

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM 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.5. Lease Serial No.
NMLC061705B

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 27. 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 17 TWR 121H

2. Name of Operator

XTO PERMIAN OPERATING LLC

Contact: KELLY KARDOS

E-Mail: kelly_kardos@xtoenergy.com

9. API Well No.

30-015-45923-00-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

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 20 T24S R31E NWNW 248FNL 533FWL
32.209389 N Lat, 103.806671 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 Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original A
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	PD

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 recompleat 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 recompleat 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 the casing/cement design per the attached drilling program.

Change BHL from 2440'FNL & 335'FWL in Sec. 32-T24S-R31E to 220'FSL & 430'FWL in Sec. 29-T24S-R31E.

XTO requests the following variances:

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

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

Electronic Submission #507974 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 03/23/2020 (20PP1745SE)

Name (Printed/Typed) KELLY KARDOS

Title REGULATORY COORDINATOR

Signature (Electronic Submission)

Date 03/23/2020

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By ALLISON MORENCY

Title PETROLEUM ENGINEER

Date 03/26/2020

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 ****

Accepted for Record 03/30/2020 – JAG NMOCD

Additional data for EC transaction #507974 that would not fit on the form

32. Additional remarks, continued

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 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.

Attachments:

Updated C102

Casing/Cement Design

Directional Plan

Revisions to Operator-Submitted EC Data for Sundry Notice #507974

	Operator Submitted	BLM Revised (AFMSS)
Sundry Type:	APDCH NOI	APDCH NOI
Lease:	NMLC061705B	NMLC061705B
Agreement:	NMNM71016X	891000303X (NMNM71016X)
Operator:	XTO PERMIAN OPERATING, LLC 6401 HOLIDAY HILL RD BLDG 5 MIDLAND, TX 79707 Ph: 432-620-4374	XTO PERMIAN OPERATING LLC 6401 HOLIDAY HILL ROAD BLDG 5 MIDLAND, TX 79707 Ph: 432.683 2277
Admin Contact:	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com Ph: 432-620-4374	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com Ph: 432-620-4374
Tech Contact:	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com Ph: 432-620-4374	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com Ph: 432-620-4374
Location: State: County:	NM EDDY	NM EDDY
Field/Pool:	PURPLE SAGE WOLFCAMP	WILDCAT - BONE SPRING
Well/Facility:	POKER LAKE UNIT 17 TWR 121H Sec 20 T24S R31E Mer NMP NWNW 248FNL 533FWL	POKER LAKE UNIT 17 TWR 121H Sec 20 T24S R31E NWNW 248FNL 533FWL 32.209389 N Lat, 103.806671 W Lon

Kardos, Kelly

From: amorency@blm.gov
Sent: Thursday, March 26, 2020 12:05 PM
To: Kardos, Kelly
Subject: Well POKER LAKE UNIT 17 TWR 121H
Attachments: EC507974.pdf

Categories: External Sender

External Email - Think Before You Click

The sundry for Change to Original APD you submitted has been approved by the BLM. Your original Electronic Commerce (EC) transmission was assigned ID 507974. Please be sure to open and save all attachments to this message, since they contain important information.

03/26/20 - AM

All COAs still apply. Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement. Offline cement and shell testing not approved.

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 30-015- 45923	² Pool Code	³ Pool Name
⁴ Property Code	⁵ Property Name POKER LAKE UNIT 17 TWR	⁶ Well Number 121H
⁷ OGRID No. 373075	⁸ Operator Name XTO PERMIAN OPERATING, LLC.	⁹ Elevation 3,492'

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
D	20	24 S	31 E		248	NORTH	533	WEST	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
M	29	24 S	31 E		220	SOUTH	430	WEST	EDDY

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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.

	SHL (NAD83 NME) Y = 440,308.1 X = 704,225.5 LAT. = 32.209387 °N LONG. = 103.806671 °W FTP (NAD83 NME) Y = 440,225.6 X = 704,123.3 LAT. = 32.209162 °N LONG. = 103.807003 °W SHL (NAD27 NME) Y = 440,249.2 X = 663,041.5 LAT. = 32.209263 °N LONG. = 103.806186 °W FTP (NAD27 NME) Y = 440,166.7 X = 662,939.3 LAT. = 32.209038 °N LONG. = 103.806518 °W CORNER COORDINATES (NAD27 NME) A - Y = 440,494.1 N , X = 662,506.5 E B - Y = 437,851.6 N , X = 662,529.5 E C - Y = 435,213.3 N , X = 662,542.0 E D - Y = 432,572.5 N , X = 662,560.7 E E - Y = 429,931.0 N , X = 662,578.3 E F - Y = 440,502.0 N , X = 663,828.9 E G - Y = 437,860.9 N , X = 663,848.9 E H - Y = 435,221.5 N , X = 663,863.6 E I - Y = 432,580.6 N , X = 663,881.5 E J - Y = 429,939.2 N , X = 663,898.9 E	LTP (NAD83 NME) Y = 430,322.3 X = 704,190.4 LAT. = 32.181938 °N LONG. = 103.806942 °W BHL (NAD83 NME) Y = 430,212.3 X = 704,191.1 LAT. = 32.181636 °N LONG. = 103.806942 °W LTP (NAD27 NME) Y = 430,263.7 X = 663,006.1 LAT. = 32.181814 °N LONG. = 103.806459 °W BHL (NAD27 NME) Y = 430,153.7 X = 663,006.8 LAT. = 32.181512 °N LONG. = 103.806459 °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. <i>Kelly Kardos</i> Signature _____ Date _____ Printed Name _____ 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. 03-11-2020 Date of Survey Signature and Seal of Professional Surveyor: MARK DILLON HARP 23786 Certificate Number _____ AW 2018010200		

Poker Lake Unit 17 TWR 121H
 Projected TD: 22961' MD / 12599' TVD
 SHL: 248' FNL & 533' FWL , Section 20, T24S, R31E
 BHL: 220' FSL & 430' FWL , Section 29, T24S, R31E
 Eddy County, NM

Casing Design

The surface fresh water sands will be protected by setting 13-3/8 inch casing @ 740' (159' above the salt) and circulating cement back to surface. A 12-1/4 inch vertical hole will be drilled to 11798' and 9-5/8 inch casing ran and cemented 200' into the 13-3/8 inch casing. An 8-3/4 inch curve and lateral hole will be drilled to MD/TD and 5-1/2 casing will be set at TD and cemented back 300' into the 9-5/8 inch casing shoe.

