

Well Name: POKER LAKE UNIT 19 DTD	Well Location: T24S / R30E / SEC 19 / SENW /	County or Parish/State:
Well Number: 224H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM002860	Unit or CA Name:	Unit or CA Number: NMNM71016X
US Well Number: 3001553825	Well Status: Approved Application for Permit to Drill	Operator: XTO PERMIAN OPERATING LLC

Notice of Intent

Sundry ID: 2781303

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 03/22/2024

Time Sundry Submitted: 03:31

Date proposed operation will begin: 04/12/2024

**Procedure Description:** XTO Permian Operating, LLC. respectfully requests approval to make the following changes to the approved APD. Changes to include SHL, FTP, LTP, BHL, casing sizes, cement, and proposed total depth. FROM: TO: SHL: 1333' FNL & 1943' FWL of Section 19-T24S-R30E 1373' FNL & 1943' FWL of Section 19-T24S-R30E FTP: 100' FSL & 770' FEL of Section 18-T24S-R30E 100' FNL & 2625' FWL of Section 19-T24S-R30E LTP: 2310' FSL & 770' FEL of Section 31-T23S-R30E 100' FSL & 2625' FWL of Section 31-T24S-R30E BHL: 2440' FSL & 770' FEL of Section 31-T23S-R30E 50' FSL & 2625' FWL of Section 31-T24S-R30E Proposed total depth will change from 30657' MD; 11710' TVD (Wolfcamp) to 24692' MD; TVD 9080' (2nd Bone Spring). See attached Drilling Plan for updated cement and casing program. Attachments: C-102, Drilling Plan, Directional Drilling Plan, MBS, BOP Variance, Well Control Plan

NOI Attachments

Procedure Description

POKER\_LAKE\_UNIT\_19\_DTD\_224H\_Sundry\_Attachments\_20240322153100.pdf

**Well Name:** POKER LAKE UNIT 19  
DTD

**Well Location:** T24S / R30E / SEC 19 /  
SENW /

**County or Parish/State:**

**Well Number:** 224H

**Type of Well:** CONVENTIONAL GAS  
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**Allottee or Tribe Name:**

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**Unit or CA Name:**

**Unit or CA Number:**  
NMNM71016X

**US Well Number:** 3001553825

**Well Status:** Approved Application for  
Permit to Drill

**Operator:** XTO PERMIAN  
OPERATING LLC

Conditions of Approval

Additional

Sec19\_24S\_30E\_NMP\_Sundry\_2781303Poker\_Lake\_Unit\_19\_DTD\_224H\_COAs\_20240404111704.pdf

Operator

I certify that the foregoing is true and correct. 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. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

**Operator Electronic Signature:** TERRA SEBASTIAN

**Signed on:** MAR 22, 2024 03:31 PM

**Name:** XTO PERMIAN OPERATING LLC

**Title:** Regulatory Advisor

**Street Address:** 6401 HOLIDAY HILL ROAD SUITE 200

**City:** MIDLAND

**State:** TX

**Phone:** (432) 999-3107

**Email address:** TERRA.B.SEBASTIAN@EXXONMOBIL.COM

Field

**Representative Name:**

**Street Address:**

**City:**

**State:**

**Zip:**

**Phone:**

**Email address:**

BLM Point of Contact

**BLM POC Name:** CHRISTOPHER WALLS

**BLM POC Title:** Petroleum Engineer

**BLM POC Phone:** 5752342234

**BLM POC Email Address:** cwalls@blm.gov

**Disposition:** Approved

**Disposition Date:** 04/05/2024

**Signature:** Chris Walls

Form 3160-5  
(June 2019)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0137  
Expires: October 31, 2021

SUNDRY NOTICES AND REPORTS ON WELLS  
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

5. Lease Serial No.

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well  
☐ Oil Well    ☐ Gas Well    ☐ Other

2. Name of Operator

3a. Address    3b. Phone No. (include area code)

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

7. If Unit of CA/Agreement, Name and/or No.

8. Well Name and No.

9. API Well No.

10. Field and Pool or Exploratory Area

11. Country or Parish, State

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION				
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off	
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity	
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other	
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon		
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal		

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be perfonned or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has detennined that the site is ready for final inspection.)

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)

Title

Signature

Date

THE SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

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

Office

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

(Instructions on page 2)

## GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law 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, are either shown below, will be issued by or may be obtained from the local Federal office.

## SPECIFIC INSTRUCTIONS

*Item 4* - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

*Item 13*: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. 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 the 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., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

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

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

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 Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

**Additional Information**

**Additional Remarks**

Attachments: C-102, Drilling Plan, Directional Drilling Plan, MBS, BOP Variance, Well Control Plan

**Location of Well**

- 0. SHL: SENW / 1333 FNL / 1943 FWL / TWSP: 24S / RANGE: 30E / SECTION: 19 / LAT: 32.206578 / LONG: -103.923221 ( TVD: 0 feet, MD: 0 feet )
- PPP: SESE / 330 FSL / 770 FEL / TWSP: 24S / RANGE: 30E / SECTION: 7 / LAT: 32.22565 / LONG: -103.91464 ( TVD: 11710 feet, MD: 17800 feet )
- PPP: SESE / 100 FSL / 770 FEL / TWSP: 24S / RANGE: 30E / SECTION: 18 / LAT: 32.210608 / LONG: -103.9147 ( TVD: 11710 feet, MD: 12500 feet )
- BHL: NESE / 2440 FSL / 770 FEL / TWSP: 23S / RANGE: 30E / SECTION: 31 / LAT: 32.260682 / LONG: -103.914677 ( TVD: 11710 feet, MD: 30657 feet )

## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	XTO Permian Operating LLC
<b>WELL NAME &amp; NO.:</b>	Poker Lake Unit 19 DTD 224H
<b>LOCATION:</b>	Sec 19-24S-30E-NMP
<b>COUNTY:</b>	Eddy County, New Mexico

*Changes approved through engineering via **Sundry 2781303** on 04/04/2024. Any previous COAs not addressed within the updated COAs still apply.*

### COA

<b>H<sub>2</sub>S</b>	<input checked="" type="radio"/> No	<input type="radio"/> Yes		
<b>Potash / WIPP</b>	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P	<input type="checkbox"/> WIPP
<b>Cave / Karst</b>	<input type="radio"/> Low	<input checked="" type="radio"/> Medium	<input type="radio"/> High	<input type="radio"/> Critical
<b>Wellhead</b>	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both	<input type="radio"/> Diverter
<b>Cementing</b>	<input type="checkbox"/> Primary Squeeze	<input checked="" type="checkbox"/> Cont. Squeeze	<input checked="" type="checkbox"/> EchoMeter	<input type="checkbox"/> DV Tool
<b>Special Req</b>	<input checked="" type="checkbox"/> Break Testing	<input type="checkbox"/> Water Disposal	<input type="checkbox"/> COM	<input checked="" type="checkbox"/> Unit
<b>Variance</b>	<input checked="" type="checkbox"/> Flex Hose	<input checked="" type="checkbox"/> Casing Clearance	<input type="checkbox"/> Pilot Hole	<input type="checkbox"/> Capitan Reef
<b>Variance</b>	<input type="checkbox"/> Four-String	<input checked="" type="checkbox"/> Offline Cementing	<input type="checkbox"/> Fluid-Filled	<input type="checkbox"/> Open Annulus
<input type="checkbox"/> <b>Batch APD / Sundry</b>				

### A. HYDROGEN SULFIDE

Hydrogen Sulfide (H<sub>2</sub>S) monitors shall be installed prior to drilling out the surface shoe. If H<sub>2</sub>S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet 43 CFR 3176 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 430 feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface. ***Set depth adjusted per BLM geologist.***
  - 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 **9-5/8** 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, Capitan Reef, 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.

**Operator has proposed to pump down 13-3/8" X 9-5/8" annulus after primary cementing stage. Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus OR operator shall run a CBL from TD of the 9-5/8" casing to surface after the second stage BH to verify TOC.**

**Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry between second stage BH and top out.**

**If cement does not reach surface, the next casing string must come to surface.**

**Operator must use a limited flush fluid volume of 1 bbl following backside cementing procedures.**

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**

## **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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.

- b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- c. Manufacturer representative shall install the test plug for the initial BOP test.
- d. 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 43 CFR 3172 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.

### **BOPE Break Testing Variance**

- BOPE Break Testing is ONLY permitted for 5M BOPE or less. (**Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP**)
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer (**575-706-2779**) prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted (575-361-2822 Eddy County) 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per Onshore Oil and Gas Order No. 2.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

### **Offline Cementing**

Contact the BLM prior to the commencement of any offline cementing procedure.

## **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 (API No. / US Well No. contains 30-015-#####)**

Email or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,  
BLM NM CFO DrillingNotifications@blm.gov; (575) 361-2822

**Lea County (API No. / US Well No. contains 30-025-#####)**

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240; (575) 689-5981

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 **43 CFR part 3170 Subpart 3172** 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 **43 CFR part 3170 Subpart 3172 and API STD 53 Sec. 5.3**.
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 **43 CFR part 3170 Subpart 3172** 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 cement), 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 cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)

- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR part 3170 Subpart 3172** 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 **43 CFR part 3170 Subpart 3172**.
- 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.

