of Work:  DRILL  REENTER

7. If Unit or CA Agreement, Name and No.  
WEST LYBROOK UNIT NMNM-135216Y

1b. Type of Well:  Oil Well  Gas Well  Other  Single Zone  Multiple Zone

8. Lease Name and Well No.  
W LYBROOK UNIT #702H

2. Name of Operator  
WPX Energy Production, LLC

9. API Well No.  
30-045-35726

3a. Address  
P.O. Box 640 Aztec, NM 87410

3b. Phone No. (include area code)  
(505) 333-1816

10. Field and Pool, or Exploratory  
LYBROOK MANCOS W

4. Location of Well (Report location clearly and in accordance with any State requirements.)\*  
At surface 971' FSL & 693' FWL SEC 9 T23N 8W  
At proposed prod. zone 436' FNL & 330' FWL SEC 8 T23N 8W

OIL CONS. DIV DIST. 3

11. Sec., T., R., M., or Blk. and Survey or Area  
SHL: Sec 9, T23N, R8W  
BHL: Sec 8, T23N, R8W

14. Distance in miles and direction from nearest town or post office\*  
From Bloomfield NM Drive South approximately 38.7 miles to Mile Marker 112.7

12. County or Parish  
San Juan County

13. State  
NM

15. Distance from proposed\* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 371'

16. No. of Acres in lease  
977 acres

17. Spacing Unit dedicated to this well  
280- ACRES

18. Distance from proposed location\* to nearest well, drilling, completed, applied for, on this lease, ft. 40'

19. Proposed Depth  
12219' MD / 5255' TVD

20. BLM/BIA Bond No. on file  
UTB000178

21. Elevations (Show whether DF, KDB, RT, GL, etc.)  
6930' GR

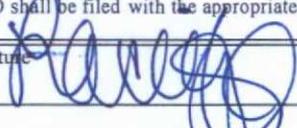
22. Approximate date work will start\*  
December 1, 2015

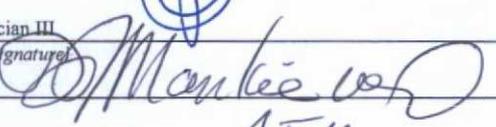
23. Estimated duration  
1 month

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  Name (Printed/Typed) Mankie Office FFO Date 5/16/16

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 is off lease on BLM lands and will be twinned with the W LYBROOK UT #701H. The pad will be permitted as a ROW.

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

A new 3260.8' off lease access road will be built on BLM lands and permitted via ROW.

A new 3635.2 off lease pipeline on BLM lands will be built and permitted via the ROW.

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

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

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

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 30-045-35726		*Pool Code <del>97222</del> 98157	*Pool Name LYBROOK MANCOS W
*Property Code 315250	*Property Name W LYBROOK UNIT		*Well Number 702H
*GRID No. 120782	*Operator Name WPX ENERGY PRODUCTION, LLC		*Elevation 6930'

<sup>10</sup> Surface Location

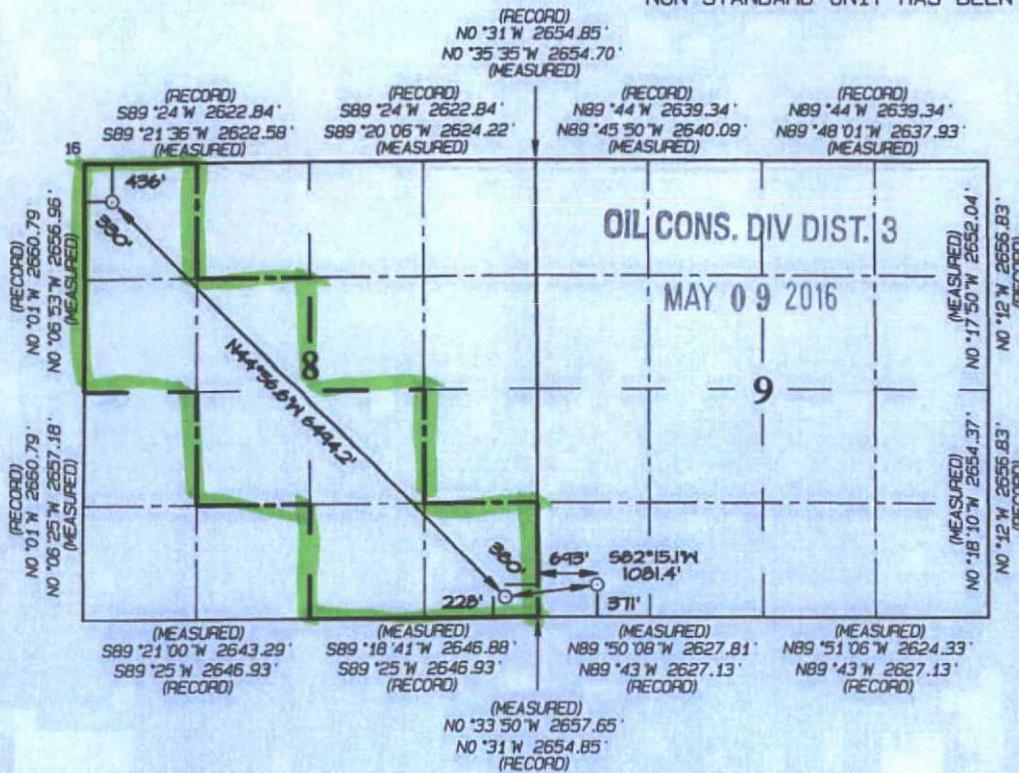
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	9	23N	8W		371	SOUTH	693	WEST	SAN JUAN

