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: 1/26/2017
Well information;
Operator WPX, Well Name and Number N Escavada Unit 318H

API# 30-043-21301, Section 9, Township 22 (N)/S, Range 7 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.

Chuck Herr
NMOCD Approved by Signature

8-10-17
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.
N0G13121793

6. If Indian, Allotee or Tribe Name
EASTERN NAVAJO

1a. Type of work: ☑ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.
N ESCAVADA UNIT / NMNM135217A

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

8. Lease Name and Well No.
N ESCAVADA UT 318H

2. Name of Operator
WPX ENERGY LLC

9. API Well No.
30-043-21301

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 / ESCAVADA N, MANC

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface SWSE / 268 FSL / 1548 FEL / LAT 36.147554 / LONG -107.576575
At proposed prod. zone SWSE / 360 FSL / 2285 FEL / LAT 36.16237 / LONG -107.596801

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 9 / T22N / R7W / NMP

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

12. County or Parish
SANDOVAL

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
268 feet

16. No. of acres in lease
160

17. Spacing Unit dedicated to this well
360

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

19. Proposed Depth
4889 feet / 12851 feet

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
6864 feet

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

23. Estimated duration
30 days

OIL CONS. DIV DIST. 3
AUG 04 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	01/26/2017

Title
Permitting Tech III

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
Title	Office	
AFM	FARMINGTON	8/1/17

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)

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

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

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

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
30-043-21301	98172	ESCAVADA N; MANCOS (OIL)

4 Property Code	5 Property Name	6 Well Number
316006	N ESCAVADA UT	318H

7 OGRID No	8 Operator Name	9 Elevation
120782	WPX ENERGY PRODUCTION, LLC	6864

10 Surface Location

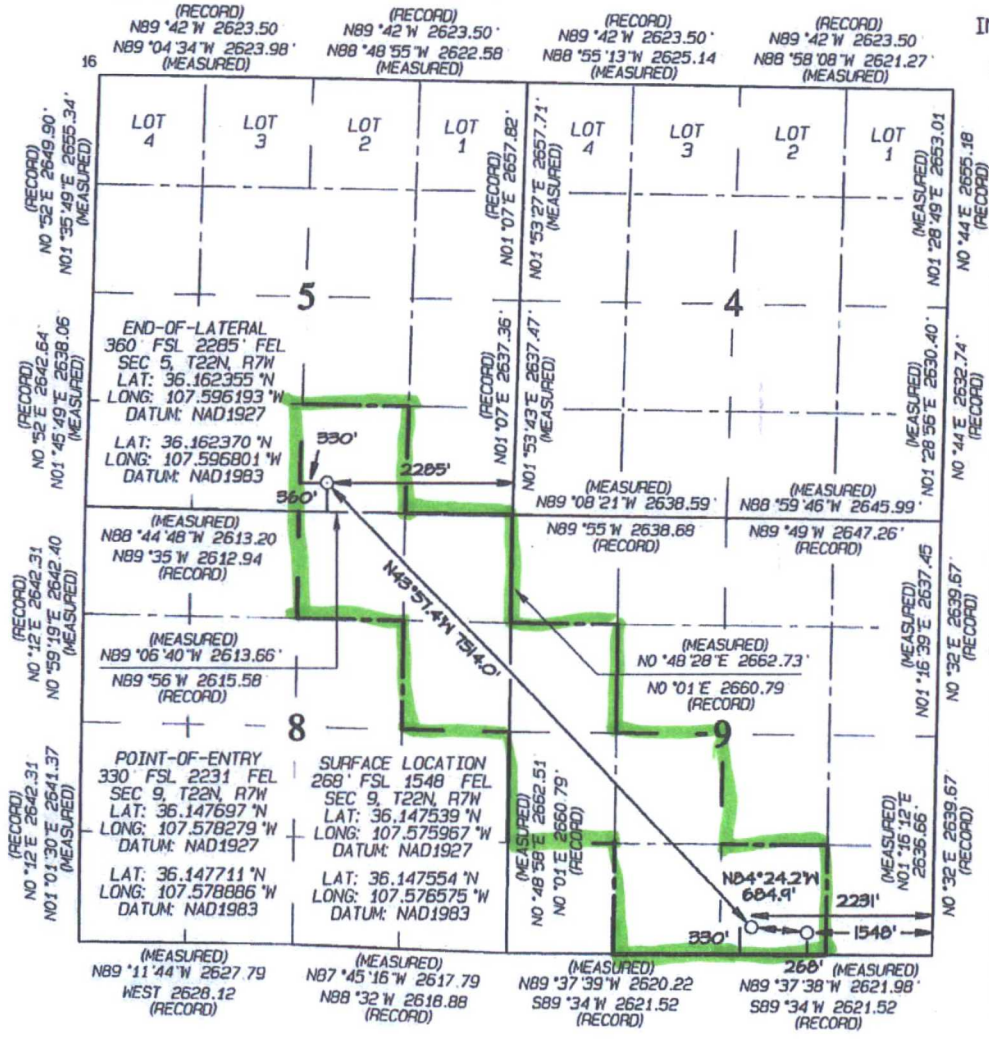
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	9	22N	7W		268	SOUTH	1548	EAST	SANDOVAL

