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 # 703H
API# 30-045-35727, 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.

Charlie Perrin
NMOCD Approved by Signature

5-13-2016
Date KC

CONFIDENTIAL

Form 3160-3
(September 2001)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
2015

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NO-G-1403-1908

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-135216X

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

8. Lease Name and Well No.
W LYBROOK UNIT #703H

2. Name of Operator
WPX Energy Production, LLC

9. API Well No.
30-045-35727

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory
P.O. Box 640 Aztec, NM 87410	(505) 333-1816	LYBROOK MANCOS W

4. Location of Well *(Report location clearly and in accordance with any State requirements. *)*
At surface N 1212' FSL & 1366' FWL SEC 8 23N 8W
At proposed prod. zone N 1065' FSL & 2728' FWL SEC 6 23N 8W

OIL CONS. DIV DIST. 3
MAY 09 2016

11. Sec., T., R., M., or Blk. and Survey or Area
SHL: Sec 8, T23N, R8W
BHL: Sec 6, T23N, R8W

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

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)	16. No. of Acres in lease	17. Spacing Unit dedicated to this well
1212'	160 acres	323.68- acres
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	**19. Proposed Depth**	**20. BLM/BIA Bond No. on file**
20'	11961' MD / 4961' TVD	UTB000178
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	**22. Approximate date work will start***	**23. Estimated duration**
6823' GR	December 1, 2015	1 month

KP

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)*	Date
	Lacey Granillo	11/12/15
Title: Permit Technician III		
Approved by *(Signature)*	Name *(Printed/Typed)*	Date 5/6/16
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 UT #704H/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 764.1' on lease access road will be built on IA/BLM lands and permitted via APD.

A new 4456.9'.6 on lease pipeline on IA/BLM lands will be built and permitted via the APD.

...ction is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4
...LLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS"

NMOCD AV

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-045-35727	~~97232~~ 98157	LYBROOK MANCOS W

4 Property Code	5 Property Name	6 Well Number
315250	W LYBROOK UNIT	703H

7 OGRID No.	8 Operator Name	9 Elevation
120782	WPX ENERGY PRODUCTION, LLC	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
N	8	23N	8W		1212	SOUTH	1366	WEST	SAN JUAN

