

State of New Mexico  
Energy, Minerals and Natural Resources Department

Susana Martinez  
Governor

Tony Delfin  
Acting 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: 4-7-16

Well information;

Operator WTPX, Well Name and Number W Lybrook Unit # 7614

API# 30-045-35768 Section 23 Township 23N S, Range 9 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 NSI, 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.

Charles Kern  
NMOCD Approved by Signature

12-15-2016  
Date



Lessee - WPX  
Onsite - 12/9/15  
Form 3160-3  
(September 2001)  
Expires 4/30/19

NOB: 1/20/15  
APD: 5  
AP: 5  
SMA: Navajo  
BOND: 1000000  
CMT: NM

RECEIVED

APR 03 2016

ATS-F00-15-153  
10600001231  
FORM APPROVED  
OMB No. 1004-0136  
Expires January 31, 2004

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

Farmington Field Office  
Bureau of Land Management

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		7. If Unit or CA Agreement, Name and No. NMNM 121961 POE	
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		8. Lease Name and Well No. W. Lybrook Unit #761H	
2. Name of Operator WPX Energy Production, LLC		9. API Well No. 30-045-35768	
3a. Address P.O. Box 640 Aztec, NM 87410		10. Field and Pool, or Exploratory Lybrook Mancos W	
3b. Phone No. (include area code) (505) 333-1808		11. Sec., T., R., M., or Blk. and Survey or Area SHL: Sec 23, T23N, R9W BHL: Sec 35, T23N, R9W	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 521' FSL & 538' FWL, sec 23, T23N, R9W At proposed prod. zone 283' FNL & 330' FEL, sec 35 T23N, R9W		12. County or Parish San Juan	
13. State NM		13. State NM	
14. Distance in miles and direction from nearest town or post office* From intersection US Hwy & 550 US Hwy 64 in Bloomfield NM, South 37.8 miles to Mile Marker 113.4		15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 521'	
16. No. of Acres in lease 160 Acres 320.00		17. Spacing Unit dedicated to this well 360-Acres / 12,807.24 Acres OIL CONS. DIV DIST.	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 20'		19. Proposed Depth 12467' MD / 4588' TVD	
20. BLM/BIA Bond No. on file UTB000178		21. Estimated duration 1 month	
22. Elevations (Show whether DF, KDB, RT, GL, etc.) 6748' GR		23. Approximate date work will start* May 1, 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:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification.
- 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 4/7/16
Title Permit Technician III		
Approved by (Signature) <i>Chip Harraden</i>	Name (Printed/Typed) Chip Harraden	Date 11/29/16
Title Acting AFM-Minerals	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 IA and is on lease and will be twinned with the W. Lybrook Unit #726H/728H/729H/759H & 760H.

This location has been archaeologically surveyed by Western Archeological Consultants. Copies of their report have been submitted directly to the BLM.

The new access of 21.1' of BLM & new access of 4584.3' of Navajo Allotted is on lease access road will be built and permitted via the APD.

A new pipeline of 68.3' of BLM & new pipeline of 4872.5' of Navajo Allotted is on lease well connected pipeline will be built and permitted via the APD.

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

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

NMOC  
FARMINGTON  
Ar

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 <b>30-045-35768</b>		Pool Code <b>98151</b>		Pool Name LYBROOK MANCOS W	
Property Code <b>315250</b>		Property Name W LYBROOK UNIT			Well Number 761H
OGRID No. 120782		Operator Name WPX ENERGY PRODUCTION, LLC			Elevation 6748'

