

Well Name: POKER LAKE UNIT 20 DTD	Well Location: T24S / R30E / SEC 20 / NWNE / 32.207597 / -103.901392	County or Parish/State: EDDY / NM
Well Number: 323H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM02860	Unit or CA Name: POKER LAKE UNIT	Unit or CA Number: NMNM71016X
US Well Number:	Operator: XTO PERMIAN OPERATING LLC	

Notice of Intent

Sundry ID: 2781344

Type of Submission: Notice of Intent	Type of Action: APD Change
Date Sundry Submitted: 03/24/2024	Time Sundry Submitted: 03:32
Date proposed operation will begin: 07/01/2024	

**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, proposed total depth. FROM: TO: SHL: 1027' FNL & 2011' FEL of Section 20-T24S-R30E 877' FNL & 2012' FEL of Section 20-T24S-R30E FTP: 100' FSL & 2310' FEL of Section 17-T24S-R30E 100' FNL & 1837' FEL of Section 20-T24S-R30E LTP: 330' FNL & 2310' FEL of Section 32-T23S-R30E 2332' FNL & 1839' FEL of Section 5-T25S-R30E BHL: 200' FNL & 2310' FEL of Section 32-T23S-R30E 2432' FNL & 1839' FEL of Section 5-T25S-R30E Proposed total depth will change from 31925' MD; 10709' TVD (Wolfcamp) to 28755' MD; TVD 10798' (Wolfcamp). 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

PLU\_20\_DTD\_323H\_BLM\_APD\_Change\_Sundry\_Attachments\_20240324153229.pdf

Received by OCD: 8/2/2024 10:58:15 AM

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Conditions of Approval

Additional

Sec\_20\_24S\_30E\_NMP\_Sundry\_2781344\_Poker\_Lake\_Unit\_20\_DTD\_323H\_COAs\_20240404143152.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: RICHARD REDUS	Signed on: MAR 24, 2024 03:32 PM
Name: XTO PERMIAN OPERATING LLC	
Title: Permitting Manager	
Street Address: 22777 SPRINGWOODS VILLAGE PARKWAY	
City: SPRING	State: TX
Phone: (720) 539-1673	
Email address: RICHARD.L.REDUS@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: 08/01/2024
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	
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

SUBMIT IN TRIPLICATE - Other instructions on page 2	
1. Type of Well	
<input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> 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)	

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 recompleation 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: NWNNE / 1027 FNL / 2011 FEL / TWSP: 24S / RANGE: 30E / SECTION: 20 / LAT: 32.207597 / LONG: -103.901392 ( TVD: 0 feet, MD: 0 feet )

PPP: SWSE / 330 FSL / 2310 FEL / TWSP: 24S / RANGE: 30E / SECTION: 8 / LAT: 32.2256 / LONG: -103.90233 ( TVD: 10709 feet, MD: 16400 feet )

PPP: SWSE / 100 FSL / 2310 FEL / TWSP: 24S / RANGE: 30E / SECTION: 17 / LAT: 32.21069 / LONG: -103.902351 ( TVD: 10709 feet, MD: 11100 feet )

PPP: SWSE / 330 FSL / 2310 FEL / TWSP: 24S / RANGE: 30E / SECTION: 5 / LAT: 32.2399 / LONG: -103.90233 ( TVD: 10709 feet, MD: 21700 feet )

BHL: NWNNE / 200 FNL / 2310 FEL / TWSP: 23S / RANGE: 30E / SECTION: 32 / LAT: 32.268045 / LONG: -103.902358 ( TVD: 10709 feet, MD: 31925 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 20 323H
<b>LOCATION:</b>	Sec 20-24S-30E-NMP
<b>COUNTY:</b>	Eddy County, New Mexico

Changes approved through engineering via **Sundry 2781344** 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 checked="" type="radio"/> Low	<input 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 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 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 700 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.**

**Operator has proposed to pump down 13-3/8" X 9-5/8" annulus after primary cementing stage. Operator must run a CBL from TD of the 9-5/8" casing to surface. Submit results to the BLM.**

**If cement does not tie-back into the previous casing shoe, a third stage remediation BH may be performed. The appropriate BLM office shall be notified.**

3. The minimum required fill of cement behind the **6** inch production casing is:
  - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

### **C. PRESSURE CONTROL**

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
2. Operator has proposed a multi-bowl wellhead assembly. 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.



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

XTO Energy Inc.

PLU 20 Dog Town Draw 323H

Projected TD: 28755' MD / 10798' TVD

SHL: 877' FNL & 2012' FEL , Section 20, T24S, R30E

BHL: 2432' FNL & 1839' FEL , Section 5, T25S, 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	874'	Water
Top of Salt	1277'	Water
Base of Salt	3470'	Water
Delaware	3664'	Water
Brushy Canyon	6162'	Water/Oil/Gas
Bone Spring	7458'	Water
1st Bone Spring	8244'	Water/Oil/Gas
2nd Bone Spring	8785'	Water/Oil/Gas
3rd Bone Spring	9581'	Water/Oil/Gas
Wolfcamp	10747'	Water/Oil/Gas
Wolfcamp X	10768'	Water/Oil/Gas
<b>Target/Land Curve</b>	<b>10798'</b>	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 @ 974' (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 9951' and cemented to surface. A 8.5 inch curve and 8.5 inch lateral hole will be drilled to 28755 MD/TD and 6 inch production casing will be set at TD and cemented back up in the intermediate shoe (estimated TOC 9651 feet).

**3. Casing Design**

Hole Size	Depth	OD Csg	Weight	Grade	Collar	New/Used	SF Burst	SF Collapse	SF Tension
17.5	0' – 974'	13.375	54.5	J-55	BTC	New	1.16	2.66	17.12
12.25	0' – 4000'	9.625	40	HC P-110	BTC	New	1.86	2.31	3.18
12.25	4000' – 9951'	9.625	40	HC L-80	BTC	New	1.35	1.76	3.85
8.5	0' – 9851'	6	26	P-110	Semi-Premium	New	1.17	2.24	1.64
8.5	9851' - 28755'	6	26	P-110	Semi-Premium	New	1.17	2.05	1.85

- 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.
- 6 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 5.5" 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 +/- 974'**

Lead: 500 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 +/- 9951'**

###### 1st Stage

Optional Lead: 1040 sxs Class C (mixed at 10.5 ppg, 2.77 ft<sup>3</sup>/sx, 15.59 gal/sx water)

TOC: Surface

Tail: 1090 sxs Class C (mixed at 14.8 ppg, 1.35 ft<sup>3</sup>/sx, 6.39 gal/sx water)

TOC: Brushy Canyon @ 6162

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: 2170 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 9-5/8" intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brush Canyon (6162') 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: 6, 26 New Semi-Premium, P-110 casing to be set at +/- 28755'**

Lead: 40 sxs NeoCem (mixed at 11.5 ppg, 2.69 ft<sup>3</sup>/sx, 15.00 gal/sx water) Top of Cement: 9651 feet

Tail: 3160 sxs VersaCem (mixed at 13.2 ppg, 1.51 ft<sup>3</sup>/sx, 8.38 gal/sx water) Top of Cement: 10151 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 4250 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 week.

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' - 974'	17.5	FW/Native	8.4-8.9	35-40	NC
974' - 9951'	12.25	FW / Cut Brine / Direct Emulsion	8.8-9.3	30-32	NC
9951' - 28755'	8.5	OBM	11.8-12.3	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 170 to 190 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 6626 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 20 DTD South 323H

Measured Depth: 28755.00 ft

TVD RKB: 10798.00 ft

## Location

Cartographic Reference System: New Mexico East - NAD 27

Northing: 439617.30 ft

Easting: 633746.90 ft

RKB: 3297.00 ft

Ground Level: 3265.00 ft

North Reference: Grid

Convergence Angle: 0.23 Deg

## Plan Sections

Poker Lake Unit 20 DTD South 323H

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1100.00	0.00	0.00	1100.00	0.00	0.00	0.00	0.00	0.00
1615.77	10.32	12.60	1612.98	45.19	10.10	2.00	0.00	2.00
5553.44	10.32	12.60	5487.01	733.31	163.90	0.00	0.00	0.00
6069.21	0.00	0.00	6000.00	778.50	174.00	-2.00	0.00	2.00
10151.00	0.00	0.00	10081.80	778.50	174.00	0.00	0.00	0.00
11276.00	90.00	179.68	10798.00	62.31	178.02	8.00	0.00	8.00
11464.62	90.00	179.68	10798.00	-126.30	179.08	0.00	0.00	0.00 LTP 19
28755.01	90.00	179.68	10798.00	-17416.42	276.26	0.00	0.00	0.00 BHL 19

