State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

Ken McQueen
Cabinet Secretary

Matthias Sayer
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: 2/1/2017
Well information;
Operator WPX, Well Name and Number W Lybrook UT 741H

API# 30-045-35831, Section 28, Township 23 (N)/S, Range 9 E/(W)

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

- ~~o~~ Notify Aztec OCD 24hrs prior to casing & cement.
- ~~o~~ Hold C-104 for directional survey & "As Drilled" Plat
- ~~o~~ 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.

Charles Perrin
NMOCD Approved by Signature

6-12-2017
Date

1220 South St. Francis Drive • Santa Fe, New Mexico 87505
Phone (505) 476-3441 • Fax (505) 476-3462 • www.emnrd.state.nm.us/ocd

15

Form 3160-3
(March 2012)

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NOG14031938

6. If Indian, Allotee or Tribe Name: EASTERN NAVAJO

1a. Type of work: ☑ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.: INITIAL MANCOS PA / NMNM135216A

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

8. Lease Name and Well No.: W LYBROOK UT 741H

2. Name of Operator: WPX ENERGY LLC

9. API Well No.: 30-045-35831

3a. Address: 720 S Main Aztec NM 87410

3b. Phone No. *(include area code)*: (505)333-1822

10. Field and Pool, or Exploratory: LYBROOK MANCOS W / LYBROOK MA

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface: SWSW / 387 FSL / 145 FWL / LAT 36.191746 / LONG -107.802608

At proposed prod. zone: SESE / 336 FSL / 330 FEL / LAT 36.177148 / LONG -107.786447

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 28 / T23N / R9W / NMP

14. Distance in miles and direction from nearest town or post office*: 37.8 miles

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): 20 feet

16. No. of acres in lease: 160

17. Spacing Unit dedicated to this well: 280

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 145 feet

19. Proposed Depth: 4273 feet / 11192 feet

20. BLM/BIA Bond No. on file: FED: UTB000178 / IND: B001576

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 6540 feet

22. Approximate date work will start*: 04/01/2017

23. Estimated duration: 30 days

OIL CONS. DIV DIST. 3

JUN 01 2017

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must 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 must 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 BLM.

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Lacey Granillo / Ph: (505)333-1816	02/01/2017

Title: Permitting Tech III

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
B Manlaw		6/1/17

Title	Office
AFM	FARMINGTON

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.

(Continued on page 2)

*(Instructions on page 2)

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

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

NMOCD

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
30-045-35831	98157	LYBROOK MANCOS W

[4] Property Code	[5] Property Name	[6] Well Number
315250	W LYBROOK UNIT	741H

[7] OGRID No	[8] Operator Name	[9] Elevation
120782	WPX ENERGY PRODUCTION, LLC	6540

[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	28	23N	9W		387	SOUTH	145	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
P	33	23N	9W		336	SOUTH	330	EAST	SAN JUAN

[12] Dedicated Acres		[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
280.0	N/2 NW/4, SE/4 NW/4 SW/4 NE/4, N/2 SE/4 SE/4 SE/4 - Section 33			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

SURFACE LOCATION
387' FSL 145' FWL
SEC 28, T23N, R9W
LAT: 36.191733 'N
LONG: 107.801993 'W
DATUM: NAD1927

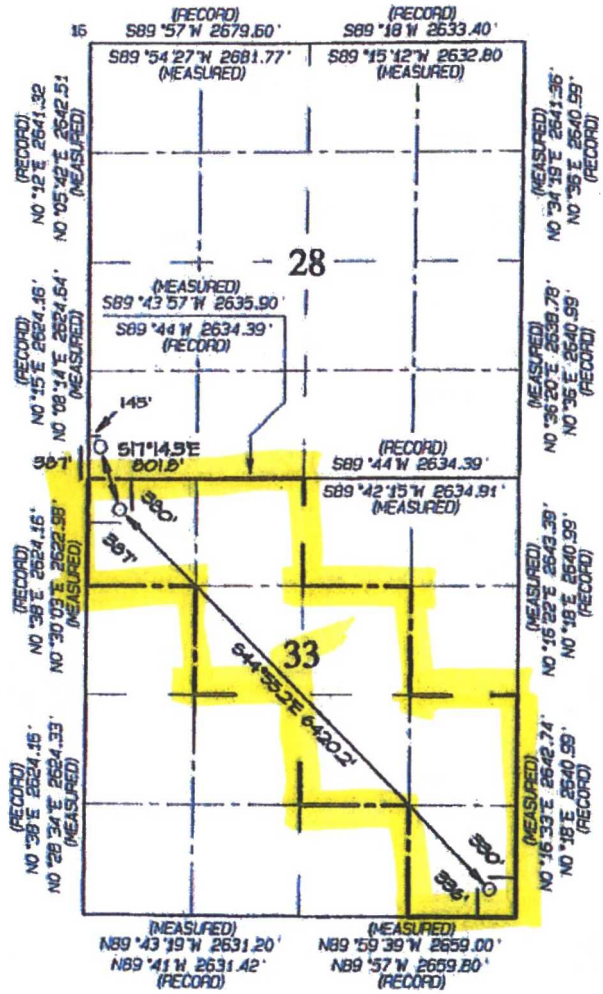
LAT: 36.191746 'N
LONG: 107.802608 'W
DATUM: NAD1983

