State of New Mexico
Energy, Minerals and Natural Resources Department

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: 6/29/2016
Well information;
Operator WPX, Well Name and Number Rodeo Unit #5COH

API# 30-045-35796, Section 18, Township 23 (N)/S, Range 8 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. - APD Held for Unit approval by all agencies

Charlie Perrin
NMOCD Approved by Signature

5.26.17
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

13

Onsite 6-15-16
Porter
CK# 00011033
TR# 3743990
8-25-16

NOS 6-26-16
Unit
SME

ATS-F010-16-157
AFMSS-1040000 4803

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

Duga Prod Corp
W 2NE, NW
Requires 1st Prod

1a. Type of work: ☑ DRILL ☐ REENTER		5. Lease Serial No. NMNM136159
		6. If Indian, Allotee or Tribe Name
		7 If Unit or CA Agreement, Name and No. NMNM-136328A
1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other	☐ Single Zone ☑ Multiple Zone	8. Lease Name and Well No. RODEO UT 500H
2. Name of Operator WPX ENERGY LLC		9. API Well No. 30-045-35796
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
4. Location of Well (Report location clearly and in accordance with any State requirements.*) At surface LOT 0 / 271 FSL / 410 FEL / LAT 36.220413 / LONG -107.715566 At proposed prod. zone LOT 0 / 718 FSL / 330 FEL / LAT 36.207071 / LONG -107.696803		11. Sec., T. R. M. or Blk. and Survey or Area SEC 18 / T23N / R8W / NMP
14. Distance in miles and direction from nearest town or post office*		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 400	17. Spacing Unit dedicated to this well 640
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 271 feet	19. Proposed Depth 4941 feet / 11518 feet	20. BLM/BIA Bond No. on file FED: UTB000178
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6896 feet	22. Approximate date work will start* 10/01/2016	23. Estimated duration 30 days

OIL CONS. DIV DIST. 3
MAR 0 8 2017

KP

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) Lacey Granillo / Ph: (505)333-1816	Date 08/29/2016
Title Permitting Tech III		
Approved by (Signature) [signature]	Name (Printed/Typed)	Date 2/23/17
Title AFM	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 AV

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
30-045-35796	97232	BASIN MANCOS

4 Property Code	5 Property Name	6 Well Number
317527	RODEO UT	500H
7 OGRID No.	**8 Operator Name**	**9 Elevation**
120782	WPX ENERGY PRODUCTION, LLC	6896'

