

Well Name: POKER LAKE UNIT 30-19 BS	Well Location: T25S / R31E / SEC 30 / NENE /	County or Parish/State:
Well Number: 156H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMLC061634A	Unit or CA Name:	Unit or CA Number: NMNM71016X
US Well Number: 3001553533	Well Status: Approved Application for Permit to Drill	Operator: XTO PERMIAN OPERATING LLC

Notice of Intent

Sundry ID: 2770597

Type of Submission: Notice of Intent

Date Sundry Submitted: 01/18/2024

Date proposed operation will begin: 02/05/2024

Type of Action: APD Change

Time Sundry Submitted: 01:33

Procedure Description: Pool Code Change, Pool Name Change, Surface hole Change, First and Last Take Point Changes, Bottomhole Location Change, Drilling Plan Change, Casing/Cement Change, & PPP XTO Permian Operating, LCC. requests permission to make the following changes to the original APD: No Additional Surface Disturbance Pool Code: 97913 Pool Name: WILDCAT G-06 S253002O SHL: fr/540'FNL & 762'FEL to 541'FNL & 242'FEL FTP: fr/2310'FNL & 1240'FEL to 2115'FNL & 1185'FEL LTP: fr/100'FSL & 1240'FEL to 2566'FSL & 1185'FEL BHL: fr/50'FNL & 1240'FEL to 2655'FSL & 1185'FEL, Section 17-T25S-R31E PPP: 2648'FNL & 1193'FEL Additionally, XTO Permian Operating, LLC. respectfully requests permission to change production casing weight. Casing/Cement design per the attached drilling program. Attachments: C102 Drilling Program MBS Directional Plan BOP Variance Spud Variance

NOI Attachments

Procedure Description

PLU_30_19_BS_156H_Sundry_Attachments_20240118133253.pdf

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Conditions of Approval

Additional

Sec_29_25S_31E_NMP_Sundry_2770597_Poker_Lake_Unit_30_19_BS_156H_COAs_20240126111220.pdf

Operator

I certify that the foregoing is true and correct. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: TERRA SEBASTIAN	Signed on: JAN 18, 2024 01:32 PM
Name: XTO PERMIAN OPERATING LLC	
Title: Regulatory Advisor	
Street Address: 6401 HOLIDAY HILL ROAD SUITE 200	
City: MIDLAND	State: TX
Phone: (432) 999-3107	
Email address: TERRA.B.SEBASTIAN@EXXONMOBIL.COM	

Field

Representative Name:		
Street Address:		
City:	State:	Zip:
Phone:		
Email address:		

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS	BLM POC Title: Petroleum Engineer
BLM POC Phone: 5752342234	BLM POC Email Address: cwalls@blm.gov
Disposition: Approved	Disposition Date: 02/05/2024
Signature: Chris Walls	

Form 3160-5 (June 2019)	UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT	FORM APPROVED OMB No. 1004-0137 Expires: October 31, 2021
SUNDRY NOTICES AND REPORTS ON WELLS <i>Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.</i>		5. Lease Serial No.
		6. If Indian, Allottee or Tribe Name

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

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA				
TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

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

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

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

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

(Instructions on page 2)

GENERAL INSTRUCTIONS

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

SPECIFIC INSTRUCTIONS

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

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

NOTICES

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

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

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

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

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

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

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

Response to this request is mandatory.

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

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

Additional Information

Additional Remarks

FTP: fr/2310FNL & 1240FEL to 2115FNL & 1185FEL

LTP: fr/100FSL & 1240FEL to 2566FSL & 1185FEL

BHL: fr/50FNL & 1240FEL to 2655FSL & 1185FEL, Section 17-T25S-R31E

PPP: 2648FNL & 1193FEL

Additionally, XTO Permian Operating, LLC. respectfully requests permission to change production casing weight.

Casing/Cement design per the attached drilling program.

Attachments:

C102

Drilling Program

MBS

Directional Plan

BOP Variance

Spud Variance

Location of Well

0. SHL: NENE / 540 FNL / 762 FEL / TWSP: 25S / RANGE: 31E / SECTION: 30 / LAT: 32.10706 / LONG: -103.811302 (TVD: 0 feet, MD: 0 feet)

PPP: SENE / 2310 FNL / 1240 FEL / TWSP: 25S / RANGE: 31E / SECTION: 30 / LAT: 32.102192 / LONG: -103.81289 (TVD: 11770 feet, MD: 12061 feet)

PPP: SESE / 2310 FNL / 1240 FEL / TWSP: 25S / RANGE: 31E / SECTION: 19 / LAT: 32.114027 / LONG: -103.815224 (TVD: 12480 feet, MD: 14701 feet)

BHL: NENE / 50 FNL / 1240 FEL / TWSP: 25S / RANGE: 31E / SECTION: 19 / LAT: 32.123023 / LONG: -103.812703 (TVD: 12480 feet, MD: 20677 feet)

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO Permian Operating LLC
WELL NAME & NO.:	Poker Lake Unit 30-19 BS 156H
LOCATION:	Sec 28-25S-31E-NMP
COUNTY:	Eddy County, New Mexico

*Changes approved through engineering via **Sundry 2770597** on 01/26/2024. Any previous COAs not addressed within the updated COAs still apply.*

COA

H₂S	<input checked="" type="radio"/> No	<input type="radio"/> Yes		
Potash / WIPP	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P	<input type="checkbox"/> WIPP
Cave / Karst	<input type="radio"/> Low	<input checked="" type="radio"/> Medium	<input type="radio"/> High	<input type="radio"/> Critical
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both	<input type="radio"/> Diverter
Cementing	<input type="checkbox"/> Primary Squeeze	<input checked="" type="checkbox"/> Cont. Squeeze	<input checked="" type="checkbox"/> EchoMeter	<input type="checkbox"/> DV Tool
Special Req	<input checked="" type="checkbox"/> Break Testing	<input type="checkbox"/> Water Disposal	<input type="checkbox"/> COM	<input checked="" type="checkbox"/> Unit
Variance	<input checked="" type="checkbox"/> Flex Hose	<input checked="" type="checkbox"/> Casing Clearance	<input type="checkbox"/> Pilot Hole	<input type="checkbox"/> Capitan Reef
Variance	<input type="checkbox"/> Four-String	<input checked="" type="checkbox"/> Offline Cementing	<input type="checkbox"/> Fluid-Filled	<input type="checkbox"/> Open Annulus
<input type="checkbox"/> Batch APD / Sundry				

A. HYDROGEN SULFIDE

Hydrogen Sulfide (H₂S) monitors shall be installed prior to drilling out the surface shoe. If H₂S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet 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 903 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. **NOTE: This area has a high dissolution of salt, so the operator may need to make adjustments to their surface set depths to find a competent set point.**
 - 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 6842'**
- 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 Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

Operator has proposed to pump down 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. 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.) 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. (This is not necessary for secondary recovery unit wells)

(Note: For a minimum 5M BOPE or less (Utilizing a 10M BOPE system))

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:

- Spudding well (minimum of 24 hours)
 - Setting and/or Cementing of all casing strings (minimum of 4 hours)
 - 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
- 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.
 - 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).
 - When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per **43 CFR part 3170 Subpart 3172** as soon as 2nd Rig is rigged up on well.
 - 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.