<sup>11</sup> 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
D	8	23N	8W		436	NORTH	330	WEST	SAN JUAN

*Dedicated Acres 280.0	W/2 NW/4, SE/4 NW/4 NE/4 SW/4, W/2 SE/4 SE/4 SE/4 - Section 8	*Joint or Infill	*Consolidation Code	*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



<sup>17</sup> 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: *[Signature]* Date: 11/12/15  
LACEY GRANILLO

Printed Name: LACEY, GRANILLO@WPXENERGY.COM  
E-mail Address:

<sup>18</sup> 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 2, 2015  
Date of Survey: AUGUST 25, 2015

Signature and Seal of Professional Surveyor



JASON C. EDWARDS  
Certificate Number 15269

END-OF-LATERAL  
436' FNL 330' FNL  
SECTION 8, T23N, R8W  
LAT: 36.247694°N  
LONG: 107.711831°W  
DATUM: NAD1927  
LAT: 36.247707°N  
LONG: 107.712443°W  
DATUM: NAD1983

POINT-OF-ENTRY  
228' FSL 380' FEL  
SECTION 8, T23N, R8W  
LAT: 36.235050°N  
LONG: 107.696295°W  
DATUM: NAD1927  
LAT: 36.235063°N  
LONG: 107.696907°W  
DATUM: NAD1983

SURFACE LOCATION  
371' FSL 693' FWL  
SECTION 9, T23N, R8W  
LAT: 36.235446°N  
LONG: 107.692661°W  
DATUM: NAD1927  
LAT: 36.235459°N  
LONG: 107.693273°W  
DATUM: NAD1983



# **WPX Energy**

**T23N R8W**

**W Lybrook 2308-09M**

**W Lybrook 2308-09M #702H - Slot A2**

**Wellbore #1**

**Plan: Design #1 21Oct15 sam**

## **Standard Planning Report**

**27 October, 2015**

**WPX**  
Planning Report

<b>Database:</b>	COMPASS	<b>Local Co-ordinate Reference:</b>	Well W Lybrook 2308-09M #702H (A2) - Slot A2
<b>Company:</b>	WPX Energy	<b>TVD Reference:</b>	GL @ 6930.00usft
<b>Project:</b>	T23N R8W	<b>MD Reference:</b>	GL @ 6930.00usft
<b>Site:</b>	W Lybrook 2308-09M	<b>North Reference:</b>	True
<b>Well:</b>	W Lybrook 2308-09M #702H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 21Oct15 sam		

<b>Project</b>	T23N R8W		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	New Mexico West 3003		

<b>Site</b>	W Lybrook 2308-09M				
<b>Site Position:</b>		<b>Northing:</b>	1,904,995.32 usft	<b>Latitude:</b>	36.235504
<b>From:</b>	Map	<b>Easting:</b>	541,519.96 usft	<b>Longitude:</b>	-107.692546
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.08 °

