State of New Mexico
Energy, Minerals and Natural Resources Department

**Susana Martinez**
Governor

**David Martin**
Cabinet Secretary

**Brett F. Woods, Ph.D.**
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: 4-27-15
Well information;
Operator WPX, Well Name and Number Rosa Unit 27 # 103H

API# 30-039-31315, Section 19, 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
- 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
- ✓ 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 Lerma
NMOCD Approved by Signature

6-29-2015
Date
KC

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

Form 3160-3
(September 2001)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
APR 28 2015
Farmington Field Office
Bureau of Land Management

OMB No. 1004-0136
Expires January 31, 2004

# APPLICATION FOR PERMIT TO DRILL OR REENTER

| | |
|---|---|
| 1a. Type of Work: ☒ DRILL ☐ REENTER | 5. Lease Serial No. SF-078771 |
| 1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone | 6. If Indian, Allottee or Tribe Name |
| 2. Name of Operator WPX Energy Production, LLC | 7. If Unit or CA Agreement, Name and No. Rosa Unit R-13457 |
| 3a. Address P.O. Box 640 Aztec, NM 87410 | 3b. Phone No. *(include area code)* (505) 333-1849 |
| 4. Location of Well *(Report location clearly and in accordance with any State requirements. *)* At surface 975' FNL & 524' FWL, sec 19, T31N, R5W At proposed prod. zone 1282' FNL & 22' FEL, sec 23, T31N, R6W | 8. Lease Name and Well No. Rosa UT 27 103H |
| | 9. API Well No. 30-039-31315 |
| | 10. Field and Pool, or Exploratory Basin Mancos |
| | 11. Sec., T., R., M., or Blk. and Survey or Area SHL: Section 19, T31N, R5W BHL: Section 23, T31N, R6W |
| 14. Distance in miles and direction from nearest town or post office* Approximately 58 miles East from Bloomfield NM | 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) 524' | 16. No. of Acres in lease 840.00 2560.00 |
| | 17. Spacing Unit dedicated to this well West Rosa Unit Project Area 24,118.76 Acres |
| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 15' | 19. Proposed Depth 12,215 MD / 6,807 TVD |
| | 20. BLM/BIA Bond No. on file UTB000178 |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6305' GR | 22. Approximate date work will start* June 1, 2015 |
| | 23. Estimated duration 1 month |

## 24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be required by the authorized officer.

| | | |
|---|---|---|
| 25. Signature Andrea Felix | Name *(Printed/Typed)* Andrea Felix | Date 4-27-2015 |
| Title Regulatory Specialist Senior | | |
| Approved by *(Signature)* /s/ Matthew Kade | Name *(Printed/Typed)* | Date 6/17/15 |
| Title AFM | Office FFO | |

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

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

**(Instructions on reverse)*

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

The well pad surface is on lease on BLM surface within the Rosa Unit and will be co-located with the Rosa UT 101H / Rosa UT 102H / Rosa UT 104H / Rosa UT 105H / Rosa UT 106H / Rosa UT 107H / Rosa UT 108H / Rosa UT 109H & Rosa UT 110H.

This location has been archaeologically surveyed by LaPlata Archeology. Copies of their report have been submitted directly to the BLM.

New access road is approximately 71.0' on lease on BLM surface.

New pipeline is approximately 5,956.7' with 1,623.4' on lease on BLM surface and 4,333.3' on NM Game & Fish surface. A grant of easement is currently being processed by the NM Game & Fish portion for their portion of the pipeline.

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

OIL CONS. DIV DIST. 3

NMOCD

JUN 19 2015

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

District I
1625 N. French Drive, Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First Street, Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Drive, Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Drive
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

☐ AMENDED REPORT

RECEIVED
APR 23 2015
Farmington Field Office
Bureau of Land Management

# WELL LOCATION AND ACREAGE DEDICATION PLAT

| 1 API Number | 2 Pool Code | 3 Pool Name |
|---|---|---|
| 30-039-3B15 | 97232 | BASIN MANCOS |

| 4 Property Code | 5 Property Name | 6 Well Number |
|---|---|---|
| 314999 | ROSA UT 27 | 103H |

| 7 OGRID No. | 8 Operator Name | 9 Elevation |
|---|---|---|
| 120782 | WPX ENERGY PRODUCTION, LLC | 6305' |

## 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 | 19 | 31N | 5W | 1 | 975 | NORTH | 524 | 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 |
|---|---|---|---|---|---|---|---|---|---|
| A | 23 | 31N | 6W | | 1282 | NORTH | 22 | EAST | RIO ARRIBA |

| 12 Dedicated Acres | | 13 Joint or Infill | 14 Consolidation Code | 15 Order No. |
|---|---|---|---|---|
| 823.91 | N/2 - Section 19, T31N, R5W<br>N/2 - 23 & 24, T31N, R6W | | | |