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
O	5	22N	7W		360	SOUTH	2285	EAST	SANDOVAL

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
360.0 SW/4 SE/4 - Section 5 N/2 NE/4, SE/4 NE/4 - Section 8 SW/4 NW/4, N/2 SW/4 SE/4 SW/4, SW/4 SE/4 - Section 9			R-14080

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: Lacey Granillo — Date: 1/18/17

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 17, 2017
Survey Date: FEBRUARY 1, 2016

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS
Certificate Number 15269

surface = Navajo

WPX Energy

Operations Plan

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

Date:	January 17, 2017	**Field:**	Lybrook Gallup
Well Name:	N Escavada UT #318H	**Surface:**	
SH Location:	SWSE Sec 9 22N 07W	**Elevation:**	6864' GR
BH Location:	SWSE Sec 5 22-07W	**Minerals:**	

Measured Depth: 12,850.57'

I. GEOLOGY

Surface formation - NACIMIENTO

A. FORMATION TOPS: (GR)

NAME	MD	TVD	NAME	MD	TVD
OJO ALAMO	724.00	724.00	POINT LOOKOUT	3,675.00	3,649.00
KIRTLAND	902.00	902.00	MANCOS	3,833.00	3,805.00
PICTURED CLIFFS	1,261.00	1,261.00	GALLUP	4,178.00	4,146.00
LEWIS	1,345.00	1,344.00	KICKOFF POINT	4,191.45	4,159.41
CHACRA	1,644.00	1,640.00	TOP TARGET	5,114.00	4,850.00
CLIFF HOUSE	2,758.00	2,742.00	LANDING POINT	5,337.79	4,889.00
MENEFEE	2,798.00	2,781.00	BASE TARGET	5,337.79	4,889.00
			TD	12,850.57	4,889.00

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"	5,337.79'	7"	23 LBS	J-55 or equiv	LTC
PRODUCTION	6.125"	5187.79' - 12,850.57'	4.5"	11.6 LBS	P-110 or equiv	LTC
TIE BACK	6.125"	Surf. - 5187.79'	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: 98 bbls, 280 sks, (552 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/ +/- 210 bbl Drilling mud or water. Total Cement: 157 bbls, 535 sks, (883 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 (751 sx /1021 cuft /182 bbls). Tail Spacer: 20 BBL of MMCR. Displacement: Displace w/ +/-173bbl Fr Water. Total Cement (751 sx /1021bbls).

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

T22N R7W
2207-09O NEU
N ESCAVADA UT #318H

Wellbore #1

Plan: Design #1 2Aug16 sam

Standard Planning Report

02 August, 2016

WPX
Planning Report

Database:	COMPASS	**Local Co-ordinate Reference:**	Well N ESCAVADA UT #318H
Company:	WPX Energy	**TVD Reference:**	GL @ 6864.00usft (Original Well Elev)
Project:	T22N R7W	**MD Reference:**	GL @ 6864.00usft (Original Well Elev)
Site:	2207-09O NEU	**North Reference:**	True
Well:	N ESCAVADA UT #318H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 2Aug16 sam		

Project	T22N R7W		
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	2207-09O NEU				
Site Position:		**Northing:**	1,873,045.67 usft	**Latitude:**	36.147539
From:	Map	**Easting:**	575,985.55 usft	**Longitude:**	-107.575967
Position Uncertainty:	0.00 usft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.15 °

Well	N ESCAVADA UT #318H					
Well Position	**+N/-S**	0.00 usft	**Northing:**	1,873,045.67 usft	**Latitude:**	36.147539
	+E/-W	0.00 usft	**Easting:**	575,985.55 usft	**Longitude:**	-107.575967
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	6,864.00 usft

Wellbore	Wellbore #1				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2015	8/2/2016	9.20	62.88	49,813

Design	Design #1 2Aug16 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	312.09