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

TIM C. PAPPAS 21209
Certificate Number

Well Plan Report - PLU 30-19 BS 156H_1.0

Measured Depth: 22582.64 ft

TVD RKB: 10855.00 ft

Location

Cartographic Reference System: New Mexico East - NAD 27

Northing: 403020.70 ft

Easting: 662308.30 ft

RKB: 3411.00 ft

Ground Level: 3379.00 ft

North Reference: _____ Grid _____

Convergence Angle: 0.28 Deg

Plan Sections

PLU 30-19 BS 156H_1.0

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	
2553.43	29.07	119.40	2491.87	-177.14	314.38	2.00	0.00	2.00	
11208.01	29.07	119.40	10056.32	-2241.34	3977.72	0.00	0.00	0.00	
12505.80	90.00	359.94	10855.00	-1545.50	4363.60	4.70	-9.20	8.00	FTP
22483.90	90.00	359.94	10855.00	8432.60	4353.70	0.00	0.00	0.00	LTP
22582.64	90.00	359.94	10855.00	8531.34	4353.60	0.00	0.00	0.00	BHL

Position Uncertainty

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[illegible]

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	112.264	MWD+IFR1+MS
200.000	0.000	0.000	200.000	1.112	0.000	0.861	0.000	2.310	0.000	0.000	1.259	0.627	122.711	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	125.469	MWD+IFR1+MS
400.000	0.000	0.000	400.000	1.871	0.000	1.658	0.000	2.347	0.000	0.000	2.108	1.344	126.713	MWD+IFR1+MS
500.000	0.000	0.000	500.000	2.240	0.000	2.034	0.000	2.374	0.000	0.000	2.503	1.701	127.419	MWD+IFR1+MS
600.000	0.000	0.000	600.000	2.607	0.000	2.405	0.000	2.407	0.000	0.000	2.888	2.059	127.873	MWD+IFR1+MS
700.000	0.000	0.000	700.000	2.971	0.000	2.773	0.000	2.444	0.000	0.000	3.267	2.417	128.190	MWD+IFR1+MS
800.000	0.000	0.000	800.000	3.334	0.000	3.138	0.000	2.486	0.000	0.000	3.642	2.775	128.423	MWD+IFR1+MS
900.000	0.000	0.000	900.000	3.696	0.000	3.502	0.000	2.532	0.000	0.000	4.014	3.133	128.602	MWD+IFR1+MS
1000.000	0.000	0.000	1000.000	4.058	0.000	3.865	0.000	2.581	0.000	0.000	4.384	3.491	128.744	MWD+IFR1+MS
1100.000	0.000	0.000	1100.000	4.419	0.000	4.228	0.000	2.635	0.000	0.000	4.752	3.849	128.859	MWD+IFR1+MS
1200.000	2.000	119.400	1199.980	4.404	0.000	5.020	-0.000	2.691	0.000	0.000	5.049	4.372	131.844	MWD+IFR1+MS
1300.000	4.000	119.400	1299.838	5.259	0.000	5.342	-0.000	2.751	0.000	0.000	5.343	5.265	111.479	MWD+IFR1+MS
1400.000	6.000	119.400	1399.452	6.009	0.000	5.669	-0.000	2.817	0.000	0.000	6.068	5.622	47.930	MWD+IFR1+MS
1500.000	8.000	119.400	1498.702	6.687	0.000	6.002	-0.000	2.890	0.000	0.000	6.782	5.925	46.268	MWD+IFR1+MS
1600.000	10.000	119.400	1597.465	7.312	0.000	6.341	-0.000	2.973	0.000	0.000	7.442	6.237	45.806	MWD+IFR1+MS
1700.000	12.000	119.400	1695.623	7.896	0.000	6.687	-0.000	3.067	0.000	0.000	8.061	6.557	45.637	MWD+IFR1+MS
1800.000	14.000	119.400	1793.055	8.447	0.000	7.040	-0.000	3.175	0.000	0.000	8.647	6.887	45.594	MWD+IFR1+MS
1900.000	16.000	119.400	1889.643	8.969	0.000	7.401	-0.000	3.299	0.000	0.000	9.206	7.228	45.627	MWD+IFR1+MS
2000.000	18.000	119.400	1985.268	9.468	0.000	7.772	-0.000	3.439	0.000	0.000	9.743	7.580	45.718	MWD+IFR1+MS
2100.000	20.000	119.400	2079.816	9.946	0.000	8.155	-0.000	3.596	0.000	0.000	10.260	7.944	45.862	MWD+IFR1+MS
2200.000	22.000	119.400	2173.169	10.407	0.000	8.549	-0.000	3.773	0.000	0.000	10.761	8.323	46.062	MWD+IFR1+MS
2300.000	24.000	119.400	2265.215	10.852	0.000	8.959	-0.000	3.970	0.000	0.000	11.247	8.717	46.323	MWD+IFR1+MS
2400.000	26.000	119.400	2355.841	11.283	0.000	9.384	-0.000	4.188	0.000	0.000	11.721	9.127	46.658	MWD+IFR1+MS
2500.000	28.000	119.400	2444.937	11.701	0.000	9.828	-0.000	4.426	0.000	0.000	12.184	9.556	47.082	MWD+IFR1+MS
2553.426	29.069	119.400	2491.872	11.837	0.000	10.065	-0.000	4.509	0.000	0.000	12.361	9.792	47.379	MWD+IFR1+MS
2600.000	29.069	119.400	2532.580	11.983	0.000	10.274	-0.000	4.574	0.000	0.000	12.493	10.001	47.719	MWD+IFR1+MS
2700.000	29.069	119.400	2619.984	12.301	0.000	10.743	-0.000	4.727	0.000	0.000	12.781	10.465	48.734	MWD+IFR1+MS
2800.000	29.069	119.400	2707.388	12.638	0.000	11.231	-0.000	4.894	0.000	0.000	13.088	10.941	50.067	MWD+IFR1+MS
2900.000	29.069	119.400	2794.792	12.985	0.000	11.728	-0.000	5.069	0.000	0.000	13.405	11.424	51.629	MWD+IFR1+MS
3000.000	29.069	119.400	2882.196	13.342	0.000	12.233	-0.000	5.251	0.000	0.000	13.734	11.911	53.468	MWD+IFR1+MS
3100.000	29.069	119.400	2969.600	13.707	0.000	12.746	-0.000	5.439	0.000	0.000	14.074	12.401	55.644	MWD+IFR1+MS

