Form 3160-5
(June 2015)

Rec'd 05/11/2020 - NMOCD

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.
NMLC061705B

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 17 TWR 903H

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

9. API Well No.
30-015-45924-00-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 20 T24S R31E NENW 282FNL 2023FWL
32.209297 N Lat, 103.801849 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 the casing/cement design per the attached drilling program. 3-string primary design and 4-string contingency design.

Change formation from Wildcat Bone Spring (oil) to Purple Sage Wolfcamp (gas)

Change BHL from 2440FNL & 1655FWL in Sec. 32-T24S-R31E to 220FSL & 1590FWL in Sec. 29-T24S-R31E.

XTO requests the following variances:

Entered 05/11/2020 - KMS NMOCD

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

Electronic Submission #513531 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 05/01/2020 (20PP2572SE)

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

Signature (Electronic Submission) — Date 04/30/2020

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By JENNIFER SANCHEZ — Title PETROLEUM ENGINEER — Date 05/11/2020

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 #513531 that would not fit on the form

32. Additional remarks, continued

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 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
Multibowl Diagram
Directional Plan

Revisions to Operator-Submitted EC Data for Sundry Notice #513531

	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:	WILDCAT BONE SPRING	PURPLE SAGE-WOLFCAMP (GAS)
Well/Facility:	POKER LAKE UNIT 17 TWR 903H Sec 20 T24S R31E Mer NMP NENW 282FNL 2023FWL	POKER LAKE UNIT 17 TWR 903H Sec 20 T24S R31E NENW 282FNL 2023FWL 32.209297 N Lat, 103.801849 W Lon

PECOS DISTRICT DRILLING
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**XTO Permian Operating, LLC.**
LEASE NO.:	**NMLC-0061705B**
WELL NAME & NO.:	**Poker Lake Unit 17 TWR 903H**
SURFACE HOLE FOOTAGE:	**0282' FNL & 2023' FWL**
BOTTOM HOLE FOOTAGE	**0220' FSL & 1590' FWL Sec. 29, T. 24 S., R 31 E.**
LOCATION:	**Section 20, T. 24 S., R 31 E., NMPM**
COUNTY:	**Eddy County, New Mexico**

Offline cementing and BOP testing variance is NOT approved.

Commercial Well Determination
A commercial well determination shall be submitted after production has been established for at least six months.

Unit Wells
The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

☒ **Eddy County**
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

1. **Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. **The operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other wells.**

4. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.

5. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) for Water Basin:
After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Possibility of water flows in the Salado and Castile.
Possibility of lost circulation in the Red Beds, Rustler, and Delaware.
Abnormal pressure may be encountered in the 3rd Bone Spring and all subsequent formations.

1. The **13-3/8** inch surface casing shall be set at approximately **870** feet (**in a competent bed <u>below the Magenta Dolomite</u>, which is a <u>Member of the Rustler</u>, and if salt is encountered, set casing at least 25 feet above the salt**) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

    b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.

    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

9-5/8'' Intermediate casing shall be kept fluid filled while running into hole to meet BLM minimum collapse requirements.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing (**if contingency is used set at 4120 feet**) is:

DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

    a. First stage to DV tool:

    ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

b. Second stage above DV tool:

☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

   ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **Excess calculates to 21% - Additional cement may be required.**

Contingency Casing

The **9-5/8''** string shall be set at **4120** feet

4. The minimum required fill of cement behind the **7** inch production casing is:

   ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

Formation below the 7" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.

5. The minimum required fill of cement behind the **4-1/2** inch production liner is:

   ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **Excess calculates to 11% - Additional cement may be required.**

6. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API 53.

2. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

3. **Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 5000 (5M) psi.**
    a. **Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.**
    b. **If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.**
    c. **Manufacturer representative shall install the test plug for the initial BOP test.**
    d. **Operator shall perform the 9-5/8" and 7" (if contingency used) casing integrity tests to 70% of the casing burst. This will test the multi-bowl seals.**
    e. **If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.**

5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

    b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.

    c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

    d. The results of the test shall be reported to the appropriate BLM office.

    e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**

    f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

    g. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

D. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

E. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

F. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

JAM 05112020

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- 45924	98220	PURPLE SAGE; WOLFCAMP

[4] Property Code	[5] Property Name	[6] Well Number
	POKER LAKE UNIT 17 TWR	903H

[7] OGRID No.	[8] Operator Name	[9] Elevation
373075	XTO PERMIAN OPERATING, LLC.	3,499'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	20	24 S	31 E		282	NORTH	2,023	WEST	EDDY

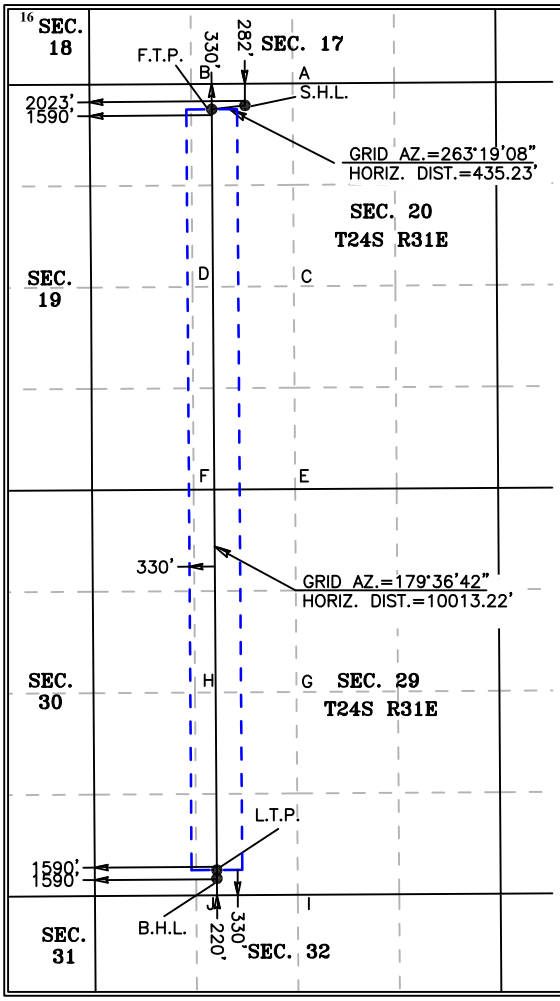
[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	29	24 S	31 E		220	SOUTH	1,590	WEST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
640			

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 27 NME
SURFACE LOCATION
Y= 440,224.4
X= 664,531.5
LAT.= 32.209175°N
LONG.= 103.801369°W

GEODETIC COORDINATES
NAD 83 NME
SURFACE LOCATION
Y= 440,283.2
X= 705,715.6
LAT.= 32.209298°N
LONG.= 103.801854°W

FIRST TAKE POINT
NAD 27 NME
Y= 440,173.8
X= 664,099.1
LAT.= 32.209042°N
LONG.= 103.802768°W

FIRST TAKE POINT
NAD 83 NME
Y= 440,232.6
X= 705,283.2
LAT.= 32.209165°N
LONG.= 103.803252°W

CORNER COORDINATES TABLE
NAD 27 NME
A - Y= 440,510.1 N, X= 665,151.3 E
B - Y= 440,502.2 N, X= 663,828.8 E
C - Y= 437,870.4 N, X= 665,168.1 E
D - Y= 437,861.1 N, X= 663,848.8 E
E - Y= 435,229.8 N, X= 665,185.0 E
F - Y= 435,221.6 N, X= 663,863.5 E
G - Y= 432,588.8 N, X= 665,202.3 E
H - Y= 432,580.7 N, X= 663,881.4 E
I - Y= 429,947.7 N, X= 665,219.5 E
J - Y= 429,939.4 N, X= 663,898.8 E