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	
1,425.68	8.51	197.95	1,424.12	-30.03	-9.73	2.00	2.00	0.00	197.95	
4,191.45	8.51	197.95	4,159.41	-419.55	-135.95	0.00	0.00	0.00	0.00	
4,904.47	60.00	315.26	4,753.71	-230.23	-397.47	9.00	7.22	16.45	121.25	Start 60 Tan #318H
5,004.47	60.00	315.26	4,803.71	-168.71	-458.43	0.00	0.00	0.00	0.00	End 60 Tan #318H
5,167.69	74.69	315.26	4,866.41	-62.02	-564.16	9.00	9.00	0.00	0.00	
5,337.79	90.00	315.26	4,889.00	57.38	-682.47	9.00	9.00	0.00	0.00	POE #318H
12,850.57	90.00	315.26	4,889.00	5,393.82	-5,970.59	0.00	0.00	0.00	0.00	BHL #318H

WPX

Planning Report

Database:	COMPASS	**Local Co-ordinate Reference:**	Well N ESCAVADA UT #318H
Company:	WPX Energy	**TVD Reference:**	GL @ 6864.00usft (Original Well Elev)
Project:	T22N R7W	**MD Reference:**	GL @ 6864.00usft (Original Well Elev)
Site:	2207-09O NEU	**North Reference:**	True
Well:	N ESCAVADA UT #318H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 2Aug16 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									
1,425.68	8.51	197.95	1,424.12	-30.03	-9.73	-12.91	2.00	2.00	0.00
Hold 8.51 Inclination									
1,500.00	8.51	197.95	1,497.62	-40.50	-13.12	-17.41	0.00	0.00	0.00
2,000.00	8.51	197.95	1,992.11	-110.91	-35.94	-47.68	0.00	0.00	0.00
2,500.00	8.51	197.95	2,486.60	-181.33	-58.76	-77.95	0.00	0.00	0.00
3,000.00	8.51	197.95	2,981.09	-251.75	-81.58	-108.23	0.00	0.00	0.00
3,500.00	8.51	197.95	3,475.58	-322.17	-104.40	-138.50	0.00	0.00	0.00
4,000.00	8.51	197.95	3,970.07	-392.58	-127.22	-168.77	0.00	0.00	0.00
4,191.45	8.51	197.95	4,159.41	-419.55	-135.95	-180.36	0.00	0.00	0.00
Start Build DLS 9.00 TFO 121.25									
4,500.00	24.38	303.13	4,458.38	-406.21	-197.52	-125.74	9.00	5.14	34.09
4,904.47	60.00	315.26	4,753.71	-230.23	-397.47	140.60	9.00	8.81	3.00
Hold 60.00 Inclination									
5,000.00	60.00	315.26	4,801.47	-171.46	-455.70	223.21	0.00	0.00	0.00
5,004.47	60.00	315.26	4,803.71	-168.71	-458.43	227.07	0.00	0.00	0.00
Start Build DLS 9.00 TFO 0.00									
5,167.69	74.69	315.26	4,866.41	-62.02	-564.16	377.05	9.00	9.00	0.00
Start DLS 9.00 TFO 0.00									
5,337.79	90.00	315.26	4,889.00	57.38	-682.47	544.88	9.00	9.00	0.00
POE at 90.00 Inc 315.26									
5,338.00	90.00	315.26	4,889.00	57.53	-682.62	545.09	0.00	0.00	0.00
7"									
5,500.00	90.00	315.26	4,889.00	172.60	-796.65	706.84	0.00	0.00	0.00
6,000.00	90.00	315.26	4,889.00	527.76	-1,148.59	1,206.08	0.00	0.00	0.00
6,500.00	90.00	315.26	4,889.00	882.91	-1,500.53	1,705.32	0.00	0.00	0.00
7,000.00	90.00	315.26	4,889.00	1,238.07	-1,852.47	2,204.56	0.00	0.00	0.00
7,500.00	90.00	315.26	4,889.00	1,593.23	-2,204.41	2,703.79	0.00	0.00	0.00
8,000.00	90.00	315.26	4,889.00	1,948.39	-2,556.35	3,203.03	0.00	0.00	0.00
8,500.00	90.00	315.26	4,889.00	2,303.54	-2,908.30	3,702.27	0.00	0.00	0.00
9,000.00	90.00	315.26	4,889.00	2,658.70	-3,260.24	4,201.50	0.00	0.00	0.00
9,500.00	90.00	315.26	4,889.00	3,013.86	-3,612.18	4,700.74	0.00	0.00	0.00
10,000.00	90.00	315.26	4,889.00	3,369.02	-3,964.12	5,199.98	0.00	0.00	0.00
10,500.00	90.00	315.26	4,889.00	3,724.18	-4,316.06	5,699.21	0.00	0.00	0.00
11,000.00	90.00	315.26	4,889.00	4,079.33	-4,668.00	6,198.45	0.00	0.00	0.00
11,500.00	90.00	315.26	4,889.00	4,434.49	-5,019.95	6,697.69	0.00	0.00	0.00
12,000.00	90.00	315.26	4,889.00	4,789.65	-5,371.89	7,196.92	0.00	0.00	0.00
12,500.00	90.00	315.26	4,889.00	5,144.81	-5,723.83	7,696.16	0.00	0.00	0.00
12,850.57	90.00	315.26	4,889.00	5,393.82	-5,970.59	8,046.19	0.00	0.00	0.00
TD at 12850.57									