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

*END-OF-LATERAL*
1282' FNL 22' FEL
SECTION 23, T31N, R6W
LAT: 36.888845 °N
LONG: 107.422604 °W
DATUM: NAD1927

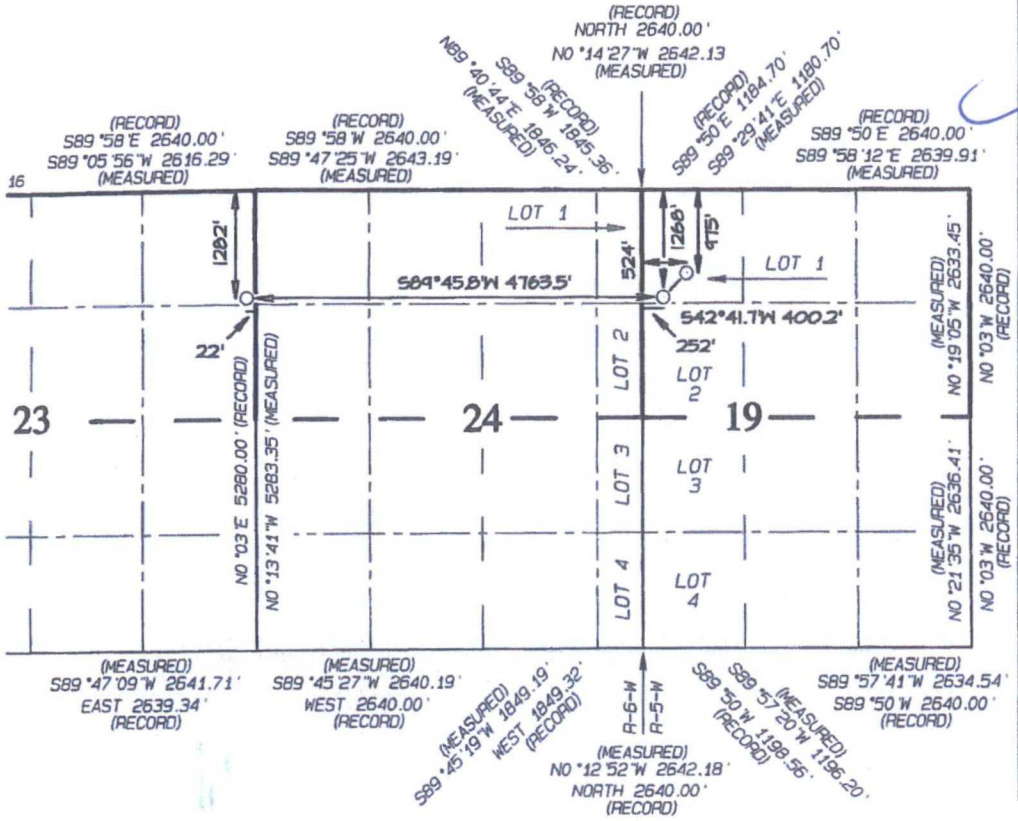
LAT: 36.888850 °N
LONG: 107.423207 °W
DATUM: NAD1983

*POINT-OF-ENTRY*
1268' FNL 252' FWL
SECTION 19, T31N, R5W
LAT: 36.888841 °N
LONG: 107.406315 °W
DATUM: NAD1927

LAT: 36.888847 °N
LONG: 107.406918 °W
DATUM: NAD1983

*SURFACE LOCATION*
975' FNL 524' FWL
SECTION 19, T31N, R5W
LAT: 36.889646 °N
LONG: 107.405383 °W
DATUM: NAD1927

LAT: 36.889652 °N
LONG: 107.405986 °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: 4-15-2015

Andrea Felix
Printed Name

andrea.felix@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: MARCH 16, 2015
Date of Survey: JANUARY 2, 2015

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 on site based upon actual conditions)***

