

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 1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		5. Lease Serial No. <b>NMLC0063875A</b> 6. If Indian, Allottee or Tribe Name  7. If Unit or CA Agreement, Name and No. <b>NMNM 071016X</b> 8. Lease Name and Well No.  <b>POKER LAKE UNIT 26 BD</b>  <b>163H</b>
2. Name of Operator <b>XTO PERMIAN OPERATING LLC</b>		9. API Well No. <b>30 015 47984</b>
3a. Address <b>6401 Holiday Hill Road, Bldg 5, Midland, TX 79707</b>	3b. Phone No. (include area code) <b>(432) 682-8873</b>	10. Field and Pool, or Exploratory <b>PURPLE SAGE WOLFCAMP GAS/null</b>
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface <b>SENW / 2155 FNL / 1615 FWL / LAT 32.1026 / LONG -103.855209</b> At proposed prod. zone <b>SESW / 200 FSL / 1650 FWL / LAT 32.079762 / LONG -103.855198</b>		11. Sec., T. R. M. or Blk. and Survey or Area <b>SEC 26/T25S/R30E/NMP</b>
14. Distance in miles and direction from nearest town or post office*		12. County or Parish <b>EDDY</b>
13. State <b>NM</b>		
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) <b>330 feet</b>	16. No of acres in lease <b>1920</b>	17. Spacing Unit dedicated to this well <b>480.0</b>
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. <b>30 feet</b>	19. Proposed Depth <b>12240 feet / 20021 feet</b>	20. BLM/BIA Bond No. in file <b>FED: COB000050</b>
21. Elevations (Show whether DF, KDB, RT, GL, etc.) <b>3310 feet</b>	22. Approximate date work will start* <b>08/01/2020</b>	23. Estimated duration <b>45 days</b>
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.<br>2. A Drilling Plan.<br>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).<br>5. Operator certification.<br>6. Such other site specific information and/or plans as may be requested by the BLM. |
|---|---|

25. Signature (Electronic Submission)  Title <b>Regulatory Coordinator</b>	Name (Printed/Typed) <b>Kelly Kardos / Ph: (432) 682-8873</b>	Date <b>10/18/2019</b>
Approved by (Signature) (Electronic Submission)  Title <b>Petroleum Engineer</b>	Name (Printed/Typed) <b>Christopher Walls / Ph: (575) 234-2234</b>  Office <b>Carlsbad Field Office</b>	Date <b>05/19/2020</b>

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.

(Continued on page 2)

\*(Instructions on page 2)



## District I

1625 N. French Dr., Hobbs, NM 88240  
Phone: (575) 393-6161 Fax: (575) 393-0720

## District II

811 S. First St., Artesia, NM 88210  
Phone: (575) 748-1283 Fax: (575) 748-9720

## District III

1000 Rio Brazos Road, Aztec, NM 87410  
Phone: (505) 334-6178 Fax: (505) 334-6170

## District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505  
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico  
Energy, Minerals & Natural Resources Department  
OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-015 <b>47984</b>	<sup>2</sup> Pool Code 98220	<sup>3</sup> Pool Name PURPLE SAGE; WOLFCAMP
<sup>4</sup> Property Code <b>329859</b>	<sup>5</sup> Property Name POKER LAKE UNIT 26 BD	
<sup>7</sup> OGRID No. 373075	<sup>8</sup> Operator Name XTO PERMIAN OPERATING, LLC.	<sup>6</sup> Well Number 163H  <sup>9</sup> Elevation 3,310'

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	26	25 S	30 E		2,155	NORTH	1,615	WEST	EDDY

<sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	35	25 S	30 E		200	SOUTH	1,650	WEST	EDDY

<sup>12</sup> Dedicated Acres 480	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

	<b>GEODETIC COORDINATES</b> NAD 83 NME SURFACE LOCATION Y= 401,390.8 X= 689,385.7 LAT.= 32.102600°N LONG.= 103.855209°W  FIRST TAKE POINT NAD 83 NME Y= 400,523.2 X= 689,422.2 LAT.= 32.100215°N LONG.= 103.855104°W  CORNER COORDINATES TABLE NAD 83 NME A - Y= 400,883.8 N, X= 690,424.7 E B - Y= 400,877.5 N, X= 689,098.2 E C - Y= 398,218.5 N, X= 690,423.4 E D - Y= 398,211.5 N, X= 689,099.6 E E - Y= 395,552.5 N, X= 690,429.4 E F - Y= 395,542.5 N, X= 689,100.7 E G - Y= 392,890.6 N, X= 690,435.4 E H - Y= 392,880.1 N, X= 689,105.9 E  CORNER COORDINATES TABLE NAD 27 NME A - Y= 400,825.8 N, X= 649,239.4 E B - Y= 400,819.5 N, X= 647,912.9 E C - Y= 398,160.6 N, X= 649,238.0 E D - Y= 398,153.6 N, X= 647,914.2 E E - Y= 395,494.7 N, X= 649,243.9 E F - Y= 395,484.7 N, X= 647,915.2 E G - Y= 392,832.8 N, X= 649,249.8 E H - Y= 392,822.3 N, X= 647,920.3 E  <b>GEODETIC COORDINATES</b> NAD 27 NME SURFACE LOCATION Y= 401,332.8 X= 648,200.4 LAT.= 32.102476°N LONG.= 103.854729°W  FIRST TAKE POINT NAD 27 NME Y= 400,465.2 X= 648,236.9 LAT.= 32.100090°N LONG.= 103.854623°W  LAST TAKE POINT NAD 83 NME Y= 393,212.6 X= 689,425.9 LAT.= 32.080119°N LONG.= 103.855197°W  BOTTOM HOLE LOCATION NAD 83 NME Y= 393,082.6 X= 689,426.1 LAT.= 32.079762°N LONG.= 103.855198°W  LAST TAKE POINT NAD 27 NME Y= 393,154.8 X= 648,240.3 LAT.= 32.079994°N LONG.= 103.854717°W  BOTTOM HOLE LOCATION NAD 27 NME Y= 393,024.8 X= 648,240.5 LAT.= 32.079637°N LONG.= 103.854718°W	<b><sup>17</sup> OPERATOR CERTIFICATION</b> I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Kelly Kardos 10/17/19 Signature Date Kelly Kardos Printed Name kelly_kardos@xtoenergy.com E-mail Address
	<b><sup>18</sup> SURVEYOR CERTIFICATION</b> I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. 07-26-2019 Date of Survey Signature and Seal of Professional Surveyor:	
	MARK DILLON HARP 23786 Certificate Number	AR 2018010072

Intent ☐ As Drilled ☐

API #		
Operator Name:	Property Name:	Well Number

## Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

## First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

## Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

Is this well the defining well for the Horizontal Spacing Unit? ☐Is this well an infill well? ☐

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

API #		
Operator Name:	Property Name:	Well Number

KZ 06/29/2018

## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	XTO Permian Operating LLC
<b>WELL NAME &amp; NO.:</b>	Poker Lake Unit 26 BD 163H
<b>LOCATION:</b>	Sec 26-25S-30E-NMP
<b>COUNTY:</b>	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 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 **13-3/8** inch surface casing shall be set at approximately 1075 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.
2. The minimum required fill of cement behind the 7 inch intermediate casing 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.
  3. The minimum required fill of cement behind the 7 inch production casing is:
    - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.
  4. The minimum required fill of cement behind the **4-1/2** inch production liner is:
    - Cement should tie-back **100 feet** into the previous casing. 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 **5000 (5M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 3,500 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.

### **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 2<sup>nd</sup> 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.



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

# Drilling Plan Data Report

05/26/2020

APD ID: 10400049763

Submission Date: 10/18/2019

Highlighted data  
reflects the most  
recent changes

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 26 BD

Well Number: 163H

[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
566414	PERMIAN	3310	0	0	OTHER : Quaternary	NONE	N
566405	RUSTLER	2360	950	950	SILTSTONE	USEABLE WATER	N
566406	TOP SALT	2210	1100	1100	SALT	OTHER : Produced Water	N
566407	BASE OF SALT	-548	3858	3858	SALT	OTHER : Produced Water	N
566403	DELAWARE	-640	3950	3950	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
566404	BONE SPRING	-4462	7772	7772	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
566422	WOLFCAMP	-7826	11136	11136	SHALE	NATURAL GAS, OIL, OTHER : Produced Water	Y

## Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M

Rating Depth: 12240

**Equipment:** Once the permanent WH is installed on the 13-3/8 casing, the blow out preventer equipment (BOP) will consist of a 13-5/8 the blow out preventer equipment (BOP) will consist of a 13-5/8 minimum 5M Hydril and a 13-5/8 minimum 10M 3-Ram BOP. MASP should not exceed 5766 psi.

**Requesting Variance?** YES

**Variance request:** In any instance where 10M BOP is required by BLM, XTO requests a variance to utilize 5M annular with 10M ram preventers (a common BOP configuration, which allows use of 10M rams in unlikely event that pressures exceed 5M). Also a variance is requested to test the 5M annular to 70% of working pressure at 3500 psi. · XTO requests to not utilize centralizers in the curve and lateral · 9-5/8" Collapse analyzed using 50% evacuation based on regional experience. · 4-1/2" Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35 · Test on Casing will be limited to 70% burst of the casing or 1500 psi, whichever is less 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 7-1/16" 15M top flange A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test chart will be kept on the rig. Attached is an example of a certification and pressure test chart. The manufacturer does not require anchors. XTO requests a variance to be able to batch drill this well if necessary. In doing so, XTO will set 7" casing and ensure that the well is cemented properly and the well is static. With floats holding, no pressure on the csg annulus, and the installation of a 10K TA cap as per GE recommendations, XTO will contact the BLM to skid the rig to drill the remaining wells on the pad. Once surface and both intermediate strings are all completed, XTO will begin drilling the production hole on each of the wells.