Database:	COMPASS	**Local Co-ordinate Reference:**	Well N ESCAVADA UT #318H
Company:	WPX Energy	**TVD Reference:**	GL @ 6864.00usft (Original Well Elev)
Project:	T22N R7W	**MD Reference:**	GL @ 6864.00usft (Original Well Elev)
Site:	2207-09O NEU	**North Reference:**	True
Well:	N ESCAVADA UT #318H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 2Aug16 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 #318H - plan hits target center - Point	0.00	0.00	4,753.71	-230.23	-397.47	1,872,814.39	575,588.69	36.146907	-107.577314
End 60 Tan #318H - plan hits target center - Point	0.00	0.00	4,803.71	-168.72	-458.42	1,872,875.74	575,527.58	36.147076	-107.577520
POE #318H - plan hits target center - Point	0.00	0.00	4,889.00	57.38	-682.47	1,873,101.24	575,302.93	36.147697	-107.578279
BHL #318H - plan hits target center - Point	0.00	0.00	4,889.00	5,393.82	-5,970.59	1,878,423.65	570,000.69	36.162355	-107.596194

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
5,338.00	4,889.00	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
1,425.68	1,424.12	-30.03	-9.73	Hold 8.51 Inclination
4,191.45	4,159.41	-419.55	-135.95	Start Build DLS 9.00 TFO 121.25
4,904.47	4,753.71	-230.23	-397.47	Hold 60.00 Inclination
5,004.47	4,803.71	-168.71	-458.43	Start Build DLS 9.00 TFO 0.00
5,167.69	4,866.41	-62.02	-564.16	Start DLS 9.00 TFO 0.00
5,337.79	4,889.00	57.38	-682.47	POE at 90.00 Inc 315.26
12,850.57	4,889.00	5,393.82	-5,970.59	TD at 12850.57

WPXENERGY

Well Name: N ESCAVADA UT #318H
Surface Location: 2207-09O NEU
NAD 1927 (NADCON CONUS) , US State Plane 1927 (Exact solution) New Mexico West 3003
Ground Elevation: 6864.00

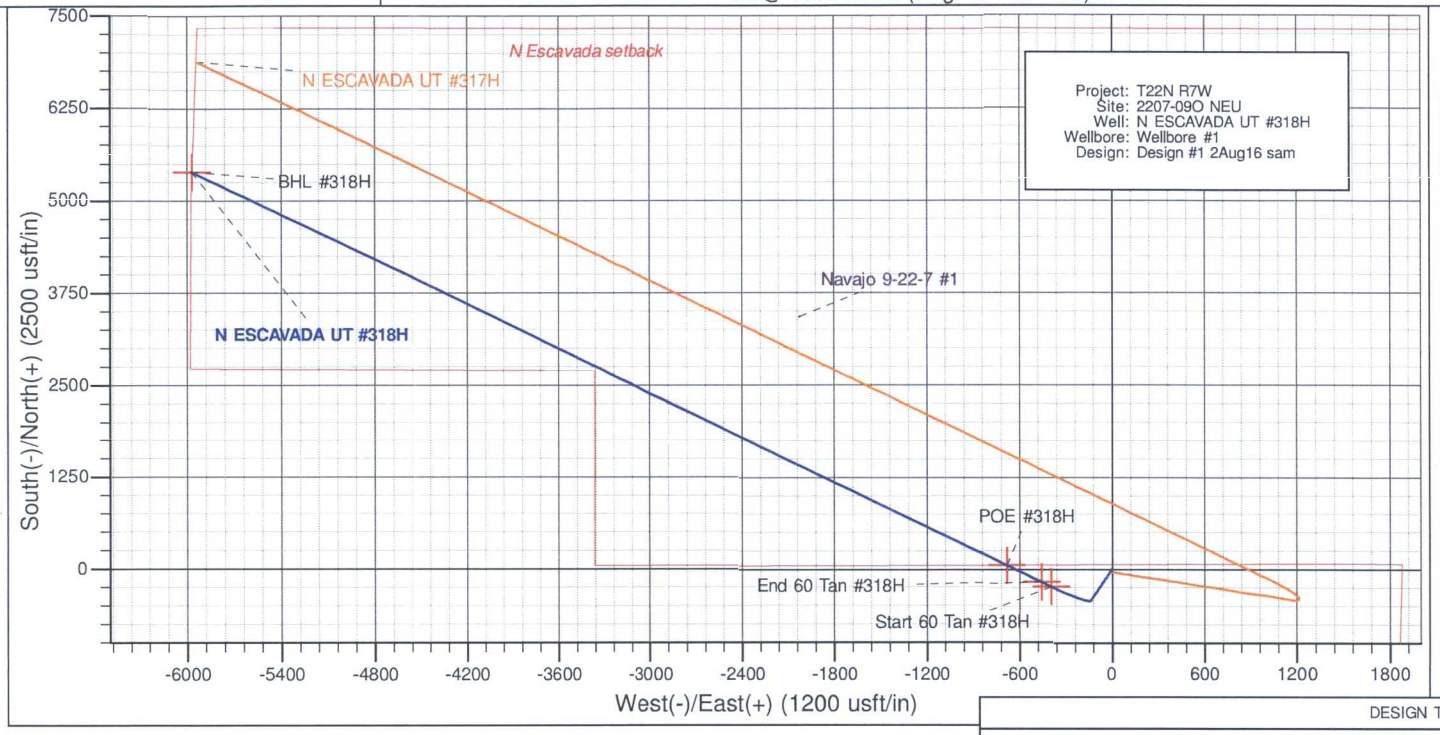
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1873045.67	575985.55	36.147539	-107.575967	