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

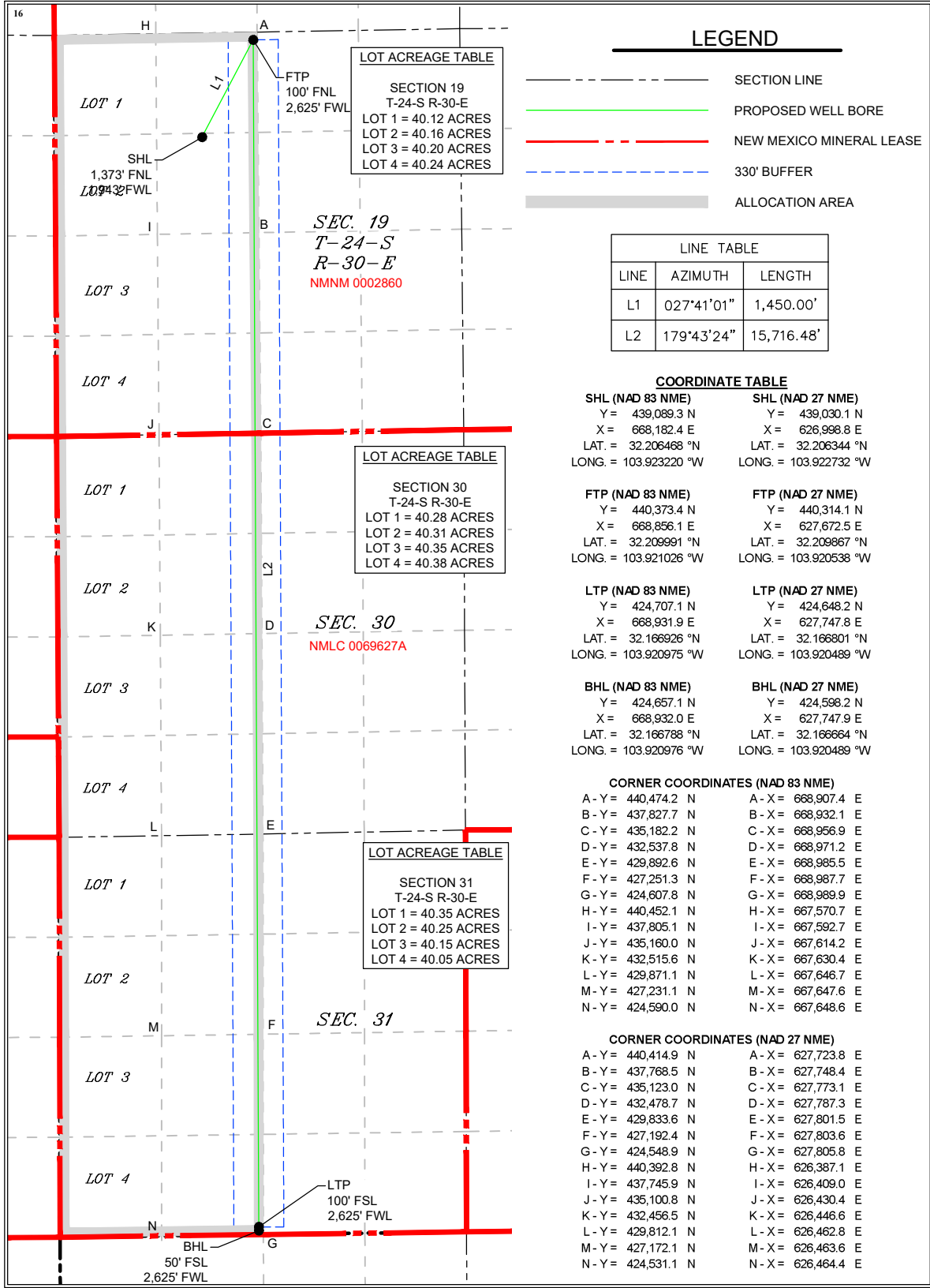
<sup>1</sup> API Number <b>30-015-53825</b>	<sup>2</sup> Pool Code <b>47545</b>	<sup>3</sup> Pool Name <b>Nash Draw; Delaware/BS (Avalon Sand)</b>
<sup>4</sup> Property Code <b>333976</b>	<sup>5</sup> Property Name <b>POKER LAKE UNIT 19 DTD</b>	<sup>6</sup> Well Number <b>224H</b>
<sup>7</sup> OGRID No. <b>373075</b>	<sup>8</sup> Operator Name <b>XTO PERMIAN OPERATING, LLC</b>	<sup>9</sup> Elevation <b>3,166'</b>

<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
<b>F</b>	<b>19</b>	<b>24S</b>	<b>30E</b>		<b>1,373</b>	<b>NORTH</b>	<b>1,943</b>	<b>WEST</b>	<b>EDDY</b>

<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
<b>N</b>	<b>31</b>	<b>24S</b>	<b>30E</b>		<b>50</b>	<b>SOUTH</b>	<b>2,625</b>	<b>WEST</b>	<b>EDDY</b>

<sup>12</sup> Dedicated Acres <b>962.84</b>	<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.



**<sup>17</sup> OPERATOR CERTIFICATION**

*I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.*

Manish Saini 03/20/2024  
Signature Date

Manish Saini  
Printed Name

manish.saini@exxomobil.com  
E-mail Address

**<sup>18</sup> SURVEYOR CERTIFICATION**

*I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.*

02/09/2024  
Date of Survey

Signature and Seal of Professional Surveyor:

MARK DILLON HARP  
NEW MEXICO  
23786  
PROFESSIONAL SURVEYOR

MARK DILLON HARP 23786  
Certificate Number

DB 618.013003.05-48

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

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

XTO Energy Inc.

PLU 19 Dog Town Draw 224H

Projected TD: 24692.7' MD / 9080' TVD

SHL: 1373' FNL & 1943' FWL , Section 19, T24S, R30E

BHL: 50' FSL & 2625' FWL , Section 31, T24S, R30E

Eddy County, NM

**1. Geologic Name of Surface Formation**

A. Quaternary

**2. Estimated Tops of Geological Markers & Depths of Anticipated Fresh Water, Oil or Gas**

Formation	Well Depth (TVD)	Water/Oil/Gas
Rustler	610'	Water
Top of Salt	1013'	Water
Base of Salt	3206'	Water
Delaware	3400'	Water
Brushy Canyon	5898'	Water/Oil/Gas
Bone Spring	6940'	Water
1st Bone Spring	8180'	Water/Oil/Gas
2nd Bone Spring	8998'	Water/Oil/Gas
Target/Land Curve	9080'	Water/Oil/Gas

\*\*\* Hydrocarbons @ Brushy Canyon

\*\*\* Groundwater depth 40' (per NM State Engineers Office).

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 13.375 inch casing @ 710' (303' above the salt) and circulating cement back to surface. The intermediate will isolate from the top of salt down to the next casing seat by setting 9.625 inch casing at 8367.88' and cemented to surface. A 8.5 inch curve and 8.5 inch lateral hole will be drilled to 24692.7 MD/TD and 5.5 inch production casing will be set at TD and cemented back up in the intermediate shoe (estimated TOC 8067.88 feet).

**3. Casing Design**

Hole Size	Depth	OD Csg	Weight	Grade	Collar	New/Used	SF Burst	SF Collapse	SF Tension
17.5	0' – 710'	13.375	54.5	J-55	BTC	New	1.59	3.64	23.49
12.25	0' – 4000'	9.625	40	HC P-110	BTC	New	3.44	2.48	3.78
12.25	4000' – 8367.88'	9.625	40	HC L-80	BTC	New	2.50	2.40	5.24
8.5	0' – 8267.88'	5.5	20	RY P-110	Semi-Premium	New	1.05	2.84	2.14
8.5	8267.88' - 24692.7'	5.5	20	RY P-110	Semi-Premium	New	1.05	2.58	2.14

- XTO requests the option to utilize a spudder rig (Atlas Copco RD20 or Equivalent) to set and cement surface casing per this Sundry
- XTO requests to not utilize centralizers in the curve and lateral
- 9.625 Collapse analyzed using 50% evacuation based on regional experience.
- 5.5 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
- XTO requests the option to use 5" BTC Float equipment for the the production casing

**Wellhead:**

Permanent Wellhead – Multibowl System

A. Starting Head: 13-5/8" 10M top flange x 13-3/8" SOW bottom (or equivalent)

B. Tubing Head: 13-5/8" 10M bottom flange x 7-1/16" 15M top flange (or equivalent)

- 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

#### 4. Cement Program

##### **Surface Casing: 13.375, 54.5 New BTC, J-55 casing to be set at +/- 710'**

Lead: 300 sxs EconoCem-HLTRRC (mixed at 10.5 ppg, 1.87 ft<sup>3</sup>/sx, 10.13 gal/sx water)

Tail: 300 sxs Class C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft<sup>3</sup>/sx, 6.39 gal/sx water)

Top of Cement: Surface

Compressives: 12-hr = 900 psi 24 hr = 1500 psi

##### **2nd Intermediate Casing: 9.625, 40 New casing to be set at +/- 8367.88'**

###### 1st Stage

Optional Lead: 1000 sxs Class C (mixed at 10.5 ppg, 2.77 ft<sup>3</sup>/sx, 15.59 gal/sx water)

TOC: Surface

Tail: 710 sxs Class C (mixed at 14.8 ppg, 1.35 ft<sup>3</sup>/sx, 6.39 gal/sx water)

TOC: Brushy Canyon @ 5898

Compressives: 12-hr = 900 psi 24 hr = 1150 psi

###### 2nd Stage

Lead: 0 sxs Class C (mixed at 12.9 ppg, 2.16 ft<sup>3</sup>/sx, 9.61 gal/sx water)

Tail: 2080 sxs Class C (mixed at 14.8 ppg, 1.33 ft<sup>3</sup>/sx, 6.39 gal/sx water)

Top of Cement: 0

Compressives: 12-hr = 900 psi 24 hr = 1150 psi

XTO requests to pump a two stage cement job on the 7-5/8" intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brush Canyon (5898') and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. If cement is not visually confirmed to circulate to surface, the final cement top after the second stage job will be verified by Echo-meter. If necessary, a top out consisting of 1,500 sack of Class C cement + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (2.30 yld, 12.91 ppg) will be executed as a contingency. If cement is still unable to circulate to surface, another Echo-meter run will be performed for cement top verification.

XTO will report to the BLM the volume of fluid (limited to 5 bbls) used to flush intermediate casing valves following backside cementing procedures.