10 Surface Location

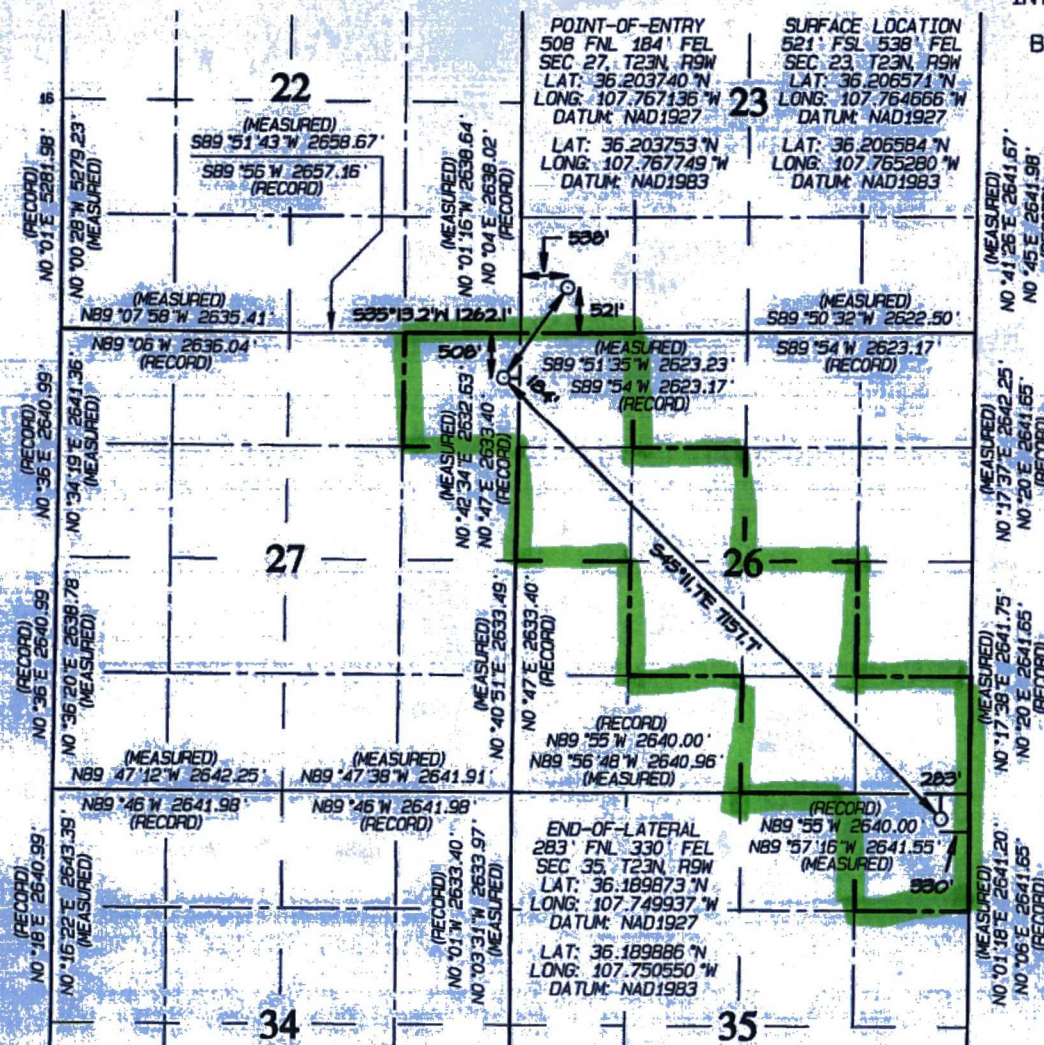
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	23	23N	9W		521	SOUTH	538	WEST	SAN JUAN

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
A	35	23N	9W		283	NORTH	330	EAST	SAN JUAN

Dedicated Acres 360.00		NE/4 NE/4 - Section 35 NE/4 NE/4 - Section 27 W/2 NW/4, SE/4 NW/4, NE/4 SW/4 W/2 SE/4, SE/4 SE/4 - Section 26		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



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.

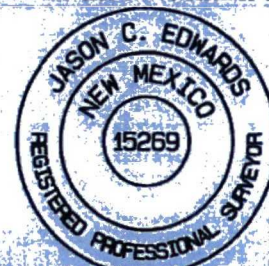
Signature: *Marie E. Jaramillo* Date: 4/7/16  
Printed Name: Marie E. Jaramillo  
E-mail Address: marie.jaramillo@wpenergy.com

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: FEBRUARY 9, 2016  
Survey Date: SEPTEMBER 10, 2015

Signature and Seal of Professional Surveyor



JASON C. EDWARDS  
Certificate Number 15269



# WPXENERGY

## WPX Energy

### Operations Plan

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

**Date:** April 14, 2016  
**Well Name:** W Lybrook Unit 761H  
**SH Location:** SWSW Sec 23 23N-09W  
**BH Location:** NENE Sec 35 23N-09W

**Field:** Lybrook Mancos W  
**Surface:** IA  
**Elevation:** 6748' GR  
**Minerals:** BLM

**Measured Depth:** 12,467.39'

### I. GEOLOGY

Surface formation - NACIMIENTO

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

NAME	MD	TVD	NAME	MD	TVD
OJO ALAMO	307	307	POINT LOOKOUT	3555	3374
KIRTLAND	469	469	MANCOS	3744	3549
PICTURED CLIFFS	1040	1037	GALLUP	4112	3888
LEWIS	1162	1156	KICKOFF POINT	4,118.85	3,893.92
CHACRA	1350	1338	TOP TARGET	5097	4618
CLIFF HOUSE	2546	2445	LANDING POINT	5,309.44	4,656.97
MENESEE	2565	2462	BASE TARGET	5,309.44	4,656.97
			TD	12,467.39	4,588.00