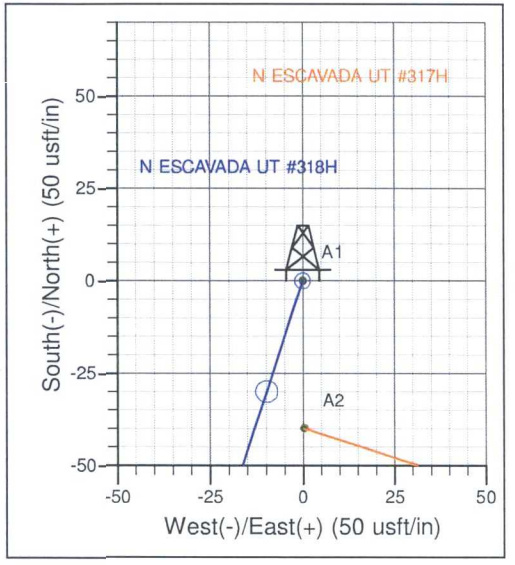
GL @ 6864.00usft (Original Well Elev)

T M

Azimuths to True North
Magnetic North: 9.20°

Magnetic Field
Strength: 49812.5snT
Dip Angle: 62.88°
Date: 8/2/2016
Model: IGRF2015





DESIGN TARGET DETAILS

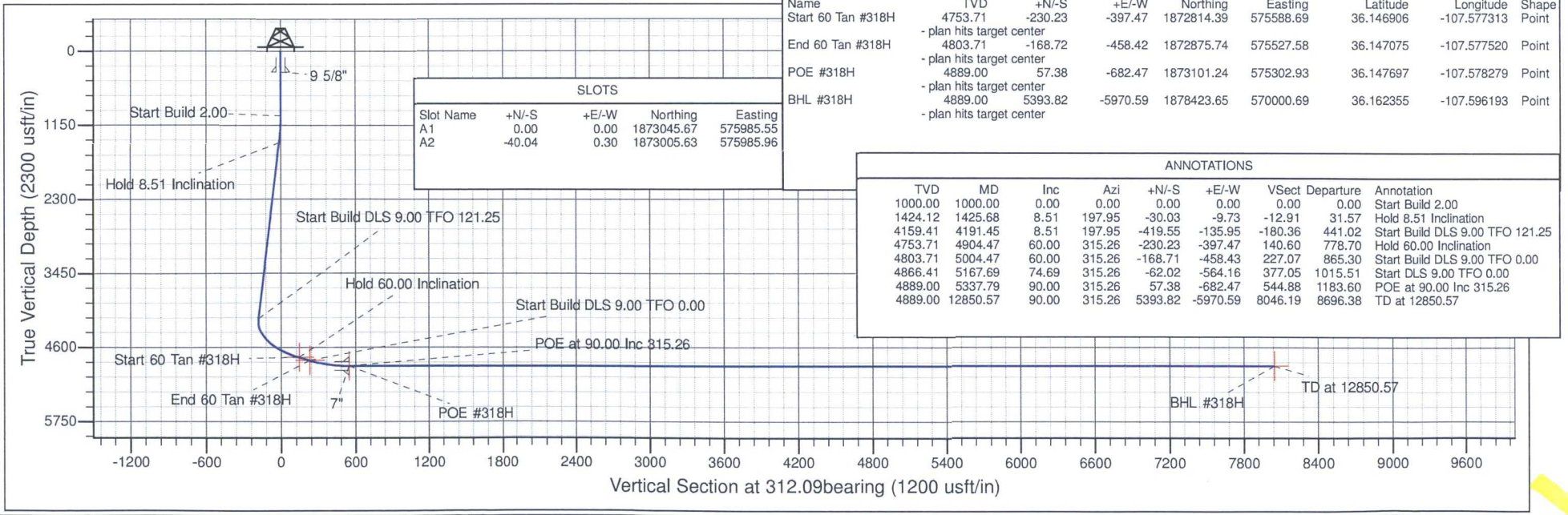
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Start 60 Tan #318H	4753.71 - plan hits target center	-230.23	-397.47	1872814.39	575588.69	36.146906	-107.577313	Point
End 60 Tan #318H	4803.71 - plan hits target center	-168.72	-458.42	1872875.74	575527.58	36.147075	-107.577520	Point
POE #318H	4889.00 - plan hits target center	57.38	-682.47	1873101.24	575302.93	36.147697	-107.578279	Point
BHL #318H	4889.00 - plan hits target center	5393.82	-5970.59	1878423.65	570000.69	36.162355	-107.596193	Point