## Position Uncertainty

Poker Lake Unit 20 DTD South 323H

Measured	TVD	Highside	Lateral	Vertical	Magnitude	Semi-major	Semi-minor	Semi-minor	Tool
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Depth	Inclination	Azimuth	RKB	Error	Bias	Error	Bias	Error	Bias	of Bias	Error	Error	Azimuth	Used
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	MWD+IFR1+MS
100.000	0.000	0.000	100.000	0.700	0.000	0.350	0.000	2.300	0.000	0.000	0.751	0.220	112.260	MWD+IFR1+MS
200.000	0.000	0.000	200.000	1.112	0.000	0.861	0.000	2.309	0.000	0.000	1.259	0.627	122.728	MWD+IFR1+MS
300.000	0.000	0.000	300.000	1.497	0.000	1.271	0.000	2.325	0.000	0.000	1.698	0.986	125.475	MWD+IFR1+MS
400.000	0.000	0.000	400.000	1.871	0.000	1.658	0.000	2.346	0.000	0.000	2.108	1.343	126.713	MWD+IFR1+MS
500.000	0.000	0.000	500.000	2.240	0.000	2.034	0.000	2.373	0.000	0.000	2.503	1.701	127.421	MWD+IFR1+MS
600.000	0.000	0.000	600.000	2.607	0.000	2.405	0.000	2.405	0.000	0.000	2.888	2.059	127.870	MWD+IFR1+MS
700.000	0.000	0.000	700.000	2.971	0.000	2.773	0.000	2.442	0.000	0.000	3.267	2.417	128.192	MWD+IFR1+MS
800.000	0.000	0.000	800.000	3.333	0.000	3.138	0.000	2.484	0.000	0.000	3.642	2.774	128.446	MWD+IFR1+MS
900.000	0.000	0.000	900.000	3.696	0.000	3.501	0.000	2.529	0.000	0.000	4.014	3.132	128.582	MWD+IFR1+MS
1000.000	0.000	0.000	1000.000	4.057	0.000	3.865	0.000	2.579	0.000	0.000	4.384	3.491	128.759	MWD+IFR1+MS
1100.000	0.000	0.000	1100.000	4.418	0.000	4.227	0.000	2.632	0.000	0.000	4.752	3.849	128.868	MWD+IFR1+MS
1200.000	1.999	12.590	1199.980	4.965	0.000	4.409	0.000	2.688	0.000	0.000	5.297	4.208	126.718	MWD+IFR1+MS
1300.000	4.000	12.590	1299.838	5.519	0.000	4.782	0.000	2.748	0.000	0.000	6.075	4.574	123.029	MWD+IFR1+MS
1400.000	6.000	12.590	1399.452	5.941	0.000	5.152	0.000	2.813	0.000	0.000	6.787	4.931	121.267	MWD+IFR1+MS
1500.000	7.999	12.590	1498.702	6.250	0.000	5.520	0.000	2.886	0.000	0.000	7.446	5.286	120.245	MWD+IFR1+MS
1600.000	10.000	12.590	1597.465	6.456	0.000	5.886	0.000	2.969	0.000	0.000	8.066	5.639	119.613	MWD+IFR1+MS
1615.700	10.310	12.590	1612.985	6.440	0.000	5.939	0.000	2.974	0.000	0.000	8.110	5.695	119.564	MWD+IFR1+MS
1700.000	10.310	12.590	1695.857	6.618	0.000	6.228	0.000	3.035	0.000	0.000	8.336	5.994	119.562	MWD+IFR1+MS
1800.000	10.310	12.590	1794.241	6.845	0.000	6.592	0.000	3.112	0.000	0.000	8.626	6.360	119.897	MWD+IFR1+MS
1900.000	10.310	12.590	1892.624	7.079	0.000	6.961	0.000	3.192	0.000	0.000	8.927	6.729	120.272	MWD+IFR1+MS
2000.000	10.310	12.590	1991.008	7.319	0.000	7.329	0.000	3.276	0.000	0.000	9.233	7.097	120.645	MWD+IFR1+MS
2100.000	10.310	12.590	2089.392	7.562	0.000	7.699	0.000	3.362	0.000	0.000	9.545	7.466	121.000	MWD+IFR1+MS
2200.000	10.310	12.590	2187.775	7.810	0.000	8.067	0.000	3.450	0.000	0.000	9.861	7.834	121.346	MWD+IFR1+MS
2300.000	10.310	12.590	2286.159	8.060	0.000	8.437	0.000	3.540	0.000	0.000	10.180	8.203	121.668	MWD+IFR1+MS
2400.000	10.310	12.590	2384.543	8.313	0.000	8.807	0.000	3.633	0.000	0.000	10.504	8.573	122.010	MWD+IFR1+MS
2500.000	10.310	12.590	2482.927	8.569	0.000	9.176	0.000	3.727	0.000	0.000	10.830	8.941	122.342	MWD+IFR1+MS
2600.000	10.310	12.590	2581.310	8.827	0.000	9.547	0.000	3.825	0.000	0.000	11.159	9.310	122.659	MWD+IFR1+MS
2700.000	10.310	12.590	2679.694	9.088	0.000	9.914	0.000	3.923	0.000	0.000	11.491	9.678	122.926	MWD+IFR1+MS
2800.000	10.310	12.590	2778.078	9.352	0.000	10.284	0.000	4.024	0.000	0.000	11.826	10.047	123.186	MWD+IFR1+MS
2900.000	10.310	12.590	2876.461	9.618	0.000	10.654	0.000	4.126	0.000	0.000	12.165	10.417	123.439	MWD+IFR1+MS

3000.000	10.310	12.590	2974.845	9.887	0.000	11.026	0.000	4.230	0.000	0.000	12.506	10.788	123.685	MWD+IFR1+MS
3100.000	10.310	12.590	3073.229	10.155	0.000	11.399	0.000	4.335	0.000	0.000	12.848	11.159	123.989	MWD+IFR1+MS
3200.000	10.310	12.590	3171.613	10.425	0.000	11.768	0.000	4.442	0.000	0.000	13.191	11.528	124.221	MWD+IFR1+MS
3300.000	10.310	12.590	3269.996	10.697	0.000	12.139	0.000	4.551	0.000	0.000	13.536	11.898	124.447	MWD+IFR1+MS
3400.000	10.310	12.590	3368.380	10.971	0.000	12.510	0.000	4.660	0.000	0.000	13.884	12.270	124.666	MWD+IFR1+MS
3500.000	10.310	12.590	3466.764	11.247	0.000	12.879	0.000	4.773	0.000	0.000	14.232	12.639	124.818	MWD+IFR1+MS
3600.000	10.310	12.590	3565.147	11.522	0.000	13.252	0.000	4.886	0.000	0.000	14.582	13.010	125.093	MWD+IFR1+MS
3700.000	10.310	12.590	3663.531	11.798	0.000	13.623	0.000	5.001	0.000	0.000	14.932	13.380	125.296	MWD+IFR1+MS
3800.000	10.310	12.590	3761.915	12.076	0.000	13.994	0.000	5.117	0.000	0.000	15.284	13.751	125.493	MWD+IFR1+MS
3900.000	10.310	12.590	3860.299	12.355	0.000	14.363	0.000	5.235	0.000	0.000	15.637	14.120	125.630	MWD+IFR1+MS
4000.000	10.310	12.590	3958.682	12.636	0.000	14.736	0.000	5.354	0.000	0.000	15.992	14.493	125.818	MWD+IFR1+MS
4100.000	10.310	12.590	4057.066	12.915	0.000	15.107	0.000	5.475	0.000	0.000	16.346	14.863	126.006	MWD+IFR1+MS
4200.000	10.310	12.590	4155.450	13.198	0.000	15.478	0.000	5.597	0.000	0.000	16.704	15.234	126.130	MWD+IFR1+MS
4300.000	10.310	12.590	4253.833	13.480	0.000	15.847	0.000	5.722	0.000	0.000	17.059	15.604	126.247	MWD+IFR1+MS
4400.000	10.310	12.590	4352.217	13.763	0.000	16.220	0.000	5.847	0.000	0.000	17.418	15.976	126.422	MWD+IFR1+MS
4500.000	10.310	12.590	4450.601	14.047	0.000	16.591	0.000	5.975	0.000	0.000	17.776	16.347	126.537	MWD+IFR1+MS
4600.000	10.310	12.590	4548.985	14.330	0.000	16.962	0.000	6.103	0.000	0.000	18.134	16.717	126.704	MWD+IFR1+MS
4700.000	10.310	12.590	4647.368	14.616	0.000	17.334	0.000	6.234	0.000	0.000	18.495	17.089	126.812	MWD+IFR1+MS
4800.000	10.310	12.590	4745.752	14.900	0.000	17.704	0.000	6.366	0.000	0.000	18.854	17.459	126.917	MWD+IFR1+MS
4900.000	10.310	12.590	4844.136	15.186	0.000	18.074	0.000	6.500	0.000	0.000	19.214	17.830	127.020	MWD+IFR1+MS
5000.000	10.310	12.590	4942.519	15.472	0.000	18.446	0.000	6.636	0.000	0.000	19.576	18.201	127.120	MWD+IFR1+MS
5100.000	10.310	12.590	5040.903	15.758	0.000	18.817	0.000	6.773	0.000	0.000	19.936	18.573	127.270	MWD+IFR1+MS
5200.000	10.310	12.590	5139.287	16.046	0.000	19.190	0.000	6.912	0.000	0.000	20.300	18.945	127.368	MWD+IFR1+MS
5300.000	10.310	12.590	5237.671	16.333	0.000	19.560	0.000	7.053	0.000	0.000	20.662	19.316	127.460	MWD+IFR1+MS
5400.000	10.310	12.590	5336.054	16.621	0.000	19.932	0.000	7.195	0.000	0.000	21.025	19.687	127.553	MWD+IFR1+MS
5500.000	10.310	12.590	5434.438	16.909	0.000	20.303	0.000	7.340	0.000	0.000	21.388	20.059	127.641	MWD+IFR1+MS
5553.400	10.310	12.590	5487.015	17.060	0.000	20.499	0.000	7.418	0.000	0.000	21.577	20.256	127.607	MWD+IFR1+MS
5600.000	9.384	12.590	5532.887	17.640	0.000	20.668	0.000	7.486	0.000	0.000	21.743	20.429	127.526	MWD+IFR1+MS
5700.000	7.384	12.590	5631.814	18.920	0.000	21.032	0.000	7.635	0.000	0.000	22.155	20.796	126.894	MWD+IFR1+MS
5800.000	5.384	12.590	5731.188	20.228	0.000	21.395	0.000	7.783	0.000	0.000	22.620	21.160	125.887	MWD+IFR1+MS
5900.000	3.384	12.590	5830.891	21.509	0.000	21.751	0.000	7.924	0.000	0.000	23.077	21.516	125.046	MWD+IFR1+MS
6000.000	1.384	12.590	5930.799	22.761	0.000	22.104	0.000	8.061	0.000	0.000	23.526	21.868	124.369	MWD+IFR1+MS
6069.200	0.000	0.000	6000.000	23.274	0.000	22.650	0.000	8.154	0.000	0.000	23.788	22.109	124.065	MWD+IFR1+MS