POINT-OF-ENTRY
380' FNL 387' FWL
SEC 33, T23N, R9W
LAT: 36.189629 'N
LONG: 107.801188 'W
DATUM: NAD1927

LAT: 36.189642 'N
LONG: 107.801803 'W
DATUM: NAD1983

END-OF-LATERAL
336' FSL 330' FEL
SEC 33, T23N, R9W
LAT: 36.177135 'N
LONG: 107.785833 'W
DATUM: NAD1927

LAT: 36.177148 'N
LONG: 107.786447 'W
DATUM: NAD1983



[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: 1-30-17

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: JANUARY 11, 2017
Survey Date: FEBRUARY 24, 2015

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS
Certificate Number 15269

Navajo Surface - Federal Minerals

WPX Energy

Operations Plan

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

Date:	January 26, 2017	**Field:**	Lybrook Mancos W
Well Name:	W Lybrook UT #741H	**Surface:**	
SH Location:	SWSW Sec 28-23N-09W	**Elevation:**	6540' GR
BH Location:	SESE Sec 33 -23N-09W	**Minerals:**	

Measured Depth: 11,192.34'

I. GEOLOGY

Surface formation - OJO ALAMO/ NACIMIENTO

A. FORMATION TOPS: (GR)

NAME	MD	TVD	NAME	MD	TVD
OJO ALAMO	9.00	9.00	POINT LOOKOUT	3,076.00	3,076.00
KIRTLAND	171.00	171.00	MANCOS	3,251.00	3,251.00
PICTURED CLIFFS	739.00	739.00	GALLUP	3,590.00	3,590.00
LEWIS	823.00	823.00	KICKOFF POINT	3,658.03	3,637.19
CHACRA	1,040.00	1,040.00	TOP TARGET	3,510.00	4,320.00
CLIFF HOUSE	2,147.00	2,147.00	LANDING POINT	4,771.99	4,329.00
MENEFEE	2,164.00	2,164.00	BASE TARGET	4,771.99	4,329.00
			TD	11,192.34	4,273.00

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"	4,771.99'	7"	23 LBS	J-55 or equiv	LTC
PRODUCTION	6.125"	4621.99' - 11,192.34'	4.5"	11.6 LBS	P-110 or equiv	LTC
TIE BACK	6.125"	Surf. - 4621.99'	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: 82 bbls, 233 sks, (458 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/ +/- 188 bbl Drilling mud or water. Total Cement: 141 bbls, 487 sks, (789 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 (644 sx /875 cuft /156 bbls). Tail Spacer: 20 BBL of MMCR. Displacement: Displace w/ +/-150bbl Fr Water. Total Cement (644 sx /875bbls).

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).

WPX Energy

T23N R9W
2309-28M WLU-KWU
W Lybrook UT #741H - Slot A3

Wellbore #1

Plan: Design #1 24May16 sam

Standard Planning Report

25 May, 2016

Database:	COMPASS	**Local Co-ordinate Reference:**	Well W Lybrook UT #741H (A3) - Slot A3
Company:	WPX Energy	**TVD Reference:**	GL @ 6540.00usft (Original Well Elev)
Project:	T23N R9W	**MD Reference:**	GL @ 6540.00usft (Original Well Elev)
Site:	2309-28M WLU-KWU	**North Reference:**	True
Well:	W Lybrook UT #741H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 24May16 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 2309-28M WLU-KWU

Site Position:		**Northing:**	1,889,053.53 usft	**Latitude:**	36.191788
From:	Map	**Easting:**	509,247.80 usft	**Longitude:**	-107.801993
Position Uncertainty:	0.00 usft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.02 °

Well W Lybrook UT #741H - Slot A3

Well Position	**+N/-S**	-20.02 usft	**Northing:**	1,889,033.51 usft	**Latitude:**	36.191733
	+E/-W	-0.01 usft	**Easting:**	509,247.80 usft	**Longitude:**	-107.801993
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	6,540.00 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	10.00	63.03	50,587

Design Design #1 24May16 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	138.09

