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: 8/30/17
Well information;
Operator WPX, Well Name and Number Rosa Unit 740H

API# 30-039-31364, Section 33, Township 31 (N)/S, Range 5 E/(W)

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

- ☒ Notify Aztec OCD 24hrs prior to casing & cement.
- ☒ Hold C-104 for directional survey & "As Drilled" Plat
- ☒ Hold C-104 for NSL, NSP, DHC
- 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 — 10-13-2017
NMOCD Approved by Signature — 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

OIL CONS. DIV DIST. 3

OCT 06 2017

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

1a. Type of work: ☑ DRILL ☐ REENTER	5. Lease Serial No. NMSF078773
	6. If Indian, Allotee or Tribe Name
	7. If Unit or CA Agreement, Name and No. ROSA UNIT / NMNM78407E
1b. Type of Well: ☐ Oil Well ☑ Gas Well ☐ Other ☐ Single Zone ☑ Multiple Zone	8. Lease Name and Well No. ROSA UNIT 740H
2. Name of Operator WPX ENERGY LLC	9. API Well No. 30-039-31364
3a. Address 720 S Main Aztec NM 87410 / 3b. Phone No. (include area code) (505)333-1822	10. Field and Pool, or Exploratory BASIN MANCOS GAS POOL / MANCOS
4. Location of Well (Report location clearly and in accordance with any State requirements.*) At surface C NENW / 319 FNL / 1681 FWL / LAT 36.862483 / LONG -107.370925 At proposed prod. zone C LOT 1 / 559 FNL / 660 FWL / LAT 36.861818 / LONG -107.405532	11. Sec., T. R. M. or Blk. and Survey or Area SEC 33 / T31N / R5W / NMP
14. Distance in miles and direction from nearest town or post office* 38 miles	12. County or Parish RIO ARRIBA / 13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 319 feet	16. No. of acres in lease 1920 / 17. Spacing Unit dedicated to this well 872.89
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 0 feet	19. Proposed Depth 5500 feet / 10000 feet / 20. BLM/BIA Bond No. on file FED: UTB000178
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6492 feet	22. Approximate date work will start* 10/13/2017 / 23. Estimated duration 45 days

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 (Electronic Submission)	Name (Printed/Typed) Marie Jaramillo / Ph: (505)333-1808	Date 08/30/2017
Title Permitting Tech III		
Approved by (Signature) /s/ Maria Lopez AFM	Name (Printed/Typed)	Date 9/11/17
Title	Office 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
30-039-31364	97232	BASIN MANCOS
4 Property Code	**5 Property Name**	**6 Well Number**
17033	ROSA UNIT	740H
7 OGRID No.	**8 Operator Name**	**9 Elevation**
120782	WPX ENERGY PRODUCTION, LLC	6492'

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
C	33	31N	5W		319	NORTH	1681	WEST	RIO ARRIBA

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
C	31	31N	5W		559	NORTH	660	WEST	RIO ARRIBA

12 Dedicated Acres		13 Joint or Infill	14 Consolidation Code	15 Order No.
872.89	N/2 - Sections 31, 32, 33			R-13457

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom-hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature — Date: 8/24/17

Marie E. Jaramillo
Printed Name

marie.jaramillo@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: JUNE 14, 2017
Date of Survey: APRIL 21, 2016

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS
Certificate Number 15269

END-OF-LATERAL
559' FNL 660' FWL
SECTION 31, T31N, R5W
LAT: 36.861812 °N
LONG: 107.404929 °W
DATUM: NAD1927

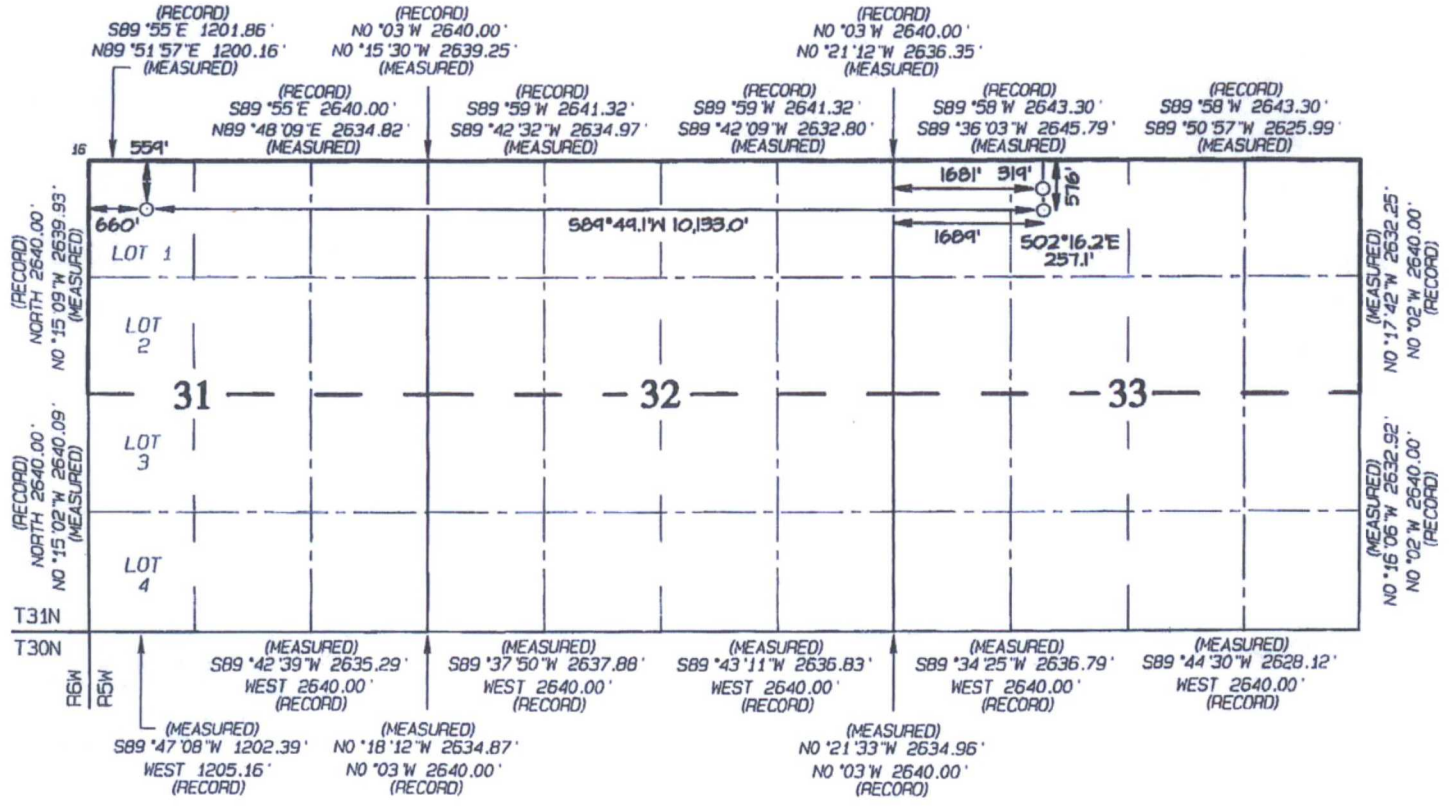
LAT: 36.861818 °N
LONG: 107.405532 °W
DATUM: NAD1983

