Rec'd 11/20/2020 - NMOCD

Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018

## SUNDRY NOTICES AND REPORTS ON WELLS

***Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.***

***SUBMIT IN TRIPLICATE - Other instructions on page 2***

5. Lease Serial No.
NMLC062140A

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.
891000303X

1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

8. Well Name and No.
POKER LAKE UNIT 29 BS 106H

2. Name of Operator
XTO PERMIAN OPERATING LLC
Contact: KELLY KARDOS
E-Mail: kelly_kardos@xtoenergy.com

9. API Well No.
30-015-45914-00-X1

3a. Address
6401 HOLIDAY HILL ROAD BLDG 5
MIDLAND, TX 79707

3b. Phone No. (include area code)
Ph: 432-620-4374

10. Field and Pool or Exploratory Area
PURPLE SAGE-WOLFCAMP (GAS)

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 29 T25S R31E SWNE 2310FNL 1920FEL
32.102215 N Lat, 103.797928 W Lon

11. County or Parish, State
EDDY COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | | |
|---|---|---|---|---|
| ☒ Notice of Intent | ☐ Acidize | ☐ Deepen | ☐ Production (Start/Resume) | ☐ Water Shut-Off |
| ☐ Subsequent Report | ☐ Alter Casing | ☐ Hydraulic Fracturing | ☐ Reclamation | ☐ Well Integrity |
| ☐ Final Abandonment Notice | ☐ Casing Repair | ☐ New Construction | ☐ Recomplete | ☒ Other Change to Original APD |
| | ☐ Change Plans | ☐ Plug and Abandon | ☐ Temporarily Abandon | |
| | ☐ Convert to Injection | ☐ Plug Back | ☐ Water Disposal | |

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

XTO Permian Operating, LLC, requests permission to make the following changes to the original APD:

Change BHL from 200'FSL & 1650'FEL in Sec. 5-T26S-R31E to 200'FSL & 1590'FEL in Sec. 32-T25S-R31E.

Casing/Cement design per the attached drilling program.

XTO also requests the following variances:

Approval to utilize a spudder rig to pre-set surface casing per the attached Description of Operations.

Batch drill this well if necessary. In doing so, XTO will set each casing string and ensure that

Entered - KMS NMOCD

14. I hereby certify that the foregoing is true and correct.

**Electronic Submission #537803 verified by the BLM Well Information System**
**For XTO PERMIAN OPERATING LLC, sent to the Carlsbad**
**Committed to AFMSS for processing by PRISCILLA PEREZ on 11/19/2020 (21PP0643SE)**

Name *(Printed/Typed)* KELLY KARDOS — Title REGULATORY COORDINATOR

Signature (Electronic Submission) — Date 11/17/2020

## THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By JENNIFER SANCHEZ — Title PETROLEUM ENGINEER — Date 11/20/2020

Conditions of approval, if any, are attached. Approval of this notice 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.

Office Carlsbad

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 page 2)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

## Additional data for EC transaction #537803 that would not fit on the form

**32. Additional remarks, continued**

the well is cemented properly and the well is static. With floats holding, no pressure on the csg annulus, and the installation of a 10K TA cap as per GE recommendations, XTO will contact the BLM to skid the rig to drill the remaining wells on the pad. Once surface and intermediate strings are all completed, XTO will begin drilling the production hole on each of the wells.

ONLY test broken pressure seals on the BOP equipment per the attached procedure.

A variance is requested to cement offline for the surface and intermediate casing strings.

Attachments:
C102
Drilling Program
Multibowl Diagram
Direction Plan
Spudder Rig Description of Operations
BOP Break Test Procedure
Offline Cementing Procedure

## Revisions to Operator-Submitted EC Data for Sundry Notice #537803

| | Operator Submitted | BLM Revised (AFMSS) |
|---|---|---|
| Sundry Type: | APDCH<br>NOI | APDCH<br>NOI |
| Lease: | NMLC062140A | NMLC062140A |
| Agreement: | NMNM71016X | 891000303X (NMNM71016X) |
| Operator: | XTO PERMIAN OPERATING, LLC<br>6401 HOLIDAY HILL RD BLDG 5<br>MIDLAND, TX 79707<br>Ph: 432-620-4374 | XTO PERMIAN OPERATING LLC<br>6401 HOLIDAY HILL ROAD BLDG 5<br>MIDLAND, TX 79707<br>Ph: 432.683 2277 |
| Admin Contact: | KELLY KARDOS<br>REGULATORY COORDINATOR<br>E-Mail: kelly_kardos@xtoenergy.com<br><br>Ph: 432-620-4374 | KELLY KARDOS<br>REGULATORY COORDINATOR<br>E-Mail: kelly_kardos@xtoenergy.com<br><br>Ph: 432-620-4374 |
| Tech Contact: | KELLY KARDOS<br>REGULATORY COORDINATOR<br>E-Mail: kelly_kardos@xtoenergy.com<br><br>Ph: 432-620-4374 | KELLY KARDOS<br>REGULATORY COORDINATOR<br>E-Mail: kelly_kardos@xtoenergy.com<br><br>Ph: 432-620-4374 |
| Location:<br>State:<br>County: | <br>NM<br>EDDY | <br>NM<br>EDDY |
| Field/Pool: | PURPLE SAGE WOLFCAMP | PURPLE SAGE-WOLFCAMP (GAS) |
| Well/Facility: | POKER LAKE UNIT 29 BS 106H<br>Sec 29 T25S R31E Mer NMP SWNE 2310FNL 1920FEL | POKER LAKE UNIT 29 BS 106H<br>Sec 29 T25S R31E SWNE 2310FNL 1920FEL<br>32.102215 N Lat, 103.797928 W Lon |

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., 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 Dr., 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 Dr.
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 |
|---|---|---|
| 30-015-45914 | 98220 | PURPLE SAGE; WOLFCAMP |

| [4] Property Code | [5] Property Name | [6] Well Number |
|---|---|---|
| | POKER LAKE UNIT 29 BS | 106H |

| [7] OGRID No. | [8] Operator Name | [9] Elevation |
|---|---|---|
| 373075 | XTO PERMIAN OPERATING, LLC. | 3,348' |

## [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 |
|---|---|---|---|---|---|---|---|---|---|
| G | 29 | 25 S | 31 E | | 2,310 | NORTH | 1,920 | EAST | EDDY |

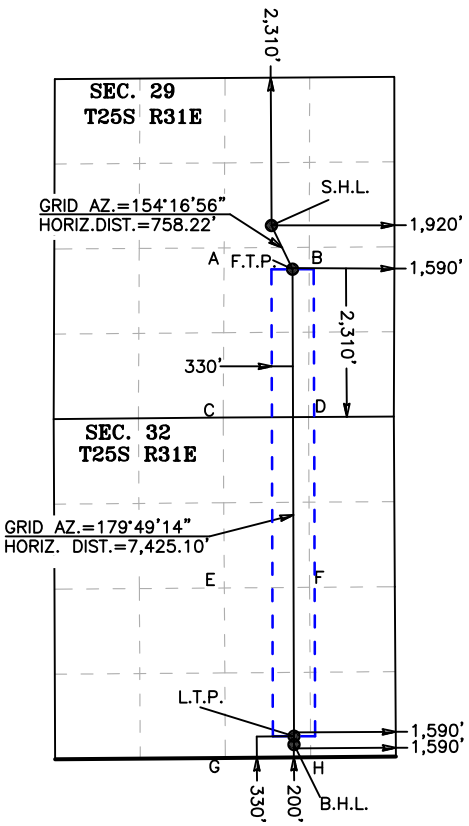
## [11] Bottom Hole Location If Different From Surface

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| O | 32 | 25 S | 31 E | | 200 | SOUTH | 1,590 | EAST | EDDY |

| [12] Dedicated Acres | [13] Joint or Infill | [14] Consolidation Code | [15] Order No. |
|---|---|---|---|
| 480 | | | |

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.

[16]




GEODETIC COORDINATES
NAD 83 NME
SURFACE LOCATION
Y= 401,333.2
X= 707,122.8
LAT.= 32.102213°N
LONG.= 103.797930°W

LAST TAKE POINT
NAD 83 NME
Y= 393,355.0
X= 707,474.2
LAT.= 32.080277°N
LONG.= 103.796923°W

FIRST TAKE POINT
NAD 83 NME
Y= 400,650.0
X= 707,451.8
LAT.= 32.100330°N
LONG.= 103.796879°W

BOTTOM HOLE LOCATION
NAD 83 NME
Y= 393,225.0
X= 707,475.0
LAT.= 32.079920°N
LONG.= 103.796923°W

CORNER COORDINATES TABLE
NAD 83 NME
A – Y= 400,984.0 N, X= 706,383.3 E
B – Y= 400,992.8 N, X= 707,713.2 E
C – Y= 398,334.2 N, X= 706,368.7 E
D – Y= 398,341.4 N, X= 706,700.8 E
E – Y= 395,671.4 N, X= 706,385.5 E
F – Y= 395,681.1 N, X= 707,717.4 E
G – Y= 393,015.9 N, X= 706,402.2 E
H – Y= 393,027.2 N, X= 707,734.2 E

CORNER COORDINATES TABLE
NAD 27 NME
A – Y= 400,926.1 N, X= 665,197.8 E
B – Y= 400,934.9 N, X= 666,527.6 E
C – Y= 398,276.4 N, X= 665,183.1 E
D – Y= 398,283.6 N, X= 666,515.1 E
E – Y= 395,613.6 N, X= 665,199.8 E
F – Y= 395,623.3 N, X= 666,531.6 E
G – Y= 392,958.2 N, X= 665,216.4 E
H – Y= 392,969.5 N, X= 666,548.3 E

GEODETIC COORDINATES
NAD 27 NME
SURFACE LOCATION
Y= 401,275.3
X= 665,937.3
LAT.= 32.102088°N
LONG.= 103.797451°W

LAST TAKE POINT
NAD 27 NME
Y= 393,297.3
X= 666,288.4
LAT.= 32.080152°N
LONG.= 103.796446°W

FIRST TAKE POINT
NAD 27 NME
Y= 400,592.1
X= 666,266.2
LAT.= 32.100206°N
LONG.= 103.796400°W

BOTTOM HOLE LOCATION
NAD 27 NME
Y= 393,167.3
X= 666,289.2
LAT.= 32.079795°N
LONG.= 103.796445°W

## [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.*

Kelly Kardos — Signature
11-17-20 — Date

Kelly Kardos
Printed Name

kelly_kardos@xtoenergy.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.*

11-12-2020
Date of Survey

Signatue and Seal of Professional Surveyor:

MARK DILLON HARP NEW MEXICO 23786 PROFESSIONAL SURVEYOR

MARK DILLON HARP 23786
Certificate Number

RR 2017071013

P:\PROJECTS\2017\2017071013-XTO-POKER_LAKE_UNIT_29_BS_126H-(106H)-EDDY\DWG\2017071013-XTO-POKER_LAKE_UNIT_29_106H_C-102_11-09-2020.dwg, Adobe PDF

Intent [X] As Drilled [ ]

| API # |
|---|
| 30-015-45914 |

| Operator Name: | Property Name: | Well Number |
|---|---|---|
| XTO Permian Operating, LLC | Poker Lake Unit 29 BS | 106H |

Kick Off Point (KOP)

| UL | Section | Township | Range | Lot | Feet | From N/S | Feet | From E/W | County |
|---|---|---|---|---|---|---|---|---|---|
| G | 29 | 25S | 31E | | 2310 | NORTH | 1920 | EAST | Eddy |

| Latitude | Longitude | NAD |
|---|---|---|
| 32.102213 | -103.797930 | NAD83 |

First Take Point (FTP)

| UL | Section | Township | Range | Lot | Feet | From N/S | Feet | From E/W | County |
|---|---|---|---|---|---|---|---|---|---|
| J | 29 | 25S | 31E | | 2310 | SOUTH | 1590 | EAST | Eddy |

| Latitude | Longitude | NAD |
|---|---|---|
| 32.100330 | -103.796879 | NAD83 |

Last Take Point (LTP)

| UL | Section | Township | Range | Lot | Feet | From N/S | Feet | From E/W | County |
|---|---|---|---|---|---|---|---|---|---|
| O | 32 | 25S | 31E | | 330 | SOUTH | 1590 | EAST | Eddy |

| Latitude | Longitude | NAD |
|---|---|---|
| 32.080277 | -103.796923 | NAD83 |

Is this well the defining well for the Horizontal Spacing Unit? [N]

Is this well an infill well? [Y]

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

| API # |
|---|
| 30-015-46174 |

| Operator Name: | Property Name: | Well Number |
|---|---|---|
| XTO Permian Operating, LLC | POKER LAKE UNIT 29 BS | 705H |

