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 WPX, Well Name and Number Wyborde Unit # 728H

API# 30-045-35770, Section 23, Township 23 N/S, Range 9 E/W

Conditions of Approval: (See the below checked and handwritten conditions)

- X Notify Aztec OCD 24hrs prior to casing & cement.
- X Hold C-104 for directional survey & "As Drilled" Plat
- X Hold C-104 for NSL, NSP, DHC
- o Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- o 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
- o 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
- o 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.

Chris Hlm
NMOCD Approved by Signature

12-8-2016
Date

1220 South St. Francis Drive • Santa Fe, New Mexico 87505
Phone (505) 476-3460 • Fax (505) 476-3462 • www.emnrd.state.nm.us/ocd

Form 3160-3
(September 2001)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

RECEIVED
APR 08 2016
Farmington Field Office
Bureau of Land Management

1 : 08 2016

APPLICATION FOR PERMIT TO DRILL OR REENTER

Farmington Field Office
Bureau of Land Management

1a. Type of Work: ☒ DRILL ☐ REENTER	5. Lease Serial No. NO-G-1312-1863
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone	6. If Indian, Allottee or Tribe Name
2. Name of Operator WPX Energy Production, LLC	7. If Unit or CA Agreement, Name and No. NMNM 135216X
3a. Address P.O. Box 640 Aztec, NM 87410	3b. Phone No. *(include area code)* (505) 333-1816
4. Location of Well *(Report location clearly and in accordance with any State requirements. *)* At surface M 574' FSL & 598' FWL SEC 23, 23N 9W At proposed prod. zone M 768' FSL & 330' FWL SEC 15, 23N 9W	8. Lease Name and Well No. W. Lybrook Unit #728H
	9. API Well No. 30-045-35770
	10. Field and Pool, or Exploratory Lybrook Mancos W.
	11. Sec., T., R., M., or Blk. and Survey or Area SHL: Sec 23, T23N, R9W BHL: Sec 15, T23N, R9W
14. Distance in miles and direction from nearest town or post office* From intersection US HWY 550 & US HWY 64 Bloomfield, NM South HWY 550 37.8 miles to MM 113.4	12. County or Parish San Juan / 13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 574'	16. No. of Acres in lease 160 acres / 17. Spacing Unit dedicated to this well 12,807.24 acres 360 Acres
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 20'	19. Proposed Depth 12966.09' MD / 4693' TVD / 20. BLM/BIA Bond No. on file B001576
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6748' GR	22. Approximate date work will start* April 1, 2016 / 23. Estimated duration 1 month

OIL CONS. DIV DIST. 3
NOV 29 2016

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)* Lacey Granillo	Date 4-7-16
Title Permit Technician III		
Approved by *(Signature)*	Name *(Printed/Typed)*	Date 11/28/16
Title AFM	Office FFO	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**(Instructions on reverse)*

WPX Energy Production, LLC, proposes to develop the Lybrook Mancos W formation at the above described location in accordance with the attached drilling and surface use plans.

The well pad surface is under jurisdiction of the BLM and FIMO and is on lease on IA lands and will be twinned with the W. Lybrook Unit #726H/729H/759H/760H761H.

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

The new 9392.6' on lease road on Navajo Alloted surface will be built and permitted via the APD.

A new 89.4' on lease pipeline of BLM lands will be built and permitted via the APD, 4793.6' will be on Navajo Alloted surface.

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

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

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

NMOCD PV

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

RECEIVED
APR 12 2016
Farmington Field Office
Bureau of Land Management

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-045-35770	98157	LYBROOK MANCOS W