POINT-OF-ENTRY
576' FNL 1689' FWL
SECTION 33, T31N, R5W
LAT: 36.861770 °N
LONG: 107.370292 °W
DATUM: NAD1927

LAT: 36.861777 °N
LONG: 107.370894 °W
DATUM: NAD1983

SURFACE LOCATION
319' FNL 1681' FWL
SECTION 33, T31N, R5W
LAT: 36.862476 °N
LONG: 107.370323 °W
DATUM: NAD1927

LAT: 36.862483 °N
LONG: 107.370925 °W
DATUM: NAD1983



WPXENERGY

WPX Energy

Operations Plan

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

Date:	**August 24, 2017**	**Field:**	**Basin Mancos**
Well Name:	**Rosa Unit #740H**	**Surface:**	**Federal**
SH Location:	**NENW SEC 33 31N-05W**	**Elevation:**	**6492' GR**
BH Location:	**NENW SEC 31 31N-05W**	**Minerals:**	**Federal**

Measured Depth: **17,708.84'**

I. **GEOLOGY:** SURFACE FORMATION - San Jose

A. FORMATION TOPS (KB)

NAME	MD	TVD	NAME	MD	TVD
OJO ALAMO	2,684.00	2,656.00	MENEFEE	5,645.00	5,587.00
KIRTLAND	2,805.00	2,775.00	POINT LOOKOUT	5,839.00	5,781.00
FRUITLAND	3,238.00	3,201.00	MANCOS	6,442.00	6,384.00
PICTURED CLIFFS	3,587.00	3,545.00	KICKOFF POINT	6,573.78	6,515.38
LEWIS	3,801.00	3,756.00	TOP TARGET	7,284.00	7,087.00
CHACRA	4,773.00	4,715.00	LANDING POINT	7,575.24	7,152.00
CLIFF HOUSE	5,587.00	5,529.00	BASE TARGET	7,575.24	7,152.00
			TD	17,708.84	7,132.00

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. A LSND (WBM) or (OBM) will be used to drill the curve and 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 **5000 psi (High) for 10 minutes**. Annular preventor will be tested to 50% of rated working pressure. Pressure test surface casing to **1500 psi for 30 minutes** and intermediate casing to **1500 psi for 30 minutes.** Utilize a BOPE Testing Unit with a recording chart and appropriate test plug for testing. **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, equiv or <	STC
INTERMEDIATE	8.75"	6474'	7"	23 LBS	J-55, equiv or <	LTC
PRODUCTION	6.125"	6323.78' - 17,708.84'	4.5"	11.6 LBS	P-110, equiv or <	LTC
TIE BACK	6.125"	Surf. - 6323.78'	4.5"	11.6 LBS	P-110, equiv or <	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. **A DV tool will be placed 100' above the top of the Chacra formation.**

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). Centralizer program will be determined by Wellbore condition and when Lateral is evaluated by Geoscientists and Reservoir Engineers. Set seals on Liner Hanger. Test TOL to 1500 psi for 15 minutes.

C. CEMENTING:

(Note: Volumes may be adjusted onsite due to actual conditions)

1. Surface 5 bbl Fresh Water Spacer, 100 sx (160 cu.ft.) of 14.5 ppg Type I-II (Neat G) + 20% Fly Ash cement w/ 7.41 gal/sack mix water ratio @ 1.61 cu ft/sx yield. Calculated @ volume + 50% excess. WOC min. 12 hours. Total Volume: (160 cu-ft/100 sx/ Bbls).TOC at Surface.

