

Well Name: POKER LAKE UNIT 22-3 BS	Well Location: T25S / R31E / SEC 22 / SWSW /	County or Parish/State:
Well Number: 112H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM0070707A	Unit or CA Name:	Unit or CA Number: NMNM07016X
US Well Number: 3001553896	Well Status: Approved Application for Permit to Drill	Operator: XTO PERMIAN OPERATING LLC

Notice of Intent

Sundry ID: 2769548

Type of Submission: Notice of Intent      Type of Action: APD Change

Date Sundry Submitted: 01/12/2024      Time Sundry Submitted: 08:36

Date proposed operation will begin: 01/29/2024

**Procedure Description:** XTO Permian Operating, LLC. respectfully requests approval to make changes to the approved APD as follows: SHL, FTP, BHL, LTP, casing and cement changes. The location will be changing as follows: SHL: FROM: 540' FSL & 456' FWL of Section 22-T25S-R31E TO: 580' FSL & 456' FWL of Section 22-T25S-R31E FTP: FROM: 950' FSL & 1020' FWL of Section 22-T25S-R31E TO: 930' FSL & 400' FEL of Section 21-T25S-R31E BHL: FROM: 2590' FNL & 1020' FWL of Section 3-T26S-R31E TO: 2656' FSL & 2480' FEL of Section 16-T25S-R31E LTP: FROM: 2557' FSL & 2455' FEL of Section 16-T25S-R31E CASING CHANGES: Setting depths are changing on the 7" 29.7# and the 5-1/2" casing is changing from 23# to 20# and setting depths are changing. ATTACHMENTS: C-102, Drilling Plan, Directional Plan, BOP Variance Request

NOI Attachments

Procedure Description

- BOP\_Variance\_new\_Language\_BOP\_BTV\_20240112083609.pdf
- 3\_String\_Slimhole\_HBE0000479\_4\_20240112083554.pdf
- Well\_Plan\_Report\_\_\_\_PLU\_22\_3\_BS\_112H\_20240112083540.pdf
- POKER\_LAKE\_UNIT\_22\_3\_BS\_112H\_Drilling\_Plan\_1\_12\_2024\_20240112083523.pdf
- PLU\_22\_3\_112H\_signed\_C\_102\_1\_11\_2024\_20240112083349.pdf

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<b>Well Number:</b> 112H	<b>Type of Well:</b> CONVENTIONAL GAS WELL	<b>Allottee or Tribe Name:</b>
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Conditions of Approval

Additional

Sec\_22\_25S\_31E\_NMP\_Sundry\_2769548\_Poker\_Lake\_Unit\_22\_3\_BS\_112H\_Eddy\_NMLC070707A\_XTO\_COAs\_20240216151442.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

<b>Operator Electronic Signature:</b> RANELL (RUSTY) KLEIN	<b>Signed on:</b> JAN 12, 2024 08:36 AM
<b>Name:</b> XTO PERMIAN OPERATING LLC	
<b>Title:</b> Regulatory Analyst	
<b>Street Address:</b> 6401 HOLIDAY HILL ROAD BLDG 5	
<b>City:</b> MIDLAND	<b>State:</b> TX
<b>Phone:</b> (432) 620-6700	
<b>Email address:</b> RANELL.KLEIN@EXXONMOBIL.COM	

Field

<b>Representative Name:</b>		
<b>Street Address:</b>		
<b>City:</b>	<b>State:</b>	<b>Zip:</b>
<b>Phone:</b>		
<b>Email address:</b>		

BLM Point of Contact

<b>BLM POC Name:</b> CHRISTOPHER WALLS	<b>BLM POC Title:</b> Petroleum Engineer
<b>BLM POC Phone:</b> 5752342234	<b>BLM POC Email Address:</b> cwalls@blm.gov
<b>Disposition:</b> Approved	<b>Disposition Date:</b> 02/23/2024
<b>Signature:</b> 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.***

<b>SUBMIT IN TRIPLICATE - Other instructions on page 2</b>		5. Lease Serial No.
1. Type of Well <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name
2. Name of Operator		7. If Unit of CA/Agreement, Name and/or No.
3a. Address	3b. Phone No. (include area code)	8. Well Name and No.
4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description)		9. API Well No.
		10. Field and Pool or Exploratory Area
		11. Country or Parish, State

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

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

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

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

**THE SPACE FOR FEDERAL OR STATE OFFICE USE**

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

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

(Instructions on page 2)

## GENERAL INSTRUCTIONS

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

## SPECIFIC INSTRUCTIONS

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

*Item 13*: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. If the proposal will involve **hydraulic fracturing operations**, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

## NOTICES

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

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

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

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

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

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

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

Response to this request is mandatory.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

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

## Additional Information

### Additional Remarks

CASING CHANGES: Setting depths are changing on the 7 29.7# and the 5-1/2 casing is changing from 23# to 20# and setting depths are changing.

ATTACHMENTS: C-102, Drilling Plan, Directional Plan, BOP Variance Request

### Location of Well

0. SHL: SWSW / 540 FSL / 456 FWL / TWSP: 25S / RANGE: 31E / SECTION: 22 / LAT: 32.110033 / LONG: -103.772996 ( TVD: 0 feet, MD: 0 feet )  
PPP: NWNW / 330 FNL / 1020 FWL / TWSP: 25S / RANGE: 31E / SECTION: 27 / LAT: 32.111161 / LONG: -103.771848 ( TVD: 11673 feet, MD: 13391 feet )  
PPP: NWNW / 330 FNL / 1020 FWL / TWSP: 25S / RANGE: 31E / SECTION: 34 / LAT: 32.111161 / LONG: -103.771848 ( TVD: 11673 feet, MD: 18671 feet )  
PPP: SWSW / 950 FSL / 1020 FWL / TWSP: 25S / RANGE: 31E / SECTION: 22 / LAT: 32.111161 / LONG: -103.771117 ( TVD: 11673 feet, MD: 12071 feet )  
PPP: SWSW / 330 FSL / 1020 FWL / TWSP: 25S / RANGE: 31E / SECTION: 34 / LAT: 32.111161 / LONG: -103.771848 ( TVD: 11673 feet, MD: 22631 feet )  
BHL: SWNW / 2590 FNL / 1020 FWL / TWSP: 26S / RANGE: 31E / SECTION: 3 / LAT: 32.072451 / LONG: -103.771329 ( TVD: 11673 feet, MD: 26153 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 22-3 BS 112H
<b>LOCATION:</b>	Sec 22-25S-31E-NMP
<b>COUNTY:</b>	Eddy County, New Mexico

*Changes approved through engineering via **Sundry 2769548** on 02/16/2024. Any previous COAs not addressed within the updated COAs still apply.*

### COA

<b>H<sub>2</sub>S</b>	<input checked="" type="radio"/> No	<input type="radio"/> Yes		
<b>Potash / WIPP</b>	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P	<input type="checkbox"/> WIPP
<b>Cave / Karst</b>	<input type="radio"/> Low	<input type="radio"/> Medium	<input checked="" type="radio"/> High	<input type="radio"/> Critical
<b>Wellhead</b>	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both	<input type="radio"/> Diverter
<b>Cementing</b>	<input type="checkbox"/> Primary Squeeze	<input checked="" type="checkbox"/> Cont. Squeeze	<input checked="" type="checkbox"/> EchoMeter	<input type="checkbox"/> DV Tool
<b>Special Req</b>	<input checked="" type="checkbox"/> Break Testing	<input type="checkbox"/> Water Disposal	<input type="checkbox"/> COM	<input checked="" type="checkbox"/> Unit
<b>Variance</b>	<input checked="" type="checkbox"/> Flex Hose	<input 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 **9-5/8** inch surface casing shall be set at approximately 981 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.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead

- cement)
- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:

Operator has proposed to cement in two stages by conventionally cementing the first stage and performing a bradenhead squeeze on the second stage, contingent upon no returns to surface.