**Testing Procedure:** All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 70% of the working pressure. When nipping up on the 13-3/8", 5M bradenhead and flange, the BOP test will be limited to

Page 1 of 7

**Operator Name:** XTO PERMIAN OPERATING LLC**Well Name:** POKER LAKE UNIT 26 BD**Well Number:** 163H

5000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 5M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

**Choke Diagram Attachment:**

PLU\_26\_BD\_10MCM\_20191014092533.pdf

**BOP Diagram Attachment:**

PLU\_26\_BD\_5MBOP\_20191014092546.pdf

PLU\_26\_BD\_5M10M\_BOP\_20191014092555.pdf

PLU\_26\_BD\_Multi\_20191014092837.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	17.5	13.375	NEW	API	N	0	1075	0	1075	3310	2235	1075	J-55	54.5	ST&C	2.32	2.27	BUOY	8.77	DRY	8.77
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	3880	0	3880		-570	3880	J-55	40	ST&C	2.11	1.13	DRY	2.91	DRY	2.91
3	PRODUCTION	8.75	7.0	NEW	API	N	0	11625	0	11625	3500	-8315	11625	P-110	32	BUTT	1.78	1.31	DRY	2.41	DRY	2.41
4	LINER	6	4.5	NEW	API	N	10590	19183	10590	11403	-7279	-8093	8593	P-110	13.5	BUTT	1.6	1.31	DRY	2.06	DRY	2.06

**Casing Attachments**

**Operator Name:** XTO PERMIAN OPERATING LLC**Well Name:** POKER LAKE UNIT 26 BD**Well Number:** 163H**Casing Attachments**

---

**Casing ID:** 1      **String Type:** SURFACE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**PLU\_26\_BD\_163H\_Csg\_20191018125425.pdf

---

**Casing ID:** 2      **String Type:** INTERMEDIATE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**PLU\_26\_BD\_163H\_Csg\_20191018125447.pdf

---

**Casing ID:** 3      **String Type:** PRODUCTION**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**PLU\_26\_BD\_163H\_Csg\_20191018125510.pdf

---

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 26 BD

Well Number: 163H

## Casing Attachments

Casing ID: 4 String Type: LINER

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

PLU\_26\_BD\_163H\_Csg\_20191018125526.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	1075	570	1.87	12.9	1065.9	100	EconoCem-HLTRRC	none
SURFACE	Tail				300	1.35	14.8	405	100	Halcm-C	2% CaCl
INTERMEDIATE	Lead		0	3880	1030	1.87	12.9	1926.1	100	EconoCem-HLTRRC	none
INTERMEDIATE	Tail				360	1.35	14.8	486	100	Halcm-C	2% CaCl
PRODUCTION	Lead		0	11625	1100	1.88	12.9	2068	100	Halcm-C	2% CaCl
PRODUCTION	Tail				220	1.33	14.8	292.6	100	Halcm-C	2% CaCl
LINER	Lead		10590	20021	580	1.61	13.2	933.8	30	VersaCem	none

**Operator Name:** XTO PERMIAN OPERATING LLC**Well Name:** POKER LAKE UNIT 26 BD**Well Number:** 163H**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
1059 0	1224 0	OIL-BASED MUD	11.2	11.5							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
3880	1162 5	OTHER : FW / Cut Brine	8.7	10							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	1075	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 26 BD**Well Number:** 163H

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
1075	3880	OTHER : Brine	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 will not be done on this well.

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

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:** 6700

**Anticipated Surface Pressure:** 4235

**Anticipated Bottom Hole Temperature(F):** 160

**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 26 BD**Well Number:** 163H**Hydrogen Sulfide drilling operations plan required?** YES**Hydrogen sulfide drilling operations plan:**

PLU\_26\_BD\_H2S\_Dia\_2E\_20191014095000.pdf

PLU\_26\_BD\_H2S\_Dia\_2W\_20191014095011.pdf

PLU\_26\_BD\_H2S\_Plan\_20191014094949.pdf

## Section 8 - Other Information

**Proposed horizontal/directional/multi-lateral plan submission:**

PLU\_26\_BD\_163H\_DD\_20191018125704.pdf

**Other proposed operations facets description:**

The surface fresh water sands will be protected by setting 13 3/8" inch casing @ 1075' (25' above the salt) and circulating cement back to surface. The salt will be isolated by setting 9-5/8" inch casing at 3880' and circulating cement to surface. The second intermediate will isolate from the salt down to the next casing seat by setting 7-0" inch casing through the curve at 11625' and bringing TOC back 200' inside the previous shoe. A 6-0" inch lateral hole will be drilled to MD/TD and a 4-1/2 inch liner will be set at TD and cemented.

**Other proposed operations facets attachment:**

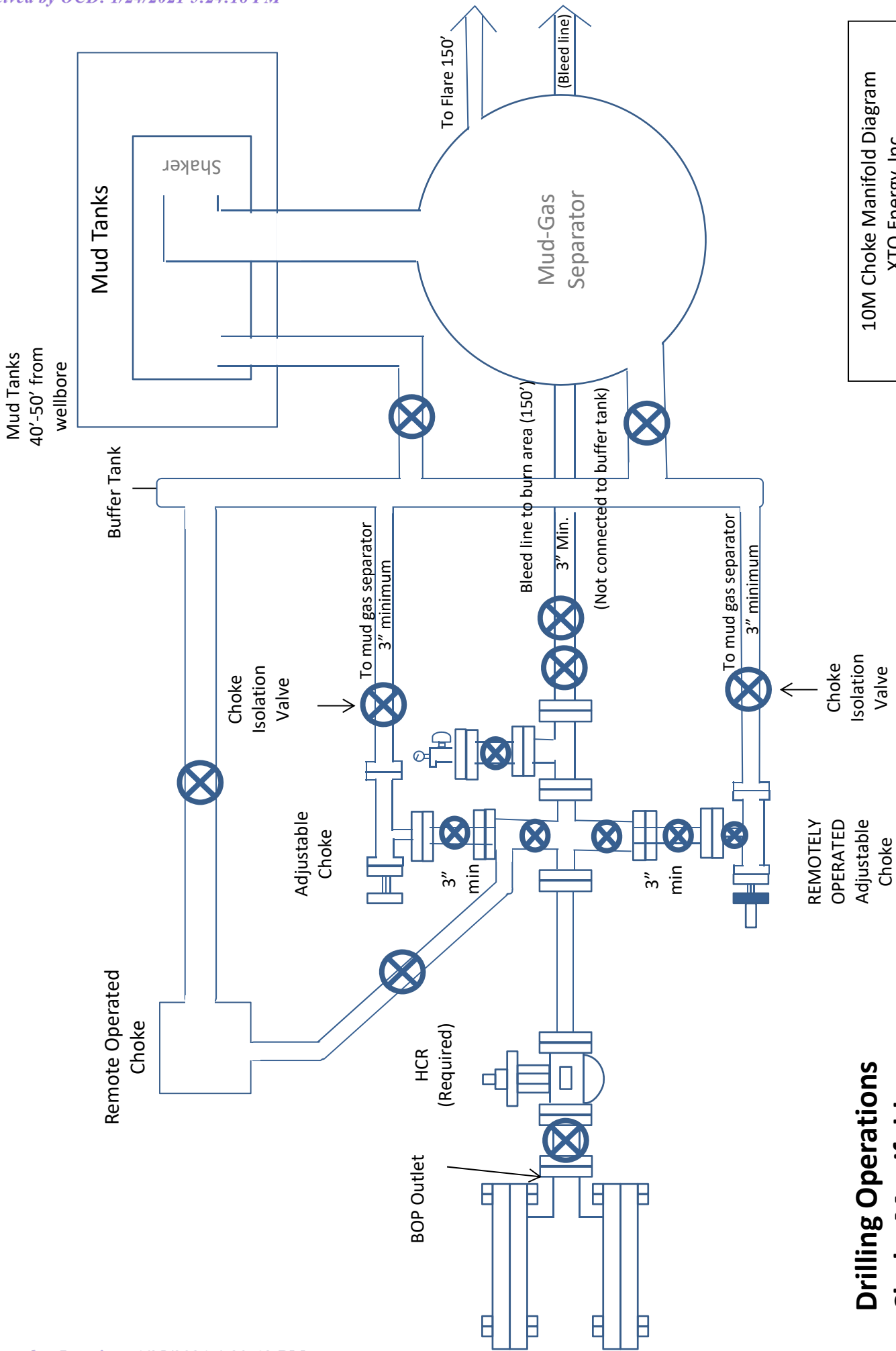
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PLU\_26\_BD\_GCPW\_20191018125731.pdf