KZ 06/29/2018

**Poker Lake Unit 29 BS 106H**
Projected TD: 19504' MD / 11733' TVD
SHL: 2310' FNL & 1920' FEL , Section 29, T25S, R31E
BHL: 200' FSL & 1590' FEL , Section 32, T25S, R31E
Eddy County, NM

## Casing Design

*The surface fresh water sands will be protected by setting 11-3/4" casing @ 1148' (50' above the salt) and circulating cement back to surface. The 7-5/8" intermediate casing will be set at 10992' and bring TOC back to surface. A 6-3/4 inch curve and lateral hole will be drilled to MD/TD and 5-1/2" x 5 casing will be set at TD and cemented back 300' into the 7-5/8" casing shoe.*

| Hole Size | Depth | OD Csg | Weight | Collar | Grade | New/Used | SF Burst | SF Collapse | SF Tension |
|---|---|---|---|---|---|---|---|---|---|
| 14-3/4" | 0' – 1148' | 11-3/4" | 54 | BTC | J-55 | New | 1.25 | 3.99 | 13.71 |
| 8-3/4" | 0' – 4000' | 7-5/8" | 29.7 | Liberty FJ | CYP-110 | New | 2.19 | 2.80 | 1.71 |
| 8-3/4" | 4000' – 10992' | 7-5/8" | 29.7 | Liberty FJ | HCL-80 | New | 1.60 | 2.00 | 1.96 |
| 6-3/4" | 0' – 10892' | 5-1/2" | 23 | Semi-Premium | P-110 | New | 1.21 | 2.27 | 2.29 |
| 6-3/4" | 10892' - 19504' | 5 | 18 | Semi-Flush | P-110 | New | 1.16 | 1.95 | 8.51 |

· XTO requests to not utilize centralizers in the curve and lateral
· 7-5/8" Collapse analyzed using 50% evacuation based on regional experience.
· 5-1/2" Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35
· Test on Casing will be limited to 70% burst of the casing or 1500 psi, whichever is less
· Request to use 5" BTC Float equipment for the the production casing

**WELLHEAD:**

*Permanent Wellhead – Multibowl System*
A. Starting Head: 13-5/8" 10M top flange x 11-3/4" SOW bottom
B. Tubing Head: 13-5/8" 10M bottom flange x 7-1/16" 15M top flange
· Wellhead will be installed by manufacturer's representatives.
· Manufacturer will monitor welding process to ensure appropriate temperature of seal.
· Operator will test the 7-5/8" casing per BLM Onshore Order 2
· Wellhead Manufacturer representative will not be present for BOP test plug installation

## Cement Program

### Surface Casing:

Lead: 390 sxs Halcem-C + 2% CaCl (mixed at 12.8 ppg, 1.87 ft3/sx, 10.13 gal/sx water)
Tail: 190 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi
TOC: Surface

### Intermediate Casing:

*1st Stage*

Optional Lead: 370 sxs NeoCem (mixed at 10.5 ppg, 2.77 ft3/sx, 15.59 gal/sx water)
TOC: Surface

Optional Lead: 370 sxs NeoCem (mixed at 10.5 ppg, 2.77 ft3/sx, 15.59 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1150 psi
TOC: Brushy Canyon (6824')

*2nd Stage*

Tail: 640 sxs Halcem-Class C (mixed at 14.8 ppg, 1.33 ft3/sx, 5.29 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1150 psi
TOC: Surface

XTO requests to pump a two stage cement job on the 7-5/8" intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brush Canyon (6824') and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. If cement is not visually confirmed to circulate to surface, the final cement top after the second stage job will be verified by Echo-meter. If necessary, a top out consisting of 1,500 sack of Class C cement + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (2.30 yld, 12.91 ppg) will be executed as a contingency. If cement is still unable to circulate to surface, another Echo-meter run will be performed for cement top verification.

XTO will include the Echo-meter verified fluid top and the volume of displacement fluid above the cement slurry in the annulus in all post-drill sundries on wells utilizing this cement program.

XTO will report to the BLM the volume of fluid (limited to 5 bbls) used to flush intermediate casing valves following backside cementing procedures.

XTO requests to pump an Optional Lead if well conditions dictate in an attempt to bring cement to surface on the first stage. If cement is brought to surface, the BLM will be notified and the second stage bradenhead squeeze and subsequent TOC verification will be negated.

In the event cement is not circulated to surface on the first stage, whether intentionally or unintentionally, XTO requests the option to conduct the bradenhead squeeze and TOC verification offline as per standard approval from BLM when unplanned remediation is needed and batch drilling is approved. In the event the bradenhead is conducted, we will ensure first stage cement job is cemented properly and the well is static with floats holding and no pressure on the csg annulus as with all other casing strings where batch drilling operations occur before moving off the rig. The TA cap will also be installed per GE procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops.

**Production Casing:**
Lead: 20 sxs VersaCem (mixed at 11.5 ppg, 2.69 ft3/sx, 15.00 gal/sx water)
Tail: 800 sxs VersaCem (mixed at 13.2 ppg, 1.51 ft3/sx, 7.20 gal/sx water)
Compressives: 12-hr = 800 psi 24 hr = 1500psi
TOC: 300' inside previous shoe

## Mud Circulation Program

| INTERVAL | Hole Size | Mud Type | MW (ppg) | Viscosity (sec/qt) | Fluid Loss (cc) |
|---|---|---|---|---|---|
| 0' - 1148' | 14-3/4" | FW / Native | 8.4-8.8 | 35-40 | NC |
| 1148' - 10992' | 8-3/4" | Brine / Cut Brine / Direct Emuslion | 8.5-9.7 | 30-32 | NC |
| 10992' to 19504' | 6-3/4" | Cut Brine / WBM / OBM | 10.8-11.8 | 32-36 | NC |

Spud with fresh water/native mud and set 11-3/4" surface casing, isolating the fresh water aquifer. Drill out from under 11-3/4" surface casing with a brine/oil direct emulsion mud system. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Pump speed will be recorded on a daily drilling report after mudding up. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

DRILLING PLAN: BLM COMPLIANCE
(Supplement to BLM 3160-3)

XTO Energy Inc.
Poker Lake Unit 29 BS 106H
Projected TD: 19504' MD / 11733' TVD
SHL: 2310' FNL & 1920' FEL , Section 29, T25S, R31E
BHL: 200' FSL & 1590' FEL , Section 32, T25S, R31E
Eddy County, NM

**1. Geologic Name of Surface Formation**

A. Permian

**2. Estimated Tops of Geological Markers & Depths of Anticipated Fresh Water, Oil or Gas**

| Formation | Well Depth (TVD) | Water/Oil/Gas |
|---|---|---|
| Rustler | 835' | Water |
| Top of Salt | 1198' | Water |
| Base of Salt | 3934' | Water |
| Delaware | 4148' | Water |
| Brushy Canyon | 6824' | Water/Oil/Gas |
| Bone Spring | 8090' | Water |
| 1st Bone Spring Ss | 9087' | Water/Oil/Gas |
| 2nd Bone Spring Ss | 9948' | Water/Oil/Gas |
| 3rd Bone Spring Ss | 11042' | Water/Oil/Gas |
| Wolfcamp | 11453' | Water/Oil/Gas |
| Wolfcamp X | 11482' | Water/Oil/Gas |
| Wolfcamp A | 11611' | Water/Oil/Gas |
| Target/Land Curve | 11733' | Water/Oil/Gas |

*** Hydrocarbons @ Brushy Canyon
*** Groundwater depth 40' (per NM State Engineers Office).

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 11-3/4" casing @ 1148' (50' above the salt) and circulating cement back to surface. The 7-5/8" intermediate casing will be set at 10992' and bring TOC back to surface. A 6-3/4 inch curve and lateral hole will be drilled to MD/TD and 5-1/2" x 5 casing will be set at TD and cemented back 300' into the 7-5/8" casing shoe.

**3. Casing Design**

| Hole Size | Depth | OD Csg | Weight | Collar | Grade | New/Used | SF Burst | SF Collapse | SF Tension |
|---|---|---|---|---|---|---|---|---|---|
| 14-3/4" | 0' – 1148' | 11-3/4" | 54 | BTC | J-55 | New | 1.25 | 3.99 | 13.71 |
| 8-3/4" | 0' – 4000' | 7-5/8" | 29.7 | Liberty FJ | CYP-110 | New | 2.19 | 2.80 | 1.71 |
| 8-3/4" | 4000' – 10992' | 7-5/8" | 29.7 | Liberty FJ | HCL-80 | New | 1.60 | 2.00 | 1.96 |
| 6-3/4" | 0' – 10892' | 5-1/2" | 23 | Semi-Premium | P-110 | New | 1.21 | 2.27 | 2.29 |
| 6-3/4" | 10892' - 19504' | 5 | 18 | Semi-Flush | P-110 | New | 1.16 | 1.95 | 8.51 |

· XTO requests to not utilize centralizers in the curve and lateral
·7-5/8" Collapse analyzed using 50% evacuation based on regional experience
· 5-1/2" Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35
· Test on Casing will be limited to 70% burst of the casing or 1500 psi, whichever is less
·Request to use 5" BTC Float equipment for the the production casing

**Wellhead:**

*Permanent Wellhead – Multibowl System*
A. Starting Head: 13-5/8" 10M top flange x 11-3/4" SOW bottom
B. Tubing Head: 13-5/8" 10M bottom flange x 7-1/16" 15M top flange
· Wellhead will be installed by manufacturer's representatives.

· Manufacturer will monitor welding process to ensure appropriate temperature of seal.
· Operator will test the 7-5/8" casing per BLM Onshore Order 2
· Wellhead Manufacturer representative will not be present for BOP test plug installation

**4. Cement Program**

***Surface Casing: 11-3/4", 54 New J-55, BTC casing to be set at +/- 1148'***

Lead: 390 sxs Halcem-C + 2% CaCl (mixed at 12.8 ppg, 1.87 ft3/sx, 10.13 gal/sx water)

Tail: 190 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi
TOC: Surface

***Intermediate Casing: 7-5/8", 29.7 New casing to be set at +/- 10992'***
1st Stage
Optional Lead: 370 sxs NeoCem (mixed at 10.5 ppg, 2.77 ft3/sx, 15.59 gal/sx water)
TOC: Surface

Tail: 380 sxs Halcem - Class C (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1150psi
TOC: Brushy Canyon (6824')

2nd Stage
Tail: 640 sxs Halcem-Class C (mixed at 14.8 ppg, 1.33 ft3/sx, 5.29 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1150 psi
TOC: Surface

XTO requests to pump a two stage cement job on the 7-5/8" intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brush Canyon (6824') and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. If cement is not visually confirmed to circulate to surface, the final cement top after the second stage job will be verified by Echo-meter. If necessary, a top out consisting of 1,500 sack of Class C cement + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (2.30 yld, 12.91 ppg) will be executed as a contingency. If cement is still unable to circulate to surface, another Echo-meter run will be performed for cement top verification.

XTO will include the Echo-meter verified fluid top and the volume of displacement fluid above the cement slurry in the annulus in all post-drill sundries on wells utilizing this cement program.

XTO will report to the BLM the volume of fluid (limited to 5 bbls) used to flush intermediate casing valves following backside cementing procedures.

XTO requests to pump an Optional Lead if well conditions dictate in an attempt to bring cement to surface on the first stage. If cement is brought to surface, the BLM will be notified and the second stage bradenhead squeeze and subsequent TOC verification will be negated.

In the event cement is not circulated to surface on the first stage, whether intentionally or unintentionally, XTO requests the option to conduct the bradenhead squeeze and TOC verification offline as per standard approval from BLM when unplanned remediation is needed and batch drilling is approved. In the event the bradenhead is conducted, we will ensure first stage cement job is cemented properly and the well is static with floats holding and no pressure on the csg annulus as with all other casing strings where batch drilling operations occur before moving off the rig. The TA cap will also be installed per GE

***Production Casing: 5.5 by 5, 18 New casing to be set at +/- 19504'***
Lead: 20 sxs VersaCem (mixed at 11.5 ppg, 2.69 ft3/sx, 15.00 gal/sx water)

Tail: 800 sxs VersaCem (mixed at 13.2 ppg, 1.51 ft3/sx, 7.20 gal/sx water)
Compressives 12-hr = 800 psi 24 hr = 1500 psi

TOC: 300' inside previous shoe

**5. Pressure Control Equipment**

Once the permanent WH is installed on the 11-3/4" casing, the blow out preventer equipment (BOP) will consist of a 13-5/8" minimum 5M Hydril and a 13-5/8" minimum 5M 3-Ram BOP. MASP should not exceed 4313 psi. In any instance where 10M BOP is required by BLM, XTO requests a variance to utilize 5M annular with 10M ram preventers (a common BOP configuration, which allows use of 10M rams in unlikely event that pressures exceed 5M). Also a variance is requested to test the 5M annular to 70% of working pressure at 3500 psi.