<b>Well</b>	W Lybrook 2308-09M #702H - Slot A2					
<b>Well Position</b>	<b>+N/-S</b>	-21.11 usft	<b>Northing:</b>	1,904,974.16 usft	<b>Latitude:</b>	36.235446
	<b>+E/-W</b>	-33.92 usft	<b>Easting:</b>	541,486.07 usft	<b>Longitude:</b>	-107.692661
<b>Position Uncertainty</b>		0.00 usft	<b>Wellhead Elevation:</b>	0.00 usft	<b>Ground Level:</b>	6,930.00 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	10/21/2015	9.28	62.94	50,022

<b>Design</b>	Design #1 21Oct15 sam			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (bearing)</b>
	0.00	0.00	0.00	308.27

<b>Plan Sections</b>										
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	
1,087.34	11.75	222.35	1,083.23	-44.34	-40.42	2.00	2.00	0.00	222.35	
4,652.03	11.75	222.35	4,573.27	-580.64	-529.35	0.00	0.00	0.00	0.00	
5,332.61	60.00	315.14	5,130.71	-405.98	-811.27	9.00	7.09	13.63	99.39	Start 60 tan #702H
5,392.61	60.00	315.14	5,160.71	-369.15	-847.92	0.00	0.00	0.00	0.00	End 60 tan #702H
5,555.76	74.68	315.14	5,223.39	-262.72	-953.83	9.00	9.00	0.00	0.00	
5,725.06	89.92	315.14	5,246.00	-144.14	-1,071.82	9.00	9.00	0.00	0.00	POE #702H
12,219.17	89.92	315.14	5,255.00	4,459.11	-5,652.58	0.00	0.00	0.00	0.00	BHL #702H

**WPX**  
Planning Report

<b>Database:</b>	COMPASS	<b>Local Co-ordinate Reference:</b>	Well W Lybrook 2308-09M #702H (A2) - Slot A2
<b>Company:</b>	WPX Energy	<b>TVD Reference:</b>	GL @ 6930.00usft
<b>Project:</b>	T23N R8W	<b>MD Reference:</b>	GL @ 6930.00usft
<b>Site:</b>	W Lybrook 2308-09M	<b>North Reference:</b>	True
<b>Well:</b>	W Lybrook 2308-09M #702H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 21Oct15 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	0.00
320.00	0.00	0.00	320.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>9 5/8"</b>										
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Start Build 2.00</b>										
1,000.00	10.00	222.35	997.47	-32.16	-29.32	3.10	2.00	2.00	0.00	
1,087.34	11.75	222.35	1,083.23	-44.34	-40.42	4.27	2.00	2.00	0.00	
<b>Hold 11.75 Inclination</b>										
1,500.00	11.75	222.35	1,487.25	-106.42	-97.02	10.26	0.00	0.00	0.00	
2,000.00	11.75	222.35	1,976.78	-181.65	-165.60	17.51	0.00	0.00	0.00	
2,500.00	11.75	222.35	2,466.31	-256.87	-234.18	24.77	0.00	0.00	0.00	
3,000.00	11.75	222.35	2,955.84	-332.09	-302.76	32.02	0.00	0.00	0.00	
3,500.00	11.75	222.35	3,445.37	-407.32	-371.34	39.27	0.00	0.00	0.00	
4,000.00	11.75	222.35	3,934.89	-482.54	-439.92	46.52	0.00	0.00	0.00	
4,500.00	11.75	222.35	4,424.42	-557.77	-508.50	53.78	0.00	0.00	0.00	
4,652.03	11.75	222.35	4,573.27	-580.64	-529.35	55.98	0.00	0.00	0.00	
<b>Start Build DLS 9.00 TFO 99.39</b>										
5,000.00	31.39	302.30	4,900.32	-557.83	-632.38	151.00	9.00	5.64	22.98	
5,332.61	60.00	315.14	5,130.71	-405.98	-811.27	385.50	9.00	8.60	3.86	
<b>Hold 60.00 Inclination</b>										
5,392.61	60.00	315.14	5,160.71	-369.15	-847.92	437.09	0.00	0.00	0.00	
<b>Start Build DLS 9.00 TFO 0.00</b>										
5,500.00	69.66	315.14	5,206.32	-300.33	-916.40	533.47	9.00	9.00	0.00	
5,555.76	74.68	315.14	5,223.39	-262.72	-953.83	586.15	9.00	9.00	0.00	
<b>Start DLS 9.00 TFO 0.00</b>										
5,725.00	89.92	315.14	5,246.00	-144.19	-1,071.78	752.17	9.00	9.00	0.00	
<b>7"</b>										
5,725.06	89.92	315.14	5,246.00	-144.14	-1,071.82	752.23	9.00	9.00	0.00	
<b>POE at 89.92 Inc 315.14 deg</b>										
6,000.00	89.92	315.14	5,246.38	50.74	-1,265.76	1,025.19	0.00	0.00	0.00	
6,500.00	89.92	315.14	5,247.07	405.16	-1,618.44	1,521.60	0.00	0.00	0.00	
7,000.00	89.92	315.14	5,247.77	759.58	-1,971.13	2,018.01	0.00	0.00	0.00	
7,500.00	89.92	315.14	5,248.46	1,114.00	-2,323.82	2,514.42	0.00	0.00	0.00	
8,000.00	89.92	315.14	5,249.15	1,468.41	-2,676.50	3,010.82	0.00	0.00	0.00	
8,500.00	89.92	315.14	5,249.85	1,822.83	-3,029.19	3,507.23	0.00	0.00	0.00	
9,000.00	89.92	315.14	5,250.54	2,177.25	-3,381.87	4,003.64	0.00	0.00	0.00	
9,500.00	89.92	315.14	5,251.23	2,531.67	-3,734.56	4,500.05	0.00	0.00	0.00	
10,000.00	89.92	315.14	5,251.92	2,886.09	-4,087.25	4,996.46	0.00	0.00	0.00	
10,500.00	89.92	315.14	5,252.62	3,240.50	-4,439.93	5,492.86	0.00	0.00	0.00	
11,000.00	89.92	315.14	5,253.31	3,594.92	-4,792.62	5,989.27	0.00	0.00	0.00	
11,500.00	89.92	315.14	5,254.00	3,949.34	-5,145.30	6,485.68	0.00	0.00	0.00	
12,000.00	89.92	315.14	5,254.70	4,303.76	-5,497.99	6,982.09	0.00	0.00	0.00	
12,219.17	89.92	315.14	5,255.00	4,459.11	-5,652.58	7,199.68	0.00	0.00	0.00	
<b>TD at 12219.17</b>										