- a. First stage: Operator will cement with intent to reach the top of the **Brushy Canyon at 6773'**
  - b. Second stage:
    - Operator will perform bradenhead squeeze and top-out. Cement to surface. If cement does not reach surface, the appropriate BLM office shall be notified. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**
- ❖ In High Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

**Operator has proposed to pump down 9-5/8" X 7-5/8" annulus after primary cementing stage. Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus OR operator shall run a CBL from TD of the 7-5/8" casing to surface after the second stage BH to verify TOC.**

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

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

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

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
- Cement should tie-back at least **300 feet** into previous casing string (due to not meeting the 0.422" clearance requirement per 43 CFR 3172.) Operator shall provide method of verification. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**

## C. PRESSURE CONTROL



1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
2. Operator has proposed a multi-bowl wellhead assembly. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
  - e. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172 must be followed.

#### **D. SPECIAL REQUIREMENT (S)**

##### **Unit Wells**

The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.

##### **Commercial Well Determination**

A commercial well determination shall be submitted after production has been established for at least six months.

##### **BOPE Break Testing Variance**

- BOPE Break Testing is ONLY permitted for 5M BOPE or less. (**Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP**)
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer (**575-706-2779**) prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).



- The BLM is to be contacted (575-361-2822 Eddy County) 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per Onshore Oil and Gas Order No. 2.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

**Offline Cementing**

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

## GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

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

Email or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,  
[BLM\\_NM\\_CFO\\_DrillingNotifications@blm.gov](mailto: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.

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

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

**Background**

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

**Supporting Documentation**

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



Figure 1: Winch System attached to BOP Stack





Figure 2: BOP Winch System

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

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API STANDARD 53

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

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

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

No visible leaks.

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

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

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

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

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



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

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

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

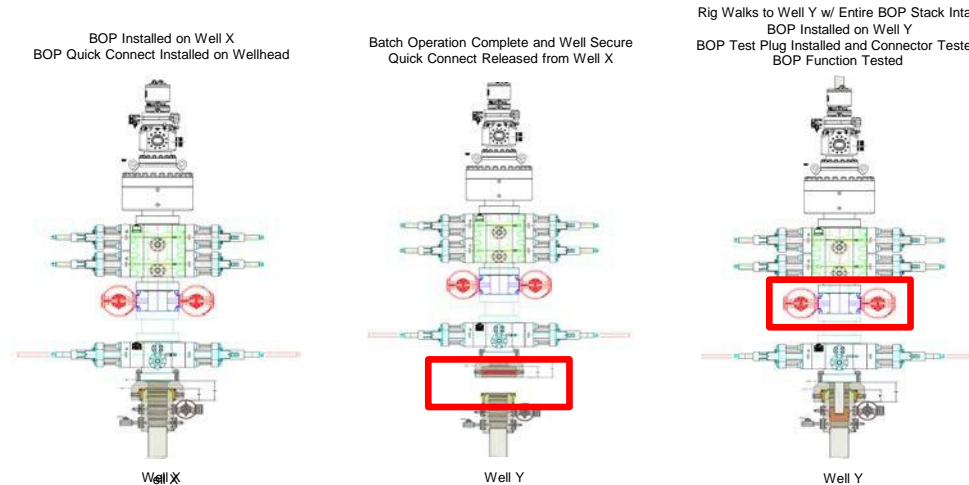
each BOP nipple up, XTO Energy performs a choke drill with the rig crew prior to drilling out every casing shoe. This is additional training for the rig crew that exceeds the requirements of the CFR Title 43 Part 3170.

### **Procedures**

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

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

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



### Summary

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

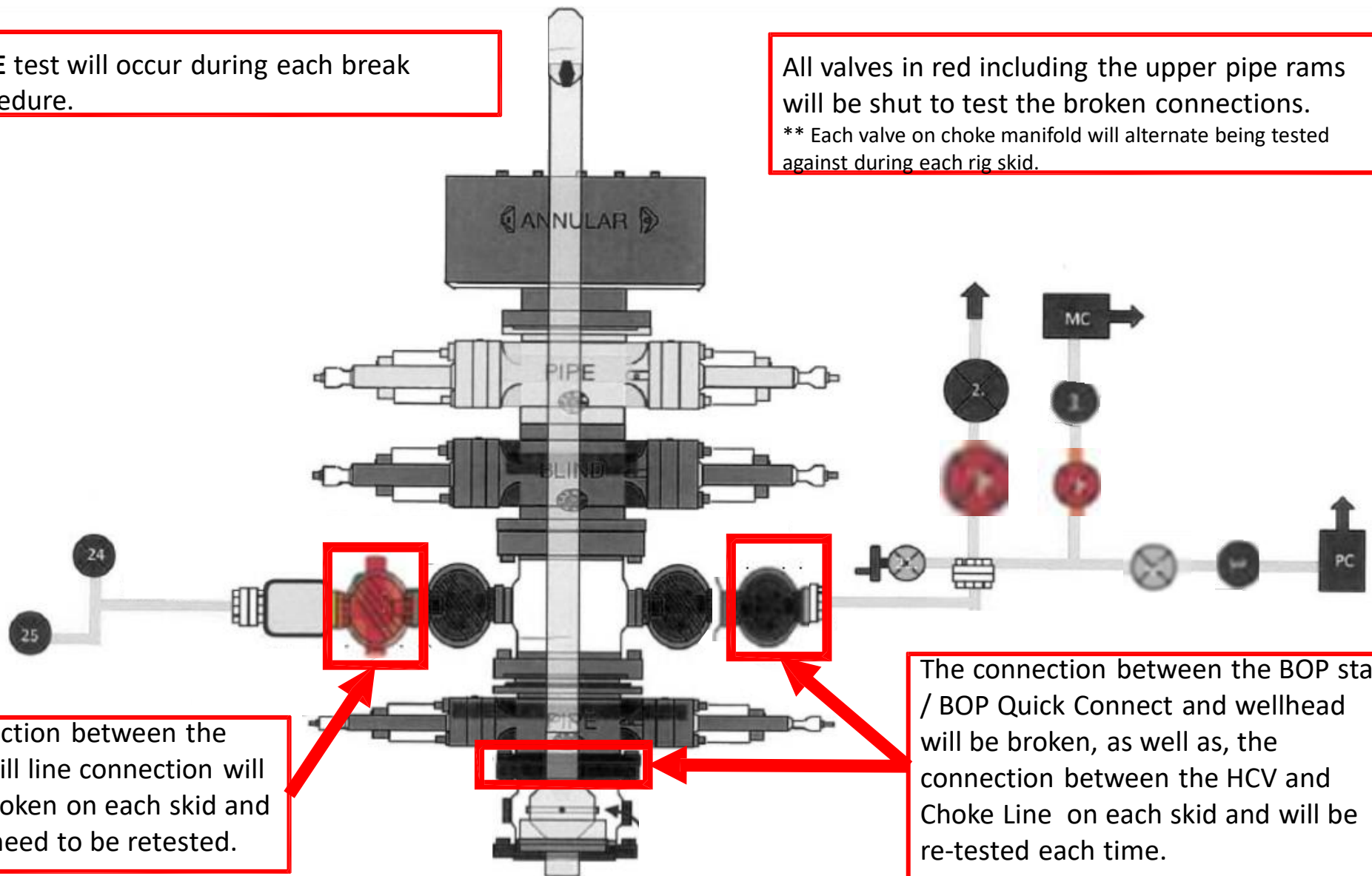
The BOP will be secured by a hydraulic carrier or cradle. The BLM will be contacted if a Well Control event occurs prior to the commencement of a BOPE Break Testing operation.

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

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

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

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



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.