All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 70% of the working pressure. When nippling up on the 11-3/4", 5M bradenhead and flange, the BOP test will be limited to 5000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 5M BOP diagrams are attached. Blind rams will be functioned

tested each trip, pipe rams will be functioned tested each day.

A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test chart will be kept on the rig. Attached is an example of a certification and pressure test chart. The manufacturer does not require anchors.

XTO requests a variance to be able to batch drill this well if necessary. In doing so, XTO will set each casing string and ensure that the well is cemented properly and the well is static. With floats holding, no pressure on the csg annulus, and the installation of a 10K TA cap as per GE recommendations, XTO will contact the BLM on each rig skid on the pad. Once surface and intermediate strings are all completed, XTO will begin drilling the production hole on each of the wells.

A variance is requested to **ONLY** test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53. API standard 53 states, that for pad drilling operation, moving from one wellhead to another within 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken. Based on discussions with the BLM on February 27th 2020, we will request permission to **ONLY** retest broken pressure seals if the following conditions are met: 1. After a full BOP test is conducted on the first well on the pad (First well will be the deepest Intermediate) 2. When skidding to drill an intermediate section does not penetrate into the Wolfcamp 3. Full BOP test will be required prior to drilling the production hole.

A variance is requested to cement offline for the surface and intermediate casing strings according to attached offline cementing supporting documentation.

**6. Proposed Mud Circulation System**

| INTERVAL | Hole Size | Mud Type | MW (ppg) | Viscosity (sec/qt) | Fluid Loss (cc) |
|---|---|---|---|---|---|
| 0' - 1148' | 14-3/4" | FW / Native | 8.4-8.8 | 35-40 | NC |
| 1148' - 10992' | 8-3/4" | Brine / Cut Brine / Direct Emuslion | 8.5-9.7 | 30-32 | NC |
| 10992' to 19504' | 6-3/4" | Cut Brine / WBM / OBM | 10.8-11.8 | 32-36 | NC |

The necessary mud products for weight addition and fluid loss control will be on location at all times.
Spud with fresh water/native mud and set 11-3/4" surface casing, isolating the fresh water aquifer. Drill out from under 11-3/4" surface casing with a brine/oil direct emulsion mud system. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Pump speed will be recorded on a daily drilling report after mudding up. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

**7. Auxiliary Well Control and Monitoring Equipment**

A. A Kelly cock will be in the drill string at all times.
B. A full opening drill pipe stabbing valve having appropriate connections will be on the rig floor at all times.
C. H2S monitors will be on location when drilling below the 11-3/4" casing.

**8. Logging, Coring and Testing Program**

Mud Logger: Mud Logging Unit (2 man) below intermediate casing.

Open hole logging will not be done on this well.

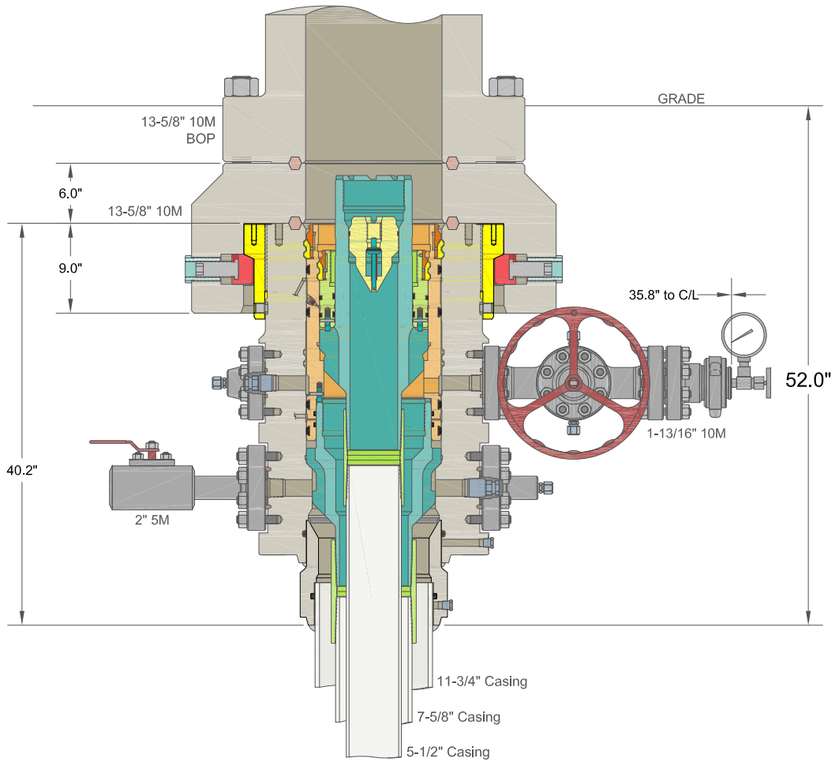
**9. Abnormal Pressures and Temperatures / Potential Hazards**

None Anticipated. BHT of 165 to 185 F is anticipated. No H2S is expected but monitors will be in place to detect any H2S occurrences. Should these circumstances be encountered the operator and drilling contractor are prepared to take all necessary steps to ensure safety of all personnel and environment. Lost circulation could occur but is not expected to be a

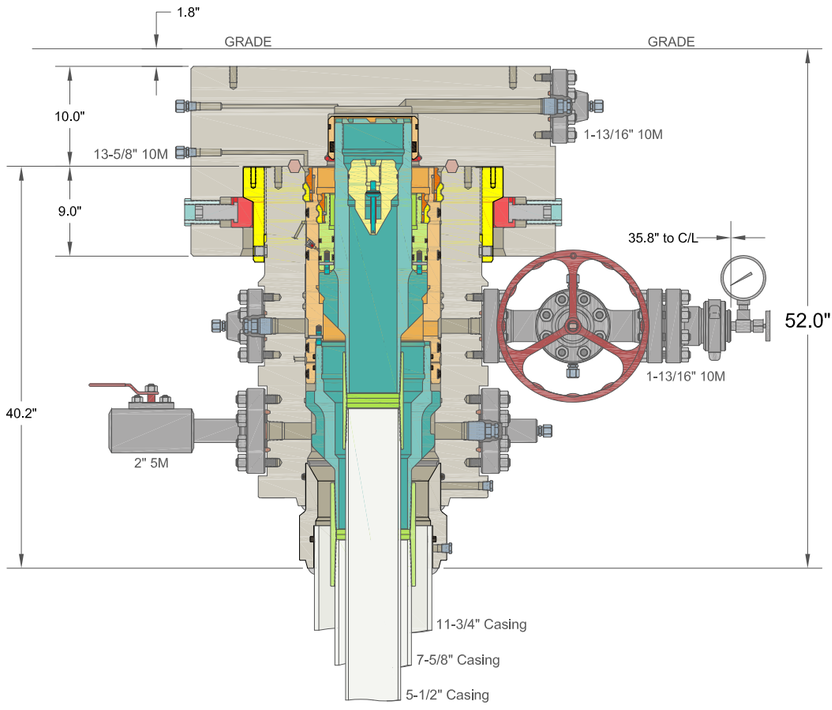
serious problem in this area and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid. The maximum anticipated bottom hole pressure for this well is 6894 psi.

**10. Anticipated Starting Date and Duration of Operations**

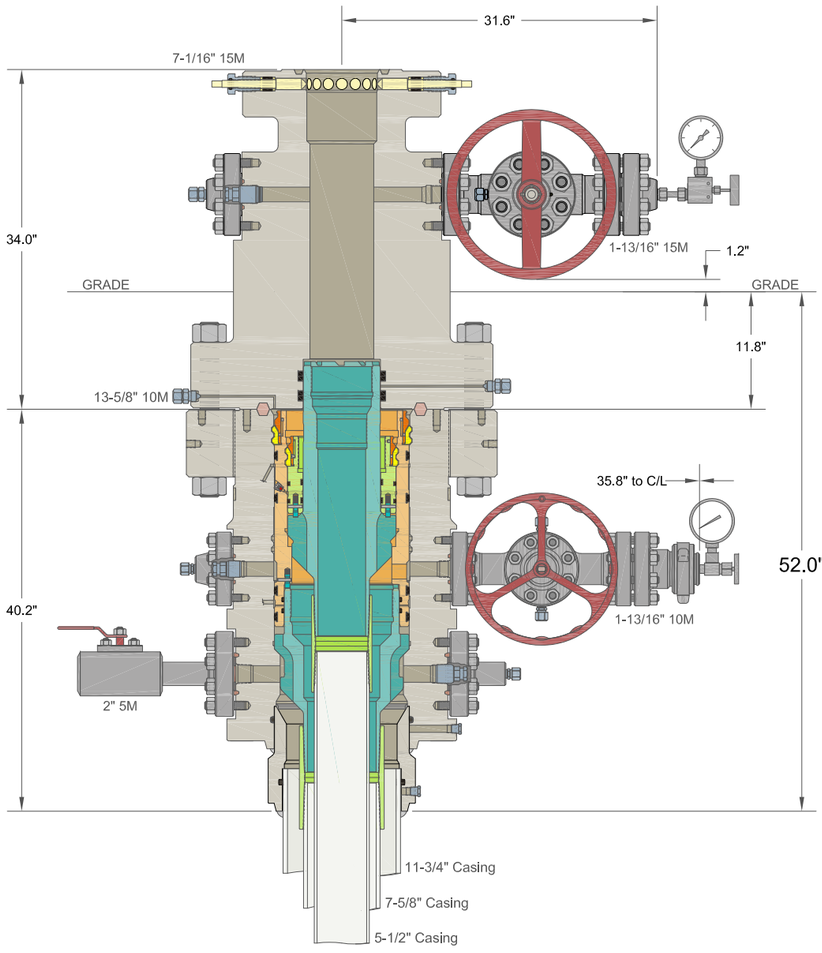
Road and location construction will begin after Santa Fe and BLM have approved the APD. Anticipated spud date will be as




DRILLING




SKID




COMPLETION

ALL DIMENSIONS APPROXIMATE

| | | |
|---|---|---|
| CACTUS WELLHEAD LLC | XTO ENERGY INC<br>POKER LAKE, NM | |
| 30" x 11-3/4" x 7-5/8" x 5-1/2" MBU-3T-SF SOW Wellhead System<br>With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS-SB Tubing Head<br>And 7-5/8" & 5-1/2" Fluted Mandrel Casing Hangers | DRAWN | DLE 09DEC19 |
| | APPRV | |
| | DRAWING NO. | ODE0003261 |

# XTO Energy

**Eddy County, NM (NAD-27)**
**PLU 29 Big Sinks**
**#106H**

**OH**

**Plan: PERMITv2**

# Standard Planning Report

**26 September, 2019**

**Project:** Eddy County, NM (NAD-27)
**Site:** PLU 29 Big Sinks
**Well:** #106H
**Wellbore:** OH
**Design:** PERMITv2

PROJECT DETAILS: Eddy County, NM (NAD-27)

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

WELL DETAILS: #106H

Rig Name:
RKB = 25' @ 3373.00usft
Ground Level: 3348.00

| +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
|---|---|---|---|---|---|
| 0.00 | 0.00 | 401275.30 | 665937.30 | 32.1020882 | -103.7974514 |