CORNER COORDINATES TABLE
NAD 83 NME
A - Y= 440,568.9 N, X= 706,335.3 E
B - Y= 440,561.0 N, X= 705,012.8 E
C - Y= 437,929.1 N, X= 706,352.2 E
D - Y= 437,919.8 N, X= 705,032.9 E
E - Y= 435,288.4 N, X= 706,369.2 E
F - Y= 435,280.3 N, X= 705,047.7 E
G - Y= 432,647.4 N, X= 706,386.6 E
H - Y= 432,639.3 N, X= 705,065.7 E
I - Y= 430,006.2 N, X= 706,403.9 E
J - Y= 429,997.9 N, X= 705,083.2 E

LAST TAKE POINT
NAD 27 NME
Y= 430,271.1
X= 664,166.0
LAT.= 32.181819°N
LONG.= 103.802710°W

LAST TAKE POINT
NAD 83 NME
Y= 430,329.6
X= 705,350.4
LAT.= 32.181943°N
LONG.= 103.803193°W

BOTTOM HOLE LOCATION
NAD 27 NME
Y= 430,161.1
X= 664,166.7
LAT.= 32.181517°N
LONG.= 103.802710°W

BOTTOM HOLE LOCATION
NAD 83 NME
Y= 430,219.6
X= 705,351.1
LAT.= 32.181640°N
LONG.= 103.803192°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
4-28-20 — 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.

03-12-2020 — Date of Survey

Signatue and Seal of Professional Surveyor:

MARK DILLON HARP NEW MEXICO 23786 PROFESSIONAL SURVEYOR

MARK DILLON HARP 23786 — Certificate Number
JC 2018010204

P:\PROJECTS\2018\2018010204-XTO-POKER_LAKE_UNIT_17_TWIN_WELL_RANCH_903H-EDDY\DWG\2018010204-XTO-POKER_LAKE_UNIT_17_TWIN_WELL_RANCH_903H-EDDY_C102_REVISED.dwg

Intent [X] As Drilled [ ]

API #
30-015-45924

Operator Name:	Property Name:	Well Number
XTO PERMIAN OPERATING, LLC	Poker Lake Unit 17 TWR	903H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
C	20	24S	31E		282	NORTH	2023	West	EDDY

Latitude	Longitude	NAD
32.209298	-103.801854	83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
C	20	24S	31E		330	NORTH	1590	WEST	EDDY

Latitude	Longitude	NAD
32.209165	-103.803252	83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
N	29	24S	31E		330	South	1590	West	EDDY

Latitude	Longitude	NAD
32.181943	-103.803183	83

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 #
30-015-47020

Operator Name:	Property Name:	Well Number
XTO PERMIAN OPERATING, LLC	POKER LAKE UNIT 17 TWR	704H

KZ 06/29/2018

Poker Lake Unit 17 TWR 903H
Projected TD: 22139' MD / 11769' TVD
SHL: 282' FNL & 2023' FWL , Section 20, T24S, R31E
BHL: 220' FSL & 1590' FWL , Section 29, T24S, R31E
Eddy County, NM

Casing Design 3-String (Primary)

The surface fresh water sands will be protected by setting 13-3/8 inch casing @ 870' (59' above the salt) and circulating cement back to surface. A 12-1/4 inch vertical hole will be drilled to 10986' 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' – 870'	13-3/8"	68	BTC	J-55	New	1.27	4.95	18.07
12-1/4"	0' – 10986'	9-5/8"	40	BTC	HCL-80	New	1.39	1.40	2.08
8-3/4-8-1/2"	0' – 22139'	5-1/2"	20	BTC	P-110	New	1.03	1.65	2.05

XTO requests to not utilize centralizers in the curve and lateral
9-5/8" 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

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 3-String (Primary)

Surface Casing:

Lead: 420 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 4779'

1st Stage

Lead: 940 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 3-String (Primary)

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' to 870'	17-1/2"	FW/Native	8.4-8.8	35-40	NC
870' to 10986'	12-1/4"	FW / Cut Brine / Direct Emulsion	8.5-9.5	29-32	NC - 20
10986' to 22139'	8-3/4-8-1/2"	FW / Cut Brine / Polymer/ OBM	10.7-11.5	32-50	NC - 20

Casing Design 4-String (Contingency)

XTO requests the option to set the 9-5/8 inch casing early and swap to a 4-string casing design if deemed necessary. In this scenario, the salt will be isolated by setting 9-5/8 inch casing at 5280' and circulating cement to surface. An 8-3/4 inch vertical hole and curve will be drilled and 7 inch casing run and cemented 200' into the 9-5/8 inch casing. A 6 inch lateral hole will be drilled to MD/TD and 4-1/2 inch liner will be set at TD and cemented back 250' into the 7 inch casing shoe. In the event this option has to be excercised due to wellbore conditions, the BLM will be notified. In this scenario, the casing design will be as follows:

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17-1/2"	0' – 870'	13-3/8"	68	BTC	J-55	New	2.63	4.95	18.07
12-1/4"	0' – 5280'	9-5/8"	40	BTC	J-55	New	1.35	1.93	2.98
8-3/4"	0' – 12125'	7"	32	BTC	P-110	New	1.04	1.96	2.64
6"	11186' – 22139'	4-1/2"	13.5	BTC	P-110	New	1.04	2.55	2.00

Cement Program 4-String (Contingency)

Surface Casing:

Lead: 420 sxs EconoCem-HLTRRC (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

1st Intermediate Casing (2 stage):

ECP/DV Tool to be set at 2500'

1st Stage

Lead: 590 sxs Halcem-C + 2% CaCl (mixed at 12.8 ppg, 1.88 ft3/sx, 9.61 gal/sx water)
Tail: 470 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

2nd Stage

Lead: 490 sxs Halcem-C + 2% CaCl (mixed at 12.8 ppg, 1.88 ft3/sx, 9.61 gal/sx water)
Tail: 470 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

2nd Intermediate Casing:

Lead: 890 sxs Halcem-C + 2% CaCl (mixed at 11.0 ppg, 1.88 ft3/sx, 9.61 gal/sx water)
Tail: 60 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

Production Casing:

Tail: 790 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 4-String (Contingency)

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' to 870'	17-1/2"	FW/Native	8.4-8.8	35-40	NC
870' to 5280'	12-1/4"	FW / Cut Brine / Direct Emulsion	8.4-9.5	29-32	NC
5280' to 12125'	8-3/4"	FW / Cut Brine / Direct Emulsion	8.4-9.5	29-32	NC - 20
12125' to 22139'	6"	FW / Cut Brine / Polymer/ OBM	10.7-11.5	32-50	20'

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

XTO Energy Inc.
PLU 17 TWR 903H
Projected TD: 22139' MD / 11769' TVD
SHL: 282' FNL & 2023' FWL , Section 20, T24S, R31E
BHL: 220' FSL & 1590' 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	549'	Water
Top of Salt	929'	Water
Base of Salt	4059'	Water
Delaware	4279'	Water
Bone Spring	8129'	Water/Oil/Gas
1st Bone Spring Ss	9089'	Water/Oil/Gas
2nd Bone Spring Ss	9899'	Water/Oil/Gas
3rd Bone Spring Ss	11059'	Water/Oil/Gas
Wolfcamp Shale	11479'	Water/Oil/Gas
Wolfcamp A	11629'	Water/Oil/Gas
Target/Land Curve	11769'	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 @ 870' (59' above the salt) and circulating cement back to surface. A 12-1/4 inch vertical hole will be drilled to 10986' 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

3 String (Primary)

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17-1/2"	0’ – 870'	13-3/8"	68	BTC	J-55	New	1.27	4.95	18.07
12-1/4"	0’ – 10986'	9-5/8"	40	BTC	HCL-80	New	1.39	1.40	2.08
8-3/4-8-1/2"	0' – 22139'	5-1/2”	20	BTC	P-110	New	1.03	1.65	2.05