XTO requests to pump an Optional Lead if well conditions dictate in an attempt to bring cement inside the first intermediate casing. If cement reaches the desired height, the BLM will be notified and the second stage bradenhead squeeze and subsequent TOC verification will be negated.

XTO requests the option to conduct the bradenhead squeeze and TOC verification offline as per standard approval from BLM when unplanned remediation is needed and batch drilling is approved. In the event the bradenhead is conducted, we will ensure the first stage cement job is cemented properly and the well is static with floats holding and no pressure on the csg annulus as with all other casing strings where batch drilling operations occur before moving off the rig. The TA cap will also be installed per Cactus procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops.

##### **Production Casing: 5.5, 20 New Semi-Premium, RY P-110 casing to be set at +/- 24692.7'**

Lead: 50 sxs NeoCem (mixed at 11.5 ppg, 2.69 ft<sup>3</sup>/sx, 15.00 gal/sx water) Top of Cement: 8067.88 feet

Tail: 3180 sxs VersaCem (mixed at 13.2 ppg, 1.51 ft<sup>3</sup>/sx, 8.38 gal/sx water) Top of Cement: 8567.88 feet

Compressives: 12-hr = 800 psi 24 hr = 1500 psi

XTO requests the option to offline cement and remediate (if needed) surface and intermediate casing strings where batch drilling is approved and if unplanned remediation is needed. XTO will ensure well is static with no pressure on the csg annulus, as with all other casing strings where batch drilling operations occur before moving off the rig. The TA cap will also be installed when applicable per Cactus procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops. Offline cement operations will then be conducted after the rig is moved off the current well to the next well in the batch sequence.

## 5. Pressure Control Equipment

Once the permanent WH is installed on the 13.375 casing, the blow out preventer equipment (BOP) will consist of a 13-5/8" minimum 5M Hydril and a 13-5/8" minimum 10M Double Ram BOP. MASP should not exceed 2299 psi. In any instance where 10M BOP is required by BLM, XTO requests a variance to utilize 5M annular with 10M ram preventers (a common BOP configuration, which allows use of 10M rams in unlikely event that pressures exceed 5M).

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 13.375, 5M bradenhead and flange, the BOP test will be limited to 5000 psi. When nipping up on the 9.625, the BOP will be tested to a minimum of 5000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 5M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test chart will be kept on the rig. Attached is an example of a certification and pressure test chart. The manufacturer does not require anchors.

XTO requests a variance to be able to batch drill this well if necessary. In doing so, XTO will set casing and ensure that the well is cemented properly (unless approval is given for offline cementing) and the well is static. With floats holding, no pressure on the csg annulus, and the installation of a 10K TA cap as per Cactus 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.

A variance is requested to **ONLY** test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53. API standard 53 states, that for pad drilling operation, moving from one wellhead to another within 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken. Based on discussions with the BLM on February 27th 2020, we will request permission to **ONLY** retest broken pressure seals if the following conditions are met: 1. After a full BOP test is conducted on the first well on the pad 2. When skidding to drill an intermediate section that does not penetrate into the Wolfcamp.

## 6. Proposed Mud Circulation System

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' - 710'	17.5	FW/Native	8.4-8.9	35-40	NC
710' - 8367.88'	12.25	FW / Cut Brine / Direct Emulsion	8.2-8.7	30-32	NC
8367.88' - 24692.7'	8.5	OBM	9.1-9.6	50-60	NC - 20

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

Spud with fresh water/native mud. Drill out from under 9-5/8" surface casing with brine solution. A 9.7 ppg - 10.2 ppg cut brine mud will be used while drilling through the salt formation. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Pump speed will be recorded on a daily drilling report after mudding up. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

## 7. Auxiliary Well Control and Monitoring Equipment

- A. A Kelly cock will be in the drill string at all times.
- B. A full opening drill pipe stabbing valve having appropriate connections will be on the rig floor at all times.
- C. H2S monitors will be on location when drilling below the 13.375 casing.

## 8. Logging, Coring and Testing Program

Open hole logging will not be done on this well.

## 9. Abnormal Pressures and Temperatures / Potential Hazards

None Anticipated. BHT of 155 to 175 F is anticipated. No H2S is expected but monitors will be in place to detect any H2S occurrences. Should these circumstances be encountered the operator and drilling contractor are prepared to take all necessary steps to ensure safety of all personnel and environment. Lost circulation could occur but is not expected to be a serious problem in this area and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid. The maximum anticipated bottom hole pressure for this well is 4297 psi.

## 10. Anticipated Starting Date and Duration of Operations

Anticipated spud date will be after BLM approval. Move in operations and drilling is expected to take 40 days.

Well  
Plan  
Report  
-  
Poker  
Lake  
Unit  
19  
DTD  
South  
224H

Measured Depth: 24692.70 ft

TVD RKB: 9080.00 ft

Location

Cartographic Reference System: New Mexico East - NAD 27

Northing: 439030.10 ft

Easting: 626998.80 ft

RKB: 3198.00 ft

Ground Level: 3166.00 ft

North Reference: Grid

Convergence Angle: 0.22 Deg

Plan Sections

Poker Lake Unit 19  
DTD South 224H

Measured			TVD			Build	Turn	Dogleg
Depth	Inclination	Azimuth	RKB	Y Offset	X Offset	Rate	Rate	Rate
(ft)	(Deg)	(Deg)	(ft)	(ft)	(ft)	(Deg/100ft)	(Deg/100ft)	(Deg/100ft) Target
0	0	0	0	0	0	0	0	0
1100	0	0	1100	0	0	0	0	0
1949.81	17	27.69	1937.4	110.8	58.13	2	0	2
6054.27	17	27.69	5862.6	1173.2	615.57	0	0	0

6904.08	0	0	6700	1284	673.7	-2	0	2
8567.88	0	0	8363.8	1284	673.7	0	0	0
9692.88	90	179.73	9080	567.81	677.14	8	0	8
10576.58	90	179.73	9080	-315.88	681.38	0	0	0 LTP 21
24692.7	90	179.73	9080	-14431.83	749.13	0	0	0 BHL 21

Position	Poker Lake Unit 19
Uncertainty	DTD South 224H

Measured			TVD	Highside		Lateral		Vertical	
Depth	Inclination	Azimuth	RKB	Error	Bias	Error	Bias	Error	Bias
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
0	0	0	0	0	0	0	0	0	0
100	0	0	100	0.7	0	0.35	0	2.3	0
200	0	0	200	1.112	0	0.861	0	2.309	0
300	0	0	300	1.497	0	1.271	0	2.325	0
400	0	0	400	1.871	0	1.658	0	2.346	0
500	0	0	500	2.24	0	2.034	0	2.373	0
600	0	0	600	2.607	0	2.405	0	2.405	0
700	0	0	700	2.971	0	2.773	0	2.441	0
800	0	0	800	3.334	0	3.138	0	2.482	0
900	0	0	900	3.696	0	3.502	0	2.528	0
1000	0	0	1000	4.058	0	3.865	0	2.577	0
1100	0	0	1100	4.419	0	4.228	0	2.63	0
1200	2	27.685	1199.98	5.259	0	4.258	0	2.686	0
1300	4	27.685	1299.838	6.014	0	4.645	0	2.745	0
1400	6	27.685	1399.452	6.696	0	5.026	0	2.81	0
1500	8	27.685	1498.702	7.324	0	5.404	0	2.883	0
1600	10	27.685	1597.465	7.91	0	5.779	0	2.966	0
1700	12	27.685	1695.623	8.462	0	6.153	0	3.06	0
1800	14	27.685	1793.055	8.984	0	6.527	0	3.168	0
1900	16	27.685	1889.643	9.482	0	6.901	0	3.291	0
1949.808	16.996	27.685	1937.4	9.621	0	7.078	0	3.331	0
2000	16.996	27.685	1985.399	9.76	0	7.256	0	3.373	0
2100	16.996	27.685	2081.032	10.042	0	7.624	0	3.467	0
2200	16.996	27.685	2176.664	10.341	0	8.006	0	3.567	0
2300	16.996	27.685	2272.297	10.647	0	8.389	0	3.671	0
2400	16.996	27.685	2367.929	10.96	0	8.774	0	3.78	0
2500	16.996	27.685	2463.562	11.279	0	9.16	0	3.892	0
2600	16.996	27.685	2559.194	11.605	0	9.547	0	4.007	0
2700	16.996	27.685	2654.827	11.936	0	9.935	0	4.125	0
2800	16.996	27.685	2750.459	12.272	0	10.324	0	4.246	0
2900	16.996	27.685	2846.091	12.613	0	10.714	0	4.37	0
3000	16.996	27.685	2941.724	12.958	0	11.104	0	4.497	0
3100	16.996	27.685	3037.356	13.307	0	11.495	0	4.626	0