4 Property Code	5 Property Name	6 Well Number
315250	W LYBROOK UNIT	728H

7 OGRID No.	8 Operator Name	9 Elevation
120782	WPX ENERGY PRODUCTION, LLC	6748'

10 Surface Location

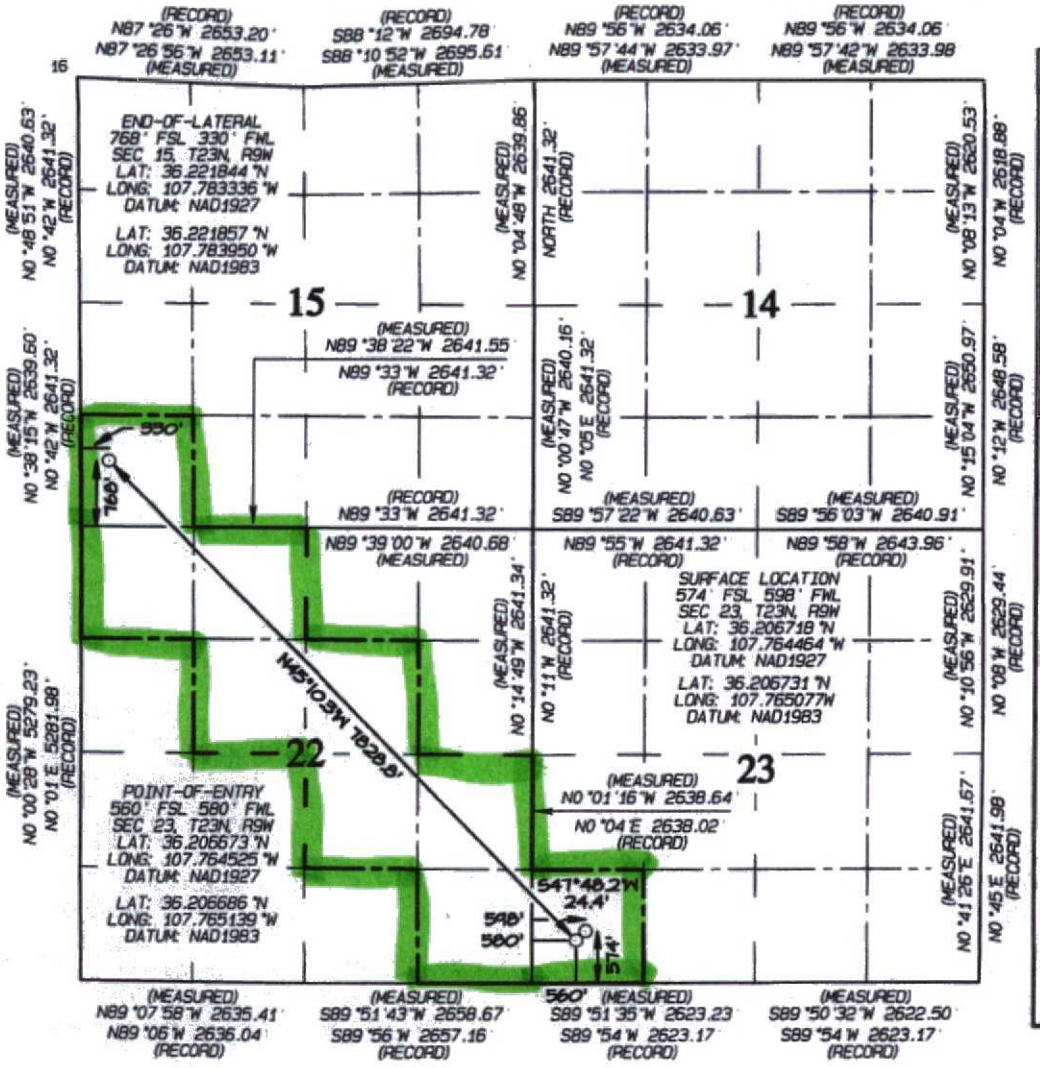
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	23	23N	9W		574	SOUTH	598	WEST	SAN JUAN

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	15	23N	9W		768	SOUTH	330	WEST	SAN JUAN

12 Dedicated Acres		13 Joint or Infill	14 Consolidation Code	15 Order No.
360.0	SW/4 SW/4 - Section 15 SW/4 SW/4 - Section 23 N/2 NW/4, SE/4 NW/4, SW/4 NE/4 N/2 SE/4, SE/4 SE/4 - Section 22			R-14051 - 12,807.24 Acres

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 4-11-16 Date

Printed Name

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: APRIL 11, 2016
Survey Date: SEPTEMBER 10, 2015

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED 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	**Field:**	Lybrook Mancos W
Well Name:	W Lybrook Unit 728H	**Surface:**	IA
SH Location:	SWSW Sec 23 23N-09W	**Elevation:**	6748' GR
BH Location:	SWSW Sec 15 23N-09W	**Minerals:**	IA

Measured Depth: 12,966.09'