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17-1/2"	0' – 740'	13-3/8"	68	BTC	J-55	New	1.18	5.82	21.24
12-1/4"	0' – 4600'	9-5/8"	40	BTC	HCP-110	New	1.38	1.42	2.67
12-1/4"	4600' – 11798'	9-5/8"	40	BTC	HCL-80	New	1.00	1.30	1.94
8-3/4-8-1/2"	0' – 22961'	5-1/2"	20	BTC	P-110	New	1.03	1.30	1.95

XTO requests to not utilize centralizers in the curve and lateral

9-5/8" Collapse analyzed using 50% evacuation based on regional experience.

9-5/8" casing will be split string with CYP-1110 run from surface to 4600' & HCL-80 from 4600' to TD. The 9-5/8" casing fails

SF burst at surface but will be crossed over to CYP-110 at 4600'. The split string design passes our internal requirements.

5-1/2" tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35

WELLHEAD:

Permanent Wellhead – GE RSH Multibowl System

- A. Starting Head (RSH System): 13-3/8" SOW bottom x 13-5/8" 5M top flange
- B. Tubing Head: 13-5/8" 5M bottom flange x 7-1/16" 10M 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 9-5/8" casing per Onshore Order 2.
 - Wellhead manufacturer representative may not be present for BOP test plug installation

Cement Program

Surface Casing:

Lead: 320 sxs Halcem-C + 2% CaCl (mixed at 12.8 ppg, 1.87 ft3/sx, 10.13 gal/sx water)

Tail: 300 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

Intermediate Casing:

ECP/DV Tool to be set at 4759'

1st Stage

Lead: 1090 sxs Halcem-C + 2% CaCl (mixed at 11.0 ppg, 3.45 ft3/sx, 21.14 gal/sx water)

Tail: 470 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.32 ft3/sx, 6.39 gal/sx water)

Compressives: 12-hr = 500 psi 24 hr = 1151 psi

2nd Stage

Lead: 690 sxs Halcem-C + 2% CaCl (mixed at 11.0 ppg, 3.45 ft3/sx, 21.14 gal/sx water)

Tail: 450 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.32 ft3/sx, 6.39 gal/sx water)

Compressives: 12-hr = 500 psi 24 hr = 1151 psi

Production Casing:

Tail: 2610 sxs VersaCem (mixed at 13.2 ppg, 1.33 ft3/sx, 8.38 gal/sx water)

Compressives: 12-hr = 1375 psi 24 hr = 2285 psi

Mud Circulation Program

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' to 740'	17-1/2"	FW/Native	8.4-8.8	35-40	NC
740' to 11798'	12-1/4"	FW / Cut Brine / Direct Emulsion	8.5-9.5	29-32	NC - 20
11798' to 22961'	8-3/4-8-1/2"	FW / Cut Brine / Polymer/ OBM	12.5-13.5	32-50	NC - 20

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

XTO Energy Inc.
PLU 17 Twin Wells Ranch 121H
Projected TD: 22961' MD / 12599' TVD
SHL: 248' FNL & 533' FWL , Section 20, T24S, R31E
BHL: 220' FSL & 430' FWL , Section 29, T24S, 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	539'	Water
Top of Salt	899'	Water
Base of Salt	4039'	Water
Delaware	4259'	Water
Bone Spring	8099'	Water/Oil/Gas
1st Bone Spring Ss	9059'	Water/Oil/Gas
2nd Bone Spring Ss	9879'	Water/Oil/Gas
3rd Bone Spring Ss	11039'	Water/Oil/Gas
Wolfcamp Shale	11439'	Water/Oil/Gas
Wolfcamp D Shale	12399'	Water/Oil/Gas
Target/Land Curve	12599'	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 13-3/8 inch casing @ 740' (159' above the salt) and circulating cement back to surface. A 12-1/4 inch vertical hole will be drilled to 11798' and 9-5/8 inch casing ran and cemented 200' into the 13-3/8 inch casing. An 8-3/4 inch curve and lateral hole will be drilled to MD/TD and 5-1/2 casing will be set at TD and cemented back 300' into the 9-5/8 inch casing shoe.

3. Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17-1/2"	0' – 740'	13-3/8"	68	BTC	J-55	New	1.18	5.82	21.24
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8-3/4-8-1/2"	0' – 22961'	5-1/2"	20	BTC	P-110	New	1.03	1.30	1.95

XTO requests to utilize centralizers after KOP and only a minimum of one every other joint.

9-5/8" Collapse analyzed using 50% evacuation based on regional experience.

9-5/8" casing will be split string with CYP-1110 run from surface to 4600' & HCL-80 from 4600' to TD. The 9-5/8" casing fails

SF burst at surface but will be crossed over to CYP-110 at 4600'. The split string design passes our internal requirements.

5-1/2" tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35

WELLHEAD:

Permanent Wellhead – GE RSH Multibowl System

A. Starting Head (RSH System): 13-3/8" SOW bottom x 13-5/8" 5M top flange

B. Tubing Head: 13-5/8" 5M bottom flange x 7-1/16" 10M 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 9-5/8" casing per Onshore Order 2.
- Wellhead manufacturer representative may not be present for BOP test plug installation

4. Cement Program

Surface Casing: 13-3/8", 68 New J-55, BTC casing to be set at +/- 740'

Lead: 320 sxs Halcem-C + 2% CaCl (mixed at 12.8 ppg, 1.87 ft³/sx, 10.13 gal/sx water)

Tail: 300 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

Top of Cement: Surface

2nd Intermediate Casing (Stage 2): 9-5/8", 40 New HCL-80, BTC casing to be set at +/- 11798'

ECP/DV Tool to be set at 4759'

1st Stage

Lead: 1090 sxs Halcem-C + 2% CaCl (mixed at 11.0 ppg, 3.45 ft³/sx, 21.14 gal/sx water)

Tail: 470 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.32 ft³/sx, 6.39 gal/sx water)

Compressives: 12-hr = 500 psi 24 hr = 1151 psi

2nd Stage

Lead: 690 sxs Halcem-C + 2% CaCl (mixed at 11.0 ppg, 3.45 ft³/sx, 21.14 gal/sx water)

Tail: 450 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.32 ft³/sx, 6.39 gal/sx water)

Compressives: 12-hr = 500 psi 24 hr = 1151 psi

Top of Cement: 200' inside previous casing shoe

Production Casing: 5-1/2", 20 New P-110, BTC casing to be set at +/- 22961'

Lead: 0 sxs Halcem-C + 2% CaCl (mixed at 11.5 ppg, 1.88 ft³/sx, 9.61 gal/sx water)

Tail: 2610 sxs VersaCem (mixed at 13.2 ppg, 1.33 ft³/sx, 8.38 gal/sx water)

Compressives: 12-hr = 1375 psi 24 hr = 2285 psi

Top of Cement: 300' inside previous casing shoe

5. Pressure Control Equipment

Once the permanent WH is installed on the 13-3/8 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 3125 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 nipping up on the 13-3/8", 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 wellhead manf. 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.