**DATE:** 4/14/15 **FIELD:** Basin Mancos

**WELL NAME:** ROSA UT 27 #103H **SURFACE:** BLM

**SH Location:** NWNW Sec 19-31N-05W **ELEVATION:** 6305' GR

**BH Location:** NWNW Sec 24-31N-06W Rio Arriba, NM **MINERALS:** BLM

**MEASURED DEPTH:** 12215'

## I. GEOLOGY: Surface formation – San Jose

A. **FORMATION TOPS:** ( KB)

| Name | MD | TVD | Name | MD | TVD |
|---|---|---|---|---|---|
| | | | | | |
| Ojo Alamo | 2437 | 2429 | Point Lookout | 5662 | 5639 |
| Kirtland | 2534 | 2526 | Mancos | 5969 | 5945 |
| Picture Cliffs | 3363 | 3351 | **Kickoff Point** | 6372 | 6354 |
| Lewis | 3635 | 3622 | Top Target | 6890 | 6809 |
| Chacra | 4592 | 4574 | **Landing Point** | 7445 | 7032 |
| Cliff House | 5388 | 5367 | Base Target | 7445 | 7032 |
| Menefee | 5434 | 5412 | | | |
| | | | TD | 12215 | 6807 |

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 and the 8 ¾" Directional Vertical hole of the wellbore. A LSND (WBM) or (OBM) will be used to drill the curve portion and 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 anticipated reservoir is expected to be less than 5000 psi, so the BOPE will be tested to **250 psi (Low) for 5 minutes** and **5000 psi (High) for 10 minutes**. Pressure test surface casing to **1500psi 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) (FT) | CASING SIZE (IN) | WEIGHT(LB) | GRADE |
|---|---|---|---|---|---|
| Surface | 12.25" | 320'+ | 9.625" | 36# | J-55 |
| Intermediate | 8.75" | 6271' | 7" | 23# | N-80 |
| Long string | 6.125" | 12215' | 4-1/2" | 11.6# | P-110 |

### 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 2,700 ft., 2,500 ft., 2,300ft., 2,000ft., 1,500 ft., and 1,000 ft.

3. PRODUCTION CASING: Run 4-1/2" csg 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.

4. TIE-BACK CASING: None.

### 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 12 hours. Test csg to 600psi. Total Volume: (160 cu-ft/100 sx/ Bbls).TOC at Surface.

2. INTERMEDIATE: 20 bbl (112 cu-ft) Mud Flush III spacer + Lead: +/- 700 sx Foamed 50/50 Poz Cement. 13.0 ppg + 0.1% Halad 766 + 0.2% Versaset + 1.5% Chem-Foamer 760 (Yield :1.43 cu-ft/ sk. / Vol: 1001 cu-ft / 178.3 Bbls.) + TAIL: 100 sx 13.5 #/gal. + 0.2% Versaset + 0.15% HALAD-766 (Yield: 1.28 cu-ft / sk / Vol: 128 cu-ft / 22.8 Bbls.). + Fresh Water Displacement (1,362 cu-ft / +/- 242 Bbls) + 100 sx Top-Out Cement Premium: Yield: (1.17 cu-ft/ sk / (Vol: 117 cu-ft / 20.8 Bbls). WOC 12 hrs. Test Casing to 1500 PSI for 30 minutes. Total Cement Volume: (900 sx / 1246 cu-ft / 222 bbls). Mix with +/- 84,000 SCF Nitrogen. TOC at surface.

3. PRODUCTION CASING: **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 1.29 cu ft/sk, 13.5 ppg, (505 sx / 652 cu ft. / 116 bbls). **Tail Spacer:** 20 BBL of MMCR. **Displacement**: Displace w/ +/- 170 bbl Fr Water. Total Cement ( 652 cu ft / 116 bbls).

## IV. COMPLETION

### A. CBL

1. Run CCL for perforating.

### B. 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.

### C. STIMULATION

1. Stimulate with approximately 87,500# 100 mesh sand and 4,620,000# 40/70 mesh sand in 6,188,000 gallons water for 14 stages.
2. Isolate stages with flow through frac plug.
3. Drill out frac plugs and flowback lateral.

### D. RUNNING TUBING

1. *Production Tubing:* Run 2-3/8", 4.7#, J-55, EUE tubing with a SN on top of bottom joint. Land tubing in curve.

- 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:**

Installation of RSI sleeves at Toe of Lateral.

# WPX Energy

**T31N R5W Rosa Unit**
**Pad 27**
**ROSA UT 27 #103H - Slot A01**

**Wellbore #1**

**Plan: Design #2 16Mar15 sam**

# Standard Planning Report

**13 April, 2015**

# WPX
## Planning Report

| | | | |
|---|---|---|---|
| **Database:** | COMPASS-SANJUAN | **Local Co-ordinate Reference:** | Well ROSA UT 27 #103H (A01) - Slot A01 |
| **Company:** | WPX Energy | **TVD Reference:** | KB @ 6330.00usft (Aztec 1000) |
| **Project:** | T31N R5W Rosa Unit | **MD Reference:** | KB @ 6330.00usft (Aztec 1000) |
| **Site:** | Pad 27 | **North Reference:** | True |
| **Well:** | ROSA UT 27 #103H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | Design #2 16Mar15 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 | | |