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	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,377.26	7.55	228.70	1,376.17	-16.37	-18.64	2.00	2.00	0.00	228.70	
3,658.03	7.55	228.70	3,637.19	-214.02	-243.64	0.00	0.00	0.00	0.00	
4,333.10	60.00	135.10	4,193.73	-475.27	-52.32	9.00	7.77	-13.87	-97.88	Start 60 tan #741H
4,433.10	60.00	135.10	4,243.73	-536.61	8.81	0.00	0.00	0.00	0.00	End 60 tan #741
4,598.93	74.92	135.10	4,307.11	-644.79	116.62	9.00	9.00	0.00	0.00	
4,771.99	90.50	135.10	4,329.00	-766.01	237.42	9.00	9.00	0.00	0.00	POE #741H
11,192.34	90.50	135.10	4,273.00	-5,313.52	4,769.30	0.00	0.00	0.00	0.00	BHL #741H

Database:	COMPASS	**Local Co-ordinate Reference:**	Well W Lybrook UT #741H (A3) - Slot A3
Company:	WPX Energy	**TVD Reference:**	GL @ 6540.00usft (Original Well Elev)
Project:	T23N R9W	**MD Reference:**	GL @ 6540.00usft (Original Well Elev)
Site:	2309-28M WLU-KWU	**North Reference:**	True
Well:	W Lybrook UT #741H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 24May16 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
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,377.26	7.55	228.70	1,376.17	-16.37	-18.64	-0.27	2.00	2.00	0.00
Hold 7.55 Inclination									
1,500.00	7.55	228.70	1,497.85	-27.01	-30.74	-0.44	0.00	0.00	0.00
2,000.00	7.55	228.70	1,993.52	-70.34	-80.07	-1.14	0.00	0.00	0.00
2,500.00	7.55	228.70	2,489.19	-113.66	-129.40	-1.85	0.00	0.00	0.00
3,000.00	7.55	228.70	2,984.86	-156.99	-178.72	-2.55	0.00	0.00	0.00
3,500.00	7.55	228.70	3,480.53	-200.32	-228.05	-3.25	0.00	0.00	0.00
3,658.03	7.55	228.70	3,637.19	-214.02	-243.64	-3.47	0.00	0.00	0.00
Start Build DLS 9.00 TFO -97.88									
4,000.00	30.58	143.58	3,961.75	-300.93	-208.01	85.01	9.00	6.74	-24.89
4,333.10	60.00	135.10	4,193.73	-475.27	-52.32	318.74	9.00	8.83	-2.55
Hold 60.00 Inclination									
4,433.10	60.00	135.10	4,243.73	-536.61	8.81	405.23	0.00	0.00	0.00
Start Build DLS 9.00 TFO 0.00									
4,500.00	66.02	135.10	4,274.08	-578.82	50.87	464.73	9.00	9.00	0.00
4,598.93	74.92	135.10	4,307.11	-644.79	116.62	557.75	9.00	9.00	0.00
Start DLS 9.00 TFO 0.00									
4,771.99	90.50	135.10	4,329.00	-766.01	237.42	728.65	9.00	9.00	0.00
POE at 90.50 Inc 135.10 Deg - 7"									
5,000.00	90.50	135.10	4,327.01	-927.51	398.37	956.34	0.00	0.00	0.00
5,500.00	90.50	135.10	4,322.65	-1,281.66	751.30	1,455.64	0.00	0.00	0.00
6,000.00	90.50	135.10	4,318.29	-1,635.80	1,104.23	1,954.94	0.00	0.00	0.00
6,500.00	90.50	135.10	4,313.93	-1,989.95	1,457.16	2,454.24	0.00	0.00	0.00
7,000.00	90.50	135.10	4,309.57	-2,344.10	1,810.09	2,953.54	0.00	0.00	0.00
7,500.00	90.50	135.10	4,305.21	-2,698.25	2,163.02	3,452.84	0.00	0.00	0.00
8,000.00	90.50	135.10	4,300.84	-3,052.40	2,515.95	3,952.14	0.00	0.00	0.00
8,500.00	90.50	135.10	4,296.48	-3,406.54	2,868.88	4,451.44	0.00	0.00	0.00
9,000.00	90.50	135.10	4,292.12	-3,760.69	3,221.81	4,950.74	0.00	0.00	0.00
9,500.00	90.50	135.10	4,287.76	-4,114.84	3,574.74	5,450.04	0.00	0.00	0.00
10,000.00	90.50	135.10	4,283.40	-4,468.99	3,927.68	5,949.34	0.00	0.00	0.00
10,500.00	90.50	135.10	4,279.04	-4,823.14	4,280.61	6,448.64	0.00	0.00	0.00
11,000.00	90.50	135.10	4,274.68	-5,177.29	4,633.54	6,947.94	0.00	0.00	0.00
11,192.34	90.50	135.10	4,273.00	-5,313.52	4,769.30	7,140.01	0.00	0.00	0.00
TD at 11192.34									