**WPX**  
Planning Report

<b>Database:</b>	COMPASS	<b>Local Co-ordinate Reference:</b>	Well W Lybrook 2308-09M #702H (A2) - Slot A2
<b>Company:</b>	WPX Energy	<b>TVD Reference:</b>	GL @ 6930.00usft
<b>Project:</b>	T23N R8W	<b>MD Reference:</b>	GL @ 6930.00usft
<b>Site:</b>	W Lybrook 2308-09M	<b>North Reference:</b>	True
<b>Well:</b>	W Lybrook 2308-09M #702H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 21Oct15 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 #702H - plan hits target center - Point	0.00	0.00	5,130.71	-405.98	-811.27	1,904,567.01	540,675.39	36.234331	-107.695412
End 60 tan #702H - plan hits target center - Point	0.00	0.00	5,160.71	-369.15	-847.92	1,904,603.78	540,638.69	36.234432	-107.695536
POE #702H - plan hits target center - Point	0.00	0.00	5,246.00	-144.14	-1,071.82	1,904,828.46	540,414.46	36.235050	-107.696296
BHL #702H - plan hits target center - Point	0.00	0.00	5,255.00	4,459.11	-5,652.58	1,909,425.06	535,827.02	36.247694	-107.711831

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	
5,725.00	5,246.00	7"	7.000	8.750	