#### 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 1/2" 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 BOPE will be tested to 2,000 psi (High) for 10 minutes and the annular tested to 1,500 psi for 10 minutes. Pressure test surface casing to 1,500 psi for 30 minutes and intermediate casing to 1,500 psi for 30 minutes. Utilize a BOPE Testing Unit with a recording chart and appropriate test plug for testing. 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"	320.00'	9.625"	36 LBS	J-55 or equiv	STC
INTERMEDIATE	8.75"	5,309.44'	7"	23 LBS	J-55 or equiv	LTC
PRODUCTION	6.125"	5159.44' - 12,467.39'	4.5"	11.6 LBS	P-110 or equiv	LTC
TIE BACK	6.125"	Surf. - 5159.44'	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. If losses are encountered during the drilling of the intermediate section a DV tool will be utilized and a 2 stage cement job may be planned to ensure cement circ back to surface. The DV tool will be placed 100' above 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, if no cement is seen at surface on the 1st stage the stage tool will be opened and a 2nd stage cement job will be pumped.

#### **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. CEMENT:**

*(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:**

Spacer #1: 20 bbl (112 cuft) Chemwash. Lead Cement: 97 bbls, 278 sks, (547 cuft), 12.3 ppg @ 1.97 cuft/sk yield. Tail Cement: 59 bbls, 254 sks, (331 cuft), 13.5 ppg @ 1.3 cuft/sk yield. Displacement: Displace w/ +/- 209 bbl Drilling mud or water. Total Cement: 156 bbls, 532 sks, (878 cuft)

**3. Prod Liner:**

Spacer #1: 10 bbl (56 cu-ft) Water Spacer. Spacer #2: 40 bbl 9.5 ppg (224.6 cu-ft) Toned Spacer III. Spacer #3: 10 bbl Water Spacer. Lead Cement: Extencem™ System. Yield 1.36 cuft/sk 13.3 ppg (716 sx /974 cuft /173 bbls). Tail Spacer: 20 BBL of MMCR. Displacement: Displace 'Planned WBD'lw/ +/-167 .bbl Fr Water. Total Cement (716 sx /974 cuft)

**D. COMPLETION:**

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.

If this horizontal well is 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.