| **Site** | Pad 27 | | | | |
|---|---|---|---|---|---|
| **Site Position:** | | **Northing:** | 2,143,400.02 usft | **Latitude:** | 36.8897153 |
| **From:** | Lat/Long | **Easting:** | 625,077.55 usft | **Longitude:** | -107.4056260 |
| **Position Uncertainty:** | 0.00 usft | **Slot Radius:** | 13.20 in | **Grid Convergence:** | 0.26 ° |

| **Well** | ROSA UT 27 #103H - Slot A01 | | | | | |
|---|---|---|---|---|---|---|
| **Well Position** | **+N/-S** | -25.40 usft | **Northing:** | 2,143,374.94 usft | **Latitude:** | 36.8896455 |
| | **+E/-W** | 71.14 usft | **Easting:** | 625,148.80 usft | **Longitude:** | -107.4053827 |
| **Position Uncertainty** | | 0.00 usft | **Wellhead Elevation:** | 0.00 usft | **Ground Level:** | 6,305.00 usft |

| **Wellbore** | Wellbore #1 | | | |
|---|---|---|---|---|
| **Magnetics** | **Model Name** | **Sample Date** | **Declination (°)** | **Dip Angle (°)** | **Field Strength (nT)** |
| | IGRF2010 | 12/18/2014 | 9.33 | 63.57 | 50,520 |

| **Design** | Design #2 16Mar15 sam | | | |
|---|---|---|---|---|
| **Audit Notes:** | | | | |
| **Version:** | **Phase:** | PLAN | **Tie On Depth:** | 0.00 |

| **Vertical Section:** | **Depth From (TVD) (usft)** | **+N/-S (usft)** | **+E/-W (usft)** | **Direction (°)** |
|---|---|---|---|---|
| | 0.00 | 0.00 | 0.00 | 270.02 |

**Plan Sections**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | 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 | |
| 420.00 | 0.00 | 0.00 | 420.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 651.65 | 4.63 | 123.64 | 651.39 | -5.19 | 7.79 | 2.00 | 2.00 | 0.00 | 123.64 | |
| 6,372.97 | 4.63 | 123.64 | 6,354.02 | -261.22 | 392.50 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 7,445.83 | 92.70 | 270.02 | 7,032.00 | -292.91 | -272.69 | 9.00 | 8.21 | 13.64 | 146.17 | PP Rosa 27 #103H |
| 12,214.63 | 92.70 | 270.02 | 6,807.00 | -291.18 | -5,036.17 | 0.00 | 0.00 | 0.00 | 0.00 | TD / PBHL Rosa 27 # |

# WPX

## Planning Report

| | | | |
|---|---|---|---|
| **Database:** | COMPASS-SANJUAN | **Local Co-ordinate Reference:** | Well ROSA UT 27 #103H (A01) - Slot A01 |
| **Company:** | WPX Energy | **TVD Reference:** | KB @ 6330.00usft (Aztec 1000) |
| **Project:** | T31N R5W Rosa Unit | **MD Reference:** | KB @ 6330.00usft (Aztec 1000) |
| **Site:** | Pad 27 | **North Reference:** | True |
| **Well:** | ROSA UT 27 #103H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | Design #2 16Mar15 sam | | |

**Planned Survey**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | 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"** | | | | | | | | | |
| 420.00 | 0.00 | 0.00 | 420.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Start Build 2.00** | | | | | | | | | |
| 500.00 | 1.60 | 123.64 | 499.99 | -0.62 | 0.93 | -0.93 | 2.00 | 2.00 | 0.00 |
| 651.65 | 4.63 | 123.64 | 651.39 | -5.19 | 7.79 | -7.79 | 2.00 | 2.00 | 0.00 |
| **Hold 4.63 Inclination** | | | | | | | | | |
| 1,000.00 | 4.63 | 123.64 | 998.61 | -20.77 | 31.22 | -31.22 | 0.00 | 0.00 | 0.00 |
| 1,500.00 | 4.63 | 123.64 | 1,496.98 | -43.15 | 64.84 | -64.85 | 0.00 | 0.00 | 0.00 |
| 2,000.00 | 4.63 | 123.64 | 1,995.34 | -65.52 | 98.46 | -98.48 | 0.00 | 0.00 | 0.00 |
| 2,500.00 | 4.63 | 123.64 | 2,493.71 | -87.90 | 132.08 | -132.11 | 0.00 | 0.00 | 0.00 |
| 3,000.00 | 4.63 | 123.64 | 2,992.07 | -110.27 | 165.70 | -165.74 | 0.00 | 0.00 | 0.00 |
| 3,500.00 | 4.63 | 123.64 | 3,490.44 | -132.65 | 199.32 | -199.37 | 0.00 | 0.00 | 0.00 |
| 4,000.00 | 4.63 | 123.64 | 3,988.81 | -155.02 | 232.94 | -233.00 | 0.00 | 0.00 | 0.00 |
| 4,500.00 | 4.63 | 123.64 | 4,487.17 | -177.40 | 266.56 | -266.62 | 0.00 | 0.00 | 0.00 |
| 5,000.00 | 4.63 | 123.64 | 4,985.54 | -199.77 | 300.18 | -300.25 | 0.00 | 0.00 | 0.00 |
| 5,500.00 | 4.63 | 123.64 | 5,483.91 | -222.15 | 333.80 | -333.88 | 0.00 | 0.00 | 0.00 |
| 6,000.00 | 4.63 | 123.64 | 5,982.27 | -244.52 | 367.42 | -367.51 | 0.00 | 0.00 | 0.00 |
| 6,271.00 | 4.63 | 123.64 | 6,252.39 | -256.65 | 385.65 | -385.74 | 0.00 | 0.00 | 0.00 |
| **7"** | | | | | | | | | |
| 6,372.97 | 4.63 | 123.64 | 6,354.02 | -261.22 | 392.50 | -392.59 | 0.00 | 0.00 | 0.00 |
| **Start Build/Turn DLS 9.00 TFO 146.17** | | | | | | | | | |
| 6,500.00 | 8.01 | 251.23 | 6,480.65 | -266.92 | 388.39 | -388.48 | 9.00 | 2.66 | 100.44 |
| 7,000.00 | 52.63 | 267.93 | 6,901.84 | -286.31 | 144.19 | -144.29 | 9.00 | 8.92 | 3.34 |
| 7,445.83 | 92.70 | 270.02 | 7,032.00 | -292.91 | -272.69 | 272.59 | 9.00 | 8.99 | 0.47 |
| **POE at 92.70 Inclination** | | | | | | | | | |
| 7,500.00 | 92.70 | 270.02 | 7,029.44 | -292.89 | -326.80 | 326.69 | 0.00 | 0.00 | 0.00 |
| 8,000.00 | 92.70 | 270.02 | 7,005.85 | -292.71 | -826.24 | 826.14 | 0.00 | 0.00 | 0.00 |
| 8,500.00 | 92.70 | 270.02 | 6,982.26 | -292.53 | -1,325.68 | 1,325.58 | 0.00 | 0.00 | 0.00 |
| 9,000.00 | 92.70 | 270.02 | 6,958.67 | -292.34 | -1,825.13 | 1,825.02 | 0.00 | 0.00 | 0.00 |
| 9,500.00 | 92.70 | 270.02 | 6,935.08 | -292.16 | -2,324.57 | 2,324.47 | 0.00 | 0.00 | 0.00 |
| 10,000.00 | 92.70 | 270.02 | 6,911.49 | -291.98 | -2,824.01 | 2,823.91 | 0.00 | 0.00 | 0.00 |
| 10,500.00 | 92.70 | 270.02 | 6,887.90 | -291.80 | -3,323.46 | 3,323.35 | 0.00 | 0.00 | 0.00 |
| 11,000.00 | 92.70 | 270.02 | 6,864.31 | -291.62 | -3,822.90 | 3,822.80 | 0.00 | 0.00 | 0.00 |
| 11,500.00 | 92.70 | 270.02 | 6,840.72 | -291.44 | -4,322.34 | 4,322.24 | 0.00 | 0.00 | 0.00 |
| 12,000.00 | 92.70 | 270.02 | 6,817.13 | -291.26 | -4,821.79 | 4,821.68 | 0.00 | 0.00 | 0.00 |
| 12,214.63 | 92.70 | 270.02 | 6,807.00 | -291.18 | -5,036.17 | 5,036.07 | 0.00 | 0.00 | 0.00 |
| **TD at 12214.63** | | | | | | | | | |

**Design Targets**

| Target Name - hit/miss target - Shape | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| TD / PBHL Rosa 27 #10<br>- plan hits target center<br>- Point | 0.00 | 0.00 | 6,807.00 | -291.18 | -5,036.17 | 2,143,061.18 | 620,113.98 | 36.8888445 | -107.4226037 |
| PP Rosa 27 #103H<br>- plan hits target center<br>- Point | 0.00 | 0.00 | 7,032.00 | -292.91 | -272.69 | 2,143,080.81 | 624,877.42 | 36.8888410 | -107.4063152 |

| | | | |
|---|---|---|---|
| **Database:** | COMPASS-SANJUAN | **Local Co-ordinate Reference:** | Well ROSA UT 27 #103H (A01) - Slot A01 |
| **Company:** | WPX Energy | **TVD Reference:** | KB @ 6330.00usft (Aztec 1000) |
| **Project:** | T31N R5W Rosa Unit | **MD Reference:** | KB @ 6330.00usft (Aztec 1000) |
| **Site:** | Pad 27 | **North Reference:** | True |
| **Well:** | ROSA UT 27 #103H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | Design #2 16Mar15 sam | | |

**Casing Points**

| Measured Depth (usft) | Vertical Depth (usft) | Name | Casing Diameter (in) | Hole Diameter (in) |
|---|---|---|---|---|
| 320.00 | 320.00 | 9 5/8" | 9.62 | 12.25 |
| 6,271.00 | 6,252.39 | 7" | 7.00 | 8.75 |

**Plan Annotations**

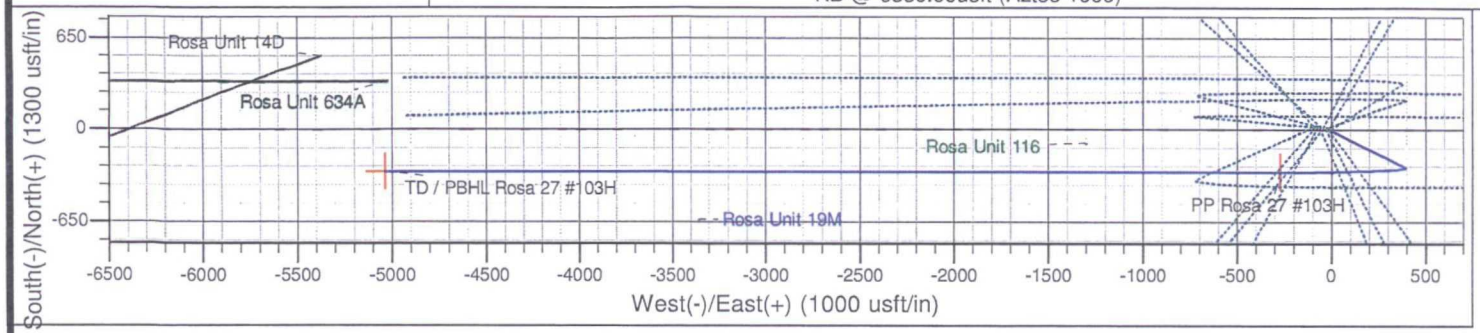
| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates +N/-S (usft) | Local Coordinates +E/-W (usft) | Comment |
|---|---|---|---|---|
| 420.00 | 420.00 | 0.00 | 0.00 | Start Build 2.00 |
| 651.65 | 651.39 | -5.19 | 7.79 | Hold 4.63 Inclination |
| 6,372.97 | 6,354.02 | -261.22 | 392.50 | Start Build/Turn DLS 9.00 TFO 146.17 |
| 7,445.83 | 7,032.00 | -292.91 | -272.69 | POE at 92.70 Inclination |
| 12,214.63 | 6,807.00 | -291.18 | -5,036.17 | TD at 12214.63 |

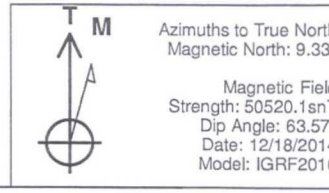
WPXENERGY

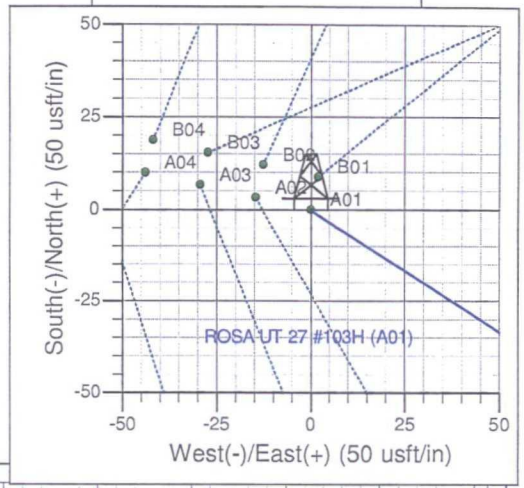
Well Name: ROSA UT 27 #103H
Surface Location: Pad 27
NAD 1927 (NADCON CONUS) , US State Plane 1927 (Exact solution) New Mexico West 3003
Ground Elevation: 6305.00

| +N/-S | +E/-W | Northing | Easting | Latitude | Longitude | Slot |
|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 2143374.94 | 625148.79 | 36.8896456 | -107.4053827 | A01 |

KB @ 6330.00usft (Aztec 1000)



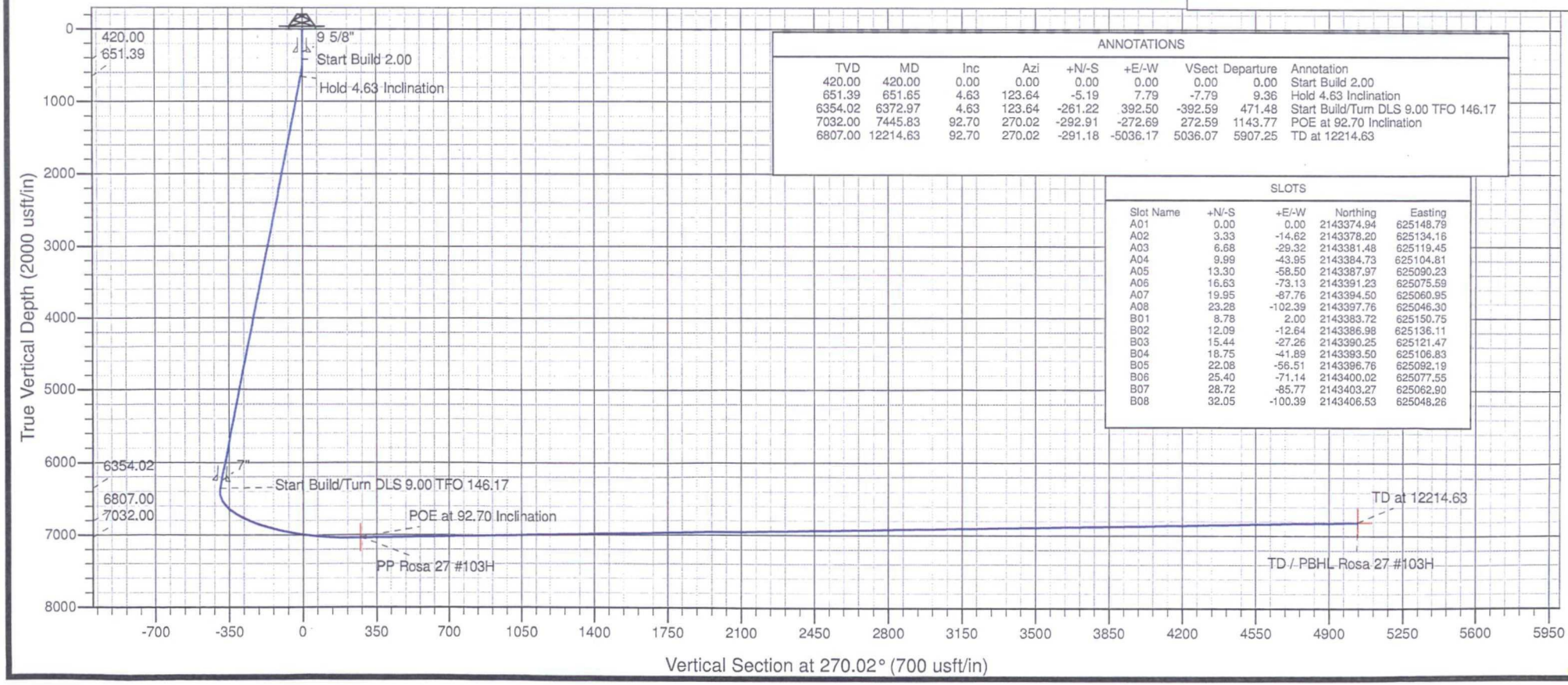




DESIGN TARGET DETAILS

| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude | Shape |
|---|---|---|---|---|---|---|---|---|
| PP Rosa 27 #103H | 7032.00 | -292.91 | -272.69 | 2143080.81 | 624877.42 | 36.8888410 | -107.4063151 | Point |
| - plan hits target center | | | | | | | | |
| TD / PBHL Rosa 27 #103H | 6807.00 | -291.18 | -5036.17 | 2143061.18 | 620113.98 | 36.8888445 | -107.4226036 | Point |
| - plan hits target center | | | | | | | | |

Project: T31N R5W Rosa Unit
Site: Pad 27
Well: ROSA UT 27 #103H
Design #2 16Mar15 sam