XTO requests to not utilize centralizers in the curve and lateral
9-5/8" 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

4 String (Contingency)

XTO requests the option to set the 9-5/8 inch casing early and swap to a 4-string casing design if deemed necessary. In this scenario, the salt will be isolated by setting 9-5/8 inch casing at 5280' and circulating cement to surface. An 8-3/4 inch vertical hole and curve will be drilled and 7 inch casing run and cemented 200' into the 9-5/8 inch casing. A 6 inch lateral hole will be drilled to MD/TD and 4-1/2 inch liner will be set at TD and cemented back 250' into the 7 inch casing shoe. In the event this option has to be excercised due to wellbore conditions, the BLM will be notified. In this scenario, the casing design will be as follows:

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17-1/2”	0’ – 870'	13-3/8”	68	BTC	J-55	New	2.63	4.95	18.07
12-1/4”	0’ – 5280'	9-5/8”	40	BTC	J-55	New	1.35	1.93	2.98
8-3/4"	0’ – 12125'	7"	32	BTC	P-110	New	1.04	1.96	2.64
6"	11186' – 22139'	4-1/2”	13.5	BTC	P-110	New	1.04	2.55	2.00

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

3 String (Primary)

Surface Casing: 13-3/8", 68 New J-55, BTC casing to be set at +/- 870'

Lead: 420 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 +/- 10986'
ECP/DV Tool to be set at 4779'

1st Stage

Lead: 940 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 +/- 22139'

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

4 String (Contingency)

Surface Casing: 13-3/8", 68 New J-55, BTC casing to be set at +/- 870'

Lead: 420 sxs EconoCem-HLTRRC (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

1st Intermediate Casing (2 stage): 9-5/8", 40 New J-55, BTC casing to be set at +/- 5280'
ECP/DV Tool to be set at 2500'

1st Stage

Lead: 590 sxs Halcem-C + 2% CaCl (mixed at 12.8 ppg, 1.88 ft3/sx, 9.61 gal/sx water)

Tail: 470 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

2nd Stage

Lead: 490 sxs Halcem-C + 2% CaCl (mixed at 12.8 ppg, 1.88 ft3/sx, 9.61 gal/sx water)

Tail: 470 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

Top of Cement: Surface

2nd Intermediate Casing: 7", 32 New P-110, BTC casing to be set at +/- 12125'

Lead: 890 sxs Halcem-C + 2% CaCl (mixed at 11.0 ppg, 1.88 ft3/sx, 9.61 gal/sx water)

Tail: 60 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

Top of Cement: 200' inside previous casing shoe

Production Casing: 4-1/2", 13.5 New P-110, BTC casing to be set at +/- 22139'

Tail: 790 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: Top of liner

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 4143 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 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

3 String (Primary)

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0’ to 870'	17-1/2"	FW/Native	8.4-8.8	35-40	NC
870' to 10986'	12-1/4"	FW / Cut Brine / Direct Emulsion	8.5-9.5	29-32	NC - 20
10986' to 22139'	8-3/4-8-1/2"	FW / Cut Brine / Polymer/ OBM	10.7-11.5	32-50	NC - 20

4 String (Contingency)

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0’ to 870'	17-1/2”	FW/Native	8.4-8.8	35-40	NC
870' to 5280'	12-1/4”	FW / Cut Brine / Direct Emulsion	8.4-9.5	29-32	NC
5280' to 12125'	8-3/4"	FW / Cut Brine / Direct Emulsion	8.4-9.5	29-32	NC - 20
12125' to 22139'	6"	FW / Cut Brine / Polymer/ OBM	10.7-11.5	32-50	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.

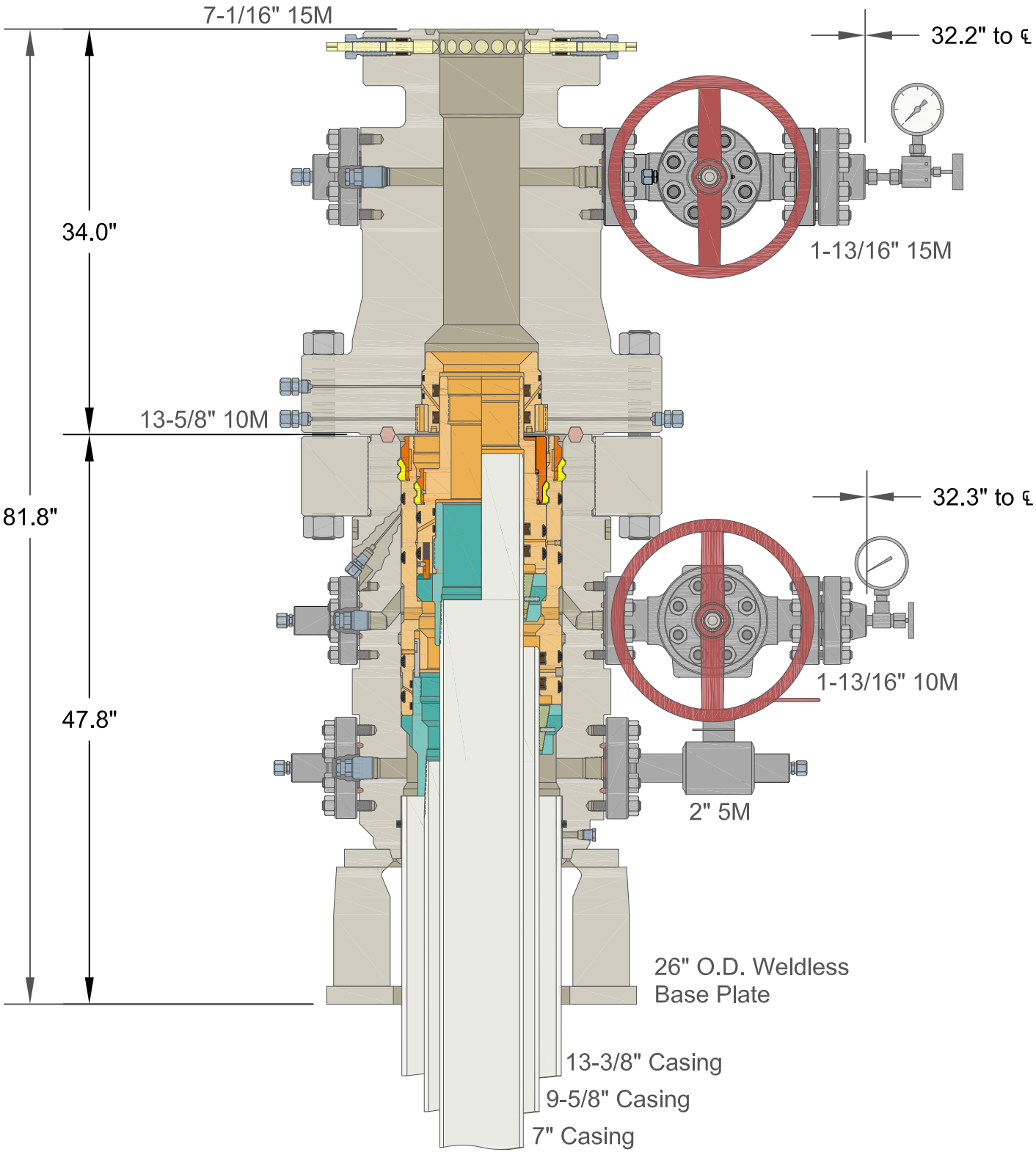
Open hole logging will not be done on this well.

9. Abnormal Pressures and Temperatures / Potential Hazards

None Anticipated. BHT of 155 to 175 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 6732 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.