I. GEOLOGY

Surface formation - NACIMIENTO

A. FORMATION TOPS: (KB)

NAME	MD	TVD	NAME	MD	TVD
OJO ALAMO	322	322	POINT LOOKOUT	3448	3389
KIRTLAND	484	484	MANCOS	3627	3564
PICTURED CLIFFS	1055	1052	GALLUP	3974	3903
LEWIS	1177	1171	KICKOFF POINT	3,941.40	3,871.01
CHACRA	1363	1353	TOP TARGET	4909	4633
CLIFF HOUSE	2497	2460	LANDING POINT	5,137.31	4,674.00
MENEFEE	2514	2477	BASE TARGET	5,137.31	4,674.00
			TD	12,966.09	4,693.00

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 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"	5,137.31'	7"	23 LBS	J-55 or equiv	LTC
PRODUCTION	6.125"	4987.31' - 12,966.09'	4.5"	11.6 LBS	P-110 or equiv	LTC
TIE BACK	6.125"	Surf. - 4987.31'	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 utalized 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 opend 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: 92 bbls, 263 sks, (519 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/ +/- 202 bbl Drilling mud or water. Total Cement: 151 bbls, 518 sks, (850 cuft)

3. Prod Liner:

Spacer #1:10 bbl (56.cu-ft) Water Spacer. Spacer #2: 40 bbl 9.5 ppg (224.6 cu-ft) Tuned Spacer III. Spacer #3: 10 bbl Water Spacer. Lead Cement: Extencem ™ System. Yield 1.36 cuft/sk 13.3 ppg (782 sx /1063 cuft /189 bbls). Tail Spacer: 20 BBL of MMCR. Displacement: Displace w/ +/-175 bbl Fr Water. Total Cement (782 sx

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).

WPXENERGY

Well Name: W Lybrook UT #728H
Surface Location: 2309-23M WLU
NAD 1927 (NADCON CONUS) , US State Plane 1927 (Exact solution) New Mexico West 3003
Ground Elevation: 6748.00

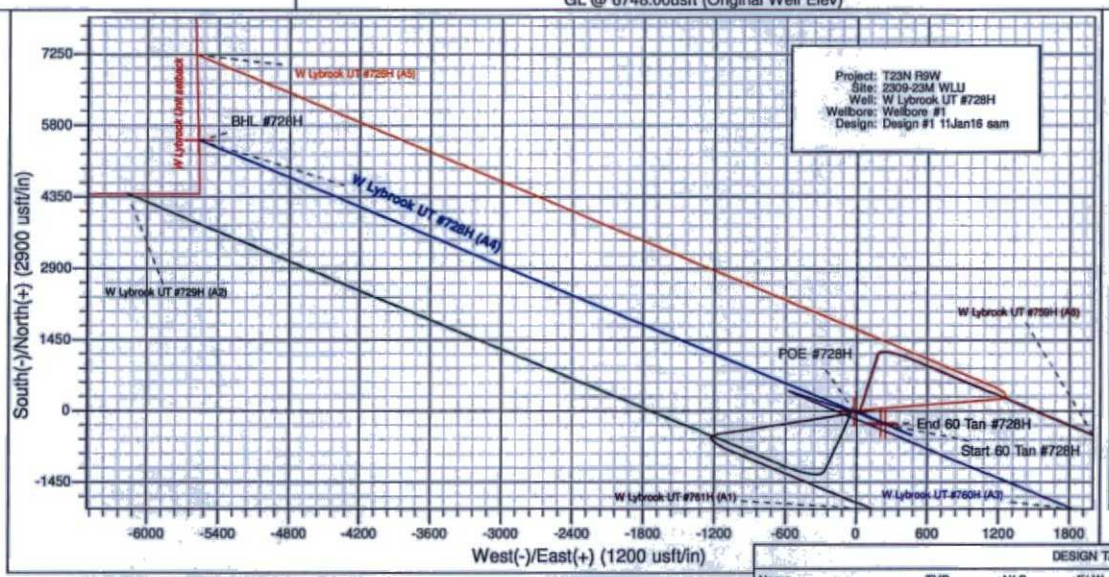
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1894493.93	520317.87	36.206718	-107.764464	A4