ALL DIMENSIONS APPROXIMATE			
CACTUS WELLHEAD LLC			
20" x 9-5/8" x 7-5/8" x 5-1/2" MBU-T-CFL-R-DBLO Wellhead With 11" 10M x 7-1/16" 15M CTH-DBLHPS Tubing Head And 9-5/8", 7-5/8" & 5-1/2" Pin Bottom Mandrel Casing Hangers			
XTO ENERGY INC DELAWARE BASIN		DRAWN VJK 31MAR22	
DRAWING NO. HBE0000479		APPRV	

# Well Plan Report - PLU 22-3 BS 112H

Measured Depth: 19859.44 ft

TVD RKB: 12076.00 ft

## Location

Cartographic Reference System: New Mexico East - NAD 27

Northing: 404199.50 ft

Easting: 673642.90 ft

RKB: 3374.00 ft

Ground Level: 3342.00 ft

North Reference: Grid

Convergence Angle: 0.30 Deg

## Plan Sections PLU 22-3 BS 112H

Measured				TVD			Build	Turn	Dogleg		
Depth	Inclination	Azimuth	RKB	Y Offset	X Offset	Rate	Rate	Rate	Target		
(ft)	(Deg)	(Deg)	(ft)	(ft)	(ft)	(Deg/100ft)	(Deg/100ft)	(Deg/100ft)			
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			
1501.83	8.04	242.40	1500.51	-13.04	-24.93	2.00	0.00	2.00			
6348.40	8.04	242.40	6299.49	-326.97	-625.39	0.00	0.00	0.00			
6750.23	0.00	0.00	6700.00	-340.01	-650.33	-2.00	0.00	2.00			
11410.03	0.00	0.00	11359.80	-340.01	-650.33	0.00	0.00	0.00			
12535.03	90.00	343.28	12076.00	345.90	-856.40	8.00	0.00	8.00	FTP 112H		
19757.68	90.00	343.28	12076.00	7263.10	-2934.60	0.00	0.00	0.00	LTP 112H		
19859.44	90.00	343.28	12076.00	7360.56	-2963.88	0.00	0.00	0.00	BHL 112 H		

## Position Uncertainty PLU 22-3 BS 112H

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	XOM_R2OWSG MWD+IFR1+MS
100.000	0.000	0.000	100.000	0.358	0.000	0.179	0.000	2.300	0.000	0.000	0.358	0.179	90.000	XOM_R2OWSG MWD+IFR1+MS
200.000	0.000	0.000	200.000	0.717	0.000	0.538	0.000	2.310	0.000	0.000	0.717	0.538	90.000	XOM_R2OWSG MWD+IFR1+MS
300.000	0.000	0.000	300.000	1.075	0.000	0.896	0.000	2.325	0.000	0.000	1.075	0.896	90.000	XOM_R2OWSG MWD+IFR1+MS
400.000	0.000	0.000	400.000	1.434	0.000	1.255	0.000	2.347	0.000	0.000	1.434	1.255	90.000	XOM_R2OWSG MWD+IFR1+MS
500.000	0.000	0.000	500.000	1.792	0.000	1.613	0.000	2.374	0.000	0.000	1.792	1.613	90.000	XOM_R2OWSG MWD+IFR1+MS
600.000	0.000	0.000	600.000	2.151	0.000	1.972	0.000	2.406	0.000	0.000	2.151	1.972	90.000	XOM_R2OWSG MWD+IFR1+MS
700.000	0.000	0.000	700.000	2.509	0.000	2.330	0.000	2.443	0.000	0.000	2.509	2.330	90.000	XOM_R2OWSG MWD+IFR1+MS
800.000	0.000	0.000	800.000	2.868	0.000	2.689	0.000	2.485	0.000	0.000	2.868	2.689	90.000	XOM_R2OWSG MWD+IFR1+MS
900.000	0.000	0.000	900.000	3.226	0.000	3.047	0.000	2.531	0.000	0.000	3.226	3.047	90.000	XOM_R2OWSG MWD+IFR1+MS
1000.000	0.000	0.000	1000.000	3.585	0.000	3.405	0.000	2.581	0.000	0.000	3.585	3.405	90.000	XOM_R2OWSG MWD+IFR1+MS
1100.000	0.000	0.000	1100.000	3.943	0.000	3.764	0.000	2.634	0.000	0.000	3.943	3.764	90.000	XOM_R2OWSG MWD+IFR1+MS
1200.000	2.000	242.398	1199.980	4.147	-0.000	4.251	0.000	2.690	0.000	0.000	4.289	4.109	89.967	XOM_R2OWSG MWD+IFR1+MS
1300.000	4.000	242.398	1299.838	4.476	-0.000	4.589	0.000	2.747	0.000	0.000	4.627	4.446	89.981	XOM_R2OWSG MWD+IFR1+MS
1400.000	6.000	242.398	1399.452	4.803	-0.000	4.930	0.000	2.805	0.000	0.000	4.969	4.786	89.889	XOM_R2OWSG MWD+IFR1+MS
1501.829	8.037	242.398	1500.512	5.134	-0.000	5.283	0.000	2.866	0.000	0.000	5.321	5.136	89.539	XOM_R2OWSG MWD+IFR1+MS
1600.000	8.037	242.398	1597.720	5.473	-0.000	5.628	0.000	2.930	0.000	0.000	5.665	5.474	88.718	XOM_R2OWSG MWD+IFR1+MS
1700.000	8.037	242.398	1696.737	5.821	-0.000	5.982	0.000	3.002	0.000	0.000	6.017	5.821	87.549	XOM_R2OWSG MWD+IFR1+MS
1800.000	8.037	242.398	1795.755	6.172	-0.000	6.339	0.000	3.077	0.000	0.000	6.372	6.170	86.377	XOM_R2OWSG MWD+IFR1+MS



1900.000	8.037	242.398	1894.773	6.526	-0.000	6.698	0.000	3.155	0.000	0.000	6.729	6.522	85.210	XOM_R2OWSG MWD+IFR1+MS
2000.000	8.037	242.398	1993.791	6.881	-0.000	7.059	0.000	3.235	0.000	0.000	7.088	6.876	84.051	XOM_R2OWSG MWD+IFR1+MS
2100.000	8.037	242.398	2092.809	7.238	-0.000	7.422	0.000	3.317	0.000	0.000	7.448	7.232	82.907	XOM_R2OWSG MWD+IFR1+MS
2200.000	8.037	242.398	2191.827	7.597	-0.000	7.786	0.000	3.402	0.000	0.000	7.811	7.589	81.781	XOM_R2OWSG MWD+IFR1+MS
2300.000	8.037	242.398	2290.845	7.956	-0.000	8.152	0.000	3.488	0.000	0.000	8.174	7.947	80.677	XOM_R2OWSG MWD+IFR1+MS
2400.000	8.037	242.398	2389.863	8.317	-0.000	8.519	0.000	3.576	0.000	0.000	8.539	8.306	79.599	XOM_R2OWSG MWD+IFR1+MS
2500.000	8.037	242.398	2488.881	8.679	-0.000	8.886	0.000	3.666	0.000	0.000	8.904	8.666	78.548	XOM_R2OWSG MWD+IFR1+MS
2600.000	8.037	242.398	2587.899	9.041	-0.000	9.255	0.000	3.758	0.000	0.000	9.271	9.027	77.528	XOM_R2OWSG MWD+IFR1+MS
2700.000	8.037	242.398	2686.916	9.405	-0.000	9.624	0.000	3.851	0.000	0.000	9.638	9.388	76.538	XOM_R2OWSG MWD+IFR1+MS
2800.000	8.037	242.398	2785.934	9.769	-0.000	9.993	0.000	3.947	0.000	0.000	10.007	9.750	75.581	XOM_R2OWSG MWD+IFR1+MS
2900.000	8.037	242.398	2884.952	10.133	-0.000	10.364	0.000	4.043	0.000	0.000	10.376	10.113	74.657	XOM_R2OWSG MWD+IFR1+MS
3000.000	8.037	242.398	2983.970	10.498	-0.000	10.735	0.000	4.141	0.000	0.000	10.745	10.475	73.766	XOM_R2OWSG MWD+IFR1+MS
3100.000	8.037	242.398	3082.988	10.864	-0.000	11.106	0.000	4.241	0.000	0.000	11.115	10.839	72.909	XOM_R2OWSG MWD+IFR1+MS
3200.000	8.037	242.398	3182.006	11.230	-0.000	11.478	0.000	4.342	0.000	0.000	11.486	11.202	72.084	XOM_R2OWSG MWD+IFR1+MS
3300.000	8.037	242.398	3281.024	11.596	-0.000	11.850	0.000	4.444	0.000	0.000	11.857	11.566	71.292	XOM_R2OWSG MWD+IFR1+MS
3400.000	8.037	242.398	3380.042	11.963	-0.000	12.223	0.000	4.548	0.000	0.000	12.228	11.930	70.531	XOM_R2OWSG MWD+IFR1+MS
3500.000	8.037	242.398	3479.060	12.329	-0.000	12.595	0.000	4.654	0.000	0.000	12.600	12.295	69.802	XOM_R2OWSG MWD+IFR1+MS
3600.000	8.037	242.398	3578.078	12.697	-0.000	12.969	0.000	4.761	0.000	0.000	12.973	12.659	69.102	XOM_R2OWSG MWD+IFR1+MS
3700.000	8.037	242.398	3677.096	13.064	-0.000	13.342	0.000	4.869	0.000	0.000	13.346	13.024	68.432	XOM_R2OWSG MWD+IFR1+MS
3800.000	8.037	242.398	3776.113	13.432	-0.000	13.716	0.000	4.979	0.000	0.000	13.719	13.389	67.789	XOM_R2OWSG MWD+IFR1+MS