DESIGN TARGET DETAILS

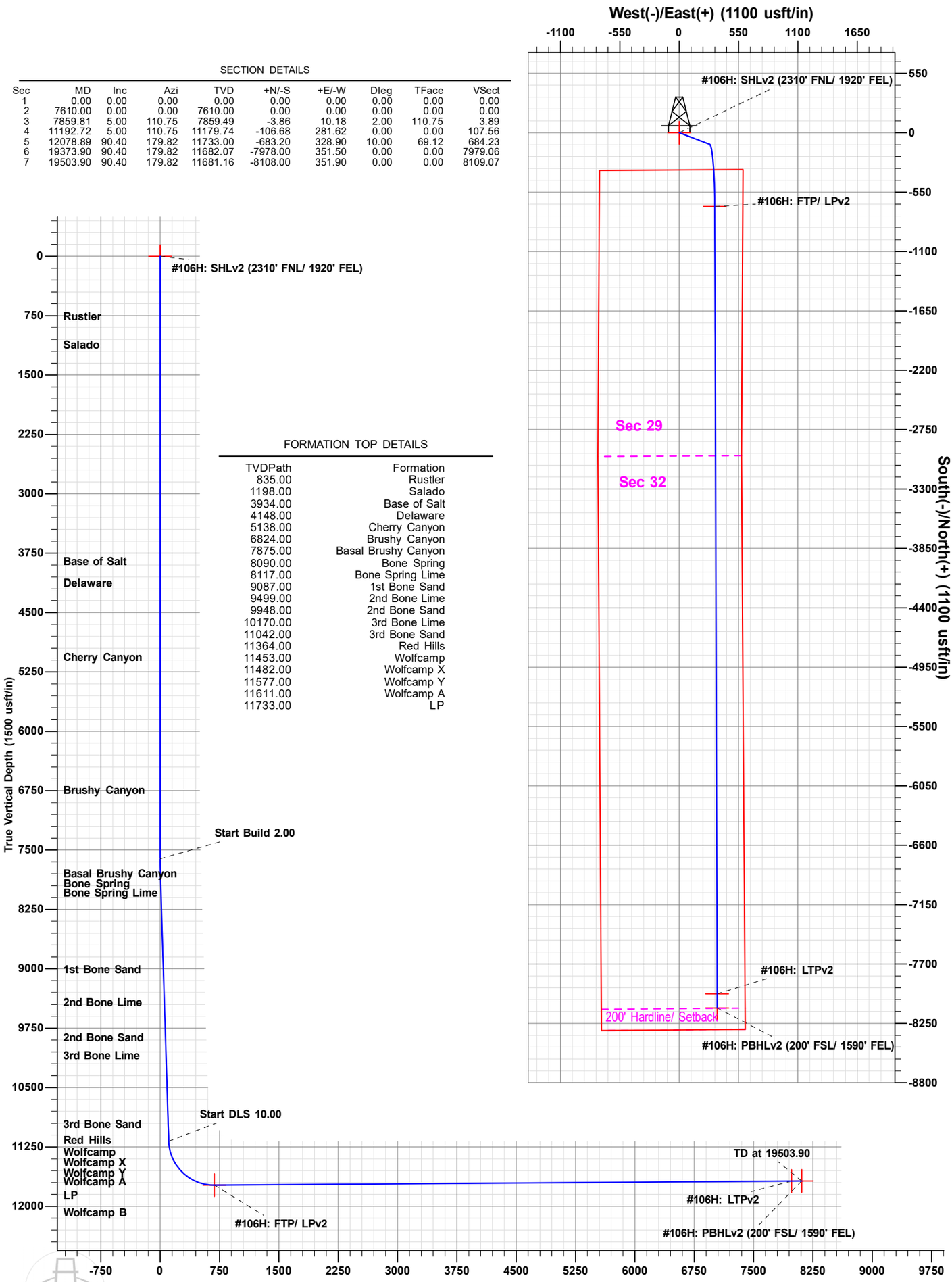
| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude | Shape |
|---|---|---|---|---|---|---|---|---|
| #106H: SHLv2 (2310' FNL/ 1920' FEL) | 0.00 | 0.00 | 0.00 | 401275.30 | 665937.30 | 32.1020882 | -103.7974514 | Point |
| #106H: PBHLv2 (200' FSL/ 1590' FEL) | 11681.16 | -8108.00 | 351.90 | 393167.30 | 666289.20 | 32.0797951 | -103.7964453 | Point |
| #106H: LTPv2 | 11682.07 | -7978.00 | 351.10 | 393297.30 | 666288.40 | 32.0801524 | -103.7964458 | Point |
| #106H: FTP/ LPv2 | 11733.00 | -683.20 | 328.90 | 400592.10 | 666266.20 | 32.1002057 | -103.7964002 | Point |

SECTION DETAILS

| Sec | MD | Inc | Azi | TVD | +N/-S | +E/-W | Dleg | TFace | VSect |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | 7610.00 | 0.00 | 0.00 | 7610.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 7859.81 | 5.00 | 110.75 | 7859.49 | -3.86 | 10.18 | 2.00 | 110.75 | 3.89 |
| 4 | 11192.72 | 5.00 | 110.75 | 11179.74 | -106.68 | 281.62 | 0.00 | 0.00 | 107.56 |
| 5 | 12078.89 | 90.40 | 179.82 | 11733.00 | -683.20 | 328.90 | 10.00 | 69.12 | 684.23 |
| 6 | 19373.90 | 90.40 | 179.82 | 11682.07 | -7978.00 | 351.50 | 0.00 | 0.00 | 7979.06 |
| 7 | 19503.90 | 90.40 | 179.82 | 11681.16 | -8108.00 | 351.90 | 0.00 | 0.00 | 8109.07 |

FORMATION TOP DETAILS

| TVDPath | Formation |
|---|---|
| 835.00 | Rustler |
| 1198.00 | Salado |
| 3934.00 | Base of Salt |
| 4148.00 | Delaware |
| 5138.00 | Cherry Canyon |
| 6824.00 | Brushy Canyon |
| 7875.00 | Basal Brushy Canyon |
| 8090.00 | Bone Spring |
| 8117.00 | Bone Spring Lime |
| 9087.00 | 1st Bone Sand |
| 9499.00 | 2nd Bone Lime |
| 9948.00 | 2nd Bone Sand |
| 10170.00 | 3rd Bone Lime |
| 11042.00 | 3rd Bone Sand |
| 11364.00 | Red Hills |
| 11453.00 | Wolfcamp |
| 11482.00 | Wolfcamp X |
| 11577.00 | Wolfcamp Y |
| 11611.00 | Wolfcamp A |
| 11733.00 | LP |






Plan: PERMITv2 (#106H/OH)

Created By: Prototype Well Planning, LLC Date: 12:38, September 27 2019

| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.1.13 Single User Db | **Local Co-ordinate Reference:** | Well #106H |
| **Company:** | XTO Energy | **TVD Reference:** | RKB = 25' @ 3373.00usft |
| **Project:** | Eddy County, NM (NAD-27) | **MD Reference:** | RKB = 25' @ 3373.00usft |
| **Site:** | PLU 29 Big Sinks | **North Reference:** | Grid |
| **Well:** | #106H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | PERMITv2 | | |

**Project** Eddy County, NM (NAD-27)

| | | | |
|---|---|---|---|
| **Map System:** | US State Plane 1927 (Exact solution) | **System Datum:** | Mean Sea Level |
| **Geo Datum:** | NAD 1927 (NADCON CONUS) | | |
| **Map Zone:** | New Mexico East 3001 | | |

**Site** PLU 29 Big Sinks

| | | | | | |
|---|---|---|---|---|---|
| **Site Position:** | | **Northing:** | 401,257.90 usft | **Latitude:** | 32.1020766 |
| **From:** | Map | **Easting:** | 663,265.10 usft | **Longitude:** | -103.8060810 |
| **Position Uncertainty:** | 0.00 usft | **Slot Radius:** | 13-3/16 " | **Grid Convergence:** | 0.28 ° |

**Well** #106H

| | | | | | | |
|---|---|---|---|---|---|---|
| **Well Position** | **+N/-S** | 17.40 usft | **Northing:** | 401,275.30 usft | **Latitude:** | 32.1020883 |
| | **+E/-W** | 2,672.20 usft | **Easting:** | 665,937.30 usft | **Longitude:** | -103.7974514 |
| **Position Uncertainty** | | 0.00 usft | **Wellhead Elevation:** | 0.00 usft | **Ground Level:** | 3,348.00 usft |

**Wellbore** OH

| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|---|---|---|---|---|---|
| | IGRF2015 | 12/05/17 | 7.00 | 59.91 | 47,794 |

**Design** PERMITv2

**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 | 179.82 |

**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 | |
| 7,610.00 | 0.00 | 0.00 | 7,610.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 7,859.81 | 5.00 | 110.75 | 7,859.49 | -3.86 | 10.18 | 2.00 | 2.00 | 0.00 | 110.75 | |
| 11,192.72 | 5.00 | 110.75 | 11,179.74 | -106.68 | 281.62 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 12,078.89 | 90.40 | 179.82 | 11,733.00 | -683.20 | 328.90 | 10.00 | 9.64 | 7.79 | 69.12 | #106H: FTP/ LPv2 |
| 19,373.90 | 90.40 | 179.82 | 11,682.07 | -7,978.00 | 351.50 | 0.00 | 0.00 | 0.00 | 0.00 | #106H: LTPv2 |
| 19,503.90 | 90.40 | 179.82 | 11,681.16 | -8,108.00 | 351.90 | 0.00 | 0.00 | 0.00 | 0.00 | #106H: PBHLv2 (20 |

| | | | |
|---|---|---|---|
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| **Project:** | Eddy County, NM (NAD-27) | **MD Reference:** | RKB = 25' @ 3373.00usft |
| **Site:** | PLU 29 Big Sinks | **North Reference:** | Grid |
| **Well:** | #106H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | PERMITv2 | | |

**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 |
| 100.00 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 200.00 | 0.00 | 0.00 | 200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 300.00 | 0.00 | 0.00 | 300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 400.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 500.00 | 0.00 | 0.00 | 500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 600.00 | 0.00 | 0.00 | 600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 700.00 | 0.00 | 0.00 | 700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 800.00 | 0.00 | 0.00 | 800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 835.00 | 0.00 | 0.00 | 835.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Rustler** | | | | | | | | | |
| 900.00 | 0.00 | 0.00 | 900.00 | 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 |
| 1,100.00 | 0.00 | 0.00 | 1,100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,198.00 | 0.00 | 0.00 | 1,198.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Salado** | | | | | | | | | |
| 1,200.00 | 0.00 | 0.00 | 1,200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,300.00 | 0.00 | 0.00 | 1,300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,400.00 | 0.00 | 0.00 | 1,400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,500.00 | 0.00 | 0.00 | 1,500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,600.00 | 0.00 | 0.00 | 1,600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,700.00 | 0.00 | 0.00 | 1,700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,800.00 | 0.00 | 0.00 | 1,800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,900.00 | 0.00 | 0.00 | 1,900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,000.00 | 0.00 | 0.00 | 2,000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,100.00 | 0.00 | 0.00 | 2,100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,200.00 | 0.00 | 0.00 | 2,200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,300.00 | 0.00 | 0.00 | 2,300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,400.00 | 0.00 | 0.00 | 2,400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,500.00 | 0.00 | 0.00 | 2,500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,600.00 | 0.00 | 0.00 | 2,600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,700.00 | 0.00 | 0.00 | 2,700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,800.00 | 0.00 | 0.00 | 2,800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,900.00 | 0.00 | 0.00 | 2,900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,000.00 | 0.00 | 0.00 | 3,000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,100.00 | 0.00 | 0.00 | 3,100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,200.00 | 0.00 | 0.00 | 3,200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,300.00 | 0.00 | 0.00 | 3,300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,400.00 | 0.00 | 0.00 | 3,400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,500.00 | 0.00 | 0.00 | 3,500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,600.00 | 0.00 | 0.00 | 3,600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,700.00 | 0.00 | 0.00 | 3,700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,800.00 | 0.00 | 0.00 | 3,800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,900.00 | 0.00 | 0.00 | 3,900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,934.00 | 0.00 | 0.00 | 3,934.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Base of Salt** | | | | | | | | | |
| 4,000.00 | 0.00 | 0.00 | 4,000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,100.00 | 0.00 | 0.00 | 4,100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,148.00 | 0.00 | 0.00 | 4,148.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Delaware** | | | | | | | | | |
| 4,200.00 | 0.00 | 0.00 | 4,200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,300.00 | 0.00 | 0.00 | 4,300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,400.00 | 0.00 | 0.00 | 4,400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,500.00 | 0.00 | 0.00 | 4,500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.1.13 Single User Db | **Local Co-ordinate Reference:** | Well #106H |
| **Company:** | XTO Energy | **TVD Reference:** | RKB = 25' @ 3373.00usft |
| **Project:** | Eddy County, NM (NAD-27) | **MD Reference:** | RKB = 25' @ 3373.00usft |
| **Site:** | PLU 29 Big Sinks | **North Reference:** | Grid |
| **Well:** | #106H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | PERMITv2 | | |