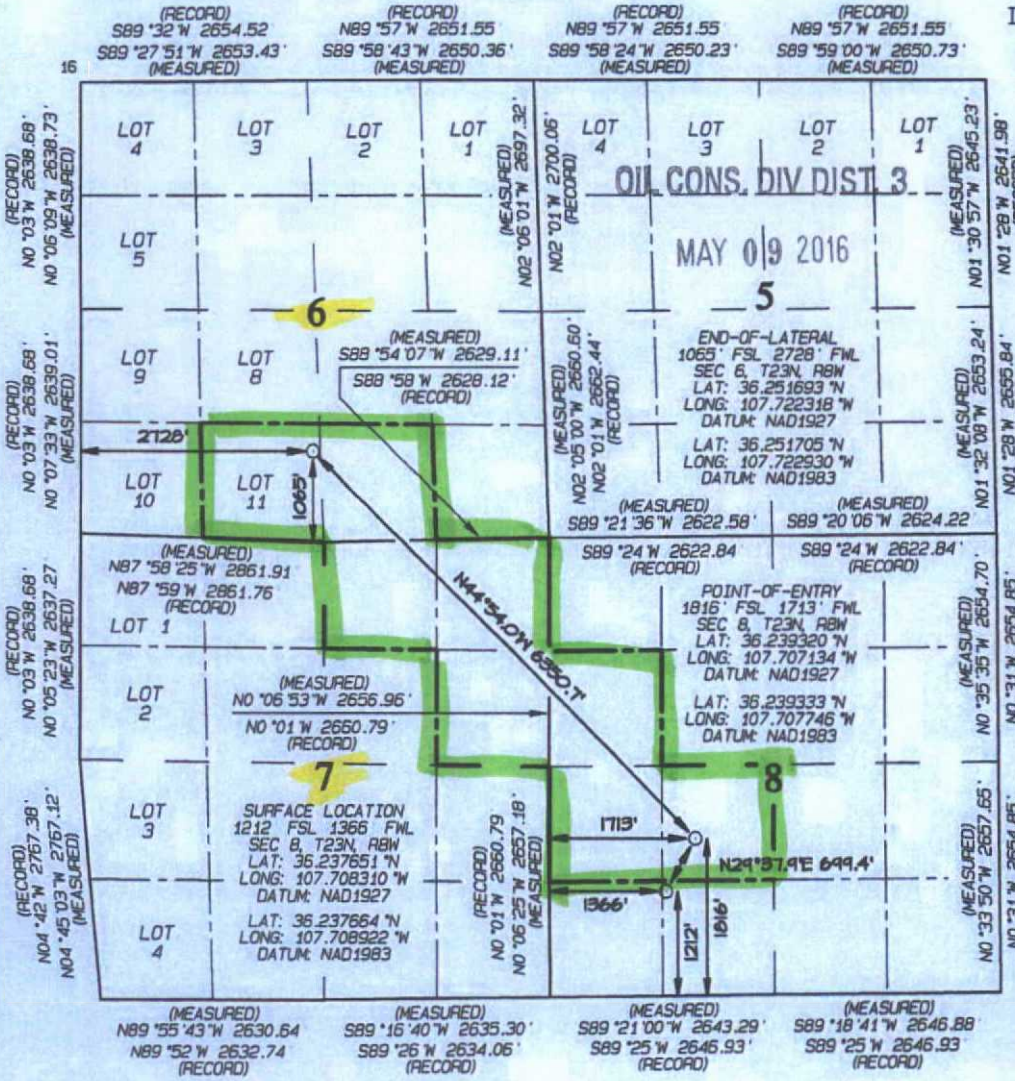
11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	6	23N	8W	11	1065	SOUTH	2728	WEST	SAN JUAN

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No
323.68			R-14051 - 12,807.24 Acres

SE/4 SW/4, SW/4 SE/4 (Section 6)
N/2 NE/4, SE/4 NE/4 (Section 7)
N/2 SW/4, SW/4 NW/4 (Section 8)

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 — Date: 4/12/15

LACEY GRANILLO

Printed Name

LACEY.GRANILLO@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: OCTOBER 12, 2015
Survey Date: DECEMBER 19, 2014

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS
Certificate Number 15269

WPX Energy

T23N R8W
W Lybrook 2308-7B
W Lybrook UT #703H - Slot A4

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 #703H (A4) - Slot A4
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 #703H	**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 #703H - Slot A4					
Well Position	**+N/-S**	-572.72 usft	**Northing:**	1,905,770.57 usft	**Latitude:**	36.237651
	+E/-W	-326.75 usft	**Easting:**	536,870.07 usft	**Longitude:**	-107.708310
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	321.06

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	
1,166.80	12.72	85.64	1,161.60	5.34	70.06	2.00	2.00	0.00	85.64	
4,437.92	12.72	85.64	4,352.48	60.05	788.02	0.00	0.00	0.00	0.00	
5,200.74	60.00	315.17	4,993.88	334.33	618.04	9.00	6.20	-17.10	-134.98	Start 60 tan 703H
5,260.74	60.00	315.17	5,023.88	371.18	581.41	0.00	0.00	0.00	0.00	End 60 tan 703H
5,431.29	75.35	315.17	5,088.47	482.75	470.52	9.00	9.00	0.00	0.00	
5,608.90	91.34	315.17	5,109.00	607.46	346.56	9.00	9.00	0.00	0.00	POE 703H
11,961.23	91.34	315.17	4,961.00	5,111.63	-4,130.34	0.00	0.00	0.00	0.00	BHL 703H

