NM OIL CONSERVATION
ARTESIA DISTRICT
OCT 29 2019
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Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM0025533

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER
1b. Type of Well: ☐ Oil Well ☑ Gas Well ☐ Other
1c. Type of Completion: ☐ Hydraulic Fracturing ☑ Single Zone ☐ Multiple Zone

7. If Unit or CA Agreement, Name and No.
POKER LAKE / NMNM071016X

8. Lease Name and Well No.
POKER LAKE UNIT 18 TWR
161H
326260

2. Name of Operator
XTO PERMIAN OPERATING LLC

9. API Well No.
30-015-46430

3a. Address
6401 Holiday Hill Road, Bldg 5 Midland TX 79707

3b. Phone No. *(include area code)*
(432)682-8873

10. Field and Pool, or Exploratory
PURPLE SAGE WOLFCAMP GAS

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface NWNW / 5 FNL / 535 FWL / LAT 32.210055 / LONG -103.823948
At proposed prod. zone SWSW / 200 FSL / 330 FWL / LAT 32.181563 / LONG -103.824637

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 19 / T24S / R31E / NMP

14. Distance in miles and direction from nearest town or post office*

12. County or Parish
EDDY

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
330 feet

16. No of acres in lease
324.37

17. Spacing Unit dedicated to this well
640

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
35 feet

19. Proposed Depth
12546 feet / 22926 feet

20. BLM/BIA Bond No. in file
FED: COB000050

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3494 feet

22. Approximate date work will start*
11/01/2019

23. Estimated duration
60 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

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

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Kelly Kardos / Ph: (432)620-4374	05/30/2019

Title
Regulatory Coordinator

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	10/24/2019

Title	Office
Assistant Field Manager Lands & Minerals	CARLSBAD

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

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

APPROVED WITH CONDITIONS

(Continued on page 2)

Approval Date: 10/24/2019

*(Instructions on page 2)

RWP 11-1-19

PECOS DISTRICT DRILLING
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**XTO Permian Operating, LLC.**
LEASE NO.:	**NMNM-0025533**
WELL NAME & NO.:	**Poker Lake Unit 18 TWR 161H**
SURFACE HOLE FOOTAGE:	**0005' FNL & 0535' FWL**
BOTTOM HOLE FOOTAGE	**0200' FSL & 0330' FWL Sec. 30, T. 24 S., R 31 E.**
LOCATION:	**Section 19, T. 24 S., R 31 E., NMPM**
COUNTY:	**County, New Mexico**

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. 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.

4. **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 **18-5/8** inch surface casing shall be set at approximately **690** feet (**in a competent bed below the Magenta Dolomite, which is a Member of the Rustler, 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.

2. The minimum required fill of cement behind the **13-3/8** inch intermediate casing is:

    ☐ Cement to surface. If cement does not circulate see B.1.a, c-d above.

Formation below the 13-3/8" 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.

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

3. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

Operator has proposed DV tool at depth of 4200', but will adjust cement proportionately if moved. 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. **Excess calculates to 16% - Additional cement may be required.**

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.

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

5-1/2'' Production casing shall be kept fluid filled while running into hole to meet BLM minimum collapse requirements.

4. 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.

5. 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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be psi.

4. **Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the 13-3/8'' intermediate casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 13-3/8'' intermediate casing shoe shall be 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'' intermediate casing integrity test 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.**

Variance approved to use a 5M annular. The annular must be tested to full working pressure (5000 psi.)

10M 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.

5. The appropriate BLM office shall be notified a minimum of 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).

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

b. 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.

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

d. 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.**

e. 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.

f. 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.

AFMSS

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Operator Certification Data Report

10/24/2019

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are

NAME: Kelly Kardos **Signed on:** 05/30/2019

Title: Regulatory Coordinator

Street Address:

City: **State:** **Zip:**

Phone: (432)620-4374

Email address: kelly_kardos@xtoenergy.com

Field Representative

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

APD ID: 10400042220 **Submission Date:** 05/30/2019

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 18 TWR **Well Number:** 161H

Well Type: CONVENTIONAL GAS WELL **Well Work Type:** Drill

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Section 1 - General

APD ID: 10400042220 **Tie to previous NOS?** Y **Submission Date:** 05/30/2019

BLM Office: CARLSBAD **User:** Kelly Kardos **Title:** Regulatory Coordinator

Federal/Indian APD: FED **Is the first lease penetrated for production Federal or Indian?** FED

Lease number: NMNM0025533 **Lease Acres:** 324.37

Surface access agreement in place? **Allotted?** **Reservation:**

Agreement in place? YES **Federal or Indian agreement:** FEDERAL

Agreement number: NMNM071016X

Agreement name:

Keep application confidential? NO

Permitting Agent? NO **APD Operator:** XTO PERMIAN OPERATING LLC

Operator letter of designation:

Operator Info

Operator Organization Name: XTO PERMIAN OPERATING LLC

Operator Address: 6401 Holiday Hill Road, Bldg 5 **Zip:** 79707

Operator PO Box:

Operator City: Midland **State:** TX

Operator Phone: (432)682-8873

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO **Master Development Plan name:**

Well in Master SUPO? NO **Master SUPO name:**

Well in Master Drilling Plan? NO **Master Drilling Plan name:**

Well Name: POKER LAKE UNIT 18 TWR **Well Number:** 161H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** PURPLE SAGE WOLFCAMP GAS **Pool Name:**

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 18 TWR **Well Number:** 161H

Is the proposed well in an area containing other mineral resources? USEABLE WATER

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** NO **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** POKER LAKE UNIT 18 TWR **Number:** 1

Well Class: HORIZONTAL **Number of Legs:** 1

Well Work Type: Drill

Well Type: CONVENTIONAL GAS WELL

Describe Well Type:

Well sub-Type: DELINEATION

Describe sub-type:

Distance to town: **Distance to nearest well:** 35 FT **Distance to lease line:** 330 FT

Reservoir well spacing assigned acres Measurement: 640 Acres

Well plat: PLU_18_TWR_161H_C102_20190528105508.pdf

Well work start Date: 11/01/2019 **Duration:** 60 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: **Reference Datum:**

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce
	5	FNL	535	FWL	24S	31E	19	NWN	32.210055	-103.823948	EDDY	NEW MEXI	NEW MEXI	F	NMNM 002553	3494	0	0	
	5	FNL	535	FWL	24S	31E	19	NWN	32.210055	-103.823948	EDDY	NEW MEXI	NEW MEXI	F	NMNM 002553	-8439	11946	11933	
	330	FNL	330	FWL	24S	31E	30	NWN	32.193716	-103.823427	EDDY	NEW MEXI	NEW MEXI	F	NMNM 000050	-8962	18166	12456	