3900.000	8.037	242.398	3875.131	13.800	-0.000	14.090	0.000	5.090	0.000	0.000	14.092	13.754	67.173	XOM_R2OWSG MWD+IFR1+MS
4000.000	8.037	242.398	3974.149	14.168	-0.000	14.464	0.000	5.203	0.000	0.000	14.465	14.120	66.583	XOM_R2OWSG MWD+IFR1+MS
4100.000	8.037	242.398	4073.167	14.537	-0.000	14.838	0.000	5.318	0.000	0.000	14.839	14.485	66.018	XOM_R2OWSG MWD+IFR1+MS
4200.000	8.037	242.398	4172.185	14.905	-0.000	15.212	0.000	5.434	0.000	0.000	15.213	14.851	65.476	XOM_R2OWSG MWD+IFR1+MS
4300.000	8.037	242.398	4271.203	15.274	-0.000	15.587	0.000	5.551	0.000	0.000	15.588	15.216	64.956	XOM_R2OWSG MWD+IFR1+MS
4400.000	8.037	242.398	4370.221	15.643	-0.000	15.962	0.000	5.670	0.000	0.000	15.962	15.582	64.458	XOM_R2OWSG MWD+IFR1+MS
4500.000	8.037	242.398	4469.239	16.012	-0.000	16.337	0.000	5.791	0.000	0.000	16.337	15.948	63.980	XOM_R2OWSG MWD+IFR1+MS
4600.000	8.037	242.398	4568.257	16.381	-0.000	16.712	0.000	5.913	0.000	0.000	16.712	16.314	63.522	XOM_R2OWSG MWD+IFR1+MS
4700.000	8.037	242.398	4667.275	16.751	-0.000	17.087	0.000	6.037	0.000	0.000	17.087	16.680	63.082	XOM_R2OWSG MWD+IFR1+MS
4800.000	8.037	242.398	4766.292	17.120	-0.000	17.462	0.000	6.163	0.000	0.000	17.462	17.046	62.659	XOM_R2OWSG MWD+IFR1+MS
4900.000	8.037	242.398	4865.310	17.489	-0.000	17.838	0.000	6.290	0.000	0.000	17.838	17.413	62.254	XOM_R2OWSG MWD+IFR1+MS
5000.000	8.037	242.398	4964.328	17.859	-0.000	18.213	0.000	6.419	0.000	0.000	18.213	17.779	61.863	XOM_R2OWSG MWD+IFR1+MS
5100.000	8.037	242.398	5063.346	18.229	-0.000	18.589	0.000	6.550	0.000	0.000	18.589	18.145	61.488	XOM_R2OWSG MWD+IFR1+MS
5200.000	8.037	242.398	5162.364	18.599	-0.000	18.965	0.000	6.683	0.000	0.000	18.965	18.512	61.128	XOM_R2OWSG MWD+IFR1+MS
5300.000	8.037	242.398	5261.382	18.969	-0.000	19.340	0.000	6.817	0.000	0.000	19.341	18.878	60.780	XOM_R2OWSG MWD+IFR1+MS
5400.000	8.037	242.398	5360.400	19.338	-0.000	19.716	0.000	6.954	0.000	0.000	19.717	19.245	60.446	XOM_R2OWSG MWD+IFR1+MS
5500.000	8.037	242.398	5459.418	19.709	-0.000	20.092	0.000	7.092	0.000	0.000	20.093	19.612	60.124	XOM_R2OWSG MWD+IFR1+MS
5600.000	8.037	242.398	5558.436	20.079	-0.000	20.468	0.000	7.232	0.000	0.000	20.469	19.978	59.813	XOM_R2OWSG MWD+IFR1+MS
5700.000	8.037	242.398	5657.454	20.449	-0.000	20.844	0.000	7.375	0.000	0.000	20.846	20.345	59.514	XOM_R2OWSG MWD+IFR1+MS
5800.000	8.037	242.398	5756.471	20.819	-0.000	21.221	0.000	7.519	0.000	0.000	21.222	20.712	59.225	XOM_R2OWSG MWD+IFR1+MS

5900.000	8.037	242.398	5855.489	21.189	-0.000	21.597	0.000	7.665	0.000	0.000	21.599	21.079	58.946	XOM_R2OWSG MWD+IFR1+MS
6000.000	8.037	242.398	5954.507	21.560	-0.000	21.973	0.000	7.813	0.000	0.000	21.975	21.446	58.677	XOM_R2OWSG MWD+IFR1+MS
6100.000	8.037	242.398	6053.525	21.930	-0.000	22.349	0.000	7.964	0.000	0.000	22.352	21.812	58.416	XOM_R2OWSG MWD+IFR1+MS
6200.000	8.037	242.398	6152.543	22.301	-0.000	22.726	0.000	8.116	0.000	0.000	22.729	22.179	58.165	XOM_R2OWSG MWD+IFR1+MS
6300.000	8.037	242.398	6251.561	22.671	-0.000	23.102	0.000	8.271	0.000	0.000	23.106	22.546	57.921	XOM_R2OWSG MWD+IFR1+MS
6348.402	8.037	242.398	6299.488	22.851	-0.000	23.284	0.000	8.346	0.000	0.000	23.288	22.724	57.806	XOM_R2OWSG MWD+IFR1+MS
6400.000	7.005	242.398	6350.641	23.047	-0.000	23.478	0.000	8.428	0.000	0.000	23.481	22.913	57.690	XOM_R2OWSG MWD+IFR1+MS
6500.000	5.005	242.398	6450.087	23.406	-0.000	23.846	0.000	8.585	0.000	0.000	23.851	23.275	57.495	XOM_R2OWSG MWD+IFR1+MS
6600.000	3.005	242.398	6549.838	23.733	-0.000	24.208	0.000	8.741	0.000	0.000	24.212	23.633	57.334	XOM_R2OWSG MWD+IFR1+MS
6700.000	1.005	242.398	6649.772	24.029	-0.000	24.561	0.000	8.895	0.000	0.000	24.566	23.986	57.209	XOM_R2OWSG MWD+IFR1+MS
6750.231	0.000	0.000	6700.000	24.568	0.000	24.327	0.000	8.971	0.000	0.000	24.736	24.157	57.280	XOM_R2OWSG MWD+IFR1+MS
6800.000	0.000	0.000	6749.769	24.734	0.000	24.490	0.000	9.047	0.000	0.000	24.899	24.321	57.472	XOM_R2OWSG MWD+IFR1+MS
6900.000	0.000	0.000	6849.769	25.067	0.000	24.817	0.000	9.201	0.000	0.000	25.228	24.652	57.851	XOM_R2OWSG MWD+IFR1+MS
7000.000	0.000	0.000	6949.769	25.400	0.000	25.144	0.000	9.358	0.000	0.000	25.558	24.984	58.223	XOM_R2OWSG MWD+IFR1+MS
7100.000	0.000	0.000	7049.769	25.735	0.000	25.473	0.000	9.518	0.000	0.000	25.889	25.316	58.587	XOM_R2OWSG MWD+IFR1+MS
7200.000	0.000	0.000	7149.769	26.070	0.000	25.803	0.000	9.680	0.000	0.000	26.221	25.649	58.944	XOM_R2OWSG MWD+IFR1+MS
7300.000	0.000	0.000	7249.769	26.406	0.000	26.133	0.000	9.845	0.000	0.000	26.553	25.983	59.294	XOM_R2OWSG MWD+IFR1+MS
7400.000	0.000	0.000	7349.769	26.742	0.000	26.464	0.000	10.013	0.000	0.000	26.886	26.317	59.636	XOM_R2OWSG MWD+IFR1+MS
7500.000	0.000	0.000	7449.769	27.079	0.000	26.795	0.000	10.184	0.000	0.000	27.220	26.652	59.971	XOM_R2OWSG MWD+IFR1+MS
7600.000	0.000	0.000	7549.769	27.416	0.000	27.128	0.000	10.357	0.000	0.000	27.554	26.987	60.299	XOM_R2OWSG MWD+IFR1+MS