ANNOTATIONS

| TVD | MD | Inc | Azi | +N/-S | +E/-W | VSect | Departure | Annotation |
|---|---|---|---|---|---|---|---|---|
| 420.00 | 420.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | Start Build 2.00 |
| 651.39 | 651.65 | 4.63 | 123.64 | -5.19 | 7.79 | -7.79 | 9.36 | Hold 4.63 Inclination |
| 6354.02 | 6372.97 | 4.63 | 123.64 | -261.22 | 392.50 | -392.59 | 471.48 | Start Build/Turn DLS 9.00 TFO 146.17 |
| 7032.00 | 7445.83 | 92.70 | 270.02 | -292.91 | -272.69 | 272.59 | 1143.77 | POE at 92.70 Inclination |
| 6807.00 | 12214.63 | 92.70 | 270.02 | -291.18 | -5036.17 | 5036.07 | 5907.25 | TD at 12214.63 |

SLOTS

| Slot Name | +N/-S | +E/-W | Northing | Easting |
|---|---|---|---|---|
| A01 | 0.00 | 0.00 | 2143374.94 | 625148.79 |
| A02 | 3.33 | -14.62 | 2143378.20 | 625134.16 |
| A03 | 6.68 | -29.32 | 2143381.48 | 625119.45 |
| A04 | 9.99 | -43.95 | 2143384.73 | 625104.81 |
| A05 | 13.30 | -58.50 | 2143387.97 | 625090.23 |
| A06 | 16.63 | -73.13 | 2143391.23 | 625075.59 |
| A07 | 19.95 | -87.76 | 2143394.50 | 625060.95 |
| A08 | 23.28 | -102.39 | 2143397.76 | 625046.30 |
| B01 | 8.78 | 2.00 | 2143383.72 | 625150.75 |
| B02 | 12.09 | -12.64 | 2143386.98 | 625136.11 |
| B03 | 15.44 | -27.26 | 2143390.25 | 625121.47 |
| B04 | 18.75 | -41.89 | 2143393.50 | 625106.83 |
| B05 | 22.08 | -56.51 | 2143396.76 | 625092.19 |
| B06 | 25.40 | -71.14 | 2143400.02 | 625077.55 |
| B07 | 28.72 | -85.77 | 2143403.27 | 625062.90 |
| B08 | 32.05 | -100.39 | 2143406.53 | 625048.26 |

3. Cuttings disposal construction, operation and closure will be permitted and regulated under NMOCD Rule 17.

After the completion phases and pipeline installation, portions of the project area not needed for operation will be reclaimed. When all wells are plugged, final reclamation will occur within the remainder of the project area. Reclamation is described in detail in the Reclamation Plan (Appendix C).

## 7.0 Methods for Handling Waste

A. Cuttings
   1. Drilling operations will utilize a closed-loop system. Drilling of the horizontal laterals will be accomplished with water-based mud. All cuttings will be placed in roll-off bins and hauled to Section 23 cuttings disposal and/or a cuttings disposal at Section 25 recycling containment. WPX will follow Onshore Oil and Gas Order No. 1 regarding the placement, operation, and removal of closed-loop systems. No blow pit will be used.
   2. 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 will be adequately sized for containment of all fluids.

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

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

D. Sewage
   1. Portable toilets will be provided and maintained during construction, as needed (see Figure 11 and 12 in Appendix B for the location of toilets).

E. Garbage and other waste material
   1. All garbage and trash will be placed in a metal trash basket. The trash and garbage will be hauled off site and dumped in an approved landfill, as needed.

F. Hazardous Waste
   1. No chemicals subject to reporting under Superfund Amendments and Reauthorization Act Title III in an amount equal to or greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling, testing, or completing of these wells.
   2. No extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities will be used, produced, stored, transported, or disposed of annually in association with the drilling, testing, or completing of these wells.
   3. All fluids (i.e., scrubber cleaners) used during washing of production equipment will be properly disposed of to avoid ground contamination or hazard to livestock or wildlife.

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

**in Bloomfield, NM to WPX Energy Production, LLC Rosa Unit 27 #103H**

**975' FNL & 524' FWL, Section 19, T31N, R5W, N.M.P.M., Rio Arriba County, NM**

**Latitude: 36.889652°N Longitude: 107.405986°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 4-way intersection;

Go Left which is straight (North-easterly) remaining on Rosa Road for 5.9 miles to fork in road;

Go Right (Easterly) for 0.25 miles to fork in roadway;

Go Right which is straight (Easterly) for 0.1 miles to fork in roadway;

Go Left which is straight (Easterly) for 1.3 miles to fork in roadway;

Go Right (Westerly) for 0.1 miles to new access on right-hand side of roadway which continues for 71.0` to staked WPX Rosa Unit 27 #103H location.

# 5,000 psi BOP Schematic