6100.000	0.000	0.000	6030.792	23.377	0.000	22.751	0.000	8.195	0.000	0.000	23.888	22.214	123.999	MWD+IFR1+MS
6200.000	0.000	0.000	6130.792	23.709	0.000	23.089	0.000	8.330	0.000	0.000	24.214	22.559	124.000	MWD+IFR1+MS
6300.000	0.000	0.000	6230.792	24.046	0.000	23.431	0.000	8.467	0.000	0.000	24.549	22.903	124.026	MWD+IFR1+MS
6400.000	0.000	0.000	6330.792	24.382	0.000	23.774	0.000	8.607	0.000	0.000	24.884	23.248	124.082	MWD+IFR1+MS
6500.000	0.000	0.000	6430.792	24.720	0.000	24.116	0.000	8.749	0.000	0.000	25.221	23.593	124.106	MWD+IFR1+MS
6600.000	0.000	0.000	6530.792	25.058	0.000	24.460	0.000	8.893	0.000	0.000	25.557	23.938	124.160	MWD+IFR1+MS
6700.000	0.000	0.000	6630.792	25.397	0.000	24.803	0.000	9.042	0.000	0.000	25.894	24.283	124.184	MWD+IFR1+MS
6800.000	0.000	0.000	6730.792	25.737	0.000	25.148	0.000	9.191	0.000	0.000	26.233	24.630	124.204	MWD+IFR1+MS
6900.000	0.000	0.000	6830.792	26.077	0.000	25.493	0.000	9.344	0.000	0.000	26.572	24.977	124.259	MWD+IFR1+MS
7000.000	0.000	0.000	6930.792	26.418	0.000	25.838	0.000	9.501	0.000	0.000	26.911	25.324	124.278	MWD+IFR1+MS
7100.000	0.000	0.000	7030.792	26.758	0.000	26.184	0.000	9.659	0.000	0.000	27.250	25.672	124.331	MWD+IFR1+MS
7200.000	0.000	0.000	7130.792	27.100	0.000	26.529	0.000	9.820	0.000	0.000	27.590	26.019	124.349	MWD+IFR1+MS
7300.000	0.000	0.000	7230.792	27.441	0.000	26.876	0.000	9.983	0.000	0.000	27.930	26.367	124.401	MWD+IFR1+MS
7400.000	0.000	0.000	7330.792	27.783	0.000	27.223	0.000	10.149	0.000	0.000	28.272	26.716	124.450	MWD+IFR1+MS
7500.000	0.000	0.000	7430.792	28.126	0.000	27.570	0.000	10.315	0.000	0.000	28.613	27.064	124.469	MWD+IFR1+MS
7600.000	0.000	0.000	7530.792	28.469	0.000	27.916	0.000	10.488	0.000	0.000	28.955	27.412	124.486	MWD+IFR1+MS
7700.000	0.000	0.000	7630.792	28.811	0.000	28.263	0.000	10.663	0.000	0.000	29.296	27.760	124.535	MWD+IFR1+MS
7800.000	0.000	0.000	7730.792	29.156	0.000	28.611	0.000	10.844	0.000	0.000	29.640	28.110	124.551	MWD+IFR1+MS
7900.000	0.000	0.000	7830.792	29.499	0.000	28.959	0.000	11.023	0.000	0.000	29.981	28.459	124.599	MWD+IFR1+MS
8000.000	0.000	0.000	7930.792	29.845	0.000	29.307	0.000	11.207	0.000	0.000	30.325	28.809	124.614	MWD+IFR1+MS
8100.000	0.000	0.000	8030.792	30.189	0.000	29.656	0.000	11.393	0.000	0.000	30.670	29.160	124.661	MWD+IFR1+MS
8200.000	0.000	0.000	8130.792	30.534	0.000	30.005	0.000	11.584	0.000	0.000	31.013	29.509	124.705	MWD+IFR1+MS
8300.000	0.000	0.000	8230.792	30.879	0.000	30.353	0.000	11.777	0.000	0.000	31.357	29.859	124.721	MWD+IFR1+MS
8400.000	0.000	0.000	8330.792	31.225	0.000	30.702	0.000	11.971	0.000	0.000	31.702	30.209	124.735	MWD+IFR1+MS
8500.000	0.000	0.000	8430.792	31.571	0.000	31.052	0.000	12.170	0.000	0.000	32.047	30.560	124.780	MWD+IFR1+MS
8600.000	0.000	0.000	8530.792	31.906	0.000	31.401	0.000	12.369	0.000	0.000	32.384	30.907	124.994	MWD+IFR1+MS
8700.000	0.000	0.000	8630.792	32.249	0.000	31.749	0.000	12.574	0.000	0.000	32.727	31.256	125.065	MWD+IFR1+MS
8800.000	0.000	0.000	8730.792	32.604	0.000	32.094	0.000	12.783	0.000	0.000	33.076	31.606	124.849	MWD+IFR1+MS
8900.000	0.000	0.000	8830.792	32.955	0.000	32.450	0.000	12.992	0.000	0.000	33.427	31.963	124.919	MWD+IFR1+MS
9000.000	0.000	0.000	8930.792	33.302	0.000	32.787	0.000	13.206	0.000	0.000	33.769	32.305	124.709	MWD+IFR1+MS
9100.000	0.000	0.000	9030.792	33.645	0.000	33.151	0.000	13.420	0.000	0.000	34.117	32.665	125.056	MWD+IFR1+MS
9200.000	0.000	0.000	9130.792	34.000	0.000	33.496	0.000	13.642	0.000	0.000	34.467	33.015	124.847	MWD+IFR1+MS
9300.000	0.000	0.000	9230.792	34.337	0.000	33.853	0.000	13.864	0.000	0.000	34.809	33.367	125.189	MWD+IFR1+MS