BAKER HUGHES a GE company

Pressure Control

13-3/8" x 9-5/8" x 7" 15M RSH-2 Wellhead Assembly, With T-EBS-F-HP Tubing Head

ALL DIMENSIONS ARE APPROXIMATE, NOT FOR MANUFACTURING USE.

DRAWN BY: VJK		DRAWING NO. HP180197	
REVIEWED BY:		Rev. NC	Sht. 1 of 1
APPROVED BY:		DATE: 31OCT18	

XTO ENERGY, INC.

XTO Energy

Eddy County, NM (NAD-27)
Poker Lake Unit 17 TWR
#903H

OH

Plan: PERMIT v2

Standard Planning Report

07 April, 2020

Project: Eddy County, NM (NAD-27)
Site: Poker Lake Unit 17 TWR
Well: #903H
Wellbore: OH
Design: PERMIT v2

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: #903H

Rig Name:
RKB = 30' @ 3529.00usft
Ground Level: 3499.00

+N/-S	+E/-W	Northing	Easting	Latittude	Longitude
0.00	0.00	440224.40	664531.50	32.2091748	-103.8013696

DESIGN TARGET DETAILS

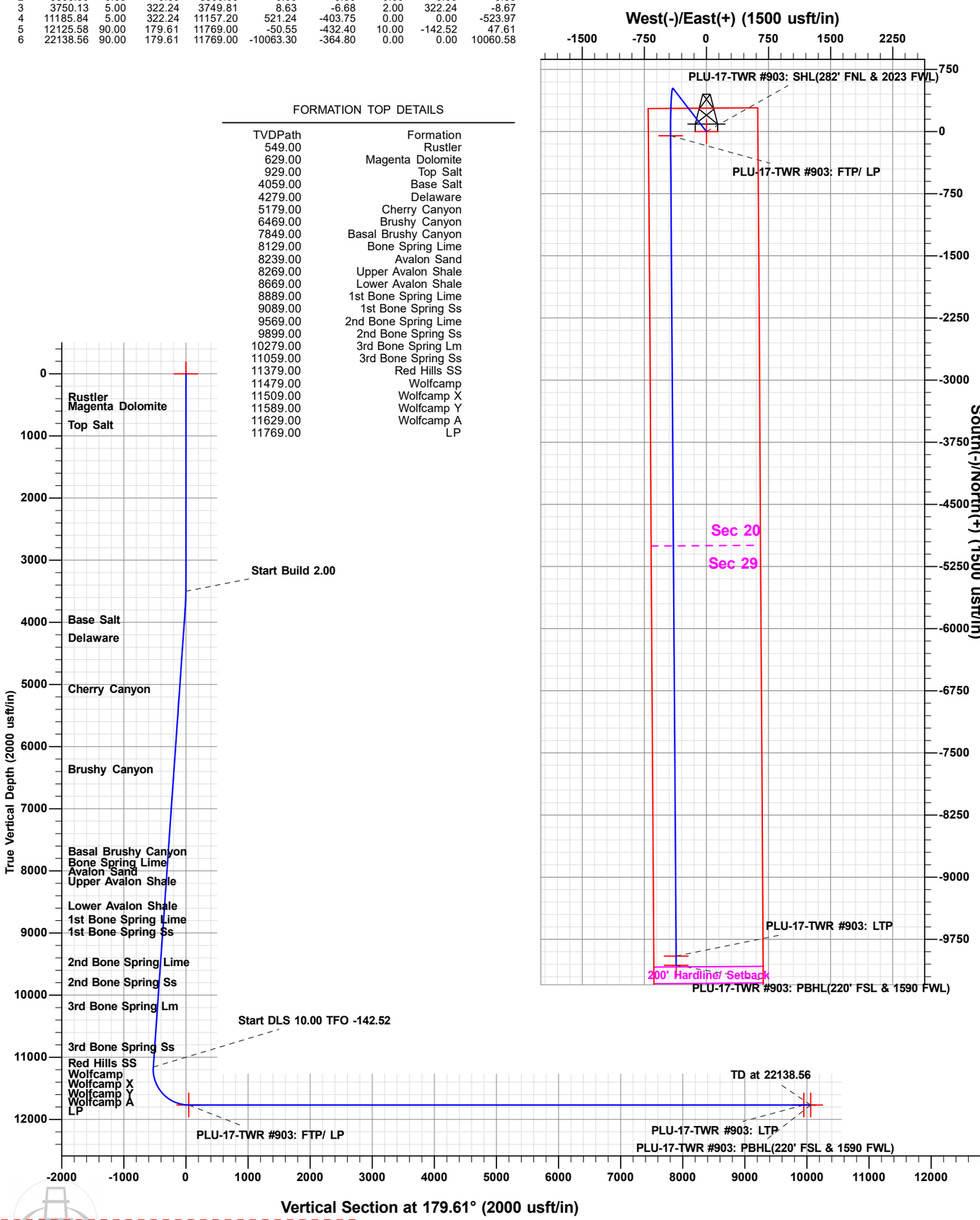
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PLU-17-TWR #903: SHL(282' FNL & 2023 FWL)	0.00	0.00	0.00	440224.40	664531.50	32.2091748	-103.8013696	Point
PLU-17-TWR #903: FTP/ LP	11769.00	-50.55	-432.40	440173.85	664099.10	32.2090417	-103.8027684	Point
PLU-17-TWR #903: LTP	11769.00	-9953.30	-365.50	430271.10	664166.00	32.1818192	-103.8027101	Point
PLU-17-TWR #903: PBHL(220' FSL & 1590 FWL)	11769.00	-10063.30	-364.80	430161.10	664166.70	32.1815169	-103.8027096	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	3500.00	0.00	0.00	3500.00	0.00	0.00	0.00	0.00	0.00
3	3750.13	5.00	322.24	3749.81	8.63	-6.68	2.00	322.24	-8.67
4	11185.84	5.00	322.24	11157.20	521.24	-403.75	0.00	0.00	-523.97
5	12125.58	90.00	179.61	11769.00	-50.55	-432.40	10.00	-142.52	47.61
6	22138.56	90.00	179.61	11769.00	-10063.30	-364.80	0.00	0.00	10060.58

FORMATION TOP DETAILS

TVDPath	Formation
549.00	Rustler
629.00	Magenta Dolomite
929.00	Top Salt
4059.00	Base Salt
4279.00	Delaware
5179.00	Cherry Canyon
6469.00	Brushy Canyon
7849.00	Basal Brushy Canyon
8129.00	Bone Spring Lime
8239.00	Avalon Sand
8269.00	Upper Avalon Shale
8669.00	Lower Avalon Shale
8889.00	1st Bone Spring Lime
9089.00	1st Bone Spring Ss
9569.00	2nd Bone Spring Lime
9899.00	2nd Bone Spring Ss
10279.00	3rd Bone Spring Lm
11059.00	3rd Bone Spring Ss
11379.00	Red Hills SS
11479.00	Wolfcamp
11509.00	Wolfcamp X
11589.00	Wolfcamp Y
11629.00	Wolfcamp A
11769.00	LP



Plan: PERMIT v2 (#903H/OH)

Created By: Prototype Well Planning, LLC Date: 10:08, April 07 2020

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #903H
Company:	XTO Energy	**TVD Reference:**	RKB = 30' @ 3529.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 30' @ 3529.00usft
Site:	Poker Lake Unit 17 TWR	**North Reference:**	Grid
Well:	#903H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT v2		

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 #903H

Well Position	**+N/-S**	-604.10 usft	**Northing:**	440,224.40 usft	**Latitude:**	32.2091748
	+E/-W	1,306.60 usft	**Easting:**	664,531.50 usft	**Longitude:**	-103.8013696
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	3,499.00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	04/24/18	6.97	60.00	47,817