**Other Variance attachment:**

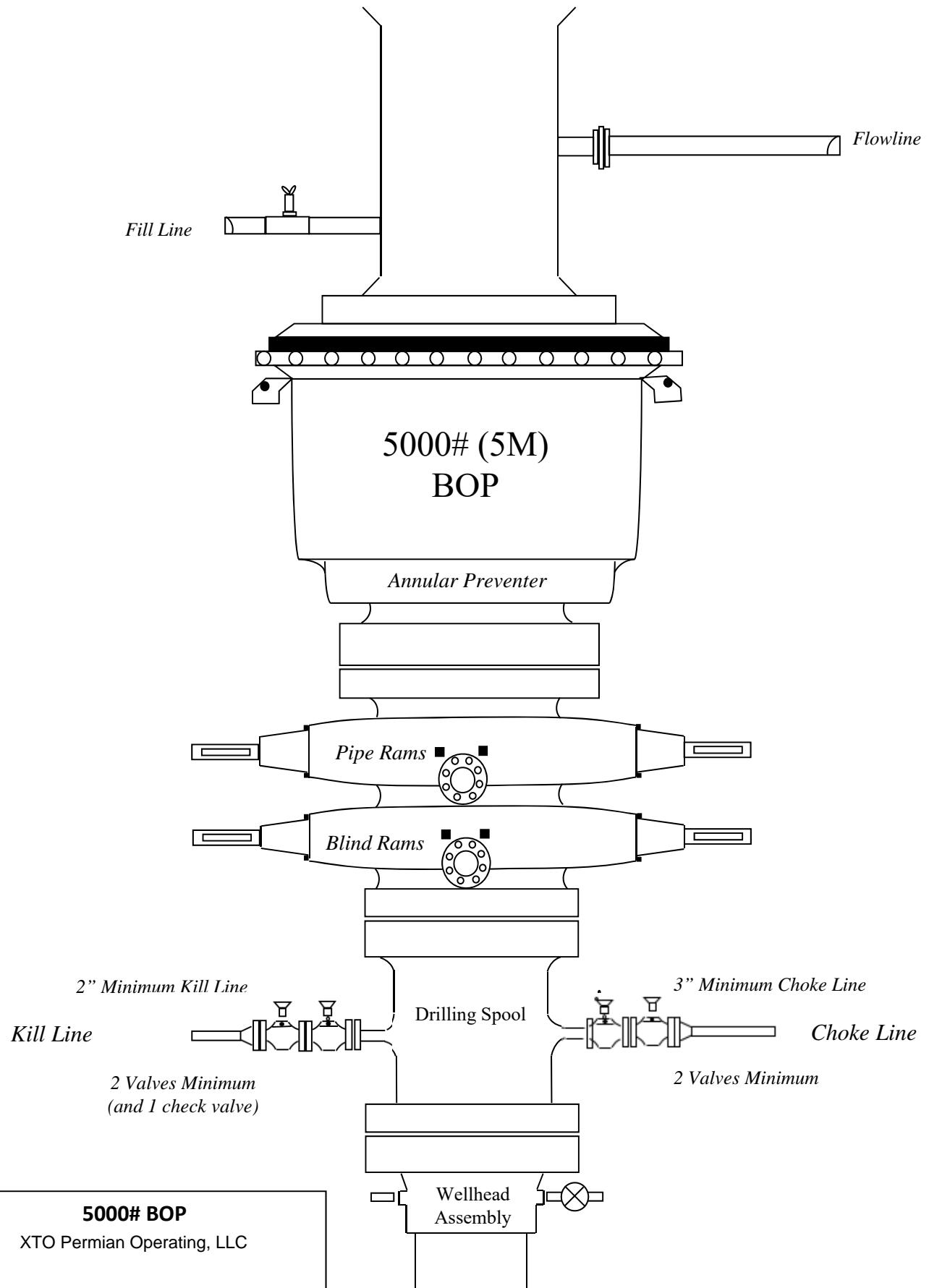
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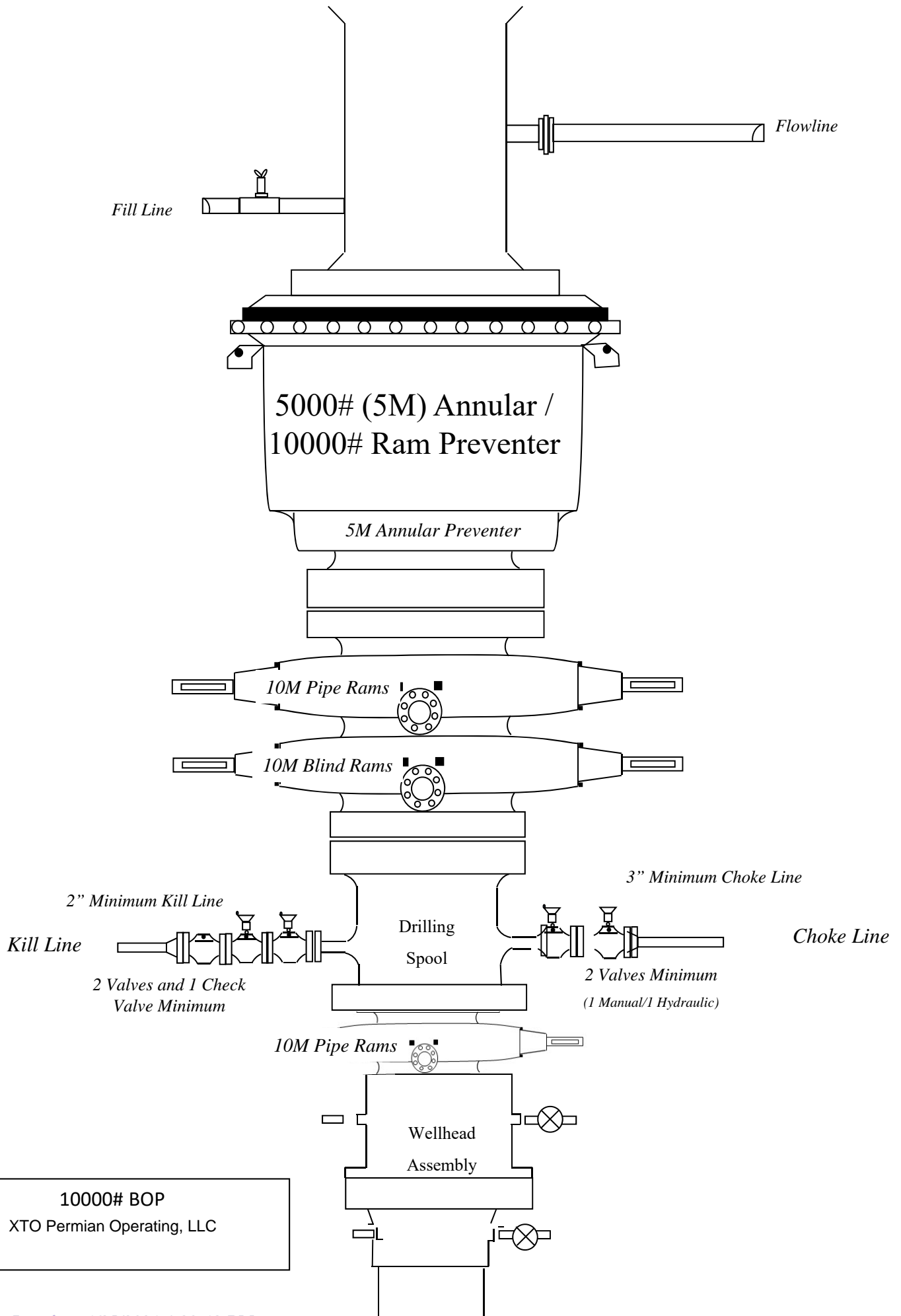
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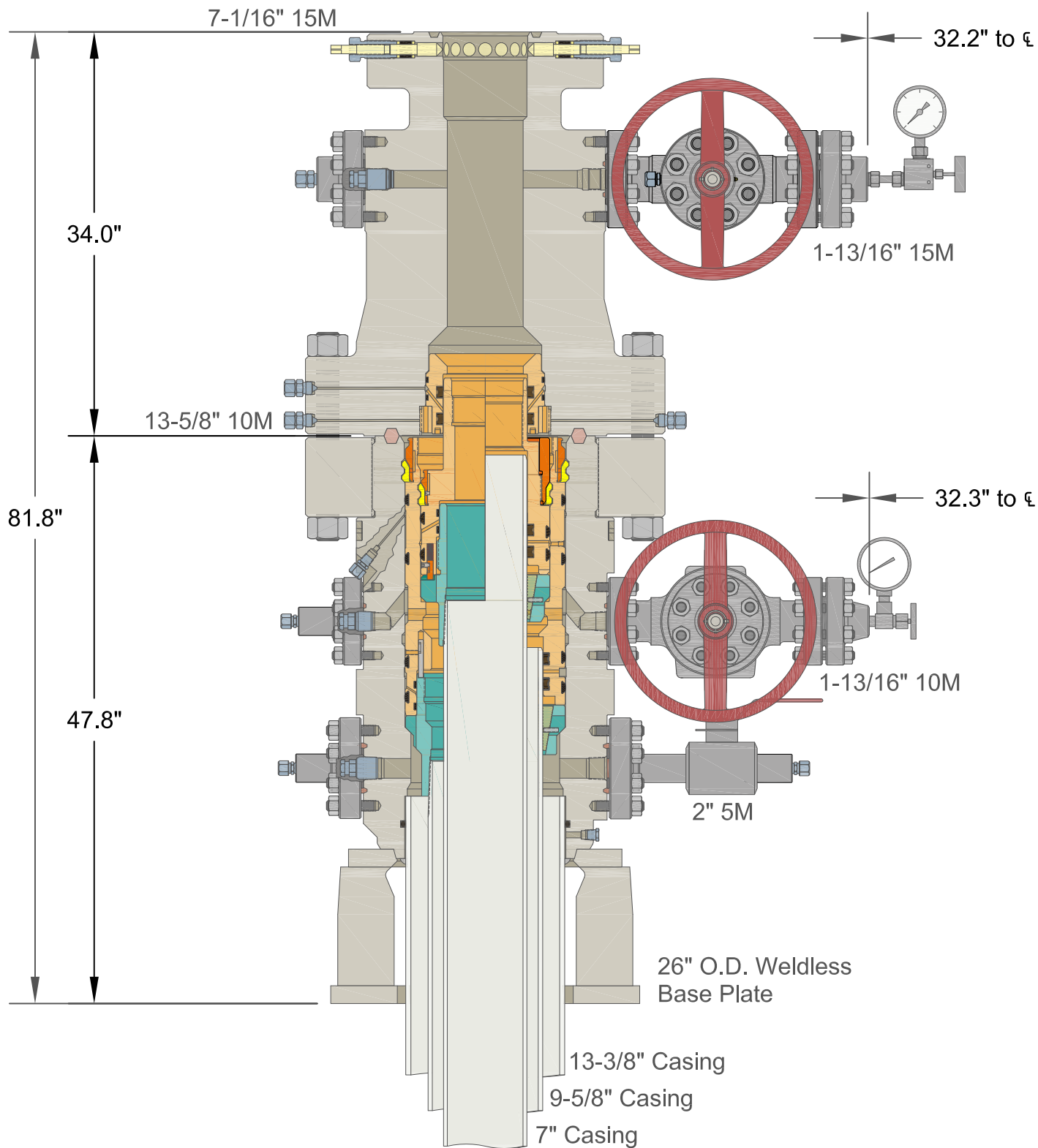


10M Choke Manifold Diagram  
XTO Energy, Inc.