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 18 TWR **Well Number:** 161H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce
	2310	FSL	330	FWL	24S	31E	19	NWS	32.200982	-103.823431	EDDY	NEW MEXI	NEW MEXI	F	NMLC0061705	-8962	15526	12456	
	330	FNL	330	FWL	24S	31E	30	NWN	32.193716	-103.823427	EDDY	NEW MEXI	NEW MEXI	F	NMNM000050	-8962	18166	12456	
	330	FNL	330	FWL	24S	31E	30	NWN	32.193716	-103.823427	EDDY	NEW MEXI	NEW MEXI	F	NMNM000050	-8962	18166	12456	
	2310	FSL	330	FWL	24S	31E	19	NWS	32.200982	-103.823431	EDDY	NEW MEXI	NEW MEXI	F	NMLC0061705	-8962	15526	12456	
	330	FNL	330	FWL	24S	31E	19	NWN	32.209161	-103.824612	EDDY	NEW MEXI	NEW MEXI	F	NMNM002553	-9052	12886	12546	
	2310	FSL	330	FWL	24S	31E	19	NWS	32.200982	-103.823431	EDDY	NEW MEXI	NEW MEXI	F	NMLC0061705	-8962	15526	12456	
	330	FNL	330	FWL	24S	31E	19	NWN	32.209161	-103.824612	EDDY	NEW MEXI	NEW MEXI	F	NMNM002553	-9052	12886	12546	
	330	FNL	330	FWL	24S	31E	19	NWN	32.209161	-103.824612	EDDY	NEW MEXI	NEW MEXI	F	NMNM002553	-9052	12886	12546	
	330	FSL	330	FWL	24S	31E	30	SWS	32.18192	-103.824637	EDDY	NEW MEXI	NEW MEXI	F	NMLC0061705	-9052	22796	12546	
	200	FSL	330	FWL	24S	31E	30	SWS	32.181563	-103.824637	EDDY	NEW MEXI	NEW MEXI	F	NMLC0061705	-9052	22926	12546	

APD ID: 10400042220 **Submission Date:** 05/30/2019

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 18 TWR **Well Number:** 161H

Well Type: CONVENTIONAL GAS WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

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Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	PERMIAN	3494	0	0	OTHER : Quaternary	NONE	N
2	RUSTLER	2968	527	527	SILTSTONE	USEABLE WATER	N
3	TOP SALT	2597	898	898	SALT	OTHER : Produced Water	N
4	BASE OF SALT	-527	4022	4022	SALT	OTHER : Produced Water	N
5	DELAWARE	-766	4261	4261	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced	N
6	BONE SPRING	-4642	8137	8137	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced	N
7	BONE SPRING 1ST	-5583	9078	9078	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced	N
8	BONE SPRING 2ND	-6363	9858	9858	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced	N
9	BONE SPRING 3RD	-7522	11017	11017	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced	N
10	WOLFCAMP	-7922	11417	11417	SHALE	OTHER,NATURAL GAS,OIL : Produced	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M **Rating Depth:** 12564

Equipment: The blow out preventer equipment (BOP) on surface casing temporary wellhead will consist of a 21-1/4" minimum 2M Hydril. MASP should not exceed 1245 psi. Once the perminent wellhead is installed the blow out preventer equipment (BOP) for this well consists of a 13-5/8" minimum 10M Hydril and a 13-5/8" minimum 10M Double Ram BOP. MASP should not exceed 5395 psi.

Requesting Variance? YES

Variance request: XTO requests to utilize centralizers only in the curve after the KOP and only a minimum of one every other joint. 13-3/8" Collapse analyzed using 50% evacuation based on regional experience. 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 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 8-5/8" casing per Onshore Order 2. Wellhead manufacturer representative may not be present for BOP test plug installation 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.

Testing Procedure: All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 50% of the working pressure. When nippling up on the 13-5/8" 10M bradenhead and flange, the BOP test will be limited to 10000 psi. When the 11-3/4" and 8-5/8" casing is set, the packoff seals will be tested to a minimum of 10000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 10M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

Choke Diagram Attachment:

PLU_18_TWR_2M3MCM_20190523130558.pdf

PLU_18_TWR_10MCM_20190528095222.pdf

BOP Diagram Attachment:

PLU_18_TWR_Multi_20190523130747.pdf

PLU_18_TWR_10MBOP_20190528095233.pdf

PLU_18_TWR_2MBOP_20190528095200.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	24	18.625	NEW	API	N	0	690	0	690			690	J-55	87.5	BUTT	2.02	1.81	DRY	22.77	DRY	22.77
2	INTERMEDIATE	17.5	13.375	NEW	API	N	0	4150	0	4150			4150	HCL-80	68	BUTT	2.31	1.67	DRY	10.41	DRY	10.41
3	INTERMEDIATE	12.25	9.625	NEW	API	N	0	11407	0	11407			11407	HCL-80	40	BUTT	1.27	1.02	BUOY	2.77	DRY	2.77
4	PRODUCTION	8.75	5.5	NEW	API	N	0	22926	0	12546			22926	P-110	17	BUTT	1.37	1.01	DRY	2.04	DRY	2.04

Casing Attachments

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 18 TWR **Well Number:** 161H

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

PLU_18_TWR_161H_Csg_20190528110639.pdf

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

PLU_18_TWR_161H_Csg_20190528110647.pdf

Casing ID: 3 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

PLU_18_TWR_161H_Csg_20190528110656.pdf

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 18 TWR **Well Number:** 161H

Casing Attachments

Casing ID: 4 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

PLU_18_TWR_161H_Csg_20190528110705.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	690	520	1.87	12.8	972.4	100	EconoCem-HLTRRC	None
SURFACE	Tail				550	1.35	14.8	742.5	100	HalCem-C	2% CaCl
INTERMEDIATE	Lead		0	4150	2450	1.88	12.8	4606	100	Halcem-C	2% CaCl
INTERMEDIATE	Tail				850	1.35	14.8	1147.5	100	Halcem-C	2% CaCl
INTERMEDIATE	Lead	4200	0	11407	1130	1.87	12.8	2113.1	100	Halcem-C	2% CaCl
INTERMEDIATE	Tail				390	1.35	14.8	526.5	100	Halcem-C	2% CaCl
INTERMEDIATE	Lead		4250	11407	2050	1.88	12.8	3854	100	Halcem-C	2% CaCl
INTERMEDIATE	Tail				470	1.33	14.8	625.1	100	Halcem-C	2% CaCl
PRODUCTION	Lead		0	22926	1840	1.88	11.5	3459.2	20	Halcem-C	2% CaCl
PRODUCTION	Tail				2610	1.33	13.2	3471.3	20	VersaCem	None

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 18 TWR **Well Number:** 161H

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: The necessary mud products for weight addition and fluid loss control will be on location at all times.

Describe the mud monitoring system utilized: A Pason or Totco will be used to detect changes in loss or gain of mud volume.

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
11407	12546	OTHER : FW / Cut Brine / Poly / OBM	12.2	12.8							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
4150	11407	OTHER : FW / Cut Brine	9.1	9.5							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
0	690	OTHER : FW/Native	8.4	8.8							A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
											solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system
690	4150	OTHER : Brine/Gel Sweeps	9.8	10.2							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

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

Open hole logging to include Density/Neutron/PE/Dual Laterlog/Spectral Gamma from kick-off point to intermediate casing shoe.