10 Surface Location

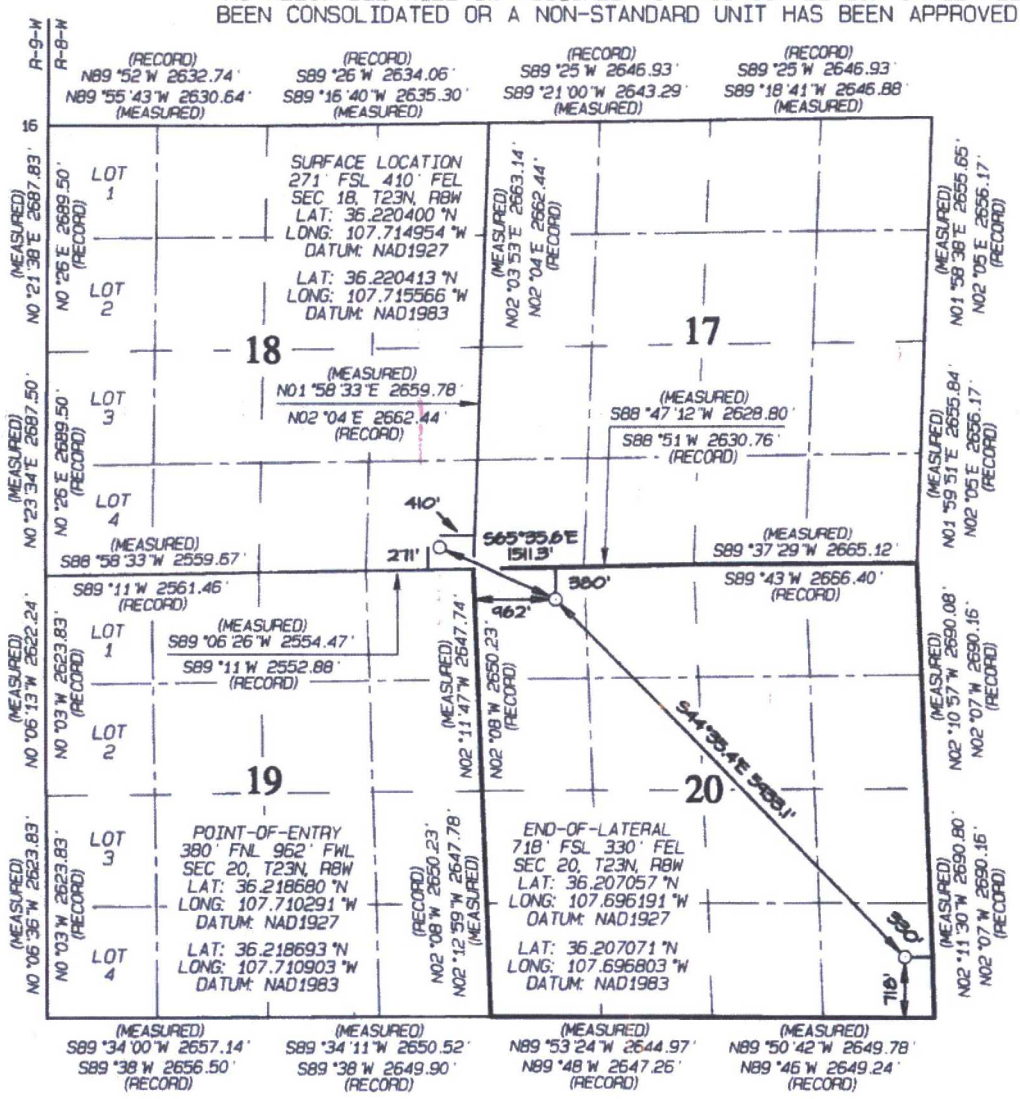
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	18	23N	8W		271	SOUTH	410	EAST	SAN JUAN

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	20	23N	8W		718	SOUTH	330	EAST	SAN JUAN

12 Dedicated Acres		13 Joint or Infill	14 Consolidation Code	15 Order No.
640.00	Entire Section 20			

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.

3/7/17
Signature Date

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: OCTOBER 6, 2016
Date of Survey: APRIL 11, 2016

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS
Certificate Number 15269

WPX Energy

Operations Plan

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

Date:	August 22, 2016	**Field:**	Basin Mancos
Well Name:	Rodeo UT 500H	**Surface:**	BLM
SH Location:	SESE Sec 18-23N-08W	**Elevation:**	6896' GR
BH Location:	SESE Sec 20-23N-08W	**Minerals:**	FED

Measured Depth: 11,517.67'

I. GEOLOGY

Surface formation - NACIMIENTO

A. FORMATION TOPS: (GR)

NAME	MD	TVD	NAME	MD	TVD
OJO ALAMO	671.00	671.00	POINT LOOKOUT	3,841.00	3,759.00
KIRTLAND	842.00	842.00	MANCOS	4,019.00	3,931.00
PICTURED CLIFFS	1,304.00	1,303.00	GALLUP	4,360.00	4,260.00
LEWIS	1,496.00	1,494.00	KICKOFF POINT	4,604.30	4,495.42
CHACRA	1,721.00	1,713.00	TOP TARGET	5,197.00	4,941.00
CLIFF HOUSE	2,862.00	2,814.00	LANDING POINT	5,583.70	5,047.00
MENEFEE	2,884.00	2,836.00	BASE TARGET	5,583.70	5,047.00
			TD	11,517.67	4,941.00

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"	5,583.70'	7"	23 LBS	J-55 or equiv	LTC
PRODUCTION	6.125"	5433.7' - 11,517.67'	4.5"	11.6 LBS	P-110 or equiv	LTC
TIE BACK	6.125"	Surf. - 5433.7'	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.