**Drilling Operations  
Choke Manifold  
10M Service**







**BAKER  
HUGHES**  
a GE company



### Pressure Control

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

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DRAWN BY:

VJK

REVIEWED BY:

APPROVED BY:

DRAWING NO.

HP180197

Rev. NC

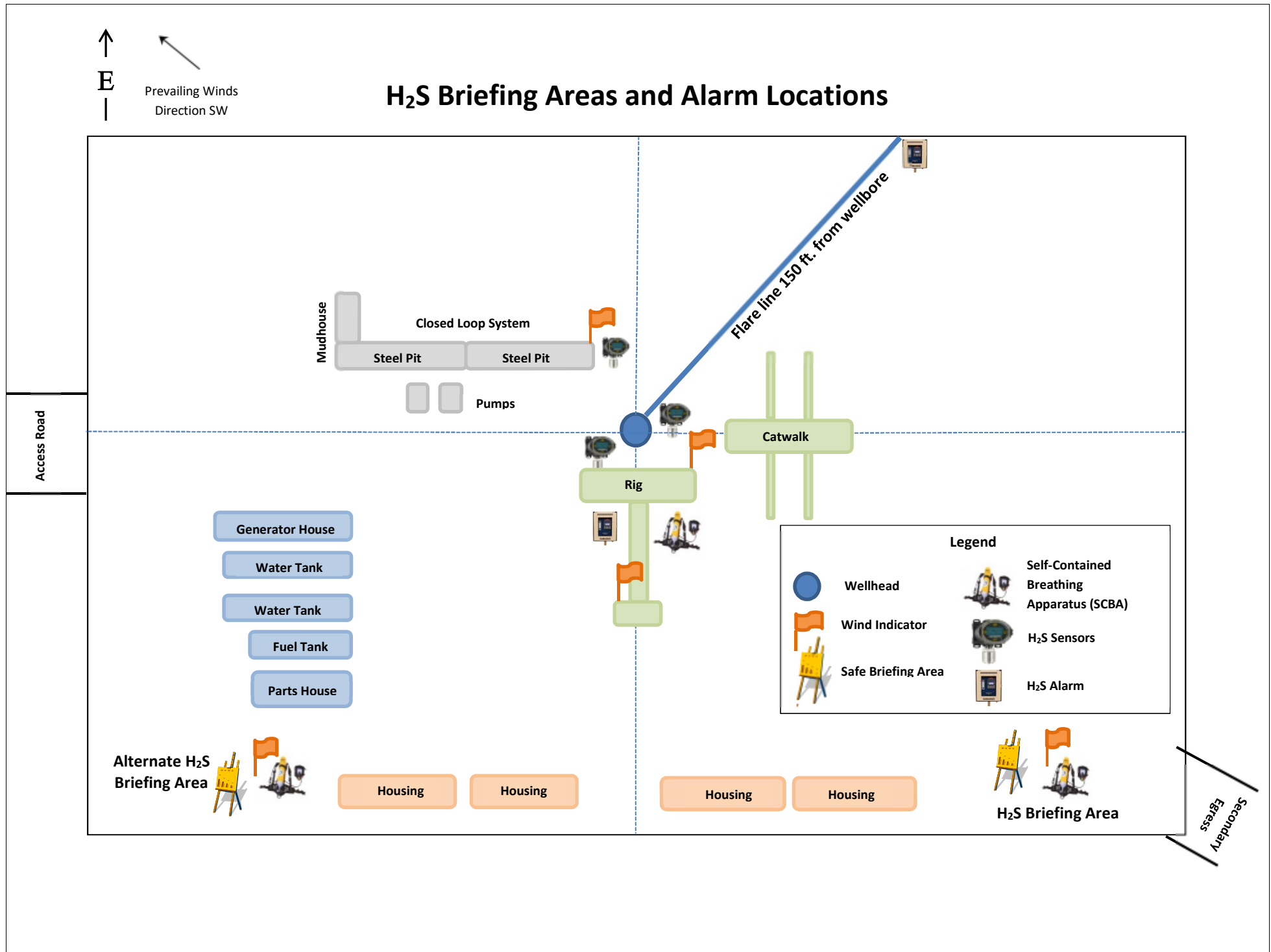
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31OCT18

XTO ENERGY, INC.

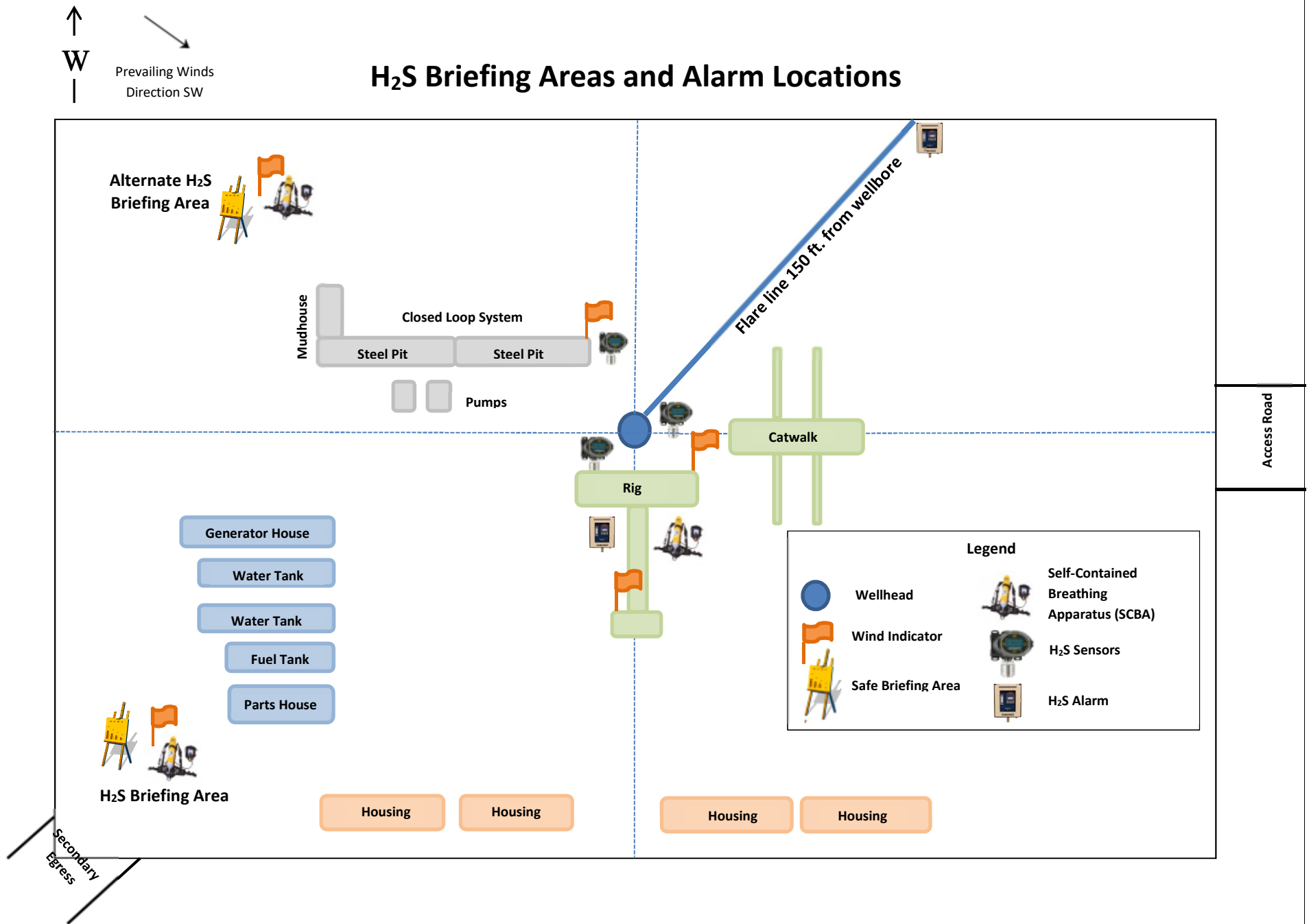
## H<sub>2</sub>S Briefing Areas and Alarm Locations







## H<sub>2</sub>S Briefing Areas and Alarm Locations







## HYDROGEN SULFIDE (H<sub>2</sub>S) CONTINGENCY PLAN

### Assumed 100 ppm ROE = 3000'

100 ppm H<sub>2</sub>S concentration shall trigger activation of this plan.