3200	16.996	27.685	3132.989	13.66	0	11.887	0	4.757	0
3300	16.996	27.685	3228.621	14.016	0	12.279	0	4.89	0
3400	16.996	27.685	3324.254	14.375	0	12.672	0	5.026	0
3500	16.996	27.685	3419.886	14.737	0	13.065	0	5.164	0
3600	16.996	27.685	3515.518	15.102	0	13.458	0	5.303	0
3700	16.996	27.685	3611.151	15.469	0	13.852	0	5.444	0
3800	16.996	27.685	3706.783	15.839	0	14.246	0	5.587	0
3900	16.996	27.685	3802.416	16.21	0	14.64	0	5.732	0
4000	16.996	27.685	3898.048	16.584	0	15.035	0	5.879	0
4100	16.996	27.685	3993.681	16.959	0	15.43	0	6.027	0
4200	16.996	27.685	4089.313	17.337	0	15.825	0	6.177	0
4300	16.996	27.685	4184.945	17.716	0	16.221	0	6.328	0
4400	16.996	27.685	4280.578	18.096	0	16.616	0	6.482	0
4500	16.996	27.685	4376.21	18.478	0	17.012	0	6.636	0
4600	16.996	27.685	4471.843	18.861	0	17.408	0	6.792	0
4700	16.996	27.685	4567.475	19.246	0	17.804	0	6.95	0
4800	16.996	27.685	4663.108	19.632	0	18.201	0	7.11	0
4900	16.996	27.685	4758.74	20.019	0	18.597	0	7.271	0
5000	16.996	27.685	4854.373	20.407	0	18.994	0	7.433	0
5100	16.996	27.685	4950.005	20.796	0	19.39	0	7.597	0
5200	16.996	27.685	5045.637	21.186	0	19.787	0	7.763	0
5300	16.996	27.685	5141.27	21.577	0	20.184	0	7.93	0
5400	16.996	27.685	5236.902	21.968	0	20.581	0	8.099	0
5500	16.996	27.685	5332.535	22.361	0	20.978	0	8.269	0
5600	16.996	27.685	5428.167	22.754	0	21.376	0	8.441	0
5700	16.996	27.685	5523.8	23.148	0	21.773	0	8.615	0
5800	16.996	27.685	5619.432	23.543	0	22.17	0	8.79	0
5900	16.996	27.685	5715.064	23.938	0	22.568	0	8.967	0
6000	16.996	27.685	5810.697	24.334	0	22.965	0	9.145	0
6054.274	16.996	27.685	5862.6	24.547	0	23.178	0	9.242	0
6100	16.082	27.685	5906.434	24.748	0	23.356	0	9.325	0
6200	14.082	27.685	6002.985	25.215	0	23.743	0	9.51	0
6300	12.082	27.685	6100.385	25.694	0	24.126	0	9.694	0
6400	10.082	27.685	6198.515	26.132	0	24.502	0	9.866	0
6500	8.082	27.685	6297.257	26.529	0	24.868	0	10.028	0
6600	6.082	27.685	6396.489	26.884	0	25.226	0	10.181	0
6700	4.082	27.685	6496.091	27.198	0	25.576	0	10.327	0
6800	2.082	27.685	6595.941	27.471	0	25.916	0	10.467	0
6904.082	0	0	6700	27.004	0	26.989	0	10.607	0
7000	0	0	6795.918	27.341	0	27.291	0	10.735	0
7100	0	0	6895.918	27.659	0	27.607	0	10.872	0
7200	0	0	6995.918	27.979	0	27.924	0	11.011	0
7300	0	0	7095.918	28.3	0	28.243	0	11.154	0
7400	0	0	7195.918	28.621	0	28.562	0	11.299	0
7500	0	0	7295.918	28.943	0	28.882	0	11.448	0
7600	0	0	7395.918	29.267	0	29.203	0	11.599	0
7700	0	0	7495.918	29.591	0	29.525	0	11.754	0

7800	0	0	7595.918	29.915	0	29.848	0	11.912	0
7900	0	0	7695.918	30.241	0	30.172	0	12.073	0
8000	0	0	7795.918	30.567	0	30.496	0	12.237	0
8100	0	0	7895.918	30.894	0	30.821	0	12.404	0
8200	0	0	7995.918	31.222	0	31.147	0	12.575	0
8300	0	0	8095.918	31.55	0	31.474	0	12.748	0
8400	0	0	8195.918	31.879	0	31.801	0	12.925	0
8500	0	0	8295.918	32.209	0	32.129	0	13.105	0
8567.882	0	0	8363.8	32.431	0	32.35	0	13.229	0
8600	2.569	179.725	8395.907	32.286	0	32.457	0	13.287	0
8700	10.569	179.725	8495.17	32.054	0	32.739	0	13.492	0
8800	18.569	179.725	8591.876	32.069	0	32.996	0	13.85	0
8900	26.569	179.725	8684.142	31.631	0	33.224	0	14.448	0
9000	34.569	179.725	8770.174	30.826	0	33.419	0	15.34	0
9100	42.569	179.725	8848.295	29.766	0	33.583	0	16.536	0
9200	50.569	179.725	8916.987	28.594	0	33.714	0	18.003	0
9300	58.569	179.725	8974.912	27.48	0	33.815	0	19.684	0
9400	66.569	179.725	9020.942	26.614	0	33.885	0	21.511	0
9500	74.569	179.725	9054.181	26.184	0	33.926	0	23.412	0
9600	82.569	179.725	9073.983	26.334	0	33.939	0	25.322	0
9692.882	90	179.725	9079.997	26.848	0	33.926	0	26.848	0
9700	90	179.725	9079.997	26.866	0	33.923	0	26.866	0
9800	90	179.725	9079.997	27.1	0	33.904	0	27.1	0
9900	90	179.725	9079.997	27.36	0	33.905	0	27.36	0
10000	90	179.725	9079.997	27.64	0	33.924	0	27.64	0
10100	90	179.725	9079.997	27.939	0	33.96	0	27.939	0
10200	90	179.725	9079.997	28.256	0	34.013	0	28.256	0
10300	90	179.725	9079.997	28.592	0	34.083	0	28.592	0
10400	90	179.725	9079.997	28.945	0	34.171	0	28.945	0
10500	90	179.725	9079.997	29.315	0	34.275	0	29.315	0
10576.581	90	179.725	9079.997	29.607	0	34.363	0	29.607	0
10600	90	179.725	9079.997	29.697	0	34.391	0	29.697	0
10700	90	179.725	9079.997	30.095	0	34.525	0	30.095	0
10800	90	179.725	9079.997	30.512	0	34.679	0	30.512	0
10900	90	179.725	9079.997	30.942	0	34.849	0	30.942	0
11000	90	179.725	9079.997	31.387	0	35.035	0	31.387	0
11100	90	179.725	9079.997	31.844	0	35.237	0	31.844	0
11200	90	179.725	9079.997	32.315	0	35.454	0	32.315	0
11300	90	179.725	9079.997	32.797	0	35.686	0	32.797	0
11400	90	179.725	9079.997	33.29	0	35.932	0	33.29	0
11500	90	179.725	9079.997	33.795	0	36.194	0	33.795	0
11600	90	179.725	9079.997	34.31	0	36.469	0	34.31	0
11700	90	179.725	9079.997	34.836	0	36.759	0	34.836	0
11800	90	179.725	9079.997	35.371	0	37.062	0	35.371	0
11900	90	179.725	9079.997	35.915	0	37.378	0	35.915	0
12000	90	179.725	9079.997	36.468	0	37.707	0	36.468	0
12100	90	179.725	9079.997	37.029	0	38.049	0	37.029	0

12200	90	179.725	9079.997	37.598	0	38.403	0	37.598	0
12300	90	179.725	9079.997	38.175	0	38.768	0	38.175	0
12400	90	179.725	9079.997	38.759	0	39.146	0	38.759	0
12500	90	179.725	9079.997	39.351	0	39.534	0	39.351	0
12600	90	179.725	9079.997	39.948	0	39.934	0	39.948	0
12700	90	179.725	9079.997	40.553	0	40.344	0	40.553	0
12800	90	179.725	9079.997	41.163	0	40.764	0	41.163	0
12900	90	179.725	9079.997	41.779	0	41.194	0	41.779	0
13000	90	179.725	9079.997	42.401	0	41.634	0	42.401	0
13100	90	179.725	9079.997	43.028	0	42.083	0	43.028	0
13200	90	179.725	9079.997	43.66	0	42.541	0	43.66	0
13300	90	179.725	9079.997	44.297	0	43.008	0	44.297	0
13400	90	179.725	9079.997	44.939	0	43.484	0	44.939	0
13500	90	179.725	9079.997	45.585	0	43.967	0	45.585	0
13600	90	179.725	9079.997	46.236	0	44.459	0	46.236	0
13700	90	179.725	9079.997	46.89	0	44.958	0	46.89	0
13800	90	179.725	9079.997	47.549	0	45.465	0	47.549	0
13900	90	179.725	9079.997	48.211	0	45.978	0	48.211	0
14000	90	179.725	9079.997	48.877	0	46.499	0	48.877	0
14100	90	179.725	9079.997	49.546	0	47.026	0	49.546	0
14200	90	179.725	9079.997	50.219	0	47.56	0	50.219	0
14300	90	179.725	9079.997	50.895	0	48.1	0	50.895	0
14400	90	179.725	9079.997	51.574	0	48.646	0	51.574	0
14500	90	179.725	9079.997	52.256	0	49.198	0	52.256	0
14600	90	179.725	9079.997	52.941	0	49.756	0	52.941	0
14700	90	179.725	9079.997	53.629	0	50.319	0	53.629	0
14800	90	179.725	9079.997	54.319	0	50.888	0	54.319	0
14900	90	179.725	9079.997	55.012	0	51.461	0	55.012	0
15000	90	179.725	9079.997	55.707	0	52.04	0	55.707	0
15100	90	179.725	9079.997	56.404	0	52.623	0	56.404	0
15200	90	179.725	9079.997	57.104	0	53.211	0	57.104	0
15300	90	179.725	9079.997	57.806	0	53.803	0	57.806	0
15400	90	179.725	9079.997	58.51	0	54.4	0	58.51	0
15500	90	179.725	9079.997	59.217	0	55	0	59.217	0
15600	90	179.725	9079.997	59.925	0	55.605	0	59.925	0
15700	90	179.725	9079.997	60.635	0	56.214	0	60.635	0
15800	90	179.725	9079.997	61.346	0	56.827	0	61.346	0
15900	90	179.725	9079.997	62.06	0	57.443	0	62.06	0
16000	90	179.725	9079.997	62.775	0	58.063	0	62.775	0
16100	90	179.725	9079.997	63.492	0	58.686	0	63.492	0
16200	90	179.725	9079.997	64.211	0	59.313	0	64.211	0
16300	90	179.725	9079.997	64.931	0	59.942	0	64.931	0
16400	90	179.725	9079.997	65.652	0	60.575	0	65.652	0
16500	90	179.725	9079.997	66.375	0	61.211	0	66.375	0
16600	90	179.725	9079.997	67.099	0	61.85	0	67.099	0
16700	90	179.725	9079.997	67.825	0	62.492	0	67.825	0
16800	90	179.725	9079.997	68.552	0	63.136	0	68.552	0