Database:	COMPASS	**Local Co-ordinate Reference:**	Well W Lybrook UT #741H (A3) - Slot A3
Company:	WPX Energy	**TVD Reference:**	GL @ 6540.00usft (Original Well Elev)
Project:	T23N R9W	**MD Reference:**	GL @ 6540.00usft (Original Well Elev)
Site:	2309-28M WLU-KWU	**North Reference:**	True
Well:	W Lybrook UT #741H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 24May16 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 #741H - plan hits target center - Point	0.00	0.00	4,193.73	-475.27	-52.32	1,888,558.23	509,195.63	36.190427	-107.802171
End 60 tan #741 - plan hits target center - Point	0.00	0.00	4,243.73	-536.61	8.81	1,888,496.91	509,256.78	36.190259	-107.801963
BHL #741H - plan hits target center - Point	0.00	0.00	4,273.00	-5,313.52	4,769.30	1,883,721.53	514,018.82	36.177135	-107.785833
POE #741H - plan hits target center - Point	0.00	0.00	4,329.00	-766.01	237.42	1,888,267.58	509,485.47	36.189629	-107.801189

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
4,771.99	4,329.00	7"	7.000	8.750

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1,000.00	1,000.00	0.00	0.00	Start Build 2.00
1,377.26	1,376.17	-16.37	-18.64	Hold 7.55 Inclination
3,658.03	3,637.19	-214.02	-243.64	Start Build DLS 9.00 TFO -97.88
4,333.10	4,193.73	-475.27	-52.32	Hold 60.00 Inclination
4,433.10	4,243.73	-536.61	8.81	Start Build DLS 9.00 TFO 0.00
4,598.93	4,307.11	-644.79	116.62	Start DLS 9.00 TFO 0.00
4,771.99	4,329.00	-766.01	237.42	POE at 90.50 Inc 135.10 Deg
11,192.34	4,273.00	-5,313.52	4,769.30	TD at 11192.34

WPXENERGY

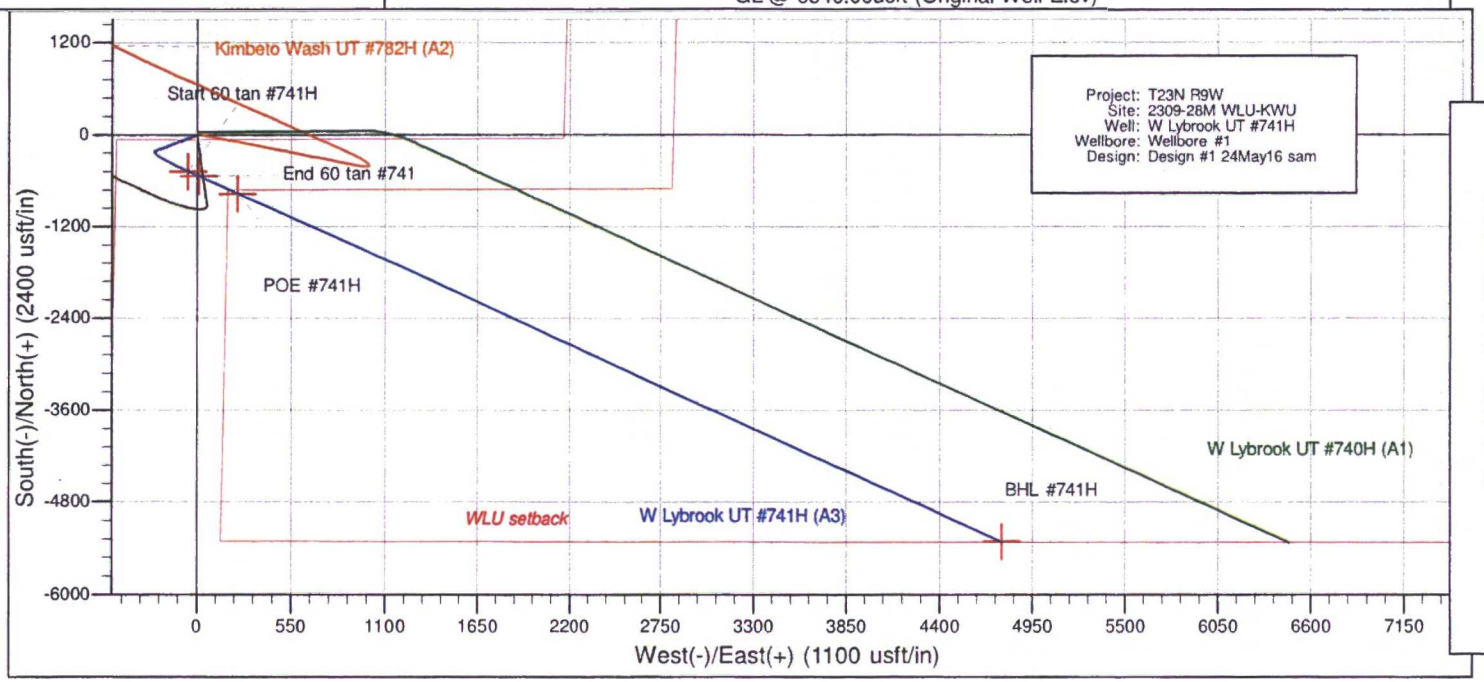
Well Name: W Lybrook UT #741H
Surface Location: 2309-28M WLU-KWU
NAD 1927 (NADCON CONUS) , US State Plane 1927 (E solution) New Mexico West 3003
Ground Elevation: 6540.00