Design PERMIT v2

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	
3,500.00	0.00	0.01	3,500.00	0.00	0.00	0.00	0.00	0.00	0.01	
3,750.13	5.00	322.24	3,749.81	8.63	-6.68	2.00	2.00	0.00	322.24	
11,185.84	5.00	322.24	11,157.20	521.24	-403.75	0.00	0.00	0.00	0.00	
12,125.58	90.00	179.61	11,769.00	-50.55	-432.40	10.00	9.04	-15.18	-142.52	PLU-17-TWR #903
22,138.56	90.00	179.61	11,769.00	-10,063.30	-364.80	0.00	0.00	0.00	0.00	PLU-17-TWR #903

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #903H
Company:	XTO Energy	**TVD Reference:**	RKB = 30' @ 3529.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 30' @ 3529.00usft
Site:	Poker Lake Unit 17 TWR	**North Reference:**	Grid
Well:	#903H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT v2		

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
PLU-17-TWR #903: SHL(282' FNL & 2023 FWL)									
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
549.00	0.00	0.00	549.00	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
629.00	0.00	0.00	629.00	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
929.00	0.00	0.00	929.00	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	0.01	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	2.00	322.24	3,599.98	1.38	-1.07	-1.39	2.00	2.00	0.00
3,700.00	4.00	322.24	3,699.84	5.52	-4.27	-5.55	2.00	2.00	0.00
3,750.13	5.00	322.24	3,749.81	8.63	-6.68	-8.67	2.00	2.00	0.00
3,800.00	5.00	322.24	3,799.49	12.07	-9.35	-12.13	0.00	0.00	0.00
3,900.00	5.00	322.24	3,899.11	18.96	-14.69	-19.06	0.00	0.00	0.00
4,000.00	5.00	322.24	3,998.73	25.85	-20.03	-25.99	0.00	0.00	0.00
4,060.50	5.00	322.24	4,059.00	30.02	-23.26	-30.18	0.00	0.00	0.00
Base Salt									
4,100.00	5.00	322.24	4,098.35	32.75	-25.37	-32.92	0.00	0.00	0.00
4,200.00	5.00	322.24	4,197.97	39.64	-30.71	-39.85	0.00	0.00	0.00
4,281.34	5.00	322.24	4,279.00	45.25	-35.05	-45.49	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #903H
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Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 30' @ 3529.00usft
Site:	Poker Lake Unit 17 TWR	**North Reference:**	Grid
Well:	#903H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT v2		

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)
Delaware									
4,300.00	5.00	322.24	4,297.59	46.53	-36.05	-46.78	0.00	0.00	0.00
4,400.00	5.00	322.24	4,397.21	53.43	-41.39	-53.71	0.00	0.00	0.00
4,500.00	5.00	322.24	4,496.83	60.32	-46.73	-60.64	0.00	0.00	0.00
4,600.00	5.00	322.24	4,596.44	67.22	-52.07	-67.57	0.00	0.00	0.00
4,700.00	5.00	322.24	4,696.06	74.11	-57.41	-74.50	0.00	0.00	0.00
4,800.00	5.00	322.24	4,795.68	81.00	-62.75	-81.43	0.00	0.00	0.00
4,900.00	5.00	322.24	4,895.30	87.90	-68.09	-88.36	0.00	0.00	0.00
5,000.00	5.00	322.24	4,994.92	94.79	-73.43	-95.29	0.00	0.00	0.00
5,100.00	5.00	322.24	5,094.54	101.69	-78.77	-102.22	0.00	0.00	0.00
5,184.78	5.00	322.24	5,179.00	107.53	-83.29	-108.10	0.00	0.00	0.00
Cherry Canyon									
5,200.00	5.00	322.24	5,194.16	108.58	-84.11	-109.15	0.00	0.00	0.00
5,300.00	5.00	322.24	5,293.78	115.47	-89.45	-116.08	0.00	0.00	0.00
5,400.00	5.00	322.24	5,393.40	122.37	-94.79	-123.01	0.00	0.00	0.00
5,500.00	5.00	322.24	5,493.02	129.26	-100.13	-129.94	0.00	0.00	0.00
5,600.00	5.00	322.24	5,592.64	136.16	-105.47	-136.87	0.00	0.00	0.00
5,700.00	5.00	322.24	5,692.25	143.05	-110.81	-143.80	0.00	0.00	0.00
5,800.00	5.00	322.24	5,791.87	149.94	-116.15	-150.73	0.00	0.00	0.00
5,900.00	5.00	322.24	5,891.49	156.84	-121.49	-157.66	0.00	0.00	0.00
6,000.00	5.00	322.24	5,991.11	163.73	-126.83	-164.59	0.00	0.00	0.00
6,100.00	5.00	322.24	6,090.73	170.62	-132.17	-171.52	0.00	0.00	0.00
6,200.00	5.00	322.24	6,190.35	177.52	-137.51	-178.45	0.00	0.00	0.00
6,300.00	5.00	322.24	6,289.97	184.41	-142.85	-185.38	0.00	0.00	0.00
6,400.00	5.00	322.24	6,389.59	191.31	-148.19	-192.31	0.00	0.00	0.00
6,479.72	5.00	322.24	6,469.00	196.80	-152.44	-197.83	0.00	0.00	0.00
Brushy Canyon									
6,500.00	5.00	322.24	6,489.21	198.20	-153.53	-199.24	0.00	0.00	0.00
6,600.00	5.00	322.24	6,588.83	205.09	-158.87	-206.17	0.00	0.00	0.00
6,700.00	5.00	322.24	6,688.45	211.99	-164.21	-213.10	0.00	0.00	0.00
6,800.00	5.00	322.24	6,788.06	218.88	-169.55	-220.03	0.00	0.00	0.00
6,900.00	5.00	322.24	6,887.68	225.78	-174.89	-226.96	0.00	0.00	0.00
7,000.00	5.00	322.24	6,987.30	232.67	-180.23	-233.89	0.00	0.00	0.00
7,100.00	5.00	322.24	7,086.92	239.56	-185.57	-240.82	0.00	0.00	0.00
7,200.00	5.00	322.24	7,186.54	246.46	-190.91	-247.75	0.00	0.00	0.00
7,300.00	5.00	322.24	7,286.16	253.35	-196.25	-254.68	0.00	0.00	0.00
7,400.00	5.00	322.24	7,385.78	260.25	-201.59	-261.61	0.00	0.00	0.00
7,500.00	5.00	322.24	7,485.40	267.14	-206.93	-268.54	0.00	0.00	0.00
7,600.00	5.00	322.24	7,585.02	274.03	-212.27	-275.47	0.00	0.00	0.00
7,700.00	5.00	322.24	7,684.64	280.93	-217.61	-282.40	0.00	0.00	0.00
7,800.00	5.00	322.24	7,784.26	287.82	-222.95	-289.33	0.00	0.00	0.00
7,864.99	5.00	322.24	7,849.00	292.30	-226.42	-293.84	0.00	0.00	0.00
Basal Brushy Canyon									
7,900.00	5.00	322.24	7,883.87	294.71	-228.29	-296.26	0.00	0.00	0.00
8,000.00	5.00	322.24	7,983.49	301.61	-233.63	-303.19	0.00	0.00	0.00
8,100.00	5.00	322.24	8,083.11	308.50	-238.97	-310.12	0.00	0.00	0.00
8,146.06	5.00	322.24	8,129.00	311.68	-241.43	-313.31	0.00	0.00	0.00
Bone Spring Lime									
8,200.00	5.00	322.24	8,182.73	315.40	-244.31	-317.05	0.00	0.00	0.00
8,256.48	5.00	322.24	8,239.00	319.29	-247.32	-320.97	0.00	0.00	0.00
Avalon Sand									
8,286.60	5.00	322.24	8,269.00	321.37	-248.93	-323.05	0.00	0.00	0.00
Upper Avalon Shale									

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Site:	Poker Lake Unit 17 TWR	**North Reference:**	Grid
Well:	#903H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT v2		