3200.000	29.069	119.400	3057.004	14.080	0.000	13.264	-0.000	5.633	0.000	0.000	14.426	12.892	58.224	MWD+IFR1+MS
3300.000	29.069	119.400	3144.408	14.461	0.000	13.789	-0.000	5.833	0.000	0.000	14.791	13.381	61.275	MWD+IFR1+MS
3400.000	29.069	119.400	3231.812	14.848	0.000	14.318	-0.000	6.037	0.000	0.000	15.172	13.866	64.845	MWD+IFR1+MS
3500.000	29.069	119.400	3319.216	15.242	0.000	14.852	-0.000	6.245	0.000	0.000	15.569	14.343	68.937	MWD+IFR1+MS
3600.000	29.069	119.400	3406.620	15.642	0.000	15.390	-0.000	6.458	0.000	0.000	15.984	14.811	73.471	MWD+IFR1+MS
3700.000	29.069	119.400	3494.024	16.047	0.000	15.931	-0.000	6.674	0.000	0.000	16.420	15.267	78.266	MWD+IFR1+MS
3800.000	29.069	119.400	3581.427	16.457	0.000	16.476	-0.000	6.893	0.000	0.000	16.876	15.711	83.066	MWD+IFR1+MS
3900.000	29.069	119.400	3668.831	16.872	0.000	17.024	-0.000	7.116	0.000	0.000	17.350	16.142	87.615	MWD+IFR1+MS
4000.000	29.069	119.400	3756.235	17.291	0.000	17.574	-0.000	7.341	0.000	0.000	17.842	16.563	91.727	MWD+IFR1+MS
4100.000	29.069	119.400	3843.639	17.714	0.000	18.127	-0.000	7.569	0.000	0.000	18.348	16.975	95.319	MWD+IFR1+MS
4200.000	29.069	119.400	3931.043	18.141	0.000	18.682	-0.000	7.800	0.000	0.000	18.866	17.382	98.392	MWD+IFR1+MS
4300.000	29.069	119.400	4018.447	18.571	0.000	19.239	-0.000	8.033	0.000	0.000	19.393	17.783	100.993	MWD+IFR1+MS
4400.000	29.069	119.400	4105.851	19.005	0.000	19.798	-0.000	8.268	0.000	0.000	19.928	18.183	103.189	MWD+IFR1+MS
4500.000	29.069	119.400	4193.255	19.442	0.000	20.358	-0.000	8.504	0.000	0.000	20.469	18.580	105.047	MWD+IFR1+MS
4600.000	29.069	119.400	4280.659	19.881	0.000	20.920	-0.000	8.743	0.000	0.000	21.015	18.976	106.627	MWD+IFR1+MS
4700.000	29.069	119.400	4368.063	20.323	0.000	21.484	-0.000	8.984	0.000	0.000	21.566	19.373	107.978	MWD+IFR1+MS
4800.000	29.069	119.400	4455.467	20.768	0.000	22.049	-0.000	9.226	0.000	0.000	22.119	19.769	109.142	MWD+IFR1+MS
4900.000	29.069	119.400	4542.871	21.214	0.000	22.615	-0.000	9.470	0.000	0.000	22.676	20.166	110.152	MWD+IFR1+MS
5000.000	29.069	119.400	4630.275	21.663	0.000	23.182	-0.000	9.716	0.000	0.000	23.235	20.563	111.035	MWD+IFR1+MS
5100.000	29.069	119.400	4717.679	22.115	0.000	23.750	-0.000	9.963	0.000	0.000	23.797	20.962	111.811	MWD+IFR1+MS
5200.000	29.069	119.400	4805.083	22.567	0.000	24.319	-0.000	10.211	0.000	0.000	24.360	21.361	112.499	MWD+IFR1+MS
5300.000	29.069	119.400	4892.487	23.022	0.000	24.890	-0.000	10.461	0.000	0.000	24.925	21.762	113.111	MWD+IFR1+MS
5400.000	29.069	119.400	4979.890	23.479	0.000	25.461	-0.000	10.712	0.000	0.000	25.492	22.163	113.658	MWD+IFR1+MS
5500.000	29.069	119.400	5067.294	23.937	0.000	26.032	-0.000	10.965	0.000	0.000	26.060	22.565	114.151	MWD+IFR1+MS
5600.000	29.069	119.400	5154.698	24.396	0.000	26.605	-0.000	11.218	0.000	0.000	26.629	22.969	114.597	MWD+IFR1+MS
5700.000	29.069	119.400	5242.102	24.857	0.000	27.178	-0.000	11.473	0.000	0.000	27.199	23.373	115.001	MWD+IFR1+MS
5800.000	29.069	119.400	5329.506	25.320	0.000	27.752	-0.000	11.729	0.000	0.000	27.770	23.779	115.370	MWD+IFR1+MS
5900.000	29.069	119.400	5416.910	25.783	0.000	28.327	-0.000	11.987	0.000	0.000	28.342	24.186	115.707	MWD+IFR1+MS
6000.000	29.069	119.400	5504.314	26.248	0.000	28.902	-0.000	12.245	0.000	0.000	28.916	24.594	116.017	MWD+IFR1+MS
6100.000	29.069	119.400	5591.718	26.714	0.000	29.477	-0.000	12.505	0.000	0.000	29.489	25.002	116.302	MWD+IFR1+MS
6200.000	29.069	119.400	5679.122	27.181	0.000	30.053	-0.000	12.766	0.000	0.000	30.064	25.412	116.566	MWD+IFR1+MS
6300.000	29.069	119.400	5766.526	27.649	0.000	30.630	-0.000	13.028	0.000	0.000	30.639	25.823	116.810	MWD+IFR1+MS
6400.000	29.069	119.400	5853.930	28.119	0.000	31.207	-0.000	13.291	0.000	0.000	31.215	26.234	117.037	MWD+IFR1+MS

6500.000	29.069	119.400	5941.334	28.589	0.000	31.785	-0.000	13.555	0.000	0.000	31.791	26.647	117.248	MWD+IFR1+MS
6600.000	29.069	119.400	6028.738	29.060	0.000	32.363	-0.000	13.820	0.000	0.000	32.368	27.060	117.446	MWD+IFR1+MS
6700.000	29.069	119.400	6116.142	29.531	0.000	32.941	-0.000	14.086	0.000	0.000	32.946	27.474	117.630	MWD+IFR1+MS
6800.000	29.069	119.400	6203.546	30.004	0.000	33.520	-0.000	14.354	0.000	0.000	33.524	27.889	117.803	MWD+IFR1+MS
6900.000	29.069	119.400	6290.950	30.477	0.000	34.099	-0.000	14.622	0.000	0.000	34.102	28.305	117.966	MWD+IFR1+MS
7000.000	29.069	119.400	6378.353	30.951	0.000	34.678	-0.000	14.892	0.000	0.000	34.681	28.722	118.119	MWD+IFR1+MS
7100.000	29.069	119.400	6465.757	31.426	0.000	35.258	-0.000	15.162	0.000	0.000	35.260	29.139	118.263	MWD+IFR1+MS
7200.000	29.069	119.400	6553.161	31.901	0.000	35.838	-0.000	15.434	0.000	0.000	35.839	29.558	118.399	MWD+IFR1+MS
7300.000	29.069	119.400	6640.565	32.378	0.000	36.418	-0.000	15.706	0.000	0.000	36.419	29.977	118.528	MWD+IFR1+MS
7400.000	29.069	119.400	6727.969	32.854	0.000	36.998	-0.000	15.980	0.000	0.000	36.999	30.396	118.650	MWD+IFR1+MS
7500.000	29.069	119.400	6815.373	33.331	0.000	37.579	-0.000	16.255	0.000	0.000	37.580	30.817	118.766	MWD+IFR1+MS
7600.000	29.069	119.400	6902.777	33.809	0.000	38.160	-0.000	16.531	0.000	0.000	38.161	31.238	118.875	MWD+IFR1+MS
7700.000	29.069	119.400	6990.181	34.288	0.000	38.742	-0.000	16.808	0.000	0.000	38.742	31.659	118.980	MWD+IFR1+MS
7800.000	29.069	119.400	7077.585	34.767	0.000	39.323	-0.000	17.086	0.000	0.000	39.323	32.082	119.079	MWD+IFR1+MS
7900.000	29.069	119.400	7164.989	35.246	0.000	39.905	-0.000	17.365	0.000	0.000	39.905	32.505	119.174	MWD+IFR1+MS
8000.000	29.069	119.400	7252.393	35.726	0.000	40.487	-0.000	17.645	0.000	0.000	40.487	32.929	119.265	MWD+IFR1+MS
8100.000	29.069	119.400	7339.797	36.206	0.000	41.069	-0.000	17.926	0.000	0.000	41.069	33.353	119.351	MWD+IFR1+MS
8200.000	29.069	119.400	7427.201	36.687	0.000	41.651	-0.000	18.209	0.000	0.000	41.651	33.778	119.434	MWD+IFR1+MS
8300.000	29.069	119.400	7514.605	37.168	0.000	42.234	-0.000	18.492	0.000	0.000	42.234	34.203	119.513	MWD+IFR1+MS
8400.000	29.069	119.400	7602.009	37.650	0.000	42.816	-0.000	18.777	0.000	0.000	42.816	34.629	119.589	MWD+IFR1+MS
8500.000	29.069	119.400	7689.413	38.131	0.000	43.399	-0.000	19.063	0.000	0.000	43.399	35.056	119.662	MWD+IFR1+MS
8600.000	29.069	119.400	7776.816	38.614	0.000	43.982	-0.000	19.349	0.000	0.000	43.982	35.483	119.732	MWD+IFR1+MS
8700.000	29.069	119.400	7864.220	39.096	0.000	44.565	-0.000	19.637	0.000	0.000	44.566	35.910	119.799	MWD+IFR1+MS
8800.000	29.069	119.400	7951.624	39.579	0.000	45.149	-0.000	19.927	0.000	0.000	45.149	36.339	119.864	MWD+IFR1+MS
8900.000	29.069	119.400	8039.028	40.063	0.000	45.732	-0.000	20.217	0.000	0.000	45.733	36.767	119.926	MWD+IFR1+MS
9000.000	29.069	119.400	8126.432	40.547	0.000	46.316	-0.000	20.508	0.000	0.000	46.316	37.196	119.986	MWD+IFR1+MS
9100.000	29.069	119.400	8213.836	41.031	0.000	46.899	-0.000	20.801	0.000	0.000	46.900	37.626	120.044	MWD+IFR1+MS
9200.000	29.069	119.400	8301.240	41.515	0.000	47.483	-0.000	21.094	0.000	0.000	47.484	38.057	120.099	MWD+IFR1+MS
9300.000	29.069	119.400	8388.644	41.999	0.000	48.067	-0.000	21.389	0.000	0.000	48.069	38.487	120.153	MWD+IFR1+MS
9400.000	29.069	119.400	8476.048	42.484	0.000	48.651	-0.000	21.685	0.000	0.000	48.653	38.918	120.205	MWD+IFR1+MS
9500.000	29.069	119.400	8563.452	42.969	0.000	49.235	-0.000	21.983	0.000	0.000	49.237	39.350	120.255	MWD+IFR1+MS
9600.000	29.069	119.400	8650.856	43.455	0.000	49.820	-0.000	22.281	0.000	0.000	49.822	39.782	120.304	MWD+IFR1+MS
9700.000	29.069	119.400	8738.260	43.940	0.000	50.404	-0.000	22.581	0.000	0.000	50.407	40.215	120.350	MWD+IFR1+MS