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.

6. Proposed Mud Circulation System

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' to 740'	17-1/2"	FW/Native	8.4-8.8	35-40	NC
740' to 11798'	12-1/4"	FW / Cut Brine / Direct Emulsion	8.5-9.5	29-32	NC - 20
11798' to 22961'	8-3/4-8-1/2"	FW / Cut Brine / Polymer/ OBM	12.5-13.5	32-50	NC - 20

The necessary mud products for weight addition and fluid loss control will be on location at all times.

Spud with fresh water/native mud. Drill out from under 13-3/8" surface casing with brine / oil direct emulsion mud. 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 13-3/8" casing.

8. Logging, Coring and Testing Program

Mud Logger: Mud Logging Unit (2 man) below 1st intermediate casing.

Open hole logging will not be done on this well.

9. Abnormal Pressures and Temperatures / Potential Hazards

None Anticipated. BHT of 160 to 180 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 5896 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 soon after Santa Fe and BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 40 days. If production casing is run, an additional 30 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.



XTO Energy

Eddy County, NM (NAD-27)

Poker Lake Unit 17 TWR

#121H

OH

Plan: PERMIT Rev2

Standard Planning Report

17 March, 2020



Project: Eddy County, NM (NAD-27)
Site: Poker Lake Unit 17 TWR
Well: #121H
Wellbore: OH
Design: PERMIT Rev2

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: #121H

			Rig Name:			
			RKB = 31' @	3523.00usft		
			Ground Level:	3492.00		
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	440249.20	663041.50	32.2092631	-103.8061865	

DESIGN TARGET DETAILS

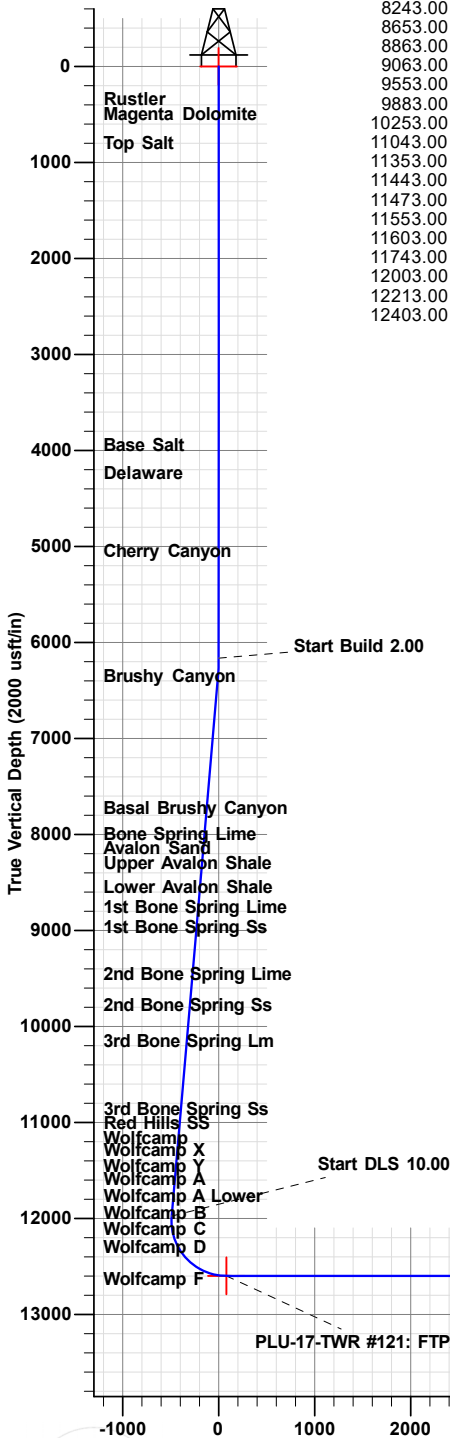
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PLU-17-TWR #121: SHL (248' FNL & 533 FWL)	0.00	0.10	0.00	440249.30	663041.50	32.2092634	-103.8061865	Point
PLU-17-TWR #121: FTP/ LPv2	12599.00	-82.50	-102.20	440166.70	662939.30	32.2090377	-103.8065182	Point
PLU-17-TWR #121: LTPv2	12599.00	-9985.50	-35.40	430263.70	663006.10	32.1818146	-103.8064591	Point
PLU-17-TWR #121: PBHLv2 (200' FSL & 430 FWL)	12599.00	-10095.50	-34.70	430153.70	663006.80	32.1815122	-103.8064586	Point

SECTION DETAILS

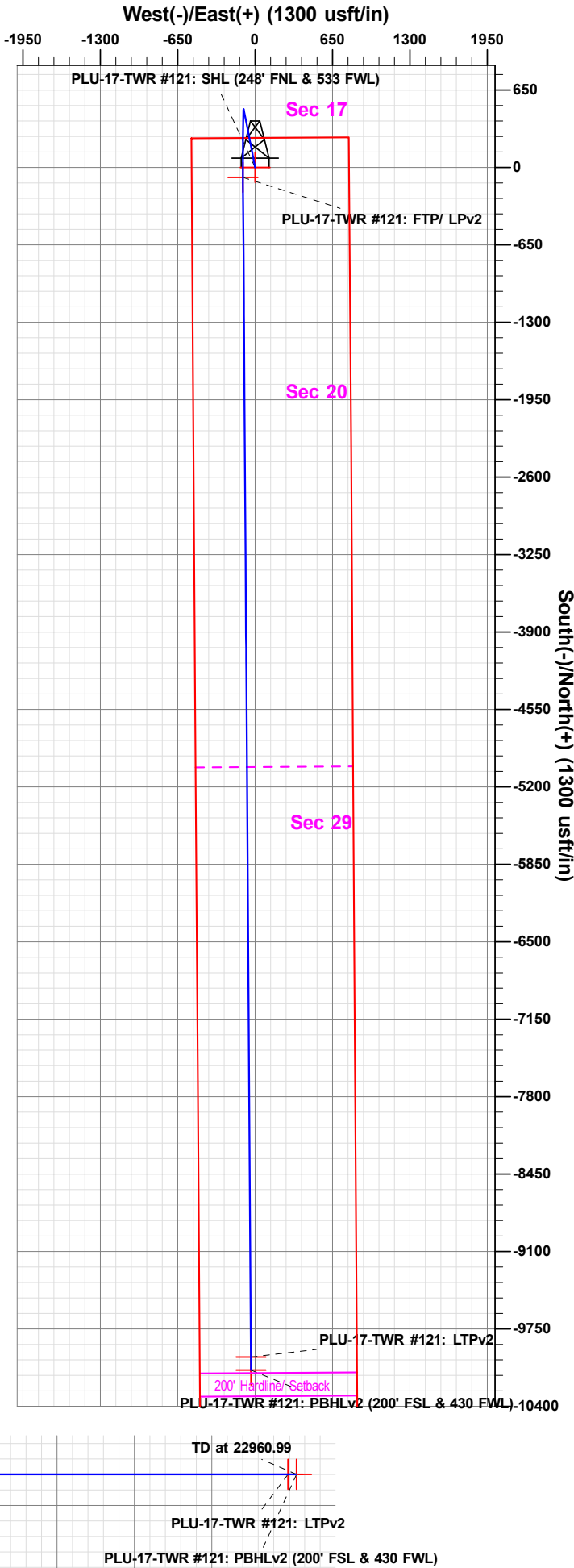
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	6165.00	0.00	0.00	6165.00	0.00	0.00	0.00	0.00	0.00
3	6415.10	5.00	348.89	6414.78	10.71	-2.10	2.00	348.89	-10.72
4	11998.62	5.00	348.89	11977.04	488.41	-95.92	0.00	0.00	-489.05
5	12947.77	90.00	179.61	12599.00	-82.50	-102.20	10.00	-169.24	81.80
6	22960.99	90.00	179.61	12599.00	-10095.50	-34.70	0.00	0.00	10095.03