List of open and cased hole logs run in the well:

CBL,CNL,DS,GR,MUDLOG

Coring operation description for the well:

No coring will take place on this well.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 8155 **Anticipated Surface Pressure:** 5394.88

Anticipated Bottom Hole Temperature(F): 170

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Potential loss of circulation through the Capitan Reef.

Contingency Plans geoharzards description:

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

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

PLU_18_TWR_H2S_DiaE_20190523132628.pdf
PLU_18_TWR_H2S_DiaW_20190523132638.pdf
PLU_18_TWR_H2S_Plan_20190523132617.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

PLU_18_TWR_161H_DD_20190528111106.pdf

Other proposed operations facets description:

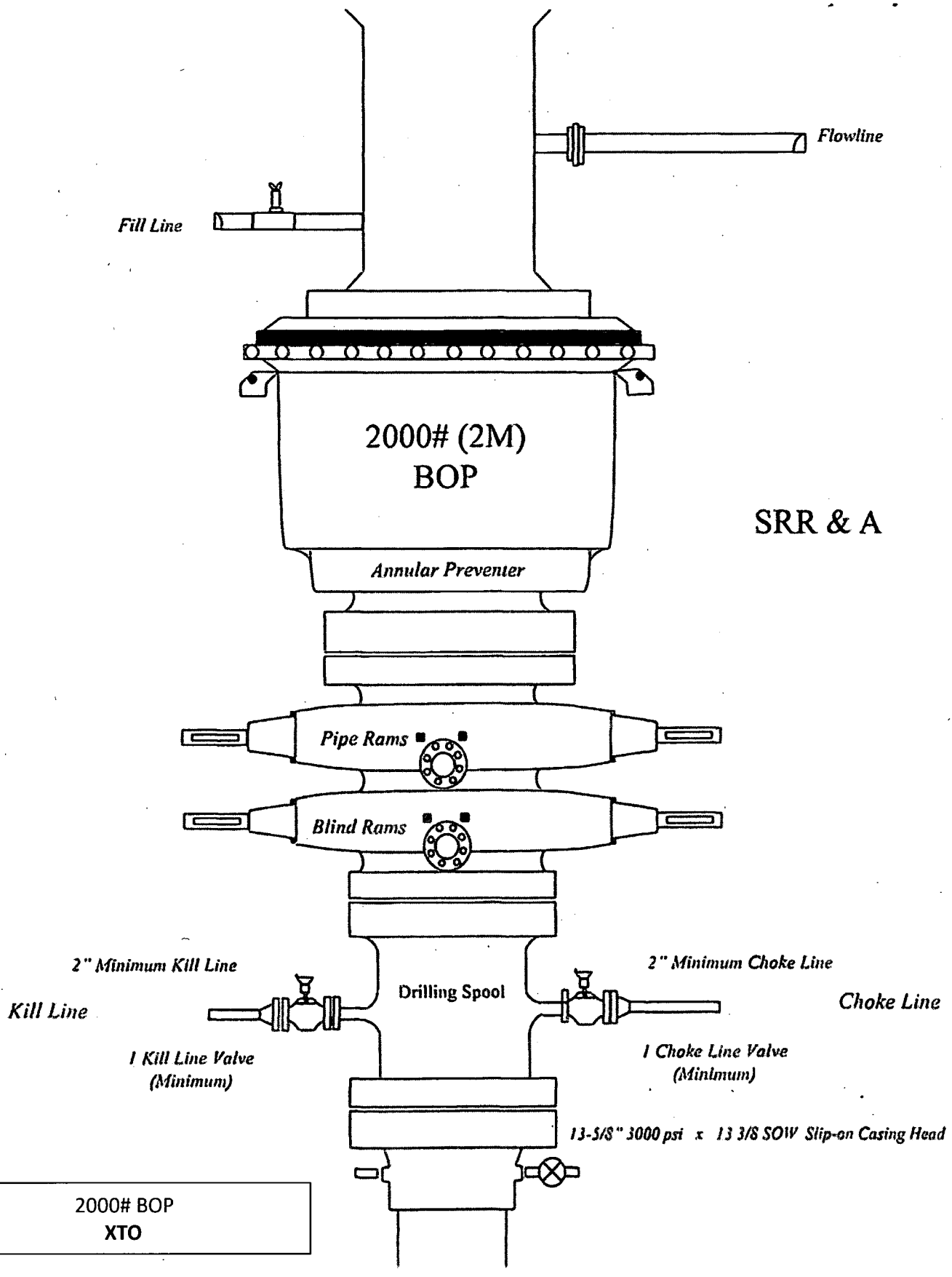
The surface fresh water sands will be protected by setting 18-5/8 inch casing @ 690' (207' above the salt) and circulating cement back to surface. The salt will be isolated by setting 13-3/8 inch casing at 4150' and circulating cement to surface. A 12-1/4 inch vertical hole will be drilled to 11407' and 9-5/8 inch casing ran and cemented 500' into the 13-3/8 inch casing. An8-3/4 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.

Other proposed operations facets attachment:

PLU_18_TWR_GCPE_20191008102219.pdf
PLU_18_TWR_GCPW_20191008102235.pdf

Other Variance attachment:

PLU_18_TWR_FH_20190523132910.pdf


Flowline
Fill Line
2000# (2M)
BOP
SRR & A
Annular Preventer
Pipe Rams
Blind Rams
2" Minimum Kill Line
Kill Line
Drilling Spool
2" Minimum Choke Line
Choke Line
1 Kill Line Valve
(Minimum)
1 Choke Line Valve
(Minimum)
13-5/8" 3000 psi x 13 3/8 SOW Slip-on Casing Head

2000# BOP
XTO

HYDROGEN SULFIDE (H2S) CONTINGENCY PLAN

Assumed 100 ppm ROE = 3000'

100 ppm H2S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing H_2S, the first responder(s) must

- Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- Evacuate any public places encompassed by the 100 ppm ROE.
- Be equipped with H_2S monitors and air packs in order to control the release.
- Use the "buddy system" to ensure no injuries occur during the response
- Take precautions to avoid personal injury during this operation.
- Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- Have received training in the
  - o Detection of H_2S, and
  - o Measures for protection against the gas,
  - o Equipment used for protection and emergency response.

Ignition of Gas source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO_2). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever this is an ignition of the gas.

Characteristics of H_2S and SO_2

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H_2S	1.189 Air = I	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO_2	2.21 Air = I	2 ppm	N/A	1000 ppm

Contacting Authorities

All XTO location personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available including directions to site. The following call list of essential and potential responders has been prepared for use during a release. (Operator Name)'s response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER).