SLOTS

Slot Name	+N/-S	+E/-W	Northing	Easting
A1	0.00	0.00	1873045.67	575985.55
A2	-40.04	0.30	1873005.63	575985.96

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
1424.12	1425.68	8.51	197.95	-30.03	-9.73	-12.91	31.57	Hold 8.51 Inclination
4159.41	4191.45	8.51	197.95	-419.55	-135.95	-180.36	441.02	Start Build DLS 9.00 TFO 121.25
4753.71	4904.47	60.00	315.26	-230.23	-397.47	140.60	778.70	Hold 60.00 Inclination
4803.71	5004.47	60.00	315.26	-168.71	-458.43	227.07	865.30	Start Build DLS 9.00 TFO 0.00
4866.41	5167.69	74.69	315.26	-62.02	-564.16	377.05	1015.51	Start DLS 9.00 TFO 0.00
4889.00	5337.79	90.00	315.26	57.38	-682.47	544.88	1183.60	POE at 90.00 Inc 315.26
4889.00	12850.57	90.00	315.26	5393.82	-5970.59	8046.19	8696.38	TD at 12850.57



The Natural Resources Conservation Service (NRCS) has mapped the soils in the proposed N Escavada 317/318 Project area. Complete soil information is available in the NRCS's *Soil Survey of Sandoval County Area, New Mexico, Parts of Los Alamos, Sandoval, and Rio Arriba Counties* (USDA/NRCS 2015). The soil map units within the proposed project area footprint are described in the sections below.

A. Blancot – Councelor - Tsosie association, 0 to 5 percent slopes

Within the project area, this soil map unit is found throughout the entirety of the project with exception to the northeastern most corner of the construction buffer zone. As such, excavated soils during construction of the well pad, access roads, and well connect pipelines would consist of native borrow and subsoils from the Blancot – Councelor - Tsosie association, 0 to 5 percent slopes soil map unit. A brief description of this soil can be found below.

The Blancot-Councelor-Tsosie association (0- to 5-percent slopes) soil is composed of 40 percent Blancot and similar soils, 30 percent Councelor and similar soils, and 25 percent Tsosie and similar soils. This soil association is considered a well-drained soil, with the depth to water table and restrictive layer being more than 80 inches. This soil type has a moderate potential for water erosion and very high potential for wind erosion. Landforms associated with these soils are valley side/floors, ridges, fan remnants, stream terraces, and alluvial fans (NRCS 2008).

B. Doakum, Betonnie fine sandy loams, 0 to 8 percent slopes

Within the project area, this soil map unit is found at the northeastern most corner of the construction buffer zone. This particular corner of the well pad will have an excavated cut of approximately 10 feet; as such, the construction buffer zone will likely be laid back with an excavated slope meeting industry safe standards. During this process, it is possible soils within the Doakum, Betonnie fine sandy loams, 0 to 8 percent slopes soil map unit could be disturbed. A brief description of this soil can be found below.

Doakum, Betonnie fine sandy loams are composed of 55 percent Doakum, 35 percent Betonnie, and 10 percent other minor components. The parent material of these soils are derived from shale and sandstone. Doakum occurs on slopes of 0 to 5 percent and has a permeability of .2 to .6 inches per hour (moderately slow). Betonnie soil is typical located on slopes from 5 to 8 percent with a permeability of 2 to 6 inches per hour (moderately rapid). Landforms associated with these soils are hills, mesas, valley sides, bajadas, fan remnants, plateaus, and cuestas. Both soils have a depth to restrictive layer more than 80 inches. These soils are well drained and runoff potential is low. (USDA/NRCS 2015).

