

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

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMLC0061634B
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No. NMMN 071016X
2. Name of Operator XTO PERMIAN OPERATING LLC		8. Lease Name and Well No. POKER LAKE UNIT 30 BS 152H
3a. Address 6401 Holiday Hill Road, Bldg 5, Midland, TX 79707	3b. Phone No. (include area code) (432) 682-8873	9. API Well No. 30 015 47100
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface LOT 2 / 2310 FNL / 485 FWL / LAT 32.102173 / LONG -103.824454 At proposed prod. zone LOT 4 / 200 FSL / 843 FWL / LAT 32.079851 / LONG -103.823447		10. Field and Pool, or Exploratory PURPLE SAGE WOLFCAMP GAS/null
14. Distance in miles and direction from nearest town or post office*		11. Sec., T. R. M. or Blk. and Survey or Area SEC 30/T25S/R31E/NMP
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 330 feet		12. County or Parish EDDY
16. No of acres in lease 1560.6		13. State NM
17. Spacing Unit dedicated to this well 479.9		
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 30 feet		20. BLM/BIA Bond No. in file FED: COB000050
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3370 feet	22. Approximate date work will start* 01/01/2020	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. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 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). | 6. Such other site specific information and/or plans as may be requested by the BLM. |

25. Signature (Electronic Submission)	Name (Printed/Typed) Kelly Kardos / Ph: (432) 682-8873	Date 08/09/2019
Title Regulatory Coordinator		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575) 234-5959	Date 04/22/2020
Title Assistant Field Manager Lands & Minerals Carlsbad Field Office		

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.

Entered 05/19/2020 - KMS NMOCD



Intent As Drilled

API #

Operator Name: XTO PERMIAN OPERATING, LLC	Property Name: POKER LAKE UNIT 30 BS	Well Number 152H
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Kick Off Point (KOP)

UL LOT 2	Section 30	Township 25S	Range 31E	Lot	Feet 2310	From N/S NORTH	Feet 485	From E/W WEST	County EDDY
Latitude 32.102173					Longitude -103.824454				NAD 83

First Take Point (FTP)

UL LOT 3	Section 30	Township 25S	Range 31E	Lot	Feet 2310	From N/S SOUTH	Feet 843	From E/W WEST	County EDDY
Latitude 32.100261					Longitude -103.823312				NAD 83

Last Take Point (LTP)

UL LOT 4	Section 31	Township 25S	Range 31E	Lot	Feet 300	From N/S SOUTH	Feet 843	From E/W WEST	County EDDY
Latitude 32.080208					Longitude -103.823445				NAD 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 #

Operator Name: XTO PERMIAN OPERATING, LLC	Property Name: POKER LAKE UNIT 30 BS	Well Number 122H
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INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM I: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

ITEM 24: If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160

PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service well or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

ROUTINE USE: Information from the record and/or the record will be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM connects this information to a new evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Connection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO Permian Operating LLC
WELL NAME & NO.:	Poker Lake Unit 30 BS 152H
LOCATION:	Sec 30-25S-31E-NMP
COUNTY:	Eddy County, New Mexico

COA

H2S	<input type="radio"/> Yes	<input checked="" type="radio"/> No	
Potash	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P
Cave/Karst Potential	<input type="radio"/> Low	<input checked="" type="radio"/> Medium	<input type="radio"/> High
Cave/Karst Potential	<input type="radio"/> Critical		
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both
Other	<input type="checkbox"/> 4 String Area	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP
Other	<input checked="" type="checkbox"/> Fluid Filled	<input type="checkbox"/> Cement Squeeze	<input type="checkbox"/> Pilot Hole
Special Requirements	<input type="checkbox"/> Water Disposal	<input type="checkbox"/> COM	<input checked="" type="checkbox"/> Unit

A. HYDROGEN SULFIDE

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.

B. CASING

1. The **18 5/8** inch surface casing shall be set at approximately 890 feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite and 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 will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - 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.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

2. The minimum required fill of cement behind the **13-3/8** inch intermediate casing set at 4,150 feet is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.
 - ❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

3. The minimum required fill of cement behind the **9-5/8** inch intermediate casing set at 10,300 feet is:
 - Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.
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.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
2. 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 **10,000 (10M)** 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. 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.
 - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

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.

Commercial Well Determination

A commercial well determination shall be submitted after production has been established for at least six months. (This is not necessary for secondary recovery unit wells)

GENERAL 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

Lea County
 Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)
 393-3612

1. 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.
 - a. In the event 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 well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
2. 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 are located, this does not include the dog house or stairway area.
3. 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.

A. CASING

1. 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.
2. Wait on cement (WOC) for Potash Areas: 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 for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. 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. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. 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.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. 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.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. 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 RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. 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.

3. 5M or higher 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. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - 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. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
 - 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.
5. 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. In potash areas, 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. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
 - c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for

the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

- d. 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.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. 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.
- g. 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.
- h. 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.

C. 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.

D. 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.

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 subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: Kelly Kardos**Signed on:** 08/09/2019**Title:** Regulatory Coordinator**Street Address:** 6401 Holiday Hill Road Bldg 5**City:** Midland**State:** TX**Zip:** 79707**Phone:** (432)620-4374**Email address:** kelly_kardos@xtoenergy.com**Field Representative****Representative Name:****Street Address:****City:****State:****Zip:****Phone:****Email address:**



APD ID: 10400045681

Submission Date: 08/09/2019

Highlighted data reflects the most recent changes

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 30 BS

Well Number: 152H

[Show Final Text](#)

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Section 1 - General

APD ID: 10400045681

Tie to previous NOS? Y

Submission Date: 08/09/2019

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: NMLC0061634B

Lease Acres: 1560.6

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 30 BS

Well Number: 152H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: PURPLE SAGE
WOLFCAMP GAS

Pool Name:

Is the proposed well in an area containing other mineral resources? USEABLE WATER,NATURAL GAS,OIL

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 30 BS

Well Number: 152H

Is the proposed well in an area containing other mineral resources? USEABLE WATER,NATURAL GAS,OIL

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** N **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL

Multiple Well Pad Name:
POKER LAKE UNIT 30 BS

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: 30 FT

Distance to lease line: 330 FT

Reservoir well spacing assigned acres Measurement: 479.9 Acres

Well plat: PLU_30_BS_152H_C102_20190809110727.pdf

Well work start Date: 01/01/2020

Duration: 60 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83

Vertical Datum: NAVD88

Survey number:

Reference Datum: GROUND LEVEL

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 from this lease?
SHL Leg #1	2310	FNL	485	FWL	25S	31E	30	Lot 2	32.102173	-103.824454	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMLC061634B	3370	0	0	Y
KOP Leg #1	2310	FNL	485	FWL	25S	31E	30	Lot 2	32.102173	-103.824454	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMLC061634B	-8526	11910	11896	Y
PPP Leg #1-1	2310	FSL	843	FWL	25S	31E	30	Lot 3	32.100261	-103.823312	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMLC061634B	-9080	12796	12450	Y

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 30 BS

Well Number: 152H

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 from this lease?
EXIT Leg #1	330	FSL	843	FW L	25S	31E	31	Lot 4	32.080208	-103.823445	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMLC061634B	-9080	20091	12450	Y
BHL Leg #1	200	FSL	843	FW L	25S	31E	31	Lot 4	32.079851	-103.823447	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMLC061634B	-9080	20221	12450	Y

APD ID: 10400045681

Submission Date: 08/09/2019

Highlighted data reflects the most recent changes

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 30 BS

Well Number: 152H

[Show Final Text](#)

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
511913	PERMIAN	3370	0	0	OTHER : Quaternary	NONE	N
511904	RUSTLER	2643	727	727	SILTSTONE	USEABLE WATER	N
511905	TOP SALT	2280	1090	1090	SALT	OTHER : Produced Water	N
511906	BASE OF SALT	-456	3826	3826	SALT	OTHER : Produced Water	N
511902	DELAWARE	-670	4040	4040	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
511903	BONE SPRING	-4612	7982	7982	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
511901	BONE SPRING 1ST	-5609	8979	8979	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
511900	BONE SPRING 2ND	-6470	9840	9840	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
511919	BONE SPRING 3RD	-7564	10934	10934	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
511921	WOLFCAMP	-7975	11345	11345	SHALE	NATURAL GAS, OIL, OTHER : Produced Water	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M

Rating Depth: 12450

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 permanent 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 5354 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

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 30 BS

Well Number: 152H

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 nipping 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_30_BS_2M3MCM_20190808103915.pdf

PLU_30_BS_10MCM_20190808103925.pdf

BOP Diagram Attachment:

PLU_30_BS_Multi_20190808104125.pdf

PLU_30_BS_2MBOP_20190808104052.pdf

PLU_30_BS_10MBOP_20190808104101.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 length MD	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	890	0	890	3370	2480	890	J-55	87.5	BUTT	1.56	1.81	BUOY	17.65	DRY	17.65
2	INTERMEDIATE	17.5	13.375	NEW	API	N	0	4150	0	4150	3370	-780	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		-8037	11407	HCL-80	40	BUTT	1.27	1.03	DRY	2.77	DRY	2.77
4	PRODUCTION	8.75	5.5	NEW	API	N	0	20221	0	12450	3370	-9080	20221	P-110	17	BUTT	1.38	1.01	DRY	2.17	DRY	2.17

Casing Attachments

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 30 BS

Well Number: 152H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

PLU_30_BS_152H_Csg_20190809112754.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

PLU_30_BS_152H_Csg_20190809112822.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

PLU_30_BS_152H_Csg_20190809112848.pdf

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 30 BS

Well Number: 152H

Casing Attachments

Casing ID: 4 String Type: PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

PLU_30_BS_152H_Csg_20190809112926.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	890	780	1.87	12.8	1459	100	EconoCem-HLTRRC	none
SURFACE	Tail				550	1.35	13.8	743	100	Halcem-C	2% CaCl
INTERMEDIATE	Lead	4200	0	4150	2450	1.88	12.8	4606	100	Halcem-C	2% CaCl
INTERMEDIATE	Tail				850	1.35	14.8	1148	100	Halcem-C	2% CaCl
INTERMEDIATE	Lead		4250	1140 7	2050	1.88	12.8	3854	100	Halcem-C	2%CaCl
INTERMEDIATE	Tail				470	1.33	14.8	625	100	Halcem-C	2%CaCl
INTERMEDIATE	Lead	4200	0	1140 7	1130	1.87	12.8	2113	100	Halcem-C	2% CaCl
INTERMEDIATE	Tail				390	1.35	14.8	527	100	Halcem-C	2% CaCl
PRODUCTION	Lead		0	2022 1	1850	1.88	11.5	3478	20	Halcem-C	2%CaCl
PRODUCTION	Tail				2000	13.2	1.33	2660	20	VersaCem	none

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 30 BS

Well Number: 152H

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
1140 7	1245 0	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	1140 7	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	890	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 solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 30 BS

Well Number: 152H

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
											as a closed loop system
890	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:

CEMENT BOND LOG, COMPENSATED NEUTRON LOG, DIRECTIONAL SURVEY, GAMMA RAY LOG, MUD LOG/GEOLOGIC LITHOLOGY LOG,

Coring operation description for the well:

No coring will take place on this well.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 8093

Anticipated Surface Pressure: 5354

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 geohazards 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:

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 30 BS

Well Number: 152H

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

PLU_30_BS_H2S_Dia_Pad_1_20190808111958.pdf

PLU_30_BS_H2S_Plan_20190808111945.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

PLU_30_BS_152H_DD_20190809113246.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

PLU_30_BS__GCPE_20190808112147.pdf

PLU_30_BS__GCPW_20190808112156.pdf

Other Variance attachment:

PLU_30_BS_FH_20190808112305.pdf

PLU_30_BS_WWC_20190808131804.pdf

Casing Assumption Worksheet

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
24"	0' – 890'	18-5/8"	87.5	BTC	J-55	New	1.81	1.56	17.65
17-1/2"	0' – 4150'	13-3/8"	68	BTC	HCL-80	New	1.67	2.31	10.41
12-1/4"	0' – 11407'	9-5/8"	40	BTC	HCL-80	New	1.03	1.27	2.77
8-3/4"	0' – 20221'	5-1/2"	17	BTC	P-110	New	1.01	1.38	2.17

- XTO requests to not utilize centralizers in the curve and lateral
- 18-5/8" Collapse analyzed using 75% evacuation. Casing to be filled while running.
- 13-3/8" & 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
- Test on 2M Annular & Casing will be limited to 70% burst of the casing or 1500 psi, whichever is less

Wellhead:

Temporary Wellhead

- 18-5/8" SOW bottom x 21-1/4" 2M top flange.

Permanent Wellhead – GE RSH Multibowl System

- A. Starting Head: 13-5/8" 10M top flange x 13-3/8" SOW bottom
- B. Tubing Head: 13-5/8" 10M bottom flange x 7" 15M top flange
 - Wellhead will be installed by manufacturer's representatives.
 - Manufacturer will monitor welding process to ensure appropriate temperature of seal.
 - Operator will test the 9-5/8" casing per BLM Onshore Order 2
 - Wellhead manufacturer representative will not be present for BOP test plug installation



Prevailing Winds
Direction SW

H₂S Briefing Areas and Alarm Locations

Secondary
Egress

Alternate H₂S
Briefing Area



200 ft.

Mudhouse

Closed Loop System

Steel Pit

Steel Pit

Pumps

Flare line 150 ft. from wellbore

260 ft.

290 ft.

Rig

Catwalk

Generator House

Water Tank

Water Tank

Fuel Tank

Parts House

200 ft.

Legend



Wellhead



Wind Indicator



Safe Briefing Area



Self-Contained
Breathing
Apparatus (SCBA)



H₂S Sensors



H₂S Alarm



H₂S Briefing Area

Housing

Housing

Housing

Housing

Access Road



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 H₂S, 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 H₂S 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 H₂S, 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 (SO₂). 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 H₂S and SO₂

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H ₂ S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO ₂	2.21 Air = 1	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:

Carlsbad	911
Eunice	575-885-2111
Hobbs	575-394-2111
Jal	575-397-9308
Lovington	575-395-2221
	575-396-2359

HOSPITALS:

Carlsbad Medical Emergency	911
Eunice Medical Emergency	575-885-2111
Hobbs Medical Emergency	575-394-2112
Jal Medical Emergency	575-397-9308
Lovington Medical Emergency	575-395-2221
	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)

PLU 30 Big Sinks

#152H

OH

Plan: PERMIT

Standard Planning Report

01 August, 2019



Project: Eddy County, NM (NAD-27)
 Site: PLU 30 Big Sinks
 Well: #152H
 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: #152H

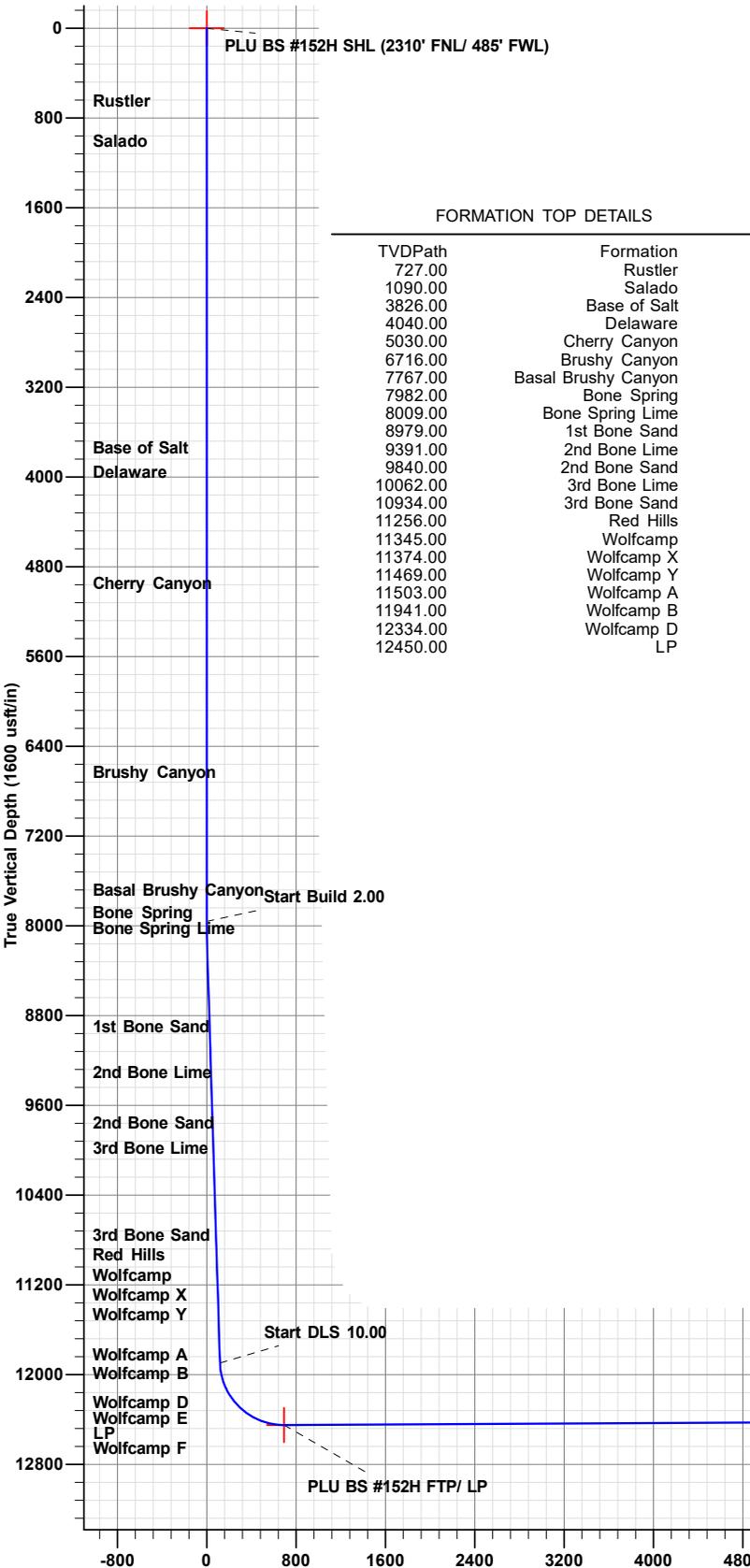
			Rig Name:			
			RKB = 25' @ 3395.00usft			
			Ground Level:	3370.00		
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	401221.00	657724.20	32.1020484	-103.8239749	

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PLU BS #152H SHL (2310' FNL/ 485' FWL)	0.00	0.00	0.00	401221.00	657724.20	32.1020484	-103.8239749	Point
PLU BS #152H PBHL (200' FSL/ 843' FWL)	12411.12	-8118.50	350.00	393102.50	658074.20	32.0797265	-103.8229687	Point
PLU BS #152H LTP	12411.80	-7988.60	349.90	393232.40	658074.10	32.0800836	-103.8229670	Point
PLU BS #152H FTP/ LP	12450.00	-693.70	356.90	400527.30	658081.10	32.1001368	-103.8228329	Point

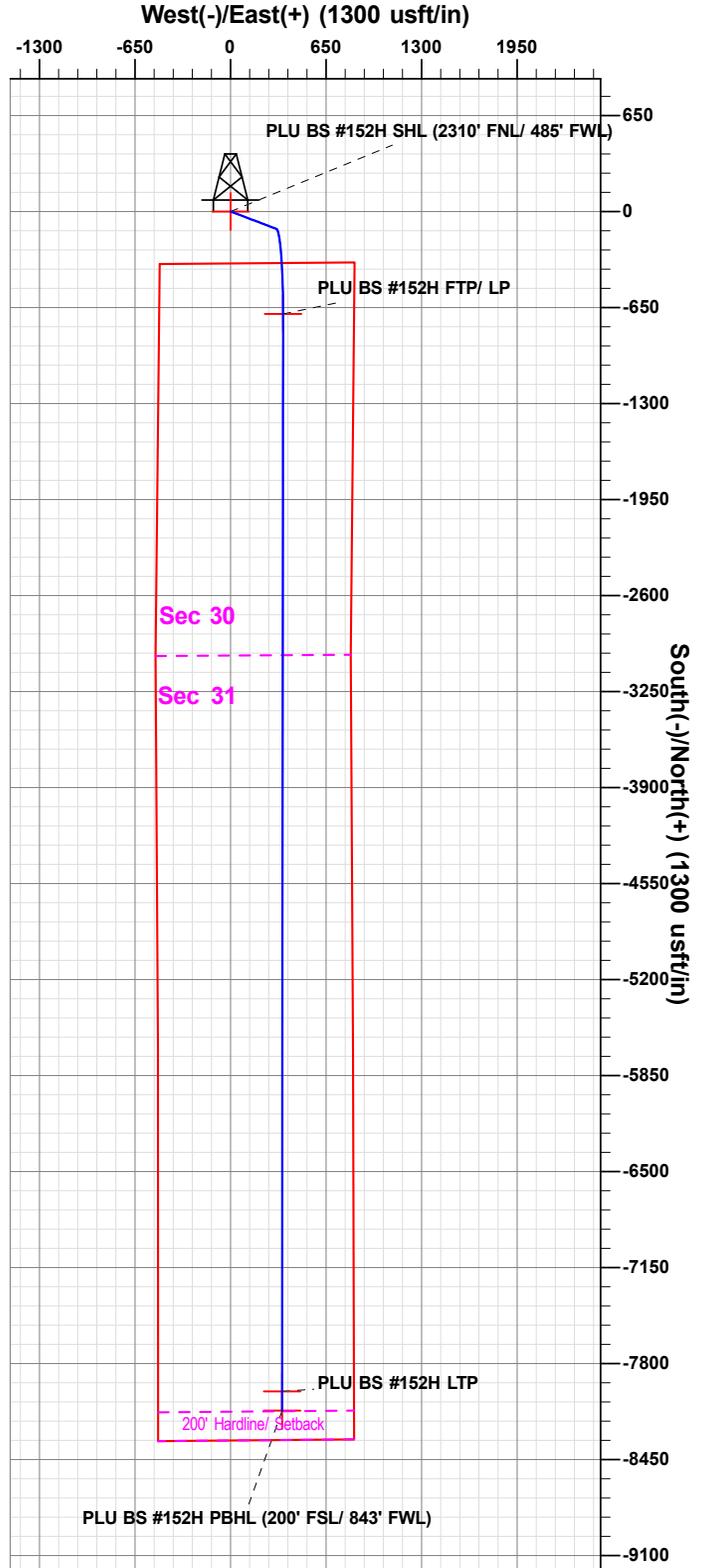
SECTION DETAILS

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	7960.00	0.00	0.00	7960.00	0.00	0.00	0.00	0.00	0.00
3	8210.00	5.00	110.72	8209.68	-3.86	10.20	2.00	110.72	3.85
4	11910.95	5.00	110.72	11896.55	-117.98	311.89	0.00	0.00	117.71
5	12796.31	90.30	180.05	12450.00	-693.70	356.90	10.00	69.38	693.39
6	20091.31	90.30	180.05	12411.80	-7988.60	350.12	0.00	0.00	7988.29
7	20221.21	90.30	180.05	12411.12	-8118.50	350.00	0.00	0.00	8118.19



FORMATION TOP DETAILS

TVDPPath	Formation
727.00	Rustler
1090.00	Salado
3826.00	Base of Salt
4040.00	Delaware
5030.00	Cherry Canyon
6716.00	Brushy Canyon
7767.00	Basal Brushy Canyon
7982.00	Bone Spring
8009.00	Bone Spring Lime
8979.00	1st Bone Sand
9391.00	2nd Bone Lime
9840.00	2nd Bone Sand
10062.00	3rd Bone Lime
10934.00	3rd Bone Sand
11256.00	Red Hills
11345.00	Wolfcamp
11374.00	Wolfcamp X
11469.00	Wolfcamp Y
11503.00	Wolfcamp A
11941.00	Wolfcamp B
12334.00	Wolfcamp D
12450.00	LP



Vertical Section at 180.05° (1600 usft/in)

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

Plan: PERMIT (#152H/OH)

Created By: Matthew May Date: 14:53, August 01 2019



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #152H
Company:	XTO Energy	TVD Reference:	RKB = 25' @ 3395.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 25' @ 3395.00usft
Site:	PLU 30 Big Sinks	North Reference:	Grid
Well:	#152H	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	PLU 30 Big Sinks				
Site Position:		Northing:	401,221.20 usft	Latitude:	32.1020486
From:	Map	Easting:	657,754.30 usft	Longitude:	-103.8238776
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.27 °

Well	#152H					
Well Position	+N/-S	-0.20 usft	Northing:	401,221.00 usft	Latitude:	32.1020484
	+E/-W	-30.10 usft	Easting:	657,724.20 usft	Longitude:	-103.8239749
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,370.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	08/01/19	6.83	59.88	47,622

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	180.05	

Plan Sections											
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
7,960.00	0.00	0.00	7,960.00	0.00	0.00	0.00	0.00	0.00	0.00		
8,210.00	5.00	110.72	8,209.68	-3.86	10.20	2.00	2.00	0.00	110.72		
11,910.95	5.00	110.72	11,896.55	-117.98	311.89	0.00	0.00	0.00	0.00		
12,796.31	90.30	180.05	12,450.00	-693.70	356.90	10.00	9.63	7.83	69.38	PLU BS #152H FTF	
20,091.31	90.30	180.05	12,411.80	-7,988.60	350.12	0.00	0.00	0.00	0.00	PLU BS #152H LTF	
20,221.21	90.30	180.05	12,411.12	-8,118.50	350.00	0.00	0.00	0.00	0.00	PLU BS #152H PBI	



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #152H
Company:	XTO Energy	TVD Reference:	RKB = 25' @ 3395.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 25' @ 3395.00usft
Site:	PLU 30 Big Sinks	North Reference:	Grid
Well:	#152H	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
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
727.00	0.00	0.00	727.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
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
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,090.00	0.00	0.00	1,090.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
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
3,826.00	0.00	0.00	3,826.00	0.00	0.00	0.00	0.00	0.00	0.00
Base of Salt									
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
4,040.00	0.00	0.00	4,040.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware									
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
4,300.00	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



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #152H
Company:	XTO Energy	TVD Reference:	RKB = 25' @ 3395.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 25' @ 3395.00usft
Site:	PLU 30 Big Sinks	North Reference:	Grid
Well:	#152H	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
5,030.00	0.00	0.00	5,030.00	0.00	0.00	0.00	0.00	0.00	0.00
Cherry Canyon									
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
6,716.00	0.00	0.00	6,716.00	0.00	0.00	0.00	0.00	0.00	0.00
Brushy Canyon									
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
7,767.00	0.00	0.00	7,767.00	0.00	0.00	0.00	0.00	0.00	0.00
Basal Brushy Canyon									
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
7,960.00	0.00	0.00	7,960.00	0.00	0.00	0.00	0.00	0.00	0.00
7,982.00	0.44	110.72	7,982.00	-0.03	0.08	0.03	2.00	2.00	0.00
Bone Spring									
8,000.00	0.80	110.72	8,000.00	-0.10	0.26	0.10	2.00	2.00	0.00
8,009.00	0.98	110.72	8,009.00	-0.15	0.39	0.15	2.00	2.00	0.00
Bone Spring Lime									
8,100.00	2.80	110.72	8,099.94	-1.21	3.20	1.21	2.00	2.00	0.00
8,210.00	5.00	110.72	8,209.68	-3.86	10.20	3.85	2.00	2.00	0.00
8,300.00	5.00	110.72	8,299.34	-6.63	17.53	6.62	0.00	0.00	0.00
8,400.00	5.00	110.72	8,398.96	-9.72	25.68	9.69	0.00	0.00	0.00
8,500.00	5.00	110.72	8,498.58	-12.80	33.84	12.77	0.00	0.00	0.00
8,600.00	5.00	110.72	8,598.20	-15.88	41.99	15.85	0.00	0.00	0.00
8,700.00	5.00	110.72	8,697.82	-18.97	50.14	18.92	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #152H
Company:	XTO Energy	TVD Reference:	RKB = 25' @ 3395.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 25' @ 3395.00usft
Site:	PLU 30 Big Sinks	North Reference:	Grid
Well:	#152H	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)
8,800.00	5.00	110.72	8,797.44	-22.05	58.29	22.00	0.00	0.00	0.00
8,900.00	5.00	110.72	8,897.06	-25.13	66.44	25.08	0.00	0.00	0.00
8,982.26	5.00	110.72	8,979.00	-27.67	73.15	27.61	0.00	0.00	0.00
1st Bone Sand									
9,000.00	5.00	110.72	8,996.68	-28.22	74.60	28.15	0.00	0.00	0.00
9,100.00	5.00	110.72	9,096.30	-31.30	82.75	31.23	0.00	0.00	0.00
9,200.00	5.00	110.72	9,195.92	-34.39	90.90	34.31	0.00	0.00	0.00
9,300.00	5.00	110.72	9,295.54	-37.47	99.05	37.38	0.00	0.00	0.00
9,395.83	5.00	110.72	9,391.00	-40.42	106.86	40.33	0.00	0.00	0.00
2nd Bone Lime									
9,400.00	5.00	110.72	9,395.15	-40.55	107.20	40.46	0.00	0.00	0.00
9,500.00	5.00	110.72	9,494.77	-43.64	115.35	43.54	0.00	0.00	0.00
9,600.00	5.00	110.72	9,594.39	-46.72	123.51	46.61	0.00	0.00	0.00
9,700.00	5.00	110.72	9,694.01	-49.80	131.66	49.69	0.00	0.00	0.00
9,800.00	5.00	110.72	9,793.63	-52.89	139.81	52.77	0.00	0.00	0.00
9,846.54	5.00	110.72	9,840.00	-54.32	143.60	54.20	0.00	0.00	0.00
2nd Bone Sand									
9,900.00	5.00	110.72	9,893.25	-55.97	147.96	55.84	0.00	0.00	0.00
10,000.00	5.00	110.72	9,992.87	-59.05	156.11	58.92	0.00	0.00	0.00
10,069.39	5.00	110.72	10,062.00	-61.19	161.77	61.05	0.00	0.00	0.00
3rd Bone Lime									
10,100.00	5.00	110.72	10,092.49	-62.14	164.27	61.99	0.00	0.00	0.00
10,200.00	5.00	110.72	10,192.11	-65.22	172.42	65.07	0.00	0.00	0.00
10,300.00	5.00	110.72	10,291.73	-68.31	180.57	68.15	0.00	0.00	0.00
10,400.00	5.00	110.72	10,391.35	-71.39	188.72	71.22	0.00	0.00	0.00
10,500.00	5.00	110.72	10,490.97	-74.47	196.87	74.30	0.00	0.00	0.00
10,600.00	5.00	110.72	10,590.59	-77.56	205.02	77.38	0.00	0.00	0.00
10,700.00	5.00	110.72	10,690.21	-80.64	213.18	80.45	0.00	0.00	0.00
10,800.00	5.00	110.72	10,789.83	-83.72	221.33	83.53	0.00	0.00	0.00
10,900.00	5.00	110.72	10,889.45	-86.81	229.48	86.61	0.00	0.00	0.00
10,944.72	5.00	110.72	10,934.00	-88.19	233.13	87.98	0.00	0.00	0.00
3rd Bone Sand									
11,000.00	5.00	110.72	10,989.07	-89.89	237.63	89.68	0.00	0.00	0.00
11,100.00	5.00	110.72	11,088.69	-92.97	245.78	92.76	0.00	0.00	0.00
11,200.00	5.00	110.72	11,188.31	-96.06	253.94	95.84	0.00	0.00	0.00
11,267.95	5.00	110.72	11,256.00	-98.15	259.48	97.93	0.00	0.00	0.00
Red Hills									
11,300.00	5.00	110.72	11,287.92	-99.14	262.09	98.91	0.00	0.00	0.00
11,357.29	5.00	110.72	11,345.00	-100.91	266.76	100.68	0.00	0.00	0.00
Wolfcamp									
11,386.40	5.00	110.72	11,374.00	-101.81	269.13	101.57	0.00	0.00	0.00
Wolfcamp X									
11,400.00	5.00	110.72	11,387.54	-102.23	270.24	101.99	0.00	0.00	0.00
11,481.77	5.00	110.72	11,469.00	-104.75	276.90	104.51	0.00	0.00	0.00
Wolfcamp Y									
11,500.00	5.00	110.72	11,487.16	-105.31	278.39	105.07	0.00	0.00	0.00
11,515.90	5.00	110.72	11,503.00	-105.80	279.69	105.56	0.00	0.00	0.00
Wolfcamp A									
11,600.00	5.00	110.72	11,586.78	-108.39	286.54	108.14	0.00	0.00	0.00
11,700.00	5.00	110.72	11,686.40	-111.48	294.69	111.22	0.00	0.00	0.00
11,800.00	5.00	110.72	11,786.02	-114.56	302.85	114.30	0.00	0.00	0.00
11,900.00	5.00	110.72	11,885.64	-117.64	311.00	117.37	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #152H
Company:	XTO Energy	TVD Reference:	RKB = 25' @ 3395.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 25' @ 3395.00usft
Site:	PLU 30 Big Sinks	North Reference:	Grid
Well:	#152H	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)
11,910.95	5.00	110.72	11,896.55	-117.98	311.89	117.71	0.00	0.00	0.00
11,950.00	7.35	140.62	11,935.38	-120.51	315.07	120.24	10.00	6.01	76.57
11,955.67	7.79	143.29	11,941.00	-121.10	315.53	120.83	10.00	7.85	47.07
Wolfcamp B									
12,000.00	11.64	156.62	11,984.69	-127.62	319.10	127.34	10.00	8.68	30.06
12,050.00	16.34	163.82	12,033.20	-139.01	323.06	138.73	10.00	9.39	14.39
12,100.00	21.17	167.83	12,080.53	-154.60	326.93	154.31	10.00	9.67	8.03
12,150.00	26.06	170.40	12,126.33	-174.27	330.67	173.98	10.00	9.79	5.14
12,200.00	30.99	172.20	12,170.25	-197.87	334.25	197.58	10.00	9.85	3.60
12,250.00	35.94	173.55	12,211.95	-225.22	337.65	224.92	10.00	9.89	2.70
12,300.00	40.89	174.61	12,251.11	-256.11	340.84	255.81	10.00	9.91	2.12
12,350.00	45.86	175.47	12,287.45	-290.31	343.80	290.01	10.00	9.93	1.73
12,400.00	50.83	176.20	12,320.67	-327.55	346.50	327.25	10.00	9.94	1.46
12,421.60	52.98	176.49	12,334.00	-344.52	347.58	344.21	10.00	9.95	1.32
Wolfcamp D									
12,450.00	55.80	176.84	12,350.53	-367.56	348.92	367.26	10.00	9.95	1.23
12,500.00	60.78	177.40	12,376.81	-410.03	351.05	409.72	10.00	9.95	1.13
12,550.00	65.76	177.92	12,399.29	-454.64	352.87	454.33	10.00	9.96	1.02
12,600.00	70.74	178.39	12,417.82	-501.04	354.36	500.73	10.00	9.96	0.95
12,650.00	75.72	178.83	12,432.24	-548.88	355.52	548.57	10.00	9.96	0.89
12,700.00	80.70	179.26	12,442.45	-597.80	356.33	597.49	10.00	9.97	0.85
12,750.00	85.68	179.67	12,448.38	-647.43	356.79	647.12	10.00	9.97	0.83
12,790.29	89.70	180.00	12,450.00	-687.68	356.90	687.37	10.00	9.97	0.82
LP									
12,796.31	90.30	180.05	12,450.00	-693.70	356.90	693.39	10.00	9.97	0.82
12,800.00	90.30	180.05	12,449.98	-697.39	356.90	697.08	0.00	0.00	0.00
12,900.00	90.30	180.05	12,449.46	-797.39	356.80	797.08	0.00	0.00	0.00
13,000.00	90.30	180.05	12,448.93	-897.39	356.71	897.08	0.00	0.00	0.00
13,100.00	90.30	180.05	12,448.41	-997.39	356.62	997.08	0.00	0.00	0.00
13,200.00	90.30	180.05	12,447.89	-1,097.39	356.52	1,097.07	0.00	0.00	0.00
13,300.00	90.30	180.05	12,447.36	-1,197.38	356.43	1,197.07	0.00	0.00	0.00
13,400.00	90.30	180.05	12,446.84	-1,297.38	356.34	1,297.07	0.00	0.00	0.00
13,500.00	90.30	180.05	12,446.32	-1,397.38	356.25	1,397.07	0.00	0.00	0.00
13,600.00	90.30	180.05	12,445.79	-1,497.38	356.15	1,497.07	0.00	0.00	0.00
13,700.00	90.30	180.05	12,445.27	-1,597.38	356.06	1,597.07	0.00	0.00	0.00
13,800.00	90.30	180.05	12,444.74	-1,697.38	355.97	1,697.07	0.00	0.00	0.00
13,900.00	90.30	180.05	12,444.22	-1,797.38	355.87	1,797.06	0.00	0.00	0.00
14,000.00	90.30	180.05	12,443.70	-1,897.37	355.78	1,897.06	0.00	0.00	0.00
14,100.00	90.30	180.05	12,443.17	-1,997.37	355.69	1,997.06	0.00	0.00	0.00
14,200.00	90.30	180.05	12,442.65	-2,097.37	355.60	2,097.06	0.00	0.00	0.00
14,300.00	90.30	180.05	12,442.13	-2,197.37	355.50	2,197.06	0.00	0.00	0.00
14,400.00	90.30	180.05	12,441.60	-2,297.37	355.41	2,297.06	0.00	0.00	0.00
14,500.00	90.30	180.05	12,441.08	-2,397.37	355.32	2,397.06	0.00	0.00	0.00
14,600.00	90.30	180.05	12,440.56	-2,497.37	355.22	2,497.06	0.00	0.00	0.00
14,700.00	90.30	180.05	12,440.03	-2,597.36	355.13	2,597.05	0.00	0.00	0.00
14,800.00	90.30	180.05	12,439.51	-2,697.36	355.04	2,697.05	0.00	0.00	0.00
14,900.00	90.30	180.05	12,438.99	-2,797.36	354.95	2,797.05	0.00	0.00	0.00
15,000.00	90.30	180.05	12,438.46	-2,897.36	354.85	2,897.05	0.00	0.00	0.00
15,100.00	90.30	180.05	12,437.94	-2,997.36	354.76	2,997.05	0.00	0.00	0.00
15,200.00	90.30	180.05	12,437.41	-3,097.36	354.67	3,097.05	0.00	0.00	0.00
15,300.00	90.30	180.05	12,436.89	-3,197.36	354.57	3,197.05	0.00	0.00	0.00
15,400.00	90.30	180.05	12,436.37	-3,297.35	354.48	3,297.04	0.00	0.00	0.00
15,500.00	90.30	180.05	12,435.84	-3,397.35	354.39	3,397.04	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #152H
Company:	XTO Energy	TVD Reference:	RKB = 25' @ 3395.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 25' @ 3395.00usft
Site:	PLU 30 Big Sinks	North Reference:	Grid
Well:	#152H	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)
15,600.00	90.30	180.05	12,435.32	-3,497.35	354.29	3,497.04	0.00	0.00	0.00
15,700.00	90.30	180.05	12,434.80	-3,597.35	354.20	3,597.04	0.00	0.00	0.00
15,800.00	90.30	180.05	12,434.27	-3,697.35	354.11	3,697.04	0.00	0.00	0.00
15,900.00	90.30	180.05	12,433.75	-3,797.35	354.02	3,797.04	0.00	0.00	0.00
16,000.00	90.30	180.05	12,433.23	-3,897.35	353.92	3,897.04	0.00	0.00	0.00
16,100.00	90.30	180.05	12,432.70	-3,997.35	353.83	3,997.03	0.00	0.00	0.00
16,200.00	90.30	180.05	12,432.18	-4,097.34	353.74	4,097.03	0.00	0.00	0.00
16,300.00	90.30	180.05	12,431.66	-4,197.34	353.64	4,197.03	0.00	0.00	0.00
16,400.00	90.30	180.05	12,431.13	-4,297.34	353.55	4,297.03	0.00	0.00	0.00
16,500.00	90.30	180.05	12,430.61	-4,397.34	353.46	4,397.03	0.00	0.00	0.00
16,600.00	90.30	180.05	12,430.08	-4,497.34	353.37	4,497.03	0.00	0.00	0.00
16,700.00	90.30	180.05	12,429.56	-4,597.34	353.27	4,597.03	0.00	0.00	0.00
16,800.00	90.30	180.05	12,429.04	-4,697.34	353.18	4,697.03	0.00	0.00	0.00
16,900.00	90.30	180.05	12,428.51	-4,797.33	353.09	4,797.02	0.00	0.00	0.00
17,000.00	90.30	180.05	12,427.99	-4,897.33	352.99	4,897.02	0.00	0.00	0.00
17,100.00	90.30	180.05	12,427.47	-4,997.33	352.90	4,997.02	0.00	0.00	0.00
17,200.00	90.30	180.05	12,426.94	-5,097.33	352.81	5,097.02	0.00	0.00	0.00
17,300.00	90.30	180.05	12,426.42	-5,197.33	352.71	5,197.02	0.00	0.00	0.00
17,400.00	90.30	180.05	12,425.90	-5,297.33	352.62	5,297.02	0.00	0.00	0.00
17,500.00	90.30	180.05	12,425.37	-5,397.33	352.53	5,397.02	0.00	0.00	0.00
17,600.00	90.30	180.05	12,424.85	-5,497.32	352.44	5,497.01	0.00	0.00	0.00
17,700.00	90.30	180.05	12,424.32	-5,597.32	352.34	5,597.01	0.00	0.00	0.00
17,800.00	90.30	180.05	12,423.80	-5,697.32	352.25	5,697.01	0.00	0.00	0.00
17,900.00	90.30	180.05	12,423.28	-5,797.32	352.16	5,797.01	0.00	0.00	0.00
18,000.00	90.30	180.05	12,422.75	-5,897.32	352.06	5,897.01	0.00	0.00	0.00
18,100.00	90.30	180.05	12,422.23	-5,997.32	351.97	5,997.01	0.00	0.00	0.00
18,200.00	90.30	180.05	12,421.71	-6,097.32	351.88	6,097.01	0.00	0.00	0.00
18,300.00	90.30	180.05	12,421.18	-6,197.31	351.79	6,197.00	0.00	0.00	0.00
18,400.00	90.30	180.05	12,420.66	-6,297.31	351.69	6,297.00	0.00	0.00	0.00
18,500.00	90.30	180.05	12,420.14	-6,397.31	351.60	6,397.00	0.00	0.00	0.00
18,600.00	90.30	180.05	12,419.61	-6,497.31	351.51	6,497.00	0.00	0.00	0.00
18,700.00	90.30	180.05	12,419.09	-6,597.31	351.41	6,597.00	0.00	0.00	0.00
18,800.00	90.30	180.05	12,418.57	-6,697.31	351.32	6,697.00	0.00	0.00	0.00
18,900.00	90.30	180.05	12,418.04	-6,797.31	351.23	6,797.00	0.00	0.00	0.00
19,000.00	90.30	180.05	12,417.52	-6,897.30	351.13	6,897.00	0.00	0.00	0.00
19,100.00	90.30	180.05	12,416.99	-6,997.30	351.04	6,996.99	0.00	0.00	0.00
19,200.00	90.30	180.05	12,416.47	-7,097.30	350.95	7,096.99	0.00	0.00	0.00
19,300.00	90.30	180.05	12,415.95	-7,197.30	350.86	7,196.99	0.00	0.00	0.00
19,400.00	90.30	180.05	12,415.42	-7,297.30	350.76	7,296.99	0.00	0.00	0.00
19,500.00	90.30	180.05	12,414.90	-7,397.30	350.67	7,396.99	0.00	0.00	0.00
19,600.00	90.30	180.05	12,414.38	-7,497.30	350.58	7,496.99	0.00	0.00	0.00
19,700.00	90.30	180.05	12,413.85	-7,597.29	350.48	7,596.99	0.00	0.00	0.00
19,800.00	90.30	180.05	12,413.33	-7,697.29	350.39	7,696.98	0.00	0.00	0.00
19,900.00	90.30	180.05	12,412.81	-7,797.29	350.30	7,796.98	0.00	0.00	0.00
20,000.00	90.30	180.05	12,412.28	-7,897.29	350.21	7,896.98	0.00	0.00	0.00
20,091.31	90.30	180.05	12,411.80	-7,988.60	350.12	7,988.29	0.00	0.00	0.00
20,100.00	90.30	180.05	12,411.76	-7,997.29	350.11	7,996.98	0.00	0.00	0.00
20,200.00	90.30	180.05	12,411.23	-8,097.29	350.02	8,096.98	0.00	0.00	0.00
20,221.21	90.30	180.05	12,411.12	-8,118.50	350.00	8,118.19	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #152H
Company:	XTO Energy	TVD Reference:	RKB = 25' @ 3395.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 25' @ 3395.00usft
Site:	PLU 30 Big Sinks	North Reference:	Grid
Well:	#152H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

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 BS #152H SHL (: - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	401,221.00	657,724.20	32.1020484	-103.8239749
PLU BS #152H PBHL - plan hits target center - Point	0.00	0.00	12,411.12	-8,118.50	350.00	393,102.50	658,074.20	32.0797266	-103.8229687
PLU BS #152H LTP - plan misses target center by 0.22usft at 20091.31usft MD (12411.80 TVD, -7988.60 N, 350.12 E) - Point	0.00	0.00	12,411.80	-7,988.60	349.90	393,232.40	658,074.10	32.0800837	-103.8229670
PLU BS #152H FTP/I - plan hits target center - Point	0.00	0.00	12,450.00	-693.70	356.90	400,527.30	658,081.10	32.1001368	-103.8228329

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
727.00	727.00	Rustler			
1,090.00	1,090.00	Salado			
3,826.00	3,826.00	Base of Salt			
4,040.00	4,040.00	Delaware			
5,030.00	5,030.00	Cherry Canyon			
6,716.00	6,716.00	Brushy Canyon			
7,767.00	7,767.00	Basal Brushy Canyon			
7,982.00	7,982.00	Bone Spring			
8,009.00	8,009.00	Bone Spring Lime			
8,982.26	8,979.00	1st Bone Sand			
9,395.83	9,391.00	2nd Bone Lime			
9,846.54	9,840.00	2nd Bone Sand			
10,069.39	10,062.00	3rd Bone Lime			
10,944.72	10,934.00	3rd Bone Sand			
11,267.95	11,256.00	Red Hills			
11,357.29	11,345.00	Wolfcamp			
11,386.40	11,374.00	Wolfcamp X			
11,481.77	11,469.00	Wolfcamp Y			
11,515.90	11,503.00	Wolfcamp A			
11,955.67	11,941.00	Wolfcamp B			
12,421.60	12,334.00	Wolfcamp D			
12,796.31	12,450.00	LP			

District I
1625 N. French Dr., Hobbs, NM 88240
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District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit Original
to Appropriate
District Office

GAS CAPTURE PLAN

Date: 7/26/19

Original Operator & OGRID No.: XTO Permian Operating, LLC [373075]
 Amended - Reason for Amendment: _____

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomplete to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility: Poker Lake Unit 30 BS East CTB

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Poker Lake Unit 30 BS 101H		E-30-25S-31E	2310' FNL & 455' FWL	2600	Flared/Sold	
Poker Lake Unit 30 BS 161H		E-30-25S-31E	2310' FNL & 395' FWL	4500	Flared/Sold	
Poker Lake Unit 30 BS 121H		E-30-25S-31E	2310' FNL & 425' FWL	2800	Flared/Sold	
Poker Lake Unit 30 BS 152H		E-30-25S-31E	2310' FNL & 485' FWL	2900	Flared/Sold	
Poker Lake Unit 30 BS 122H		E-30-25S-31E	2310' FNL & 515' FWL	2800	Flared/Sold	
Poker Lake Unit 30 BS 103H		F-30-25S-31E	2310' FNL & 1980' FWL	2600	Flared/Sold	
Poker Lake Unit 30 BS 163H		F-30-25S-31E	2310' FNL & 1920' FWL	4500	Flared/Sold	
Poker Lake Unit 30 BS 153H		F-30-25S-31E	2310' FNL & 1950' FWL	2900	Flared/Sold	
Poker Lake Unit 30 BS 124H		F-30-25S-31E	2310' FNL & 2010' FWL	2800	Flared/Sold	
Poker Lake Unit 30 BS 164H		F-30-25S-31E	2310' FNL & 2040' FWL	4500	Flared/Sold	
Poker Lake Unit 30 BS 105H		G-30-25S-31E	2310' FNL & 1980' FEL	2600	Flared/Sold	
Poker Lake Unit 30 BS 155H		G-30-25S-31E	2310' FNL & 2040' FEL	2900	Flared/Sold	
Poker Lake Unit 30 BS 125H		G-30-25S-31E	2310' FNL & 2010' FEL	2800	Flared/Sold	
Poker Lake Unit 30 BS 166H		G-30-25S-31E	2310' FNL & 1950' FEL	4500	Flared/Sold	
Poker Lake Unit 30 BS 156H		G-30-25S-31E	2310' FNL & 1920' FEL	2900	Flared/Sold	
Poker Lake Unit 30 BS 107H		H-30-25S-31E	2310' FNL & 660' FEL	2600	Flared/Sold	
Poker Lake Unit 30 BS 127H		H-30-25S-31E	2310' FNL & 720' FEL	2900	Flared/Sold	
Poker Lake Unit 30 BS 167H		H-30-25S-31E	2310' FNL & 690' FEL	4500	Flared/Sold	
Poker Lake Unit 30 BS 128H		H-30-25S-31E	2310' FNL & 630' FEL	2800	Flared/Sold	
Poker Lake Unit 30 BS 158H		H-30-25S-31E	2310' FNL & 600' FEL	2900	Flared/Sold	

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to Enlink and will be connected to Enlink low/high pressure gathering system located in Loving County, Texas. It will require 850.35' of pipeline to connect the facility to low/high pressure gathering system. XTO PERMIAN OPERATING, LLC provides (periodically) to Enlink a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, XTO PERMIAN OPERATING, LLC and Enlink have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Enlink Processing Plant located in Block 27, Sec. 4, Loving County, Texas. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Enlink system at that time. Based on current information, it is XTO PERMIAN OPERATING, LLC's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
 - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
 - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
 - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

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Oil Conservation Division
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Submit Original
to Appropriate
District Office

GAS CAPTURE PLAN

Date: 7/26/19

Original Operator & OGRID No.: XTO Permian Operating, LLC [373075]
 Amended - Reason for Amendment: _____

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomple to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility: Poker Lake Unit 30 BS West CTB

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Poker Lake Unit 30 BS 101H		E-30-25S-31E	2310' FNL & 455' FWL	2600	Flared/Sold	
Poker Lake Unit 30 BS 161H		E-30-25S-31E	2310' FNL & 395' FWL	4500	Flared/Sold	
Poker Lake Unit 30 BS 121H		E-30-25S-31E	2310' FNL & 425' FWL	2800	Flared/Sold	
Poker Lake Unit 30 BS 152H		E-30-25S-31E	2310' FNL & 485' FWL	2900	Flared/Sold	
Poker Lake Unit 30 BS 122H		E-30-25S-31E	2310' FNL & 515' FWL	2800	Flared/Sold	
Poker Lake Unit 30 BS 103H		F-30-25S-31E	2310' FNL & 1980' FWL	2600	Flared/Sold	
Poker Lake Unit 30 BS 163H		F-30-25S-31E	2310' FNL & 1920' FWL	4500	Flared/Sold	
Poker Lake Unit 30 BS 153H		F-30-25S-31E	2310' FNL & 1950' FWL	2900	Flared/Sold	
Poker Lake Unit 30 BS 124H		F-30-25S-31E	2310' FNL & 2010' FWL	2800	Flared/Sold	
Poker Lake Unit 30 BS 164H		F-30-25S-31E	2310' FNL & 2040' FWL	4500	Flared/Sold	
Poker Lake Unit 30 BS 105H		G-30-25S-31E	2310' FNL & 1980' FEL	2600	Flared/Sold	
Poker Lake Unit 30 BS 155H		G-30-25S-31E	2310' FNL & 2040' FEL	2900	Flared/Sold	
Poker Lake Unit 30 BS 125H		G-30-25S-31E	2310' FNL & 2010' FEL	2800	Flared/Sold	
Poker Lake Unit 30 BS 166H		G-30-25S-31E	2310' FNL & 1950' FEL	4500	Flared/Sold	
Poker Lake Unit 30 BS 156H		G-30-25S-31E	2310' FNL & 1920' FEL	2900	Flared/Sold	
Poker Lake Unit 30 BS 107H		H-30-25S-31E	2310' FNL & 660' FEL	2600	Flared/Sold	
Poker Lake Unit 30 BS 127H		H-30-25S-31E	2310' FNL & 720' FEL	2900	Flared/Sold	
Poker Lake Unit 30 BS 167H		H-30-25S-31E	2310' FNL & 690' FEL	4500	Flared/Sold	
Poker Lake Unit 30 BS 128H		H-30-25S-31E	2310' FNL & 630' FEL	2800	Flared/Sold	
Poker Lake Unit 30 BS 158H		H-30-25S-31E	2310' FNL & 600' FEL	2900	Flared/Sold	

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to Enlink and will be connected to Enlink low/high pressure gathering system located in Loving County, Texas. It will require 610.58' of pipeline to connect the facility to low/high pressure gathering system. XTO PERMIAN OPERATING, LLC provides (periodically) to Enlink a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, XTO PERMIAN OPERATING, LLC and Enlink have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Enlink Processing Plant located in Block 27, Sec. 4, Loving County, Texas. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Enlink system at that time. Based on current information, it is XTO PERMIAN OPERATING, LLC's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
 - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
 - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
 - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

10,000 PSI Annular BOP Variance Request

XTO Energy/XTO Permian Op. request a variance to use a 5000 psi annular BOP with a 10,000 psi BOP stack. The component and compatibility tables along with the general well control plans demonstrate how the 5000 psi annular BOP will be protected from pressures that exceed its rated working pressure (RWP). The pressure at which the control of the wellbore is transferred from the annular preventer to another available preventer will not exceed 3500 psi (70% of the RWP of the 5000 psi annular BOPL).

1. Component and Preventer Compatibility Tables

The tables below outline the tubulars and the compatible preventers in use. This table, combined with the drilling fluid, documents that two barriers to flow will be maintained at all times.

8-1/2" Production Hole Section					
10M psi Requirement					
Component	OD	Primary Preventer	RWP	Alternate Preventer(s)	RWP
Drillpipe	5.000" or 4.500"	Annular	5M	Upper 3.5"-5.5" VBR Lower 3.5"-5.5" VBR	10M 10M
HWDP	5.000" or 4.500"	Annular	5M	Upper 3.5"-5.5" VBR Lower 3.5"-5.5" VBR	10M 10M
Jars	6.500"	Annular	5M	-	-
DCs and MWD tools	6.500"-8.000"	Annular	5M	-	-
Mud Motor	6.750"-8.000"	Annular	5M	-	-
Production Casing	5-1/2"	Annular	5M	-	-
Open-Hole	-	Blind Rams	10M	-	-

2. Well Control Procedures

Below are the minimal high-level tasks prescribed to assure a proper shut-in while drilling, tripping, running casing, pipe out of the hole (open hole), and moving the BHA through the BOPs. At least one well control drill will be performed weekly per crew to demonstrate compliance with the procedure and well control plan. The well control drill will be recorded in the daily drilling log. The type of drill will be determined by the ongoing operations, but reasonable attempts will be made to vary the type of drill conducted (pit, trip, open hole, choke, etc.). This well control plan will be available for review by rig personnel in the XTO Energy/Permian Operating drilling supervisor's office on location and on the rig floor. All BOP equipment will be tested as per Onshore O&G Order No. 2 with the exception of the 5000 psi annular which will be tested to 70% of its RWP.

General Procedure While Drilling

1. Sound alarm (alert crew)
2. Space out drill string
3. Shut down pumps (stop pumps and rotary)
4. Shut-in well (uppermost applicable BOP, typically annular preventer, first. HCR & choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
 - a. SIDPP & SICP
 - b. Pit gain
 - c. Time
8. Regroup and identify forward plan

9. If pressure has built or is anticipated during the kill to reach 70% or greater of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

General Procedure While Tripping

1. Sound alarm (alert crew)
2. Stab full-opening safety valve & close
3. Space out drill string
4. Shut-in well (uppermost applicable BOP, typically annular preventer, first. HCR & choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
 - a. SIDPP & SICP
 - b. Pit gain
 - c. Time
8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach 70% of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

General Procedure While Running Production Casing

1. Sound alarm (alert crew)
2. Stab crossover and full-opening safety valve and close
3. Space out string
4. Shut-in well (uppermost applicable BOP, typically annular preventer, first. HCR & choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
 - a. SIDPP & SICP
 - b. Pit gain
 - c. Time
8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach 70% or greater of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

General Procedure With No Pipe In Hole (Open Hole)

1. Sound alarm (alert crew)
2. Shut-in with blind rams (HCR & choke will already be in the closed position)
3. Confirm shut-in
4. Notify toolpusher/company representative
5. Read and record the following:
 - a. SICP
 - b. Pit gain
 - c. Time
6. Regroup and identify forward plan

General Procedures While Pulling BHA Through Stack

1. PRIOR to pulling last joint of drillpipe through stack:
 - a. Perform flow check. If flowing, continue to (b).
 - b. Sound alarm (alert crew)
 - c. Stab full-opening safety valve and close
 - d. Space out drill string with tool joint just beneath the upper variable bore rams
 - e. Shut-in using upper variable bore rams (HCR & choke will already be in the closed position)
 - f. Confirm shut-in
 - g. Notify toolpusher/company representative
 - h. Read and record the following:
 - i. SIDPP & SICP
 - ii. Pit gain
 - iii. Time
 - i. Regroup and identify forward plan
2. With BHA in the stack and compatible ram preventer and pipe combination immediately available:
 - a. Sound alarm (alert crew)
 - b. Stab crossover and full-opening safety valve and close
 - c. Space out drill string with upset just beneath the upper variable bore rams
 - d. Shut-in using upper variable bore rams (HCR & choke will already be in the closed position)
 - e. Confirm shut-in
 - f. Notify toolpusher/company representative
 - g. Read and record the following:
 - i. SIDPP & SICP

- ii. Pit gain
 - iii. Time
 - h. Regroup and identify forward plan
- 3. With BHA in the stack and NO compatible ram preventer and pipe combination immediately available:
 - a. Sound alarm (alert crew)
 - b. If possible, pull string clear of the stack and follow "Open Hole" procedure.
 - c. If impossible to pull string clear of the stack:
 - d. Stab crossover, make up one joint/stand of drillpipe and full-opening safety valve and close
 - e. Space out drill string with tooljoint just beneath the upper variable bore ram
 - f. Shut-in using upper variable bore ram (HCR & choke will already be in the closed position)
 - g. Confirm shut-in
 - h. Notify toolpusher/company representative
 - i. Read and record the following:
 - i. SIDPP & SICP
 - ii. Pit gain
 - iii. Time
 - j. Regroup and identify forward plan