Database:	COMPASS	**Local Co-ordinate Reference:**	Well W Lybrook UT #703H (A4) - Slot A4
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 #703H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 23Sep15 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
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	85.64	997.91	2.91	38.19	-21.74	2.00	2.00	0.00
1,166.80	12.72	85.64	1,161.60	5.34	70.06	-39.88	2.00	2.00	0.00
Hold 12.72 Inclination									
1,500.00	12.72	85.64	1,486.62	10.91	143.19	-81.51	0.00	0.00	0.00
2,000.00	12.72	85.64	1,974.36	19.27	252.94	-143.98	0.00	0.00	0.00
2,500.00	12.72	85.64	2,462.09	27.64	362.68	-206.44	0.00	0.00	0.00
3,000.00	12.72	85.64	2,949.83	36.00	472.42	-268.91	0.00	0.00	0.00
3,500.00	12.72	85.64	3,437.57	44.36	582.16	-331.38	0.00	0.00	0.00
4,000.00	12.72	85.64	3,925.30	52.72	691.90	-393.85	0.00	0.00	0.00
4,437.92	12.72	85.64	4,352.48	60.05	788.02	-448.56	0.00	0.00	0.00
Start Build DLS 9.00 TFO -134.98									
4,500.00	9.60	61.26	4,413.41	63.06	799.38	-453.36	9.00	-5.01	-39.28
5,000.00	42.31	319.93	4,868.43	220.04	723.68	-283.69	9.00	6.54	-20.27
5,200.74	60.00	315.17	4,993.88	334.33	618.04	-128.39	9.00	8.81	-2.37
Hold 60.00 Inclination									
5,260.74	60.00	315.17	5,023.88	371.18	581.41	-76.70	0.00	0.00	0.00
Start Build DLS 9.00 TFO 0.00									
5,431.29	75.35	315.17	5,088.47	482.75	470.52	79.77	9.00	9.00	0.00
Start DLS 9.00 TFO 0.00									
5,500.00	81.53	315.17	5,102.24	530.47	423.09	146.70	9.00	9.00	0.00
5,608.90	91.34	315.17	5,109.00	607.46	346.56	254.68	9.00	9.00	0.00
POE at 91.34 inc 315.17 deg									
5,609.00	91.34	315.17	5,109.00	607.54	346.49	254.78	0.00	0.00	0.00
7"									
6,000.00	91.34	315.17	5,099.89	884.78	70.93	643.61	0.00	0.00	0.00
6,500.00	91.34	315.17	5,088.24	1,239.31	-281.45	1,140.84	0.00	0.00	0.00
7,000.00	91.34	315.17	5,076.59	1,593.84	-633.84	1,638.07	0.00	0.00	0.00
7,500.00	91.34	315.17	5,064.94	1,948.36	-986.22	2,135.30	0.00	0.00	0.00
8,000.00	91.34	315.17	5,053.29	2,302.89	-1,338.60	2,632.53	0.00	0.00	0.00
8,500.00	91.34	315.17	5,041.64	2,657.42	-1,690.99	3,129.75	0.00	0.00	0.00
9,000.00	91.34	315.17	5,029.99	3,011.95	-2,043.37	3,626.98	0.00	0.00	0.00
9,500.00	91.34	315.17	5,018.34	3,366.48	-2,395.75	4,124.21	0.00	0.00	0.00
10,000.00	91.34	315.17	5,006.69	3,721.01	-2,748.13	4,621.44	0.00	0.00	0.00
10,500.00	91.34	315.17	4,995.04	4,075.54	-3,100.52	5,118.67	0.00	0.00	0.00
11,000.00	91.34	315.17	4,983.40	4,430.07	-3,452.90	5,615.90	0.00	0.00	0.00
11,500.00	91.34	315.17	4,971.75	4,784.59	-3,805.28	6,113.12	0.00	0.00	0.00
11,961.23	91.34	315.17	4,961.00	5,111.63	-4,130.34	6,571.80	0.00	0.00	0.00
TD at 11961.23									