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	322.24	8,282.35	322.29	-249.65	-323.98	0.00	0.00	0.00
8,400.00	5.00	322.24	8,381.97	329.18	-254.99	-330.91	0.00	0.00	0.00
8,500.00	5.00	322.24	8,481.59	336.08	-260.33	-337.84	0.00	0.00	0.00
8,600.00	5.00	322.24	8,581.21	342.97	-265.67	-344.77	0.00	0.00	0.00
8,688.13	5.00	322.24	8,669.00	349.05	-270.37	-350.88	0.00	0.00	0.00
Lower Avalon Shale									
8,700.00	5.00	322.24	8,680.83	349.87	-271.01	-351.70	0.00	0.00	0.00
8,800.00	5.00	322.24	8,780.45	356.76	-276.35	-358.63	0.00	0.00	0.00
8,900.00	5.00	322.24	8,880.06	363.65	-281.69	-365.56	0.00	0.00	0.00
8,908.97	5.00	322.24	8,889.00	364.27	-282.17	-366.18	0.00	0.00	0.00
1st Bone Spring Lime									
9,000.00	5.00	322.24	8,979.68	370.55	-287.03	-372.49	0.00	0.00	0.00
9,100.00	5.00	322.24	9,079.30	377.44	-292.37	-379.42	0.00	0.00	0.00
9,109.73	5.00	322.24	9,089.00	378.11	-292.89	-380.10	0.00	0.00	0.00
1st Bone Spring Ss									
9,200.00	5.00	322.24	9,178.92	384.34	-297.71	-386.35	0.00	0.00	0.00
9,300.00	5.00	322.24	9,278.54	391.23	-303.05	-393.28	0.00	0.00	0.00
9,400.00	5.00	322.24	9,378.16	398.12	-308.39	-400.21	0.00	0.00	0.00
9,500.00	5.00	322.24	9,477.78	405.02	-313.73	-407.14	0.00	0.00	0.00
9,591.57	5.00	322.24	9,569.00	411.33	-318.62	-413.49	0.00	0.00	0.00
2nd Bone Spring Lime									
9,600.00	5.00	322.24	9,577.40	411.91	-319.07	-414.07	0.00	0.00	0.00
9,700.00	5.00	322.24	9,677.02	418.80	-324.41	-421.00	0.00	0.00	0.00
9,800.00	5.00	322.24	9,776.64	425.70	-329.75	-427.93	0.00	0.00	0.00
9,900.00	5.00	322.24	9,876.26	432.59	-335.09	-434.86	0.00	0.00	0.00
9,922.83	5.00	322.24	9,899.00	434.17	-336.31	-436.45	0.00	0.00	0.00
2nd Bone Spring Ss									
10,000.00	5.00	322.24	9,975.87	439.49	-340.43	-441.79	0.00	0.00	0.00
10,100.00	5.00	322.24	10,075.49	446.38	-345.77	-448.72	0.00	0.00	0.00
10,200.00	5.00	322.24	10,175.11	453.27	-351.11	-455.65	0.00	0.00	0.00
10,300.00	5.00	322.24	10,274.73	460.17	-356.45	-462.58	0.00	0.00	0.00
10,304.28	5.00	322.24	10,279.00	460.46	-356.68	-462.88	0.00	0.00	0.00
3rd Bone Spring Lm									
10,400.00	5.00	322.24	10,374.35	467.06	-361.79	-469.51	0.00	0.00	0.00
10,500.00	5.00	322.24	10,473.97	473.96	-367.13	-476.44	0.00	0.00	0.00
10,600.00	5.00	322.24	10,573.59	480.85	-372.47	-483.37	0.00	0.00	0.00
10,700.00	5.00	322.24	10,673.21	487.74	-377.81	-490.30	0.00	0.00	0.00
10,800.00	5.00	322.24	10,772.83	494.64	-383.15	-497.23	0.00	0.00	0.00
10,900.00	5.00	322.24	10,872.45	501.53	-388.49	-504.16	0.00	0.00	0.00
11,000.00	5.00	322.24	10,972.07	508.43	-393.83	-511.09	0.00	0.00	0.00
11,087.27	5.00	322.24	11,059.00	514.44	-398.49	-517.14	0.00	0.00	0.00
3rd Bone Spring Ss									
11,100.00	5.00	322.24	11,071.68	515.32	-399.17	-518.02	0.00	0.00	0.00
11,185.84	5.00	322.24	11,157.20	521.24	-403.75	-523.97	0.00	0.00	0.00
11,200.00	3.97	309.71	11,171.31	522.04	-404.51	-524.78	10.00	-7.27	-88.51
11,250.00	3.90	230.82	11,221.23	522.07	-407.16	-524.83	10.00	-0.15	-157.77
11,300.00	8.04	201.72	11,270.96	517.75	-409.77	-520.52	10.00	8.27	-58.20
11,350.00	12.80	193.14	11,320.12	509.10	-412.33	-511.89	10.00	9.53	-17.17
11,400.00	17.70	189.20	11,368.35	496.19	-414.80	-499.01	10.00	9.79	-7.87
11,411.22	18.80	188.59	11,379.00	492.72	-415.34	-495.54	10.00	9.86	-5.42
Red Hills SS									
11,450.00	22.64	186.93	11,415.27	479.13	-417.18	-481.96	10.00	9.89	-4.27
11,500.00	27.60	185.45	11,460.53	458.04	-419.44	-460.88	10.00	9.92	-2.97

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #903H
Company:	XTO Energy	**TVD Reference:**	RKB = 30' @ 3529.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 30' @ 3529.00usft
Site:	Poker Lake Unit 17 TWR	**North Reference:**	Grid
Well:	#903H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT v2		