CARLSBAD OFFICE – EDDY & LEA COUNTIES

3104 E. Greene St., Carlsbad, NM 88220	
Carlsbad, NM	575-887-7329
XTO PERSONNEL:	
Kendall Decker, Drilling Manager	903-521-6477
Milton Turman, Drilling Superintendent	817-524-5107
Jeff Raines, Construction Foreman	432-557-3159
Toady Sanders, EH & S Manager	903-520-1601
Wes McSpadden, Production Foreman	575-441-1147
SHERIFF DEPARTMENTS:	
Eddy County	575-887-7551
Lea County	575-396-3611
NEW MEXICO STATE POLICE:	575-392-5588
FIRE DEPARTMENTS:	911
Carlsbad	575-885-2111
Eunice	575-394-2111
Hobbs	575-397-9308
Jal	575-395-2221
Lovington	575-396-2359
HOSPITALS:	911
Carlsbad Medical Emergency	575-885-2111
Eunice Medical Emergency	575-394-2112
Hobbs Medical Emergency	575-397-9308
Jal Medical Emergency	575-395-2221
Lovington Medical Emergency	575-396-2359
AGENT NOTIFICATIONS:	
For Lea County:	
Bureau of Land Management – Hobbs	575-393-3612
New Mexico Oil Conservation Division – Hobbs	575-393-6161
For Eddy County:	
Bureau of Land Management - Carlsbad	575-234-5972
New Mexico Oil Conservation Division - Artesia	575-748-1283

XTO Energy

Eddy County, NM (NAD-27)
Poker Lake Unit 18 TWR
#161H

OH

Plan: PERMIT

Standard Planning Report

07 May, 2019

XTO ENERGY

Project: Eddy County, NM (NAD-27)
Site: Poker Lake Unit 18 TWR
Well: #161H
Wellbore: OH
Design: PERMIT

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: #161H

Rig Name:
RKB = 32' @ 3526.00usft
Ground Level: 3494.00

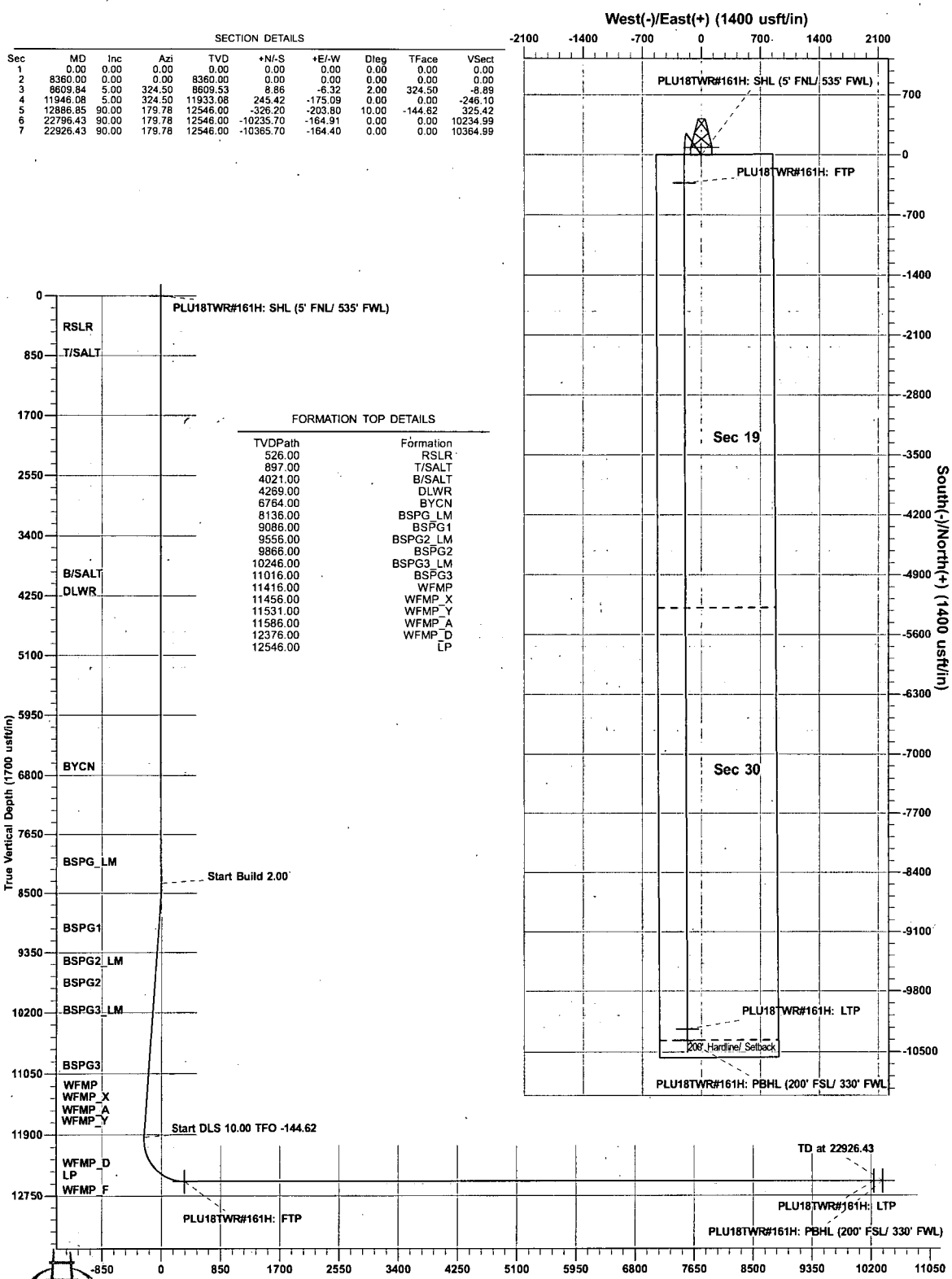
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	440466.50	657696.60	32.2099314	-103.8234637

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PLU18TWR#161H: SHL (5' FNL/ 535' FWL)	0.00	0.00	0.00	440466.50	657696.60	32.2099314	-103.8234637	Point
PLU18TWR#161H: FTP	12546.00	-326.20	-203.80	440140.30	657492.80	32.2090373	-103.8241276	Point
PLU18TWR#161H: LTP	12546.00	-10235.70	-164.90	430230.80	657531.70	32.1817966	-103.8241536	Point
PLU18TWR#161H: PBHL (200' FSL/ 330' FWL)	12546.00	-10365.70	-164.40	430100.80	657532.20	32.1814392	-103.8241539	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	8360.00	0.00	0.00	8360.00	0.00	0.00	0.00	0.00	0.00
3	8609.84	5.00	324.50	8609.53	8.86	-6.32	2.00	324.50	-8.89
4	11946.08	5.00	324.50	11933.08	245.42	-175.09	0.00	0.00	-246.10
5	12886.85	90.00	179.78	12546.00	-326.20	-203.80	10.00	-144.62	325.42
6	22796.43	90.00	179.78	12546.00	-10235.70	-164.91	0.00	0.00	10234.99
7	22926.43	90.00	179.78	12546.00	-10365.70	-164.40	0.00	0.00	10364.99