#### Emergency Procedures

In the event of a release of gas containing H<sub>2</sub>S, 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<sub>2</sub>S 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<sub>2</sub>S, 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<sub>2</sub>). 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<sub>2</sub>S and SO<sub>2</sub>

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H <sub>2</sub> S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO <sub>2</sub>	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  
Milton Turman, Drilling Superintendent  
Jeff Raines, Construction Foreman  
Toady Sanders, EH & S Manager  
Wes McSpadden, Production Foreman

903-521-6477  
817-524-5107  
432-557-3159  
903-520-1601  
575-441-1147

**SHERIFF DEPARTMENTS:**

Eddy County  
Lea County

575-887-7551  
575-396-3611

**NEW MEXICO STATE POLICE:**

575-392-5588

**FIRE DEPARTMENTS:**

Carlsbad  
Eunice  
Hobbs  
Jal  
Lovington

911  
575-885-2111  
575-394-2111  
575-397-9308  
575-395-2221  
575-396-2359

**HOSPITALS:**

Carlsbad Medical Emergency  
Eunice Medical Emergency  
Hobbs Medical Emergency  
Jal Medical Emergency  
Lovington Medical Emergency

911  
575-885-2111  
575-394-2112  
575-397-9308  
575-395-2221  
575-396-2359

**AGENT NOTIFICATIONS:****For Lea County:**

Bureau of Land Management – Hobbs  
New Mexico Oil Conservation Division – Hobbs

575-393-3612  
575-393-6161

**For Eddy County:**

Bureau of Land Management - Carlsbad  
New Mexico Oil Conservation Division - Artesia

575-234-5972  
575-748-1283



## **XTO Energy**

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

**Poker Lake Unit 26 BD**

**#163H**

**OH**

**Plan: PERMIT**

## **Standard Planning Report**

**22 August, 2019**



Project: Eddy County, NM (NAD-27)  
Site: Poker Lake Unit 26 BD  
Well: #163H  
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: #163H

		Rig Name:		RKB=31' @ 3341.00usft	
		Ground Level:		3310.00	
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	401332.80	648200.40	32.102476	-103.854729

DESIGN TARGET DETAILS

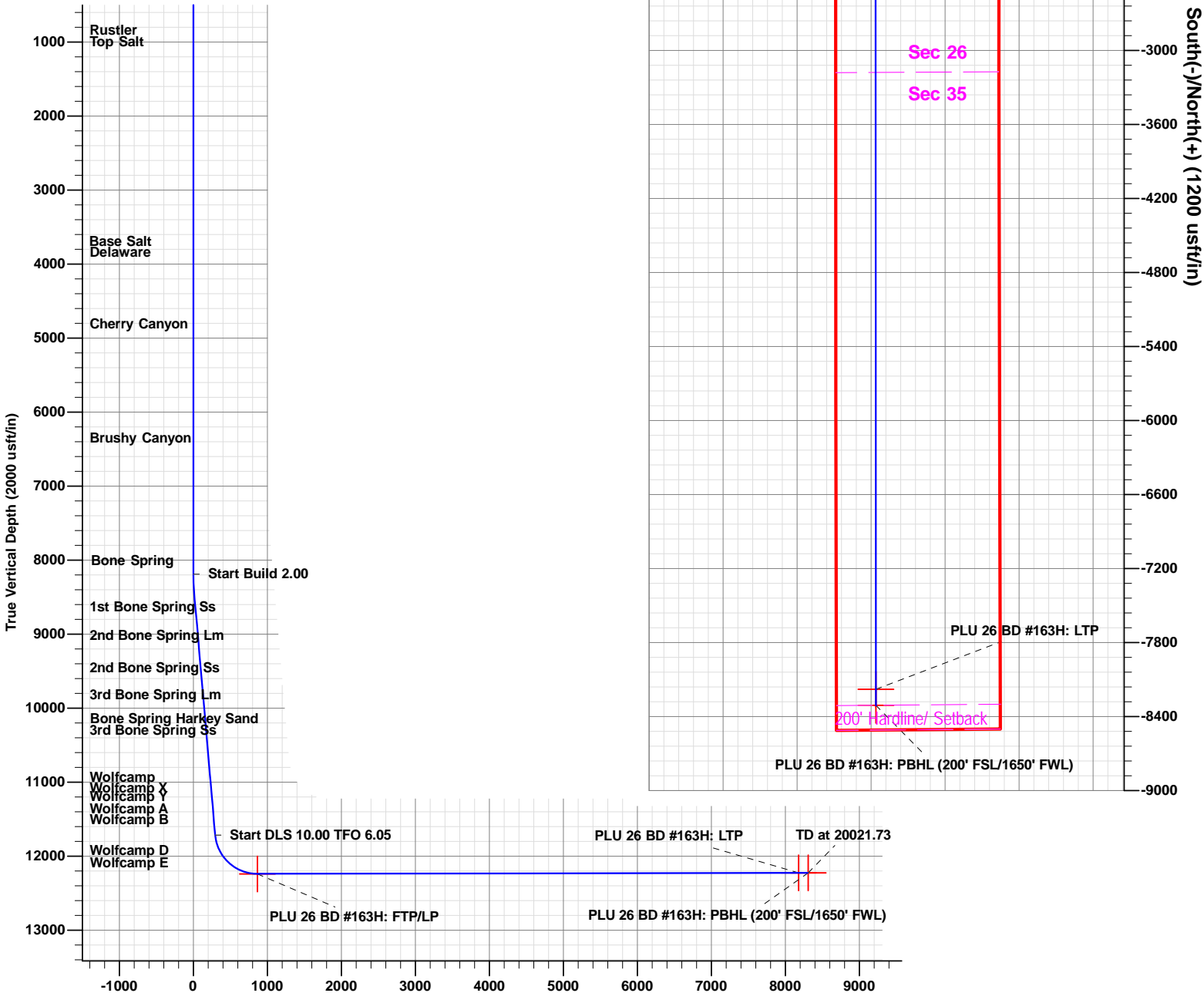
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PLU 26 BD #163H: SHL (2155' FNL/1615' FWL)	0.00	0.00	0.00	401332.80	648200.40	32.102476	-103.854729	Point
PLU 26 BD #163H: PBHL (200' FSL/1650' FWL)	12227.01	-8308.55	40.10	393024.80	648240.50	32.079637	-103.854718	Point
PLU 26 BD #163H: LTP	12227.24	-8178.54	39.90	393154.80	648240.30	32.079994	-103.854717	Point
PLU 26 BD #163H: FTP/LP	12240.00	-867.66	36.50	400465.20	648236.90	32.100090	-103.854623	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	8190.00	0.00	0.00	8190.00	0.00	0.00	0.00	0.00	0.00
3	8439.93	5.00	173.94	8439.61	-10.83	1.15	2.00	173.94	10.83
4	11729.54	5.00	173.94	11716.71	-295.86	31.41	0.00	0.00	295.87
5	12580.83	90.10	179.97	12240.00	-867.66	36.50	10.00	6.05	867.68
6	19891.72	90.10	179.97	12227.24	-8178.54	40.04	0.00	0.00	8178.56
7	20021.73	90.10	179.97	12227.01	-8308.55	40.10	0.00	0.00	8308.57

FORMATION TOP DETAILS

TVDPath	Formation
949.00	Rustler
1099.00	Top Salt
3857.00	Base Salt
3949.00	Delaware
4913.00	Cherry Canyon
6456.00	Brushy Canyon
7771.00	Bone Spring
8741.00	1st Bone Spring Ss
9126.00	2nd Bone Spring Lm
9561.00	2nd Bone Spring Ss
9928.00	3rd Bone Spring Lm
10304.00	Bone Spring Harkey Sand
10401.00	3rd Bone Spring Ss
11135.00	Wolfcamp
11161.00	Wolfcamp X
11193.00	Wolfcamp Y
11203.00	Wolfcamp A
11609.00	Wolfcamp B
12026.00	Wolfcamp D
12115.00	Wolfcamp E



Vertical Section at 179.97° (2000 usft/in)

The customer should only rely on this document after independently verifying all paths, targets, coordinates, lease and hard lines represented. Any decisions made or wells drilled utilizing this or any other information Released to Imaging: 1/25/2021 4:23:18 PM





## Prototype Well Planning LLC

## Planning Report

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #163H
<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	RKB=31' @ 3341.00usft
<b>Project:</b>	Eddy County, NM (NAD-27)	<b>MD Reference:</b>	RKB=31' @ 3341.00usft
<b>Site:</b>	Poker Lake Unit 26 BD	<b>North Reference:</b>	Grid
<b>Well:</b>	#163H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PERMIT		

<b>Project</b>	Eddy County, NM (NAD-27)		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	New Mexico East 3001		Using geodetic scale factor

Site	Poker Lake Unit 26 BD				
Site Position:		Northing:	401,344.70 usft	Latitude:	32.102518
From:	Map	Easting:	647,380.00 usft	Longitude:	-103.857378
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.25

Well	#163H					
Well Position	+N/-S	-11.90 usft	Northing:	401,332.80 usft	Latitude:	32.102476
	+E/-W	820.45 usft	Easting:	648,200.40 usft	Longitude:	-103.854729
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,310.00 usft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	8/21/2019	6.84	59.88	47,614

<b>Design</b>	PERMIT			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	179.97

<b>Plan Sections</b>										
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	
8,190.00	0.00	0.00	8,190.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,439.93	5.00	173.94	8,439.61	-10.83	1.15	2.00	2.00	0.00	173.94	
11,729.54	5.00	173.94	11,716.71	-295.86	31.41	0.00	0.00	0.00	0.00	
12,580.83	90.10	179.97	12,240.00	-867.66	36.50	10.00	10.00	0.71	6.05	PLU 26 BD #163H: F
19,891.72	90.10	179.97	12,227.24	-8,178.54	40.04	0.00	0.00	0.00	0.00	PLU 26 BD #163H: L1
20,021.73	90.10	179.97	12,227.01	-8,308.55	40.10	0.00	0.00	0.00	0.00	PLU 26 BD #163H: P1



## Prototype Well Planning LLC

## Planning Report

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #163H
<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	RKB=31' @ 3341.00usft
<b>Project:</b>	Eddy County, NM (NAD-27)	<b>MD Reference:</b>	RKB=31' @ 3341.00usft
<b>Site:</b>	Poker Lake Unit 26 BD	<b>North Reference:</b>	Grid
<b>Well:</b>	#163H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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
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
949.00	0.00	0.00	949.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Rustler</b>									
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,099.00	0.00	0.00	1,099.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Top Salt</b>									
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
3,857.00	0.00	0.00	3,857.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Base Salt</b>									
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,949.00	0.00	0.00	3,949.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Delaware</b>									
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	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