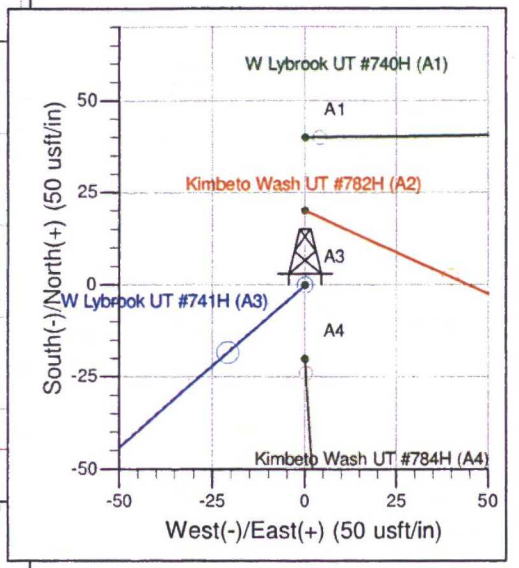
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1889033.51	509247.80	36.191733	-107.801993	A3

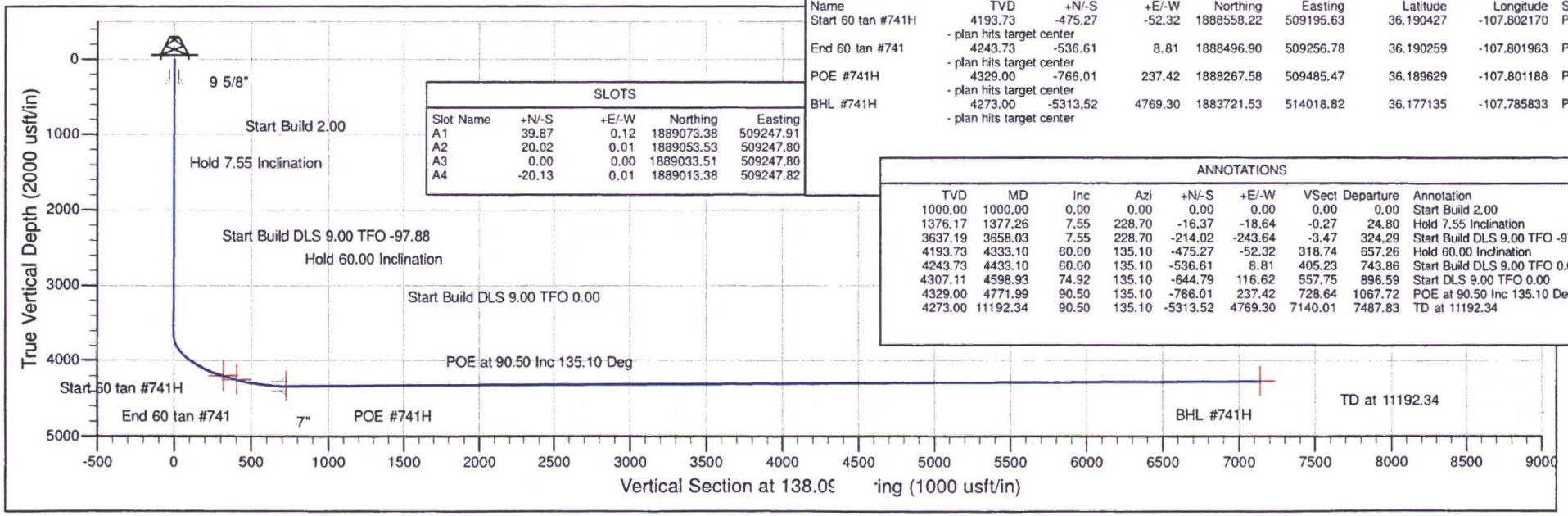
GL @ 6540.00usft (Original Well Elev)

Azimuths to True North
Magnetic North: 10.01°

Magnetic Field
Strength: 50587.3snT
Dip Angle: 63.03°
Date: 12/31/2009
Model: IGRF200510