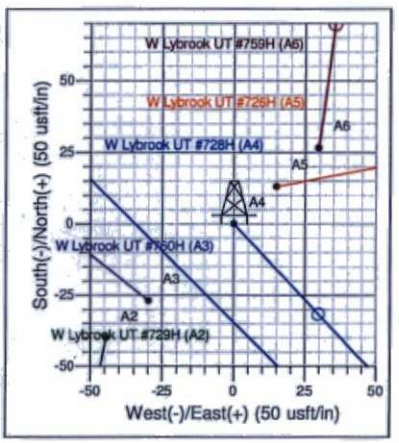
GL @ 6748.00usft (Original Well Elev)

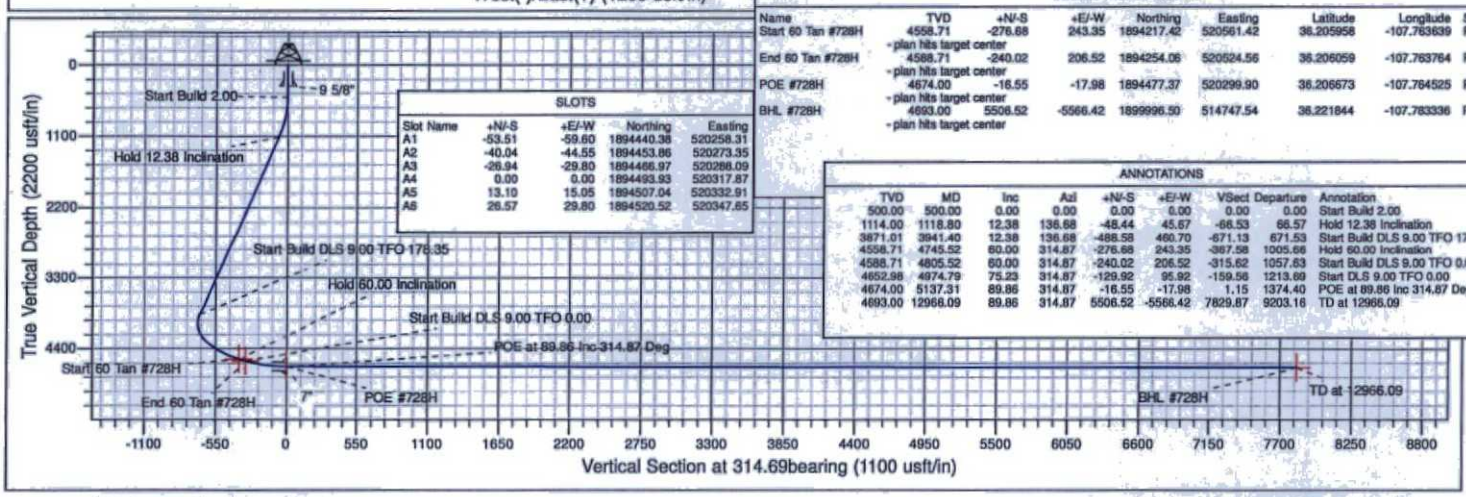
T M

Azimuths to True North
Magnetic North: 9.34°

Magnetic Field
Strength: 49881.6snT
Dip Angle: 62.90°
Date: 1/11/2016
Model: IGRF2015







SLOTS

Slot Name	+N/-S	+E/-W	Northing	Easting
A1	-53.51	-59.60	1894440.38	520258.31
A2	-40.04	-44.55	1894453.86	520273.35
A3	-26.94	-29.80	1894466.97	520288.09
A4	0.00	0.00	1894493.93	520317.87
A5	13.10	15.05	1894507.04	520332.91
A6	26.57	29.80	1894520.52	520347.65