9400.000	0.000	0.000	9330.792	34.684	0.000	34.191	0.000	14.089	0.000	0.000	35.151	33.710	124.981	MWD+IFR1+MS
9500.000	0.000	0.000	9430.792	35.043	0.000	34.554	0.000	14.318	0.000	0.000	35.510	34.074	125.048	MWD+IFR1+MS
9600.000	0.000	0.000	9530.792	35.384	0.000	34.900	0.000	14.546	0.000	0.000	35.850	34.420	125.112	MWD+IFR1+MS
9700.000	0.000	0.000	9630.792	35.735	0.000	35.256	0.000	14.782	0.000	0.000	36.202	34.777	125.177	MWD+IFR1+MS
9800.000	0.000	0.000	9730.792	36.083	0.000	35.609	0.000	15.020	0.000	0.000	36.550	35.130	125.239	MWD+IFR1+MS
9900.000	0.000	0.000	9830.792	36.428	0.000	35.958	0.000	15.261	0.000	0.000	36.894	35.480	125.303	MWD+IFR1+MS
10000.000	0.000	0.000	9930.792	36.783	0.000	36.304	0.000	15.502	0.000	0.000	37.245	35.831	125.102	MWD+IFR1+MS
10100.000	0.000	0.000	10030.792	37.135	0.000	36.661	0.000	15.751	0.000	0.000	37.596	36.187	125.166	MWD+IFR1+MS
10151.000	0.000	0.000	10081.800	37.310	0.000	36.837	0.000	15.878	0.000	0.000	37.769	36.366	125.173	MWD+IFR1+MS
10200.000	3.919	179.600	10130.754	39.882	0.000	37.009	-0.000	15.997	0.000	0.000	37.936	36.535	124.909	MWD+IFR1+MS
10300.000	11.910	179.600	10229.720	44.898	0.000	37.306	-0.000	16.276	0.000	0.000	38.704	36.960	115.789	MWD+IFR1+MS
10400.000	19.910	179.600	10325.807	49.291	0.000	37.587	-0.000	16.694	0.000	0.000	39.886	37.338	107.539	MWD+IFR1+MS
10500.000	27.910	179.600	10417.144	52.325	0.000	37.853	-0.000	17.315	0.000	0.000	40.954	37.640	103.999	MWD+IFR1+MS
10600.000	35.910	179.600	10501.955	53.908	0.000	38.078	-0.000	18.174	0.000	0.000	41.870	37.880	102.152	MWD+IFR1+MS
10700.000	43.910	179.600	10578.587	53.972	0.000	38.288	-0.000	19.287	0.000	0.000	42.600	38.095	101.233	MWD+IFR1+MS
10800.000	51.910	179.600	10645.550	52.545	0.000	38.458	-0.000	20.625	0.000	0.000	43.150	38.264	100.775	MWD+IFR1+MS
10900.000	59.910	179.600	10701.541	49.706	0.000	38.615	-0.000	22.149	0.000	0.000	43.524	38.414	100.675	MWD+IFR1+MS
11000.000	67.910	179.600	10745.468	45.598	0.000	38.731	-0.000	23.803	0.000	0.000	43.760	38.523	100.739	MWD+IFR1+MS
11100.000	75.910	179.600	10776.479	40.349	0.000	38.809	-0.000	25.526	0.000	0.000	43.882	38.593	100.902	MWD+IFR1+MS
11200.000	83.910	179.600	10793.968	34.057	0.000	38.874	-0.000	27.260	0.000	0.000	43.923	38.649	101.139	MWD+IFR1+MS
11276.000	90.000	179.600	10797.997	28.073	0.000	38.887	-0.000	28.073	0.000	0.000	43.937	38.659	101.218	MWD+IFR1+MS
11300.000	90.000	179.600	10797.997	28.123	0.000	38.900	-0.000	28.123	0.000	0.000	43.939	38.670	101.266	MWD+IFR1+MS
11400.000	90.000	179.600	10797.997	28.295	0.000	38.925	-0.000	28.295	0.000	0.000	43.943	38.691	101.406	MWD+IFR1+MS
11464.000	90.000	179.600	10797.997	28.417	0.000	38.951	-0.000	28.417	0.000	0.000	43.946	38.714	101.515	MWD+IFR1+MS
11500.000	90.000	179.600	10797.997	28.487	0.000	38.964	-0.000	28.487	0.000	0.000	43.947	38.725	101.574	MWD+IFR1+MS
11600.000	90.000	179.600	10797.997	28.698	0.000	39.016	-0.000	28.698	0.000	0.000	43.964	38.771	101.744	MWD+IFR1+MS
11700.000	90.000	179.600	10797.997	28.934	0.000	39.093	-0.000	28.934	0.000	0.000	43.970	38.841	101.998	MWD+IFR1+MS
11800.000	90.000	179.600	10797.997	29.189	0.000	39.182	-0.000	29.189	0.000	0.000	43.988	38.924	102.259	MWD+IFR1+MS
11900.000	90.000	179.600	10797.997	29.464	0.000	39.284	-0.000	29.464	0.000	0.000	43.996	39.018	102.587	MWD+IFR1+MS
12000.000	90.000	179.600	10797.997	29.756	0.000	39.411	-0.000	29.756	0.000	0.000	44.016	39.136	102.955	MWD+IFR1+MS
12100.000	90.000	179.600	10797.997	30.065	0.000	39.538	-0.000	30.065	0.000	0.000	44.026	39.252	103.371	MWD+IFR1+MS
12200.000	90.000	179.600	10797.997	30.391	0.000	39.690	-0.000	30.391	0.000	0.000	44.048	39.393	103.839	MWD+IFR1+MS
12300.000	90.000	179.600	10797.997	30.734	0.000	39.853	-0.000	30.734	0.000	0.000	44.072	39.544	104.367	MWD+IFR1+MS

12400.000	90.000	179.600	10797.997	31.093	0.000	40.029	-0.000	31.093	0.000	0.000	44.086	39.704	105.002	MWD+IFR1+MS
12500.000	90.000	179.600	10797.997	31.469	0.000	40.216	-0.000	31.469	0.000	0.000	44.113	39.875	105.678	MWD+IFR1+MS
12600.000	90.000	179.600	10797.997	31.859	0.000	40.427	-0.000	31.859	0.000	0.000	44.144	40.067	106.488	MWD+IFR1+MS
12700.000	90.000	179.600	10797.997	32.249	0.000	40.637	-0.000	32.249	0.000	0.000	44.175	40.256	107.358	MWD+IFR1+MS
12800.000	90.000	179.600	10797.997	32.680	0.000	40.870	-0.000	32.680	0.000	0.000	44.211	40.464	108.407	MWD+IFR1+MS
12900.000	90.000	179.600	10797.997	33.106	0.000	41.114	-0.000	33.106	0.000	0.000	44.251	40.680	109.610	MWD+IFR1+MS
13000.000	90.000	179.600	10797.997	33.556	0.000	41.369	-0.000	33.556	0.000	0.000	44.296	40.901	110.991	MWD+IFR1+MS
13100.000	90.000	179.600	10797.997	34.000	0.000	41.634	-0.000	34.000	0.000	0.000	44.346	41.127	112.582	MWD+IFR1+MS
13200.000	90.000	179.600	10797.997	34.467	0.000	41.921	-0.000	34.467	0.000	0.000	44.406	41.366	114.509	MWD+IFR1+MS
13300.000	90.000	179.600	10797.997	34.957	0.000	42.207	-0.000	34.957	0.000	0.000	44.482	41.598	116.556	MWD+IFR1+MS
13400.000	90.000	179.600	10797.997	35.440	0.000	42.514	-0.000	35.440	0.000	0.000	44.562	41.836	119.113	MWD+IFR1+MS
13500.000	90.000	179.600	10797.997	35.944	0.000	42.830	-0.000	35.944	0.000	0.000	44.657	42.068	122.060	MWD+IFR1+MS
13600.000	90.000	179.600	10797.997	36.455	0.000	43.156	-0.000	36.455	0.000	0.000	44.770	42.293	125.388	MWD+IFR1+MS
13700.000	90.000	179.600	10797.997	36.973	0.000	43.491	-0.000	36.973	0.000	0.000	44.911	42.508	128.955	MWD+IFR1+MS
13800.000	90.000	179.600	10797.997	37.510	0.000	43.846	-0.000	37.510	0.000	0.000	45.076	42.710	133.067	MWD+IFR1+MS
13900.000	90.000	179.600	10797.997	38.039	0.000	44.198	-0.000	38.039	0.000	0.000	45.269	42.892	-42.947	MWD+IFR1+MS
14000.000	90.000	179.600	10797.997	38.588	0.000	44.570	-0.000	38.588	0.000	0.000	45.492	43.052	-38.715	MWD+IFR1+MS
14100.000	90.000	179.600	10797.997	39.141	0.000	44.950	-0.000	39.141	0.000	0.000	45.748	43.198	-34.808	MWD+IFR1+MS
14200.000	90.000	179.600	10797.997	39.711	0.000	45.338	-0.000	39.711	0.000	0.000	46.032	43.325	-31.209	MWD+IFR1+MS
14300.000	90.000	179.600	10797.997	40.274	0.000	45.744	-0.000	40.274	0.000	0.000	46.349	43.437	-27.894	MWD+IFR1+MS
14400.000	90.000	179.600	10797.997	40.853	0.000	46.147	-0.000	40.853	0.000	0.000	46.678	43.522	-24.994	MWD+IFR1+MS
14500.000	90.000	179.600	10797.997	41.437	0.000	46.567	-0.000	41.437	0.000	0.000	47.038	43.605	-22.500	MWD+IFR1+MS
14600.000	90.000	179.600	10797.997	42.036	0.000	46.995	-0.000	42.036	0.000	0.000	47.414	43.679	-20.343	MWD+IFR1+MS
14700.000	90.000	179.600	10797.997	42.626	0.000	47.429	-0.000	42.626	0.000	0.000	47.806	43.744	-18.500	MWD+IFR1+MS
14800.000	90.000	179.600	10797.997	43.232	0.000	47.870	-0.000	43.232	0.000	0.000	48.211	43.803	-16.900	MWD+IFR1+MS
14900.000	90.000	179.600	10797.997	43.841	0.000	48.317	-0.000	43.841	0.000	0.000	48.627	43.856	-15.526	MWD+IFR1+MS
15000.000	90.000	179.600	10797.997	44.452	0.000	48.781	-0.000	44.452	0.000	0.000	49.063	43.906	-14.293	MWD+IFR1+MS
15100.000	90.000	179.600	10797.997	45.078	0.000	49.250	-0.000	45.078	0.000	0.000	49.510	43.952	-13.228	MWD+IFR1+MS
15200.000	90.000	179.600	10797.997	45.695	0.000	49.715	-0.000	45.695	0.000	0.000	49.955	43.995	-12.317	MWD+IFR1+MS
15300.000	90.000	179.600	10797.997	46.325	0.000	50.196	-0.000	46.325	0.000	0.000	50.418	44.046	-11.502	MWD+IFR1+MS
15400.000	90.000	179.600	10797.997	46.968	0.000	50.691	-0.000	46.968	0.000	0.000	50.897	44.085	-10.753	MWD+IFR1+MS
15500.000	90.000	179.600	10797.997	47.603	0.000	51.182	-0.000	47.603	0.000	0.000	51.374	44.121	-10.102	MWD+IFR1+MS
15600.000	90.000	179.600	10797.997	48.249	0.000	51.688	-0.000	48.249	0.000	0.000	51.867	44.168	-9.519	MWD+IFR1+MS

15700.000	90.000	179.600	10797.997	48.888	0.000	52.189	-0.000	48.888	0.000	0.000	52.357	44.201	-8.994	MWD+IFR1+MS
15800.000	90.000	179.600	10797.997	49.548	0.000	52.704	-0.000	49.548	0.000	0.000	52.862	44.245	-8.520	MWD+IFR1+MS
15900.000	90.000	179.600	10797.997	50.200	0.000	53.223	-0.000	50.200	0.000	0.000	53.372	44.277	-8.087	MWD+IFR1+MS
16000.000	90.000	179.600	10797.997	50.853	0.000	53.756	-0.000	50.853	0.000	0.000	53.896	44.319	-7.687	MWD+IFR1+MS
16100.000	90.000	179.600	10797.997	51.517	0.000	54.284	-0.000	51.517	0.000	0.000	54.416	44.349	-7.323	MWD+IFR1+MS
16200.000	90.000	179.600	10797.997	52.182	0.000	54.824	-0.000	52.182	0.000	0.000	54.950	44.390	-6.989	MWD+IFR1+MS
16300.000	90.000	179.600	10797.997	52.849	0.000	55.360	-0.000	52.849	0.000	0.000	55.480	44.430	-6.693	MWD+IFR1+MS
16400.000	90.000	179.600	10797.997	53.526	0.000	55.908	-0.000	53.526	0.000	0.000	56.022	44.469	-6.410	MWD+IFR1+MS
16500.000	90.000	179.600	10797.997	54.203	0.000	56.460	-0.000	54.203	0.000	0.000	56.569	44.508	-6.153	MWD+IFR1+MS
16600.000	90.000	179.600	10797.997	54.882	0.000	57.024	-0.000	54.882	0.000	0.000	57.127	44.536	-5.905	MWD+IFR1+MS
16700.000	90.000	179.600	10797.997	55.561	0.000	57.583	-0.000	55.561	0.000	0.000	57.681	44.574	-5.680	MWD+IFR1+MS
16800.000	90.000	179.600	10797.997	56.241	0.000	58.153	-0.000	56.241	0.000	0.000	58.247	44.612	-5.471	MWD+IFR1+MS
16900.000	90.000	179.600	10797.997	56.930	0.000	58.727	-0.000	56.930	0.000	0.000	58.817	44.661	-5.279	MWD+IFR1+MS
17000.000	90.000	179.600	10797.997	57.619	0.000	59.303	-0.000	57.619	0.000	0.000	59.389	44.698	-5.096	MWD+IFR1+MS
17100.000	90.000	179.600	10797.997	58.310	0.000	59.882	-0.000	58.310	0.000	0.000	59.965	44.735	-4.926	MWD+IFR1+MS
17200.000	90.000	179.600	10797.997	59.000	0.000	60.464	-0.000	59.000	0.000	0.000	60.543	44.772	-4.765	MWD+IFR1+MS
17300.000	90.000	179.600	10797.997	59.699	0.000	61.056	-0.000	59.699	0.000	0.000	61.132	44.809	-4.612	MWD+IFR1+MS
17400.000	90.000	179.600	10797.997	60.399	0.000	61.643	-0.000	60.399	0.000	0.000	61.717	44.856	-4.473	MWD+IFR1+MS
17500.000	90.000	179.600	10797.997	61.098	0.000	62.240	-0.000	61.098	0.000	0.000	62.311	44.892	-4.337	MWD+IFR1+MS
17600.000	90.000	179.600	10797.997	61.798	0.000	62.840	-0.000	61.798	0.000	0.000	62.908	44.928	-4.208	MWD+IFR1+MS
17700.000	90.000	179.600	10797.997	62.498	0.000	63.442	-0.000	62.498	0.000	0.000	63.508	44.975	-4.092	MWD+IFR1+MS
17800.000	90.000	179.600	10797.997	63.206	0.000	64.054	-0.000	63.206	0.000	0.000	64.117	45.011	-3.975	MWD+IFR1+MS
17900.000	90.000	179.600	10797.997	63.914	0.000	64.660	-0.000	63.914	0.000	0.000	64.721	45.057	-3.868	MWD+IFR1+MS
18000.000	90.000	179.600	10797.997	64.622	0.000	65.276	-0.000	64.622	0.000	0.000	65.335	45.104	-3.768	MWD+IFR1+MS
18100.000	90.000	179.600	10797.997	65.338	0.000	65.893	-0.000	65.338	0.000	0.000	65.950	45.139	-3.668	MWD+IFR1+MS
18200.000	90.000	179.600	10797.997	66.045	0.000	66.513	-0.000	66.045	0.000	0.000	66.568	45.185	-3.577	MWD+IFR1+MS
18300.000	90.000	179.600	10797.997	66.761	0.000	67.134	-0.000	66.761	0.000	0.000	67.187	45.231	-3.491	MWD+IFR1+MS
18400.000	90.000	179.600	10797.997	67.476	0.000	67.757	-0.000	67.476	0.000	0.000	67.809	45.277	-3.408	MWD+IFR1+MS
18500.000	90.000	179.600	10797.997	68.198	0.000	68.389	-0.000	68.198	0.000	0.000	68.439	45.323	-3.326	MWD+IFR1+MS
18600.000	90.000	179.600	10797.997	68.913	0.000	69.022	-0.000	68.913	0.000	0.000	69.070	45.357	-3.248	MWD+IFR1+MS
18700.000	90.000	179.600	10797.997	69.635	0.000	69.656	-0.000	69.635	0.000	0.000	69.704	45.403	-3.175	MWD+IFR1+MS
18800.000	90.000	179.600	10797.997	70.356	0.000	70.293	-0.000	70.356	0.000	0.000	70.338	45.448	-3.106	MWD+IFR1+MS
18900.000	90.000	179.600	10797.997	71.077	0.000	70.930	-0.000	71.077	0.000	0.000	70.974	45.504	-3.040	MWD+IFR1+MS

19000.000	90.000	179.600	10797.997	71.805	0.000	71.569	-0.000	71.805	0.000	0.000	71.612	45.550	-2.976	MWD+IFR1+MS
19100.000	90.000	179.600	10797.997	72.533	0.000	72.215	-0.000	72.533	0.000	0.000	72.257	45.595	-2.915	MWD+IFR1+MS
19200.000	90.000	179.600	10797.997	73.260	0.000	72.863	-0.000	73.260	0.000	0.000	72.904	45.640	-2.855	MWD+IFR1+MS
19300.000	90.000	179.600	10797.997	73.986	0.000	73.513	-0.000	73.986	0.000	0.000	73.552	45.685	-2.798	MWD+IFR1+MS
19400.000	90.000	179.600	10797.997	74.713	0.000	74.163	-0.000	74.713	0.000	0.000	74.201	45.740	-2.745	MWD+IFR1+MS
19500.000	90.000	179.600	10797.997	75.445	0.000	74.814	-0.000	75.445	0.000	0.000	74.851	45.785	-2.692	MWD+IFR1+MS
19600.000	90.000	179.600	10797.997	76.177	0.000	75.466	-0.000	76.177	0.000	0.000	75.503	45.840	-2.643	MWD+IFR1+MS
19700.000	90.000	179.600	10797.997	76.909	0.000	76.126	-0.000	76.909	0.000	0.000	76.161	45.885	-2.593	MWD+IFR1+MS
19800.000	90.000	179.600	10797.997	77.640	0.000	76.786	-0.000	77.640	0.000	0.000	76.821	45.940	-2.547	MWD+IFR1+MS
19900.000	90.000	179.600	10797.997	78.377	0.000	77.448	-0.000	78.377	0.000	0.000	77.482	45.985	-2.501	MWD+IFR1+MS
20000.000	90.000	179.600	10797.997	79.114	0.000	78.110	-0.000	79.114	0.000	0.000	78.143	46.040	-2.458	MWD+IFR1+MS
20100.000	90.000	179.600	10797.997	79.850	0.000	78.773	-0.000	79.850	0.000	0.000	78.805	46.095	-2.416	MWD+IFR1+MS
20200.000	90.000	179.600	10797.997	80.585	0.000	79.443	-0.000	80.585	0.000	0.000	79.474	46.139	-2.375	MWD+IFR1+MS
20300.000	90.000	179.600	10797.997	81.327	0.000	80.108	-0.000	81.327	0.000	0.000	80.138	46.194	-2.337	MWD+IFR1+MS
20400.000	90.000	179.600	10797.997	82.061	0.000	80.779	-0.000	82.061	0.000	0.000	80.809	46.249	-2.299	MWD+IFR1+MS
20500.000	90.000	179.600	10797.997	82.801	0.000	81.451	-0.000	82.801	0.000	0.000	81.480	46.303	-2.262	MWD+IFR1+MS
20600.000	90.000	179.600	10797.997	83.546	0.000	82.124	-0.000	83.546	0.000	0.000	82.152	46.358	-2.227	MWD+IFR1+MS
20700.000	90.000	179.600	10797.997	84.285	0.000	82.803	-0.000	84.285	0.000	0.000	82.830	46.412	-2.192	MWD+IFR1+MS
20800.000	90.000	179.600	10797.997	85.029	0.000	83.476	-0.000	85.029	0.000	0.000	83.504	46.467	-2.160	MWD+IFR1+MS
20900.000	90.000	179.600	10797.997	85.773	0.000	84.156	-0.000	85.773	0.000	0.000	84.183	46.521	-2.127	MWD+IFR1+MS
21000.000	90.000	179.600	10797.997	86.516	0.000	84.837	-0.000	86.516	0.000	0.000	84.863	46.575	-2.096	MWD+IFR1+MS
21100.000	90.000	179.600	10797.997	87.258	0.000	85.518	-0.000	87.258	0.000	0.000	85.543	46.630	-2.066	MWD+IFR1+MS
21200.000	90.000	179.600	10797.997	88.006	0.000	86.199	-0.000	88.006	0.000	0.000	86.224	46.694	-2.037	MWD+IFR1+MS
21300.000	90.000	179.600	10797.997	88.752	0.000	86.881	-0.000	88.752	0.000	0.000	86.906	46.748	-2.009	MWD+IFR1+MS
21400.000	90.000	179.600	10797.997	89.499	0.000	87.569	-0.000	89.499	0.000	0.000	87.593	46.802	-1.981	MWD+IFR1+MS
21500.000	90.000	179.600	10797.997	90.244	0.000	88.258	-0.000	90.244	0.000	0.000	88.281	46.867	-1.954	MWD+IFR1+MS
21600.000	90.000	179.600	10797.997	90.995	0.000	88.946	-0.000	90.995	0.000	0.000	88.969	46.921	-1.928	MWD+IFR1+MS
21700.000	90.000	179.600	10797.997	91.739	0.000	89.635	-0.000	91.739	0.000	0.000	89.657	46.985	-1.903	MWD+IFR1+MS
21800.000	90.000	179.600	10797.997	92.488	0.000	90.324	-0.000	92.488	0.000	0.000	90.346	47.038	-1.878	MWD+IFR1+MS
21900.000	90.000	179.600	10797.997	93.242	0.000	91.013	-0.000	93.242	0.000	0.000	91.035	47.102	-1.855	MWD+IFR1+MS
22000.000	90.000	179.600	10797.997	93.989	0.000	91.709	-0.000	93.989	0.000	0.000	91.730	47.167	-1.831	MWD+IFR1+MS
22100.000	90.000	179.600	10797.997	94.742	0.000	92.404	-0.000	94.742	0.000	0.000	92.424	47.220	-1.808	MWD+IFR1+MS
22200.000	90.000	179.600	10797.997	95.493	0.000	93.099	-0.000	95.493	0.000	0.000	93.120	47.284	-1.786	MWD+IFR1+MS



22300.000	90.000	179.600	10797.997	96.244	0.000	93.795	-0.000	96.244	0.000	0.000	93.815	47.347	-1.765	MWD+IFR1+MS
22400.000	90.000	179.600	10797.997	96.995	0.000	94.491	-0.000	96.995	0.000	0.000	94.510	47.411	-1.744	MWD+IFR1+MS
22500.000	90.000	179.600	10797.997	97.750	0.000	95.187	-0.000	97.750	0.000	0.000	95.206	47.475	-1.724	MWD+IFR1+MS
22600.000	90.000	179.600	10797.997	98.504	0.000	95.888	-0.000	98.504	0.000	0.000	95.907	47.538	-1.704	MWD+IFR1+MS
22700.000	90.000	179.600	10797.997	99.257	0.000	96.590	-0.000	99.257	0.000	0.000	96.608	47.601	-1.685	MWD+IFR1+MS
22800.000	90.000	179.600	10797.997	100.000	0.000	97.291	-0.000	100.000	0.000	0.000	97.309	47.665	-1.666	MWD+IFR1+MS
22900.000	90.000	179.600	10797.997	100.747	0.000	97.993	-0.000	100.747	0.000	0.000	98.010	47.728	-1.648	MWD+IFR1+MS
23000.000	90.000	179.600	10797.997	101.489	0.000	98.694	-0.000	101.489	0.000	0.000	98.712	47.791	-1.629	MWD+IFR1+MS
23100.000	90.000	179.600	10797.997	102.274	0.000	99.401	-0.000	102.274	0.000	0.000	99.418	47.864	-1.612	MWD+IFR1+MS
23200.000	90.000	179.600	10797.997	103.005	0.000	100.063	-0.000	103.005	0.000	0.000	100.080	47.927	-1.597	MWD+IFR1+MS
23300.000	90.000	179.600	10797.997	103.779	0.000	100.810	-0.000	103.779	0.000	0.000	100.826	47.990	-1.578	MWD+IFR1+MS
23400.000	90.000	179.600	10797.997	104.547	0.000	101.502	-0.000	104.547	0.000	0.000	101.518	48.063	-1.563	MWD+IFR1+MS
23500.000	90.000	179.600	10797.997	105.262	0.000	102.189	-0.000	105.262	0.000	0.000	102.205	48.126	-1.548	MWD+IFR1+MS
23600.000	90.000	179.600	10797.997	106.019	0.000	102.921	-0.000	106.019	0.000	0.000	102.936	48.198	-1.531	MWD+IFR1+MS
23700.000	90.000	179.600	10797.997	106.818	0.000	103.599	-0.000	106.818	0.000	0.000	103.614	48.261	-1.517	MWD+IFR1+MS
23800.000	90.000	179.600	10797.997	107.564	0.000	104.320	-0.000	107.564	0.000	0.000	104.335	48.334	-1.502	MWD+IFR1+MS
23900.000	90.000	179.600	10797.997	108.305	0.000	105.037	-0.000	108.305	0.000	0.000	105.052	48.396	-1.487	MWD+IFR1+MS
24000.000	90.000	179.600	10797.997	109.087	0.000	105.748	-0.000	109.087	0.000	0.000	105.763	48.468	-1.472	MWD+IFR1+MS
24100.000	90.000	179.600	10797.997	109.818	0.000	106.455	-0.000	109.818	0.000	0.000	106.470	48.540	-1.459	MWD+IFR1+MS
24200.000	90.000	179.600	10797.997	110.589	0.000	107.158	-0.000	110.589	0.000	0.000	107.172	48.613	-1.446	MWD+IFR1+MS
24300.000	90.000	179.600	10797.997	111.355	0.000	107.902	-0.000	111.355	0.000	0.000	107.916	48.675	-1.432	MWD+IFR1+MS
24400.000	90.000	179.600	10797.997	112.116	0.000	108.595	-0.000	112.116	0.000	0.000	108.608	48.747	-1.419	MWD+IFR1+MS
24500.000	90.000	179.600	10797.997	112.872	0.000	109.329	-0.000	112.872	0.000	0.000	109.342	48.818	-1.406	MWD+IFR1+MS
24600.000	90.000	179.600	10797.997	113.622	0.000	110.058	-0.000	113.622	0.000	0.000	110.072	48.890	-1.393	MWD+IFR1+MS
24700.000	90.000	179.600	10797.997	114.412	0.000	110.738	-0.000	114.412	0.000	0.000	110.751	48.962	-1.382	MWD+IFR1+MS
24800.000	90.000	179.600	10797.997	115.152	0.000	111.458	-0.000	115.152	0.000	0.000	111.471	49.044	-1.370	MWD+IFR1+MS
24900.000	90.000	179.600	10797.997	115.931	0.000	112.173	-0.000	115.931	0.000	0.000	112.186	49.115	-1.358	MWD+IFR1+MS
25000.000	90.000	179.600	10797.997	116.705	0.000	112.929	-0.000	116.705	0.000	0.000	112.941	49.186	-1.346	MWD+IFR1+MS
25100.000	90.000	179.600	10797.997	117.431	0.000	113.635	-0.000	117.431	0.000	0.000	113.647	49.258	-1.335	MWD+IFR1+MS
25200.000	90.000	179.600	10797.997	118.195	0.000	114.337	-0.000	118.195	0.000	0.000	114.349	49.339	-1.324	MWD+IFR1+MS
25300.000	90.000	179.600	10797.997	118.996	0.000	115.078	-0.000	118.996	0.000	0.000	115.090	49.410	-1.313	MWD+IFR1+MS
25400.000	90.000	179.600	10797.997	119.750	0.000	115.771	-0.000	119.750	0.000	0.000	115.783	49.481	-1.303	MWD+IFR1+MS
25500.000	90.000	179.600	10797.997	120.499	0.000	116.503	-0.000	120.499	0.000	0.000	116.515	49.562	-1.292	MWD+IFR1+MS

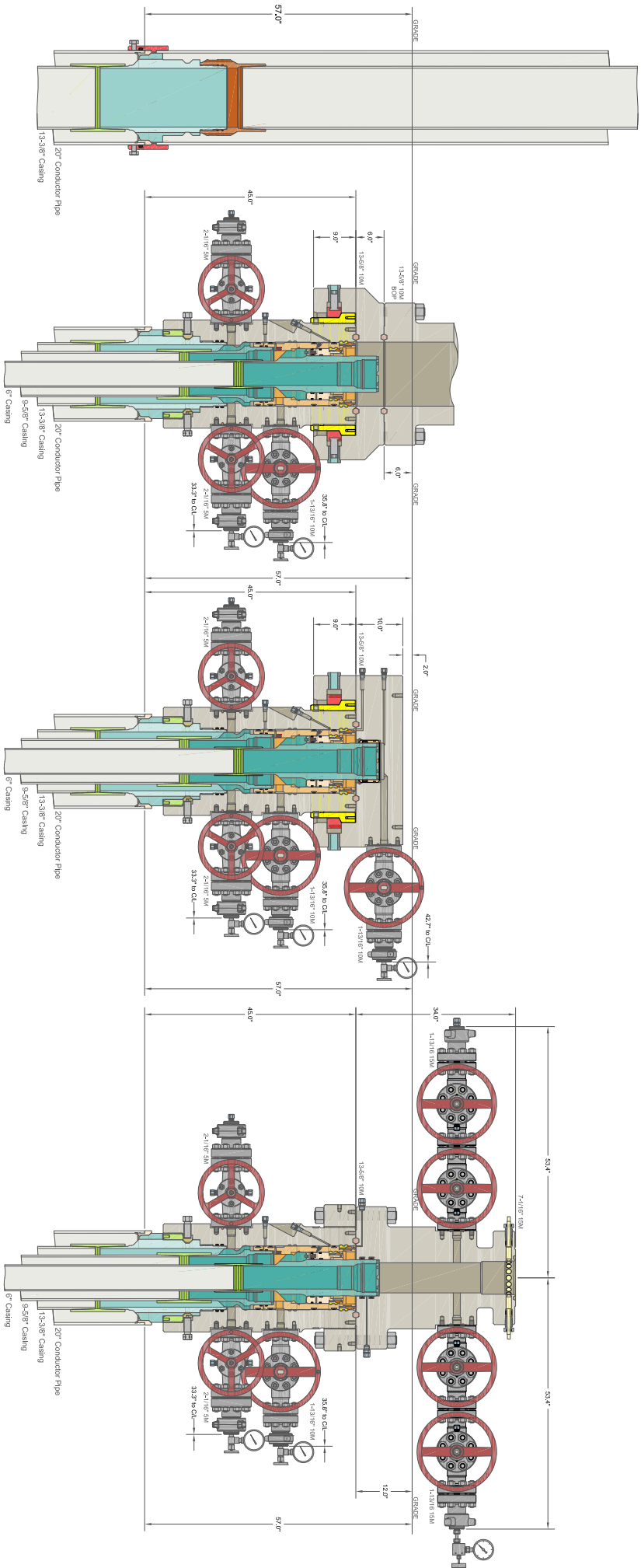
25600.000	90.000	179.600	10797.997	121.285	0.000	117.230	-0.000	121.285	0.000	0.000	117.242	49.632	-1.282	MWD+IFR1+MS
25700.000	90.000	179.600	10797.997	122.025	0.000	117.953	-0.000	122.025	0.000	0.000	117.965	49.713	-1.272	MWD+IFR1+MS
25800.000	90.000	179.600	10797.997	122.801	0.000	118.672	-0.000	122.801	0.000	0.000	118.683	49.783	-1.262	MWD+IFR1+MS
25900.000	90.000	179.600	10797.997	123.572	0.000	119.386	-0.000	123.572	0.000	0.000	119.397	49.864	-1.253	MWD+IFR1+MS
26000.000	90.000	179.600	10797.997	124.338	0.000	120.138	-0.000	124.338	0.000	0.000	120.148	49.944	-1.243	MWD+IFR1+MS
26100.000	90.000	179.600	10797.997	125.100	0.000	120.843	-0.000	125.100	0.000	0.000	120.854	50.024	-1.234	MWD+IFR1+MS
26200.000	90.000	179.600	10797.997	125.857	0.000	121.586	-0.000	125.857	0.000	0.000	121.596	50.104	-1.225	MWD+IFR1+MS
26300.000	90.000	179.600	10797.997	126.610	0.000	122.324	-0.000	126.610	0.000	0.000	122.334	50.174	-1.215	MWD+IFR1+MS
26400.000	90.000	179.600	10797.997	127.397	0.000	123.017	-0.000	127.397	0.000	0.000	123.027	50.253	-1.207	MWD+IFR1+MS
26500.000	90.000	179.600	10797.997	128.180	0.000	123.746	-0.000	128.180	0.000	0.000	123.756	50.333	-1.199	MWD+IFR1+MS
26600.000	90.000	179.600	10797.997	128.919	0.000	124.471	-0.000	128.919	0.000	0.000	124.481	50.412	-1.190	MWD+IFR1+MS
26700.000	90.000	179.600	10797.997	129.692	0.000	125.232	-0.000	129.692	0.000	0.000	125.242	50.492	-1.181	MWD+IFR1+MS
26800.000	90.000	179.600	10797.997	130.461	0.000	125.949	-0.000	130.461	0.000	0.000	125.959	50.581	-1.173	MWD+IFR1+MS
26900.000	90.000	179.600	10797.997	131.225	0.000	126.662	-0.000	131.225	0.000	0.000	126.671	50.660	-1.165	MWD+IFR1+MS
27000.000	90.000	179.600	10797.997	131.985	0.000	127.410	-0.000	131.985	0.000	0.000	127.419	50.739	-1.157	MWD+IFR1+MS
27100.000	90.000	179.600	10797.997	132.778	0.000	128.114	-0.000	132.778	0.000	0.000	128.123	50.818	-1.150	MWD+IFR1+MS
27200.000	90.000	179.600	10797.997	133.529	0.000	128.853	-0.000	133.529	0.000	0.000	128.863	50.906	-1.142	MWD+IFR1+MS
27300.000	90.000	179.600	10797.997	134.313	0.000	129.589	-0.000	134.313	0.000	0.000	129.598	50.985	-1.134	MWD+IFR1+MS
27400.000	90.000	179.600	10797.997	135.056	0.000	130.320	-0.000	135.056	0.000	0.000	130.329	51.063	-1.127	MWD+IFR1+MS
27500.000	90.000	179.600	10797.997	135.831	0.000	131.047	-0.000	135.831	0.000	0.000	131.056	51.151	-1.120	MWD+IFR1+MS
27600.000	90.000	179.600	10797.997	136.602	0.000	131.770	-0.000	136.602	0.000	0.000	131.778	51.239	-1.113	MWD+IFR1+MS
27700.000	90.000	179.600	10797.997	137.368	0.000	132.527	-0.000	137.368	0.000	0.000	132.535	51.317	-1.105	MWD+IFR1+MS
27800.000	90.000	179.600	10797.997	138.130	0.000	133.242	-0.000	138.130	0.000	0.000	133.250	51.405	-1.099	MWD+IFR1+MS
27900.000	90.000	179.600	10797.997	138.924	0.000	133.990	-0.000	138.924	0.000	0.000	133.998	51.482	-1.092	MWD+IFR1+MS
28000.000	90.000	179.600	10797.997	139.678	0.000	134.697	-0.000	139.678	0.000	0.000	134.705	51.570	-1.086	MWD+IFR1+MS
28100.000	90.000	179.600	10797.997	140.464	0.000	135.438	-0.000	140.464	0.000	0.000	135.446	51.657	-1.079	MWD+IFR1+MS
28200.000	90.000	179.600	10797.997	141.209	0.000	136.174	-0.000	141.209	0.000	0.000	136.182	51.744	-1.072	MWD+IFR1+MS
28300.000	90.000	179.600	10797.997	141.986	0.000	136.906	-0.000	141.986	0.000	0.000	136.914	51.831	-1.066	MWD+IFR1+MS
28400.000	90.000	179.600	10797.997	142.759	0.000	137.635	-0.000	142.759	0.000	0.000	137.643	51.918	-1.060	MWD+IFR1+MS
28500.000	90.000	179.600	10797.997	143.527	0.000	138.396	-0.000	143.527	0.000	0.000	138.404	52.004	-1.053	MWD+IFR1+MS
28600.000	90.000	179.600	10797.997	144.291	0.000	139.117	-0.000	144.291	0.000	0.000	139.124	52.091	-1.048	MWD+IFR1+MS
28700.000	90.000	179.600	10797.997	145.086	0.000	139.834	-0.000	145.086	0.000	0.000	139.841	52.177	-1.042	MWD+IFR1+MS
28755.000	90.000	179.600	10797.997	145.499	0.000	140.262	-0.000	145.499	0.000	0.000	140.270	52.225	-1.038	MWD+IFR1+MS

Plan Targets

Poker Lake Unit 20 DTD South 323H

Target Name	Measured Depth (ft)	Grid Northing (ft)	Grid Easting (ft)	TVD MSL (ft)	Target Shape
FTP 19	10997.10	440395.80	633920.90	7501.00	RECTANGLE
SHL 19	11525.27	439617.47	633746.78	7368.68	RECTANGLE
LTP 19	28655.10	422300.80	634022.60	7501.00	RECTANGLE
BHL 19	28755.10	422200.80	634023.10	7501.00	RECTANGLE





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ALL DIMENSIONS APPROXIMATE

# CACTUS WELLHEAD LLC

XTO ENERGY INC  
DELAWARE BASIN

(20") x 13-3/8" x 9-5/8" x 6" MBU-3T-CFL-R-DBLO-SF Wellhead  
With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS-SB Tubing Head  
And Drilling & Skid Configurations

DRAWN	DLE	04NOV22
APPRV		
DRAWING NO.	HBE0000833	

**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

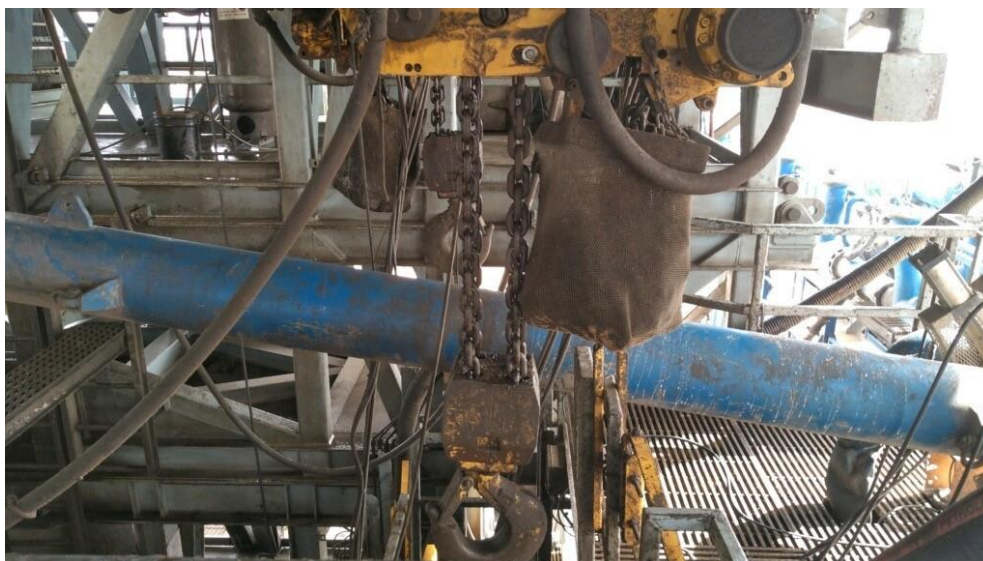


Figure 2: BOP Winch System

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>a,c</sup> psig (MPa)	Pressure Test—High Pressure <sup>a,c</sup>	
		Change Out of Component, Elastomer, or Ring Gasket	No Change Out of Component, Elastomer, or Ring Gasket
Annular preventer <sup>b</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>b,d</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.

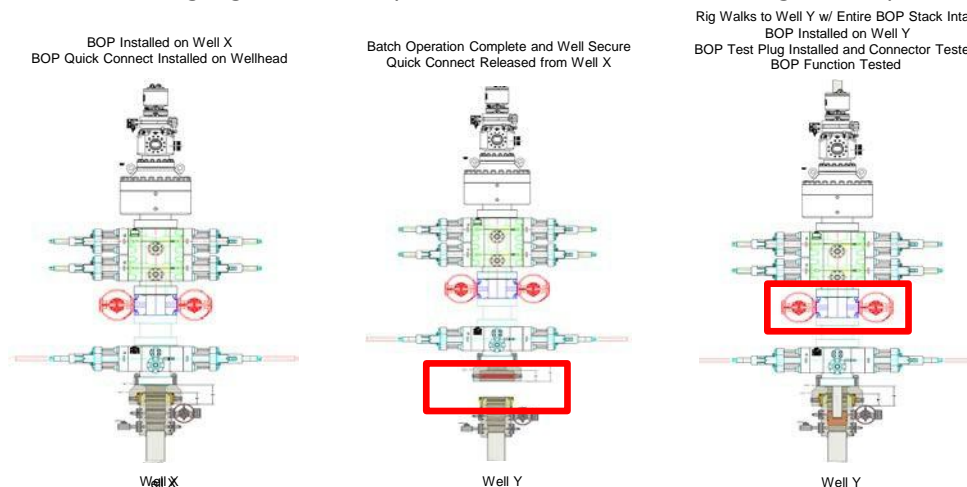
### **Procedures**

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.

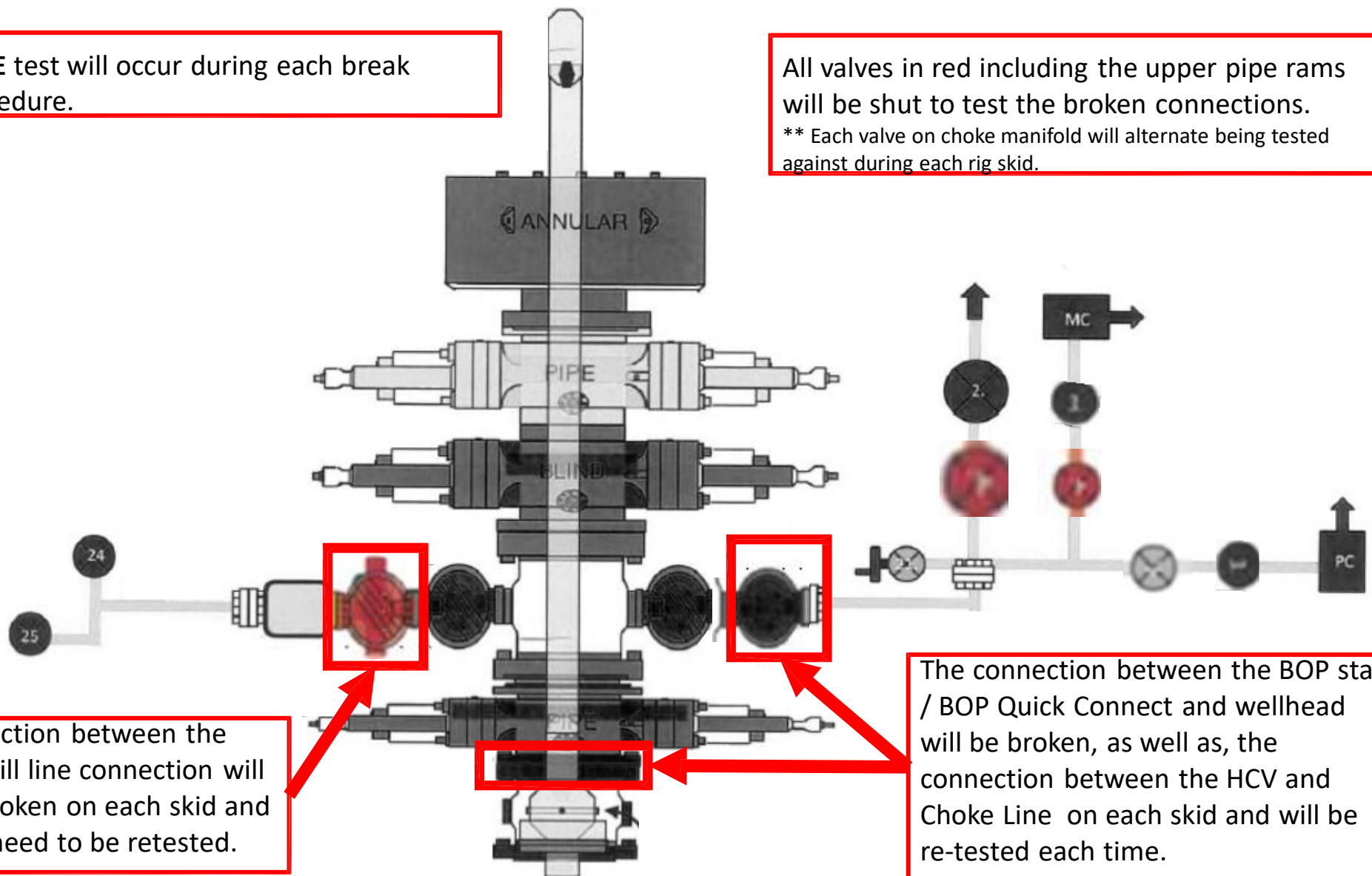
The BOP will be secured by a hydraulic carrier or cradle. The BLM will be contacted if a Well Control event occurs prior to the commencement of a BOPE Break Testing operation.

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.



The connection between the HCV and kill line connection will **NOT** be broken on each skid and does not need to be retested.

The connection between the BOP stack / BOP Quick Connect and wellhead will be broken, as well as, the connection between the HCV and Choke Line on each skid and will be re-tested each time.

### 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



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

CONDITIONS  
  
Action 369843

CONDITIONS

Operator: XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	OGRID: 373075
	Action Number: 369843
	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.	8/7/2024