**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) |
|---|---|---|---|---|---|---|---|---|---|
| 4,600.00 | 0.00 | 0.00 | 4,600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,700.00 | 0.00 | 0.00 | 4,700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,800.00 | 0.00 | 0.00 | 4,800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,900.00 | 0.00 | 0.00 | 4,900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,000.00 | 0.00 | 0.00 | 5,000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,100.00 | 0.00 | 0.00 | 5,100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,138.00 | 0.00 | 0.00 | 5,138.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Cherry Canyon** | | | | | | | | | |
| 5,200.00 | 0.00 | 0.00 | 5,200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,300.00 | 0.00 | 0.00 | 5,300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,400.00 | 0.00 | 0.00 | 5,400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,500.00 | 0.00 | 0.00 | 5,500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,600.00 | 0.00 | 0.00 | 5,600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,700.00 | 0.00 | 0.00 | 5,700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,800.00 | 0.00 | 0.00 | 5,800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5,900.00 | 0.00 | 0.00 | 5,900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,000.00 | 0.00 | 0.00 | 6,000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,100.00 | 0.00 | 0.00 | 6,100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,200.00 | 0.00 | 0.00 | 6,200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,300.00 | 0.00 | 0.00 | 6,300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,400.00 | 0.00 | 0.00 | 6,400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,500.00 | 0.00 | 0.00 | 6,500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,600.00 | 0.00 | 0.00 | 6,600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,700.00 | 0.00 | 0.00 | 6,700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,800.00 | 0.00 | 0.00 | 6,800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6,824.00 | 0.00 | 0.00 | 6,824.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Brushy Canyon** | | | | | | | | | |
| 6,900.00 | 0.00 | 0.00 | 6,900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7,000.00 | 0.00 | 0.00 | 7,000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7,100.00 | 0.00 | 0.00 | 7,100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7,200.00 | 0.00 | 0.00 | 7,200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7,300.00 | 0.00 | 0.00 | 7,300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7,400.00 | 0.00 | 0.00 | 7,400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7,500.00 | 0.00 | 0.00 | 7,500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7,610.00 | 0.00 | 0.00 | 7,610.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7,700.00 | 1.80 | 110.75 | 7,699.99 | -0.50 | 1.32 | 0.50 | 2.00 | 2.00 | 0.00 |
| 7,800.00 | 3.80 | 110.75 | 7,799.86 | -2.23 | 5.89 | 2.25 | 2.00 | 2.00 | 0.00 |
| 7,859.81 | 5.00 | 110.75 | 7,859.49 | -3.86 | 10.18 | 3.89 | 2.00 | 2.00 | 0.00 |
| 7,875.38 | 5.00 | 110.75 | 7,875.00 | -4.34 | 11.45 | 4.37 | 0.00 | 0.00 | 0.00 |
| **Basal Brushy Canyon** | | | | | | | | | |
| 7,900.00 | 5.00 | 110.75 | 7,899.53 | -5.10 | 13.45 | 5.14 | 0.00 | 0.00 | 0.00 |
| 8,000.00 | 5.00 | 110.75 | 7,999.15 | -8.18 | 21.60 | 8.25 | 0.00 | 0.00 | 0.00 |
| 8,091.20 | 5.00 | 110.75 | 8,090.00 | -10.99 | 29.02 | 11.09 | 0.00 | 0.00 | 0.00 |
| **Bone Spring** | | | | | | | | | |
| 8,100.00 | 5.00 | 110.75 | 8,098.77 | -11.27 | 29.74 | 11.36 | 0.00 | 0.00 | 0.00 |
| 8,118.30 | 5.00 | 110.75 | 8,117.00 | -11.83 | 31.23 | 11.93 | 0.00 | 0.00 | 0.00 |
| **Bone Spring Lime** | | | | | | | | | |
| 8,200.00 | 5.00 | 110.75 | 8,198.39 | -14.35 | 37.88 | 14.47 | 0.00 | 0.00 | 0.00 |
| 8,300.00 | 5.00 | 110.75 | 8,298.01 | -17.44 | 46.03 | 17.58 | 0.00 | 0.00 | 0.00 |
| 8,400.00 | 5.00 | 110.75 | 8,397.63 | -20.52 | 54.17 | 20.69 | 0.00 | 0.00 | 0.00 |
| 8,500.00 | 5.00 | 110.75 | 8,497.25 | -23.61 | 62.32 | 23.80 | 0.00 | 0.00 | 0.00 |
| 8,600.00 | 5.00 | 110.75 | 8,596.87 | -26.69 | 70.46 | 26.91 | 0.00 | 0.00 | 0.00 |
| 8,700.00 | 5.00 | 110.75 | 8,696.49 | -29.78 | 78.61 | 30.02 | 0.00 | 0.00 | 0.00 |

| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.1.13 Single User Db | **Local Co-ordinate Reference:** | Well #106H |
| **Company:** | XTO Energy | **TVD Reference:** | RKB = 25' @ 3373.00usft |
| **Project:** | Eddy County, NM (NAD-27) | **MD Reference:** | RKB = 25' @ 3373.00usft |
| **Site:** | PLU 29 Big Sinks | **North Reference:** | Grid |
| **Well:** | #106H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | PERMITv2 | | |

**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) |
|---|---|---|---|---|---|---|---|---|---|
| 8,800.00 | 5.00 | 110.75 | 8,796.11 | -32.86 | 86.75 | 33.13 | 0.00 | 0.00 | 0.00 |
| 8,900.00 | 5.00 | 110.75 | 8,895.73 | -35.95 | 94.89 | 36.24 | 0.00 | 0.00 | 0.00 |
| 9,000.00 | 5.00 | 110.75 | 8,995.35 | -39.03 | 103.04 | 39.35 | 0.00 | 0.00 | 0.00 |
| 9,092.00 | 5.00 | 110.75 | 9,087.00 | -41.87 | 110.53 | 42.22 | 0.00 | 0.00 | 0.00 |
| **1st Bone Sand** | | | | | | | | | |
| 9,100.00 | 5.00 | 110.75 | 9,094.97 | -42.12 | 111.18 | 42.46 | 0.00 | 0.00 | 0.00 |
| 9,200.00 | 5.00 | 110.75 | 9,194.59 | -45.20 | 119.33 | 45.58 | 0.00 | 0.00 | 0.00 |
| 9,300.00 | 5.00 | 110.75 | 9,294.21 | -48.29 | 127.47 | 48.69 | 0.00 | 0.00 | 0.00 |
| 9,400.00 | 5.00 | 110.75 | 9,393.83 | -51.37 | 135.62 | 51.80 | 0.00 | 0.00 | 0.00 |
| 9,500.00 | 5.00 | 110.75 | 9,493.45 | -54.46 | 143.76 | 54.91 | 0.00 | 0.00 | 0.00 |
| 9,505.57 | 5.00 | 110.75 | 9,499.00 | -54.63 | 144.21 | 55.08 | 0.00 | 0.00 | 0.00 |
| **2nd Bone Lime** | | | | | | | | | |
| 9,600.00 | 5.00 | 110.75 | 9,593.07 | -57.54 | 151.90 | 58.02 | 0.00 | 0.00 | 0.00 |
| 9,700.00 | 5.00 | 110.75 | 9,692.69 | -60.63 | 160.05 | 61.13 | 0.00 | 0.00 | 0.00 |
| 9,800.00 | 5.00 | 110.75 | 9,792.31 | -63.71 | 168.19 | 64.24 | 0.00 | 0.00 | 0.00 |
| 9,900.00 | 5.00 | 110.75 | 9,891.93 | -66.80 | 176.34 | 67.35 | 0.00 | 0.00 | 0.00 |
| 9,956.28 | 5.00 | 110.75 | 9,948.00 | -68.53 | 180.92 | 69.10 | 0.00 | 0.00 | 0.00 |
| **2nd Bone Sand** | | | | | | | | | |
| 10,000.00 | 5.00 | 110.75 | 9,991.55 | -69.88 | 184.48 | 70.46 | 0.00 | 0.00 | 0.00 |
| 10,100.00 | 5.00 | 110.75 | 10,091.17 | -72.97 | 192.62 | 73.57 | 0.00 | 0.00 | 0.00 |
| 10,179.13 | 5.00 | 110.75 | 10,170.00 | -75.41 | 199.07 | 76.03 | 0.00 | 0.00 | 0.00 |
| **3rd Bone Lime** | | | | | | | | | |
| 10,200.00 | 5.00 | 110.75 | 10,190.79 | -76.05 | 200.77 | 76.68 | 0.00 | 0.00 | 0.00 |
| 10,300.00 | 5.00 | 110.75 | 10,290.41 | -79.14 | 208.91 | 79.79 | 0.00 | 0.00 | 0.00 |
| 10,400.00 | 5.00 | 110.75 | 10,390.03 | -82.22 | 217.06 | 82.90 | 0.00 | 0.00 | 0.00 |
| 10,500.00 | 5.00 | 110.75 | 10,489.65 | -85.31 | 225.20 | 86.01 | 0.00 | 0.00 | 0.00 |
| 10,600.00 | 5.00 | 110.75 | 10,589.27 | -88.39 | 233.35 | 89.12 | 0.00 | 0.00 | 0.00 |
| 10,700.00 | 5.00 | 110.75 | 10,688.89 | -91.48 | 241.49 | 92.23 | 0.00 | 0.00 | 0.00 |
| 10,800.00 | 5.00 | 110.75 | 10,788.51 | -94.56 | 249.63 | 95.34 | 0.00 | 0.00 | 0.00 |
| 10,900.00 | 5.00 | 110.75 | 10,888.13 | -97.65 | 257.78 | 98.46 | 0.00 | 0.00 | 0.00 |
| 11,000.00 | 5.00 | 110.75 | 10,987.75 | -100.73 | 265.92 | 101.57 | 0.00 | 0.00 | 0.00 |
| 11,054.45 | 5.00 | 110.75 | 11,042.00 | -102.41 | 270.36 | 103.26 | 0.00 | 0.00 | 0.00 |
| **3rd Bone Sand** | | | | | | | | | |
| 11,100.00 | 5.00 | 110.75 | 11,087.37 | -103.82 | 274.07 | 104.68 | 0.00 | 0.00 | 0.00 |
| 11,192.72 | 5.00 | 110.75 | 11,179.74 | -106.68 | 281.62 | 107.56 | 0.00 | 0.00 | 0.00 |
| 11,200.00 | 5.30 | 118.13 | 11,186.99 | -106.95 | 282.21 | 107.83 | 10.00 | 4.17 | 101.44 |
| 11,250.00 | 8.84 | 148.12 | 11,236.62 | -111.30 | 286.28 | 112.20 | 10.00 | 7.08 | 59.97 |
| 11,300.00 | 13.34 | 159.65 | 11,285.68 | -119.98 | 290.32 | 120.89 | 10.00 | 9.01 | 23.08 |
| 11,350.00 | 18.11 | 165.33 | 11,333.80 | -132.91 | 294.29 | 133.83 | 10.00 | 9.53 | 11.35 |
| 11,382.08 | 21.22 | 167.65 | 11,364.00 | -143.40 | 296.80 | 144.33 | 10.00 | 9.70 | 7.23 |
| **Red Hills** | | | | | | | | | |
| 11,400.00 | 22.97 | 168.68 | 11,380.61 | -150.00 | 298.18 | 150.94 | 10.00 | 9.76 | 5.76 |
| 11,450.00 | 27.88 | 170.91 | 11,425.75 | -171.12 | 301.94 | 172.07 | 10.00 | 9.82 | 4.46 |
| 11,481.28 | 30.96 | 171.97 | 11,453.00 | -186.31 | 304.22 | 187.27 | 10.00 | 9.86 | 3.38 |
| **Wolfcamp** | | | | | | | | | |
| 11,500.00 | 32.81 | 172.51 | 11,468.89 | -196.11 | 305.55 | 197.07 | 10.00 | 9.88 | 2.92 |
| 11,515.74 | 34.37 | 172.93 | 11,482.00 | -204.74 | 306.65 | 205.71 | 10.00 | 9.89 | 2.66 |
| **Wolfcamp X** | | | | | | | | | |
| 11,550.00 | 37.76 | 173.74 | 11,509.69 | -224.78 | 308.99 | 225.75 | 10.00 | 9.90 | 2.35 |
| 11,600.00 | 42.72 | 174.72 | 11,547.85 | -256.90 | 312.22 | 257.88 | 10.00 | 9.92 | 1.96 |
| 11,641.06 | 46.80 | 175.39 | 11,577.00 | -285.70 | 314.71 | 286.69 | 10.00 | 9.93 | 1.64 |
| **Wolfcamp Y** | | | | | | | | | |
| 11,650.00 | 47.69 | 175.53 | 11,583.07 | -292.24 | 315.23 | 293.23 | 10.00 | 9.94 | 1.51 |

| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.1.13 Single User Db | **Local Co-ordinate Reference:** | Well #106H |
| **Company:** | XTO Energy | **TVD Reference:** | RKB = 25' @ 3373.00usft |
| **Project:** | Eddy County, NM (NAD-27) | **MD Reference:** | RKB = 25' @ 3373.00usft |
| **Site:** | PLU 29 Big Sinks | **North Reference:** | Grid |
| **Well:** | #106H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | PERMITv2 | | |