FORMATION TOP DETAILS

TVDPath	Formation
543.00	Rustler
603.00	Magenta Dolomite
903.00	Top Salt
4043.00	Base Salt
4263.00	Delaware
5153.00	Cherry Canyon
6453.00	Brushy Canyon
7823.00	Basal Brushy Canyon
8103.00	Bone Spring Lime
8223.00	Avalon Sand
8243.00	Upper Avalon Shale
8653.00	Lower Avalon Shale
8863.00	1st Bone Spring Lime
9063.00	1st Bone Spring Ss
9553.00	2nd Bone Spring Lime
9883.00	2nd Bone Spring Ss
10253.00	3rd Bone Spring Lm
11043.00	3rd Bone Spring Ss
11353.00	Red Hills SS
11443.00	Wolfcamp
11473.00	Wolfcamp X
11553.00	Wolfcamp Y
11603.00	Wolfcamp A
11743.00	Wolfcamp A Lower
12003.00	Wolfcamp B
12213.00	Wolfcamp C
12403.00	Wolfcamp D



Vertical Section at 179.61° (2000 usft/in)



The customer should only rely on this document after independently verifying all paths, targets, coordinates, lease and hard lines represented. Any decisions made or wells drilled utilizing this or any other information supplied by Prototype are at the sole risk and responsibility of the user.

Plan: PERMIT Rev2 (#121H/OH)

Created By: Prototype Well Planning, LLC Date: 10:43, March 17 2020



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #121H
Company:	XTO Energy	TVD Reference:	RKB = 31' @ 3523.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 31' @ 3523.00usft
Site:	Poker Lake Unit 17 TWR	North Reference:	Grid
Well:	#121H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT Rev2		

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		Poker Lake Unit 17 TWR			
Site Position:		Northing:	440,828.50 usft	Latitude:	32.2108531
From:	Map	Easting:	663,224.90 usft	Longitude:	-103.8055843
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.28 °

Well	#121H					
Well Position	+N/-S	-579.30 usft	Northing:	440,249.20 usft	Latitude:	32.2092632
	+E/-W	-183.40 usft	Easting:	663,041.50 usft	Longitude:	-103.8061865
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,492.00 usft

Wellbore	OH				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	04/23/18	6.97	60.00	47,817

Design	PERMIT Rev2			
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	179.61

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	
6,165.00	0.00	0.00	6,165.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,415.10	5.00	348.89	6,414.78	10.71	-2.10	2.00	2.00	0.00	348.89	
11,998.62	5.00	348.89	11,977.04	488.41	-95.92	0.00	0.00	0.00	0.00	
12,947.77	90.00	179.61	12,599.00	-82.50	-102.20	10.00	8.96	-17.83	-169.24	PLU-17-TWR #121
22,960.99	90.00	179.61	12,599.00	-10,095.50	-34.70	0.00	0.00	0.00	0.00	PLU-17-TWR #121



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Site:	Poker Lake Unit 17 TWR	North Reference:	Grid
Well:	#121H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT Rev2		

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
543.00	0.00	0.00	543.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
603.00	0.00	0.00	603.00	0.00	0.00	0.00	0.00	0.00	0.00
Magenta Dolomite									
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
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
903.00	0.00	0.00	903.00	0.00	0.00	0.00	0.00	0.00	0.00
Top Salt									
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
1,200.00	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
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,043.00	0.00	0.00	4,043.00	0.00	0.00	0.00	0.00	0.00	0.00
Base Salt									
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,263.00	0.00	0.00	4,263.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware									
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00



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Site:	Poker Lake Unit 17 TWR	North Reference:	Grid
Well:	#121H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT Rev2		