**NOTES:**

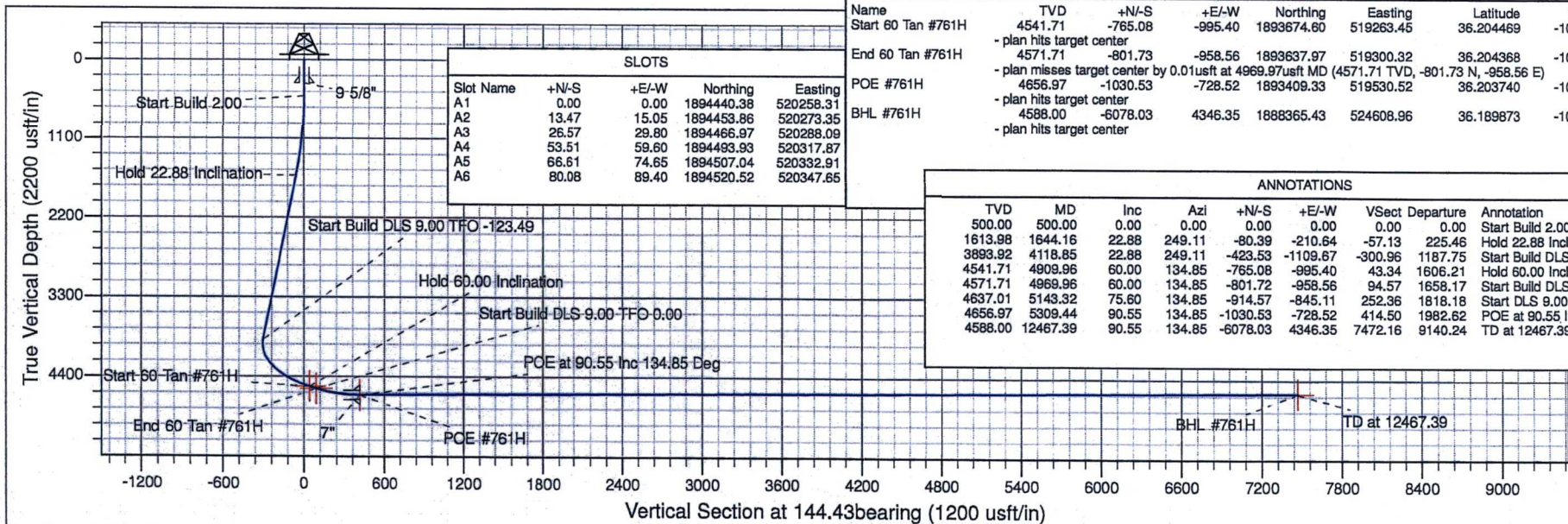
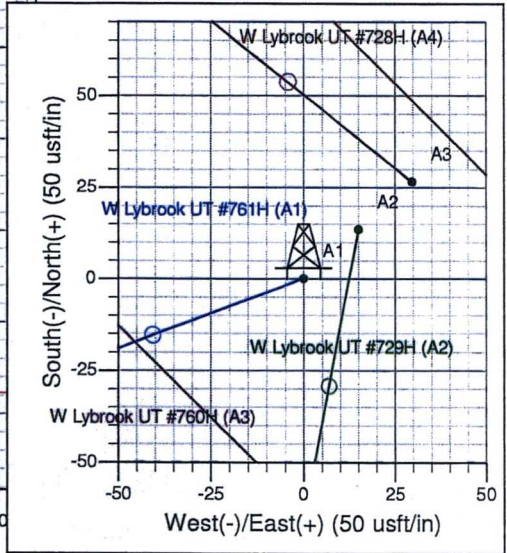
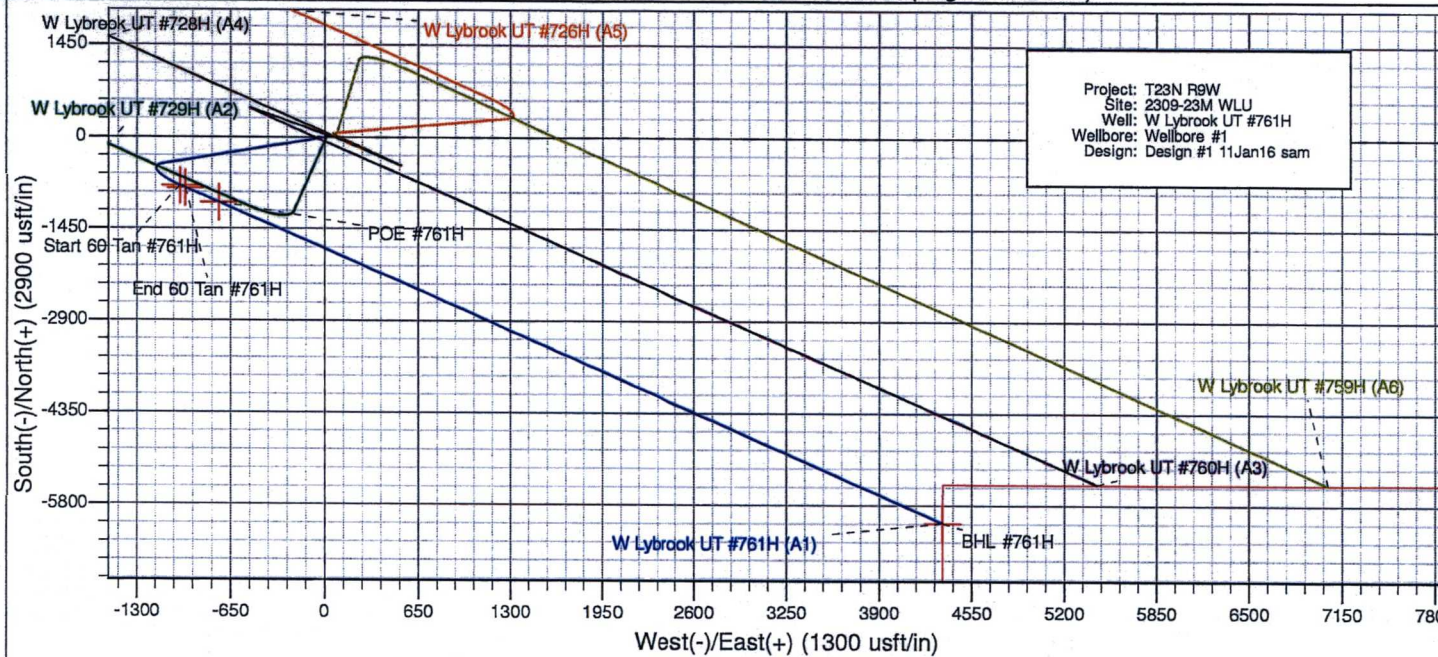
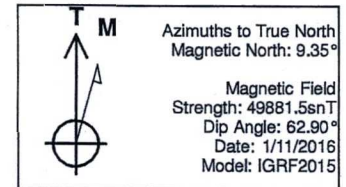
A 4-1/2" 11.6# P-110 Liner will be run to TD and landed +/- 150 ft. into the 7" 23# J-55 Intermediate casing with a Liner Hanger and pack-off assembly then cemented to top of liner hanger.