7700.000	0.000	0.000	7649.769	27.754	0.000	27.461	0.000	10.533	0.000	0.000	27.889	27.323	60.620	XOM_R2OWSG MWD+IFR1+MS
7800.000	0.000	0.000	7749.769	28.093	0.000	27.794	0.000	10.712	0.000	0.000	28.225	27.660	60.935	XOM_R2OWSG MWD+IFR1+MS
7900.000	0.000	0.000	7849.769	28.432	0.000	28.129	0.000	10.893	0.000	0.000	28.561	27.997	61.243	XOM_R2OWSG MWD+IFR1+MS
8000.000	0.000	0.000	7949.769	28.771	0.000	28.463	0.000	11.078	0.000	0.000	28.898	28.334	61.545	XOM_R2OWSG MWD+IFR1+MS
8100.000	0.000	0.000	8049.769	29.111	0.000	28.799	0.000	11.265	0.000	0.000	29.235	28.672	61.840	XOM_R2OWSG MWD+IFR1+MS
8200.000	0.000	0.000	8149.769	29.451	0.000	29.135	0.000	11.456	0.000	0.000	29.573	29.011	62.129	XOM_R2OWSG MWD+IFR1+MS
8300.000	0.000	0.000	8249.769	29.792	0.000	29.471	0.000	11.649	0.000	0.000	29.912	29.350	62.413	XOM_R2OWSG MWD+IFR1+MS
8400.000	0.000	0.000	8349.769	30.133	0.000	29.808	0.000	11.845	0.000	0.000	30.250	29.689	62.690	XOM_R2OWSG MWD+IFR1+MS
8500.000	0.000	0.000	8449.769	30.475	0.000	30.146	0.000	12.044	0.000	0.000	30.590	30.029	62.962	XOM_R2OWSG MWD+IFR1+MS
8600.000	0.000	0.000	8549.769	30.817	0.000	30.484	0.000	12.245	0.000	0.000	30.929	30.369	63.227	XOM_R2OWSG MWD+IFR1+MS
8700.000	0.000	0.000	8649.769	31.159	0.000	30.822	0.000	12.450	0.000	0.000	31.270	30.710	63.488	XOM_R2OWSG MWD+IFR1+MS
8800.000	0.000	0.000	8749.769	31.502	0.000	31.161	0.000	12.658	0.000	0.000	31.610	31.051	63.743	XOM_R2OWSG MWD+IFR1+MS
8900.000	0.000	0.000	8849.769	31.845	0.000	31.500	0.000	12.869	0.000	0.000	31.951	31.392	63.993	XOM_R2OWSG MWD+IFR1+MS
9000.000	0.000	0.000	8949.769	32.188	0.000	31.840	0.000	13.082	0.000	0.000	32.293	31.734	64.237	XOM_R2OWSG MWD+IFR1+MS
9100.000	0.000	0.000	9049.769	32.532	0.000	32.180	0.000	13.299	0.000	0.000	32.635	32.076	64.477	XOM_R2OWSG MWD+IFR1+MS
9200.000	0.000	0.000	9149.769	32.876	0.000	32.521	0.000	13.518	0.000	0.000	32.977	32.418	64.712	XOM_R2OWSG MWD+IFR1+MS
9300.000	0.000	0.000	9249.769	33.220	0.000	32.862	0.000	13.741	0.000	0.000	33.319	32.761	64.942	XOM_R2OWSG MWD+IFR1+MS
9400.000	0.000	0.000	9349.769	33.564	0.000	33.203	0.000	13.966	0.000	0.000	33.662	33.104	65.167	XOM_R2OWSG MWD+IFR1+MS
9500.000	0.000	0.000	9449.769	33.909	0.000	33.544	0.000	14.195	0.000	0.000	34.006	33.447	65.388	XOM_R2OWSG MWD+IFR1+MS
9600.000	0.000	0.000	9549.769	34.255	0.000	33.886	0.000	14.427	0.000	0.000	34.349	33.790	65.605	XOM_R2OWSG MWD+IFR1+MS

9700.000	0.000	0.000	9649.769	34.600	0.000	34.229	0.000	14.661	0.000	0.000	34.693	34.134	65.817	XOM_R2OWSG MWD+IFR1+MS
9800.000	0.000	0.000	9749.769	34.946	0.000	34.571	0.000	14.899	0.000	0.000	35.037	34.479	66.025	XOM_R2OWSG MWD+IFR1+MS
9900.000	0.000	0.000	9849.769	35.292	0.000	34.914	0.000	15.139	0.000	0.000	35.382	34.823	66.228	XOM_R2OWSG MWD+IFR1+MS
10000.000	0.000	0.000	9949.769	35.638	0.000	35.258	0.000	15.383	0.000	0.000	35.727	35.168	66.428	XOM_R2OWSG MWD+IFR1+MS
10100.000	0.000	0.000	10049.769	35.984	0.000	35.601	0.000	15.630	0.000	0.000	36.072	35.513	66.624	XOM_R2OWSG MWD+IFR1+MS
10200.000	0.000	0.000	10149.769	36.331	0.000	35.945	0.000	15.879	0.000	0.000	36.417	35.858	66.816	XOM_R2OWSG MWD+IFR1+MS
10300.000	0.000	0.000	10249.769	36.678	0.000	36.289	0.000	16.132	0.000	0.000	36.763	36.203	67.004	XOM_R2OWSG MWD+IFR1+MS
10400.000	0.000	0.000	10349.769	37.025	0.000	36.634	0.000	16.388	0.000	0.000	37.108	36.549	67.189	XOM_R2OWSG MWD+IFR1+MS
10500.000	0.000	0.000	10449.769	37.372	0.000	36.978	0.000	16.647	0.000	0.000	37.455	36.895	67.370	XOM_R2OWSG MWD+IFR1+MS
10600.000	0.000	0.000	10549.769	37.720	0.000	37.323	0.000	16.909	0.000	0.000	37.801	37.241	67.548	XOM_R2OWSG MWD+IFR1+MS
10700.000	0.000	0.000	10649.769	38.068	0.000	37.669	0.000	17.174	0.000	0.000	38.148	37.588	67.722	XOM_R2OWSG MWD+IFR1+MS
10800.000	0.000	0.000	10749.769	38.415	0.000	38.014	0.000	17.442	0.000	0.000	38.494	37.934	67.893	XOM_R2OWSG MWD+IFR1+MS
10900.000	0.000	0.000	10849.769	38.764	0.000	38.360	0.000	17.713	0.000	0.000	38.841	38.281	68.061	XOM_R2OWSG MWD+IFR1+MS
11000.000	0.000	0.000	10949.769	39.112	0.000	38.706	0.000	17.987	0.000	0.000	39.189	38.628	68.226	XOM_R2OWSG MWD+IFR1+MS
11100.000	0.000	0.000	11049.769	39.460	0.000	39.052	0.000	18.264	0.000	0.000	39.536	38.975	68.387	XOM_R2OWSG MWD+IFR1+MS
11200.000	0.000	0.000	11149.769	39.809	0.000	39.398	0.000	18.544	0.000	0.000	39.884	39.323	68.546	XOM_R2OWSG MWD+IFR1+MS
11300.000	0.000	0.000	11249.769	40.158	0.000	39.745	0.000	18.828	0.000	0.000	40.232	39.670	68.702	XOM_R2OWSG MWD+IFR1+MS
11400.000	0.000	0.000	11349.769	40.507	0.000	40.092	0.000	19.114	0.000	0.000	40.580	40.018	68.855	XOM_R2OWSG MWD+IFR1+MS
11410.033	0.000	0.000	11359.803	40.542	0.000	40.126	0.000	19.143	0.000	0.000	40.615	40.053	68.870	XOM_R2OWSG MWD+IFR1+MS
11500.000	7.197	343.278	11449.533	40.632	0.000	40.367	0.000	19.401	0.000	0.000	40.926	40.363	68.856	XOM_R2OWSG MWD+IFR1+MS