100 x 1.61 = 160 ft³

2. Intermediate:

Spacer #1: 20 bbl (112 cuft) Chemwash. Lead Cement: 106 bbls, 301 sks, (593 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/ +/- 220 bbl Drilling mud or water.
Total Cement: 164 bbls, 555 sks, (923 cuft)

301 x 1.97 = 593 ft³ = 923 ft³
254 x 1.3 = 330.2

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 (596 sx /810 cuft /144 bbls). Tail Spacer: 20 BBL of MMCR. Displacement: Displace w/ +/-151bbl Fr Water. Total Cement (596 sx /810bbls).

596 x 1.36 = 810 Ft^3

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 R8W
2308-18P Rodeo
Rodeo UT #500H

Wellbore #1

Plan: Design #1 26July16 sam

Standard Planning Report

28 July, 2016

Database:	COMPASS	**Local Co-ordinate Reference:**	Well Rodeo UT #500H
Company:	WPX Energy	**TVD Reference:**	GL @ 6896.00usft (Original Well Elev)
Project:	T23N R8W	**MD Reference:**	GL @ 6896.00usft (Original Well Elev)
Site:	2308-18P Rodeo	**North Reference:**	True
Well:	Rodeo UT #500H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 26July16 sam		

Project	T23N R8W		
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	2308-18P Rodeo				
Site Position:		**Northing:**	1,899,488.44 usft	**Latitude:**	36.220400
From:	Map	**Easting:**	534,918.26 usft	**Longitude:**	-107.714954
Position Uncertainty:	0.00 usft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.07 °

Well	Rodeo UT #500H					
Well Position	**+N/-S**	0.00 usft	**Northing:**	1,899,488.44 usft	**Latitude:**	36.220400
	+E/-W	0.00 usft	**Easting:**	534,918.26 usft	**Longitude:**	-107.714954
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	6,896.00 usft

Wellbore	Wellbore #1			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2015	7/26/2016	9.27	62.91	49,838

Design	Design #1 26July16 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	131.26

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	
1,761.92	15.24	99.70	1,752.97	-16.97	99.28	2.00	2.00	0.00	99.70	
4,604.30	15.24	99.70	4,495.42	-142.81	835.69	0.00	0.00	0.00	0.00	
5,139.00	60.00	135.28	4,911.81	-330.32	1,082.55	9.00	8.37	6.65	42.59	Start 60 Tan #500H
5,239.00	60.00	135.28	4,961.81	-391.86	1,143.49	0.00	0.00	0.00	0.00	End 60 Tan #500H
5,407.78	75.19	135.18	5,025.95	-502.30	1,253.07	9.00	9.00	-0.06	-0.39	
5,583.70	91.02	135.48	5,047.00	-626.11	1,375.46	9.00	9.00	0.17	1.12	POE #500H
11,517.67	91.02	135.48	4,941.00	-4,856.40	5,535.43	0.00	0.00	0.00	0.00	BHL #500H