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





Well Name: W Lybrook UT #761H  
Surface Location: 2309-23M WLU  
NAD 1927 (NADCON CONUS), US State Plane 1927 (Exact solution) New Mexico West 3003  
Ground Elevation: 6748.00  
+N/-S +E/-W Northing Easting Latitude Longitude Slot  
0.00 0.00 1894440.38 520258.31 36.206571 -107.764666 A1  
GL @ 6748.00usft (Original Well Elev)



SLOTS				
Slot Name	+N/-S	+E/-W	Northing	Easting
A1	0.00	0.00	1894440.38	520258.31
A2	13.47	15.05	1894453.86	520273.35
A3	26.57	29.80	1894466.97	520288.09
A4	53.51	59.60	1894493.93	520317.87
A5	66.61	74.65	1894507.04	520332.91
A6	80.08	89.40	1894520.52	520347.65

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Start 60 Tan #761H	4541.71	-765.08	-995.40	1893674.60	519263.45	36.204469	-107.768040
- plan hits target center							
End 60 Tan #761H	4571.71	-801.73	-958.56	1893637.97	519300.32	36.204368	-107.767915
- plan misses target center by 0.01usft at 4969.97usft MD (4571.71 TVD, -801.73 N, -958.56 E)							
POE #761H	4656.97	-1030.53	-728.52	1893409.33	519530.52	36.203740	-107.767135
- plan hits target center							
BHL #761H	4588.00	-6078.03	4346.35	1888365.43	524608.96	36.189873	-107.749937
- plan hits target center							

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	
1613.98	1644.16	22.88	249.11	-80.39	-210.64	-57.13	225.46	Hold 22.88 Inclination	
3893.92	4118.85	22.88	249.11	-423.53	-1109.67	-300.96	1187.75	Start Build DLS 9.00 TFO -123.49	
4541.71	4809.96	60.00	134.85	-765.08	-995.40	43.34	1606.21	Hold 60.00 Inclination	
4571.71	4969.96	60.00	134.85	-801.72	-958.56	94.57	1658.17	Start Build DLS 9.00 TFO 0.00	
4637.01	5143.32	75.60	134.85	-914.57	-845.11	252.36	1818.18	Start DLS 9.00 TFO -0.01	
4656.97	5309.44	90.55	134.85	-1030.53	-728.52	414.50	1982.62	POE at 90.55 Inc 134.85 Deg	
4588.00	12467.39	90.55	134.85	-6078.03	4346.35	7472.16	9140.24	TD at 12467.39	





## **WPX Energy**

**T23N R9W**

**2309-23M WLU**

**W Lybrook UT #761H - Slot A1**

**Wellbore #1**

**Plan: Design #1 11Jan16 sam**

## **Standard Planning Report**

**12 January, 2016**



# WPX Planning Report

Database:	COMPASS	Local Co-ordinate Reference:	Well W Lybrook UT #761H (A1) - Slot A1
Company:	WPX Energy	TVD Reference:	GL @ 6748.00usft (Original Well Elev)
Project:	T23N R9W	MD Reference:	GL @ 6748.00usft (Original Well Elev)
Site:	2309-23M WLU	North Reference:	True
Well:	W Lybrook UT #761H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 11Jan16 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		2309-23M WLU			
Site Position:		Northing:	1,894,520.52 usft	Latitude:	36.206791
From:	Map	Easting:	520,347.65 usft	Longitude:	-107.764363
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.04 °

Well	W Lybrook UT #761H - Slot A1					
Well Position	+N/-S	-80.08 usft	Northing:	1,894,440.38 usft	Latitude:	36.206571
	+E/-W	-89.40 usft	Easting:	520,258.31 usft	Longitude:	-107.764666
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,748.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	1/11/2016	9.34	62.90	49,882