2.Intermediate STAGE 1: Spacer #1: 20 bbl (112 cuft) Chemwash. Lead Cement: 79 bbls, 225 sks, (444 cuft), 12.3 ppg @ 1.97 cuft/sk yield. Tail Cement: 17 bbls, 75 sks, (98 cuft), 13.5 ppg @ 1.3 cuft/sk yield. Displacement: Displace w/ +/- 255 bbl Drilling mud or water.
Total Cement: 97 bbls, 301 sks, (542 cuft)
STAGE 2: Spacer #1: 20 bbl (112 cuft) Chemwash. Lead Cement: 111 bbls, 321 sks, (626 cuft), 12.3 ppg @ 1.97 cuft/sk yield. Tail Cement: 17 bbls, 85 sks, (98 cuft), 13.5 ppg @ 1.3 cuft/sk yield. Displacement: Displace w/ +/- 146 bbl Drilling mud or water.
Total Cement: 129 bbls, 406 sks, (723 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 (1008 sx /1371 cuft /244 bbls). Tail Spacer: 20 BBL of MMCR. Displacement: Displace w/ +/- 238bbl Fr Water. Total Cement (1008 sx /1371bbls).

I.

COMPLETION

A. **CBL**

Run CCL for perforating

A. **PRESSURE TEST**

1. Pressure test 4-1/2" casing to 4500 psi max, hold at 1500 psi for 30 minutes. Increase pressure to Open RSI sleeves.

B. **STIMULATION**

1. Stimulate with approximately 2,805,000# 20/40 mesh sand and 340,000# 16/30 mesh sand in 619,113 gallons water with 42,696 mscf N2 for 17 stages.
2. Isolate stages with flow through frac plug.
3. Drill out frac plugs and flowback lateral.

C. **RUNNING TUBING**

1. *Production Tubing:* Run 2-7/8", 6.5#, J-55, EUE tubing with a SN on top of bottom joint. Land tubing near Top of Liner.

- Although this horizontal well will be drilled past the applicable setbacks, an unorthodox location application is not required because the completed interval in this well, as defined by 19.15.16.7 B(1) NMAC,will be entirely within the applicable setbacks . This approach complies with all applicable rules, including 19.15.16.14 A(3) NMAC, 19.15.16.14 B(2) NMAC, 19.15.16.15 B(2)NMAC, and 19.15.16.15. B(4) NMAC.

NOTE:

Proposed Operations:

A 4-1/2" 11.6# 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

T31N R5W Rosa Unit
Pad 31
Rosa Unit #740H - Slot A1

Wellbore #1

Plan: Design #1 13Apr17 sam

Standard Planning Report

12 June, 2017

WPX
Planning Report

Database:	COMPASS	**Local Co-ordinate Reference:**	Well Rosa Unit #740H (A1) - Slot A1
Company:	WPX Energy	**TVD Reference:**	GL @ 6492.00usft (Original Well Elev)
Project:	T31N R5W Rosa Unit	**MD Reference:**	GL @ 6492.00usft (Original Well Elev)
Site:	Pad 31	**North Reference:**	True
Well:	Rosa Unit #740H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 13Apr17 sam		

Project	T31N R5W Rosa Unit		
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		Using geodetic scale factor

Site	Pad 31				
Site Position:		**Northing:**	2,133,531.5 usft	**Latitude:**	36.862476
From:	Lat/Long	**Easting:**	635,449.6 usft	**Longitude:**	-107.370323
Position Uncertainty:	0.00 usft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.28 °

Well	Rosa Unit #740H - Slot A1					
Well Position	**+N/-S**	0.00 usft	**Northing:**	2,133,531.5 usft	**Latitude:**	36.862476
	+E/-W	0.00 usft	**Easting:**	635,449.6 usft	**Longitude:**	-107.370323
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	6,492.00 usft

Wellbore	Wellbore #1			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	3/15/2017	9.03	63.50	50,286

Design	Design #1 13Apr17 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	268.64

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	
1,000.00	10.00	111.74	997.47	-16.12	40.43	2.00	2.00	0.00	111.74	
4,510.68	10.00	111.74	4,454.81	-241.87	606.71	0.00	0.00	0.00	0.00	
5,010.68	0.00	0.00	4,952.28	-257.99	647.14	2.00	-2.00	0.00	180.00	VP #740H
6,573.78	0.00	0.00	6,515.38	-257.99	647.14	0.00	0.00	0.00	0.00	KOP #740H
7,575.24	90.13	270.10	7,152.00	-256.92	9.07	9.00	9.00	-8.98	270.10	POE #740H
17,708.84	90.10	270.10	7,132.00	-239.89	-10,124.50	0.00	0.00	0.00	-179.66	BHL #740H