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)
11,521.05	29.69	184.96	11,479.00	447.99	-420.36	-450.84	10.00	9.94	-2.31
Wolfcamp									
11,550.00	32.57	184.38	11,503.78	433.07	-421.57	-435.93	10.00	9.95	-1.99
11,556.22	33.19	184.27	11,509.00	429.71	-421.83	-432.57	10.00	9.95	-1.80
Wolfcamp X									
11,600.00	37.55	183.58	11,544.69	404.43	-423.55	-407.30	10.00	9.96	-1.59
11,650.00	42.53	182.93	11,582.96	372.33	-425.37	-375.21	10.00	9.97	-1.29
11,658.25	43.35	182.84	11,589.00	366.72	-425.65	-369.60	10.00	9.97	-1.14
Wolfcamp Y									
11,700.00	47.52	182.40	11,618.29	337.01	-427.01	-339.91	10.00	9.97	-1.05
11,716.10	49.12	182.25	11,629.00	324.99	-427.50	-327.89	10.00	9.97	-0.95
Wolfcamp A									
11,750.00	52.50	181.95	11,650.41	298.74	-428.46	-301.65	10.00	9.98	-0.88
11,800.00	57.49	181.55	11,679.09	257.81	-429.70	-260.73	10.00	9.98	-0.79
11,850.00	62.48	181.20	11,704.09	214.54	-430.74	-217.47	10.00	9.98	-0.71
11,900.00	67.48	180.88	11,725.23	169.26	-431.56	-172.19	10.00	9.98	-0.65
11,950.00	72.47	180.58	11,742.34	122.30	-432.15	-125.24	10.00	9.98	-0.60
12,000.00	77.46	180.29	11,755.31	74.03	-432.51	-76.97	10.00	9.98	-0.57
12,050.00	82.45	180.02	11,764.03	24.81	-432.64	-27.76	10.00	9.99	-0.55
12,100.00	87.45	179.75	11,768.43	-24.98	-432.54	22.03	10.00	9.99	-0.54
12,125.58	90.00	179.61	11,769.00	-50.55	-432.40	47.61	10.00	9.99	-0.53
LP - PLU-17-TWR #903: FTP/ LP									
12,200.00	90.00	179.61	11,769.00	-124.97	-431.90	122.03	0.00	0.00	0.00
12,300.00	90.00	179.61	11,769.00	-224.97	-431.22	222.03	0.00	0.00	0.00
12,400.00	90.00	179.61	11,769.00	-324.96	-430.55	322.03	0.00	0.00	0.00
12,500.00	90.00	179.61	11,769.00	-424.96	-429.87	422.03	0.00	0.00	0.00
12,600.00	90.00	179.61	11,769.00	-524.96	-429.20	522.03	0.00	0.00	0.00
12,700.00	90.00	179.61	11,769.00	-624.96	-428.52	622.03	0.00	0.00	0.00
12,800.00	90.00	179.61	11,769.00	-724.95	-427.85	722.03	0.00	0.00	0.00
12,900.00	90.00	179.61	11,769.00	-824.95	-427.17	822.03	0.00	0.00	0.00
13,000.00	90.00	179.61	11,769.00	-924.95	-426.50	922.03	0.00	0.00	0.00
13,100.00	90.00	179.61	11,769.00	-1,024.95	-425.82	1,022.03	0.00	0.00	0.00
13,200.00	90.00	179.61	11,769.00	-1,124.95	-425.15	1,122.03	0.00	0.00	0.00
13,300.00	90.00	179.61	11,769.00	-1,224.94	-424.47	1,222.03	0.00	0.00	0.00
13,400.00	90.00	179.61	11,769.00	-1,324.94	-423.80	1,322.03	0.00	0.00	0.00
13,500.00	90.00	179.61	11,769.00	-1,424.94	-423.12	1,422.03	0.00	0.00	0.00
13,600.00	90.00	179.61	11,769.00	-1,524.94	-422.45	1,522.03	0.00	0.00	0.00
13,700.00	90.00	179.61	11,769.00	-1,624.93	-421.77	1,622.03	0.00	0.00	0.00
13,800.00	90.00	179.61	11,769.00	-1,724.93	-421.10	1,722.03	0.00	0.00	0.00
13,900.00	90.00	179.61	11,769.00	-1,824.93	-420.42	1,822.03	0.00	0.00	0.00
14,000.00	90.00	179.61	11,769.00	-1,924.93	-419.75	1,922.03	0.00	0.00	0.00
14,100.00	90.00	179.61	11,769.00	-2,024.93	-419.07	2,022.03	0.00	0.00	0.00
14,200.00	90.00	179.61	11,769.00	-2,124.92	-418.40	2,122.03	0.00	0.00	0.00
14,300.00	90.00	179.61	11,769.00	-2,224.92	-417.72	2,222.03	0.00	0.00	0.00
14,400.00	90.00	179.61	11,769.00	-2,324.92	-417.04	2,322.03	0.00	0.00	0.00
14,500.00	90.00	179.61	11,769.00	-2,424.92	-416.37	2,422.03	0.00	0.00	0.00
14,600.00	90.00	179.61	11,769.00	-2,524.91	-415.69	2,522.03	0.00	0.00	0.00
14,700.00	90.00	179.61	11,769.00	-2,624.91	-415.02	2,622.03	0.00	0.00	0.00
14,800.00	90.00	179.61	11,769.00	-2,724.91	-414.34	2,722.03	0.00	0.00	0.00
14,900.00	90.00	179.61	11,769.00	-2,824.91	-413.67	2,822.03	0.00	0.00	0.00
15,000.00	90.00	179.61	11,769.00	-2,924.90	-412.99	2,922.03	0.00	0.00	0.00
15,100.00	90.00	179.61	11,769.00	-3,024.90	-412.32	3,022.03	0.00	0.00	0.00
15,200.00	90.00	179.61	11,769.00	-3,124.90	-411.64	3,122.03	0.00	0.00	0.00
15,300.00	90.00	179.61	11,769.00	-3,224.90	-410.97	3,222.03	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #903H
Company:	XTO Energy	**TVD Reference:**	RKB = 30' @ 3529.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 30' @ 3529.00usft
Site:	Poker Lake Unit 17 TWR	**North Reference:**	Grid
Well:	#903H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT v2		

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)
15,400.00	90.00	179.61	11,769.00	-3,324.90	-410.29	3,322.03	0.00	0.00	0.00
15,500.00	90.00	179.61	11,769.00	-3,424.89	-409.62	3,422.03	0.00	0.00	0.00
15,600.00	90.00	179.61	11,769.00	-3,524.89	-408.94	3,522.03	0.00	0.00	0.00
15,700.00	90.00	179.61	11,769.00	-3,624.89	-408.27	3,622.03	0.00	0.00	0.00
15,800.00	90.00	179.61	11,769.00	-3,724.89	-407.59	3,722.03	0.00	0.00	0.00
15,900.00	90.00	179.61	11,769.00	-3,824.88	-406.92	3,822.03	0.00	0.00	0.00
16,000.00	90.00	179.61	11,769.00	-3,924.88	-406.24	3,922.03	0.00	0.00	0.00
16,100.00	90.00	179.61	11,769.00	-4,024.88	-405.57	4,022.03	0.00	0.00	0.00
16,200.00	90.00	179.61	11,769.00	-4,124.88	-404.89	4,122.03	0.00	0.00	0.00
16,300.00	90.00	179.61	11,769.00	-4,224.88	-404.22	4,222.03	0.00	0.00	0.00
16,400.00	90.00	179.61	11,769.00	-4,324.87	-403.54	4,322.03	0.00	0.00	0.00
16,500.00	90.00	179.61	11,769.00	-4,424.87	-402.87	4,422.03	0.00	0.00	0.00
16,600.00	90.00	179.61	11,769.00	-4,524.87	-402.19	4,522.03	0.00	0.00	0.00
16,700.00	90.00	179.61	11,769.00	-4,624.87	-401.52	4,622.03	0.00	0.00	0.00
16,800.00	90.00	179.61	11,769.00	-4,724.86	-400.84	4,722.03	0.00	0.00	0.00
16,900.00	90.00	179.61	11,769.00	-4,824.86	-400.17	4,822.03	0.00	0.00	0.00
17,000.00	90.00	179.61	11,769.00	-4,924.86	-399.49	4,922.03	0.00	0.00	0.00
17,100.00	90.00	179.61	11,769.00	-5,024.86	-398.82	5,022.03	0.00	0.00	0.00
17,200.00	90.00	179.61	11,769.00	-5,124.85	-398.14	5,122.03	0.00	0.00	0.00
17,300.00	90.00	179.61	11,769.00	-5,224.85	-397.47	5,222.03	0.00	0.00	0.00
17,400.00	90.00	179.61	11,769.00	-5,324.85	-396.79	5,322.03	0.00	0.00	0.00
17,500.00	90.00	179.61	11,769.00	-5,424.85	-396.12	5,422.03	0.00	0.00	0.00
17,600.00	90.00	179.61	11,769.00	-5,524.85	-395.44	5,522.03	0.00	0.00	0.00
17,700.00	90.00	179.61	11,769.00	-5,624.84	-394.77	5,622.03	0.00	0.00	0.00
17,800.00	90.00	179.61	11,769.00	-5,724.84	-394.09	5,722.03	0.00	0.00	0.00
17,900.00	90.00	179.61	11,769.00	-5,824.84	-393.42	5,822.03	0.00	0.00	0.00
18,000.00	90.00	179.61	11,769.00	-5,924.84	-392.74	5,922.03	0.00	0.00	0.00
18,100.00	90.00	179.61	11,769.00	-6,024.83	-392.07	6,022.03	0.00	0.00	0.00
18,200.00	90.00	179.61	11,769.00	-6,124.83	-391.39	6,122.03	0.00	0.00	0.00
18,300.00	90.00	179.61	11,769.00	-6,224.83	-390.72	6,222.03	0.00	0.00	0.00
18,400.00	90.00	179.61	11,769.00	-6,324.83	-390.04	6,322.03	0.00	0.00	0.00
18,500.00	90.00	179.61	11,769.00	-6,424.82	-389.36	6,422.03	0.00	0.00	0.00
18,600.00	90.00	179.61	11,769.00	-6,524.82	-388.69	6,522.03	0.00	0.00	0.00
18,700.00	90.00	179.61	11,769.00	-6,624.82	-388.01	6,622.03	0.00	0.00	0.00
18,800.00	90.00	179.61	11,769.00	-6,724.82	-387.34	6,722.03	0.00	0.00	0.00
18,900.00	90.00	179.61	11,769.00	-6,824.82	-386.66	6,822.03	0.00	0.00	0.00
19,000.00	90.00	179.61	11,769.00	-6,924.81	-385.99	6,922.03	0.00	0.00	0.00
19,100.00	90.00	179.61	11,769.00	-7,024.81	-385.31	7,022.03	0.00	0.00	0.00
19,200.00	90.00	179.61	11,769.00	-7,124.81	-384.64	7,122.03	0.00	0.00	0.00
19,300.00	90.00	179.61	11,769.00	-7,224.81	-383.96	7,222.03	0.00	0.00	0.00
19,400.00	90.00	179.61	11,769.00	-7,324.80	-383.29	7,322.03	0.00	0.00	0.00
19,500.00	90.00	179.61	11,769.00	-7,424.80	-382.61	7,422.03	0.00	0.00	0.00
19,600.00	90.00	179.61	11,769.00	-7,524.80	-381.94	7,522.03	0.00	0.00	0.00
19,700.00	90.00	179.61	11,769.00	-7,624.80	-381.26	7,622.03	0.00	0.00	0.00
19,800.00	90.00	179.61	11,769.00	-7,724.80	-380.59	7,722.03	0.00	0.00	0.00
19,900.00	90.00	179.61	11,769.00	-7,824.79	-379.91	7,822.03	0.00	0.00	0.00
20,000.00	90.00	179.61	11,769.00	-7,924.79	-379.24	7,922.03	0.00	0.00	0.00
20,100.00	90.00	179.61	11,769.00	-8,024.79	-378.56	8,022.03	0.00	0.00	0.00
20,200.00	90.00	179.61	11,769.00	-8,124.79	-377.89	8,122.03	0.00	0.00	0.00
20,300.00	90.00	179.61	11,769.00	-8,224.78	-377.21	8,222.03	0.00	0.00	0.00
20,400.00	90.00	179.61	11,769.00	-8,324.78	-376.54	8,322.03	0.00	0.00	0.00
20,500.00	90.00	179.61	11,769.00	-8,424.78	-375.86	8,422.03	0.00	0.00	0.00
20,600.00	90.00	179.61	11,769.00	-8,524.78	-375.19	8,522.03	0.00	0.00	0.00
20,700.00	90.00	179.61	11,769.00	-8,624.77	-374.51	8,622.03	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #903H
Company:	XTO Energy	**TVD Reference:**	RKB = 30' @ 3529.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 30' @ 3529.00usft
Site:	Poker Lake Unit 17 TWR	**North Reference:**	Grid
Well:	#903H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT v2		