FORMATION TOP DETAILS

TVDPath	Formation
526.00	RSLR
897.00	T/SALT
4021.00	B/SALT
4269.00	DLWR
6764.00	BYCN
8136.00	BSPG_LM
9086.00	BSPG1
9556.00	BSPG2_LM
9866.00	BSPG2
10246.00	BSPG3_LM
11016.00	BSPG3
11416.00	WFMP
11456.00	WFMP_X
11531.00	WFMP_Y
11586.00	WFMP_A
12376.00	WFMP_D
12546.00	LP

Plan: PERMIT (#161H/OH)

Created By: Prototype Well Planning, LLC Date: 15:57, May 07 2019

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #161H
Company:	XTO Energy	**TVD Reference:**	RKB = 32' @ 3526.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 32' @ 3526.00usft
Site:	Poker Lake Unit 18 TWR	**North Reference:**	Grid
Well:	#161H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

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 18 TWR

Site Position:		**Northing:**	440,397.40 usft	**Latitude:**	32.2097382
From:	Map	**Easting:**	657,946.80 usft	**Longitude:**	-103.8226558
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.27 °

Well #161H

Well Position	**+N/-S**	69.10 usft	**Northing:**	440,466.50 usft	**Latitude:**	32.2099314
	+E/-W	-250.20 usft	**Easting:**	657,696.60 usft	**Longitude:**	-103.8234637
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	3,494.00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	05/07/19	6.87	59.99	47,709

Design PERMIT

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	179.78	

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	
8,360.00	0.00	0.00	8,360.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,609.85	5.00	324.50	8,609.53	8.86	-6.32	2.00	2.00	0.00	324.50	
11,946.08	5.00	324.50	11,933.08	245.42	-175.09	0.00	0.00	0.00	0.00	
12,886.85	90.00	179.78	12,546.00	-326.20	-203.80	10.00	9.04	-15.38	-144.62	PLU18TWR#161H:
22,796.43	90.00	179.78	12,546.00	-10,235.70	-164.91	0.00	0.00	0.00	0.00	PLU18TWR#161H:
22,926.43	90.00	179.78	12,546.00	-10,365.70	-164.40	0.00	0.00	0.00	0.00	PLU18TWR#161H:

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #161H
Company:	XTO Energy	**TVD Reference:**	RKB = 32' @ 3526.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 32' @ 3526.00usft
Site:	Poker Lake Unit 18 TWR	**North Reference:**	Grid
Well:	#161H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

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
526.00	0.00	0.00	526.00	0.00	0.00	0.00	0.00	0.00	0.00
RSLR									
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
897.00	0.00	0.00	897.00	0.00	0.00	0.00	0.00	0.00	0.00
T/SALT									
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	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
4,021.00	0.00	0.00	4,021.00	0.00	0.00	0.00	0.00	0.00	0.00
B/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
4,269.00	0.00	0.00	4,269.00	0.00	0.00	0.00	0.00	0.00	0.00
DLWR									
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #161H
Company:	XTO Energy	**TVD Reference:**	RKB = 32' @ 3526.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 32' @ 3526.00usft
Site:	Poker Lake Unit 18 TWR	**North Reference:**	Grid
Well:	#161H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,764.00	0.00	0.00	6,764.00	0.00	0.00	0.00	0.00	0.00	0.00
BYCN									
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	0.00	0.00
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	0.00	0.00
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	0.00	0.00
8,136.00	0.00	0.00	8,136.00	0.00	0.00	0.00	0.00	0.00	0.00
BSPG_LM									
8,200.00	0.00	0.00	8,200.00	0.00	0.00	0.00	0.00	0.00	0.00
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	0.00	0.00
8,360.00	0.00	0.00	8,360.00	0.00	0.00	0.00	0.00	0.00	0.00
8,400.00	0.80	324.50	8,400.00	0.23	-0.16	-0.23	2.00	2.00	0.00
8,500.00	2.80	324.50	8,499.94	2.78	-1.99	-2.79	2.00	2.00	0.00
8,609.85	5.00	324.50	8,609.53	8.86	-6.32	-8.89	2.00	2.00	0.00
8,700.00	5.00	324.50	8,699.34	15.26	-10.88	-15.30	0.00	0.00	0.00
8,800.00	5.00	324.50	8,798.96	22.35	-15.94	-22.41	0.00	0.00	0.00
8,900.00	5.00	324.50	8,898.58	29.44	-21.00	-29.52	0.00	0.00	0.00
9,000.00	5.00	324.50	8,998.20	36.53	-26.06	-36.63	0.00	0.00	0.00
9,088.13	5.00	324.50	9,086.00	42.78	-30.52	-42.89	0.00	0.00	0.00
BSPG1									
9,100.00	5.00	324.50	9,097.82	43.62	-31.12	-43.74	0.00	0.00	0.00

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Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 32' @ 3526.00usft
Site:	Poker Lake Unit 18 TWR	North Reference:	Grid
Well:	#161H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