Database:	COMPASS	Local Co-ordinate Reference:	Well Rosa Unit #740H (A1) - Slot A1
Company:	WPX Energy	TVD Reference:	GL @ 6492.00usft (Original Well Elev)
Project:	T31N R5W Rosa Unit	MD Reference:	GL @ 6492.00usft (Original Well Elev)
Site:	Pad 31	North Reference:	True
Well:	Rosa Unit #740H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 13Apr17 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	111.74	997.47	-16.12	40.43	-40.04	2.00	2.00	0.00
Hold 10.00 Inclination									
1,500.00	10.00	111.74	1,489.87	-48.27	121.08	-119.90	0.00	0.00	0.00
2,000.00	10.00	111.74	1,982.27	-80.42	201.73	-199.77	0.00	0.00	0.00
2,500.00	10.00	111.74	2,474.68	-112.58	282.38	-279.64	0.00	0.00	0.00
3,000.00	10.00	111.74	2,967.08	-144.73	363.03	-359.50	0.00	0.00	0.00
3,500.00	10.00	111.74	3,459.48	-176.88	443.69	-439.37	0.00	0.00	0.00
4,000.00	10.00	111.74	3,951.89	-209.03	524.34	-519.24	0.00	0.00	0.00
4,500.00	10.00	111.74	4,444.29	-241.19	604.99	-599.11	0.00	0.00	0.00
4,510.68	10.00	111.74	4,454.81	-241.87	606.71	-600.81	0.00	0.00	0.00
Start Drop -2.00									
5,000.00	0.21	111.74	4,941.60	-257.98	647.12	-640.83	2.00	-2.00	0.00
5,010.68	0.00	0.00	4,952.28	-257.99	647.14	-640.85	2.00	-2.00	0.00
Vertical									
5,500.00	0.00	0.00	5,441.60	-257.99	647.14	-640.85	0.00	0.00	0.00
6,000.00	0.00	0.00	5,941.60	-257.99	647.14	-640.85	0.00	0.00	0.00
6,473.00	0.00	0.00	6,414.60	-257.99	647.14	-640.85	0.00	0.00	0.00
7"									
6,500.00	0.00	0.00	6,441.60	-257.99	647.14	-640.85	0.00	0.00	0.00
6,573.78	0.00	0.00	6,515.38	-257.99	647.14	-640.85	0.00	0.00	0.00
KOP DLS 9.00 TFO 270.10									
7,000.00	38.36	270.10	6,910.46	-257.76	509.72	-503.47	9.00	9.00	0.00
7,500.00	83.36	270.10	7,147.73	-257.04	84.14	-78.03	9.00	9.00	0.00
7,575.24	90.13	270.10	7,152.00	-256.92	9.07	-2.98	9.00	9.00	0.00
POE at 90.13 Inclination									
8,000.00	90.13	270.10	7,151.04	-256.20	-415.69	421.64	0.00	0.00	0.00
8,500.00	90.13	270.10	7,149.92	-255.36	-915.69	921.48	0.00	0.00	0.00
9,000.00	90.13	270.10	7,148.82	-254.52	-1,415.69	1,421.32	0.00	0.00	0.00
9,500.00	90.12	270.10	7,147.73	-253.68	-1,915.69	1,921.16	0.00	0.00	0.00
10,000.00	90.12	270.10	7,146.65	-252.84	-2,415.68	2,421.00	0.00	0.00	0.00
10,500.00	90.12	270.10	7,145.60	-252.00	-2,915.68	2,920.83	0.00	0.00	0.00
11,000.00	90.12	270.10	7,144.55	-251.16	-3,415.68	3,420.67	0.00	0.00	0.00
11,500.00	90.12	270.10	7,143.52	-250.32	-3,915.68	3,920.51	0.00	0.00	0.00
12,000.00	90.12	270.10	7,142.51	-249.48	-4,415.68	4,420.35	0.00	0.00	0.00
12,500.00	90.11	270.10	7,141.51	-248.64	-4,915.68	4,920.19	0.00	0.00	0.00
13,000.00	90.11	270.10	7,140.53	-247.80	-5,415.67	5,420.02	0.00	0.00	0.00
13,500.00	90.11	270.10	7,139.56	-246.96	-5,915.67	5,919.86	0.00	0.00	0.00
14,000.00	90.11	270.10	7,138.61	-246.12	-6,415.67	6,419.70	0.00	0.00	0.00
14,500.00	90.11	270.10	7,137.67	-245.28	-6,915.67	6,919.54	0.00	0.00	0.00
15,000.00	90.11	270.10	7,136.74	-244.44	-7,415.67	7,419.38	0.00	0.00	0.00
15,500.00	90.10	270.10	7,135.83	-243.60	-7,915.67	7,919.21	0.00	0.00	0.00
16,000.00	90.10	270.10	7,134.94	-242.76	-8,415.66	8,419.05	0.00	0.00	0.00
16,500.00	90.10	270.10	7,134.06	-241.92	-8,915.66	8,918.89	0.00	0.00	0.00
17,000.00	90.10	270.10	7,133.20	-241.08	-9,415.66	9,418.73	0.00	0.00	0.00
17,500.00	90.10	270.10	7,132.35	-240.24	-9,915.66	9,918.57	0.00	0.00	0.00
17,708.84	90.10	270.10	7,132.00	-239.89	-10,124.50	10,127.35	0.00	0.00	0.00
TD at 17708.84									

Database:	COMPASS	**Local Co-ordinate Reference:**	Well Rosa Unit #740H (A1) - Slot A1
Company:	WPX Energy	**TVD Reference:**	GL @ 6492.00usft (Original Well Elev)
Project:	T31N R5W Rosa Unit	**MD Reference:**	GL @ 6492.00usft (Original Well Elev)
Site:	Pad 31	**North Reference:**	True
Well:	Rosa Unit #740H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 13Apr17 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
VP #740H - plan hits target center - Point	0.00	0.00	4,952.28	-257.99	647.14	2,133,276.7	636,097.9	36.861767	-107.368111
KOP #740H - plan hits target center - Point	0.00	0.00	6,515.38	-257.99	647.14	2,133,276.7	636,097.9	36.861767	-107.368111
BHL #740H - plan hits target center - Point	0.00	0.00	7,132.00	-239.89	-10,124.50	2,133,242.6	625,327.0	36.861812	-107.404929
POE #740H - plan hits target center - Point	0.00	0.00	7,152.00	-256.92	9.07	2,133,274.7	635,459.9	36.861770	-107.370292