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)
20,800.00	90.00	179.61	11,769.00	-8,724.77	-373.84	8,722.03	0.00	0.00	0.00
20,900.00	90.00	179.61	11,769.00	-8,824.77	-373.16	8,822.03	0.00	0.00	0.00
21,000.00	90.00	179.61	11,769.00	-8,924.77	-372.49	8,922.03	0.00	0.00	0.00
21,100.00	90.00	179.61	11,769.00	-9,024.77	-371.81	9,022.03	0.00	0.00	0.00
21,200.00	90.00	179.61	11,769.00	-9,124.76	-371.14	9,122.03	0.00	0.00	0.00
21,300.00	90.00	179.61	11,769.00	-9,224.76	-370.46	9,222.03	0.00	0.00	0.00
21,400.00	90.00	179.61	11,769.00	-9,324.76	-369.79	9,322.03	0.00	0.00	0.00
21,500.00	90.00	179.61	11,769.00	-9,424.76	-369.11	9,422.03	0.00	0.00	0.00
21,600.00	90.00	179.61	11,769.00	-9,524.75	-368.44	9,522.03	0.00	0.00	0.00
21,700.00	90.00	179.61	11,769.00	-9,624.75	-367.76	9,622.03	0.00	0.00	0.00
21,800.00	90.00	179.61	11,769.00	-9,724.75	-367.09	9,722.03	0.00	0.00	0.00
21,900.00	90.00	179.61	11,769.00	-9,824.75	-366.41	9,822.03	0.00	0.00	0.00
22,000.00	90.00	179.61	11,769.00	-9,924.75	-365.74	9,922.03	0.00	0.00	0.00
22,028.56	90.00	179.61	11,769.00	-9,953.30	-365.54	9,950.58	0.00	0.00	0.00
PLU-17-TWR #903: LTP									
22,100.00	90.00	179.61	11,769.00	-10,024.74	-365.06	10,022.03	0.00	0.00	0.00
22,138.56	90.00	179.61	11,769.00	-10,063.30	-364.80	10,060.58	0.00	0.00	0.00
PLU-17-TWR #903: PBHL(220' FSL & 1590 FWL)									

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
PLU-17-TWR #903: S - plan hits target center - Point	0.00	0.01	0.00	0.00	0.00	440,224.40	664,531.50	32.2091748	-103.8013696
PLU-17-TWR #903: F - plan hits target center - Point	0.00	0.01	11,769.00	-50.55	-432.40	440,173.85	664,099.10	32.2090417	-103.8027684
PLU-17-TWR #903: P - plan hits target center - Point	0.00	0.01	11,769.00	-10,063.30	-364.80	430,161.10	664,166.70	32.1815169	-103.8027096
PLU-17-TWR #903: L - plan misses target center by 0.04usft at 22028.56usft MD (11769.00 TVD, -9953.30 N, -365.54 E) - Point	0.00	0.01	11,769.00	-9,953.30	-365.50	430,271.10	664,166.00	32.1818193	-103.8027101

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #903H
Company:	XTO Energy	**TVD Reference:**	RKB = 30' @ 3529.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 30' @ 3529.00usft
Site:	Poker Lake Unit 17 TWR	**North Reference:**	Grid
Well:	#903H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT v2		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
549.00	549.00	Rustler			
629.00	629.00	Magenta Dolomite			
929.00	929.00	Top Salt			
4,060.50	4,059.00	Base Salt			
4,281.34	4,279.00	Delaware			
5,184.78	5,179.00	Cherry Canyon			
6,479.72	6,469.00	Brushy Canyon			
7,864.99	7,849.00	Basal Brushy Canyon			
8,146.06	8,129.00	Bone Spring Lime			
8,256.48	8,239.00	Avalon Sand			
8,286.60	8,269.00	Upper Avalon Shale			
8,688.13	8,669.00	Lower Avalon Shale			
8,908.97	8,889.00	1st Bone Spring Lime			
9,109.73	9,089.00	1st Bone Spring Ss			
9,591.57	9,569.00	2nd Bone Spring Lime			
9,922.83	9,899.00	2nd Bone Spring Ss			
10,304.28	10,279.00	3rd Bone Spring Lm			
11,087.27	11,059.00	3rd Bone Spring Ss			
11,411.22	11,379.00	Red Hills SS			
11,521.05	11,479.00	Wolfcamp			
11,556.22	11,509.00	Wolfcamp X			
11,658.25	11,589.00	Wolfcamp Y			
11,716.10	11,629.00	Wolfcamp A			
12,125.58	11,769.00	LP			