16900	90	179.725	9079.997	69.28	0	63.784	0	69.28	0
17000	90	179.725	9079.997	70.01	0	64.433	0	70.01	0
17100	90	179.725	9079.997	70.741	0	65.086	0	70.741	0
17200	90	179.725	9079.997	71.472	0	65.74	0	71.472	0
17300	90	179.725	9079.997	72.205	0	66.397	0	72.205	0
17400	90	179.725	9079.997	72.939	0	67.057	0	72.939	0
17500	90	179.725	9079.997	73.674	0	67.718	0	73.674	0
17600	90	179.725	9079.997	74.41	0	68.382	0	74.41	0
17700	90	179.725	9079.997	75.147	0	69.048	0	75.147	0
17800	90	179.725	9079.997	75.885	0	69.716	0	75.885	0
17900	90	179.725	9079.997	76.624	0	70.386	0	76.624	0
18000	90	179.725	9079.997	77.364	0	71.058	0	77.364	0
18100	90	179.725	9079.997	78.105	0	71.732	0	78.105	0
18200	90	179.725	9079.997	78.846	0	72.407	0	78.846	0
18300	90	179.725	9079.997	79.589	0	73.085	0	79.589	0
18400	90	179.725	9079.997	80.332	0	73.764	0	80.332	0
18500	90	179.725	9079.997	81.076	0	74.444	0	81.076	0
18600	90	179.725	9079.997	81.821	0	75.127	0	81.821	0
18700	90	179.725	9079.997	82.566	0	75.811	0	82.566	0
18800	90	179.725	9079.997	83.312	0	76.496	0	83.312	0
18900	90	179.725	9079.997	84.059	0	77.183	0	84.059	0
19000	90	179.725	9079.997	84.807	0	77.872	0	84.807	0
19100	90	179.725	9079.997	85.555	0	78.562	0	85.555	0
19200	90	179.725	9079.997	86.304	0	79.253	0	86.304	0
19300	90	179.725	9079.997	87.054	0	79.945	0	87.054	0
19400	90	179.725	9079.997	87.804	0	80.639	0	87.804	0
19500	90	179.725	9079.997	88.555	0	81.335	0	88.555	0
19600	90	179.725	9079.997	89.306	0	82.031	0	89.306	0
19700	90	179.725	9079.997	90.058	0	82.729	0	90.058	0
19800	90	179.725	9079.997	90.81	0	83.428	0	90.81	0
19900	90	179.725	9079.997	91.563	0	84.128	0	91.563	0
20000	90	179.725	9079.997	92.317	0	84.829	0	92.317	0
20100	90	179.725	9079.997	93.071	0	85.531	0	93.071	0
20200	90	179.725	9079.997	93.826	0	86.235	0	93.826	0
20300	90	179.725	9079.997	94.581	0	86.939	0	94.581	0
20400	90	179.725	9079.997	95.336	0	87.645	0	95.336	0
20500	90	179.725	9079.997	96.092	0	88.351	0	96.092	0
20600	90	179.725	9079.997	96.849	0	89.058	0	96.849	0
20700	90	179.725	9079.997	97.605	0	89.767	0	97.605	0
20800	90	179.725	9079.997	98.363	0	90.476	0	98.363	0
20900	90	179.725	9079.997	99.121	0	91.186	0	99.121	0
21000	90	179.725	9079.997	99.879	0	91.897	0	99.879	0
21100	90	179.725	9079.997	100.637	0	92.609	0	100.637	0
21200	90	179.725	9079.997	101.396	0	93.322	0	101.396	0
21300	90	179.725	9079.997	102.156	0	94.036	0	102.156	0
21400	90	179.725	9079.997	102.916	0	94.75	0	102.916	0
21500	90	179.725	9079.997	103.676	0	95.466	0	103.676	0

21600	90	179.725	9079.997	104.436	0	96.182	0	104.436	0
21700	90	179.725	9079.997	105.197	0	96.898	0	105.197	0
21800	90	179.725	9079.997	105.958	0	97.616	0	105.958	0
21900	90	179.725	9079.997	106.72	0	98.334	0	106.72	0
22000	90	179.725	9079.997	107.482	0	99.053	0	107.482	0
22100	90	179.725	9079.997	108.244	0	99.773	0	108.244	0
22200	90	179.725	9079.997	109.006	0	100.493	0	109.006	0
22300	90	179.725	9079.997	109.769	0	101.214	0	109.769	0
22400	90	179.725	9079.997	110.532	0	101.936	0	110.532	0
22500	90	179.725	9079.997	111.296	0	102.658	0	111.296	0
22600	90	179.725	9079.997	112.06	0	103.381	0	112.06	0
22700	90	179.725	9079.997	112.824	0	104.104	0	112.824	0
22800	90	179.725	9079.997	113.588	0	104.828	0	113.588	0
22900	90	179.725	9079.997	114.353	0	105.553	0	114.353	0
23000	90	179.725	9079.997	115.118	0	106.278	0	115.118	0
23100	90	179.725	9079.997	115.883	0	107.004	0	115.883	0
23200	90	179.725	9079.997	116.648	0	107.731	0	116.648	0
23300	90	179.725	9079.997	117.414	0	108.457	0	117.414	0
23400	90	179.725	9079.997	118.18	0	109.185	0	118.18	0
23500	90	179.725	9079.997	118.946	0	109.913	0	118.946	0
23600	90	179.725	9079.997	119.712	0	110.641	0	119.712	0
23700	90	179.725	9079.997	120.479	0	111.37	0	120.479	0
23800	90	179.725	9079.997	121.246	0	112.1	0	121.246	0
23900	90	179.725	9079.997	122.013	0	112.83	0	122.013	0
24000	90	179.725	9079.997	122.78	0	113.56	0	122.78	0
24100	90	179.725	9079.997	123.548	0	114.291	0	123.548	0
24200	90	179.725	9079.997	124.315	0	115.022	0	124.315	0
24300	90	179.725	9079.997	125.083	0	115.754	0	125.083	0
24400	90	179.725	9079.997	125.851	0	116.486	0	125.851	0
24500	90	179.725	9079.997	126.62	0	117.219	0	126.62	0
24600	90	179.725	9079.997	127.388	0	117.952	0	127.388	0
24692.699	90	179.725	9079.997	128.101	0	118.631	0	128.101	0

Plan Targets

Poker Lake Unit 19  
DTD South 224H

	Measured Depth	Grid Northing	Grid Easting	TVD MSL Target Shape
Target Name	(ft)	(ft)	(ft)	(ft)
FTP 21	9398.85	440314.1	627672.5	5882 RECTANGLE
LTP 21	24642.77	424648.2	627747.8	5882 RECTANGLE
BHL 21	24692.77	424598.2	627747.9	5882 RECTANGLE



Magnitude of Bias (ft)	Semi-major Error (ft)	Semi-minor Error (ft)	Semi-minor Tool Azimuth Used (°)
0	0	0	0 MWD+IFR1+MS
0	0.751	0.22	112.264 MWD+IFR1+MS
0	1.259	0.627	122.711 MWD+IFR1+MS
0	1.698	0.986	125.469 MWD+IFR1+MS
0	2.108	1.344	126.713 MWD+IFR1+MS
0	2.503	1.701	127.419 MWD+IFR1+MS
0	2.888	2.059	127.873 MWD+IFR1+MS
0	3.267	2.417	128.19 MWD+IFR1+MS
0	3.642	2.775	128.423 MWD+IFR1+MS
0	4.014	3.133	128.602 MWD+IFR1+MS
0	4.384	3.491	128.744 MWD+IFR1+MS
0	4.752	3.849	128.859 MWD+IFR1+MS
0	5.303	4.206	129.524 MWD+IFR1+MS
0	6.086	4.562	130.209 MWD+IFR1+MS
0	6.797	4.917	130.523 MWD+IFR1+MS
0	7.455	5.272	130.703 MWD+IFR1+MS
0	8.072	5.628	130.823 MWD+IFR1+MS
0	8.657	5.985	130.911 MWD+IFR1+MS
0	9.214	6.343	130.985 MWD+IFR1+MS
0	9.749	6.704	131.052 MWD+IFR1+MS
0	9.913	6.884	131.014 MWD+IFR1+MS
0	10.046	7.067	130.992 MWD+IFR1+MS
0	10.315	7.442	131.108 MWD+IFR1+MS
0	10.602	7.825	131.376 MWD+IFR1+MS
0	10.896	8.209	131.64 MWD+IFR1+MS
0	11.197	8.595	131.9 MWD+IFR1+MS
0	11.504	8.982	132.157 MWD+IFR1+MS
0	11.815	9.37	132.411 MWD+IFR1+MS
0	12.133	9.759	132.661 MWD+IFR1+MS
0	12.454	10.148	132.908 MWD+IFR1+MS
0	12.78	10.539	133.152 MWD+IFR1+MS
0	13.11	10.93	133.393 MWD+IFR1+MS
0	13.444	11.321	133.631 MWD+IFR1+MS