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
320.00	320.00	9 5/8"	9.625	13.500
6,473.00	6,414.60	7"	7.000	8.500

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
1,000.00	997.47	-16.12	40.43	Hold 10.00 Inclination
4,510.68	4,454.81	-241.87	606.71	Start Drop -2.00
5,010.68	4,952.28	-257.99	647.14	Vertical
6,573.78	6,515.38	-257.99	647.14	KOP DLS 9.00 TFO 270.10
7,575.24	7,152.00	-256.92	9.07	POE at 90.13 Inclination
17,708.84	7,132.00	-239.89	-10,124.50	TD at 17708.84

WPXENERGY

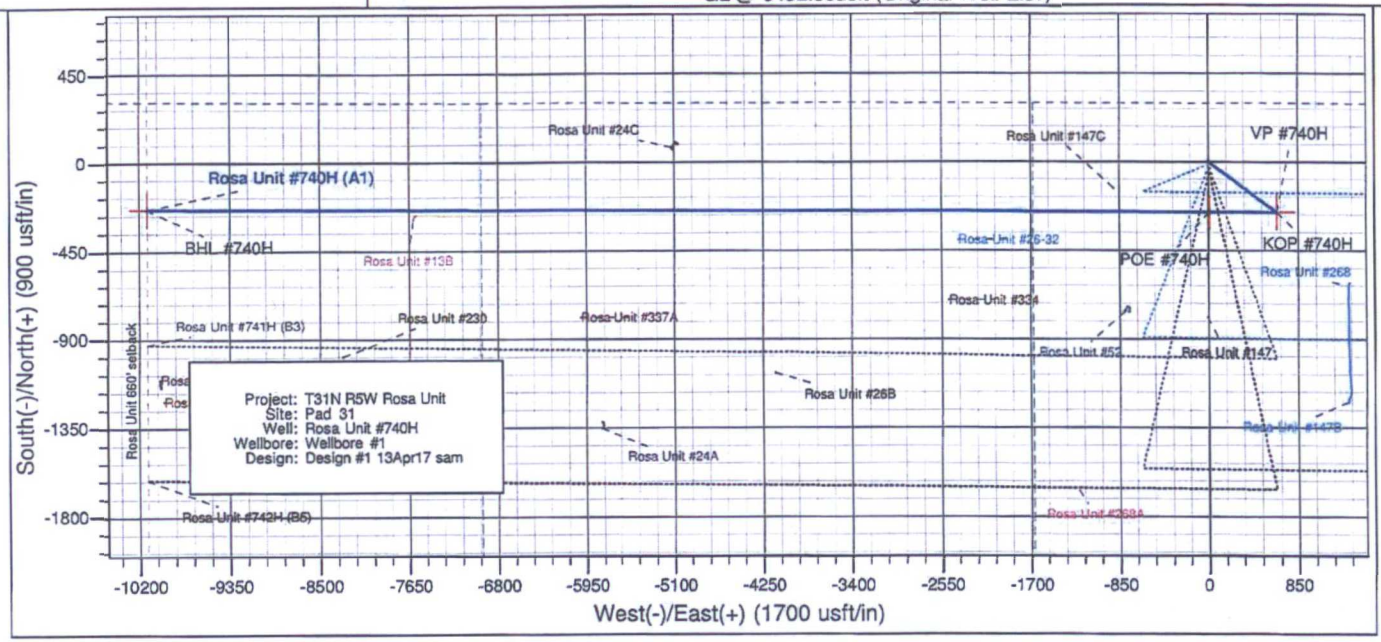
Well Name: Rosa Unit #740H
Surface Location: Pad 31
NAD 1927 (NADCON CONUS) , US State Plane 1927 (Exact solution) New Mexico West 3003
Ground Elevation: 6492.00

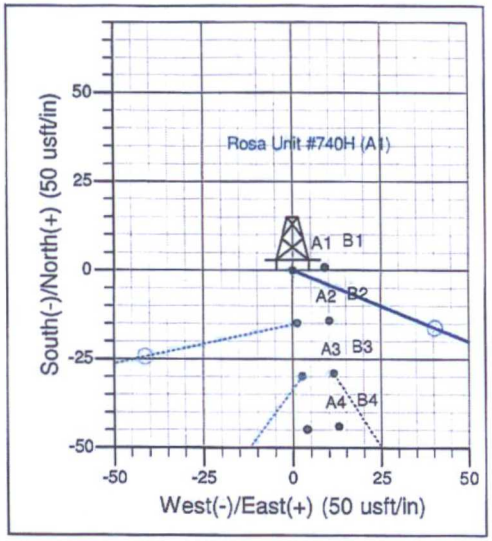
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	2133531.6	635449.6	36.862476	-107.370323	A1