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)
4,400.00	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
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
5,153.00	0.00	0.00	5,153.00	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
6,165.00	0.00	0.00	6,165.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.70	348.89	6,200.00	0.21	-0.04	-0.21	2.00	2.00	0.00
6,300.00	2.70	348.89	6,299.95	3.12	-0.61	-3.12	2.00	2.00	0.00
6,400.00	4.70	348.89	6,399.74	9.45	-1.86	-9.47	2.00	2.00	0.00
6,415.10	5.00	348.89	6,414.78	10.71	-2.10	-10.72	2.00	2.00	0.00
6,453.46	5.00	348.89	6,453.00	13.99	-2.75	-14.01	0.00	0.00	0.00
Brushy Canyon									
6,500.00	5.00	348.89	6,499.36	17.97	-3.53	-17.99	0.00	0.00	0.00
6,600.00	5.00	348.89	6,598.98	26.52	-5.21	-26.56	0.00	0.00	0.00
6,700.00	5.00	348.89	6,698.60	35.08	-6.89	-35.13	0.00	0.00	0.00
6,800.00	5.00	348.89	6,798.22	43.64	-8.57	-43.69	0.00	0.00	0.00
6,900.00	5.00	348.89	6,897.84	52.19	-10.25	-52.26	0.00	0.00	0.00
7,000.00	5.00	348.89	6,997.46	60.75	-11.93	-60.83	0.00	0.00	0.00
7,100.00	5.00	348.89	7,097.07	69.30	-13.61	-69.39	0.00	0.00	0.00
7,200.00	5.00	348.89	7,196.69	77.86	-15.29	-77.96	0.00	0.00	0.00
7,300.00	5.00	348.89	7,296.31	86.41	-16.97	-86.53	0.00	0.00	0.00
7,400.00	5.00	348.89	7,395.93	94.97	-18.65	-95.09	0.00	0.00	0.00
7,500.00	5.00	348.89	7,495.55	103.52	-20.33	-103.66	0.00	0.00	0.00
7,600.00	5.00	348.89	7,595.17	112.08	-22.01	-112.23	0.00	0.00	0.00
7,700.00	5.00	348.89	7,694.79	120.64	-23.69	-120.79	0.00	0.00	0.00
7,800.00	5.00	348.89	7,794.41	129.19	-25.37	-129.36	0.00	0.00	0.00
7,828.70	5.00	348.89	7,823.00	131.65	-25.85	-131.82	0.00	0.00	0.00
Basal Brushy Canyon									
7,900.00	5.00	348.89	7,894.03	137.75	-27.05	-137.93	0.00	0.00	0.00
8,000.00	5.00	348.89	7,993.65	146.30	-28.73	-146.49	0.00	0.00	0.00
8,100.00	5.00	348.89	8,093.27	154.86	-30.41	-155.06	0.00	0.00	0.00
8,109.77	5.00	348.89	8,103.00	155.69	-30.58	-155.90	0.00	0.00	0.00
Bone Spring Lime									
8,200.00	5.00	348.89	8,192.89	163.41	-32.09	-163.63	0.00	0.00	0.00
8,230.23	5.00	348.89	8,223.00	166.00	-32.60	-166.22	0.00	0.00	0.00
Avalon Sand									
8,250.31	5.00	348.89	8,243.00	167.72	-32.94	-167.94	0.00	0.00	0.00
Upper Avalon Shale									



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Wellbore:	OH		
Design:	PERMIT Rev2		

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)
8,300.00	5.00	348.89	8,292.50	171.97	-33.77	-172.20	0.00	0.00	0.00
8,400.00	5.00	348.89	8,392.12	180.52	-35.45	-180.76	0.00	0.00	0.00
8,500.00	5.00	348.89	8,491.74	189.08	-37.13	-189.33	0.00	0.00	0.00
8,600.00	5.00	348.89	8,591.36	197.64	-38.81	-197.90	0.00	0.00	0.00
8,661.87	5.00	348.89	8,653.00	202.93	-39.85	-203.20	0.00	0.00	0.00
Lower Avalon Shale									
8,700.00	5.00	348.89	8,690.98	206.19	-40.49	-206.46	0.00	0.00	0.00
8,800.00	5.00	348.89	8,790.60	214.75	-42.17	-215.03	0.00	0.00	0.00
8,872.68	5.00	348.89	8,863.00	220.96	-43.40	-221.26	0.00	0.00	0.00
1st Bone Spring Lime									
8,900.00	5.00	348.89	8,890.22	223.30	-43.85	-223.60	0.00	0.00	0.00
9,000.00	5.00	348.89	8,989.84	231.86	-45.53	-232.16	0.00	0.00	0.00
9,073.44	5.00	348.89	9,063.00	238.14	-46.77	-238.45	0.00	0.00	0.00
1st Bone Spring Ss									
9,100.00	5.00	348.89	9,089.46	240.41	-47.21	-240.73	0.00	0.00	0.00
9,200.00	5.00	348.89	9,189.08	248.97	-48.90	-249.30	0.00	0.00	0.00
9,300.00	5.00	348.89	9,288.70	257.52	-50.58	-257.86	0.00	0.00	0.00
9,400.00	5.00	348.89	9,388.32	266.08	-52.26	-266.43	0.00	0.00	0.00
9,500.00	5.00	348.89	9,487.93	274.64	-53.94	-275.00	0.00	0.00	0.00
9,565.31	5.00	348.89	9,553.00	280.22	-55.03	-280.59	0.00	0.00	0.00
2nd Bone Spring Lime									
9,600.00	5.00	348.89	9,587.55	283.19	-55.62	-283.56	0.00	0.00	0.00
9,700.00	5.00	348.89	9,687.17	291.75	-57.30	-292.13	0.00	0.00	0.00
9,800.00	5.00	348.89	9,786.79	300.30	-58.98	-300.70	0.00	0.00	0.00
9,896.58	5.00	348.89	9,883.00	308.57	-60.60	-308.97	0.00	0.00	0.00
2nd Bone Spring Ss									
9,900.00	5.00	348.89	9,886.41	308.86	-60.66	-309.26	0.00	0.00	0.00
10,000.00	5.00	348.89	9,986.03	317.41	-62.34	-317.83	0.00	0.00	0.00
10,100.00	5.00	348.89	10,085.65	325.97	-64.02	-326.40	0.00	0.00	0.00
10,200.00	5.00	348.89	10,185.27	334.52	-65.70	-334.96	0.00	0.00	0.00
10,267.99	5.00	348.89	10,253.00	340.34	-66.84	-340.79	0.00	0.00	0.00
3rd Bone Spring Lm									
10,300.00	5.00	348.89	10,284.89	343.08	-67.38	-343.53	0.00	0.00	0.00
10,400.00	5.00	348.89	10,384.51	351.64	-69.06	-352.10	0.00	0.00	0.00
10,500.00	5.00	348.89	10,484.13	360.19	-70.74	-360.66	0.00	0.00	0.00
10,600.00	5.00	348.89	10,583.75	368.75	-72.42	-369.23	0.00	0.00	0.00
10,700.00	5.00	348.89	10,683.36	377.30	-74.10	-377.80	0.00	0.00	0.00
10,800.00	5.00	348.89	10,782.98	385.86	-75.78	-386.36	0.00	0.00	0.00
10,900.00	5.00	348.89	10,882.60	394.41	-77.46	-394.93	0.00	0.00	0.00
11,000.00	5.00	348.89	10,982.22	402.97	-79.14	-403.50	0.00	0.00	0.00
11,061.01	5.00	348.89	11,043.00	408.19	-80.16	-408.73	0.00	0.00	0.00
3rd Bone Spring Ss									
11,100.00	5.00	348.89	11,081.84	411.52	-80.82	-412.07	0.00	0.00	0.00
11,200.00	5.00	348.89	11,181.46	420.08	-82.50	-420.63	0.00	0.00	0.00
11,300.00	5.00	348.89	11,281.08	428.64	-84.18	-429.20	0.00	0.00	0.00
11,372.20	5.00	348.89	11,353.00	434.81	-85.39	-435.38	0.00	0.00	0.00
Red Hills SS									
11,400.00	5.00	348.89	11,380.70	437.19	-85.86	-437.77	0.00	0.00	0.00
11,462.54	5.00	348.89	11,443.00	442.54	-86.91	-443.12	0.00	0.00	0.00
Wolfcamp									
11,492.65	5.00	348.89	11,473.00	445.12	-87.42	-445.70	0.00	0.00	0.00
Wolfcamp X									
11,500.00	5.00	348.89	11,480.32	445.75	-87.54	-446.33	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #121H
Company:	XTO Energy	TVD Reference:	RKB = 31' @ 3523.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 31' @ 3523.00usft
Site:	Poker Lake Unit 17 TWR	North Reference:	Grid
Well:	#121H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT Rev2		