SLOTS

Slot Name	+N/-S	+E/-W	Northing	Easting
A1	39.87	0.12	1889073.38	509247.91
A2	20.02	0.01	1889053.53	509247.80
A3	0.00	0.00	1889033.51	509247.80
A4	-20.13	0.01	1889013.38	509247.82

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Start 60 tan #741H	4193.73	-475.27	-52.32	1888558.22	509195.63	36.190427	-107.802170	Point
	- plan hits target center							
End 60 tan #741	4243.73	-536.61	8.81	1888496.90	509256.78	36.190259	-107.801963	Point
	- plan hits target center							
POE #741H	4329.00	-766.01	237.42	1888267.58	509485.47	36.189629	-107.801188	Point
	- plan hits target center							
BHL #741H	4273.00	-5313.52	4769.30	1883721.53	514018.82	36.177135	-107.785833	Point
	- plan hits target center							

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation
1000.00	1000.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
1376.17	1377.26	7.55	228.70	-16.37	-18.64	-0.27	24.80	Hold 7.55 Inclination
3637.19	3658.03	7.55	228.70	-214.02	-243.64	-3.47	324.29	Start Build DLS 9.00 TFO -97.88
4193.73	4333.10	60.00	135.10	-475.27	-52.32	318.74	657.26	Hold 60.00 Inclination
4243.73	4433.10	60.00	135.10	-536.61	8.81	405.23	743.86	Start Build DLS 9.00 TFO 0.00
4307.11	4598.93	74.92	135.10	-644.79	116.62	557.75	896.59	Start DLS 9.00 TFO 0.00
4329.00	4771.99	90.50	135.10	-766.01	237.42	728.64	1067.72	POE at 90.50 Inc 135.10 Deg
4273.00	11192.34	90.50	135.10	-5313.52	4769.30	7140.01	7487.83	TD at 11192.34

Road #7890, and follow along the W Lybrook UT 720H access for 3,123.1 feet to fork in the access. Trucks would take a left and continue westerly, which would be straight, following along WPX's W Lybrook UT 726H access for 3,937.3 feet to a fork in the access road. They would then take a left (westerly), which would be straight, following along the W Lybrook UT 730H planned access for10,164.2 feet. They would take a left (south-westerly), which is straight, following along WPX's W Lybrook UT #738H planned access for 1,267.1 feet to the beginning of proposed Access Road #1. Trucks would proceed 2,491.4 feet along the newly constructed Access Road corridor #1 to WPX's KWU 782H/784H and W Lybrook Unit 740H/741H well pad.

6. CONSTRUCTION MATERIALS

The construction phase of the project would commence upon receipt of the approved APDs. The BLM-FFO would be notified (505-564-7600) at least 48 hours prior to the start of construction activities associated with the project. The construction phase of the project is anticipated to last approximately 3 to 4 weeks.

Construction and maintenance activities would cease if soil or road surfaces become saturated to the extent that construction equipment is unable to stay within the project area and/or when activities cause irreparable harm to roads, soils, or streams. Surfacing material, such as sandstone, would be used if economically viable and would be obtained from a permitted location.

The Natural Resources Conservation Service (NRCS) has mapped the soils in the proposed KWU 782H/784H and W Lybrook Unit 740H/741H Project area. Complete soil information is available in the NRCS's *Soil Survey of San Juan County, New Mexico, Eastern Part* (USDA/NRCS 2015). The soil map unit within the proposed project area footprint is described in the sections below.

A. Fruitland-Persayo-Sheppard complex (hilly)

The entire project area encompasses this soil type. The project would include a moderate to large cut and fill within this soil type in order to construct the well pad. This would entail a maximum cut of 11 feet on the north end and a maximum fill of 9 feet on the northeast corner (corner 5) of the pad.

The Fruitland-Persayo-Sheppard complex (hilly) is composed of 40 percent Fruitland and similar soils, 30 percent Persayo and similar soils, and 25 percent Sheppard and similar soils. Fruitland-Persayo-Sheppard complex (hilly) soils are found on alluvial fans, stream terraces, hills, ridges, breaks, and dunes ranging from 4,000 feet to 6,400 feet in elevation. Fruitland soils occur on slopes of 5 to 30 percent, are well drained, and have a high water permeability. Persayo soils occur on slopes of 5 to 30 percent, are well drained, and have low to moderately high water permeability. Sheppard soils occur on slopes of 5 to 30 percent, are excessively drained, and have high to very high water permeability. This soil complex has a low to moderate potential for water erosion and moderate to high potential for wind erosion. The Fruitland-Persayo-Sheppard complex (hilly) is generally found within sandy, shale hills, and deep sand ecological sites (USDA/NRCS 2015).