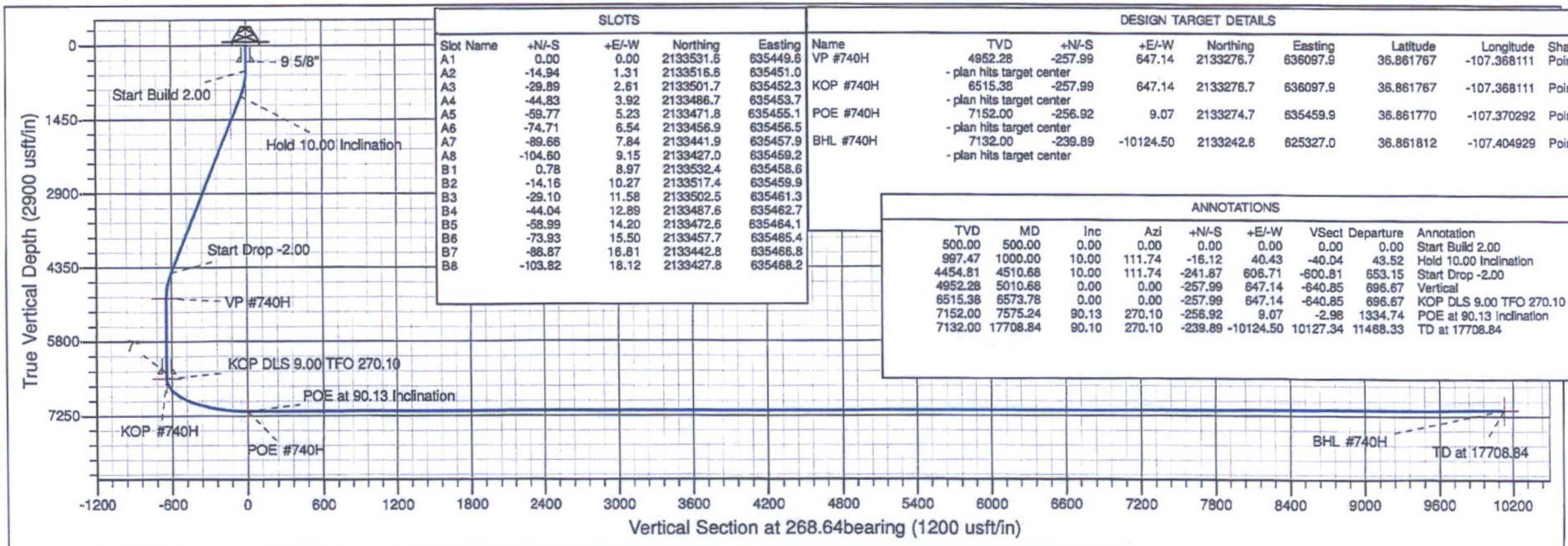
GL @ 6492.00usft (Original Well Elev)

Azimuths to True North
Magnetic North: 9.03°

Magnetic Field
Strength: 50285.8snT
Dip Angle: 63.50°
Date: 3/15/2017
Model: IGRF2010







SLOTS

Slot Name	+N/-S	+E/-W	Northing	Easting
A1	0.00	0.00	2133531.6	635449.6
A2	-14.94	1.31	2133516.6	635451.0
A3	-29.89	2.61	2133501.7	635452.3
A4	-44.83	3.92	2133486.7	635453.7
A5	-59.77	5.23	2133471.8	635455.1
A6	-74.71	6.54	2133456.9	635456.5
A7	-89.66	7.84	2133441.9	635457.9
A8	-104.60	9.15	2133427.0	635459.2
B1	0.78	8.97	2133532.4	635458.6
B2	-14.16	10.27	2133517.4	635459.9
B3	-29.10	11.58	2133502.5	635461.3
B4	-44.04	12.89	2133487.6	635462.7
B5	-58.99	14.20	2133472.6	635464.1
B6	-73.93	15.50	2133457.7	635465.4
B7	-88.87	16.81	2133442.8	635466.8
B8	-103.82	18.12	2133427.8	635468.2

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
VP #740H	4952.28	-257.99	647.14	2133276.7	636097.9	36.861767	-107.368111	Point
	- plan hits target center							
KOP #740H	6515.38	-257.99	647.14	2133276.7	636097.9	36.861767	-107.368111	Point
	- plan hits target center							
POE #740H	7152.00	-256.92	9.07	2133274.7	635459.9	36.861770	-107.370292	Point
	- plan hits target center							
BHL #740H	7132.00	-239.89	-10124.50	2133242.6	625327.0	36.861812	-107.404929	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
997.47	1000.00	10.00	111.74	-15.12	40.43	-40.04	43.52	Hold 10.00 Inclination
4454.81	4510.68	10.00	111.74	-241.87	606.71	-600.81	653.15	Start Drop -2.00
4952.28	5010.68	0.00	0.00	-257.99	647.14	-640.85	696.67	Vertical
6515.38	6573.78	0.00	0.00	-257.99	647.14	-640.85	696.67	KOP DLS 9.00 TFO 270.10
7152.00	7575.24	90.13	270.10	-256.92	9.07	-2.98	1334.74	POE at 90.13 Inclination
7132.00	17708.84	90.10	270.10	-239.89	-10124.50	10127.34	11468.33	TD at 17708.84

Topsoil removal, storage, and protection are described in detail in the Surface Reclamation Plan (Appendix A).

Construction of the proposed Rosa Unit Pad 31 Project would be accomplished utilizing native borrow and subsoils within the project area. If additional construction or surfacing material is needed and is economically viable, it would be obtained from a permitted location. The Natural Resources Conservation Service (NRCS) has mapped the soils in the proposed Rosa Unit Pad 31 Project area. Complete soil information is available in the NRCS's *Soil Survey of Carson National Forest, New Mexico, Part of Rio Arriba County* (USDA/NRCS 2016). The soil map units within the proposed project area footprint are described in the sections below.

A. Vessilla-Menefee-Orlie complex, 1 to 30 percent slopes

This soil map unit is located throughout the majority of the project area. The area is characterized by a gently sloped mesa top. Excavated soils during construction and balancing of the well pad would consist of native borrow and subsoils from the Vessilla-Menefee-Orlie complex, 1 to 30 percent slopes. A brief description of this soil can be found below.