0	13.781	11.713	133.865 MWD+IFR1+MS
0	14.121	12.106	134.097 MWD+IFR1+MS
0	14.464	12.499	134.326 MWD+IFR1+MS
0	14.81	12.892	134.552 MWD+IFR1+MS
0	15.159	13.286	134.775 MWD+IFR1+MS
0	15.509	13.68	134.995 MWD+IFR1+MS
0	15.863	14.075	-44.787 MWD+IFR1+MS
0	16.218	14.469	-44.573 MWD+IFR1+MS
0	16.575	14.864	-44.361 MWD+IFR1+MS
0	16.934	15.259	-44.151 MWD+IFR1+MS
0	17.295	15.655	-43.944 MWD+IFR1+MS
0	17.657	16.051	-43.74 MWD+IFR1+MS
0	18.021	16.446	-43.539 MWD+IFR1+MS
0	18.386	16.842	-43.34 MWD+IFR1+MS
0	18.753	17.239	-43.143 MWD+IFR1+MS
0	19.12	17.635	-42.95 MWD+IFR1+MS
0	19.49	18.031	-42.759 MWD+IFR1+MS
0	19.86	18.428	-42.57 MWD+IFR1+MS
0	20.231	18.825	-42.384 MWD+IFR1+MS
0	20.603	19.222	-42.201 MWD+IFR1+MS
0	20.977	19.619	-42.02 MWD+IFR1+MS
0	21.351	20.016	-41.841 MWD+IFR1+MS
0	21.726	20.413	-41.666 MWD+IFR1+MS
0	22.102	20.811	-41.493 MWD+IFR1+MS
0	22.479	21.208	-41.322 MWD+IFR1+MS
0	22.856	21.606	-41.155 MWD+IFR1+MS
0	23.234	22.004	-40.989 MWD+IFR1+MS
0	23.613	22.401	-40.827 MWD+IFR1+MS
0	23.993	22.799	-40.667 MWD+IFR1+MS
0	24.195	23.014	-40.683 MWD+IFR1+MS
0	24.364	23.194	-40.727 MWD+IFR1+MS
0	24.786	23.583	-41.17 MWD+IFR1+MS
0	25.251	23.965	-41.839 MWD+IFR1+MS
0	25.71	24.339	-42.432 MWD+IFR1+MS
0	26.16	24.704	-42.953 MWD+IFR1+MS
0	26.6	25.06	-43.404 MWD+IFR1+MS
0	27.031	25.407	-43.791 MWD+IFR1+MS
0	27.45	25.745	-44.116 MWD+IFR1+MS
0	27.867	26.097	134.751 MWD+IFR1+MS
0	28.189	26.415	134.194 MWD+IFR1+MS
0	28.499	26.739	134.149 MWD+IFR1+MS
0	28.811	27.065	134.105 MWD+IFR1+MS
0	29.124	27.392	134.061 MWD+IFR1+MS
0	29.439	27.719	134.018 MWD+IFR1+MS
0	29.754	28.047	133.975 MWD+IFR1+MS
0	30.07	28.376	133.932 MWD+IFR1+MS
0	30.387	28.705	133.889 MWD+IFR1+MS

0	30.705	29.035	133.847 MWD+IFR1+MS
0	31.024	29.366	133.805 MWD+IFR1+MS
0	31.344	29.698	133.763 MWD+IFR1+MS
0	31.664	30.03	133.722 MWD+IFR1+MS
0	31.986	30.362	133.681 MWD+IFR1+MS
0	32.308	30.696	133.64 MWD+IFR1+MS
0	32.631	31.03	133.6 MWD+IFR1+MS
0	32.955	31.364	133.56 MWD+IFR1+MS
0	33.171	31.591	133.529 MWD+IFR1+MS
0	33.267	31.695	133.503 MWD+IFR1+MS
0	33.89	32.173	124.388 MWD+IFR1+MS
0	35.088	32.637	111.873 MWD+IFR1+MS
0	36.22	32.94	106.451 MWD+IFR1+MS
0	37.187	33.168	103.817 MWD+IFR1+MS
0	37.96	33.344	102.449 MWD+IFR1+MS
0	38.539	33.478	101.768 MWD+IFR1+MS
0	38.939	33.574	101.516 MWD+IFR1+MS
0	39.183	33.633	101.551 MWD+IFR1+MS
0	39.307	33.66	101.777 MWD+IFR1+MS
0	39.352	33.657	102.1 MWD+IFR1+MS
0	39.363	33.628	102.386 MWD+IFR1+MS
0	39.365	33.625	102.403 MWD+IFR1+MS
0	39.377	33.589	102.688 MWD+IFR1+MS
0	39.392	33.573	103.01 MWD+IFR1+MS
0	39.408	33.573	103.363 MWD+IFR1+MS
0	39.425	33.589	103.75 MWD+IFR1+MS
0	39.445	33.621	104.173 MWD+IFR1+MS
0	39.467	33.669	104.635 MWD+IFR1+MS
0	39.491	33.732	105.139 MWD+IFR1+MS
0	39.517	33.81	105.689 MWD+IFR1+MS
0	39.539	33.877	106.139 MWD+IFR1+MS
0	39.546	33.898	106.279 MWD+IFR1+MS
0	39.577	34.002	106.927 MWD+IFR1+MS
0	39.613	34.122	107.646 MWD+IFR1+MS
0	39.651	34.256	108.432 MWD+IFR1+MS
0	39.694	34.402	109.294 MWD+IFR1+MS
0	39.741	34.559	110.24 MWD+IFR1+MS
0	39.794	34.728	111.279 MWD+IFR1+MS
0	39.852	34.906	112.421 MWD+IFR1+MS
0	39.917	35.093	113.676 MWD+IFR1+MS
0	39.989	35.288	115.056 MWD+IFR1+MS
0	40.07	35.488	116.571 MWD+IFR1+MS
0	40.16	35.694	118.23 MWD+IFR1+MS
0	40.262	35.902	120.041 MWD+IFR1+MS
0	40.377	36.111	122.009 MWD+IFR1+MS
0	40.506	36.32	124.132 MWD+IFR1+MS
0	40.652	36.525	126.403 MWD+IFR1+MS

0	40.815	36.725	128.804 MWD+IFR1+MS
0	40.998	36.918	131.31 MWD+IFR1+MS
0	41.202	37.102	133.886 MWD+IFR1+MS
0	41.428	37.276	-43.509 MWD+IFR1+MS
0	41.676	37.439	-40.917 MWD+IFR1+MS
0	41.947	37.59	-38.381 MWD+IFR1+MS
0	42.241	37.73	-35.938 MWD+IFR1+MS
0	42.557	37.858	-33.617 MWD+IFR1+MS
0	42.894	37.975	-31.437 MWD+IFR1+MS
0	43.251	38.082	-29.409 MWD+IFR1+MS
0	43.626	38.181	-27.536 MWD+IFR1+MS
0	44.019	38.271	-25.816 MWD+IFR1+MS
0	44.427	38.354	-24.242 MWD+IFR1+MS
0	44.851	38.431	-22.805 MWD+IFR1+MS
0	45.289	38.502	-21.494 MWD+IFR1+MS
0	45.739	38.569	-20.298 MWD+IFR1+MS
0	46.202	38.632	-19.207 MWD+IFR1+MS
0	46.676	38.691	-18.211 MWD+IFR1+MS
0	47.16	38.747	-17.299 MWD+IFR1+MS
0	47.655	38.801	-16.463 MWD+IFR1+MS
0	48.158	38.852	-15.696 MWD+IFR1+MS
0	48.671	38.901	-14.99 MWD+IFR1+MS
0	49.191	38.949	-14.339 MWD+IFR1+MS
0	49.72	38.995	-13.738 MWD+IFR1+MS
0	50.256	39.04	-13.181 MWD+IFR1+MS
0	50.799	39.084	-12.665 MWD+IFR1+MS
0	51.348	39.127	-12.185 MWD+IFR1+MS
0	51.904	39.169	-11.738 MWD+IFR1+MS
0	52.466	39.211	-11.321 MWD+IFR1+MS
0	53.034	39.252	-10.931 MWD+IFR1+MS
0	53.608	39.292	-10.566 MWD+IFR1+MS
0	54.187	39.333	-10.223 MWD+IFR1+MS
0	54.771	39.373	-9.901 MWD+IFR1+MS
0	55.36	39.413	-9.598 MWD+IFR1+MS
0	55.954	39.452	-9.313 MWD+IFR1+MS
0	56.552	39.492	-9.043 MWD+IFR1+MS
0	57.154	39.531	-8.789 MWD+IFR1+MS
0	57.761	39.571	-8.548 MWD+IFR1+MS
0	58.372	39.61	-8.319 MWD+IFR1+MS
0	58.987	39.65	-8.102 MWD+IFR1+MS
0	59.605	39.69	-7.896 MWD+IFR1+MS
0	60.227	39.73	-7.7 MWD+IFR1+MS
0	60.853	39.769	-7.514 MWD+IFR1+MS
0	61.482	39.81	-7.336 MWD+IFR1+MS
0	62.114	39.85	-7.167 MWD+IFR1+MS
0	62.749	39.89	-7.005 MWD+IFR1+MS
0	63.387	39.931	-6.85 MWD+IFR1+MS