Design	Design #1 11Jan16 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	144.43

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	
1,644.16	22.88	249.11	1,613.98	-80.39	-210.64	2.00	2.00	0.00	249.11	
4,118.85	22.88	249.11	3,893.92	-423.53	-1,109.67	0.00	0.00	0.00	0.00	
4,909.96	60.00	134.85	4,541.71	-765.08	-995.40	9.00	4.69	-14.44	-123.49	Start 60 Tan #761H
4,969.96	60.00	134.85	4,571.71	-801.72	-958.56	0.00	0.00	0.00	0.00	End 60 Tan #761H
5,143.32	75.60	134.85	4,637.01	-914.57	-845.11	9.00	9.00	0.00	0.00	
5,309.44	90.55	134.85	4,656.97	-1,030.53	-728.52	9.00	9.00	0.00	-0.01	POE #761H
12,467.39	90.55	134.85	4,588.00	-6,078.03	4,346.35	0.00	0.00	0.00	0.00	BHL #761H



# WPX Planning Report

Database: COMPASS  
Company: WPX Energy  
Project: T23N R9W  
Site: 2309-23M WLU  
Well: W Lybrook UT #761H  
Wellbore: Wellbore #1  
Design: Design #1 11Jan16 sam

Local Co-ordinate Reference: Well W Lybrook UT #761H (A1) - Slot A1  
TVD Reference: GL @ 6748.00usft (Original Well Elev)  
MD Reference: GL @ 6748.00usft (Original Well Elev)  
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
320.00	0.00	0.00	320.00	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
<b>Start Build 2.00</b>									
1,000.00	10.00	249.11	997.47	-15.52	-40.66	-11.03	2.00	2.00	0.00
1,500.00	20.00	249.11	1,479.82	-81.61	-161.41	-43.78	2.00	2.00	0.00
1,644.16	22.88	249.11	1,613.98	-80.39	-210.64	-57.13	2.00	2.00	0.00
<b>Hold 22.88 Inclination</b>									
2,000.00	22.88	249.11	1,941.82	-129.73	-339.91	-92.19	0.00	0.00	0.00
2,500.00	22.88	249.11	2,402.47	-199.06	-521.56	-141.45	0.00	0.00	0.00
3,000.00	22.88	249.11	2,863.12	-268.39	-703.20	-190.72	0.00	0.00	0.00
3,500.00	22.88	249.11	3,323.77	-337.72	-884.85	-239.98	0.00	0.00	0.00
4,000.00	22.88	249.11	3,784.42	-407.05	-1,066.50	-289.25	0.00	0.00	0.00
4,118.85	22.88	249.11	3,893.92	-423.53	-1,109.67	-300.96	0.00	0.00	0.00
<b>Start Build DLS 9.00 TFO -123.49</b>									
4,500.00	28.12	163.34	4,248.22	-539.49	-1,154.50	-232.71	9.00	1.37	-22.50
4,909.96	60.00	134.85	4,541.71	-765.08	-995.40	43.34	9.00	7.78	-6.95
<b>Hold 60.00 Inclination</b>									
4,969.96	60.00	134.85	4,571.71	-801.72	-958.56	94.57	0.00	0.00	0.00
<b>Start Build DLS 9.00 TFO 0.00</b>									
5,000.00	62.70	134.85	4,586.11	-820.31	-939.87	120.56	9.00	9.00	0.00
5,143.32	75.60	134.85	4,637.01	-914.57	-845.11	252.36	9.00	9.00	0.00
<b>Start DLS 9.00 TFO -0.01</b>									
5,309.00	90.51	134.85	4,656.97	-1,030.22	-728.83	414.06	9.00	9.00	0.00
<b>7"</b>									
5,309.44	90.55	134.85	4,656.97	-1,030.53	-728.52	414.50	9.00	9.00	0.00
<b>POE at 90.55 Inc 134.85 Deg</b>									
5,500.00	90.55	134.85	4,655.13	-1,164.91	-593.42	602.39	0.00	0.00	0.00
6,000.00	90.55	134.85	4,650.32	-1,517.49	-238.92	1,095.38	0.00	0.00	0.00
6,500.00	90.55	134.85	4,645.50	-1,870.07	115.57	1,588.38	0.00	0.00	0.00
7,000.00	90.55	134.85	4,640.68	-2,222.64	470.06	2,081.37	0.00	0.00	0.00
7,500.00	90.55	134.85	4,635.86	-2,575.22	824.55	2,574.37	0.00	0.00	0.00
8,000.00	90.55	134.85	4,631.05	-2,927.80	1,179.04	3,067.36	0.00	0.00	0.00
8,500.00	90.55	134.85	4,626.23	-3,280.38	1,533.53	3,560.35	0.00	0.00	0.00
9,000.00	90.55	134.85	4,621.41	-3,632.96	1,888.03	4,053.35	0.00	0.00	0.00
9,500.00	90.55	134.85	4,616.59	-3,985.54	2,242.52	4,546.34	0.00	0.00	0.00
10,000.00	90.55	134.85	4,611.77	-4,338.12	2,597.01	5,039.34	0.00	0.00	0.00
10,500.00	90.55	134.85	4,606.96	-4,690.70	2,951.50	5,532.33	0.00	0.00	0.00
11,000.00	90.55	134.85	4,602.14	-5,043.28	3,305.99	6,025.33	0.00	0.00	0.00
11,500.00	90.55	134.85	4,597.32	-5,395.86	3,660.48	6,518.32	0.00	0.00	0.00
12,000.00	90.55	134.85	4,592.50	-5,748.44	4,014.97	7,011.32	0.00	0.00	0.00
12,467.39	90.55	134.85	4,588.00	-6,078.03	4,346.35	7,472.16	0.00	0.00	0.00
<b>TD at 12467.39</b>									