The Vessilla-Menefee-Orlie complex is composed of 45 percent Vessilla and similar soils, 25 percent Meneffee and similar soils, 20 percent Orlie and similar soils, and 10 percent other minor components. The parent material of Vessilla soils is alluvium derived from sandstone and/or eolian deposits derived from sandstone and/or residuum weathered from sandstone. Vessilla soils occur on 1-30 percent slopes, are well drained, and have a depth to restrictive lithic bedrock at 6 to 20 inches. The parent material of Menefee soils is residuum weathered from shale and/or slope alluvium derived from shale. Menefee soils occur on 2-30 percent slopes, are well drained, and have a depth to restrictive lithic bedrock at more than 8 to 20 inches. The parent material of Orlie loam soils is alluvium derived from sandstone and shale and/or eolian deposits derived from sandstone and shale. Orlie soils occur on 1-8 percent slopes, are well drained, and have a depth to restrictive lithic bedrock at more than 80 inches. Landforms associated with this soil are mesas and hillslopes (USDA/NRCS 2016).

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, land farm, or WPX permitted cutting disposal. 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 If oil-based mud drilling is used, a closed-loop system will be used to minimize potential impacts to surface and groundwater quality. A 30-mil reinforced liner will be placed under the drill rig mats and all drilling machinery. This area will be enclosed by a containment berm and ditches, which will drain to sump areas for spill prevention and control. The containment berm will be ramped to allow access to the solids control area.

3 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

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

in Bloomfield, NM to WPX Energy Production, LLC Rosa Unit #740H

319' FNL & 1681' FWL, Section 33, T31N, R5W, N.M.P.M., Rio Arriba County, NM

Latitude: 36.862483°N Longitude: 107.370925°W Datum: NAD1983

From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Easterly on US Hwy 64 for 38.0 miles to Mile Marker 102.3 to State Hwy 527 (Simms Hwy);

Go Left (North-westerly) on State Hwy 527 (Simms Hwy) for 7.9 miles to Rosa Road @ La Jara Station;

Go Right (Northerly) on Rosa Road for 6.5 miles to fork in roadway;

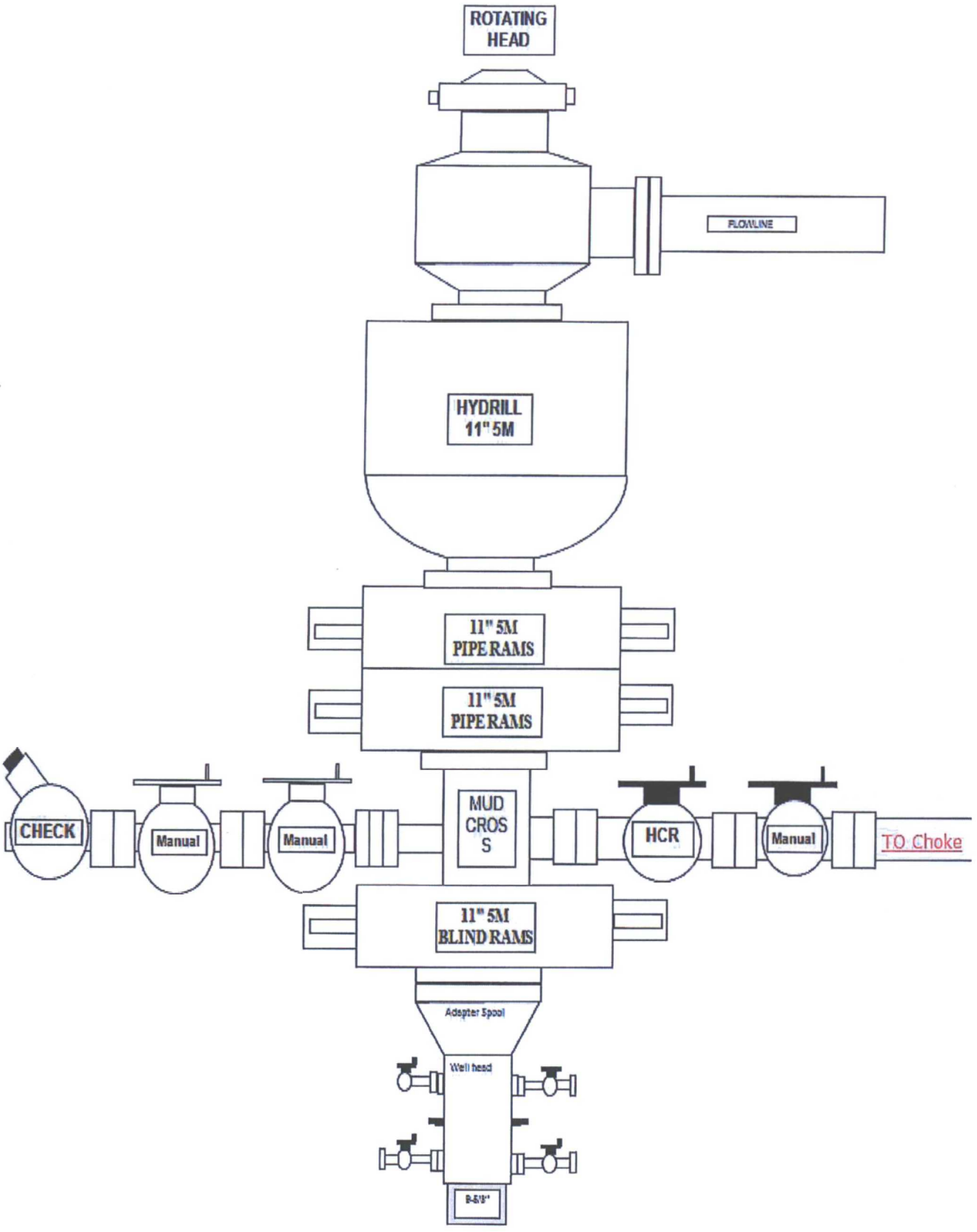
Go Left (Northerly) which is straight remaining on Rosa Road for 2.4 miles to fork in roadway;