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Start 60 Tan #728H	4558.71	-276.88	243.35	1894217.42	520561.42	36.205958	-107.763639	Point
- plan hits target center								
End 60 Tan #728H	4588.71	-240.02	206.52	1894254.06	520524.56	36.206059	-107.763764	Point
- plan hits target center								
POE #728H	4674.00	-16.55	-17.98	1894477.37	520299.90	36.206673	-107.764525	Point
- plan hits target center								
BHL #728H	4693.00	5506.52	-5566.42	1899996.50	514747.54	36.221844	-107.783336	Point
- 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
1114.00	1118.80	12.38	136.68	-48.44	45.67	-66.53	66.57	Hold 12.38 Inclination
3871.01	3941.40	12.38	136.68	-488.58	460.70	-671.13	671.53	Start Build DLS 9.00 TFO 178.35
4558.71	4745.52	60.00	314.87	-276.88	243.35	-387.58	1005.66	Hold 60.00 Inclination
4588.71	4805.52	60.00	314.87	-240.02	206.52	-315.62	1057.63	Start Build DLS 9.00 TFO 0.00
4652.98	4974.79	75.23	314.87	-129.92	95.92	-159.56	1213.69	Start DLS 9.00 TFO 0.00
4674.00	5137.31	89.86	314.87	-16.55	-17.98	1.15	1374.40	POE at 89.86 Inc 314.87 Deg
4693.00	12966.09	89.86	314.87	5506.52	-5566.42	7829.87	9203.16	TD at 12966.09

WPX Energy

T23N R9W
2309-23M WLU
W Lybrook UT #728H - Slot A4

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 #728H (A4) - Slot A4
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 #728H	**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 #728H - Slot A4					
Well Position	**+N/-S**	-26.57 usft	**Northing:**	1,894,493.93 usft	**Latitude:**	36.206718
	+E/-W	-29.80 usft	**Easting:**	520,317.87 usft	**Longitude:**	-107.764464
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	314.69	

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	
1,118.80	12.38	136.68	1,114.00	-48.44	45.67	2.00	2.00	0.00	136.68	
3,941.40	12.38	136.68	3,871.01	-488.58	460.70	0.00	0.00	0.00	0.00	
4,745.52	60.00	314.87	4,558.71	-276.68	243.35	9.00	5.92	22.16	178.35	Start 60 Tan #728H
4,805.52	60.00	314.87	4,588.71	-240.02	206.52	0.00	0.00	0.00	0.00	End 60 Tan #728H
4,974.79	75.23	314.87	4,652.98	-129.92	95.92	9.00	9.00	0.00	0.00	
5,137.31	89.86	314.87	4,674.00	-16.55	-17.98	9.00	9.00	0.00	0.00	POE #728H
12,966.09	89.86	314.87	4,693.00	5,506.52	-5,566.42	0.00	0.00	0.00	0.00	BHL #728H

Database:	COMPASS	**Local Co-ordinate Reference:**	Well W Lybrook UT #728H (A4) - Slot A4
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 #728H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 11Jan16 sam		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
320.00	0.00	0.00	320.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,000.00	10.00	136.68	997.47	-31.67	29.86	-43.50	2.00	2.00	0.00
1,118.80	12.38	136.68	1,114.00	-48.44	45.67	-66.53	2.00	2.00	0.00
Hold 12.38 Inclination									
1,500.00	12.38	136.68	1,486.34	-107.88	101.72	-148.18	0.00	0.00	0.00
2,000.00	12.38	136.68	1,974.72	-185.85	175.24	-255.28	0.00	0.00	0.00
2,500.00	12.38	136.68	2,463.10	-263.81	248.76	-362.38	0.00	0.00	0.00
3,000.00	12.38	136.68	2,951.48	-341.78	322.28	-469.48	0.00	0.00	0.00
3,500.00	12.38	136.68	3,439.86	-419.75	395.80	-576.58	0.00	0.00	0.00
3,941.40	12.38	136.68	3,871.01	-488.58	460.70	-671.13	0.00	0.00	0.00
Start Build DLS 9.00 TFO 178.35									
4,000.00	7.11	137.91	3,928.74	-495.84	467.45	-681.03	9.00	-8.99	2.09
4,500.00	37.90	314.62	4,398.48	-406.26	374.00	-551.60	9.00	6.16	35.34
4,745.52	60.00	314.87	4,558.71	-276.68	243.35	-367.58	9.00	9.00	0.10
Hold 60.00 Inclination									
4,805.52	60.00	314.87	4,588.71	-240.02	206.52	-315.62	0.00	0.00	0.00
Start Build DLS 9.00 TFO 0.00									
4,974.79	75.23	314.87	4,652.98	-129.92	95.92	-159.56	9.00	9.00	0.00
Start DLS 9.00 TFO 0.00									
5,000.00	77.50	314.87	4,658.92	-112.64	78.56	-135.06	9.00	9.00	0.00
5,137.00	89.83	314.87	4,674.00	-16.77	-17.76	0.84	9.00	9.00	0.00
7"									
5,137.31	89.86	314.87	4,674.00	-16.55	-17.98	1.15	9.00	9.00	0.00
POE at 89.86 Inc 314.87 Deg									
5,500.00	89.86	314.87	4,674.88	239.32	-275.03	363.83	0.00	0.00	0.00
6,000.00	89.86	314.87	4,676.09	592.07	-629.39	863.83	0.00	0.00	0.00
6,500.00	89.86	314.87	4,677.31	944.81	-983.75	1,363.83	0.00	0.00	0.00
7,000.00	89.86	314.87	4,678.52	1,297.55	-1,338.11	1,863.82	0.00	0.00	0.00
7,500.00	89.86	314.87	4,679.73	1,650.29	-1,692.47	2,363.82	0.00	0.00	0.00
8,000.00	89.86	314.87	4,680.95	2,003.03	-2,046.84	2,863.81	0.00	0.00	0.00
8,500.00	89.86	314.87	4,682.16	2,355.77	-2,401.20	3,363.81	0.00	0.00	0.00
9,000.00	89.86	314.87	4,683.37	2,708.51	-2,755.56	3,863.81	0.00	0.00	0.00
9,500.00	89.86	314.87	4,684.59	3,061.25	-3,109.92	4,363.80	0.00	0.00	0.00
10,000.00	89.86	314.87	4,685.80	3,414.00	-3,464.28	4,863.80	0.00	0.00	0.00
10,500.00	89.86	314.87	4,687.02	3,766.74	-3,818.64	5,363.79	0.00	0.00	0.00
11,000.00	89.86	314.87	4,688.23	4,119.48	-4,173.01	5,863.79	0.00	0.00	0.00
11,500.00	89.86	314.87	4,689.44	4,472.22	-4,527.37	6,363.79	0.00	0.00	0.00
12,000.00	89.86	314.87	4,690.66	4,824.96	-4,881.73	6,863.78	0.00	0.00	0.00
12,500.00	89.86	314.87	4,691.87	5,177.70	-5,236.09	7,363.78	0.00	0.00	0.00
12,966.09	89.86	314.87	4,693.00	5,506.52	-5,566.42	7,829.87	0.00	0.00	0.00
TD at 12966.09									

Database:	COMPASS	**Local Co-ordinate Reference:**	Well W Lybrook UT #728H (A4) - Slot A4
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 #728H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 11Jan16 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 #728H - plan hits target center - Point	0.00	0.00	4,558.71	-276.68	243.35	1,894,217.43	520,561.42	36.205958	-107.763639
End 60 Tan #728H - plan hits target center - Point	0.00	0.00	4,588.71	-240.02	206.52	1,894,254.06	520,524.56	36.206059	-107.763764
POE #728H - plan hits target center - Point	0.00	0.00	4,674.00	-16.55	-17.98	1,894,477.37	520,299.90	36.206673	-107.764525
BHL #728H - plan hits target center - Point	0.00	0.00	4,693.00	5,506.52	-5,566.42	1,899,996.50	514,747.54	36.221844	-107.783336

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
5,137.00	4,674.00	7"	7.000	8.750

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
500.00	500.00	0.00	0.00	Start Build 2.00
1,118.80	1,114.00	-48.44	45.67	Hold 12.38 Inclination
3,941.40	3,871.01	-488.58	460.70	Start Build DLS 9.00 TFO 178.35
4,745.52	4,558.71	-276.68	243.35	Hold 60.00 Inclination
4,805.52	4,588.71	-240.02	206.52	Start Build DLS 9.00 TFO 0.00
4,974.79	4,652.98	-129.92	95.92	Start DLS 9.00 TFO 0.00
5,137.31	4,674.00	-16.55	-17.98	POE at 89.86 Inc 314.87 Deg
12,966.09	4,693.00	5,506.52	-5,566.42	TD at 12966.09

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.