7. METHODS FOR HANDLING WASTE

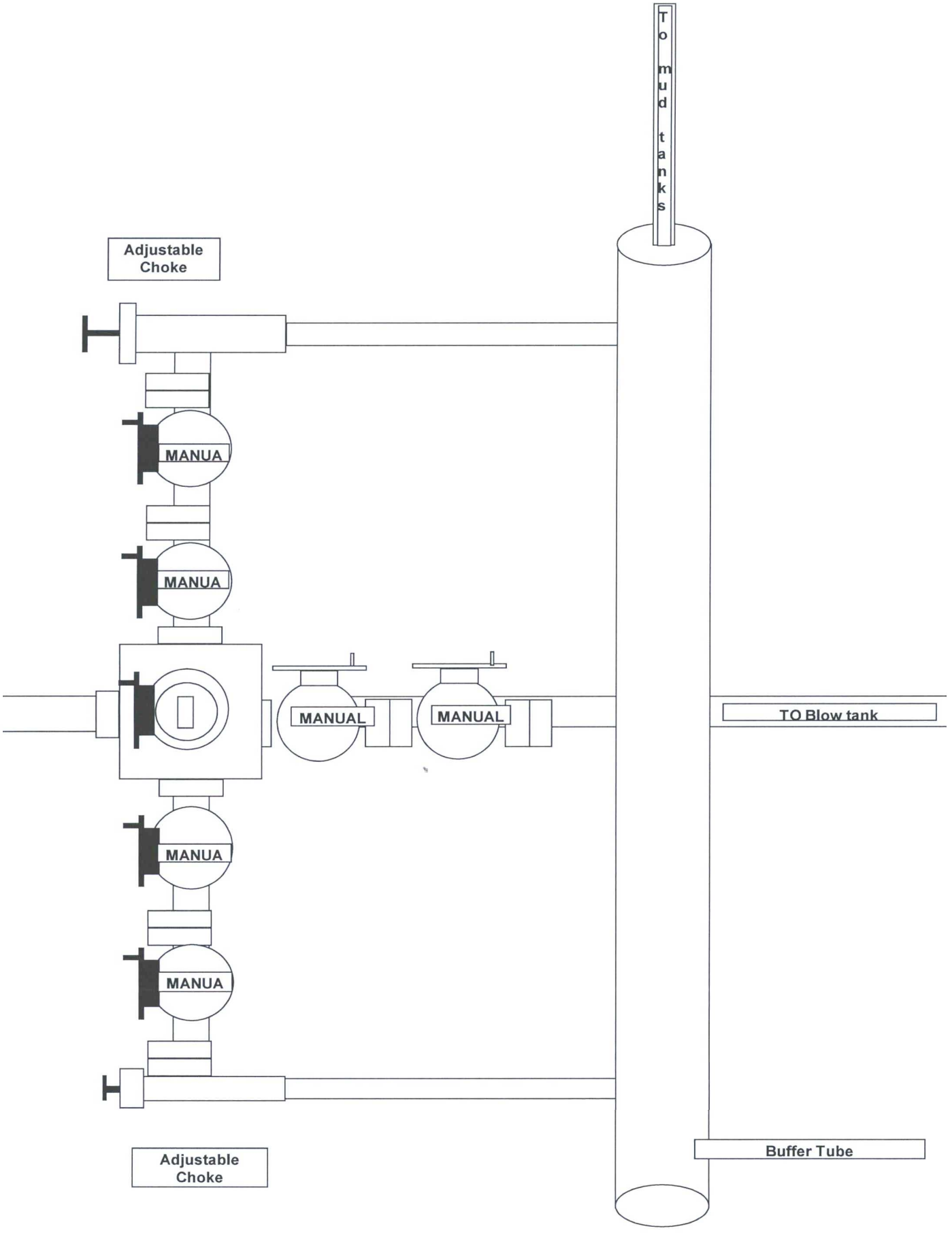
A. Cuttings

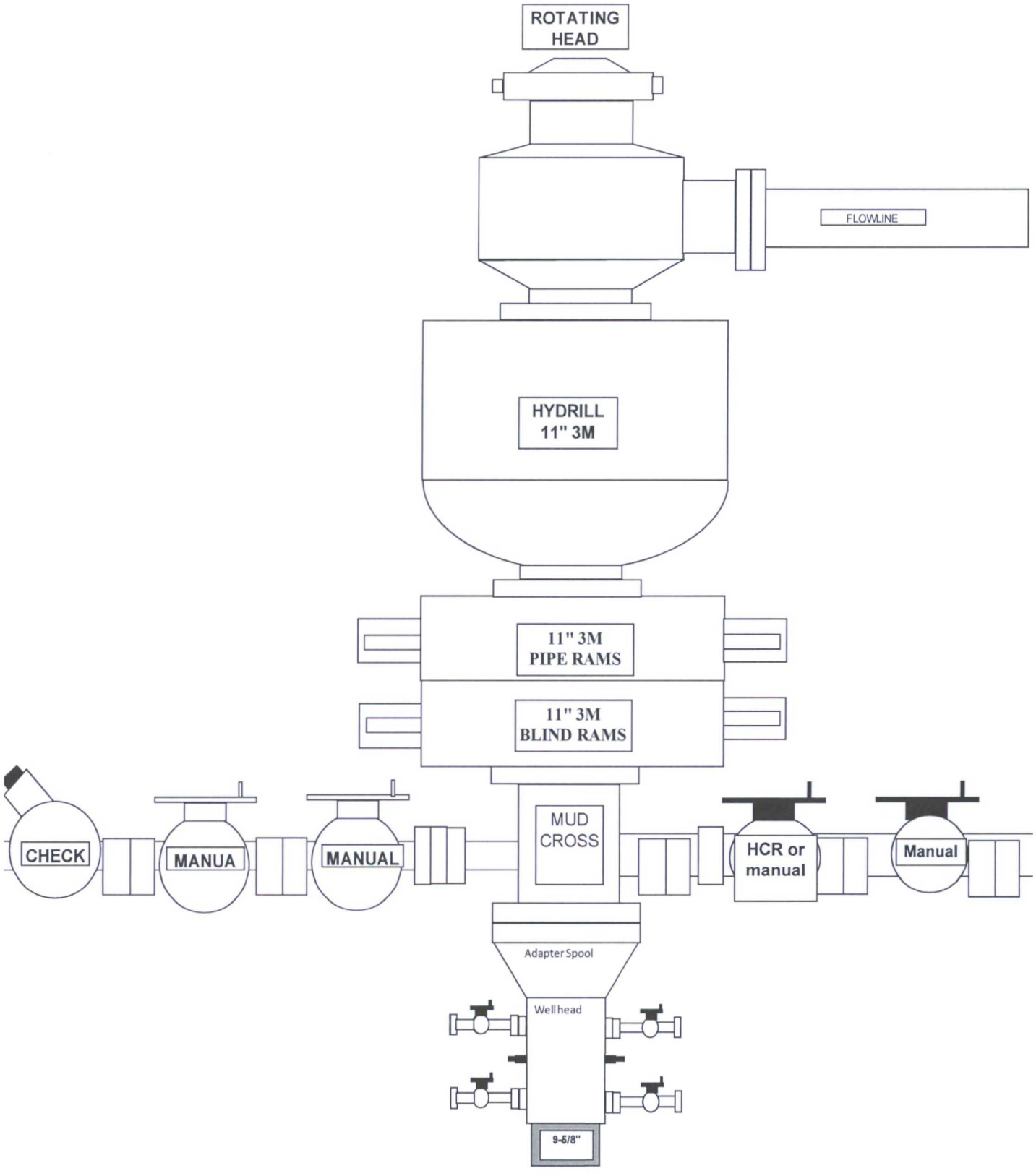
1 Drilling operations would utilize a closed-loop system. Drilling of the horizontal laterals would be accomplished with water-based mud. All cuttings would be placed in roll-off bins and hauled to a commercial disposal facility or land farm. WPX would follow Onshore Oil and Gas Order No. 1 regarding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


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
Wellhead
9-5/8"

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

in Bloomfield, NM to WPX Energy Production, LLC N Escavada UT #318H

268' FSL & 1548' FEL, Section 9, T22N, R7W, N.M.P.M., Sandoval County, NM

Latitude: 36.147554°N Longitude: 107.576575°W Datum: NAD1983

From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Southerly on US Hwy 550 for 53.6 miles to Mile Marker 97.7;

Go Right (Southerly) on Indian Service Route #474 for 4.9 miles to fork in roadway;

Go Right (Westerly) exiting Indian Service Route #474 for 2.5 miles to fork in roadway;

Go Right (Westerly) which is straight for 0.3 miles to fork in roadway;

Go Right (Westerly) which is straight for 1.0 miles to 4-way intersection;

Go Straight (Westerly) for 1.2 miles to 4-way intersection;

Go Left (Southerly) for 1.7 miles to 4-way intersection;

Go Right (Westerly) for 1.6 miles to new access on left-hand side of existing roadway which continues for an additional 1009.2' to staked WPX N Escavada UT #318H location.