0	64.029	39.972	-6.702 MWD+IFR1+MS
0	64.673	40.013	-6.56 MWD+IFR1+MS
0	65.32	40.055	-6.424 MWD+IFR1+MS
0	65.969	40.097	-6.293 MWD+IFR1+MS
0	66.621	40.139	-6.168 MWD+IFR1+MS
0	67.276	40.181	-6.048 MWD+IFR1+MS
0	67.933	40.224	-5.932 MWD+IFR1+MS
0	68.592	40.266	-5.821 MWD+IFR1+MS
0	69.254	40.31	-5.714 MWD+IFR1+MS
0	69.918	40.353	-5.611 MWD+IFR1+MS
0	70.584	40.397	-5.511 MWD+IFR1+MS
0	71.252	40.441	-5.415 MWD+IFR1+MS
0	71.922	40.486	-5.323 MWD+IFR1+MS
0	72.594	40.531	-5.233 MWD+IFR1+MS
0	73.268	40.576	-5.147 MWD+IFR1+MS
0	73.944	40.622	-5.063 MWD+IFR1+MS
0	74.621	40.668	-4.983 MWD+IFR1+MS
0	75.3	40.714	-4.905 MWD+IFR1+MS
0	75.981	40.761	-4.829 MWD+IFR1+MS
0	76.664	40.808	-4.756 MWD+IFR1+MS
0	77.348	40.856	-4.684 MWD+IFR1+MS
0	78.034	40.903	-4.616 MWD+IFR1+MS
0	78.721	40.952	-4.549 MWD+IFR1+MS
0	79.41	41	-4.484 MWD+IFR1+MS
0	80.1	41.049	-4.421 MWD+IFR1+MS
0	80.792	41.099	-4.36 MWD+IFR1+MS
0	81.484	41.148	-4.3 MWD+IFR1+MS
0	82.179	41.198	-4.243 MWD+IFR1+MS
0	82.874	41.249	-4.186 MWD+IFR1+MS
0	83.571	41.3	-4.132 MWD+IFR1+MS
0	84.269	41.351	-4.079 MWD+IFR1+MS
0	84.968	41.403	-4.027 MWD+IFR1+MS
0	85.668	41.455	-3.976 MWD+IFR1+MS
0	86.37	41.507	-3.927 MWD+IFR1+MS
0	87.072	41.56	-3.88 MWD+IFR1+MS
0	87.776	41.613	-3.833 MWD+IFR1+MS
0	88.48	41.667	-3.787 MWD+IFR1+MS
0	89.186	41.721	-3.743 MWD+IFR1+MS
0	89.893	41.775	-3.7 MWD+IFR1+MS
0	90.6	41.83	-3.658 MWD+IFR1+MS
0	91.309	41.885	-3.616 MWD+IFR1+MS
0	92.018	41.94	-3.576 MWD+IFR1+MS
0	92.729	41.996	-3.537 MWD+IFR1+MS
0	93.44	42.053	-3.499 MWD+IFR1+MS
0	94.152	42.109	-3.461 MWD+IFR1+MS
0	94.865	42.166	-3.424 MWD+IFR1+MS
0	95.579	42.224	-3.388 MWD+IFR1+MS

0	96.294	42.281	-3.353 MWD+IFR1+MS
0	97.009	42.34	-3.319 MWD+IFR1+MS
0	97.725	42.398	-3.286 MWD+IFR1+MS
0	98.442	42.457	-3.253 MWD+IFR1+MS
0	99.16	42.516	-3.221 MWD+IFR1+MS
0	99.878	42.576	-3.189 MWD+IFR1+MS
0	100.598	42.636	-3.158 MWD+IFR1+MS
0	101.317	42.697	-3.128 MWD+IFR1+MS
0	102.038	42.758	-3.099 MWD+IFR1+MS
0	102.759	42.819	-3.07 MWD+IFR1+MS
0	103.481	42.88	-3.041 MWD+IFR1+MS
0	104.203	42.942	-3.013 MWD+IFR1+MS
0	104.926	43.005	-2.986 MWD+IFR1+MS
0	105.65	43.067	-2.959 MWD+IFR1+MS
0	106.374	43.13	-2.933 MWD+IFR1+MS
0	107.099	43.194	-2.907 MWD+IFR1+MS
0	107.824	43.257	-2.882 MWD+IFR1+MS
0	108.55	43.322	-2.857 MWD+IFR1+MS
0	109.277	43.386	-2.833 MWD+IFR1+MS
0	110.004	43.451	-2.809 MWD+IFR1+MS
0	110.731	43.516	-2.786 MWD+IFR1+MS
0	111.459	43.582	-2.763 MWD+IFR1+MS
0	112.188	43.648	-2.74 MWD+IFR1+MS
0	112.917	43.714	-2.718 MWD+IFR1+MS
0	113.646	43.781	-2.696 MWD+IFR1+MS
0	114.376	43.848	-2.675 MWD+IFR1+MS
0	115.107	43.915	-2.654 MWD+IFR1+MS
0	115.838	43.983	-2.633 MWD+IFR1+MS
0	116.569	44.051	-2.613 MWD+IFR1+MS
0	117.301	44.12	-2.593 MWD+IFR1+MS
0	118.033	44.188	-2.573 MWD+IFR1+MS
0	118.712	44.252	-2.555 MWD+IFR1+MS



DRAWN	VJK	31MAR20
APPRV		
DRAWING NO. SDT-2856		

**Subject:** Request for a Variance Allowing break Testing of the Blowout Preventer Equipment (BOPE)

XTO Energy requests a variance to ONLY test broken pressure seals on the BOPE and function test BOP when skidding a drilling rig between multiple wells on a pad.

**Background**

Onshore Oil and Gas Order CFR Title 43 Part 3170, Drilling Operations, Sections III.A.2.i.iv.B states that the BOP test must be performed whenever any seal subject to test pressure is broken. The current interpretation of the Bureau of Land Management (BLM) requires a complete BOP test and not just a test of the affected component. CFR Title 43 Part 3170 states, "Some situation may exist either on a well-by-well basis or field-wide basis whereby it is commonly accepted practice to vary a particular minimum standard(s) established in this order. This situation can be resolved by requesting a variance...". XTO Energy feels the break testing the BOPE is such a situation. Therefore, as per CFR Title 43 Part 3170, XTO Energy submits this request for the variance.

**Supporting Documentation**

CFR Title 43 Part 3170 became effective on December 19, 1988 and has remained the standard for regulating BLM onshore drilling operations for over 30 years. During this time there have been significant changes in drilling technology. BLM continues to use the variance request process to allow for the use of modern technology and acceptable engineering practices that have arisen since CFR Title 43 Part 3170 was originally released. The XTO Energy drilling rig fleet has many modern upgrades that allow the intact BOP stack to be moved between well slots on a multi-well pad, as well as, wellhead designs that incorporate quick connects facilitating release of the BOP from the wellhead without breaking any BOP stack components apart. These technologies have been used extensively offshore, and other regulators, API, and many operators around the world have endorsed break testing as safe and reliable.



Figure 1: Winch System attached to BOP Stack

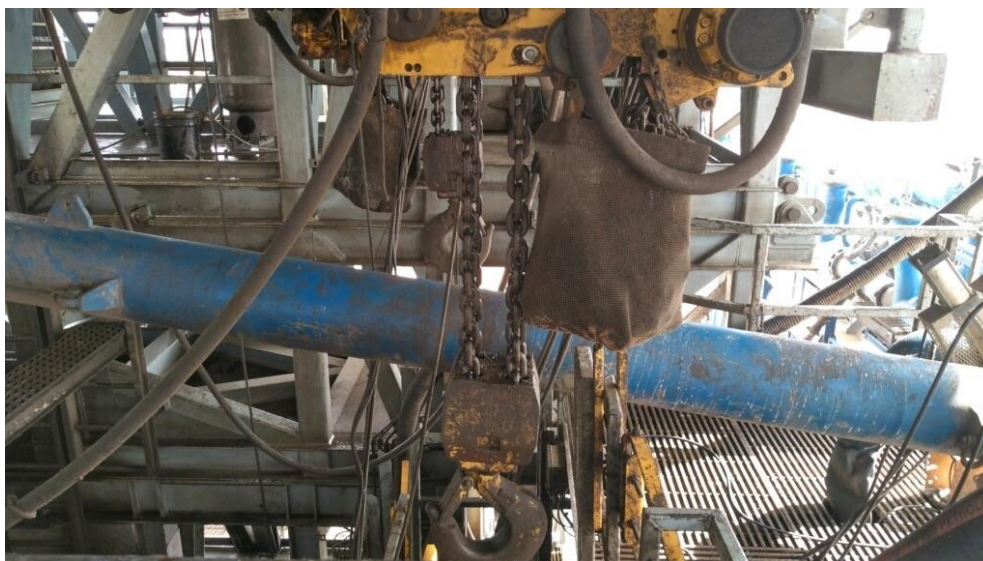


Figure 2: BOP Winch System

American Petroleum Institute (API) standards, specification and recommended practices are considered the industry standard and are consistently utilized and referenced by the industry. CFR Title 43 Part 3170 recognizes API recommended Practices (RP) 53 in its original development. API Standard 53, *Well Control Equipment Systems for Drilling Wells* (Fifth Edition, December 2018, Annex C, Table C.4) recognizes break testing as an acceptable practice. Specifically, API Standard 53, Section 5.3.7.1 states “A pressure test of the pressure containing component shall be performed following the disconnection or repair, limited to the affected component.” See Table C.4 below for reference.

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API STANDARD 53

Table C.4—Initial Pressure Testing, Surface BOP Stacks

Component to be Pressure Tested	Pressure Test—Low Pressure <sup>ac</sup> psig (MPa)	Pressure Test—High Pressure <sup>ac</sup>	
		Change Out of Component, Elastomer, or Ring Gasket	No Change Out of Component, Elastomer, or Ring Gasket
Annular preventer <sup>a</sup>	250 to 350 (1.72 to 2.41)	RWP of annular preventer	MASP or 70% annular RWP, whichever is lower.
Fixed pipe, variable bore, blind, and BSR preventers <sup>bd</sup>	250 to 350 (1.72 to 2.41)	RWP of ram preventer or wellhead system, whichever is lower	ITP
Choke and kill line and BOP side outlet valves below ram preventers (both sides)	250 to 350 (1.72 to 2.41)	RWP of side outlet valve or wellhead system, whichever is lower	ITP
Choke manifold—upstream of chokes <sup>a</sup>	250 to 350 (1.72 to 2.41)	RWP of ram preventers or wellhead system, whichever is lower	ITP
Choke manifold—downstream of chokes <sup>a</sup>	250 to 350 (1.72 to 2.41)	RWP of valve(s), line(s), or MASP for the well program, whichever is lower	
Kelly, kelly valves, drill pipe safety valves, IBOPs	250 to 350 (1.72 to 2.41)	MASP for the well program	

<sup>a</sup> Pressure test evaluation periods shall be a minimum of five minutes.

No visible leaks.

The pressure shall remain stable during the evaluation period. The pressure shall not decrease below the intended test pressure.

<sup>b</sup> Annular(s) and VBR(s) shall be pressure tested on the largest and smallest OD drill pipe to be used in well program.

<sup>c</sup> For pad drilling operations, moving from one wellhead to another within the 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

<sup>d</sup> For surface offshore operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented during the initial test. For land operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented at commissioning and annually.