Database:	COMPASS	**Local Co-ordinate Reference:**	Well Rodeo UT #500H
Company:	WPX Energy	**TVD Reference:**	GL @ 6896.00usft (Original Well Elev)
Project:	T23N R8W	**MD Reference:**	GL @ 6896.00usft (Original Well Elev)
Site:	2308-18P Rodeo	**North Reference:**	True
Well:	Rodeo UT #500H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 26July16 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									
1,500.00	10.00	99.70	1,497.47	-7.33	42.90	37.08	2.00	2.00	0.00
1,761.92	15.24	99.70	1,752.97	-16.97	99.28	85.82	2.00	2.00	0.00
Hold 15.24 Inclination									
2,000.00	15.24	99.70	1,982.68	-27.51	160.97	139.14	0.00	0.00	0.00
2,500.00	15.24	99.70	2,465.10	-49.65	290.51	251.12	0.00	0.00	0.00
3,000.00	15.24	99.70	2,947.52	-71.78	420.05	363.09	0.00	0.00	0.00
3,500.00	15.24	99.70	3,429.94	-93.92	549.59	475.07	0.00	0.00	0.00
4,000.00	15.24	99.70	3,912.36	-116.06	679.13	587.04	0.00	0.00	0.00
4,500.00	15.24	99.70	4,394.78	-138.19	808.66	699.02	0.00	0.00	0.00
4,604.30	15.24	99.70	4,495.42	-142.81	835.69	722.38	0.00	0.00	0.00
Start Build DLS 9.00 TFO 42.59									
5,000.00	47.80	131.84	4,830.05	-252.90	1,001.52	919.64	9.00	8.23	8.12
5,139.00	60.00	135.28	4,911.81	-330.32	1,082.55	1,031.61	9.00	8.78	2.48
Hold 60.00 Inclination									
5,239.00	60.00	135.28	4,961.81	-391.86	1,143.49	1,118.00	0.00	0.00	0.00
Start Build DLS 9.00 TFO -0.39									
5,407.78	75.19	135.18	5,025.95	-502.30	1,253.07	1,273.21	9.00	9.00	-0.06
Start DLS 9.00 TFO 1.12									
5,484.00	82.05	135.31	5,040.98	-555.33	1,305.65	1,347.70	9.00	9.00	0.18
7"									
5,500.00	83.49	135.34	5,043.00	-566.62	1,316.81	1,363.54	9.00	9.00	0.17
5,583.70	91.02	135.48	5,047.00	-626.11	1,375.46	1,446.86	9.00	9.00	0.17
POE at 91.02 at 135.48									
6,000.00	91.02	135.48	5,039.56	-922.89	1,667.30	1,861.97	0.00	0.00	0.00
6,500.00	91.02	135.48	5,030.63	-1,279.34	2,017.83	2,360.53	0.00	0.00	0.00
7,000.00	91.02	135.48	5,021.70	-1,635.78	2,368.35	2,859.10	0.00	0.00	0.00
7,500.00	91.02	135.48	5,012.77	-1,992.23	2,718.87	3,357.66	0.00	0.00	0.00
8,000.00	91.02	135.48	5,003.84	-2,348.68	3,069.39	3,856.23	0.00	0.00	0.00
8,500.00	91.02	135.48	4,994.91	-2,705.12	3,419.91	4,354.80	0.00	0.00	0.00
9,000.00	91.02	135.48	4,985.97	-3,061.57	3,770.44	4,853.36	0.00	0.00	0.00
9,500.00	91.02	135.48	4,977.04	-3,418.02	4,120.96	5,351.93	0.00	0.00	0.00
10,000.00	91.02	135.48	4,968.11	-3,774.46	4,471.48	5,850.49	0.00	0.00	0.00
10,500.00	91.02	135.48	4,959.18	-4,130.91	4,822.00	6,349.06	0.00	0.00	0.00
11,000.00	91.02	135.48	4,950.25	-4,487.36	5,172.53	6,847.62	0.00	0.00	0.00
11,500.00	91.02	135.48	4,941.32	-4,843.81	5,523.05	7,346.19	0.00	0.00	0.00
11,517.67	91.02	135.48	4,941.00	-4,856.40	5,535.43	7,363.81	0.00	0.00	0.00
TD at 11517.67									