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)
11,572.96	5.00	348.89	11,553.00	451.99	-88.77	-452.58	0.00	0.00	0.00
Wolfcamp Y									
11,600.00	5.00	348.89	11,579.94	454.30	-89.22	-454.90	0.00	0.00	0.00
11,623.15	5.00	348.89	11,603.00	456.28	-89.61	-456.88	0.00	0.00	0.00
Wolfcamp A									
11,700.00	5.00	348.89	11,679.56	462.86	-90.90	-463.47	0.00	0.00	0.00
11,763.69	5.00	348.89	11,743.00	468.31	-91.97	-468.92	0.00	0.00	0.00
Wolfcamp A Lower									
11,800.00	5.00	348.89	11,779.18	471.41	-92.58	-472.03	0.00	0.00	0.00
11,900.00	5.00	348.89	11,878.79	479.97	-94.26	-480.60	0.00	0.00	0.00
11,998.62	5.00	348.89	11,977.04	488.41	-95.92	-489.05	0.00	0.00	0.00
12,000.00	4.87	348.59	11,978.41	488.52	-95.94	-489.16	10.00	-9.82	-22.02
12,024.64	2.49	337.65	12,003.00	490.04	-96.35	-490.69	10.00	-9.63	-44.37
Wolfcamp B									
12,050.00	0.96	256.15	12,028.35	490.50	-96.77	-491.15	10.00	-6.05	-321.37
12,100.00	5.31	189.71	12,078.27	488.12	-97.57	-488.78	10.00	8.69	-132.87
12,150.00	10.27	184.77	12,127.80	481.40	-98.33	-482.06	10.00	9.92	-9.88
12,200.00	15.25	183.04	12,176.55	470.39	-99.05	-471.05	10.00	9.97	-3.47
12,238.16	19.06	182.32	12,213.00	459.14	-99.56	-459.81	10.00	9.98	-1.89
Wolfcamp C									
12,250.00	20.24	182.14	12,224.15	455.17	-99.72	-455.83	10.00	9.99	-1.44
12,300.00	25.24	181.59	12,270.25	435.85	-100.34	-436.53	10.00	9.99	-1.10
12,350.00	30.24	181.22	12,314.49	412.60	-100.90	-413.27	10.00	9.99	-0.76
12,400.00	35.23	180.94	12,356.54	385.57	-101.41	-386.25	10.00	10.00	-0.56
12,450.00	40.23	180.72	12,396.07	354.98	-101.84	-355.67	10.00	10.00	-0.44
12,459.14	41.15	180.68	12,403.00	349.02	-101.92	-349.71	10.00	10.00	-0.38
Wolfcamp D									
12,500.00	45.23	180.54	12,432.78	321.07	-102.21	-321.76	10.00	10.00	-0.35
12,550.00	50.23	180.39	12,466.40	284.08	-102.51	-284.77	10.00	10.00	-0.30
12,600.00	55.23	180.26	12,496.67	244.31	-102.74	-245.00	10.00	10.00	-0.26
12,650.00	60.23	180.15	12,523.36	202.04	-102.89	-202.74	10.00	10.00	-0.23
12,700.00	65.23	180.04	12,546.27	157.62	-102.96	-158.31	10.00	10.00	-0.21
12,750.00	70.23	179.95	12,565.21	111.36	-102.96	-112.06	10.00	10.00	-0.19
12,800.00	75.23	179.86	12,580.05	63.63	-102.88	-64.33	10.00	10.00	-0.18
12,850.00	80.22	179.77	12,590.68	14.79	-102.72	-15.49	10.00	10.00	-0.17
12,900.00	85.22	179.69	12,597.01	-34.79	-102.49	34.09	10.00	10.00	-0.17
12,947.77	90.00	179.61	12,599.00	-82.50	-102.20	81.80	10.00	10.00	-0.16
13,000.00	90.00	179.61	12,599.00	-134.73	-101.85	134.04	0.00	0.00	0.00
13,100.00	90.00	179.61	12,599.00	-234.73	-101.17	234.04	0.00	0.00	0.00
13,200.00	90.00	179.61	12,599.00	-334.73	-100.50	334.04	0.00	0.00	0.00
13,300.00	90.00	179.61	12,599.00	-434.73	-99.83	434.04	0.00	0.00	0.00
13,400.00	90.00	179.61	12,599.00	-534.72	-99.15	534.04	0.00	0.00	0.00
13,500.00	90.00	179.61	12,599.00	-634.72	-98.48	634.04	0.00	0.00	0.00
13,600.00	90.00	179.61	12,599.00	-734.72	-97.80	734.04	0.00	0.00	0.00
13,700.00	90.00	179.61	12,599.00	-834.72	-97.13	834.04	0.00	0.00	0.00
13,800.00	90.00	179.61	12,599.00	-934.71	-96.46	934.04	0.00	0.00	0.00
13,900.00	90.00	179.61	12,599.00	-1,034.71	-95.78	1,034.04	0.00	0.00	0.00
14,000.00	90.00	179.61	12,599.00	-1,134.71	-95.11	1,134.04	0.00	0.00	0.00
14,100.00	90.00	179.61	12,599.00	-1,234.71	-94.43	1,234.04	0.00	0.00	0.00
14,200.00	90.00	179.61	12,599.00	-1,334.71	-93.76	1,334.04	0.00	0.00	0.00
14,300.00	90.00	179.61	12,599.00	-1,434.70	-93.08	1,434.04	0.00	0.00	0.00
14,400.00	90.00	179.61	12,599.00	-1,534.70	-92.41	1,534.04	0.00	0.00	0.00
14,500.00	90.00	179.61	12,599.00	-1,634.70	-91.74	1,634.04	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #121H
Company:	XTO Energy	TVD Reference:	RKB = 31' @ 3523.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 31' @ 3523.00usft
Site:	Poker Lake Unit 17 TWR	North Reference:	Grid
Well:	#121H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT Rev2		