## Prototype Well Planning LLC

## Planning Report

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #163H
<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	RKB=31' @ 3341.00usft
<b>Project:</b>	Eddy County, NM (NAD-27)	<b>MD Reference:</b>	RKB=31' @ 3341.00usft
<b>Site:</b>	Poker Lake Unit 26 BD	<b>North Reference:</b>	Grid
<b>Well:</b>	#163H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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
4,913.00	0.00	0.00	4,913.00	0.00	0.00	0.00	0.00	0.00	0.00
Cherry Canyon									
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
6,456.00	0.00	0.00	6,456.00	0.00	0.00	0.00	0.00	0.00	0.00
Brushy Canyon									
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	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
7,771.00	0.00	0.00	7,771.00	0.00	0.00	0.00	0.00	0.00	0.00
Bone Spring									
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
8,190.00	0.00	0.00	8,190.00	0.00	0.00	0.00	0.00	0.00	0.00
8,200.00	0.20	173.94	8,200.00	-0.02	0.00	0.02	2.00	2.00	0.00
8,300.00	2.20	173.94	8,299.97	-2.10	0.22	2.10	2.00	2.00	0.00
8,400.00	4.20	173.94	8,399.81	-7.65	0.81	7.65	2.00	2.00	0.00
8,439.93	5.00	173.94	8,439.61	-10.83	1.15	10.83	2.00	2.00	0.00
8,500.00	5.00	173.94	8,499.45	-16.04	1.70	16.04	0.00	0.00	0.00
8,600.00	5.00	173.94	8,599.07	-24.70	2.62	24.70	0.00	0.00	0.00
8,700.00	5.00	173.94	8,698.69	-33.37	3.54	33.37	0.00	0.00	0.00
8,742.47	5.00	173.94	8,741.00	-37.05	3.93	37.05	0.00	0.00	0.00
1st Bone Spring Ss									
8,800.00	5.00	173.94	8,798.31	-42.03	4.46	42.03	0.00	0.00	0.00



## Prototype Well Planning LLC

## Planning Report

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<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	RKB=31' @ 3341.00usft
<b>Project:</b>	Eddy County, NM (NAD-27)	<b>MD Reference:</b>	RKB=31' @ 3341.00usft
<b>Site:</b>	Poker Lake Unit 26 BD	<b>North Reference:</b>	Grid
<b>Well:</b>	#163H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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)	
8,900.00	5.00	173.94	8,897.93	-50.70	5.38	50.70	0.00	0.00	0.00	
9,000.00	5.00	173.94	8,997.55	-59.36	6.30	59.36	0.00	0.00	0.00	
9,100.00	5.00	173.94	9,097.17	-68.02	7.22	68.03	0.00	0.00	0.00	
9,128.94	5.00	173.94	9,126.00	-70.53	7.49	70.54	0.00	0.00	0.00	
<b>2nd Bone Spring Lm</b>										
9,200.00	5.00	173.94	9,196.79	-76.69	8.14	76.69	0.00	0.00	0.00	
9,300.00	5.00	173.94	9,296.41	-85.35	9.06	85.36	0.00	0.00	0.00	
9,400.00	5.00	173.94	9,396.03	-94.02	9.98	94.02	0.00	0.00	0.00	
9,500.00	5.00	173.94	9,495.65	-102.68	10.90	102.69	0.00	0.00	0.00	
9,565.60	5.00	173.94	9,561.00	-108.37	11.50	108.37	0.00	0.00	0.00	
<b>2nd Bone Spring Ss</b>										
9,600.00	5.00	173.94	9,595.27	-111.35	11.82	111.35	0.00	0.00	0.00	
9,700.00	5.00	173.94	9,694.89	-120.01	12.74	120.02	0.00	0.00	0.00	
9,800.00	5.00	173.94	9,794.51	-128.68	13.66	128.68	0.00	0.00	0.00	
9,900.00	5.00	173.94	9,894.13	-137.34	14.58	137.35	0.00	0.00	0.00	
9,934.00	5.00	173.94	9,928.00	-140.29	14.89	140.29	0.00	0.00	0.00	
<b>3rd Bone Spring Lm</b>										
10,000.00	5.00	173.94	9,993.75	-146.00	15.50	146.01	0.00	0.00	0.00	
10,100.00	5.00	173.94	10,093.37	-154.67	16.42	154.68	0.00	0.00	0.00	
10,200.00	5.00	173.94	10,192.99	-163.33	17.34	163.34	0.00	0.00	0.00	
10,300.00	5.00	173.94	10,292.61	-172.00	18.26	172.01	0.00	0.00	0.00	
10,311.43	5.00	173.94	10,304.00	-172.99	18.36	173.00	0.00	0.00	0.00	
<b>Bone Spring Harkey Sand</b>										
10,400.00	5.00	173.94	10,392.23	-180.66	19.18	180.67	0.00	0.00	0.00	
10,408.80	5.00	173.94	10,401.00	-181.42	19.26	181.43	0.00	0.00	0.00	
<b>3rd Bone Spring Ss</b>										
10,500.00	5.00	173.94	10,491.85	-189.33	20.10	189.34	0.00	0.00	0.00	
10,600.00	5.00	173.94	10,591.47	-197.99	21.02	198.00	0.00	0.00	0.00	
10,700.00	5.00	173.94	10,691.09	-206.65	21.94	206.67	0.00	0.00	0.00	
10,800.00	5.00	173.94	10,790.71	-215.32	22.86	215.33	0.00	0.00	0.00	
10,900.00	5.00	173.94	10,890.33	-223.98	23.78	224.00	0.00	0.00	0.00	
11,000.00	5.00	173.94	10,989.95	-232.65	24.70	232.66	0.00	0.00	0.00	
11,100.00	5.00	173.94	11,089.57	-241.31	25.62	241.32	0.00	0.00	0.00	
11,145.61	5.00	173.94	11,135.00	-245.26	26.04	245.28	0.00	0.00	0.00	
<b>Wolfcamp</b>										
11,171.71	5.00	173.94	11,161.00	-247.52	26.28	247.54	0.00	0.00	0.00	
<b>Wolfcamp X</b>										
11,200.00	5.00	173.94	11,189.19	-249.98	26.54	249.99	0.00	0.00	0.00	
11,203.83	5.00	173.94	11,193.00	-250.31	26.57	250.32	0.00	0.00	0.00	
<b>Wolfcamp Y</b>										
11,213.87	5.00	173.94	11,203.00	-251.18	26.66	251.19	0.00	0.00	0.00	
<b>Wolfcamp A</b>										
11,300.00	5.00	173.94	11,288.81	-258.64	27.46	258.65	0.00	0.00	0.00	
11,400.00	5.00	173.94	11,388.43	-267.30	28.38	267.32	0.00	0.00	0.00	
11,500.00	5.00	173.94	11,488.05	-275.97	29.30	275.98	0.00	0.00	0.00	
11,600.00	5.00	173.94	11,587.67	-284.63	30.22	284.65	0.00	0.00	0.00	
11,621.42	5.00	173.94	11,609.00	-286.49	30.41	286.50	0.00	0.00	0.00	
<b>Wolfcamp B</b>										
11,700.00	5.00	173.94	11,687.29	-293.30	31.14	293.31	0.00	0.00	0.00	
11,729.54	5.00	173.94	11,716.71	-295.86	31.41	295.87	0.00	0.00	0.00	
11,750.00	7.04	175.70	11,737.06	-297.99	31.60	298.01	10.00	9.96	8.61	
11,800.00	12.03	177.50	11,786.35	-306.26	32.05	306.27	10.00	9.98	3.60	