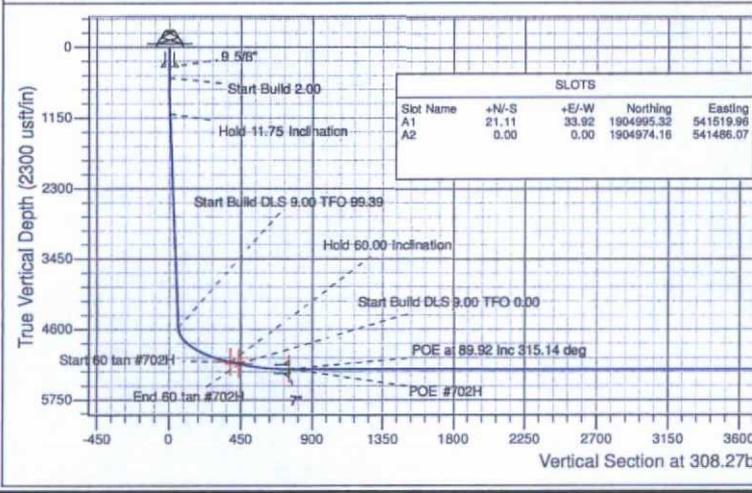
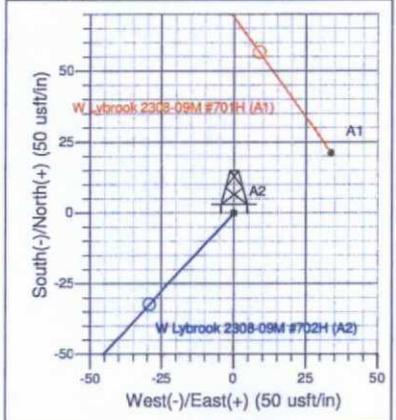
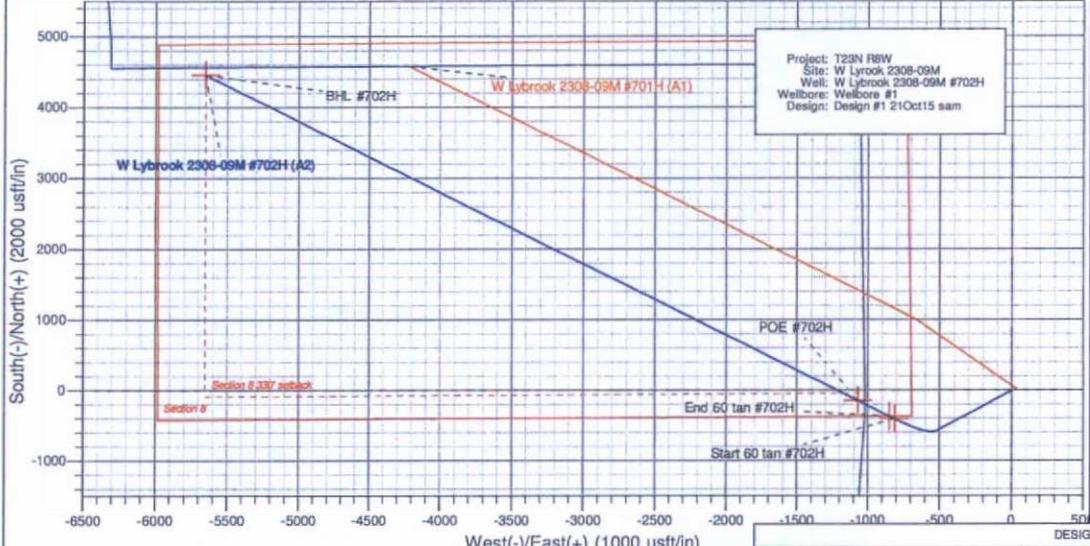
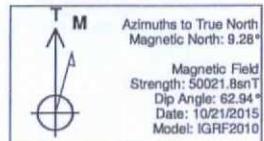
Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
500.00	500.00	0.00	0.00	Start Build 2.00	
1,087.34	1,083.23	-44.34	-40.42	Hold 11.75 Inclination	
4,652.03	4,573.27	-580.64	-529.35	Start Build DLS 9.00 TFO 99.39	
5,332.61	5,130.71	-405.98	-811.27	Hold 60.00 Inclination	
5,392.61	5,160.71	-369.15	-847.92	Start Build DLS 9.00 TFO 0.00	
5,555.76	5,223.39	-262.72	-953.83	Start DLS 9.00 TFO 0.00	
5,725.06	5,246.00	-144.14	-1,071.82	POE at 89.92 Inc 315.14 deg	
12,219.17	5,255.00	4,459.11	-5,652.58	TD at 12219.17	



Well Name: W Lybrook 2308-09M #702H  
 Surface Location: W Lybrook 2308-09M  
 NAD 1927 (NADCON CONUS) , US State Plane 1927 (Exact solution) New Mexico West 3003  
 Ground Elevation: 6930.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1904974.16	541486.07	36.235446	-107.692661	A2