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)
14,600.00	90.00	179.61	12,599.00	-1,734.70	-91.06	1,734.04	0.00	0.00	0.00
14,700.00	90.00	179.61	12,599.00	-1,834.69	-90.39	1,834.04	0.00	0.00	0.00
14,800.00	90.00	179.61	12,599.00	-1,934.69	-89.71	1,934.04	0.00	0.00	0.00
14,900.00	90.00	179.61	12,599.00	-2,034.69	-89.04	2,034.04	0.00	0.00	0.00
15,000.00	90.00	179.61	12,599.00	-2,134.69	-88.37	2,134.04	0.00	0.00	0.00
15,100.00	90.00	179.61	12,599.00	-2,234.68	-87.69	2,234.04	0.00	0.00	0.00
15,200.00	90.00	179.61	12,599.00	-2,334.68	-87.02	2,334.04	0.00	0.00	0.00
15,300.00	90.00	179.61	12,599.00	-2,434.68	-86.34	2,434.04	0.00	0.00	0.00
15,400.00	90.00	179.61	12,599.00	-2,534.68	-85.67	2,534.04	0.00	0.00	0.00
15,500.00	90.00	179.61	12,599.00	-2,634.68	-85.00	2,634.04	0.00	0.00	0.00
15,600.00	90.00	179.61	12,599.00	-2,734.67	-84.32	2,734.04	0.00	0.00	0.00
15,700.00	90.00	179.61	12,599.00	-2,834.67	-83.65	2,834.04	0.00	0.00	0.00
15,800.00	90.00	179.61	12,599.00	-2,934.67	-82.97	2,934.04	0.00	0.00	0.00
15,900.00	90.00	179.61	12,599.00	-3,034.67	-82.30	3,034.04	0.00	0.00	0.00
16,000.00	90.00	179.61	12,599.00	-3,134.66	-81.62	3,134.04	0.00	0.00	0.00
16,100.00	90.00	179.61	12,599.00	-3,234.66	-80.95	3,234.04	0.00	0.00	0.00
16,200.00	90.00	179.61	12,599.00	-3,334.66	-80.28	3,334.04	0.00	0.00	0.00
16,300.00	90.00	179.61	12,599.00	-3,434.66	-79.60	3,434.04	0.00	0.00	0.00
16,400.00	90.00	179.61	12,599.00	-3,534.66	-78.93	3,534.04	0.00	0.00	0.00
16,500.00	90.00	179.61	12,599.00	-3,634.65	-78.25	3,634.04	0.00	0.00	0.00
16,600.00	90.00	179.61	12,599.00	-3,734.65	-77.58	3,734.04	0.00	0.00	0.00
16,700.00	90.00	179.61	12,599.00	-3,834.65	-76.91	3,834.04	0.00	0.00	0.00
16,800.00	90.00	179.61	12,599.00	-3,934.65	-76.23	3,934.04	0.00	0.00	0.00
16,900.00	90.00	179.61	12,599.00	-4,034.64	-75.56	4,034.04	0.00	0.00	0.00
17,000.00	90.00	179.61	12,599.00	-4,134.64	-74.88	4,134.04	0.00	0.00	0.00
17,100.00	90.00	179.61	12,599.00	-4,234.64	-74.21	4,234.04	0.00	0.00	0.00
17,200.00	90.00	179.61	12,599.00	-4,334.64	-73.54	4,334.04	0.00	0.00	0.00
17,300.00	90.00	179.61	12,599.00	-4,434.64	-72.86	4,434.04	0.00	0.00	0.00
17,400.00	90.00	179.61	12,599.00	-4,534.63	-72.19	4,534.04	0.00	0.00	0.00
17,500.00	90.00	179.61	12,599.00	-4,634.63	-71.51	4,634.04	0.00	0.00	0.00
17,600.00	90.00	179.61	12,599.00	-4,734.63	-70.84	4,734.04	0.00	0.00	0.00
17,700.00	90.00	179.61	12,599.00	-4,834.63	-70.16	4,834.04	0.00	0.00	0.00
17,800.00	90.00	179.61	12,599.00	-4,934.62	-69.49	4,934.04	0.00	0.00	0.00
17,900.00	90.00	179.61	12,599.00	-5,034.62	-68.82	5,034.04	0.00	0.00	0.00
18,000.00	90.00	179.61	12,599.00	-5,134.62	-68.14	5,134.04	0.00	0.00	0.00
18,100.00	90.00	179.61	12,599.00	-5,234.62	-67.47	5,234.04	0.00	0.00	0.00
18,200.00	90.00	179.61	12,599.00	-5,334.61	-66.79	5,334.04	0.00	0.00	0.00
18,300.00	90.00	179.61	12,599.00	-5,434.61	-66.12	5,434.04	0.00	0.00	0.00
18,400.00	90.00	179.61	12,599.00	-5,534.61	-65.45	5,534.04	0.00	0.00	0.00
18,500.00	90.00	179.61	12,599.00	-5,634.61	-64.77	5,634.04	0.00	0.00	0.00
18,600.00	90.00	179.61	12,599.00	-5,734.61	-64.10	5,734.04	0.00	0.00	0.00
18,700.00	90.00	179.61	12,599.00	-5,834.60	-63.42	5,834.04	0.00	0.00	0.00
18,800.00	90.00	179.61	12,599.00	-5,934.60	-62.75	5,934.04	0.00	0.00	0.00
18,900.00	90.00	179.61	12,599.00	-6,034.60	-62.08	6,034.04	0.00	0.00	0.00
19,000.00	90.00	179.61	12,599.00	-6,134.60	-61.40	6,134.04	0.00	0.00	0.00
19,100.00	90.00	179.61	12,599.00	-6,234.59	-60.73	6,234.04	0.00	0.00	0.00
19,200.00	90.00	179.61	12,599.00	-6,334.59	-60.05	6,334.04	0.00	0.00	0.00
19,300.00	90.00	179.61	12,599.00	-6,434.59	-59.38	6,434.04	0.00	0.00	0.00
19,400.00	90.00	179.61	12,599.00	-6,534.59	-58.70	6,534.04	0.00	0.00	0.00
19,500.00	90.00	179.61	12,599.00	-6,634.59	-58.03	6,634.04	0.00	0.00	0.00
19,600.00	90.00	179.61	12,599.00	-6,734.58	-57.36	6,734.04	0.00	0.00	0.00
19,700.00	90.00	179.61	12,599.00	-6,834.58	-56.68	6,834.04	0.00	0.00	0.00
19,800.00	90.00	179.61	12,599.00	-6,934.58	-56.01	6,934.04	0.00	0.00	0.00
19,900.00	90.00	179.61	12,599.00	-7,034.58	-55.33	7,034.04	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #121H
Company:	XTO Energy	TVD Reference:	RKB = 31' @ 3523.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 31' @ 3523.00usft
Site:	Poker Lake Unit 17 TWR	North Reference:	Grid
Well:	#121H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT Rev2		