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)
9,200.00	5.00	324.50	9,197.44	50.71	-36.18	-50.85	0.00	0.00	0.00
9,300.00	5.00	324.50	9,297.06	57.80	-41.24	-57.96	0.00	0.00	0.00
9,400.00	5.00	324.50	9,396.68	64.89	-46.29	-65.07	0.00	0.00	0.00
9,500.00	5.00	324.50	9,496.30	71.98	-51.35	-72.18	0.00	0.00	0.00
9,559.93	5.00	324.50	9,556.00	76.23	-54.38	-76.44	0.00	0.00	0.00
BSPG2_LM									
9,600.00	5.00	324.50	9,595.92	79.07	-56.41	-79.29	0.00	0.00	0.00
9,700.00	5.00	324.50	9,695.54	86.16	-61.47	-86.40	0.00	0.00	0.00
9,800.00	5.00	324.50	9,795.16	93.25	-66.53	-93.51	0.00	0.00	0.00
9,871.11	5.00	324.50	9,866.00	98.30	-70.13	-98.56	0.00	0.00	0.00
BSPG2									
9,900.00	5.00	324.50	9,894.78	100.34	-71.59	-100.62	0.00	0.00	0.00
10,000.00	5.00	324.50	9,994.40	107.43	-76.65	-107.73	0.00	0.00	0.00
10,100.00	5.00	324.50	10,094.02	114.53	-81.70	-114.84	0.00	0.00	0.00
10,200.00	5.00	324.50	10,193.64	121.62	-86.76	-121.95	0.00	0.00	0.00
10,252.56	5.00	324.50	10,246.00	125.34	-89.42	-125.69	0.00	0.00	0.00
BSPG3_LM									
10,300.00	5.00	324.50	10,293.26	128.71	-91.82	-129.06	0.00	0.00	0.00
10,400.00	5.00	324.50	10,392.88	135.80	-96.88	-136.17	0.00	0.00	0.00
10,500.00	5.00	324.50	10,492.50	142.89	-101.94	-143.28	0.00	0.00	0.00
10,600.00	5.00	324.50	10,592.12	149.98	-107.00	-150.39	0.00	0.00	0.00
10,700.00	5.00	324.50	10,691.74	157.07	-112.06	-157.50	0.00	0.00	0.00
10,800.00	5.00	324.50	10,791.36	164.16	-117.12	-164.61	0.00	0.00	0.00
10,900.00	5.00	324.50	10,890.98	171.25	-122.17	-171.72	0.00	0.00	0.00
11,000.00	5.00	324.50	10,990.60	178.34	-127.23	-178.83	0.00	0.00	0.00
11,025.50	5.00	324.50	11,016.00	180.15	-128.52	-180.64	0.00	0.00	0.00
BSPG3									
11,100.00	5.00	324.50	11,090.22	185.43	-132.29	-185.94	0.00	0.00	0.00
11,200.00	5.00	324.50	11,189.84	192.52	-137.35	-193.05	0.00	0.00	0.00
11,300.00	5.00	324.50	11,289.46	199.61	-142.41	-200.16	0.00	0.00	0.00
11,400.00	5.00	324.50	11,389.08	206.70	-147.47	-207.27	0.00	0.00	0.00
11,427.02	5.00	324.50	11,416.00	208.62	-148.83	-209.19	0.00	0.00	0.00
WFMP									
11,467.18	5.00	324.50	11,456.00	211.47	-150.87	-212.04	0.00	0.00	0.00
WFMP_X									
11,500.00	5.00	324.50	11,488.70	213.79	-152.53	-214.38	0.00	0.00	0.00
11,542.46	5.00	324.50	11,531.00	216.81	-154.67	-217.40	0.00	0.00	0.00
WFMP_Y									
11,597.67	5.00	324.50	11,586.00	220.72	-157.47	-221.32	0.00	0.00	0.00
WFMP_A									
11,600.00	5.00	324.50	11,588.32	220.89	-157.58	-221.49	0.00	0.00	0.00
11,700.00	5.00	324.50	11,687.94	227.98	-162.64	-228.60	0.00	0.00	0.00
11,800.00	5.00	324.50	11,787.56	235.07	-167.70	-235.71	0.00	0.00	0.00
11,900.00	5.00	324.50	11,887.18	242.16	-172.76	-242.82	0.00	0.00	0.00
11,946.08	5.00	324.50	11,933.08	245.42	-175.09	-246.10	0.00	0.00	0.00
11,950.00	4.68	321.71	11,936.99	245.69	-175.29	-246.36	10.00	-8.01	-70.95
12,000.00	3.18	245.31	11,986.90	246.71	-177.81	-247.39	10.00	-3.01	-152.81
12,050.00	6.94	204.28	12,036.71	243.38	-180.32	-244.07	10.00	7.53	-82.06
12,100.00	11.67	193.92	12,086.04	235.71	-182.78	-236.41	10.00	9.46	-20.71
12,150.00	16.56	189.55	12,134.52	223.76	-185.18	-224.47	10.00	9.78	-8.74
12,200.00	21.50	187.14	12,181.77	207.63	-187.50	-208.35	10.00	9.88	-4.82
12,250.00	26.46	185.60	12,227.44	187.44	-189.73	-188.17	10.00	9.92	-3.08
12,300.00	31.43	184.51	12,271.18	163.34	-191.84	-164.08	10.00	9.95	-2.17

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Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 32' @ 3526.00usft
Site:	Poker Lake Unit 18 TWR	North Reference:	Grid
Well:	#161H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

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)
12,350.00	36.41	183.70	12,312.66	135.52	-193.83	-136.26	10.00	9.96	-1.63
12,400.00	41.40	183.06	12,351.55	104.18	-195.67	-104.93	10.00	9.97	-1.28
12,433.47	44.74	182.70	12,376.00	81.36	-196.81	-82.12	10.00	9.97	-1.08
WFMP_D									
12,450.00	46.38	182.53	12,387.57	69.57	-197.35	-70.33	10.00	9.98	-0.99
12,500.00	51.37	182.09	12,420.45	31.95	-198.87	-32.71	10.00	9.98	-0.89
12,550.00	56.36	181.70	12,449.92	-8.40	-200.20	7.63	10.00	9.98	-0.77
12,600.00	61.35	181.36	12,475.77	-51.17	-201.33	50.40	10.00	9.98	-0.69
12,650.00	66.35	181.04	12,497.80	-96.03	-202.27	95.25	10.00	9.98	-0.63
12,700.00	71.34	180.75	12,515.84	-142.64	-203.00	141.86	10.00	9.99	-0.58
12,750.00	76.33	180.48	12,529.75	-190.64	-203.51	189.86	10.00	9.99	-0.55
12,800.00	81.33	180.22	12,539.44	-239.68	-203.81	238.89	10.00	9.99	-0.52
12,850.00	86.32	179.96	12,544.82	-289.37	-203.88	288.59	10.00	9.99	-0.51
12,886.85	90.00	179.78	12,546.00	-326.20	-203.80	325.42	10.00	9.99	-0.51
LP									
12,900.00	90.00	179.78	12,546.00	-339.35	-203.75	338.56	0.00	0.00	0.00
13,000.00	90.00	179.78	12,546.00	-439.35	-203.36	438.56	0.00	0.00	0.00
13,100.00	90.00	179.78	12,546.00	-539.34	-202.96	538.56	0.00	0.00	0.00
13,200.00	90.00	179.78	12,546.00	-639.34	-202.57	638.56	0.00	0.00	0.00
13,300.00	90.00	179.78	12,546.00	-739.34	-202.18	738.56	0.00	0.00	0.00
13,400.00	90.00	179.78	12,546.00	-839.34	-201.79	838.56	0.00	0.00	0.00
13,500.00	90.00	179.78	12,546.00	-939.34	-201.39	938.56	0.00	0.00	0.00
13,600.00	90.00	179.78	12,546.00	-1,039.34	-201.00	1,038.56	0.00	0.00	0.00
13,700.00	90.00	179.78	12,546.00	-1,139.34	-200.61	1,138.56	0.00	0.00	0.00
13,800.00	90.00	179.78	12,546.00	-1,239.34	-200.22	1,238.56	0.00	0.00	0.00
13,900.00	90.00	179.78	12,546.00	-1,339.34	-199.82	1,338.56	0.00	0.00	0.00
14,000.00	90.00	179.78	12,546.00	-1,439.34	-199.43	1,438.56	0.00	0.00	0.00
14,100.00	90.00	179.78	12,546.00	-1,539.34	-199.04	1,538.56	0.00	0.00	0.00
14,200.00	90.00	179.78	12,546.00	-1,639.34	-198.65	1,638.56	0.00	0.00	0.00
14,300.00	90.00	179.78	12,546.00	-1,739.34	-198.25	1,738.56	0.00	0.00	0.00
14,400.00	90.00	179.78	12,546.00	-1,839.33	-197.86	1,838.56	0.00	0.00	0.00
14,500.00	90.00	179.78	12,546.00	-1,939.33	-197.47	1,938.56	0.00	0.00	0.00
14,600.00	90.00	179.78	12,546.00	-2,039.33	-197.08	2,038.56	0.00	0.00	0.00
14,700.00	90.00	179.78	12,546.00	-2,139.33	-196.68	2,138.56	0.00	0.00	0.00
14,800.00	90.00	179.78	12,546.00	-2,239.33	-196.29	2,238.56	0.00	0.00	0.00
14,900.00	90.00	179.78	12,546.00	-2,339.33	-195.90	2,338.56	0.00	0.00	0.00
15,000.00	90.00	179.78	12,546.00	-2,439.33	-195.51	2,438.56	0.00	0.00	0.00
15,100.00	90.00	179.78	12,546.00	-2,539.33	-195.11	2,538.56	0.00	0.00	0.00
15,200.00	90.00	179.78	12,546.00	-2,639.33	-194.72	2,638.56	0.00	0.00	0.00
15,300.00	90.00	179.78	12,546.00	-2,739.33	-194.33	2,738.56	0.00	0.00	0.00
15,400.00	90.00	179.78	12,546.00	-2,839.33	-193.94	2,838.56	0.00	0.00	0.00
15,500.00	90.00	179.78	12,546.00	-2,939.33	-193.54	2,938.56	0.00	0.00	0.00
15,600.00	90.00	179.78	12,546.00	-3,039.33	-193.15	3,038.56	0.00	0.00	0.00
15,700.00	90.00	179.78	12,546.00	-3,139.32	-192.76	3,138.56	0.00	0.00	0.00
15,800.00	90.00	179.78	12,546.00	-3,239.32	-192.37	3,238.56	0.00	0.00	0.00
15,900.00	90.00	179.78	12,546.00	-3,339.32	-191.98	3,338.56	0.00	0.00	0.00
16,000.00	90.00	179.78	12,546.00	-3,439.32	-191.58	3,438.56	0.00	0.00	0.00
16,100.00	90.00	179.78	12,546.00	-3,539.32	-191.19	3,538.56	0.00	0.00	0.00
16,200.00	90.00	179.78	12,546.00	-3,639.32	-190.80	3,638.56	0.00	0.00	0.00
16,300.00	90.00	179.78	12,546.00	-3,739.32	-190.41	3,738.56	0.00	0.00	0.00
16,400.00	90.00	179.78	12,546.00	-3,839.32	-190.01	3,838.56	0.00	0.00	0.00
16,500.00	90.00	179.78	12,546.00	-3,939.32	-189.62	3,938.56	0.00	0.00	0.00
16,600.00	90.00	179.78	12,546.00	-4,039.32	-189.23	4,038.56	0.00	0.00	0.00
16,700.00	90.00	179.78	12,546.00	-4,139.32	-188.84	4,138.56	0.00	0.00	0.00