# Prototype Well Planning LLC

## Planning Report

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<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	RKB=31' @ 3341.00usft
<b>Project:</b>	Eddy County, NM (NAD-27)	<b>MD Reference:</b>	RKB=31' @ 3341.00usft
<b>Site:</b>	Poker Lake Unit 26 BD	<b>North Reference:</b>	Grid
<b>Well:</b>	#163H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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)
11,850.00	17.02	178.25	11,834.74	-318.79	32.50	318.80	10.00	9.99	1.50
11,900.00	22.02	178.67	11,881.85	-335.49	32.95	335.50	10.00	10.00	0.84
11,950.00	27.02	178.94	11,927.33	-356.23	33.37	356.24	10.00	10.00	0.54
12,000.00	32.02	179.13	11,970.82	-380.85	33.79	380.87	10.00	10.00	0.38
12,050.00	37.02	179.27	12,012.00	-409.18	34.18	409.19	10.00	10.00	0.29
12,067.74	38.79	179.32	12,026.00	-420.07	34.31	420.09	10.00	10.00	0.24
<b>Wolfcamp D</b>									
12,100.00	42.02	179.39	12,050.56	-440.98	34.55	441.00	10.00	10.00	0.22
12,150.00	47.02	179.48	12,086.20	-476.03	34.89	476.04	10.00	10.00	0.19
12,194.11	51.43	179.55	12,115.00	-509.42	35.17	509.44	10.00	10.00	0.16
<b>Wolfcamp E</b>									
12,200.00	52.02	179.56	12,118.65	-514.04	35.21	514.06	10.00	10.00	0.15
12,250.00	57.02	179.63	12,147.66	-554.74	35.50	554.76	10.00	10.00	0.14
12,300.00	62.02	179.69	12,173.02	-597.82	35.75	597.84	10.00	10.00	0.12
12,350.00	67.02	179.75	12,194.52	-642.94	35.97	642.96	10.00	10.00	0.11
12,400.00	72.02	179.80	12,212.01	-689.76	36.16	689.78	10.00	10.00	0.10
12,450.00	77.02	179.85	12,225.36	-737.94	36.30	737.95	10.00	10.00	0.10
12,500.00	82.02	179.90	12,234.45	-787.08	36.41	787.10	10.00	10.00	0.10
12,550.00	87.02	179.94	12,239.22	-836.84	36.48	836.86	10.00	10.00	0.09
12,580.83	90.10	179.97	12,240.00	-867.66	36.50	867.68	10.00	10.00	0.09
12,600.00	90.10	179.97	12,239.97	-886.83	36.51	886.85	0.00	0.00	0.00
12,700.00	90.10	179.97	12,239.79	-986.83	36.56	986.85	0.00	0.00	0.00
12,800.00	90.10	179.97	12,239.62	-1,086.83	36.61	1,086.85	0.00	0.00	0.00
12,900.00	90.10	179.97	12,239.44	-1,186.83	36.66	1,186.85	0.00	0.00	0.00
13,000.00	90.10	179.97	12,239.27	-1,286.83	36.71	1,286.85	0.00	0.00	0.00
13,100.00	90.10	179.97	12,239.09	-1,386.83	36.75	1,386.84	0.00	0.00	0.00
13,200.00	90.10	179.97	12,238.92	-1,486.83	36.80	1,486.84	0.00	0.00	0.00
13,300.00	90.10	179.97	12,238.75	-1,586.83	36.85	1,586.84	0.00	0.00	0.00
13,400.00	90.10	179.97	12,238.57	-1,686.83	36.90	1,686.84	0.00	0.00	0.00
13,500.00	90.10	179.97	12,238.40	-1,786.83	36.95	1,786.84	0.00	0.00	0.00
13,600.00	90.10	179.97	12,238.22	-1,886.83	37.00	1,886.84	0.00	0.00	0.00
13,700.00	90.10	179.97	12,238.05	-1,986.82	37.04	1,986.84	0.00	0.00	0.00
13,800.00	90.10	179.97	12,237.87	-2,086.82	37.09	2,086.84	0.00	0.00	0.00
13,900.00	90.10	179.97	12,237.70	-2,186.82	37.14	2,186.84	0.00	0.00	0.00
14,000.00	90.10	179.97	12,237.52	-2,286.82	37.19	2,286.84	0.00	0.00	0.00
14,100.00	90.10	179.97	12,237.35	-2,386.82	37.24	2,386.84	0.00	0.00	0.00
14,200.00	90.10	179.97	12,237.17	-2,486.82	37.29	2,486.84	0.00	0.00	0.00
14,300.00	90.10	179.97	12,237.00	-2,586.82	37.33	2,586.84	0.00	0.00	0.00
14,400.00	90.10	179.97	12,236.83	-2,686.82	37.38	2,686.84	0.00	0.00	0.00
14,500.00	90.10	179.97	12,236.65	-2,786.82	37.43	2,786.84	0.00	0.00	0.00
14,600.00	90.10	179.97	12,236.48	-2,886.82	37.48	2,886.84	0.00	0.00	0.00
14,700.00	90.10	179.97	12,236.30	-2,986.82	37.53	2,986.84	0.00	0.00	0.00
14,800.00	90.10	179.97	12,236.13	-3,086.82	37.58	3,086.84	0.00	0.00	0.00
14,900.00	90.10	179.97	12,235.95	-3,186.82	37.62	3,186.84	0.00	0.00	0.00
15,000.00	90.10	179.97	12,235.78	-3,286.82	37.67	3,286.84	0.00	0.00	0.00
15,100.00	90.10	179.97	12,235.60	-3,386.82	37.72	3,386.84	0.00	0.00	0.00
15,200.00	90.10	179.97	12,235.43	-3,486.82	37.77	3,486.84	0.00	0.00	0.00
15,300.00	90.10	179.97	12,235.25	-3,586.82	37.82	3,586.84	0.00	0.00	0.00
15,400.00	90.10	179.97	12,235.08	-3,686.82	37.87	3,686.84	0.00	0.00	0.00
15,500.00	90.10	179.97	12,234.91	-3,786.82	37.91	3,786.84	0.00	0.00	0.00
15,600.00	90.10	179.97	12,234.73	-3,886.82	37.96	3,886.84	0.00	0.00	0.00
15,700.00	90.10	179.97	12,234.56	-3,986.82	38.01	3,986.84	0.00	0.00	0.00
15,800.00	90.10	179.97	12,234.38	-4,086.82	38.06	4,086.84	0.00	0.00	0.00
15,900.00	90.10	179.97	12,234.21	-4,186.82	38.11	4,186.84	0.00	0.00	0.00



## Prototype Well Planning LLC

## Planning Report

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #163H
<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	RKB=31' @ 3341.00usft
<b>Project:</b>	Eddy County, NM (NAD-27)	<b>MD Reference:</b>	RKB=31' @ 3341.00usft
<b>Site:</b>	Poker Lake Unit 26 BD	<b>North Reference:</b>	Grid
<b>Well:</b>	#163H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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)	
16,000.00	90.10	179.97	12,234.03	-4,286.82	38.16	4,286.84	0.00	0.00	0.00	
16,100.00	90.10	179.97	12,233.86	-4,386.82	38.21	4,386.84	0.00	0.00	0.00	
16,200.00	90.10	179.97	12,233.68	-4,486.82	38.25	4,486.84	0.00	0.00	0.00	
16,300.00	90.10	179.97	12,233.51	-4,586.82	38.30	4,586.84	0.00	0.00	0.00	
16,400.00	90.10	179.97	12,233.33	-4,686.82	38.35	4,686.84	0.00	0.00	0.00	
16,500.00	90.10	179.97	12,233.16	-4,786.82	38.40	4,786.84	0.00	0.00	0.00	
16,600.00	90.10	179.97	12,232.99	-4,886.82	38.45	4,886.84	0.00	0.00	0.00	
16,700.00	90.10	179.97	12,232.81	-4,986.82	38.50	4,986.84	0.00	0.00	0.00	
16,800.00	90.10	179.97	12,232.64	-5,086.82	38.54	5,086.84	0.00	0.00	0.00	
16,900.00	90.10	179.97	12,232.46	-5,186.82	38.59	5,186.84	0.00	0.00	0.00	
17,000.00	90.10	179.97	12,232.29	-5,286.82	38.64	5,286.84	0.00	0.00	0.00	
17,100.00	90.10	179.97	12,232.11	-5,386.82	38.69	5,386.84	0.00	0.00	0.00	
17,200.00	90.10	179.97	12,231.94	-5,486.82	38.74	5,486.84	0.00	0.00	0.00	
17,300.00	90.10	179.97	12,231.76	-5,586.82	38.79	5,586.84	0.00	0.00	0.00	
17,400.00	90.10	179.97	12,231.59	-5,686.82	38.83	5,686.84	0.00	0.00	0.00	
17,500.00	90.10	179.97	12,231.41	-5,786.82	38.88	5,786.84	0.00	0.00	0.00	
17,600.00	90.10	179.97	12,231.24	-5,886.82	38.93	5,886.84	0.00	0.00	0.00	
17,700.00	90.10	179.97	12,231.07	-5,986.82	38.98	5,986.84	0.00	0.00	0.00	
17,800.00	90.10	179.97	12,230.89	-6,086.82	39.03	6,086.84	0.00	0.00	0.00	
17,900.00	90.10	179.97	12,230.72	-6,186.82	39.08	6,186.84	0.00	0.00	0.00	
18,000.00	90.10	179.97	12,230.54	-6,286.82	39.12	6,286.84	0.00	0.00	0.00	
18,100.00	90.10	179.97	12,230.37	-6,386.82	39.17	6,386.84	0.00	0.00	0.00	
18,200.00	90.10	179.97	12,230.19	-6,486.82	39.22	6,486.84	0.00	0.00	0.00	
18,300.00	90.10	179.97	12,230.02	-6,586.82	39.27	6,586.84	0.00	0.00	0.00	
18,400.00	90.10	179.97	12,229.84	-6,686.82	39.32	6,686.84	0.00	0.00	0.00	
18,500.00	90.10	179.97	12,229.67	-6,786.82	39.37	6,786.84	0.00	0.00	0.00	
18,600.00	90.10	179.97	12,229.49	-6,886.82	39.41	6,886.84	0.00	0.00	0.00	
18,700.00	90.10	179.97	12,229.32	-6,986.82	39.46	6,986.84	0.00	0.00	0.00	
18,800.00	90.10	179.97	12,229.15	-7,086.82	39.51	7,086.84	0.00	0.00	0.00	
18,900.00	90.10	179.97	12,228.97	-7,186.82	39.56	7,186.84	0.00	0.00	0.00	
19,000.00	90.10	179.97	12,228.80	-7,286.82	39.61	7,286.84	0.00	0.00	0.00	
19,100.00	90.10	179.97	12,228.62	-7,386.82	39.66	7,386.84	0.00	0.00	0.00	
19,200.00	90.10	179.97	12,228.45	-7,486.82	39.71	7,486.84	0.00	0.00	0.00	
19,300.00	90.10	179.97	12,228.27	-7,586.82	39.75	7,586.84	0.00	0.00	0.00	
19,400.00	90.10	179.97	12,228.10	-7,686.82	39.80	7,686.84	0.00	0.00	0.00	
19,500.00	90.10	179.97	12,227.92	-7,786.82	39.85	7,786.84	0.00	0.00	0.00	
19,600.00	90.10	179.97	12,227.75	-7,886.82	39.90	7,886.84	0.00	0.00	0.00	
19,700.00	90.10	179.97	12,227.57	-7,986.82	39.95	7,986.84	0.00	0.00	0.00	
19,800.00	90.10	179.97	12,227.40	-8,086.82	40.00	8,086.83	0.00	0.00	0.00	
19,891.72	90.10	179.97	12,227.24	-8,178.54	40.04	8,178.56	0.00	0.00	0.00	
19,900.00	90.10	179.97	12,227.23	-8,186.81	40.04	8,186.83	0.00	0.00	0.00	
20,000.00	90.10	179.97	12,227.05	-8,286.81	40.09	8,286.83	0.00	0.00	0.00	
20,021.73	90.10	179.97	12,227.01	-8,308.55	40.10	8,308.57	0.00	0.00	0.00	