7. METHODS FOR HANDLING WASTE

A. Cuttings

1 Drilling operations would utilize a closed-loop system. Drilling of the horizontal laterals would be accomplished with water-based mud. All cuttings would be placed in roll-off bins and hauled to a commercial disposal facility or land farm. WPX would follow Onshore Oil and Gas Order No. 1 regarding the placement, operation, and removal of closed-loop systems. No blow pit would be used.

2 Closed-loop tanks would be adequately sized for containment of all fluids.

B. Drilling Fluids

1 Drilling fluids would be stored onsite in above-ground storage tanks. Upon termination of drilling operations, the drilling fluids would be recycled and transferred to other permitted closed-loop systems or returned to the vendor for reuse, as practical. All residual fluids would be hauled to a commercial disposal facility.

C. Spills

Additional Operator Remarks

Location of Well

1. SHL: 387 FSL / 145 FWL / TWSP: 23N / RANGE: 9W / SECTION: 28 / LAT: 36.191746 / LONG: -107.802608 (TVD: 0 feet, MD: 0 feet)
   PPP: 380 FNL / 387 FWL / TWSP: 23N / RANGE: 9W / SECTION: 33 / LAT: 36.189642 / LONG: -107.801803 (TVD: 3637 feet, MD: 3658 feet)
   BHL: 336 FSL / 330 FEL / TWSP: 23N / RANGE: 9W / SECTION: 33 / LAT: 36.177148 / LONG: -107.786447 (TVD: 4273 feet, MD: 11192 feet)