**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) |
|---|---|---|---|---|---|---|---|---|---|
| 11,693.32 | 51.99 | 176.13 | 11,611.00 | -325.25 | 317.63 | 326.25 | 10.00 | 9.94 | 1.40 |
| **Wolfcamp A** | | | | | | | | | |
| 11,700.00 | 52.66 | 176.22 | 11,615.08 | -330.53 | 317.98 | 331.53 | 10.00 | 9.95 | 1.30 |
| 11,750.00 | 57.63 | 176.82 | 11,643.65 | -371.47 | 320.46 | 372.48 | 10.00 | 9.95 | 1.21 |
| 11,800.00 | 62.61 | 177.37 | 11,668.55 | -414.76 | 322.65 | 415.77 | 10.00 | 9.96 | 1.08 |
| 11,850.00 | 67.59 | 177.86 | 11,689.59 | -460.06 | 324.54 | 461.07 | 10.00 | 9.96 | 0.99 |
| 11,900.00 | 72.57 | 178.32 | 11,706.62 | -507.02 | 326.10 | 508.05 | 10.00 | 9.96 | 0.92 |
| 11,950.00 | 77.55 | 178.76 | 11,719.51 | -555.30 | 327.33 | 556.33 | 10.00 | 9.96 | 0.87 |
| 12,000.00 | 82.54 | 179.18 | 11,728.15 | -604.53 | 328.22 | 605.56 | 10.00 | 9.97 | 0.84 |
| 12,050.00 | 87.52 | 179.59 | 11,732.48 | -654.32 | 328.75 | 655.35 | 10.00 | 9.97 | 0.82 |
| 12,078.89 | 90.40 | 179.82 | 11,733.00 | -683.20 | 328.90 | 684.23 | 10.00 | 9.97 | 0.81 |
| **LP** | | | | | | | | | |
| 12,100.00 | 90.40 | 179.82 | 11,732.85 | -704.31 | 328.97 | 705.34 | 0.00 | 0.00 | 0.00 |
| 12,200.00 | 90.40 | 179.82 | 11,732.15 | -804.31 | 329.28 | 805.34 | 0.00 | 0.00 | 0.00 |
| 12,300.00 | 90.40 | 179.82 | 11,731.46 | -904.31 | 329.58 | 905.34 | 0.00 | 0.00 | 0.00 |
| 12,400.00 | 90.40 | 179.82 | 11,730.76 | -1,004.30 | 329.89 | 1,005.34 | 0.00 | 0.00 | 0.00 |
| 12,500.00 | 90.40 | 179.82 | 11,730.06 | -1,104.30 | 330.20 | 1,105.33 | 0.00 | 0.00 | 0.00 |
| 12,600.00 | 90.40 | 179.82 | 11,729.36 | -1,204.30 | 330.51 | 1,205.33 | 0.00 | 0.00 | 0.00 |
| 12,700.00 | 90.40 | 179.82 | 11,728.66 | -1,304.29 | 330.82 | 1,305.33 | 0.00 | 0.00 | 0.00 |
| 12,800.00 | 90.40 | 179.82 | 11,727.97 | -1,404.29 | 331.13 | 1,405.33 | 0.00 | 0.00 | 0.00 |
| 12,900.00 | 90.40 | 179.82 | 11,727.27 | -1,504.29 | 331.44 | 1,505.32 | 0.00 | 0.00 | 0.00 |
| 13,000.00 | 90.40 | 179.82 | 11,726.57 | -1,604.29 | 331.75 | 1,605.32 | 0.00 | 0.00 | 0.00 |
| 13,100.00 | 90.40 | 179.82 | 11,725.87 | -1,704.28 | 332.06 | 1,705.32 | 0.00 | 0.00 | 0.00 |
| 13,200.00 | 90.40 | 179.82 | 11,725.17 | -1,804.28 | 332.37 | 1,805.32 | 0.00 | 0.00 | 0.00 |
| 13,300.00 | 90.40 | 179.82 | 11,724.48 | -1,904.28 | 332.68 | 1,905.31 | 0.00 | 0.00 | 0.00 |
| 13,400.00 | 90.40 | 179.82 | 11,723.78 | -2,004.27 | 332.99 | 2,005.31 | 0.00 | 0.00 | 0.00 |
| 13,500.00 | 90.40 | 179.82 | 11,723.08 | -2,104.27 | 333.30 | 2,105.31 | 0.00 | 0.00 | 0.00 |
| 13,600.00 | 90.40 | 179.82 | 11,722.38 | -2,204.27 | 333.61 | 2,205.31 | 0.00 | 0.00 | 0.00 |
| 13,700.00 | 90.40 | 179.82 | 11,721.68 | -2,304.27 | 333.92 | 2,305.30 | 0.00 | 0.00 | 0.00 |
| 13,800.00 | 90.40 | 179.82 | 11,720.98 | -2,404.26 | 334.23 | 2,405.30 | 0.00 | 0.00 | 0.00 |
| 13,900.00 | 90.40 | 179.82 | 11,720.29 | -2,504.26 | 334.54 | 2,505.30 | 0.00 | 0.00 | 0.00 |
| 14,000.00 | 90.40 | 179.82 | 11,719.59 | -2,604.26 | 334.85 | 2,605.30 | 0.00 | 0.00 | 0.00 |
| 14,100.00 | 90.40 | 179.82 | 11,718.89 | -2,704.25 | 335.16 | 2,705.29 | 0.00 | 0.00 | 0.00 |
| 14,200.00 | 90.40 | 179.82 | 11,718.19 | -2,804.25 | 335.47 | 2,805.29 | 0.00 | 0.00 | 0.00 |
| 14,300.00 | 90.40 | 179.82 | 11,717.49 | -2,904.25 | 335.78 | 2,905.29 | 0.00 | 0.00 | 0.00 |
| 14,400.00 | 90.40 | 179.82 | 11,716.80 | -3,004.25 | 336.09 | 3,005.29 | 0.00 | 0.00 | 0.00 |
| 14,500.00 | 90.40 | 179.82 | 11,716.10 | -3,104.24 | 336.40 | 3,105.28 | 0.00 | 0.00 | 0.00 |
| 14,600.00 | 90.40 | 179.82 | 11,715.40 | -3,204.24 | 336.71 | 3,205.28 | 0.00 | 0.00 | 0.00 |
| 14,700.00 | 90.40 | 179.82 | 11,714.70 | -3,304.24 | 337.02 | 3,305.28 | 0.00 | 0.00 | 0.00 |
| 14,800.00 | 90.40 | 179.82 | 11,714.00 | -3,404.23 | 337.33 | 3,405.28 | 0.00 | 0.00 | 0.00 |
| 14,900.00 | 90.40 | 179.82 | 11,713.31 | -3,504.23 | 337.64 | 3,505.27 | 0.00 | 0.00 | 0.00 |
| 15,000.00 | 90.40 | 179.82 | 11,712.61 | -3,604.23 | 337.95 | 3,605.27 | 0.00 | 0.00 | 0.00 |
| 15,100.00 | 90.40 | 179.82 | 11,711.91 | -3,704.22 | 338.26 | 3,705.27 | 0.00 | 0.00 | 0.00 |
| 15,200.00 | 90.40 | 179.82 | 11,711.21 | -3,804.22 | 338.57 | 3,805.27 | 0.00 | 0.00 | 0.00 |
| 15,300.00 | 90.40 | 179.82 | 11,710.51 | -3,904.22 | 338.88 | 3,905.26 | 0.00 | 0.00 | 0.00 |
| 15,400.00 | 90.40 | 179.82 | 11,709.81 | -4,004.22 | 339.19 | 4,005.26 | 0.00 | 0.00 | 0.00 |
| 15,500.00 | 90.40 | 179.82 | 11,709.12 | -4,104.21 | 339.50 | 4,105.26 | 0.00 | 0.00 | 0.00 |
| 15,600.00 | 90.40 | 179.82 | 11,708.42 | -4,204.21 | 339.81 | 4,205.26 | 0.00 | 0.00 | 0.00 |
| 15,700.00 | 90.40 | 179.82 | 11,707.72 | -4,304.21 | 340.12 | 4,305.25 | 0.00 | 0.00 | 0.00 |
| 15,800.00 | 90.40 | 179.82 | 11,707.02 | -4,404.20 | 340.43 | 4,405.25 | 0.00 | 0.00 | 0.00 |
| 15,900.00 | 90.40 | 179.82 | 11,706.32 | -4,504.20 | 340.74 | 4,505.25 | 0.00 | 0.00 | 0.00 |
| 16,000.00 | 90.40 | 179.82 | 11,705.63 | -4,604.20 | 341.05 | 4,605.25 | 0.00 | 0.00 | 0.00 |
| 16,100.00 | 90.40 | 179.82 | 11,704.93 | -4,704.20 | 341.36 | 4,705.24 | 0.00 | 0.00 | 0.00 |
| 16,200.00 | 90.40 | 179.82 | 11,704.23 | -4,804.19 | 341.67 | 4,805.24 | 0.00 | 0.00 | 0.00 |

| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.1.13 Single User Db | **Local Co-ordinate Reference:** | Well #106H |
| **Company:** | XTO Energy | **TVD Reference:** | RKB = 25' @ 3373.00usft |
| **Project:** | Eddy County, NM (NAD-27) | **MD Reference:** | RKB = 25' @ 3373.00usft |
| **Site:** | PLU 29 Big Sinks | **North Reference:** | Grid |
| **Well:** | #106H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | PERMITv2 | | |

**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) |
|---|---|---|---|---|---|---|---|---|---|
| 16,300.00 | 90.40 | 179.82 | 11,703.53 | -4,904.19 | 341.98 | 4,905.24 | 0.00 | 0.00 | 0.00 |
| 16,400.00 | 90.40 | 179.82 | 11,702.83 | -5,004.19 | 342.29 | 5,005.24 | 0.00 | 0.00 | 0.00 |
| 16,500.00 | 90.40 | 179.82 | 11,702.14 | -5,104.18 | 342.60 | 5,105.24 | 0.00 | 0.00 | 0.00 |
| 16,600.00 | 90.40 | 179.82 | 11,701.44 | -5,204.18 | 342.90 | 5,205.23 | 0.00 | 0.00 | 0.00 |
| 16,700.00 | 90.40 | 179.82 | 11,700.74 | -5,304.18 | 343.21 | 5,305.23 | 0.00 | 0.00 | 0.00 |
| 16,800.00 | 90.40 | 179.82 | 11,700.04 | -5,404.18 | 343.52 | 5,405.23 | 0.00 | 0.00 | 0.00 |
| 16,900.00 | 90.40 | 179.82 | 11,699.34 | -5,504.17 | 343.83 | 5,505.23 | 0.00 | 0.00 | 0.00 |
| 17,000.00 | 90.40 | 179.82 | 11,698.64 | -5,604.17 | 344.14 | 5,605.22 | 0.00 | 0.00 | 0.00 |
| 17,100.00 | 90.40 | 179.82 | 11,697.95 | -5,704.17 | 344.45 | 5,705.22 | 0.00 | 0.00 | 0.00 |
| 17,200.00 | 90.40 | 179.82 | 11,697.25 | -5,804.16 | 344.76 | 5,805.22 | 0.00 | 0.00 | 0.00 |
| 17,300.00 | 90.40 | 179.82 | 11,696.55 | -5,904.16 | 345.07 | 5,905.22 | 0.00 | 0.00 | 0.00 |
| 17,400.00 | 90.40 | 179.82 | 11,695.85 | -6,004.16 | 345.38 | 6,005.21 | 0.00 | 0.00 | 0.00 |
| 17,500.00 | 90.40 | 179.82 | 11,695.15 | -6,104.15 | 345.69 | 6,105.21 | 0.00 | 0.00 | 0.00 |
| 17,600.00 | 90.40 | 179.82 | 11,694.46 | -6,204.15 | 346.00 | 6,205.21 | 0.00 | 0.00 | 0.00 |
| 17,700.00 | 90.40 | 179.82 | 11,693.76 | -6,304.15 | 346.31 | 6,305.21 | 0.00 | 0.00 | 0.00 |
| 17,800.00 | 90.40 | 179.82 | 11,693.06 | -6,404.15 | 346.62 | 6,405.20 | 0.00 | 0.00 | 0.00 |
| 17,900.00 | 90.40 | 179.82 | 11,692.36 | -6,504.14 | 346.93 | 6,505.20 | 0.00 | 0.00 | 0.00 |
| 18,000.00 | 90.40 | 179.82 | 11,691.66 | -6,604.14 | 347.24 | 6,605.20 | 0.00 | 0.00 | 0.00 |
| 18,100.00 | 90.40 | 179.82 | 11,690.97 | -6,704.14 | 347.55 | 6,705.20 | 0.00 | 0.00 | 0.00 |
| 18,200.00 | 90.40 | 179.82 | 11,690.27 | -6,804.13 | 347.86 | 6,805.19 | 0.00 | 0.00 | 0.00 |
| 18,300.00 | 90.40 | 179.82 | 11,689.57 | -6,904.13 | 348.17 | 6,905.19 | 0.00 | 0.00 | 0.00 |
| 18,400.00 | 90.40 | 179.82 | 11,688.87 | -7,004.13 | 348.48 | 7,005.19 | 0.00 | 0.00 | 0.00 |
| 18,500.00 | 90.40 | 179.82 | 11,688.17 | -7,104.13 | 348.79 | 7,105.19 | 0.00 | 0.00 | 0.00 |
| 18,600.00 | 90.40 | 179.82 | 11,687.47 | -7,204.12 | 349.10 | 7,205.18 | 0.00 | 0.00 | 0.00 |
| 18,700.00 | 90.40 | 179.82 | 11,686.78 | -7,304.12 | 349.41 | 7,305.18 | 0.00 | 0.00 | 0.00 |
| 18,800.00 | 90.40 | 179.82 | 11,686.08 | -7,404.12 | 349.72 | 7,405.18 | 0.00 | 0.00 | 0.00 |
| 18,900.00 | 90.40 | 179.82 | 11,685.38 | -7,504.11 | 350.03 | 7,505.18 | 0.00 | 0.00 | 0.00 |
| 19,000.00 | 90.40 | 179.82 | 11,684.68 | -7,604.11 | 350.34 | 7,605.17 | 0.00 | 0.00 | 0.00 |
| 19,100.00 | 90.40 | 179.82 | 11,683.98 | -7,704.11 | 350.65 | 7,705.17 | 0.00 | 0.00 | 0.00 |
| 19,200.00 | 90.40 | 179.82 | 11,683.29 | -7,804.11 | 350.96 | 7,805.17 | 0.00 | 0.00 | 0.00 |
| 19,300.00 | 90.40 | 179.82 | 11,682.59 | -7,904.10 | 351.27 | 7,905.17 | 0.00 | 0.00 | 0.00 |
| 19,373.90 | 90.40 | 179.82 | 11,682.07 | -7,978.00 | 351.50 | 7,979.06 | 0.00 | 0.00 | 0.00 |
| 19,400.00 | 90.40 | 179.82 | 11,681.89 | -8,004.10 | 351.58 | 8,005.16 | 0.00 | 0.00 | 0.00 |
| 19,503.90 | 90.40 | 179.82 | 11,681.16 | -8,108.00 | 351.90 | 8,109.07 | 0.00 | 0.00 | 0.00 |

| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.1.13 Single User Db | **Local Co-ordinate Reference:** | Well #106H |
| **Company:** | XTO Energy | **TVD Reference:** | RKB = 25' @ 3373.00usft |
| **Project:** | Eddy County, NM (NAD-27) | **MD Reference:** | RKB = 25' @ 3373.00usft |
| **Site:** | PLU 29 Big Sinks | **North Reference:** | Grid |
| **Well:** | #106H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | PERMITv2 | | |

**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 |
|---|---|---|---|---|---|---|---|---|---|
| #106H: SHLv2 (2310' - plan hits target center - Point | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 401,275.30 | 665,937.30 | 32.1020883 | -103.7974514 |
| #106H: PBHLv2 (200' - plan hits target center - Point | 0.00 | 0.00 | 11,681.16 | -8,108.00 | 351.90 | 393,167.30 | 666,289.20 | 32.0797951 | -103.7964453 |
| #106H: LTPv2 - plan misses target center by 0.40usft at 19373.90usft MD (11682.07 TVD, -7978.00 N, 351.50 E) - Point | 0.00 | 0.00 | 11,682.07 | -7,978.00 | 351.10 | 393,297.30 | 666,288.40 | 32.0801525 | -103.7964458 |
| #106H: FTP/ LPv2 - plan hits target center - Point | 0.00 | 0.00 | 11,733.00 | -683.20 | 328.90 | 400,592.10 | 666,266.20 | 32.1002057 | -103.7964002 |

**Formations**

| Measured Depth (usft) | Vertical Depth (usft) | Name | Lithology | Dip (°) | Dip Direction (°) |
|---|---|---|---|---|---|
| 835.00 | 835.00 | Rustler | | | |
| 1,198.00 | 1,198.00 | Salado | | | |
| 3,934.00 | 3,934.00 | Base of Salt | | | |
| 4,148.00 | 4,148.00 | Delaware | | | |
| 5,138.00 | 5,138.00 | Cherry Canyon | | | |
| 6,824.00 | 6,824.00 | Brushy Canyon | | | |
| 7,875.38 | 7,875.00 | Basal Brushy Canyon | | | |
| 8,091.20 | 8,090.00 | Bone Spring | | | |
| 8,118.30 | 8,117.00 | Bone Spring Lime | | | |
| 9,092.00 | 9,087.00 | 1st Bone Sand | | | |
| 9,505.57 | 9,499.00 | 2nd Bone Lime | | | |
| 9,956.28 | 9,948.00 | 2nd Bone Sand | | | |
| 10,179.13 | 10,170.00 | 3rd Bone Lime | | | |
| 11,054.45 | 11,042.00 | 3rd Bone Sand | | | |
| 11,382.08 | 11,364.00 | Red Hills | | | |
| 11,481.28 | 11,453.00 | Wolfcamp | | | |
| 11,515.74 | 11,482.00 | Wolfcamp X | | | |
| 11,641.06 | 11,577.00 | Wolfcamp Y | | | |
| 11,693.32 | 11,611.00 | Wolfcamp A | | | |
| 12,078.89 | 11,733.00 | LP | | | |

XTO respectfully requests approval to utilize a spudder rig to pre-set surface casing.

Description of Operations:

1. Spudder rig will move in to drill the surface hole and pre-set surface casing on the well.
    a. After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
    b. The spudder rig will utilize fresh water-based mud to drill the surface hole to TD. Solids control will be handled entirely on a closed loop basis. No earth pits will be used.
2. The wellhead will be installed and tested as soon as the surface casing is cut off and WOC time has been reached.
3. A blind flange at the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on two wing valves.
    a. A means for intervention will be maintained while the drilling rig is not over the well.
4. Spudder rig operations are expected to take 2-3 days per well on the pad.
5. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.
6. Drilling Operations will begin with a larger rig and a BOP stack equal to or greater than the pressure rating that was permitted will be nippled up and tested on the wellhead before drilling operations resume on each well.
    a. The larger rig will move back onto the location within 180 days from the point at which the wells are secured and the spudder rig is moved off location.
    b. The BLM will be notified 24 hours before the larger rig moves back on the pre-set locations
7. XTO will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.
8. Once the rig is removed, XTO will secure the wellhead area by placing a guard rail around the cellar area.

XTO requests the option to cement the surface and intermediate casing strings offline as a prudent batch drilling efficiency of acreage development.

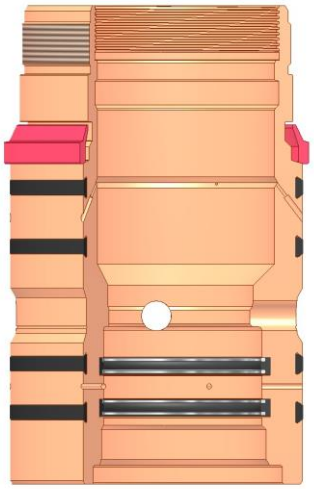
## 1. Cement Program

No changes to the cement program will take place for offline cementing.

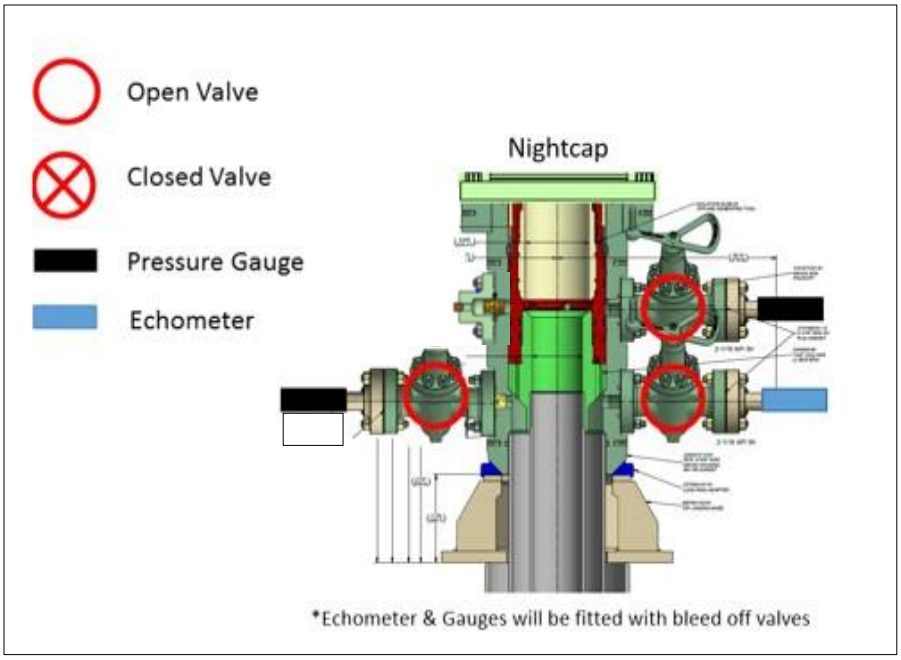
## 2. Offline Cementing Procedure

The operational sequence will be as follows. If a well control event occurs, the BLM will be contacted for approval prior to conducting offline cementing operations.

1. Run casing as per normal operations. While running casing, conduct negative pressure test and confirm integrity of the float equipment (float collar and shoe)
2. Land casing with mandrel
3. Fill pipe with kill weight fluid, do not circulate through floats and confirm well is static
4. Set annular packoff shown below and pressure test to confirm integrity of the seal. Pressure ratings of wellhead components and valves is 5,000 psi.
5. After confirmation of both annular barriers and internal barriers, nipple down BOP and install cap flange.
    a. If any barrier fails to test, the BOP stack will not be nippled down until after the cement job is completed with cement 500ft above the highest formation capable of flow with kill weight mud above or after it has achieved 50-psi compressive strength if kill weight fluid cannot be verified.

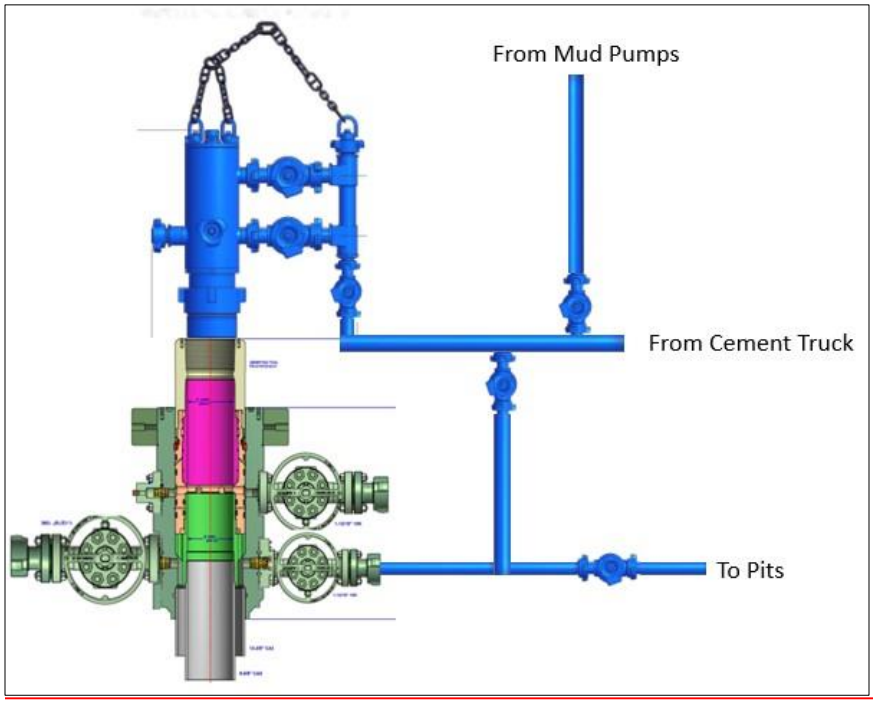


Annular packoff with both external and internal seals




Wellhead diagram during skidding operations

6. Skid rig to next well on pad.
7. Confirm well is static before removing cap flange, flange will not be removed and offline cementing operations will not commence until well is under control. If well is not static, casing outlet valves will provide access to both the casing ID and annulus. Rig or third party pump truck will kill well prior to cementing or nippling up for further remediation.
    a. Well Control Plan
        i. The Drillers Method will be the primary well control method to regain control of the wellbore prior to cementing, if wellbore conditions do not permit the drillers method other methods of well control may be used
        ii. Rig pumps or a 3rd party pump will be tied into the upper casing valve to pump down the casing ID
        iii. A high pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
        iv. Once influx is circulated out of the hole, kill weight mud will be circulated
        v. Well will be confirmed static
        vi. Once confirmed static, cap flange will be removed to allow for offline cementing operations to commence
8. Install offline cement tool
9. Rig up cement equipment




Wellhead diagram during offline cementing operations

10. Circulate bottoms up with cement truck
    a. If gas is present on bottoms up, well will be shut in and returns rerouted through gas buster to handle entrained gas
    b. Max anticipated time before circulating with cement truck is 6 hrs
11. Perform cement job taking returns from the annulus wellhead valve
12. Confirm well is static and floats are holding after cement job
13. Remove cement equipment, offline cement tools and install night cap with pressure gauge for monitoring.

**Subject:** Request for a Variance Allowing break Testing of the Blowout Preventer Equipment (BOPE)

XTO Energy requests a variance to ONLY test broken pressure seals on the BOPE and function test BOP when skidding a drilling rig between multiple wells on a pad.

**Background**

Onshore Oil and Gas Order (OOGO) No. 2, Drilling Operations, Sections III.A.2.i.iv.B states that the BOP test must be performed whenever any seal subject to test pressure is broken. The current interpretation of the Bureau of Land Management (BLM) requires a complete BOP test and not just a test of the affected component. OOGO No. 2, Section I.D.2 states, "Some situation may exist either on a well-by-well basis or field-wide basis whereby it is commonly accepted practice to vary a particular minimum standard(s) established in this order. This situation can be resolved by requesting a variance…". XTO Energy feels the break testing the BOPE is such a situation. Therefore, as per OOGO No. 2, Section IV., XTO Energy submits this request for the variance.

**Supporting Documentation**

OOGO No. 2 became effective on December 19, 1988 and has remained the standard for regulating BLM onshore drilling operations for over 30 years. During this time there have been significant changes in drilling technology. BLM continues to use the variance request process to allow for the use of modern technology and acceptable engineering practices that have arisen since OOGO No. 2 was originally released. The XTO Energy drilling rig fleet has many modern upgrades that allow the intact BOP stack to be moved between well slots on a multi-well pad, as well as, wellhead designs that incorporate quick connects facilitating release of the BOP from the wellhead without breaking any BOP stack components apart. These technologies have been used extensively offshore, and other regulators, API, and many operators around the world have endorsed break testing as safe and reliable.

Figure 1: Winch System attached to BOP Stack

Figure 2: BOP Winch System

American Petroleum Institute (API) standards, specification and recommended practices are considered the industry standard and are consistently utilized and referenced by the industry. OOGO No. 2 recognizes API recommended Practices (RP) 53 in its original development. API Standard 53, *Well Control Equipment Systems for Drilling Wells* (Fifth Edition, December 2018, Annex C, Table C.4) recognizes break testing as an acceptable practice. Specifically, API Standard 53, Section 5.3.7.1 states "A pressure test of the pressure containing component shall be performed following the disconnection or repair, limited to the affected component." See Table C.4 below for reference.



**Table C.4—Initial Pressure Testing, Surface BOP Stacks**

| Component to be Pressure Tested | Pressure Test—Low Pressure[ac] psig (MPa) | Pressure Test—High Pressure[ac] | |
|---|---|---|---|
| | | Change Out of Component, Elastomer, or Ring Gasket | No Change Out of Component, Elastomer, or Ring Gasket |
| Annular preventer[b] | 250 to 350 (1.72 to 2.41) | RWP of annular preventer | MASP or 70% annular RWP, whichever is lower. |
| Fixed pipe, variable bore, blind, and BSR preventers[bd] | 250 to 350 (1.72 to 2.41) | RWP of ram preventer or wellhead system, whichever is lower | ITP |
| Choke and kill line and BOP side outlet valves below ram preventers (both sides) | 250 to 350 (1.72 to 2.41) | RWP of side outlet valve or wellhead system, whichever is lower | ITP |
| Choke manifold—upstream of chokes[e] | 250 to 350 (1.72 to 2.41) | RWP of ram preventers or wellhead system, whichever is lower | ITP |
| Choke manifold—downstream of chokes[e] | 250 to 350 (1.72 to 2.41) | RWP of valve(s), line(s), or MASP for the well program, whichever is lower | |
| Kelly, kelly valves, drill pipe safety valves, IBOPs | 250 to 350 (1.72 to 2.41) | MASP for the well program | |

[a] Pressure test evaluation periods shall be a minimum of five minutes.
No visible leaks.
The pressure shall remain stable during the evaluation period. The pressure shall not decrease below the intended test pressure.

[b] Annular(s) and VBR(s) shall be pressure tested on the largest and smallest OD drill pipe to be used in well program.

[c] For pad drilling operations, moving from one wellhead to another within the 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

[d] For surface offshore operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented during the initial test. For land operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented at commissioning and annually.

[e] Adjustable chokes are not required to be full sealing devices. Pressure testing against a closed choke is not required.

The Bureau of Safety and Environmental Enforcement (BSEE), Department of Interior, has also utilized the API standards, specification and best practices in the development of its offshore oil and gas regulations and incorporates them by reference within its regulations.

Break testing has been approved by the BLM in the past with other operators based on the detailed information provided in this document.

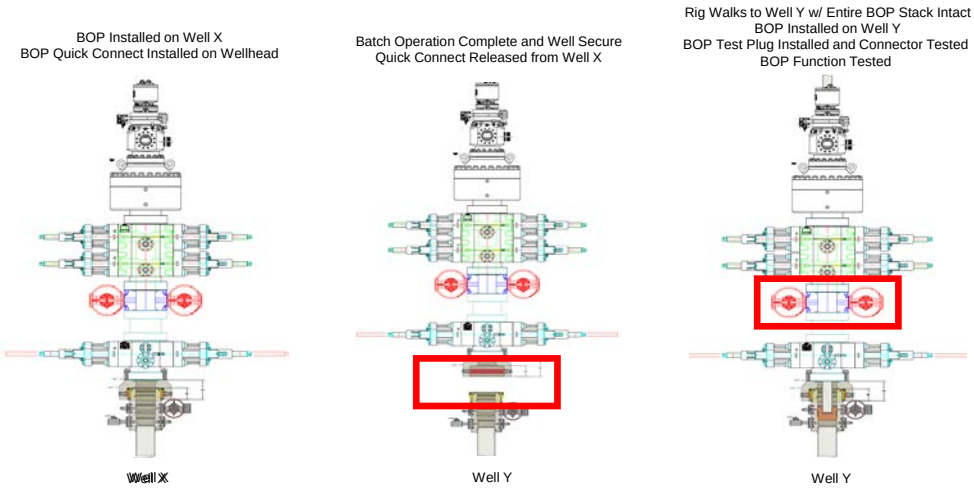
XTO Energy feels break testing and our current procedures meet the intent of OOGO No. 2 and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. XTO Energy's internal standards requires complete BOPE tests more often than that of OOGO No. 2 (Every 21 days). In addition to function testing the annular, pipe rams and blind rams after each BOP nipple up, XTO Energy performs a choke drill with the rig crew prior to drilling out every casing shoe. This is additional training for the rig crew that exceeds the requirements of the OOGO No.2.

**Procedures**

1. XTO Energy will use this document for our break testing plan for New Mexico Delaware basin. The summary below will be referenced in the APD or Sundry Notice and receive approval prior to implementing this variance.
2. XTO Energy will perform BOP break testing on multi-wells pads where multiple intermediate sections can be drilled and cased within the 21-day BOP test window.
    a. A full BOP test will be conducted on the first well on the pad.
    b. The first intermediate hole section drilled on the pad will be the deepest. All of the remaining hole sections will be the same depth or shallower.
        i. Our Lower WC targets set the intermediate casing shoe no deeper than the Wolfcamp B.
        ii. Our Upper WC targets set the intermediate casing shoe shallower than the Wolfcamp B.
    c. A Full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
    d. A full BOP test will be required prior to drilling any production hole.
3. After performing a complete BOP test on the first well, the intermediate hole section will be drilled and cased, two breaks would be made on the BOP equipment.
    a. Between the HCV valve and choke line connection
    b. Between the BOP quick connect and the wellhead
4. The BOP is then lifted and removed from the wellhead by a hydraulic system.
5. After skidding to the next well, the BOP is moved to the wellhead by the same hydraulic system and installed.
6. The connections mentioned in 3a and 3b will then be reconnected.
7. Install test plug into the wellhead using test joint or drill pipe.
8. A shell test is performed against the upper pipe rams testing the two breaks.
9. The shell test will consist of a 250 psi low test and a high test to the value submitted in the APD or Sundry (e.g. 5,000 psi or 10,000psi).
10. Function test will be performed on the following components: lower pipe rams, blind rams, and annular.

11. For a multi-well pad the same two breaks on the BOP would be made and on the next wells and steps 4 through 10 would be repeated.
12. A second break test would only be done if the intermediate hole section being drilled could not be completed within the 21 day BOP test window.

*Note: Picture below highlights BOP components that will be tested during batch operations*




**Summary**

A variance is requested to **ONLY** test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53. API Standard 53 states, that for pad drilling operation, moving from one wellhead to another within 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

The BOP will be secured by a hydraulic carrier or cradle. The BLM will be contacted if a Well Control event occurs prior to the commencement of a BOPE Break Testing operation.

Based on discussions with the BLM on February 27th 2020 and the supporting documentation submitted to the BLM, we will request permission to ONLY retest broken pressure seals if the following conditions are met:

1. After a full BOP test is conducted on the first well on the pad.

2. The first intermediate hole section drilled on the pad will be the deepest. All of the remaining hole sections will be the same depth or shallower.

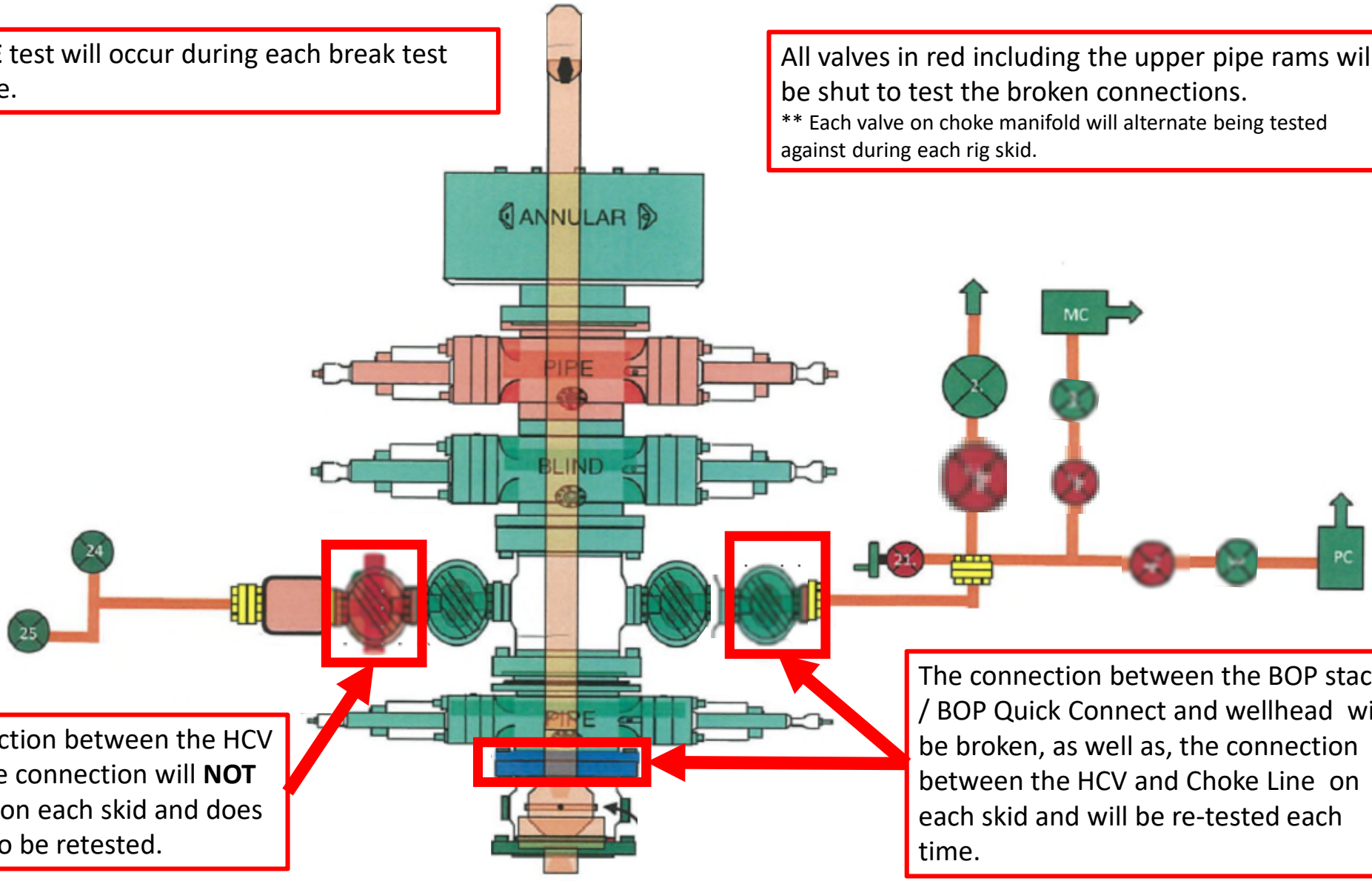
3. Full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.

4. Full BOP test will be required prior to drilling the production hole.

Only **ONE** test will occur during each break test procedure.

All valves in red including the upper pipe rams will be shut to test the broken connections.

** Each valve on choke manifold will alternate being tested against during each rig skid.




The connection between the HCV and kill line connection will **NOT** be broken on each skid and does not need to be retested.

The connection between the BOP stack / BOP Quick Connect and wellhead will be broken, as well as, the connection between the HCV and Choke Line on each skid and will be re-tested each time.