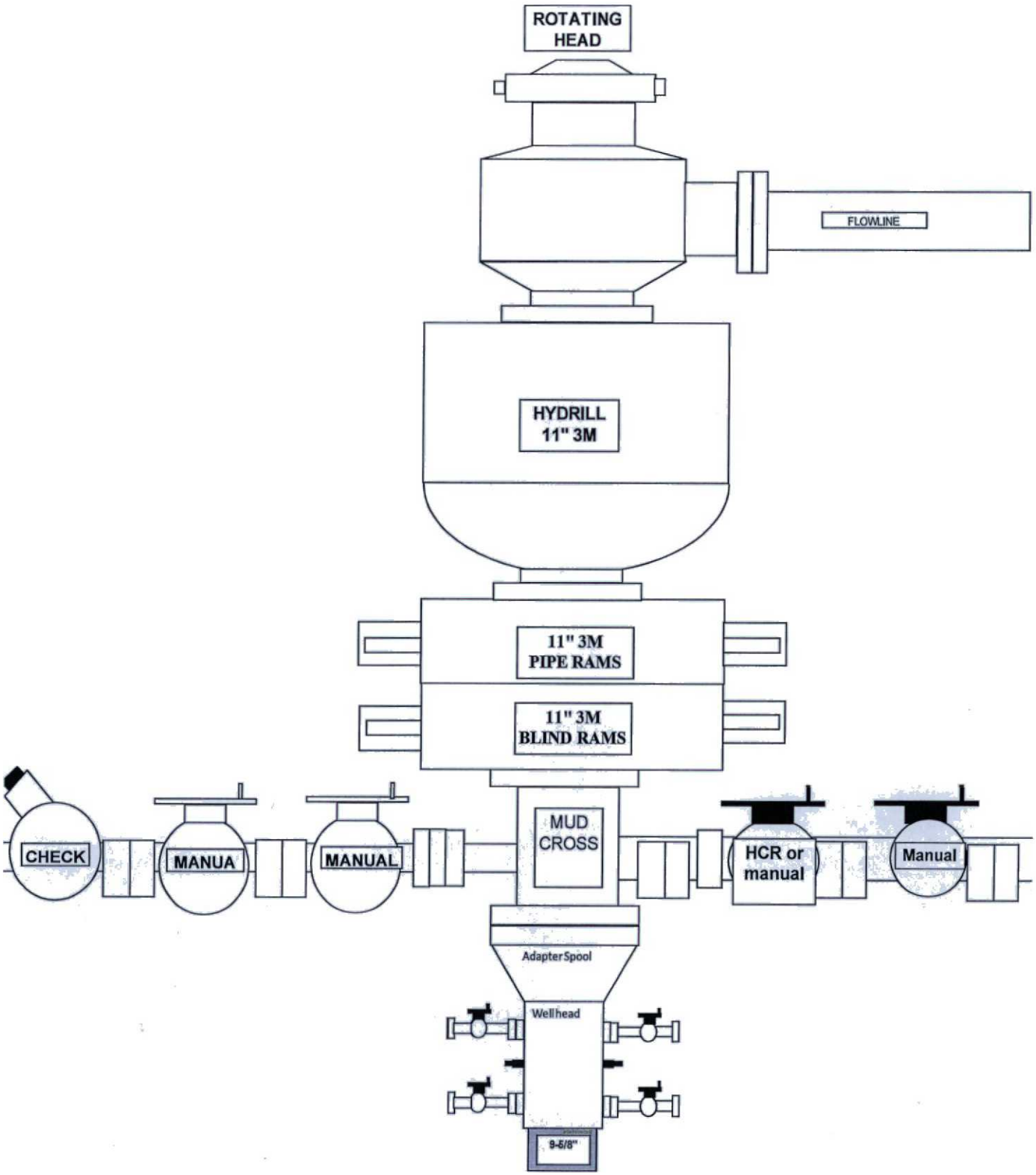
C. Spills
   1. Any spills of non-freshwater fluids will be immediately cleaned up and removed to an approved disposal site.

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.


ROTATING HEAD
FLOWLINE
HYDRILL 11" 3M
11" 3M PIPE RAMS
11" 3M BLIND RAMS
CHECK
MANUA
MANUAL
MUD CROSS
HCR or manual
Manual
Adapter Spool
Wellhead
9-5/8"

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

in Bloomfield, NM to WPX Energy Production, LLC W Lybrook Unit #728H

574' FSL & 598' FWL, Section 23, T23N, R9W, N.M.P.M., San Juan County, NM

Latitude: 36.206731°N Longitude: 107.765077°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 #728H location.