# WPX Planning Report

**Database:** COMPASS  
**Company:** WPX Energy  
**Project:** T23N R9W  
**Site:** 2309-23M WLU  
**Well:** W Lybrook UT #761H  
**Wellbore:** Wellbore #1  
**Design:** Design #1 11Jan16 sam

**Local Co-ordinate Reference:** Well W Lybrook UT #761H (A1) - Slot A1  
**TVD Reference:** GL @ 6748.00usft (Original Well Elev)  
**MD Reference:** GL @ 6748.00usft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

## 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 #761H - plan hits target center - Point	0.00	0.00	4,541.71	-765.08	-995.40	1,893,674.60	519,263.45	36.204469	-107.768040
End 60 Tan #761H - plan misses target center by 0.01usft at 4969.97usft MD (4571.71 TVD, -801.73 N, -958.56 E) - Point	0.00	0.00	4,571.71	-801.73	-958.56	1,893,637.97	519,300.32	36.204369	-107.767915
BHL #761H - plan hits target center - Point	0.00	0.00	4,588.00	-6,078.03	4,346.35	1,888,365.43	524,608.96	36.189873	-107.749937
POE #761H - plan hits target center - Point	0.00	0.00	4,656.97	-1,030.53	-728.52	1,893,409.34	519,530.52	36.203740	-107.767136

## 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
5,309.00	4,656.97	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
1,644.16	1,613.98	-80.39	-210.64	Hold 22.88 Inclination
4,118.85	3,893.92	-423.53	-1,109.67	Start Build DLS 9.00 TFO -123.49
4,909.96	4,541.71	-765.08	-995.40	Hold 60.00 Inclination
4,969.96	4,571.71	-801.72	-958.56	Start Build DLS 9.00 TFO 0.00
5,143.32	4,637.01	-914.57	-845.11	Start DLS 9.00 TFO -0.01
5,309.44	4,656.97	-1,030.53	-728.52	POE at 90.55 Inc 134.85 Deg
12,467.39	4,588.00	-6,078.03	4,346.35	TD at 12467.39



✓ 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 4 and 5 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.