Database:	COMPASS	**Local Co-ordinate Reference:**	Well W Lybrook UT #703H (A4) - Slot A4
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 #703H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 23Sep15 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
BHL 703H - plan hits target center - Point	0.00	0.00	4,961.00	5,111.63	-4,130.34	1,910,876.87	532,733.14	36.251693	-107.722318
Start 60 tan 703H - plan hits target center - Point	0.00	0.00	4,993.88	334.33	618.04	1,906,105.70	537,487.68	36.238570	-107.706214
End 60 tan 703H - plan hits target center - Point	0.00	0.00	5,023.88	371.18	581.41	1,906,142.50	537,451.00	36.238671	-107.706338
POE 703H - plan hits target center - Point	0.00	0.00	5,109.00	607.46	346.56	1,906,378.48	537,215.85	36.239320	-107.707135

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
351.00	351.00	9 5/8"	9.625	12.250
5,609.00	5,109.00	7"	7.000	8.750

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
531.00	531.00	0.00	0.00	Start Build 2.00
1,166.80	1,161.60	5.34	70.06	Hold 12.72 Inclination
4,437.92	4,352.48	60.05	788.02	Start Build DLS 9.00 TFO -134.98
5,200.74	4,993.88	334.33	618.04	Hold 60.00 Inclination
5,260.74	5,023.88	371.18	581.41	Start Build DLS 9.00 TFO 0.00
5,431.29	5,088.47	482.75	470.52	Start DLS 9.00 TFO 0.00
5,608.90	5,109.00	607.46	346.56	POE at 91.34 Inc 315.17 deg
11,961.23	4,961.00	5,111.63	-4,130.34	TD at 11961.23

WPXENERGY

Well Name: W Lybrook UT #703H
Surface Location: W Lybrook 2308-7B
NAD 1927 (NADCON CONUS) , US State Plane 1927 (Exact solution) New Mexico West 3003
Ground Elevation: 6823.00

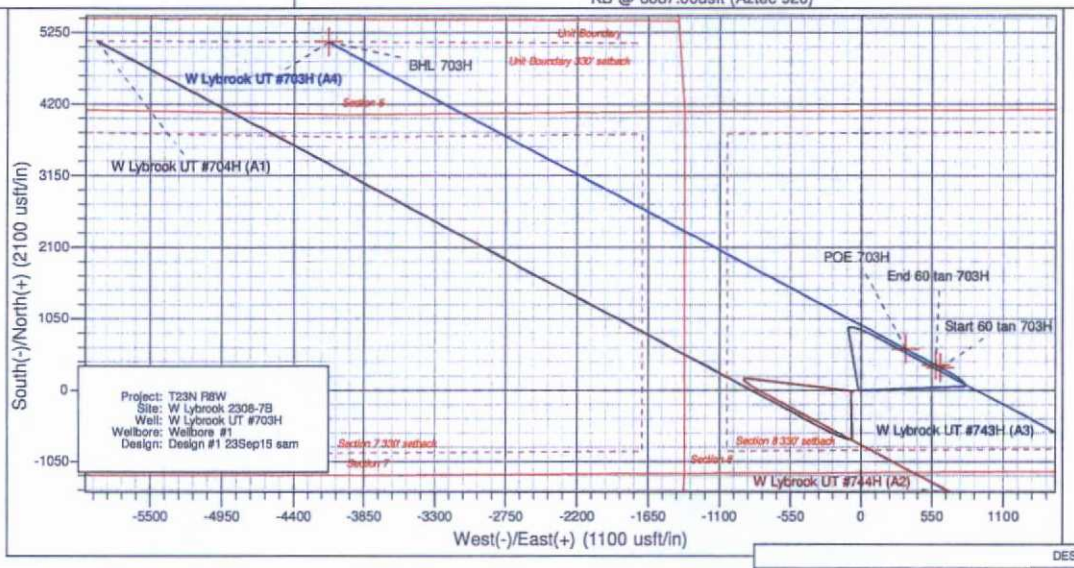
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1905770.57	536870.07	36.237651	-107.708310	A4