GL @ 6930.00usft

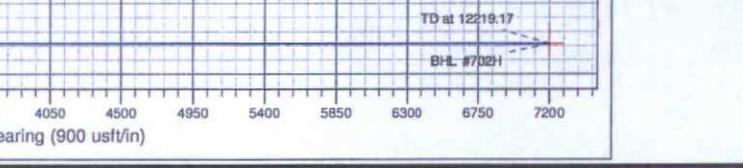


DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Start 60 tan #702H	5130.71	-405.98	-811.27	1904587.00	540675.39	36.234331	-107.695412	Point
End 60 tan #702H	5160.71	-369.15	-847.92	1904603.78	540638.69	36.234432	-107.695536	Point
POE #702H	5246.00	-144.14	-1071.82	1904828.46	540414.46	36.235050	-107.696295	Point
BHL #702H	5255.00	4459.11	-5652.58	1900425.06	535827.02	36.247894	-107.711831	Point

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation
500.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
1083.23	1087.34	11.75	222.35	-44.34	-40.42	4.27	60.00	Hold 11.75 Inclination
4573.27	4652.03	11.75	222.35	-580.64	-529.35	55.98	785.72	Start Build DLS 9.00 TFO 99.39
5130.71	5332.61	60.00	315.14	-405.98	-811.27	385.50	1133.61	Hold 60.00 Inclination
5160.71	5392.61	60.00	315.14	-369.15	-847.92	437.69	1185.77	Start Build DLS 9.00 TFO 0.00
5223.39	5555.76	74.68	315.14	-262.72	-953.83	588.15	1335.91	Start DLS 9.00 TFO 0.00
5246.00	5725.06	89.92	315.14	-144.14	-1071.82	752.23	1503.19	POE at 89.92 inc 315.14 deg
5255.00	12219.17	89.92	315.14	4459.11	-5652.58	7199.68	7997.29	TD at 12219.17





## WPX Energy

### Operations Plan

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

Date: November 11, 2015 Field: Lybrook Mancos W  
Well Name: W LYBROOK UT #702H Surface: BLM  
SH Location: SWSW Sec 9 23N-08W Elevation: 6930' GR  
BH Location: NWNW Sec 8 23N-08W Minerals: FED

Measured Depth: 12,219.17'

I. GEOLOGY: SURFACE FORMATION - NACIMIENTO

#### A. FORMATION TOPS (GL)

NAME	MD	TVD	NAME	MD	TVD
OJO ALAMO	957	955	POINT LOOKOUT	4007	3942
KIRTLAND	1169	1163	MANCOS	4198	4129
PICTURED CLIFFS	1553	1539	GALLUP	4555	4478
LEWIS	1666	1650	KICKOFF POINT	5,332.61	5,130.71
CHACRA	1931	1909	TOP TARGET	5496	4871
CLIFF HOUSE	3029	2984	LANDING POINT	5,725.06	5,246.00
MENEFEE	3079	3033	BASE TARGET	5,725.06	5,246.00
			TD	12,219.17	5,255.00

**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"	5,725.06'	7"	23 LBS	J-55 or equiv	LTC
PRODUCTION	6.125"	5575.06' - 12,219.17'	4.5"	11.6 LBS	P-110 or equiv	LTC
TIE BACK	6.125"	Surf. - 5575.06'	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.
- 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)*

- 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.
- 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.
- 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 (651 sx /885 cuft /158 bbls). Tail Spacer: 20 BBL of MMCR. Displacement: Displace w/ +/- 140 bbl Fr Water. Total Cement (651 sx /885bbls).

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.

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**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# 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).

- 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**

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- ✓ 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 UT #702H  
371' FSL & 693' FWL, Section 9, T23N, R8W, N.M.P.M., San Juan County, NM**

**Latitude: 36.235459°N Longitude: 107.693273°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 0.3 miles to proposed WPX Remote Facilities Pad access on left-hand side of County Road #7900;

Go Left (Easterly) along WPX Remote Facilities Pad proposed access for 596.3' to staked WPX Remote Facilities Pad;

Go Straight (Easterly) to NE corner of staked Remote Facilities Pad, from which new access continues east for 3260.8' To staked WPX W Lybrook UT #702H location;

3,000 PSI rated Choke system