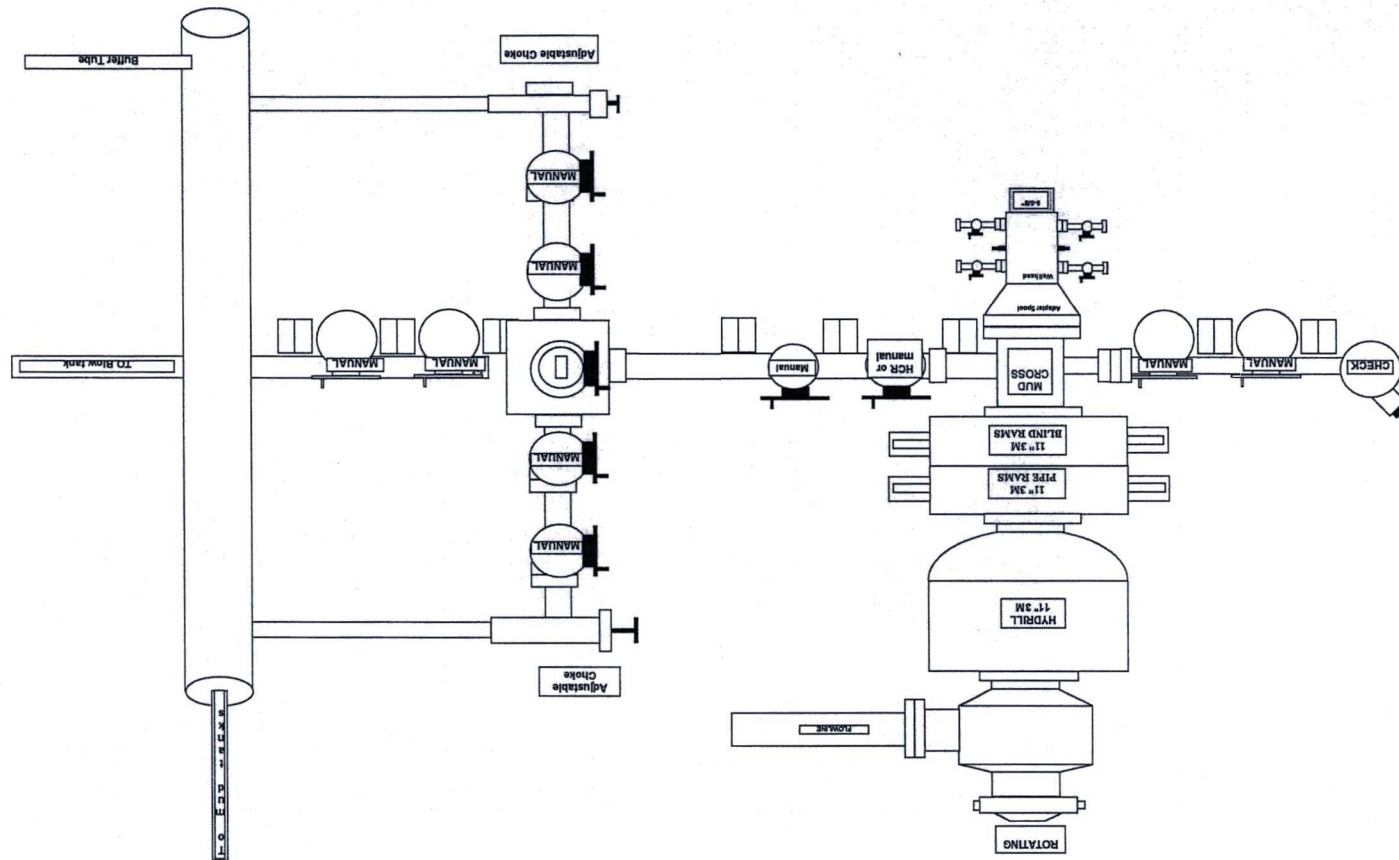
F. Hazardous Waste

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 ¼, Section 14, Township 23 North, Range 7 West
  - b. Jillson Federal #1, NMOCD order #R-10168, operated by ConocoPhillips, located in NW ¼, Section 8, Township 24 North, Range 3 West
  - c. Basin Disposal, permit #NM-01-005, located in the NW ¼, 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 ¼, Section 2, Township 29 North, Range 12 West
2. Water will be hauled by truck. Some produced water may also be used in drilling and completion operations as an alternative disposal method.





3,000 PSI rated Choke system



**Directions from the Intersection of US Hwy 550 & US Hwy 64**  
**in Bloomfield, NM to WPX Energy Production, LLC W Lybrook Unit #761H**  
**521' FSL & 538' FWL, Section 23, T23N, R9W, N.M.P.M., San Juan County, NM**

**Latitude: 36.206584°N Longitude: 107.765280°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 fork in roadway;

Go Left (Southerly) remaining on County Road #7890 for 1.3 miles to four-way intersection;

Go Left (South-easterly) remaining on County Road #7890 for 0.6 miles to fork in roadway;

Go Right (South-westerly) remaining on County Road #7890 for 0.5 miles to WPX W Lybrook Unit #720H proposed access on right-hand side of County Road #7890;

Go Right (Westerly) exiting County Road #7890 following along WPX W Lybrook Unit #720H proposed access for 3123.1' to fork in proposed access;

Go Left (Westerly) which is straight, continuing for 4605.4' to staked WPX W Lybrook Unit #761H location.