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)	
20,000.00	90.00	179.61	12,599.00	-7,134.57	-54.66	7,134.04	0.00	0.00	0.00	
20,100.00	90.00	179.61	12,599.00	-7,234.57	-53.99	7,234.04	0.00	0.00	0.00	
20,200.00	90.00	179.61	12,599.00	-7,334.57	-53.31	7,334.04	0.00	0.00	0.00	
20,300.00	90.00	179.61	12,599.00	-7,434.57	-52.64	7,434.04	0.00	0.00	0.00	
20,400.00	90.00	179.61	12,599.00	-7,534.56	-51.96	7,534.04	0.00	0.00	0.00	
20,500.00	90.00	179.61	12,599.00	-7,634.56	-51.29	7,634.04	0.00	0.00	0.00	
20,600.00	90.00	179.61	12,599.00	-7,734.56	-50.62	7,734.04	0.00	0.00	0.00	
20,700.00	90.00	179.61	12,599.00	-7,834.56	-49.94	7,834.04	0.00	0.00	0.00	
20,800.00	90.00	179.61	12,599.00	-7,934.56	-49.27	7,934.04	0.00	0.00	0.00	
20,900.00	90.00	179.61	12,599.00	-8,034.55	-48.59	8,034.04	0.00	0.00	0.00	
21,000.00	90.00	179.61	12,599.00	-8,134.55	-47.92	8,134.04	0.00	0.00	0.00	
21,100.00	90.00	179.61	12,599.00	-8,234.55	-47.25	8,234.04	0.00	0.00	0.00	
21,200.00	90.00	179.61	12,599.00	-8,334.55	-46.57	8,334.04	0.00	0.00	0.00	
21,300.00	90.00	179.61	12,599.00	-8,434.54	-45.90	8,434.04	0.00	0.00	0.00	
21,400.00	90.00	179.61	12,599.00	-8,534.54	-45.22	8,534.04	0.00	0.00	0.00	
21,500.00	90.00	179.61	12,599.00	-8,634.54	-44.55	8,634.04	0.00	0.00	0.00	
21,600.00	90.00	179.61	12,599.00	-8,734.54	-43.87	8,734.04	0.00	0.00	0.00	
21,700.00	90.00	179.61	12,599.00	-8,834.54	-43.20	8,834.04	0.00	0.00	0.00	
21,800.00	90.00	179.61	12,599.00	-8,934.53	-42.53	8,934.04	0.00	0.00	0.00	
21,900.00	90.00	179.61	12,599.00	-9,034.53	-41.85	9,034.04	0.00	0.00	0.00	
22,000.00	90.00	179.61	12,599.00	-9,134.53	-41.18	9,134.04	0.00	0.00	0.00	
22,100.00	90.00	179.61	12,599.00	-9,234.53	-40.50	9,234.04	0.00	0.00	0.00	
22,200.00	90.00	179.61	12,599.00	-9,334.52	-39.83	9,334.04	0.00	0.00	0.00	
22,300.00	90.00	179.61	12,599.00	-9,434.52	-39.16	9,434.04	0.00	0.00	0.00	
22,400.00	90.00	179.61	12,599.00	-9,534.52	-38.48	9,534.04	0.00	0.00	0.00	
22,500.00	90.00	179.61	12,599.00	-9,634.52	-37.81	9,634.04	0.00	0.00	0.00	
22,600.00	90.00	179.61	12,599.00	-9,734.51	-37.13	9,734.04	0.00	0.00	0.00	
22,700.00	90.00	179.61	12,599.00	-9,834.51	-36.46	9,834.04	0.00	0.00	0.00	
22,800.00	90.00	179.61	12,599.00	-9,934.51	-35.79	9,934.04	0.00	0.00	0.00	
22,900.00	90.00	179.61	12,599.00	-10,034.51	-35.11	10,034.04	0.00	0.00	0.00	
22,960.99	90.00	179.61	12,599.00	-10,095.50	-34.70	10,095.03	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
PLU-17-TWR #121: S - hit/miss target - Shape	0.00	0.00	0.00	0.10	0.00	440,249.30	663,041.50	32.2092634	-103.8061865	
- plan misses target center by 0.10usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Point										
PLU-17-TWR #121: P - plan hits target center - Point	0.00	0.00	12,599.00	-10,095.50	-34.70	430,153.70	663,006.80	32.1815122	-103.8064586	
PLU-17-TWR #121: F - plan hits target center - Point	0.00	0.00	12,599.00	-82.50	-102.20	440,166.70	662,939.30	32.2090378	-103.8065182	
PLU-17-TWR #121: L - plan misses target center by 0.04usft at 22850.99usft MD (12599.00 TVD, -9985.50 N, -35.44 E) - Point	0.00	0.00	12,599.00	-9,985.50	-35.40	430,263.70	663,006.10	32.1818146	-103.8064591	



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #121H
Company:	XTO Energy	TVD Reference:	RKB = 31' @ 3523.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 31' @ 3523.00usft
Site:	Poker Lake Unit 17 TWR	North Reference:	Grid
Well:	#121H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT Rev2		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
543.00	543.00	Rustler			
603.00	603.00	Magenta Dolomite			
903.00	903.00	Top Salt			
4,043.00	4,043.00	Base Salt			
4,263.00	4,263.00	Delaware			
5,153.00	5,153.00	Cherry Canyon			
6,453.46	6,453.00	Brushy Canyon			
7,828.70	7,823.00	Basal Brushy Canyon			
8,109.77	8,103.00	Bone Spring Lime			
8,230.23	8,223.00	Avalon Sand			
8,250.31	8,243.00	Upper Avalon Shale			
8,661.87	8,653.00	Lower Avalon Shale			
8,872.68	8,863.00	1st Bone Spring Lime			
9,073.44	9,063.00	1st Bone Spring Ss			
9,565.31	9,553.00	2nd Bone Spring Lime			
9,896.58	9,883.00	2nd Bone Spring Ss			
10,267.99	10,253.00	3rd Bone Spring Lm			
11,061.01	11,043.00	3rd Bone Spring Ss			
11,372.20	11,353.00	Red Hills SS			
11,462.54	11,443.00	Wolfcamp			
11,492.65	11,473.00	Wolfcamp X			
11,572.96	11,553.00	Wolfcamp Y			
11,623.15	11,603.00	Wolfcamp A			
11,763.69	11,743.00	Wolfcamp A Lower			
12,024.64	12,003.00	Wolfcamp B			
12,238.16	12,213.00	Wolfcamp C			
12,459.14	12,403.00	Wolfcamp D			