Database:	COMPASS	**Local Co-ordinate Reference:**	Well Rodeo UT #500H
Company:	WPX Energy	**TVD Reference:**	GL @ 6896.00usft (Original Well Elev)
Project:	T23N R8W	**MD Reference:**	GL @ 6896.00usft (Original Well Elev)
Site:	2308-18P Rodeo	**North Reference:**	True
Well:	Rodeo UT #500H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 26July16 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 #500H - plan hits target center - Point	0.00	0.00	4,911.81	-330.32	1,082.55	1,899,159.44	536,001.21	36.219493	-107.711284
BHL #500H - plan hits target center - Point	0.00	0.00	4,941.00	-4,856.40	5,535.43	1,894,638.80	540,459.62	36.207057	-107.696191
End 60 Tan #500H - plan misses target center by 1.15usft at 5238.99usft MD (4961.81 TVD, -391.85 N, 1143.48 E) - Point	0.00	0.00	4,961.81	-391.04	1,144.30	1,899,098.80	536,063.04	36.219326	-107.711075
POE #500H - plan hits target center - Point	0.00	0.00	5,047.00	-626.11	1,375.46	1,898,864.01	536,294.48	36.218680	-107.710291

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
5,484.00	5,040.98	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
1,761.92	1,752.97	-16.97	99.28	Hold 15.24 Inclination
4,604.30	4,495.42	-142.81	835.69	Start Build DLS 9.00 TFO 42.59
5,139.00	4,911.81	-330.32	1,082.55	Hold 60.00 Inclination
5,239.00	4,961.81	-391.86	1,143.49	Start Build DLS 9.00 TFO -0.39
5,407.78	5,025.95	-502.30	1,253.07	Start DLS 9.00 TFO 1.12
5,583.70	5,047.00	-626.11	1,375.46	POE at 91.02 at 135.48
11,517.67	4,941.00	-4,856.40	5,535.43	TD at 11517.67

WPXENERGY

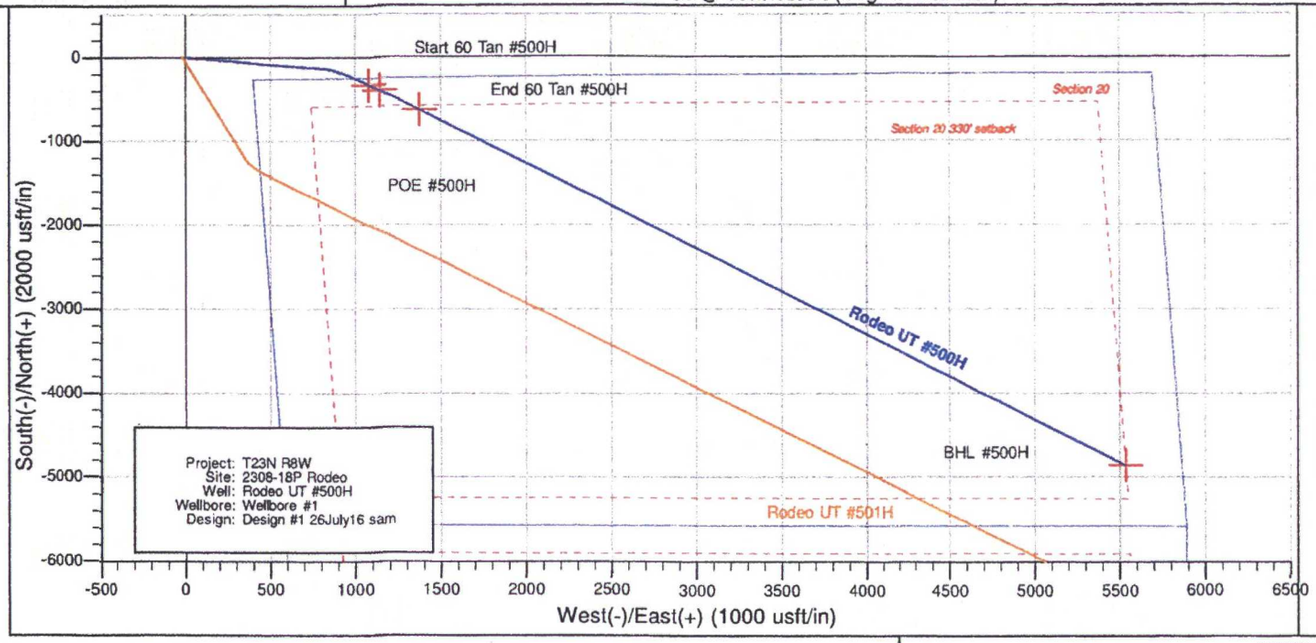
Well Name: Rodeo UT #500H
Surface Location: 2308-18P Rodeo
NAD 1927 (NADCON CONUS) , US State Plane 1927 (Exact solution) New Mexico West 3003
Ground Elevation: 6896.00