## Prototype Well Planning LLC

## Planning Report

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #163H
<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	RKB=31' @ 3341.00usft
<b>Project:</b>	Eddy County, NM (NAD-27)	<b>MD Reference:</b>	RKB=31' @ 3341.00usft
<b>Site:</b>	Poker Lake Unit 26 BD	<b>North Reference:</b>	Grid
<b>Well:</b>	#163H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PERMIT		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
PLU 26 BD #163H: SHL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	401,332.80	648,200.40	32.102476	-103.854729
PLU 26 BD #163H: PBH - plan hits target center - Point	0.00	0.00	12,227.01	-8,308.55	40.10	393,024.80	648,240.50	32.079637	-103.854719
PLU 26 BD #163H: LTP - plan misses target center by 0.14usft at 19891.72usft MD (12227.24 TVD, -8178.54 N, 40.04 E) - Point	0.00	0.00	12,227.24	-8,178.54	39.90	393,154.80	648,240.30	32.079994	-103.854717
PLU 26 BD #163H: FTP - plan hits target center - Point	0.00	0.00	12,240.00	-867.66	36.50	400,465.20	648,236.90	32.100090	-103.854624

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
949.00	949.00	Rustler				
1,099.00	1,099.00	Top Salt				
3,857.00	3,857.00	Base Salt				
3,949.00	3,949.00	Delaware				
4,913.00	4,913.00	Cherry Canyon				
6,456.00	6,456.00	Brushy Canyon				
7,771.00	7,771.00	Bone Spring				
8,742.47	8,741.00	1st Bone Spring Ss				
9,128.94	9,126.00	2nd Bone Spring Lm				
9,565.60	9,561.00	2nd Bone Spring Ss				
9,934.00	9,928.00	3rd Bone Spring Lm				
10,311.43	10,304.00	Bone Spring Harkey Sand				
10,408.80	10,401.00	3rd Bone Spring Ss				
11,145.61	11,135.00	Wolfcamp				
11,171.71	11,161.00	Wolfcamp X				
11,203.83	11,193.00	Wolfcamp Y				
11,213.87	11,203.00	Wolfcamp A				
11,621.42	11,609.00	Wolfcamp B				
12,067.74	12,026.00	Wolfcamp D				
12,194.11	12,115.00	Wolfcamp E				



District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
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: 10/10/2019

☒ 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 26 BD 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 26 BD 154H		F-26-25S-30E	2155'FNL & 1915'FWL	2800	Flared/Sold	
Poker Lake Unit 26 BD 163H		F-26-25S-30E	2155'FNL & 1615'FWL	2800	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 LUCID and will be connected to LUCID low/high pressure gathering system located in Eddy County, New Mexico. It will require 2442.44' of pipeline to connect the facility to low/high pressure gathering system. XTO PERMIAN OPERATING, LLC provides (periodically) to LUCID 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 LUCID have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Red Hills Processing Plant located in Sec.32, Twn. T32S, Rng 28E, Eddy County, New Mexico. 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 LUCID 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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Submit Original  
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## GAS CAPTURE PLAN

Date: 10/10/2019

☒ 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 26w BD 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 26 BD 154H		F-26-25S-30E	2155'FNL & 1915'FWL	2800	Flared/Sold	
Poker Lake Unit 26 BD 163H		F-26-25S-30E	2155'FNL & 1615'FWL	2800	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 LUCID and will be connected to LUCID low/high pressure gathering system located in Eddy County, New Mexico. It will require 831.58' of pipeline to connect the facility to low/high pressure gathering system. XTO PERMIAN OPERATING, LLC provides (periodically) to LUCID 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 LUCID have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Red Hills Processing Plant located in Sec.32, Twn. T32S, Rng 28E, Eddy County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

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### Alternatives to Reduce Flaring

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

- Power Generation – On lease
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  - 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



GATES E & S NORTH AMERICA, INC  
DU-TEX  
134 44TH STREET  
CORPUS CHRISTI, TEXAS 78405  
PHONE: 361-887-9807  
FAX: 361-887-0812  
EMAIL: crpe&ss@gates.com  
WEB: www.gates.com

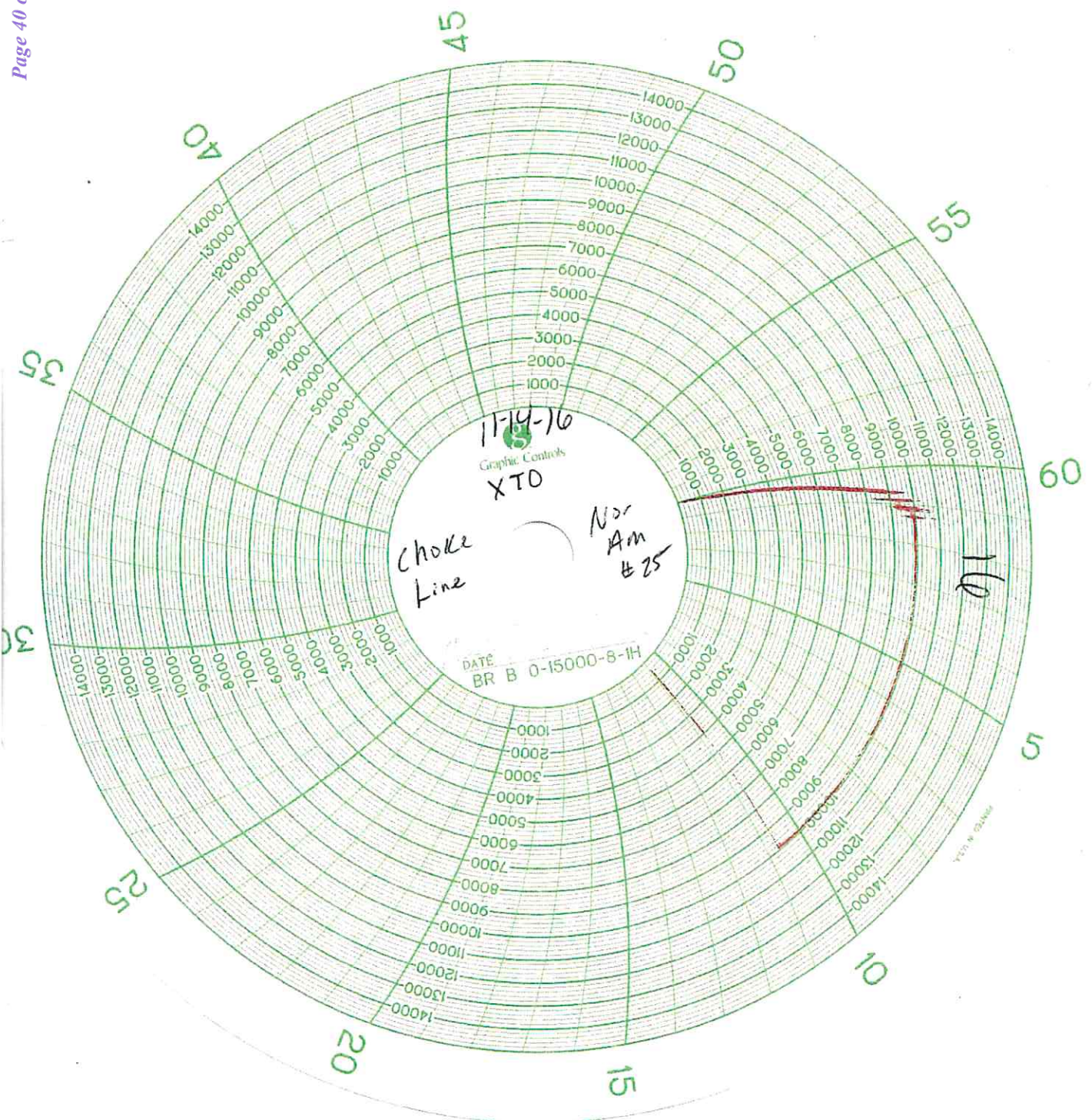
GRADE D PRESSURE TEST CERTIFICATE

Customer:	AUSTIN DISTRIBUTING	Test Date:	6/8/2014
Customer Ref.:	PENDING	Hose Serial No.:	D-060814-1
Invoice No.:	201709	Created By:	NORMA
Product Description:	FD3-042-0R41/16.5KFLGE/E LE		
End Filling 1:	4 1/16 in. SK FLG	End Filling 2:	4 1/16 in. SK FLG
Gates Part No.:	4274-6001	Assembly Code:	L33090011513D-060814-1
Working Pressure:	5,000 PSI	Test Pressure:	7,500 PSI

Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 7,500 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.5 times the working pressure per Table 9.

Quality:	Signature:	Quality:	Signature:
Date:	6/8/2014	Date:	6/8/2014
Technical Supervisor:	Signature:	Technical Supervisor:	Signature:
PRODUCTION	6/8/2014	PRODUCTION	6/8/2014







## 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

**District I**  
1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720  
**District III**  
1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

COMMENTS  
  
Action 15466

COMMENTS

Operator: XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD BUILDING 5 MIDLAND, TX79707		OGRID: 373075	Action Number: 15466	Action Type: FORM 3160-3
Created By kpickford	Comment KP GEO Review 1/25/2021		Comment Date 01/25/2021	

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**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

CONDITIONS

Action 15466

**CONDITIONS OF APPROVAL**

Operator:		OGRID:	Action Number:	Action Type:
XTO PERMIAN OPERATING LLC. BUILDING 5	6401 HOLIDAY HILL ROAD MIDLAND, TX79707	373075	15466	FORM 3160-3

OCD Reviewer	Condition
kpickford	Notify OCD 24 hours prior to casing & cement
kpickford	Will require a File As Drilled C-102 and a Directional Survey with the C-104
kpickford	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
kpickford	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system