11600.000	15.197	343.278	11547.550	40.071	0.000	40.702	0.000	19.681	0.000	0.000	41.263	40.698	68.541	XOM_R2OWSG MWD+IFR1+MS
11700.000	23.197	343.278	11641.912	38.915	0.000	41.022	0.000	19.947	0.000	0.000	41.577	41.017	67.973	XOM_R2OWSG MWD+IFR1+MS
11800.000	31.197	343.278	11730.784	37.212	0.000	41.321	0.000	20.194	0.000	0.000	41.860	41.315	67.199	XOM_R2OWSG MWD+IFR1+MS
11900.000	39.197	343.278	11812.434	35.035	0.000	41.598	0.000	20.421	0.000	0.000	42.105	41.590	66.255	XOM_R2OWSG MWD+IFR1+MS
12000.000	47.197	343.278	11885.275	32.492	0.000	41.851	0.000	20.629	0.000	0.000	42.307	41.842	65.143	XOM_R2OWSG MWD+IFR1+MS
12100.000	55.197	343.278	11947.888	29.732	0.000	42.079	0.000	20.821	0.000	0.000	42.465	42.069	63.818	XOM_R2OWSG MWD+IFR1+MS
12200.000	63.197	343.278	11999.055	26.961	0.000	42.283	0.000	21.002	0.000	0.000	42.580	42.271	62.121	XOM_R2OWSG MWD+IFR1+MS
12300.000	71.197	343.278	12037.780	24.457	0.000	42.462	0.000	21.179	0.000	0.000	42.655	42.450	59.535	XOM_R2OWSG MWD+IFR1+MS
12400.000	79.197	343.278	12063.308	22.565	0.000	42.616	0.000	21.357	0.000	0.000	42.697	42.605	53.097	XOM_R2OWSG MWD+IFR1+MS
12500.000	87.197	343.278	12075.143	21.647	0.000	42.745	0.000	21.540	0.000	0.000	42.746	42.705	-7.812	XOM_R2OWSG MWD+IFR1+MS
12535.033	90.000	343.278	12076.000	21.606	0.000	42.782	0.000	21.606	0.000	0.000	42.782	42.709	-19.377	XOM_R2OWSG MWD+IFR1+MS
12600.000	90.000	343.278	12076.000	21.734	0.000	42.854	0.000	21.734	0.000	0.000	42.857	42.711	-25.378	XOM_R2OWSG MWD+IFR1+MS
12700.000	90.000	343.278	12076.000	21.953	0.000	42.983	0.000	21.953	0.000	0.000	42.992	42.712	-27.206	XOM_R2OWSG MWD+IFR1+MS
12800.000	90.000	343.278	12076.000	22.198	0.000	43.132	0.000	22.198	0.000	0.000	43.146	42.714	-27.364	XOM_R2OWSG MWD+IFR1+MS
12900.000	90.000	343.278	12076.000	22.468	0.000	43.300	0.000	22.468	0.000	0.000	43.319	42.718	-27.102	XOM_R2OWSG MWD+IFR1+MS
13000.000	90.000	343.278	12076.000	22.761	0.000	43.487	0.000	22.761	0.000	0.000	43.510	42.723	-26.710	XOM_R2OWSG MWD+IFR1+MS
13100.000	90.000	343.278	12076.000	23.078	0.000	43.693	0.000	23.078	0.000	0.000	43.720	42.729	-26.283	XOM_R2OWSG MWD+IFR1+MS
13200.000	90.000	343.278	12076.000	23.416	0.000	43.918	0.000	23.416	0.000	0.000	43.948	42.736	-25.858	XOM_R2OWSG MWD+IFR1+MS
13300.000	90.000	343.278	12076.000	23.776	0.000	44.162	0.000	23.776	0.000	0.000	44.194	42.745	-25.450	XOM_R2OWSG MWD+IFR1+MS
13400.000	90.000	343.278	12076.000	24.155	0.000	44.423	0.000	24.155	0.000	0.000	44.458	42.754	-25.065	XOM_R2OWSG MWD+IFR1+MS

13500.000	90.000	343.278	12076.000	24.554	0.000	44.702	0.000	24.554	0.000	0.000	44.740	42.764	-24.705	XOM_R2OWSG MWD+IFR1+MS
13600.000	90.000	343.278	12076.000	24.972	0.000	44.999	0.000	24.972	0.000	0.000	45.038	42.776	-24.370	XOM_R2OWSG MWD+IFR1+MS
13700.000	90.000	343.278	12076.000	25.406	0.000	45.313	0.000	25.406	0.000	0.000	45.354	42.788	-24.058	XOM_R2OWSG MWD+IFR1+MS
13800.000	90.000	343.278	12076.000	25.857	0.000	45.644	0.000	25.857	0.000	0.000	45.686	42.801	-23.768	XOM_R2OWSG MWD+IFR1+MS
13900.000	90.000	343.278	12076.000	26.324	0.000	45.991	0.000	26.324	0.000	0.000	46.034	42.815	-23.497	XOM_R2OWSG MWD+IFR1+MS
14000.000	90.000	343.278	12076.000	26.806	0.000	46.354	0.000	26.806	0.000	0.000	46.398	42.830	-23.246	XOM_R2OWSG MWD+IFR1+MS
14100.000	90.000	343.278	12076.000	27.302	0.000	46.732	0.000	27.302	0.000	0.000	46.778	42.845	-23.011	XOM_R2OWSG MWD+IFR1+MS
14200.000	90.000	343.278	12076.000	27.811	0.000	47.126	0.000	27.811	0.000	0.000	47.172	42.862	-22.791	XOM_R2OWSG MWD+IFR1+MS
14300.000	90.000	343.278	12076.000	28.332	0.000	47.535	0.000	28.332	0.000	0.000	47.582	42.879	-22.586	XOM_R2OWSG MWD+IFR1+MS
14400.000	90.000	343.278	12076.000	28.866	0.000	47.959	0.000	28.866	0.000	0.000	48.006	42.897	-22.393	XOM_R2OWSG MWD+IFR1+MS
14500.000	90.000	343.278	12076.000	29.411	0.000	48.396	0.000	29.411	0.000	0.000	48.444	42.915	-22.212	XOM_R2OWSG MWD+IFR1+MS
14600.000	90.000	343.278	12076.000	29.966	0.000	48.848	0.000	29.966	0.000	0.000	48.896	42.935	-22.042	XOM_R2OWSG MWD+IFR1+MS
14700.000	90.000	343.278	12076.000	30.532	0.000	49.313	0.000	30.532	0.000	0.000	49.361	42.955	-21.882	XOM_R2OWSG MWD+IFR1+MS
14800.000	90.000	343.278	12076.000	31.107	0.000	49.790	0.000	31.107	0.000	0.000	49.839	42.976	-21.731	XOM_R2OWSG MWD+IFR1+MS
14900.000	90.000	343.278	12076.000	31.691	0.000	50.281	0.000	31.691	0.000	0.000	50.330	42.998	-21.589	XOM_R2OWSG MWD+IFR1+MS
15000.000	90.000	343.278	12076.000	32.283	0.000	50.783	0.000	32.283	0.000	0.000	50.832	43.020	-21.454	XOM_R2OWSG MWD+IFR1+MS
15100.000	90.000	343.278	12076.000	32.884	0.000	51.298	0.000	32.884	0.000	0.000	51.347	43.044	-21.326	XOM_R2OWSG MWD+IFR1+MS
15200.000	90.000	343.278	12076.000	33.492	0.000	51.824	0.000	33.492	0.000	0.000	51.873	43.067	-21.205	XOM_R2OWSG MWD+IFR1+MS
15300.000	90.000	343.278	12076.000	34.108	0.000	52.362	0.000	34.108	0.000	0.000	52.411	43.092	-21.089	XOM_R2OWSG MWD+IFR1+MS
15400.000	90.000	343.278	12076.000	34.730	0.000	52.910	0.000	34.730	0.000	0.000	52.959	43.117	-20.980	XOM_R2OWSG MWD+IFR1+MS



15500.000	90.000	343.278	12076.000	35.359	0.000	53.469	0.000	35.359	0.000	0.000	53.518	43.143	-20.876	XOM_R2OWSG MWD+IFR1+MS
15600.000	90.000	343.278	12076.000	35.994	0.000	54.037	0.000	35.994	0.000	0.000	54.087	43.170	-20.776	XOM_R2OWSG MWD+IFR1+MS
15700.000	90.000	343.278	12076.000	36.634	0.000	54.616	0.000	36.634	0.000	0.000	54.665	43.198	-20.682	XOM_R2OWSG MWD+IFR1+MS
15800.000	90.000	343.278	12076.000	37.281	0.000	55.205	0.000	37.281	0.000	0.000	55.254	43.226	-20.591	XOM_R2OWSG MWD+IFR1+MS
15900.000	90.000	343.278	12076.000	37.932	0.000	55.803	0.000	37.932	0.000	0.000	55.851	43.255	-20.505	XOM_R2OWSG MWD+IFR1+MS
16000.000	90.000	343.278	12076.000	38.588	0.000	56.409	0.000	38.588	0.000	0.000	56.458	43.284	-20.422	XOM_R2OWSG MWD+IFR1+MS
16100.000	90.000	343.278	12076.000	39.250	0.000	57.025	0.000	39.250	0.000	0.000	57.073	43.315	-20.343	XOM_R2OWSG MWD+IFR1+MS
16200.000	90.000	343.278	12076.000	39.915	0.000	57.648	0.000	39.915	0.000	0.000	57.696	43.346	-20.267	XOM_R2OWSG MWD+IFR1+MS
16300.000	90.000	343.278	12076.000	40.585	0.000	58.280	0.000	40.585	0.000	0.000	58.328	43.377	-20.194	XOM_R2OWSG MWD+IFR1+MS
16400.000	90.000	343.278	12076.000	41.259	0.000	58.920	0.000	41.259	0.000	0.000	58.968	43.410	-20.124	XOM_R2OWSG MWD+IFR1+MS
16500.000	90.000	343.278	12076.000	41.937	0.000	59.568	0.000	41.937	0.000	0.000	59.615	43.443	-20.057	XOM_R2OWSG MWD+IFR1+MS
16600.000	90.000	343.278	12076.000	42.618	0.000	60.222	0.000	42.618	0.000	0.000	60.270	43.476	-19.992	XOM_R2OWSG MWD+IFR1+MS
16700.000	90.000	343.278	12076.000	43.303	0.000	60.884	0.000	43.303	0.000	0.000	60.931	43.511	-19.930	XOM_R2OWSG MWD+IFR1+MS
16800.000	90.000	343.278	12076.000	43.991	0.000	61.553	0.000	43.991	0.000	0.000	61.600	43.546	-19.870	XOM_R2OWSG MWD+IFR1+MS
16900.000	90.000	343.278	12076.000	44.683	0.000	62.229	0.000	44.683	0.000	0.000	62.275	43.582	-19.812	XOM_R2OWSG MWD+IFR1+MS
17000.000	90.000	343.278	12076.000	45.377	0.000	62.911	0.000	45.377	0.000	0.000	62.957	43.618	-19.756	XOM_R2OWSG MWD+IFR1+MS
17100.000	90.000	343.278	12076.000	46.075	0.000	63.599	0.000	46.075	0.000	0.000	63.645	43.655	-19.703	XOM_R2OWSG MWD+IFR1+MS
17200.000	90.000	343.278	12076.000	46.775	0.000	64.294	0.000	46.775	0.000	0.000	64.339	43.693	-19.651	XOM_R2OWSG MWD+IFR1+MS
17300.000	90.000	343.278	12076.000	47.478	0.000	64.994	0.000	47.478	0.000	0.000	65.039	43.731	-19.601	XOM_R2OWSG MWD+IFR1+MS
17400.000	90.000	343.278	12076.000	48.183	0.000	65.700	0.000	48.183	0.000	0.000	65.745	43.770	-19.552	XOM_R2OWSG MWD+IFR1+MS



17500.000	90.000	343.278	12076.000	48.891	0.000	66.411	0.000	48.891	0.000	0.000	66.456	43.810	-19.506	XOM_R2OWSG MWD+IFR1+MS
17600.000	90.000	343.278	12076.000	49.601	0.000	67.128	0.000	49.601	0.000	0.000	67.172	43.851	-19.460	XOM_R2OWSG MWD+IFR1+MS
17700.000	90.000	343.278	12076.000	50.313	0.000	67.850	0.000	50.313	0.000	0.000	67.894	43.892	-19.416	XOM_R2OWSG MWD+IFR1+MS
17800.000	90.000	343.278	12076.000	51.027	0.000	68.577	0.000	51.027	0.000	0.000	68.620	43.933	-19.374	XOM_R2OWSG MWD+IFR1+MS
17900.000	90.000	343.278	12076.000	51.744	0.000	69.309	0.000	51.744	0.000	0.000	69.352	43.976	-19.333	XOM_R2OWSG MWD+IFR1+MS
18000.000	90.000	343.278	12076.000	52.462	0.000	70.045	0.000	52.462	0.000	0.000	70.088	44.019	-19.293	XOM_R2OWSG MWD+IFR1+MS
18100.000	90.000	343.278	12076.000	53.183	0.000	70.786	0.000	53.183	0.000	0.000	70.829	44.062	-19.254	XOM_R2OWSG MWD+IFR1+MS
18200.000	90.000	343.278	12076.000	53.905	0.000	71.532	0.000	53.905	0.000	0.000	71.574	44.107	-19.216	XOM_R2OWSG MWD+IFR1+MS
18300.000	90.000	343.278	12076.000	54.628	0.000	72.281	0.000	54.628	0.000	0.000	72.323	44.152	-19.180	XOM_R2OWSG MWD+IFR1+MS
18400.000	90.000	343.278	12076.000	55.354	0.000	73.035	0.000	55.354	0.000	0.000	73.077	44.197	-19.144	XOM_R2OWSG MWD+IFR1+MS
18500.000	90.000	343.278	12076.000	56.081	0.000	73.793	0.000	56.081	0.000	0.000	73.834	44.243	-19.110	XOM_R2OWSG MWD+IFR1+MS
18600.000	90.000	343.278	12076.000	56.810	0.000	74.555	0.000	56.810	0.000	0.000	74.595	44.290	-19.077	XOM_R2OWSG MWD+IFR1+MS
18700.000	90.000	343.278	12076.000	57.540	0.000	75.320	0.000	57.540	0.000	0.000	75.361	44.338	-19.044	XOM_R2OWSG MWD+IFR1+MS
18800.000	90.000	343.278	12076.000	58.271	0.000	76.089	0.000	58.271	0.000	0.000	76.129	44.386	-19.012	XOM_R2OWSG MWD+IFR1+MS
18900.000	90.000	343.278	12076.000	59.004	0.000	76.862	0.000	59.004	0.000	0.000	76.902	44.435	-18.982	XOM_R2OWSG MWD+IFR1+MS
19000.000	90.000	343.278	12076.000	59.738	0.000	77.638	0.000	59.738	0.000	0.000	77.677	44.484	-18.952	XOM_R2OWSG MWD+IFR1+MS
19100.000	90.000	343.278	12076.000	60.474	0.000	78.417	0.000	60.474	0.000	0.000	78.457	44.534	-18.922	XOM_R2OWSG MWD+IFR1+MS
19200.000	90.000	343.278	12076.000	61.211	0.000	79.200	0.000	61.211	0.000	0.000	79.239	44.585	-18.894	XOM_R2OWSG MWD+IFR1+MS
19300.000	90.000	343.278	12076.000	61.948	0.000	79.986	0.000	61.948	0.000	0.000	80.024	44.636	-18.866	XOM_R2OWSG MWD+IFR1+MS
19400.000	90.000	343.278	12076.000	62.687	0.000	80.775	0.000	62.687	0.000	0.000	80.813	44.688	-18.839	XOM_R2OWSG MWD+IFR1+MS