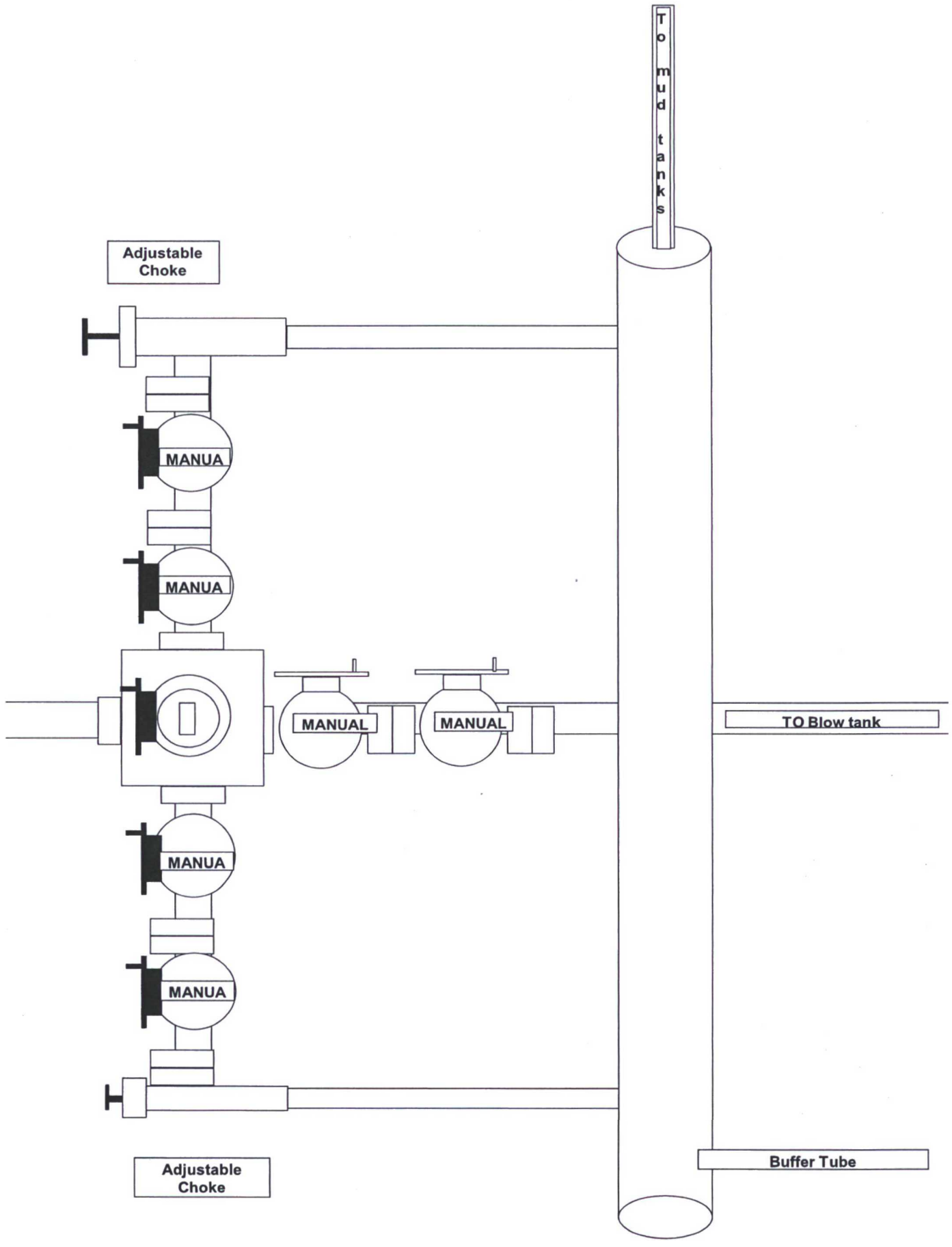
BLM Point of Contact

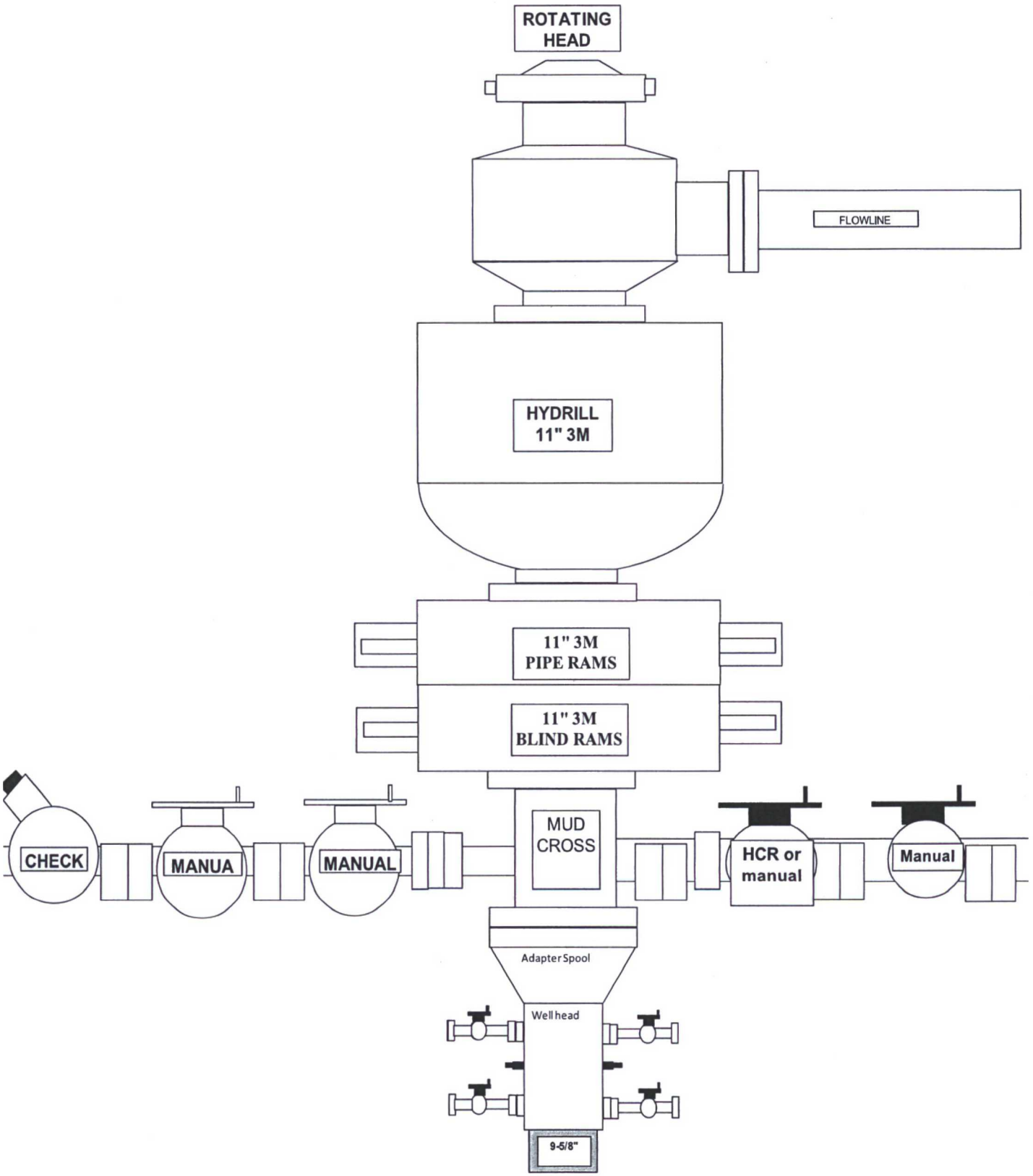
Name:

Title:

Phone:

Email:


To mud tanks
Adjustable Choke
MANUA
MANUA
MANUAL
MANUAL
TO Blow tank
MANUA
MANUA
Adjustable Choke
Buffer Tube


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
Well head
9-5/8"