<sup>e</sup> Adjustable chokes are not required to be full sealing devices. Pressure testing against a closed choke is not required.

The Bureau of Safety and Environmental Enforcement (BSEE), Department of Interior, has also utilized the API standards, specification and best practices in the development of its offshore oil and gas regulations and incorporates them by reference within its regulations.

Break testing has been approved by the BLM in the past with other operators based on the detailed information provided in this document.

XTO Energy feels break testing and our current procedures meet the intent of CFR Title 43 Part 317 0and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. XTO Energy's internal standards requires complete BOPE tests more often than that of CFR Title 43 Part 3170 (Every 21 days). In addition to function testing the annular, pipe rams and blind rams after

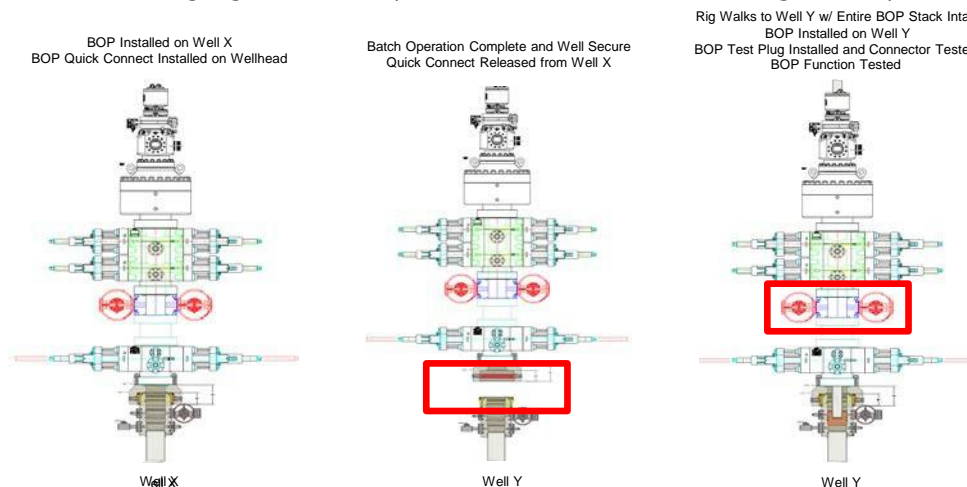
each BOP nipple up, XTO Energy performs a choke drill with the rig crew prior to drilling out every casing shoe. This is additional training for the rig crew that exceeds the requirements of the CFR Title 43 Part 3170.

### **Procedures**

1. XTO Energy will use this document for our break testing plan for New Mexico Delaware basin. The summary below will be referenced in the APD or Sundry Notice and receive approval prior to implementing this variance.
2. XTO Energy will perform BOP break testing on multi-wells pads where multiple intermediate sections can be drilled and cased within the 21-day BOP test window.
  - a. A full BOP test will be conducted on the first well on the pad.
  - b. The first intermediate hole section drilled on the pad will be the deepest. All of the remaining hole sections will be the same depth or shallower.
    - i. Our Lower WC targets set the intermediate casing shoe no deeper than the Wolfcamp B.
    - ii. Our Upper WC targets set the intermediate casing shoe shallower than the Wolfcamp B.
  - c. A Full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
  - d. A full BOP test will be required prior to drilling any production hole.
3. After performing a complete BOP test on the first well, the intermediate hole section will be drilled and cased, two breaks would be made on the BOP equipment.
  - a. Between the HCV valve and choke line connection
  - b. Between the BOP quick connect and the wellhead
4. The BOP is then lifted and removed from the wellhead by a hydraulic system.
5. After skidding to the next well, the BOP is moved to the wellhead by the same hydraulic system and installed.
6. The connections mentioned in 3a and 3b will then be reconnected.
7. Install test plug into the wellhead using test joint or drill pipe.
8. A shell test is performed against the upper pipe rams testing the two breaks.
9. The shell test will consist of a 250 psi low test and a high test to the value submitted in the APD or Sundry (e.g. 5,000 psi or 10,000psi).
10. Function test will be performed on the following components: lower pipe rams, blind rams, and annular.

11. For a multi-well pad the same two breaks on the BOP would be made and on the next wells and steps 4 through 10 would be repeated.
12. A second break test would only be done if the intermediate hole section being drilled could not be completed within the 21 day BOP test window.

*Note: Picture below highlights BOP components that will be tested during batch operations*



### Summary

A variance is requested to **ONLY** test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53. API Standard 53 states, that for pad drilling operation, moving from one wellhead to another within 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

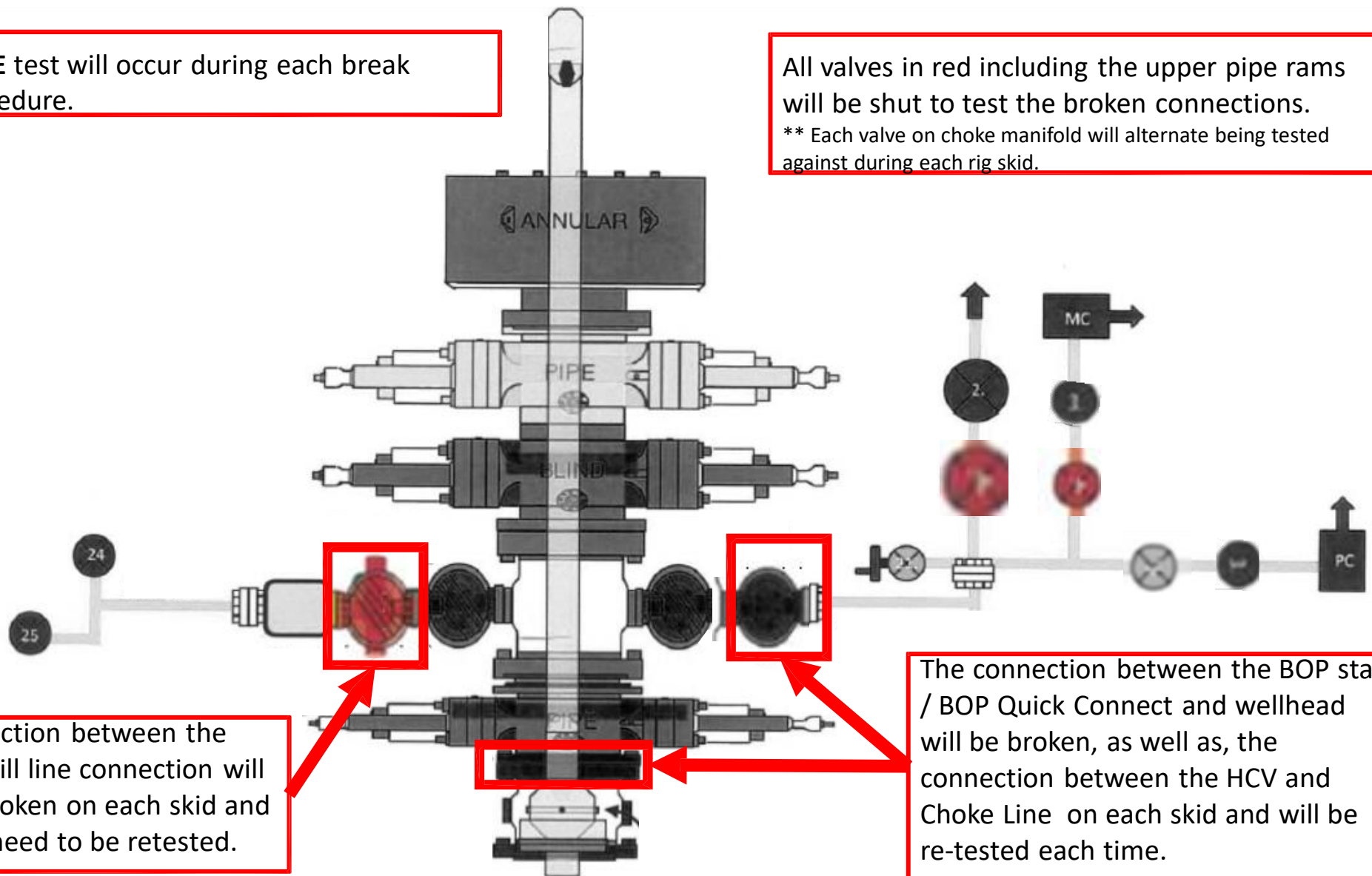
The BOP will be secured by a hydraulic carrier or cradle. The BLM will be contacted if a Well Control event occurs prior to the commencement of a BOPE Break Testing operation.

Based on discussions with the BLM on February 27th 2020 and the supporting documentation submitted to the BLM, we will request permission to **ONLY** retest broken pressure seals if the following conditions are met:

1. After a full BOP test is conducted on the first well on the pad.
2. The first intermediate hole section drilled on the pad will be the deepest. All of the remaining hole sections will be the same depth or shallower.
3. Full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
4. Full BOP test will be required prior to drilling the production hole.

Only **ONE** test will occur during each break test procedure.

All valves in red including the upper pipe rams will be shut to test the broken connections.  
\*\* Each valve on choke manifold will alternate being tested against during each rig skid.



### 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 43.CFR.3172 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

- a. Sound alarm (alert crew)
- b. Stab crossover and full-opening safety valve and close
- c. Space out string
- d. Shut-in well (uppermost applicable BOP, typically annular preventer, first. HCR & choke will already be in the closed position.)
- e. Confirm shut-in
- f. Notify toolpusher/company representative
- g. Read and record the following:
  - a. SIDPP & SICP
  - b. Pit gain
  - c. Time
- h. Regroup and identify forward plan
- i. 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**

CONDITIONS  
  
Action 331163

CONDITIONS

Operator: XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	OGRID: 373075
	Action Number: 331163
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	All original COA's still apply. Additionally, if cement is not circulated to surface during cementing operations, then a CBL is required.	4/24/2024