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Site:	Poker Lake Unit 18 TWR	**North Reference:**	Grid
Well:	#161H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
16,800.00	90.00	179.78	12,546.00	-4,239.32	-188.44	4,238.56	0.00	0.00	0.00
16,900.00	90.00	179.78	12,546.00	-4,339.32	-188.05	4,338.56	0.00	0.00	0.00
17,000.00	90.00	179.78	12,546.00	-4,439.31	-187.66	4,438.56	0.00	0.00	0.00
17,100.00	90.00	179.78	12,546.00	-4,539.31	-187.27	4,538.56	0.00	0.00	0.00
17,200.00	90.00	179.78	12,546.00	-4,639.31	-186.87	4,638.56	0.00	0.00	0.00
17,300.00	90.00	179.78	12,546.00	-4,739.31	-186.48	4,738.56	0.00	0.00	0.00
17,400.00	90.00	179.78	12,546.00	-4,839.31	-186.09	4,838.56	0.00	0.00	0.00
17,500.00	90.00	179.78	12,546.00	-4,939.31	-185.70	4,938.56	0.00	0.00	0.00
17,600.00	90.00	179.78	12,546.00	-5,039.31	-185.30	5,038.56	0.00	0.00	0.00
17,700.00	90.00	179.78	12,546.00	-5,139.31	-184.91	5,138.56	0.00	0.00	0.00
17,800.00	90.00	179.78	12,546.00	-5,239.31	-184.52	5,238.56	0.00	0.00	0.00
17,900.00	90.00	179.78	12,546.00	-5,339.31	-184.13	5,338.56	0.00	0.00	0.00
18,000.00	90.00	179.78	12,546.00	-5,439.31	-183.73	5,438.56	0.00	0.00	0.00
18,100.00	90.00	179.78	12,546.00	-5,539.31	-183.34	5,538.56	0.00	0.00	0.00
18,200.00	90.00	179.78	12,546.00	-5,639.31	-182.95	5,638.56	0.00	0.00	0.00
18,300.00	90.00	179.78	12,546.00	-5,739.30	-182.56	5,738.56	0.00	0.00	0.00
18,400.00	90.00	179.78	12,546.00	-5,839.30	-182.16	5,838.56	0.00	0.00	0.00
18,500.00	90.00	179.78	12,546.00	-5,939.30	-181.77	5,938.56	0.00	0.00	0.00
18,600.00	90.00	179.78	12,546.00	-6,039.30	-181.38	6,038.56	0.00	0.00	0.00
18,700.00	90.00	179.78	12,546.00	-6,139.30	-180.99	6,138.56	0.00	0.00	0.00
18,800.00	90.00	179.78	12,546.00	-6,239.30	-180.59	6,238.56	0.00	0.00	0.00
18,900.00	90.00	179.78	12,546.00	-6,339.30	-180.20	6,338.56	0.00	0.00	0.00
19,000.00	90.00	179.78	12,546.00	-6,439.30	-179.81	6,438.56	0.00	0.00	0.00
19,100.00	90.00	179.78	12,546.00	-6,539.30	-179.42	6,538.56	0.00	0.00	0.00
19,200.00	90.00	179.78	12,546.00	-6,639.30	-179.02	6,638.56	0.00	0.00	0.00
19,300.00	90.00	179.78	12,546.00	-6,739.30	-178.63	6,738.56	0.00	0.00	0.00
19,400.00	90.00	179.78	12,546.00	-6,839.30	-178.24	6,838.56	0.00	0.00	0.00
19,500.00	90.00	179.78	12,546.00	-6,939.30	-177.85	6,938.56	0.00	0.00	0.00
19,600.00	90.00	179.78	12,546.00	-7,039.29	-177.45	7,038.56	0.00	0.00	0.00
19,700.00	90.00	179.78	12,546.00	-7,139.29	-177.06	7,138.56	0.00	0.00	0.00
19,800.00	90.00	179.78	12,546.00	-7,239.29	-176.67	7,238.56	0.00	0.00	0.00
19,900.00	90.00	179.78	12,546.00	-7,339.29	-176.28	7,338.56	0.00	0.00	0.00
20,000.00	90.00	179.78	12,546.00	-7,439.29	-175.88	7,438.56	0.00	0.00	0.00
20,100.00	90.00	179.78	12,546.00	-7,539.29	-175.49	7,538.56	0.00	0.00	0.00
20,200.00	90.00	179.78	12,546.00	-7,639.29	-175.10	7,638.56	0.00	0.00	0.00
20,300.00	90.00	179.78	12,546.00	-7,739.29	-174.71	7,738.56	0.00	0.00	0.00
20,400.00	90.00	179.78	12,546.00	-7,839.29	-174.31	7,838.56	0.00	0.00	0.00
20,500.00	90.00	179.78	12,546.00	-7,939.29	-173.92	7,938.56	0.00	0.00	0.00
20,600.00	90.00	179.78	12,546.00	-8,039.29	-173.53	8,038.56	0.00	0.00	0.00
20,700.00	90.00	179.78	12,546.00	-8,139.29	-173.14	8,138.56	0.00	0.00	0.00
20,800.00	90.00	179.78	12,546.00	-8,239.29	-172.75	8,238.56	0.00	0.00	0.00
20,900.00	90.00	179.78	12,546.00	-8,339.28	-172.35	8,338.56	0.00	0.00	0.00
21,000.00	90.00	179.78	12,546.00	-8,439.28	-171.96	8,438.56	0.00	0.00	0.00
21,100.00	90.00	179.78	12,546.00	-8,539.28	-171.57	8,538.56	0.00	0.00	0.00
21,200.00	90.00	179.78	12,546.00	-8,639.28	-171.18	8,638.56	0.00	0.00	0.00
21,300.00	90.00	179.78	12,546.00	-8,739.28	-170.78	8,738.56	0.00	0.00	0.00
21,400.00	90.00	179.78	12,546.00	-8,839.28	-170.39	8,838.56	0.00	0.00	0.00
21,500.00	90.00	179.78	12,546.00	-8,939.28	-170.00	8,938.56	0.00	0.00	0.00
21,600.00	90.00	179.78	12,546.00	-9,039.28	-169.61	9,038.56	0.00	0.00	0.00
21,700.00	90.00	179.78	12,546.00	-9,139.28	-169.21	9,138.56	0.00	0.00	0.00
21,800.00	90.00	179.78	12,546.00	-9,239.28	-168.82	9,238.56	0.00	0.00	0.00
21,900.00	90.00	179.78	12,546.00	-9,339.28	-168.43	9,338.56	0.00	0.00	0.00
22,000.00	90.00	179.78	12,546.00	-9,439.28	-168.04	9,438.56	0.00	0.00	0.00
22,100.00	90.00	179.78	12,546.00	-9,539.28	-167.64	9,538.56	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #161H
Company:	XTO Energy	**TVD Reference:**	RKB = 32' @ 3526.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 32' @ 3526.00usft
Site:	Poker Lake Unit 18 TWR	**North Reference:**	Grid
Well:	#161H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