19500.000	90.000	343.278	12076.000	63.428	0.000	81.566	0.000	63.428	0.000	0.000	81.604	44.741	-18.813	XOM_R2OWSG MWD+IFR1+MS
19600.000	90.000	343.278	12076.000	64.169	0.000	82.361	0.000	64.169	0.000	0.000	82.399	44.794	-18.787	XOM_R2OWSG MWD+IFR1+MS
19700.000	90.000	343.278	12076.000	64.911	0.000	83.159	0.000	64.911	0.000	0.000	83.196	44.847	-18.762	XOM_R2OWSG MWD+IFR1+MS
19757.676	90.000	343.278	12076.000	65.339	0.000	83.619	0.000	65.339	0.000	0.000	83.656	44.879	-18.748	XOM_R2OWSG MWD+IFR1+MS
19800.000	90.000	343.278	12076.000	65.654	0.000	83.957	0.000	65.654	0.000	0.000	83.994	44.902	-18.737	XOM_R2OWSG MWD+IFR1+MS
19859.438	90.000	343.278	12076.000	66.096	0.000	84.433	0.000	66.096	0.000	0.000	84.470	44.934	-18.723	XOM_R2OWSG MWD+IFR1+MS

Plan Targets

PLU 22-3 BS 112H

Target Name	Measured Depth (ft)	Grid Northing (ft)	Grid Easting (ft)	TVD MSL (ft)	Target Shape
LTP 112H	19757.68	411462.60	670708.30	8702.00	CIRCLE
BHL 112 H	19863.30	411561.50	670682.60	8702.00	CIRCLE
FTP 112H	12535.03	404545.40	672786.50	8702.00	CIRCLE

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

XTO Energy Inc.  
POKER LAKE UNIT 22-3 BS 112H  
Projected TD: 19859.44' MD / 12076' TVD  
SHL: 580' FSL & 456' FWL , Section 22, T25S, R31E  
BHL: 2656' FSL & 2480' FEL , Section 16, T25S, R31E  
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	881'	Water
Top of Salt	1197'	Water
Base of Salt	4067'	Water
Delaware	4282'	Water
Brushy Canyon	6773'	Water/Oil/Gas
Bone Spring	8247'	Water
1st Bone Spring	9087'	Water/Oil/Gas
2nd Bone Spring	9646'	Water/Oil/Gas
3rd Bone Spring	10329'	Water/Oil/Gas
Wolfcamp	11618'	Water/Oil/Gas
Wolfcamp X	11643'	Water/Oil/Gas
Wolfcamp Y	11741'	Water/Oil/Gas
Wolfcamp A	11788'	Water/Oil/Gas
Wolfcamp B	12211'	Water/Oil/Gas
<b>Target/Land Curve</b>	<b>12076'</b>	<b>Water/Oil/Gas</b>

\*\*\* 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 9.625 inch casing @ 981' (216' 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 7.625 inch casing at 11210.03' and cemented to surface. A 6.75 inch curve and 6.75 inch lateral hole will be drilled to 19859.44 MD/TD and 5.5 inch production casing will be set at TD and cemented back up in the intermediate shoe (estimated TOC 10910.03 feet).

**3. Casing Design**

Hole Size	Depth	OD Csg	Weight	Grade	Collar	New/Used	SF Burst	SF Collapse	SF Tension
12.25	0' – 981'	9.625	40	J-55	BTC	New	1.29	6.42	16.06
8.75	0' – 4000'	7.625	29.7	RY P-110	Flush Joint	New	2.40	2.71	1.68
8.75	4000' – 11210.03'	7.625	29.7	HC L-80	Flush Joint	New	1.75	1.85	1.90
6.75	0' – 11110.03'	5.5	20	RY P-110	Semi-Premium	New	1.26	1.83	2.12
6.75	11110.03' - 19859.44'	5.5	20	RY P-110	Semi-Flush	New	1.26	1.68	2.12

- 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
- 7.625 Collapse analyzed using 50% evacuation based on regional experience.
- 5.5 Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35
- Test on Casing will be limited to 70% burst of the casing or 1500 psi, whichever is less
- XTO requests the option to use 5" BTC Float equipment for the the production casing



**Wellhead:**

*Permanent Wellhead – Multibowl System*

A. Starting Head: 11" 10M top flange x 9-5/8" bottom

B. Tubing Head: 11" 10M bottom flange x 7-1/16" 15M top flange

- Wellhead will be installed by manufacturer's representatives.
- Manufacturer will monitor welding process to ensure appropriate temperature of seal.
- Operator will test the 7-5/8" casing per BLM Onshore Order 2
- Wellhead Manufacturer representative will not be present for BOP test plug installation

#### 4. Cement Program

##### **Surface Casing: 9.625, 40 New BTC, J-55 casing to be set at +/- 981'**

Lead: 220 sxs EconoCem-HLTRRC (mixed at 10.5 ppg, 1.87 ft3/sx, 10.13 gal/sx water)

Tail: 130 sxs Class C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)

Top of Cement: Surface

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

##### **2nd Intermediate Casing: 7.625, 29.7 New casing to be set at +/- 11210.03'**

###### 1st Stage

Optional Lead: 360 sxs Class C (mixed at 10.5 ppg, 2.77 ft3/sx, 15.59 gal/sx water)

TOC: Surface

Tail: 410 sxs Class C (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)

TOC: Brushy Canyon @ 6773

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

###### 2nd Stage

Lead: 0 sxs Class C (mixed at 12.9 ppg, 2.16 ft3/sx, 9.61 gal/sx water)

Tail: 760 sxs Class C (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water)

Top of Cement: 0

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

XTO requests to pump a two stage cement job on the 7-5/8" intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brush Canyon (6773') and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. If cement is not visually confirmed to circulate to surface, the final cement top after the second stage job will be verified by Echo-meter. If necessary, a top out consisting of 1,500 sack of Class C cement + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (2.30 yld, 12.91 ppg) will be executed as a contingency. If cement is still unable to circulate to surface, another Echo-meter run will be performed for cement top verification.

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

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

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

##### **Production Casing: 5.5, 20 New Semi-Flush, RY P-110 casing to be set at +/- 19859.44'**

Lead: 20 sxs NeoCem (mixed at 11.5 ppg, 2.69 ft3/sx, 15.00 gal/sx water) Top of Cement: 10910.03 feet

Tail: 600 sxs VersaCem (mixed at 13.2 ppg, 1.51 ft3/sx, 8.38 gal/sx water) Top of Cement: 11410.03 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 9.625 casing, the blow out preventer equipment (BOP) will consist of a 13-5/8" minimum 5M Hydril and a 13-5/8" minimum 5M Double Ram BOP. MASP should not exceed 3937 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 9.625, 5M bradenhead and flange, the BOP test will be limited to 5000 psi. When nipping up on the 7.625, the BOP will be tested to a minimum of 5000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 5M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

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

XTO requests a variance to be able to batch drill this well if necessary. In doing so, XTO will set casing and ensure that the well is cemented properly (unless approval is given for offline cementing) and the well is static. With floats holding, no pressure on the csg annulus, and the installation of a 10K TA cap as per Cactus recommendations, XTO will contact the BLM to skid the rig to drill the remaining wells on the pad. Once surface and both intermediate strings are all completed, XTO will begin drilling the production



hole on each of the wells.

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

## 6. Proposed Mud Circulation System

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' - 981'	12.25	FW/Native	8.4-8.9	35-40	NC
981' - 11210.03'	8.75	FW / Cut Brine / Direct Emulsion	9.5-10	30-32	NC
11210.03' - 19859.44'	6.75	OBM	10.5-11	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 Kelly cock will be in the drill string at all times.
- A full opening drill pipe stabbing valve having appropriate connections will be on the rig floor at all times.
- H2S monitors will be on location when drilling below the 9.625 casing.

## 8. Logging, Coring and Testing Program

Mud Logger: Mud Logging Unit (2 man) below intermediate casing.

Open hole logging will not be done on this well.

## 9. Abnormal Pressures and Temperatures / Potential Hazards

None Anticipated. BHT of 185 to 205 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 6593 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.

☒ AMENDED REPORT

TIM C. PAPPAS 21290  
Certificate Number

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

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

CONDITIONS  
  
Action 317040

CONDITIONS

Operator:  XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	OGRID:  373075
	Action Number:  317040
	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.	3/1/2024
ward.rikala	An NSL is required for this well.	3/1/2024