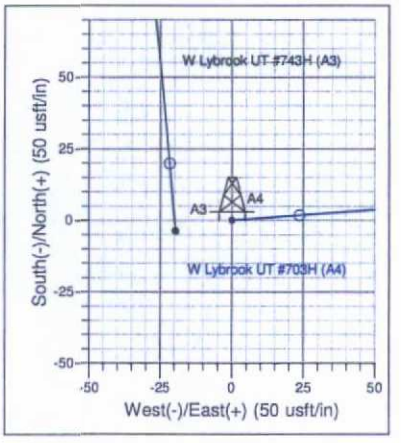
KB @ 6837.00usft (Aztec 920)

T M

Azimuths to True North
Magnetic North: 9.29°

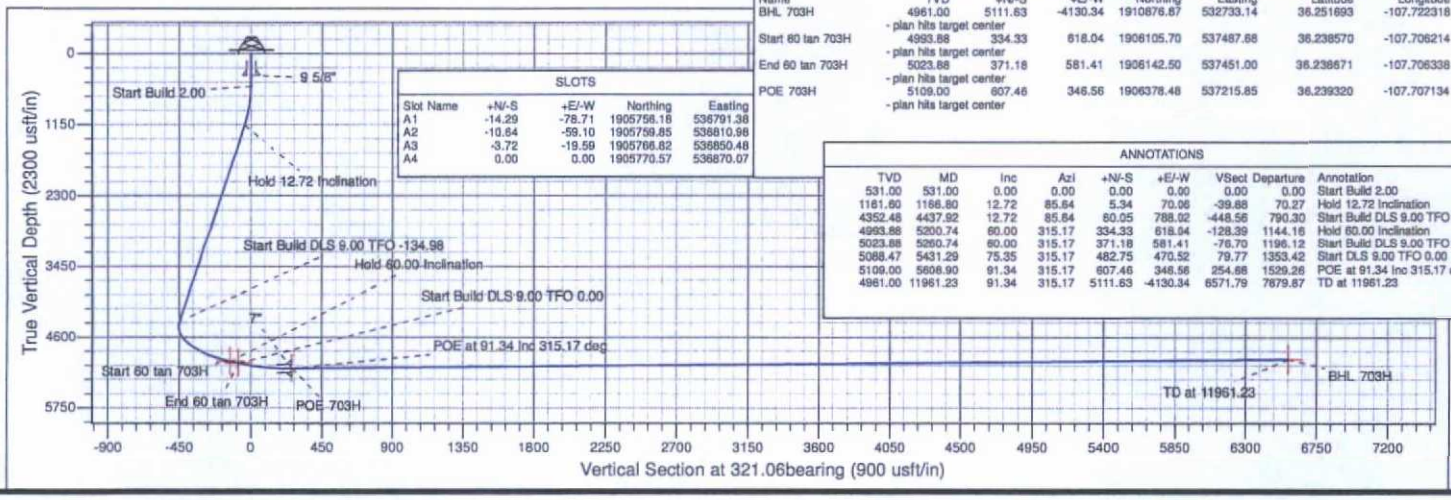
Magnetic Field
Strength: 50029.2snT
Dip Angle: 62.94°
Date: 9/23/2015
Model: IGRF2010





DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
BHL 703H	4961.00 - plan hits target center	5111.63	-4130.34	1910876.87	532733.14	36.251693	-107.722318	Point
Start 60 tan 703H	4993.88 - plan hits target center	334.33	618.04	1906105.70	537487.68	36.238570	-107.706214	Point
End 60 tan 703H	5023.88 - plan hits target center	371.18	581.41	1906142.50	537451.00	36.238671	-107.706338	Point
POE 703H	5109.00 - plan hits target center	607.46	346.56	1906378.48	537215.85	36.239320	-107.707134	Point



SLOTS

Slot Name	+N/-S	+E/-W	Northing	Easting
A1	-14.29	-78.71	1905756.18	536791.38
A2	-10.64	-59.10	1905759.85	536810.98
A3	-3.72	-19.59	1905766.82	536850.48
A4	0.00	0.00	1905770.57	536870.07

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
1161.80	1166.80	12.72	85.64	5.34	70.98	-39.68	70.27	Hold 12.72 Inclination
4352.48	4437.92	12.72	85.64	60.05	788.02	-448.56	790.30	Start Build DLS 9.00 TFO -134.98
4993.88	5200.74	60.00	315.17	334.33	618.94	-128.39	1144.16	Hold 60.00 Inclination
5023.88	5260.74	60.00	315.17	371.18	581.41	-76.70	1196.12	Start Build DLS 9.00 TFO 0.00
5088.47	5431.29	75.35	315.17	482.75	470.52	79.77	1353.42	Start DLS 9.00 TFO 0.00
5109.00	5608.90	91.34	315.17	607.46	346.56	254.88	1529.26	POE at 91.34 Inc 315.17 deg
4961.00	11961.23	91.34	315.17	5111.63	-4130.34	6571.79	7879.87	TD at 11961.23

WPXENERGY

WPX Energy

Operations Plan

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

Date:	**November 10, 2015**	**Field:**	**Lybrook Mancos W**
Well Name:	**W Lybrook UT #703H**	**Surface:**	**IA**
SH Location:	**SESW Sec 8-23N-08W**	**Elevation:**	**6823' GR**
BH Location:	**SESW Sec 6-23N-08W**	**Minerals:**	**IA**

Measured Depth: **11,961.23**

I. **GEOLOGY:** SURFACE FORMATION - NACIMIENTO

A. FORMATION TOPS (KB)

NAME	MD	TVD	NAME	MD	TVD
OJO ALAMO	868	867	POINT LOOKOUT	3927	3854
KIRTLAND	1078	1075	MANCOS	4119	4041
PICTURED CLIFFS	1463	1451	GALLUP	4476	4390
LEWIS	1557	1562	KICKOFF POINT	5,200.74	4,993.88
CHACRA	1843	1821	TOP TARGET	5408	5082
CLIFF HOUSE	2945	2896	LANDING POINT	5,608.90	5,109.00
MENEFEE	2995	2945	BASE TARGET	5,608.90	5,109.00
			TD	11,961.23	4,961.00

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 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)	CSG SIZE	WEIGHT	GRADE	CONN
SURFACE	12.25"	320'	9.625"	36 LBS	J-55 or equiv	STC
INTERMEDIATE	8.75"	5,608.90	7"	23 LBS	J-55 or equiv	LTC
PRODUCTION	6.125"	5458.9 - 11,961.23	4.5"	11.6 LBS	P-110 or equiv	LTC
TIE BACK	6.125"	Surf. - 5458.9	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/ 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. 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 (637 sx /866 cuft /154 bbls). Tail Spacer: 20 BBL of MMCR. Displacement: Displace w/ +/- 140 bbl Fr Water. Total Cement (637 sx /866bbls).

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).