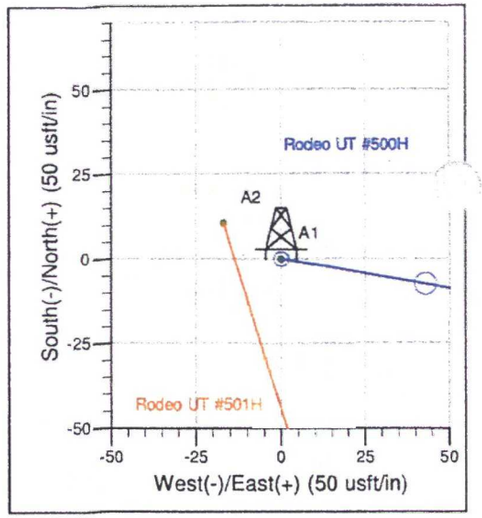
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1899488.44	534918.26	36.220400	-107.714954	

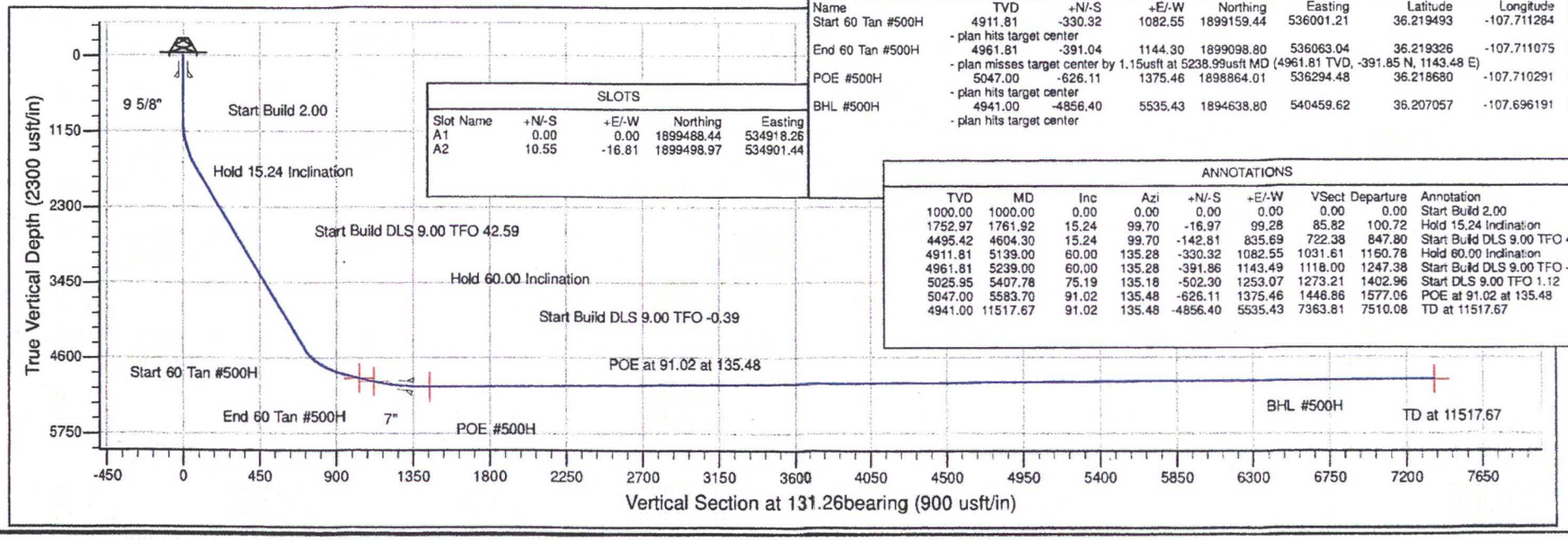
GL @ 6896.00usft (Original Well Elev)

Azimuths to True North
Magnetic North: 9.27°

Magnetic Field
Strength: 49837.6snT
Dip Angle: 62.91°
Date: 7/26/2016
Model: IGRF2015







SLOTS

Slot Name	+N/-S	+E/-W	Northing	Easting
A1	0.00	0.00	1899488.44	534918.26
A2	10.55	-16.81	1899498.97	534901.44

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Start 60 Tan #500H	4911.81	-330.32	1082.55	1899159.44	536001.21	36.219493	-107.711284	Point
	- plan hits target center							
End 60 Tan #500H	4961.81	-391.04	1144.30	1899098.80	536063.04	36.219326	-107.711075	Point
	- plan misses target center by 1.15usft at 5238.99usft MD (4961.81 TVD, -391.85 N, 1143.48 E)							
POE #500H	5047.00	-626.11	1375.46	1898864.01	536294.48	36.218680	-107.710291	P
	- plan hits target center							
BHL #500H	4941.00	-4856.40	5535.43	1894638.80	540459.62	36.207057	-107.696191	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
1752.97	1761.92	15.24	99.70	-16.97	99.28	85.82	100.72	Hold 15.24 Inclination
4495.42	4604.30	15.24	99.70	-142.81	835.69	722.38	847.80	Start Build DLS 9.00 TFO 42.59
4911.81	5139.00	60.00	135.28	-330.32	1082.55	1031.61	1160.78	Hold 60.00 Inclination
4961.81	5239.00	60.00	135.28	-391.86	1143.49	1118.00	1247.38	Start Build DLS 9.00 TFO -0.39
5025.95	5407.78	75.19	135.18	-502.30	1253.07	1273.21	1402.96	Start DLS 9.00 TFO 1.12
5047.00	5583.70	91.02	135.48	-626.11	1375.46	1446.86	1577.06	POE at 91.02 at 135.48
4941.00	11517.67	91.02	135.48	-4856.40	5535.43	7363.81	7510.08	TD at 11517.67

subsoils from the Fruitland-Persayo-Sheppard complex, hilly soil map unit. A brief description of this soil can be found below.

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).

C. Badland

Within the project area, this soil map unit is distinctly recognized by the presence of contrasting black to light grey shades of clay soils with little to no vegetation cover. Excavated soils during construction of one segment of well-connect pipeline would consist of native borrow and subsoils from the badland soil map unit. A brief description of this soil can be found below.

The parent material of the Badland map unit primarily consists of shale. This soil is considered a somewhat excessively drained soil, with the depth to restrictive layer (paralithic bedrock) being zero to two inches. Available water capacity for the Badland soil unit is very low (zero inches). This soil type has a low to moderate potential for water erosion and moderate potential for wind erosion. Badland soils are typically found along the side slopes of break landforms (5- to 80-percent slopes), and are commonly used for wildlife habitat (USDA/NRCS 2015). (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

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

D. Sewage

1 Portable toilets would be provided and maintained as needed during construction (see Figures 3 and 4 in Appendix B for the location of toilets per project phase).

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

in Bloomfield, NM to WPX Energy Production, LLC Rodeo UT #500H

271' FSL & 410' FEL, Section 18, T23N, R8W, N.M.P.M., San Juan County, NM

Latitude: 36.220413°N Longitude: 107.715566°W Datum: NAD1983

From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Southerly on US Hwy 550 for 37.8 miles to Mile Marker 113.4;

Go Right (South-westerly) on County Road #7890 for 0.7 miles to begin proposed access on left-hand side of County Road #7890 which continues for an additional 6555.1' to staked WPX Rodeo UT #500H location.