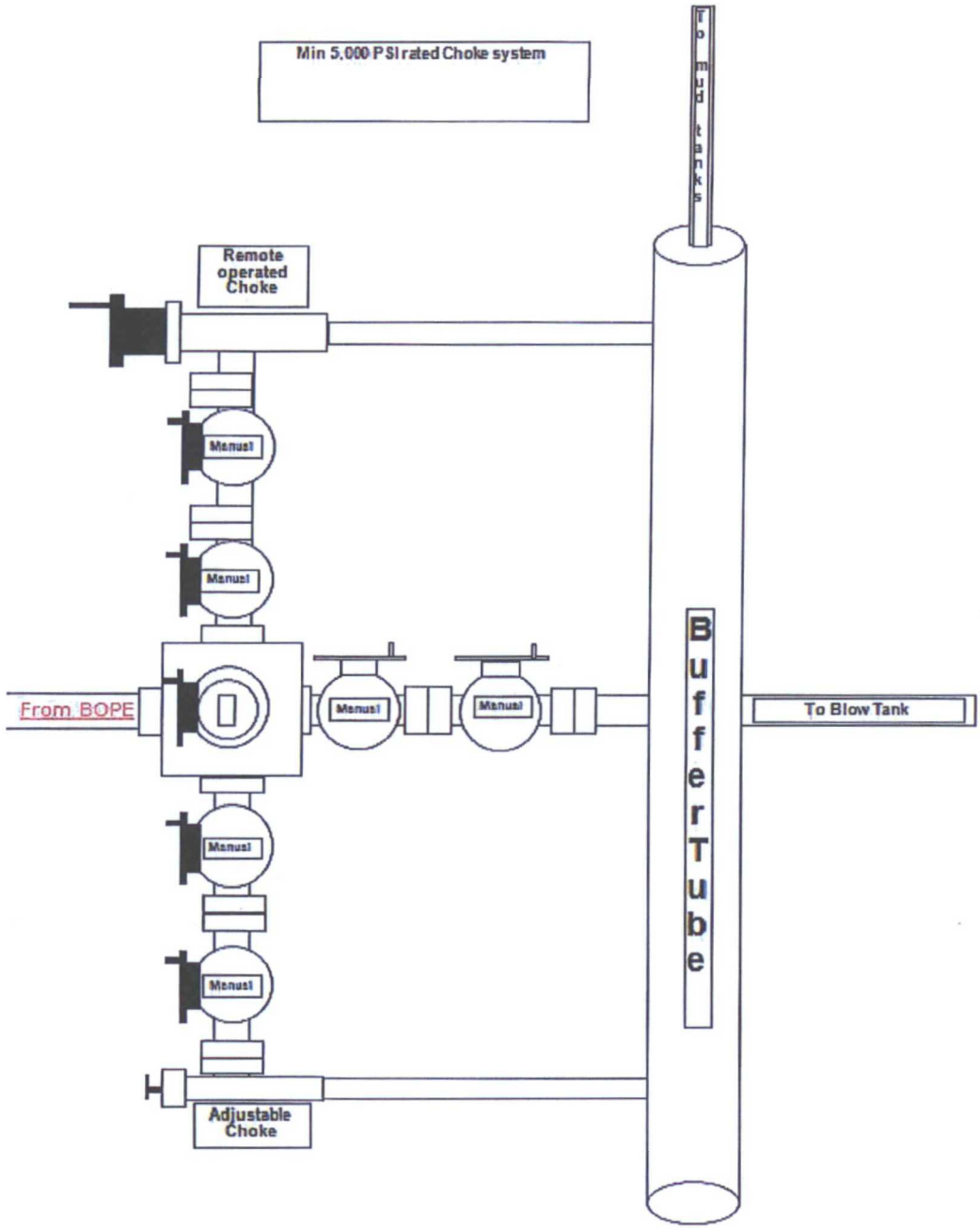
Go Right (Easterly) exiting Rosa Road for 0.2 miles to fork in roadway;

Go Left (North-easterly) for 1.0 mile to fork in roadway;

Go Right (North easterly) which is straight for 0.7 miles to fork in roadway;

Go Right (South-easterly) for 1.3 miles to begin proposed access on left-hand side of Forest Road #309 which continues for 417.3' to staked WPX Rosa Unit #740H location.


ROTATING HEAD
FLOWLINE
HYDRILL 11" 5M
11" 5M PIPE RAMS
11" 5M PIPE RAMS
CHECK
Manual
Manual
MUD CROS S
HCR
Manual
TO Choke
11" 5M BLIND RAMS
Adapter Spool
Well head
8-5/8"


Min 5,000 PSI rated Choke system
To mud tanks
Remote operated Choke
Manual
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Manual
To Blow Tank
Manual
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Buffer Tube
Adjustable Choke