9800.000	29.069	119.400	8825.664	44.426	0.000	50.989	-0.000	22.881	0.000	0.000	50.991	40.648	120.396	MWD+IFR1+MS
9900.000	29.069	119.400	8913.068	44.912	0.000	51.573	-0.000	23.184	0.000	0.000	51.576	41.082	120.440	MWD+IFR1+MS
10000.000	29.069	119.400	9000.472	45.399	0.000	52.158	-0.000	23.487	0.000	0.000	52.161	41.516	120.483	MWD+IFR1+MS
10100.000	29.069	119.400	9087.876	45.885	0.000	52.743	-0.000	23.791	0.000	0.000	52.747	41.950	120.524	MWD+IFR1+MS
10200.000	29.069	119.400	9175.279	46.372	0.000	53.328	-0.000	24.097	0.000	0.000	53.332	42.385	120.564	MWD+IFR1+MS
10300.000	29.069	119.400	9262.683	46.859	0.000	53.913	-0.000	24.404	0.000	0.000	53.917	42.821	120.603	MWD+IFR1+MS
10400.000	29.069	119.400	9350.087	47.346	0.000	54.498	-0.000	24.713	0.000	0.000	54.502	43.257	120.641	MWD+IFR1+MS
10500.000	29.069	119.400	9437.491	47.834	0.000	55.083	-0.000	25.022	0.000	0.000	55.088	43.693	120.678	MWD+IFR1+MS
10600.000	29.069	119.400	9524.895	48.321	0.000	55.668	-0.000	25.333	0.000	0.000	55.674	44.130	120.714	MWD+IFR1+MS
10700.000	29.069	119.400	9612.299	48.809	0.000	56.253	-0.000	25.645	0.000	0.000	56.259	44.567	120.749	MWD+IFR1+MS
10800.000	29.069	119.400	9699.703	49.297	0.000	56.839	-0.000	25.959	0.000	0.000	56.845	45.004	120.783	MWD+IFR1+MS
10900.000	29.069	119.400	9787.107	49.785	0.000	57.424	-0.000	26.273	0.000	0.000	57.431	45.442	120.816	MWD+IFR1+MS
11000.000	29.069	119.400	9874.511	50.274	0.000	58.010	-0.000	26.590	0.000	0.000	58.017	45.881	120.848	MWD+IFR1+MS
11100.000	29.069	119.400	9961.915	50.762	0.000	58.595	-0.000	26.907	0.000	0.000	58.603	46.320	120.879	MWD+IFR1+MS
11208.007	29.069	119.400	10056.318	51.290	0.000	59.228	-0.000	27.252	0.000	0.000	59.236	46.795	120.910	MWD+IFR1+MS
11300.000	26.570	104.520	10137.771	52.445	0.000	58.985	-0.000	27.547	0.000	0.000	59.850	47.250	120.545	MWD+IFR1+MS
11400.000	25.870	86.421	10227.625	54.539	0.000	57.362	0.000	27.852	0.000	0.000	60.780	47.916	118.929	MWD+IFR1+MS
11500.000	27.418	68.857	10317.144	56.403	0.000	54.813	0.000	28.142	0.000	0.000	61.543	48.742	116.998	MWD+IFR1+MS
11600.000	30.876	53.989	10404.583	56.664	0.000	52.826	0.000	28.463	0.000	0.000	61.992	49.826	115.579	MWD+IFR1+MS
11700.000	35.690	42.305	10488.242	55.080	0.000	51.976	0.000	28.883	0.000	0.000	62.286	50.918	115.396	MWD+IFR1+MS
11800.000	41.386	33.261	10566.492	52.115	0.000	51.967	0.000	29.448	0.000	0.000	62.578	51.783	116.127	MWD+IFR1+MS
11900.000	47.642	26.131	10637.810	48.331	0.000	52.396	0.000	30.187	0.000	0.000	62.887	52.392	117.123	MWD+IFR1+MS
12000.000	54.258	20.329	10700.808	44.243	0.000	53.008	0.000	31.107	0.000	0.000	63.171	52.806	117.981	MWD+IFR1+MS
12100.000	61.109	15.435	10754.259	40.375	0.000	53.678	0.000	32.196	0.000	0.000	63.389	53.097	118.586	MWD+IFR1+MS
12200.000	68.114	11.155	10797.124	37.295	0.000	54.351	0.000	33.427	0.000	0.000	63.526	53.315	118.963	MWD+IFR1+MS
12300.000	75.220	7.280	10828.568	35.579	0.000	55.009	0.000	34.764	0.000	0.000	63.581	53.497	119.168	MWD+IFR1+MS
12400.000	82.387	3.652	10847.979	35.632	0.000	55.650	0.000	36.160	0.000	0.000	63.567	53.671	119.236	MWD+IFR1+MS
12505.799	90.000	359.943	10855.000	37.768	0.000	56.335	0.000	37.768	0.000	0.000	63.504	53.884	119.221	MWD+IFR1+MS
12600.000	90.000	359.943	10855.000	38.471	0.000	56.345	0.000	38.471	0.000	0.000	63.408	54.003	118.876	MWD+IFR1+MS
12700.000	90.000	359.943	10855.000	38.954	0.000	56.323	0.000	38.954	0.000	0.000	63.301	54.099	118.415	MWD+IFR1+MS
12800.000	90.000	359.943	10855.000	39.448	0.000	56.314	0.000	39.448	0.000	0.000	63.197	54.206	117.968	MWD+IFR1+MS
12900.000	90.000	359.943	10855.000	39.951	0.000	56.320	0.000	39.951	0.000	0.000	63.098	54.322	117.533	MWD+IFR1+MS
13000.000	90.000	359.943	10855.000	40.462	0.000	56.339	0.000	40.462	0.000	0.000	63.002	54.448	117.111	MWD+IFR1+MS

13100.000	90.000	359.943	10855.000	40.983	0.000	56.372	0.000	40.983	0.000	0.000	62.910	54.585	116.703	MWD+IFR1+MS
13200.000	90.000	359.943	10855.000	41.511	0.000	56.419	0.000	41.511	0.000	0.000	62.821	54.731	116.307	MWD+IFR1+MS
13300.000	90.000	359.943	10855.000	42.048	0.000	56.479	0.000	42.048	0.000	0.000	62.736	54.888	115.926	MWD+IFR1+MS
13400.000	90.000	359.943	10855.000	42.592	0.000	56.553	0.000	42.592	0.000	0.000	62.654	55.055	115.558	MWD+IFR1+MS
13500.000	90.000	359.943	10855.000	43.144	0.000	56.641	0.000	43.144	0.000	0.000	62.575	55.233	115.204	MWD+IFR1+MS
13600.000	90.000	359.943	10855.000	43.703	0.000	56.742	0.000	43.703	0.000	0.000	62.499	55.421	114.864	MWD+IFR1+MS
13700.000	90.000	359.943	10855.000	44.268	0.000	56.857	0.000	44.268	0.000	0.000	62.425	55.619	114.539	MWD+IFR1+MS
13800.000	90.000	359.943	10855.000	44.841	0.000	56.985	0.000	44.841	0.000	0.000	62.355	55.828	114.230	MWD+IFR1+MS
13900.000	90.000	359.943	10855.000	45.419	0.000	57.126	0.000	45.419	0.000	0.000	62.287	56.047	113.938	MWD+IFR1+MS
14000.000	90.000	359.943	10855.000	46.004	0.000	57.280	0.000	46.004	0.000	0.000	62.222	56.276	113.663	MWD+IFR1+MS
14100.000	90.000	359.943	10855.000	46.595	0.000	57.448	0.000	46.595	0.000	0.000	62.160	56.516	113.407	MWD+IFR1+MS
14200.000	90.000	359.943	10855.000	47.191	0.000	57.629	0.000	47.191	0.000	0.000	62.100	56.767	113.172	MWD+IFR1+MS
14300.000	90.000	359.943	10855.000	47.793	0.000	57.822	0.000	47.793	0.000	0.000	62.042	57.027	112.961	MWD+IFR1+MS
14400.000	90.000	359.943	10855.000	48.400	0.000	58.028	0.000	48.400	0.000	0.000	61.987	57.298	112.777	MWD+IFR1+MS
14500.000	90.000	359.943	10855.000	49.012	0.000	58.247	0.000	49.012	0.000	0.000	61.934	57.579	112.625	MWD+IFR1+MS
14600.000	90.000	359.943	10855.000	49.629	0.000	58.478	0.000	49.629	0.000	0.000	61.883	57.870	112.511	MWD+IFR1+MS
14700.000	90.000	359.943	10855.000	50.251	0.000	58.722	0.000	50.251	0.000	0.000	61.835	58.171	112.447	MWD+IFR1+MS
14800.000	90.000	359.943	10855.000	50.877	0.000	58.978	0.000	50.877	0.000	0.000	61.788	58.482	112.445	MWD+IFR1+MS
14900.000	90.000	359.943	10855.000	51.507	0.000	59.245	0.000	51.507	0.000	0.000	61.744	58.802	112.528	MWD+IFR1+MS
15000.000	90.000	359.943	10855.000	52.142	0.000	59.525	0.000	52.142	0.000	0.000	61.702	59.132	112.733	MWD+IFR1+MS
15100.000	90.000	359.943	10855.000	52.781	0.000	59.816	0.000	52.780	0.000	0.000	61.662	59.471	113.123	MWD+IFR1+MS
15200.000	90.000	359.943	10855.000	53.423	0.000	60.119	0.000	53.423	0.000	0.000	61.625	59.819	113.817	MWD+IFR1+MS
15300.000	90.000	359.943	10855.000	54.069	0.000	60.433	0.000	54.069	0.000	0.000	61.591	60.175	115.070	MWD+IFR1+MS
15400.000	90.000	359.943	10855.000	54.719	0.000	60.758	0.000	54.719	0.000	0.000	61.563	60.536	117.529	MWD+IFR1+MS
15500.000	90.000	359.943	10855.000	55.373	0.000	61.094	0.000	55.373	0.000	0.000	61.546	60.897	123.335	MWD+IFR1+MS
15600.000	90.000	359.943	10855.000	56.030	0.000	61.441	0.000	56.030	0.000	0.000	61.580	61.217	-38.365	MWD+IFR1+MS
15700.000	90.000	359.943	10855.000	56.690	0.000	61.799	0.000	56.690	0.000	0.000	61.805	61.357	-7.221	MWD+IFR1+MS
15800.000	90.000	359.943	10855.000	57.353	0.000	62.166	0.000	57.353	0.000	0.000	62.172	61.366	4.585	MWD+IFR1+MS
15900.000	90.000	359.943	10855.000	58.019	0.000	62.545	0.000	58.019	0.000	0.000	62.573	61.351	8.738	MWD+IFR1+MS
16000.000	90.000	359.943	10855.000	58.688	0.000	62.933	0.000	58.688	0.000	0.000	62.990	61.330	10.672	MWD+IFR1+MS
16100.000	90.000	359.943	10855.000	59.360	0.000	63.331	0.000	59.360	0.000	0.000	63.418	61.307	11.724	MWD+IFR1+MS
16200.000	90.000	359.943	10855.000	60.035	0.000	63.739	0.000	60.035	0.000	0.000	63.855	61.285	12.346	MWD+IFR1+MS
16300.000	90.000	359.943	10855.000	60.713	0.000	64.156	0.000	60.713	0.000	0.000	64.302	61.263	12.728	MWD+IFR1+MS

16400.000	90.000	359.943	10855.000	61.392	0.000	64.583	0.000	61.392	0.000	0.000	64.757	61.242	12.963	MWD+IFR1+MS
16500.000	90.000	359.943	10855.000	62.075	0.000	65.019	0.000	62.075	0.000	0.000	65.220	61.222	13.103	MWD+IFR1+MS
16600.000	90.000	359.943	10855.000	62.760	0.000	65.463	0.000	62.760	0.000	0.000	65.691	61.203	13.179	MWD+IFR1+MS
16700.000	90.000	359.943	10855.000	63.447	0.000	65.917	0.000	63.447	0.000	0.000	66.170	61.185	13.209	MWD+IFR1+MS
16800.000	90.000	359.943	10855.000	64.136	0.000	66.379	0.000	64.136	0.000	0.000	66.656	61.168	13.206	MWD+IFR1+MS
16900.000	90.000	359.943	10855.000	64.828	0.000	66.849	0.000	64.828	0.000	0.000	67.150	61.153	13.179	MWD+IFR1+MS
17000.000	90.000	359.943	10855.000	65.521	0.000	67.328	0.000	65.521	0.000	0.000	67.652	61.138	13.133	MWD+IFR1+MS
17100.000	90.000	359.943	10855.000	66.217	0.000	67.815	0.000	66.217	0.000	0.000	68.160	61.124	13.073	MWD+IFR1+MS
17200.000	90.000	359.943	10855.000	66.915	0.000	68.310	0.000	66.915	0.000	0.000	68.676	61.111	13.003	MWD+IFR1+MS
17300.000	90.000	359.943	10855.000	67.614	0.000	68.812	0.000	67.614	0.000	0.000	69.198	61.100	12.924	MWD+IFR1+MS
17400.000	90.000	359.943	10855.000	68.316	0.000	69.322	0.000	68.316	0.000	0.000	69.727	61.089	12.839	MWD+IFR1+MS
17500.000	90.000	359.943	10855.000	69.019	0.000	69.839	0.000	69.019	0.000	0.000	70.262	61.079	12.749	MWD+IFR1+MS
17600.000	90.000	359.943	10855.000	69.724	0.000	70.364	0.000	69.724	0.000	0.000	70.804	61.071	12.655	MWD+IFR1+MS
17700.000	90.000	359.943	10855.000	70.431	0.000	70.896	0.000	70.431	0.000	0.000	71.353	61.063	12.559	MWD+IFR1+MS
17800.000	90.000	359.943	10855.000	71.139	0.000	71.434	0.000	71.139	0.000	0.000	71.907	61.056	12.460	MWD+IFR1+MS
17900.000	90.000	359.943	10855.000	71.849	0.000	71.980	0.000	71.849	0.000	0.000	72.467	61.050	12.360	MWD+IFR1+MS
18000.000	90.000	359.943	10855.000	72.560	0.000	72.531	0.000	72.560	0.000	0.000	73.034	61.045	12.260	MWD+IFR1+MS
18100.000	90.000	359.943	10855.000	73.273	0.000	73.090	0.000	73.273	0.000	0.000	73.606	61.041	12.158	MWD+IFR1+MS
18200.000	90.000	359.943	10855.000	73.987	0.000	73.654	0.000	73.987	0.000	0.000	74.184	61.038	12.056	MWD+IFR1+MS
18300.000	90.000	359.943	10855.000	74.703	0.000	74.225	0.000	74.703	0.000	0.000	74.767	61.035	11.954	MWD+IFR1+MS
18400.000	90.000	359.943	10855.000	75.420	0.000	74.802	0.000	75.420	0.000	0.000	75.356	61.034	11.853	MWD+IFR1+MS
18500.000	90.000	359.943	10855.000	76.139	0.000	75.385	0.000	76.139	0.000	0.000	75.950	61.033	11.751	MWD+IFR1+MS
18600.000	90.000	359.943	10855.000	76.859	0.000	75.973	0.000	76.859	0.000	0.000	76.549	61.033	11.651	MWD+IFR1+MS
18700.000	90.000	359.943	10855.000	77.580	0.000	76.567	0.000	77.580	0.000	0.000	77.154	61.034	11.551	MWD+IFR1+MS
18800.000	90.000	359.943	10855.000	78.302	0.000	77.167	0.000	78.302	0.000	0.000	77.763	61.036	11.451	MWD+IFR1+MS
18900.000	90.000	359.943	10855.000	79.025	0.000	77.772	0.000	79.025	0.000	0.000	78.378	61.039	11.353	MWD+IFR1+MS
19000.000	90.000	359.943	10855.000	79.750	0.000	78.382	0.000	79.750	0.000	0.000	78.997	61.042	11.255	MWD+IFR1+MS
19100.000	90.000	359.943	10855.000	80.476	0.000	78.997	0.000	80.476	0.000	0.000	79.620	61.046	11.159	MWD+IFR1+MS
19200.000	90.000	359.943	10855.000	81.203	0.000	79.617	0.000	81.203	0.000	0.000	80.248	61.051	11.063	MWD+IFR1+MS
19300.000	90.000	359.943	10855.000	81.930	0.000	80.242	0.000	81.930	0.000	0.000	80.881	61.057	10.968	MWD+IFR1+MS
19400.000	90.000	359.943	10855.000	82.659	0.000	80.872	0.000	82.659	0.000	0.000	81.518	61.063	10.875	MWD+IFR1+MS
19500.000	90.000	359.943	10855.000	83.389	0.000	81.507	0.000	83.389	0.000	0.000	82.160	61.070	10.783	MWD+IFR1+MS
19600.000	90.000	359.943	10855.000	84.120	0.000	82.146	0.000	84.120	0.000	0.000	82.805	61.078	10.691	MWD+IFR1+MS

19700.000	90.000	359.943	10855.000	84.852	0.000	82.789	0.000	84.852	0.000	0.000	83.455	61.086	10.601	MWD+IFR1+MS
19800.000	90.000	359.943	10855.000	85.585	0.000	83.437	0.000	85.585	0.000	0.000	84.108	61.096	10.512	MWD+IFR1+MS
19900.000	90.000	359.943	10855.000	86.319	0.000	84.089	0.000	86.319	0.000	0.000	84.766	61.105	10.424	MWD+IFR1+MS
20000.000	90.000	359.943	10855.000	87.054	0.000	84.746	0.000	87.054	0.000	0.000	85.427	61.116	10.338	MWD+IFR1+MS
20100.000	90.000	359.943	10855.000	87.789	0.000	85.406	0.000	87.789	0.000	0.000	86.092	61.127	10.252	MWD+IFR1+MS
20200.000	90.000	359.943	10855.000	88.525	0.000	86.070	0.000	88.525	0.000	0.000	86.761	61.139	10.168	MWD+IFR1+MS
20300.000	90.000	359.943	10855.000	89.263	0.000	86.738	0.000	89.263	0.000	0.000	87.433	61.152	10.084	MWD+IFR1+MS
20400.000	90.000	359.943	10855.000	90.001	0.000	87.410	0.000	90.001	0.000	0.000	88.109	61.165	10.002	MWD+IFR1+MS
20500.000	90.000	359.943	10855.000	90.739	0.000	88.085	0.000	90.739	0.000	0.000	88.788	61.179	9.921	MWD+IFR1+MS
20600.000	90.000	359.943	10855.000	91.479	0.000	88.765	0.000	91.479	0.000	0.000	89.471	61.194	9.841	MWD+IFR1+MS
20700.000	90.000	359.943	10855.000	92.219	0.000	89.447	0.000	92.219	0.000	0.000	90.157	61.209	9.762	MWD+IFR1+MS
20800.000	90.000	359.943	10855.000	92.960	0.000	90.133	0.000	92.960	0.000	0.000	90.846	61.225	9.684	MWD+IFR1+MS
20900.000	90.000	359.943	10855.000	93.702	0.000	90.823	0.000	93.702	0.000	0.000	91.538	61.242	9.607	MWD+IFR1+MS
21000.000	90.000	359.943	10855.000	94.445	0.000	91.515	0.000	94.445	0.000	0.000	92.233	61.259	9.531	MWD+IFR1+MS
21100.000	90.000	359.943	10855.000	95.188	0.000	92.211	0.000	95.188	0.000	0.000	92.932	61.276	9.457	MWD+IFR1+MS
21200.000	90.000	359.943	10855.000	95.931	0.000	92.910	0.000	95.931	0.000	0.000	93.633	61.295	9.383	MWD+IFR1+MS
21300.000	90.000	359.943	10855.000	96.676	0.000	93.613	0.000	96.676	0.000	0.000	94.337	61.314	9.310	MWD+IFR1+MS
21400.000	90.000	359.943	10855.000	97.421	0.000	94.318	0.000	97.421	0.000	0.000	95.044	61.333	9.238	MWD+IFR1+MS
21500.000	90.000	359.943	10855.000	98.167	0.000	95.026	0.000	98.167	0.000	0.000	95.754	61.353	9.168	MWD+IFR1+MS
21600.000	90.000	359.943	10855.000	98.913	0.000	95.737	0.000	98.913	0.000	0.000	96.466	61.374	9.098	MWD+IFR1+MS
21700.000	90.000	359.943	10855.000	99.660	0.000	96.451	0.000	99.660	0.000	0.000	97.181	61.395	9.029	MWD+IFR1+MS
21800.000	90.000	359.943	10855.000	100.407	0.000	97.167	0.000	100.407	0.000	0.000	97.899	61.417	8.961	MWD+IFR1+MS
21900.000	90.000	359.943	10855.000	101.155	0.000	97.886	0.000	101.155	0.000	0.000	98.619	61.440	8.894	MWD+IFR1+MS
22000.000	90.000	359.943	10855.000	101.904	0.000	98.608	0.000	101.904	0.000	0.000	99.342	61.463	8.828	MWD+IFR1+MS
22100.000	90.000	359.943	10855.000	102.653	0.000	99.332	0.000	102.653	0.000	0.000	100.067	61.487	8.763	MWD+IFR1+MS
22200.000	90.000	359.943	10855.000	103.403	0.000	100.059	0.000	103.403	0.000	0.000	100.795	61.511	8.698	MWD+IFR1+MS
22300.000	90.000	359.943	10855.000	104.153	0.000	100.789	0.000	104.153	0.000	0.000	101.525	61.535	8.635	MWD+IFR1+MS
22400.000	90.000	359.943	10855.000	104.903	0.000	101.520	0.000	104.903	0.000	0.000	102.257	61.561	8.572	MWD+IFR1+MS
22483.904	90.000	359.943	10855.000	105.533	0.000	102.135	0.000	105.533	0.000	0.000	102.872	61.582	8.520	MWD+IFR1+MS
22500.000	90.000	359.943	10855.000	105.654	0.000	102.253	0.000	105.654	0.000	0.000	102.990	61.587	8.511	MWD+IFR1+MS
22582.645	90.000	359.943	10855.000	106.274	0.000	102.860	0.000	106.274	0.000	0.000	103.597	61.608	8.460	MWD+IFR1+MS

Plan Targets

PLU 30-19 BS 156H_1.0

Target Name	Measured Depth (ft)	Grid Northing (ft)	Grid Easting (ft)	TVD MSL (ft)	Target Shape
LTP	21651.65	411453.30	666662.00	7444.00	CIRCLE
BHL	21750.55	411552.30	666661.40	7444.00	CIRCLE
FTP	13051.14	401475.20	666671.90	7444.00	CIRCLE

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

XTO Energy Inc.
POKER LAKE UNIT 30-19 BS 156H
Projected TD: 22582.64' MD / 10855' TVD
SHL: 541' FNL & 242' FEL , Section 30, T25S, R31E
BHL: 2665' FSL & 1185' FEL , Section 17, 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	803'	Water
Top of Salt	1170'	Water
Base of Salt	4016'	Water
Delaware	4211'	Water
Brushy Canyon	6842'	Water/Oil/Gas
Bone Spring	8145'	Water
1st Bone Spring	8967'	Water/Oil/Gas
2nd Bone Spring	9578'	Water/Oil/Gas
3rd Bone Spring	10256'	Water/Oil/Gas
Target/Land Curve	10855'	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 9.625 inch casing @ 903' (267' 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 11008.01' and cemented to surface. A 6.75 inch curve and 6.75 inch lateral hole will be drilled to 22582.64 MD/TD and 5.5 inch production casing will be set at TD and cemented back up in the intermediate shoe (estimated TOC 10708.01 feet).

3. Casing Design

Hole Size	Depth	OD Csg	Weight	Grade	Collar	New/Used	SF Burst	SF Collapse	SF Tension
12.25	0' – 903'	9.625	40	J-55	BTC	New	1.16	6.97	17.44
8.75	0' – 4000'	7.625	29.7	RY P-110	Flush Joint	New	2.03	2.52	1.71
8.75	4000' – 11008.01'	7.625	29.7	HC L-80	Flush Joint	New	1.47	1.67	1.95
6.75	0' – 10908.01'	5.5	20	RY P-110	Semi-Premium	New	1.26	1.57	2.00
6.75	10908.01' - 22582.64'	5.5	20	RY P-110	Semi-Flush	New	1.26	1.57	2.00

- 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 +/- 903'

Lead: 200 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 +/- 11008.01'

1st Stage

Optional Lead: 370 sxs Class C (mixed at 10.5 ppg, 2.77 ft³/sx, 15.59 gal/sx water)

TOC: Surface

Tail: 380 sxs Class C (mixed at 14.8 ppg, 1.35 ft³/sx, 6.39 gal/sx water)

TOC: Brushy Canyon @ 6842

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: 770 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 (6842') 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 +/- 22582.64'

Lead: 20 sxs NeoCem (mixed at 11.5 ppg, 2.69 ft³/sx, 15.00 gal/sx water) Top of Cement: 10708.01 feet

Tail: 810 sxs VersaCem (mixed at 13.2 ppg, 1.51 ft³/sx, 8.38 gal/sx water) Top of Cement: 11208.01 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 4668 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' - 903'	12.25	FW/Native	8.4-8.9	35-40	NC
903' - 11008.01'	8.75	FW / Cut Brine / Direct Emulsion	10.2-10.7	30-32	NC
11008.01' - 22582.64'	6.75	OBM	12.5-13	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 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.

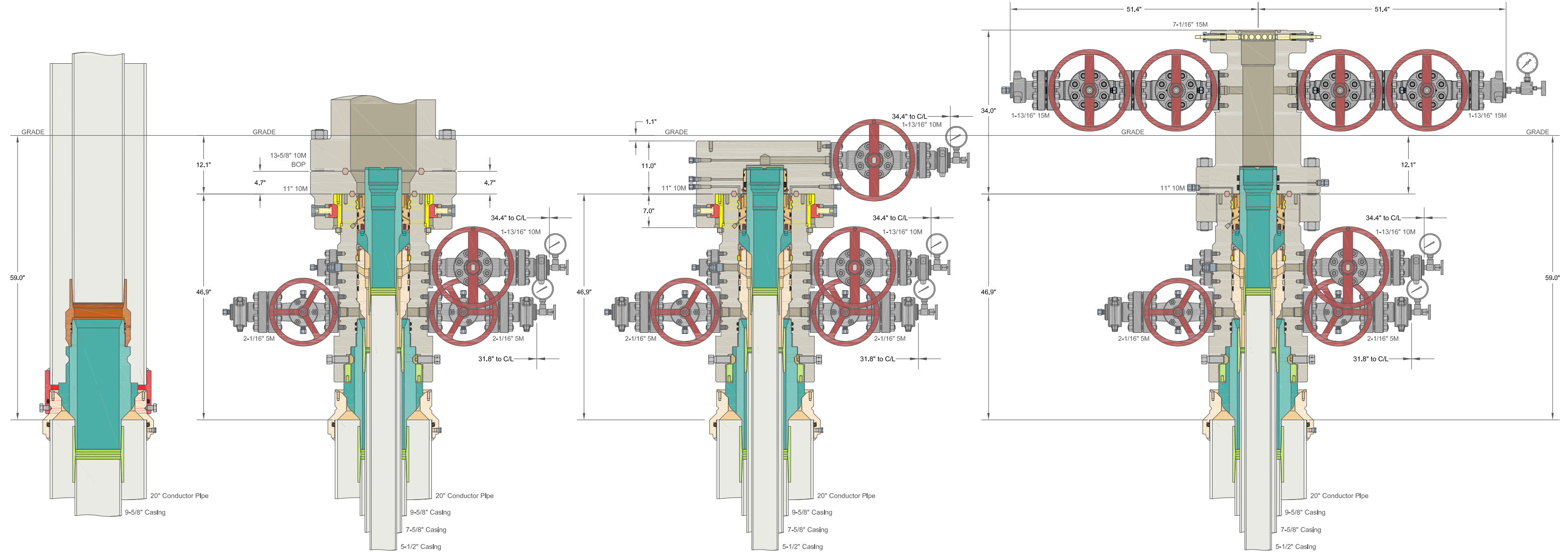
9. Abnormal Pressures and Temperatures / Potential Hazards

None Anticipated. BHT of 175 to 195 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 7056 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.

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ALL DIMENSIONS APPROXIMATE			
CACTUS WELLHEAD LLC		XTO ENERGY INC DELAWARE BASIN	
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		DRAWN	VJK
		APPRV	31MAR22
		DRAWING NO.	HBE0000479

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

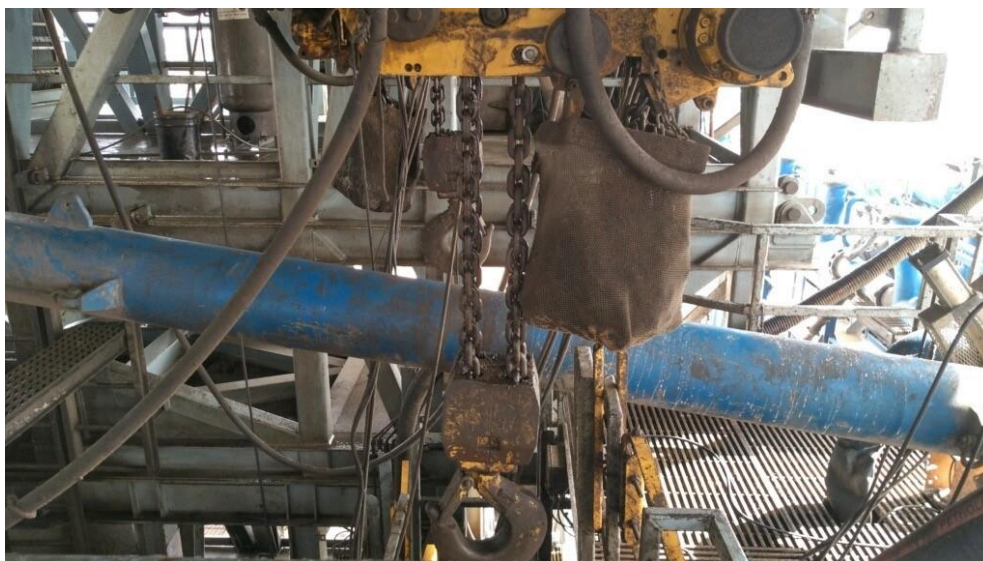


Figure 2: BOP Winch System

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 ^{a,c} psig (MPa)	Pressure Test—High Pressure ^{a,c}	
		Change Out of Component, Elastomer, or Ring Gasket	No Change Out of Component, Elastomer, or Ring Gasket
Annular preventer ^b	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 ^{b,d}	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 ^a	250 to 350 (1.72 to 2.41)	RWP of ram preventers or wellhead system, whichever is lower	ITP
Choke manifold—downstream of chokes ^a	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	

^a 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.

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

^c 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.

^d 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.

^e 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

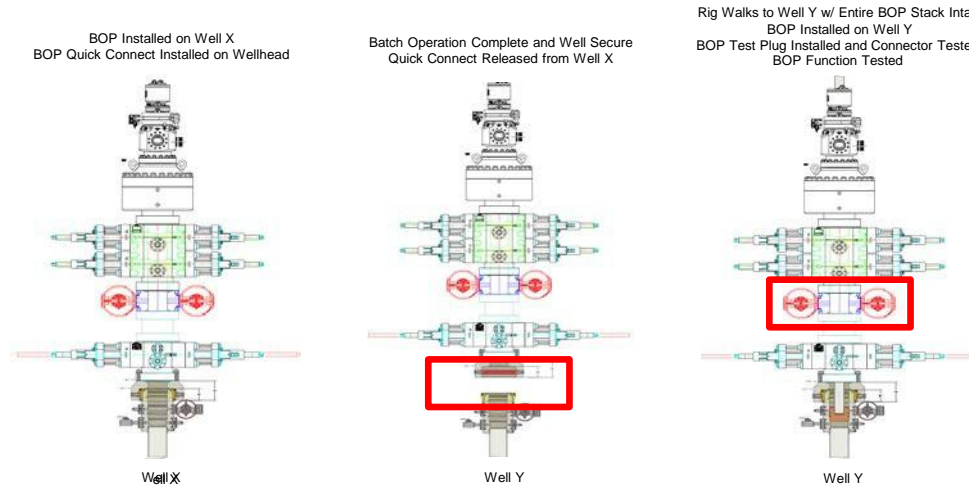
each BOP nipple up, XTO Energy performs a choke drill with the rig crew prior to drilling out every casing shoe. This is additional training for the rig crew that exceeds the requirements of the CFR Title 43 Part 3170.

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.

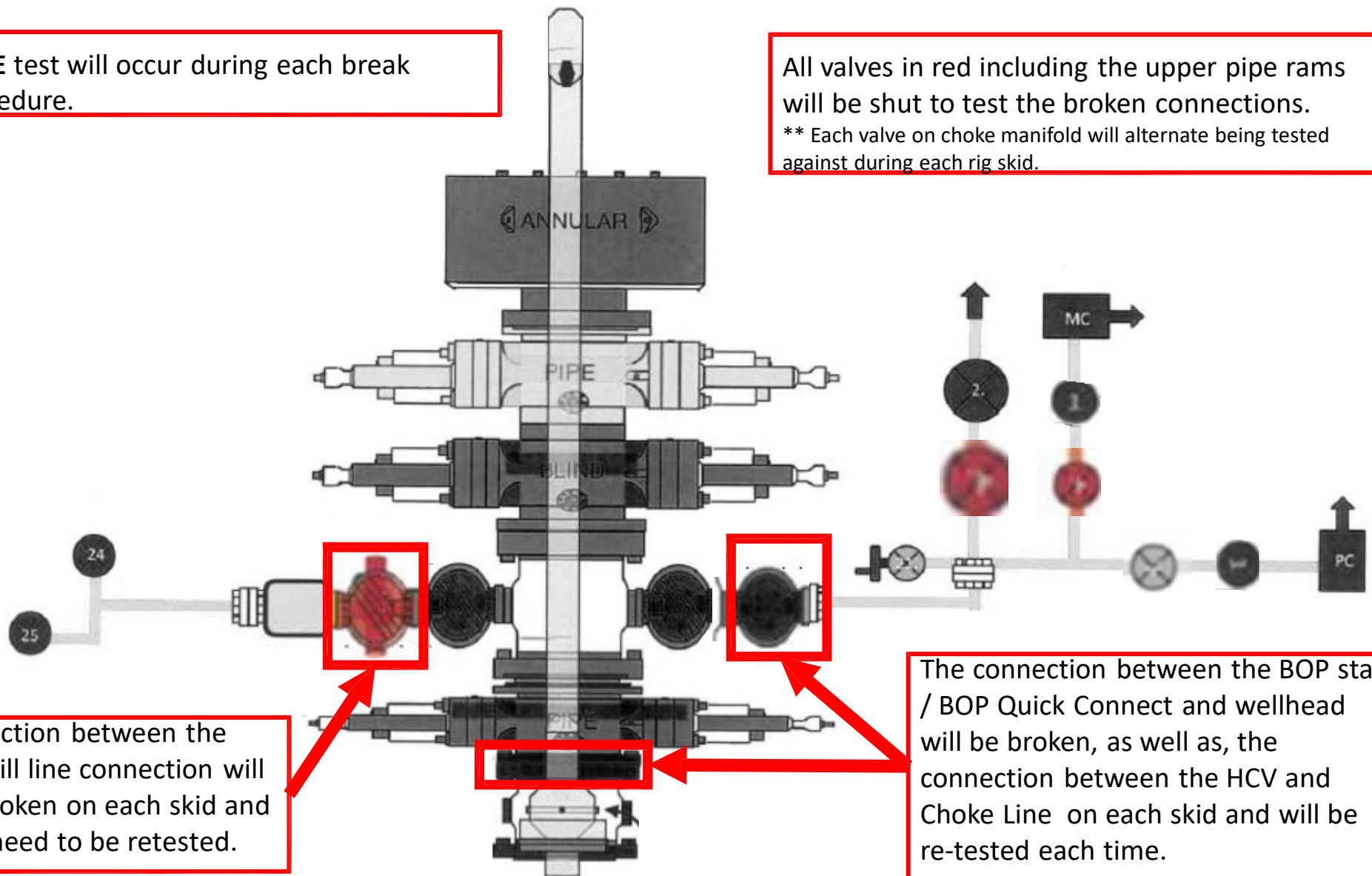
The BOP will be secured by a hydraulic carrier or cradle. The BLM will be contacted if a Well Control event occurs prior to the commencement of a BOPE Break Testing operation.

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.

XTO respectfully requests approval to utilize a spudder rig to pre-set surface casing.

Description of Operations:

1. Spudder rig will move in to drill the surface hole and pre-set surface casing on the well.
 - a. After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
 - b. The spudder rig will utilize fresh water-based mud to drill the surface hole to TD. Solids control will be handled entirely on a closed loop basis. No earth pits will be used.
2. The wellhead will be installed and tested as soon as the surface casing is cut off and WOC time has been reached.
3. A blind flange at the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on two wing valves.
 - a. A means for intervention will be maintained while the drilling rig is not over the well.
4. Spudder rig operations are expected to take 2-3 days per well on the pad.
5. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.
6. Drilling Operations will begin with a larger rig and a BOP stack equal to or greater than the pressure rating that was permitted will be nipped up and tested on the wellhead before drilling operations resume on each well.
 - a. The larger rig will move back onto the location within 180 days from the point at which the wells are secured and the spudder rig is moved off location.
 - b. The BLM will be notified 24 hours before the larger rig moves back on the pre-set locations
7. XTO will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.
8. Once the rig is removed, XTO will secure the wellhead area by placing a guard rail around the cellar area.

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1000 Rio Brazos Rd., Aztec, NM 87410
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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 311362

CONDITIONS

Operator: XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	OGRID: 373075
	Action Number: 311362
	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.	2/22/2024