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

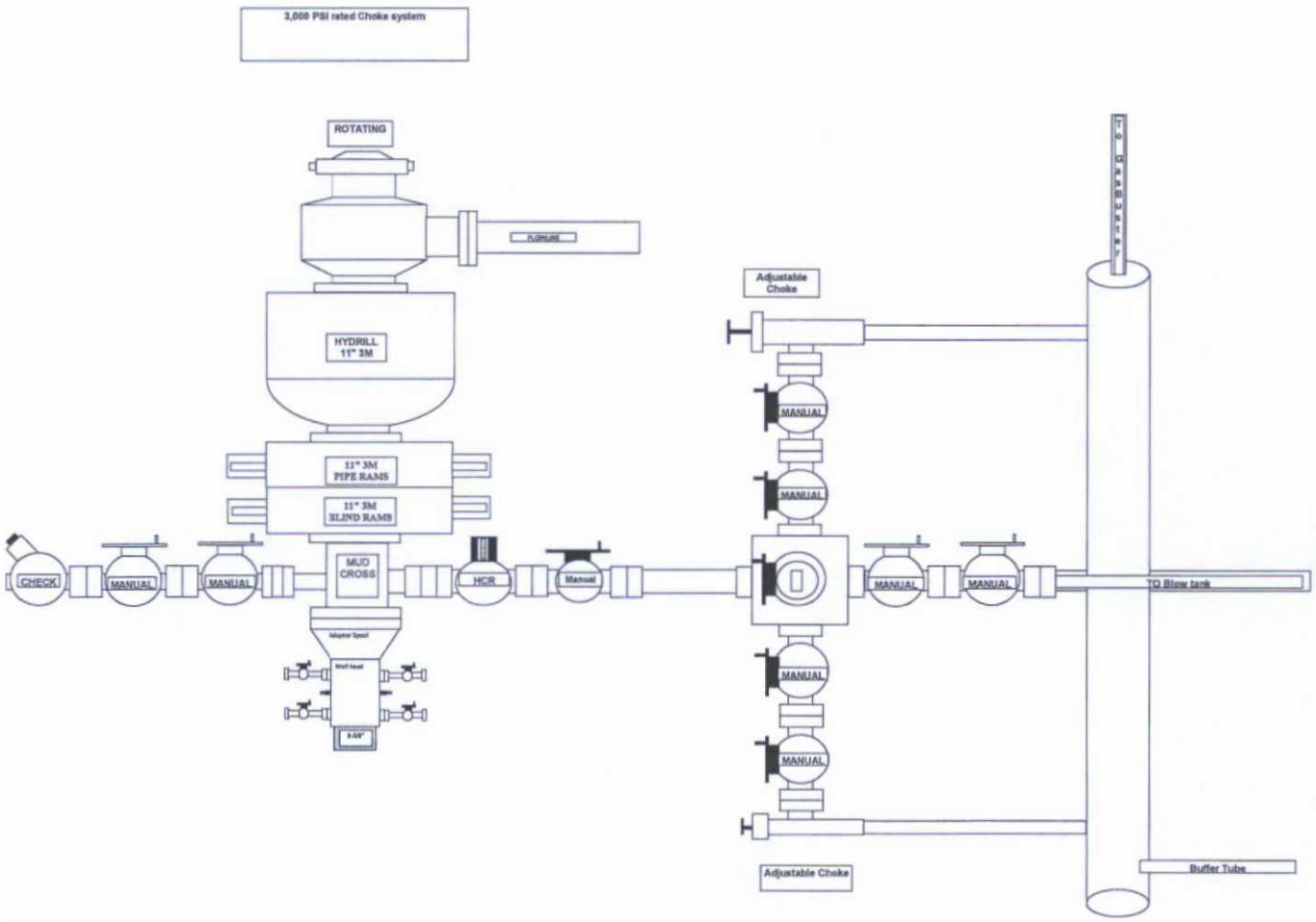
in Bloomfield, NM to WPX Energy Production, LLC W Lybrook Unit #703H

1212' FSL & 1366' FWL, Section 8, T23N, R8W, N.M.P.M., San Juan County, NM

Latitude: 36.237664°N Longitude: 107.708922°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 #703H location.


3,000 PSI rated Choke system
ROTATING
FLOWLINE
HYDRILL
11" 3M
11" 3M
PIPE RAMS
11" 3M
BLIND RAMS
CHECK
MANUAL
MANUAL
MUD
CROSS
HCR
Manual
Adjustable
Choke
MANUAL
MANUAL
MANUAL
MANUAL
MANUAL
MANUAL
TO Blow tank
Adjustable Choke
Buffer Tube