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)
22,200.00	90.00	179.78	12,546.00	-9,639.27	-167.25	9,638.56	0.00	0.00	0.00
22,300.00	90.00	179.78	12,546.00	-9,739.27	-166.86	9,738.56	0.00	0.00	0.00
22,400.00	90.00	179.78	12,546.00	-9,839.27	-166.47	9,838.56	0.00	0.00	0.00
22,500.00	90.00	179.78	12,546.00	-9,939.27	-166.07	9,938.56	0.00	0.00	0.00
22,600.00	90.00	179.78	12,546.00	-10,039.27	-165.68	10,038.56	0.00	0.00	0.00
22,700.00	90.00	179.78	12,546.00	-10,139.27	-165.29	10,138.56	0.00	0.00	0.00
22,796.43	90.00	179.78	12,546.00	-10,235.70	-164.91	10,234.99	0.00	0.00	0.00
22,800.00	90.00	179.78	12,546.00	-10,239.27	-164.90	10,238.56	0.00	0.00	0.00
22,900.00	90.00	179.78	12,546.00	-10,339.27	-164.50	10,338.56	0.00	0.00	0.00
22,926.43	90.00	179.78	12,546.00	-10,365.70	-164.40	10,364.99	0.00	0.00	0.00

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
PLU18TWR#161H: SI - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	440,466.50	657,696.60	32.2099314	-103.8234637
PLU18TWR#161H: LT - plan misses target center by 0.01usft at 22796.43usft MD (12546.00 TVD, -10235.70 N, -164.91 E) - Point	0.00	0.00	12,546.00	-10,235.70	-164.90	430,230.80	657,531.70	32.1817966	-103.8241536
PLU18TWR#161H: PI - plan hits target center - Point	0.00	0.00	12,546.00	-10,365.70	-164.40	430,100.80	657,532.20	32.1814393	-103.8241539
PLU18TWR#161H: F - plan hits target center - Point	0.00	0.00	12,546.00	-326.20	-203.80	440,140.30	657,492.80	32.2090373	-103.8241276

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #161H
Company:	XTO Energy	**TVD Reference:**	RKB = 32' @ 3526.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 32' @ 3526.00usft
Site:	Poker Lake Unit 18 TWR	**North Reference:**	Grid
Well:	#161H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
526.00	526.00	RSLR			
897.00	897.00	T/SALT			
4,021.00	4,021.00	B/SALT			
4,269.00	4,269.00	DLWR			
6,764.00	6,764.00	BYCN			
8,136.00	8,136.00	BSPG_LM			
9,088.13	9,086.00	BSPG1			
9,559.93	9,556.00	BSPG2_LM			
9,871.11	9,866.00	BSPG2			
10,252.56	10,246.00	BSPG3_LM			
11,025.50	11,016.00	BSPG3			
11,427.02	11,416.00	WFMP			
11,467.18	11,456.00	WFMP_X			
11,542.46	11,531.00	WFMP_Y			
11,597.67	11,586.00	WFMP_A			
12,433.47	12,376.00	WFMP_D			
12,886.85	12,546.00	LP			

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U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

PWD Data Report

10/24/2019

APD ID: 10400042220 **Submission Date:** 05/30/2019

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 18 TWR **Well Number:** 161H

Well Type: CONVENTIONAL GAS WELL **Well Work Type:** Drill

Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 18 TWR **Well Number:** 161H

Lined pit Monitor description:

Lined pit Monitor attachment:

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD disturbance (acres): **PWD surface owner:**

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

Unlined pit: do you have a reclamation bond for the pit?

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 18 TWR **Well Number:** 161H

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number: **Injection well name:**

Assigned injection well API number? **Injection well API number:**

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Other PWD discharge volume (bbl/day):

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 18 TWR **Well Number:** 161H

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

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U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Bond Info Data Report

10/24/2019

APD ID: 10400042220

Submission Date: 05/30/2019

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 18 TWR

Well Number: 161H

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Highlighted data reflects the most recent changes
Show Final Text

Bond Information

Federal/Indian APD: FED

BLM Bond number: COB000050

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment: