

Well Name: POKER LAKE UNIT 19 DTD	Well Location: T24S / R30E / SEC 19 / NWNE /	County or Parish/State:
Well Number: 411H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM002860	Unit or CA Name:	Unit or CA Number: NMNM71016X
US Well Number:	Well Status: Approved Application for Permit to Drill	Operator: XTO PERMIAN OPERATING LLC

Notice of Intent

Sundry ID: 2780162

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

Date Sundry Submitted: 03/18/2024      Time Sundry Submitted: 07:22

Date proposed operation will begin: 04/18/2024

**Procedure Description:** POKER LAKE UNIT 19 DTD 411H Sundry Language XTO Permian Operating, LLC. respectfully requests approval to make the following changes to the approved APD. Changes to include SHL, FTP, LTP, BHL, casing sizes, cement, and proposed total depth. FROM: TO: SHL: 197' FNL & 1596' FEL of Section 19-T24S-R30E 272' FNL & 1596' FEL of Section 19-T24S-R30E FTP: 100' FSL & 650' FEL of Section 18-T24S-R30E 100' FNL & 815' FEL of Section 19-T24S-R30E LTP: 1830' FNL & 650' FEL of Section 7-T24S-R30E 330' FSL & 828' FEL of Section 31-T24S-R30E BHL: 2440' FSL & 330' FEL of Section 7-T24S-R30E 230' FSL & 828' FEL of Section 31-T24S-R30E Proposed total depth will change from 18349' MD; 9168' TVD (Wolfcamp) to 25900' MD; TVD 10605' (Wolfcamp). See attached Drilling Plan for updated cement and casing program. Attachments: C-102, Drilling Plan, Directional Drilling Plan, MBS, BOP Variance, Well Control Plan

NOI Attachments

Procedure Description

PLU\_19\_DTD\_411H\_BLM\_APD\_Change\_Sundry\_Attachments\_20240327200439.pdf

Well Name: POKER LAKE UNIT 19  
DTD

Well Location: T24S / R30E / SEC 19 /  
NWNE /

County or Parish/State:

Well Number: 411H

Type of Well: OIL WELL

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Lease Number: NMNM002860

Unit or CA Name:

Unit or CA Number:  
NMNM71016X

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Well Status: Approved Application for  
Permit to Drill

Operator: XTO PERMIAN  
OPERATING LLC

Conditions of Approval

Additional

Sec19\_24S\_30E\_NMP\_Sundry\_2780162\_Poker\_Lake\_Unit\_19\_DTD\_411H\_COAs\_20240408094049.pdf

Operator

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

Operator Electronic Signature: RICHARD REDUS

Signed on: MAR 27, 2024 08:04 PM

Name: XTO PERMIAN OPERATING LLC

Title: Permitting Manager

Street Address: 22777 SPRINGWOODS VILLAGE PARKWAY

City: SPRING

State: TX

Phone: (720) 539-1673

Email address: RICHARD.L.REDUS@EXXONMOBIL.COM

Field

Representative Name:

Street Address:

City:

State:

Zip:

Phone:

Email address:

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5752342234

BLM POC Email Address: cwalls@blm.gov

Disposition: Approved

Disposition Date: 04/10/2024

Signature: Chris Walls

Form 3160-5  
(June 2019)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

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

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

5. Lease Serial No.	
6. If Indian, Allottee or Tribe Name	
7. If Unit of CA/Agreement, Name and/or No.	
8. Well Name and No.	
9. API Well No.	
10. Field and Pool or Exploratory Area	11. Country or Parish, State

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

Proposed total depth will change from 18349 MD; 9168 TVD (Wolfcamp) to 25900 MD; TVD 10605 (Wolfcamp).

See attached Drilling Plan for updated cement and casing program.

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

### Location of Well

0. SHL: NWNE / 197 FNL / 1596 FEL / TWSP: 24S / RANGE: 30E / SECTION: 19 / LAT: 32.209764 / LONG: -103.917368 ( TVD: 0 feet, MD: 0 feet )

PPP: SESE / 100 FSL / 650 FEL / TWSP: 24S / RANGE: 30E / SECTION: 18 / LAT: 32.210612 / LONG: -103.914312 ( TVD: 9168 feet, MD: 9600 feet )

BHL: SENE / 2440 FSL / 330 FEL / TWSP: 24S / RANGE: 30E / SECTION: 7 / LAT: 32.234763 / LONG: -103.914265 ( TVD: 9168 feet, MD: 18349 feet )

## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	XTO Permian Operating LLC
<b>WELL NAME &amp; NO.:</b>	Poker Lake Unit 19 DTD 411H
<b>LOCATION:</b>	Sec 19-24S-30E-NMP
<b>COUNTY:</b>	Eddy County, New Mexico

*Changes approved through engineering via **Sundry 2780162** on 04/08/2024. Any previous COAs not addressed within the updated COAs still apply.*

### COA

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

### A. HYDROGEN SULFIDE

Hydrogen Sulfide (H<sub>2</sub>S) monitors shall be installed prior to drilling out the surface shoe. If H<sub>2</sub>S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet 43 CFR 3176 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

### B. CASING

1. The **9-5/8** inch surface casing shall be set at approximately 430 feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface. ***Set depth adjusted per BLM geologist.***
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead

cement)

- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
- d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**

❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

**Operator has proposed to pump down 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** (due to not meeting 0.422" clearance requirement) into previous casing string. Operator shall provide method of verification. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**

## **C. PRESSURE CONTROL**

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
2. Operator has proposed a multi-bowl wellhead assembly. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 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.

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

RP 618.013003.05-59

# Well Plan Report - Poker Lake Unit 19 DTD South 411H

Measured Depth: 25899.65 ft

TVD RKB: 10605.00 ft

## Location

Cartographic Reference System: New Mexico East - NAD 27

Northing: 440160.90 ft

Easting: 628804.80 ft

RKB: 3204.00 ft

Ground Level: 3172.00 ft

North Reference: Grid

Convergence Angle: 0.22 Deg

## Plan Sections

Poker Lake Unit 19 DTD South 411H

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
1541.41	8.83	76.68	1539.67	7.82	33.03	2.00	0.00	2.00
6318.67	8.83	76.68	6260.33	176.78	746.47	0.00	0.00	0.00
6760.09	0.00	0.00	6700.00	184.60	779.50	-2.00	0.00	2.00
9948.89	0.00	0.00	9888.80	184.60	779.50	0.00	0.00	0.00
11073.89	90.00	179.72	10605.00	-531.59	782.97	8.00	0.00	8.00
25799.63	90.00	179.72	10605.00	-15257.16	854.42	0.00	0.00	0.00 LTP 27
25899.65	90.00	179.72	10605.00	-15357.18	854.91	0.00	0.00	0.00 BHL 27

## Position Uncertainty

Poker Lake Unit 19 DTD South 411H

Measured	TVD	Highside	Lateral	Vertical	Magnitude	Semi-major	Semi-minor	Semi-minor	Tool
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Depth	Inclination	Azimuth	RKB	Error	Bias	Error	Bias	Error	Bias	of Bias	Error	Error	Azimuth	Used
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	MWD+IFR1+MS
100.000	0.000	0.000	100.000	0.700	0.000	0.350	0.000	2.300	0.000	0.000	0.751	0.220	112.264	MWD+IFR1+MS
200.000	0.000	0.000	200.000	1.112	0.000	0.861	0.000	2.309	0.000	0.000	1.259	0.627	122.711	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	2.346	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	2.373	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	2.405	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	2.441	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	2.483	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	2.528	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	2.577	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	2.630	0.000	0.000	4.752	3.849	128.859	MWD+IFR1+MS
1200.000	2.000	76.677	1199.980	4.975	0.000	4.542	0.000	2.686	0.000	0.000	5.189	4.299	-43.629	MWD+IFR1+MS
1300.000	4.000	76.677	1299.838	5.752	0.000	4.908	0.000	2.745	0.000	0.000	5.809	4.852	-26.792	MWD+IFR1+MS
1400.000	6.000	76.677	1399.452	6.449	0.000	5.274	0.000	2.810	0.000	0.000	6.473	5.268	-17.197	MWD+IFR1+MS
1500.000	8.000	76.677	1498.702	7.088	0.000	5.639	0.000	2.883	0.000	0.000	7.121	5.639	-12.133	MWD+IFR1+MS
1541.412	8.828	76.677	1539.668	7.216	0.000	5.780	0.000	2.907	0.000	0.000	7.261	5.779	-11.864	MWD+IFR1+MS
1600.000	8.828	76.677	1597.561	7.379	0.000	5.980	0.000	2.946	0.000	0.000	7.422	5.979	-11.756	MWD+IFR1+MS
1700.000	8.828	76.677	1696.377	7.661	0.000	6.338	0.000	3.019	0.000	0.000	7.702	6.336	-11.231	MWD+IFR1+MS
1800.000	8.828	76.677	1795.192	7.959	0.000	6.707	0.000	3.095	0.000	0.000	7.998	6.703	-10.310	MWD+IFR1+MS
1900.000	8.828	76.677	1894.007	8.263	0.000	7.076	0.000	3.174	0.000	0.000	8.301	7.070	-9.387	MWD+IFR1+MS
2000.000	8.828	76.677	1992.822	8.573	0.000	7.446	0.000	3.256	0.000	0.000	8.610	7.437	-8.462	MWD+IFR1+MS
2100.000	8.828	76.677	2091.638	8.888	0.000	7.816	0.000	3.340	0.000	0.000	8.923	7.804	-7.539	MWD+IFR1+MS
2200.000	8.828	76.677	2190.453	9.208	0.000	8.186	0.000	3.426	0.000	0.000	9.242	8.170	-6.619	MWD+IFR1+MS
2300.000	8.828	76.677	2289.268	9.531	0.000	8.556	0.000	3.514	0.000	0.000	9.565	8.537	-5.702	MWD+IFR1+MS
2400.000	8.828	76.677	2388.084	9.858	0.000	8.926	0.000	3.604	0.000	0.000	9.891	8.903	-4.791	MWD+IFR1+MS
2500.000	8.828	76.677	2486.899	10.189	0.000	9.296	0.000	3.696	0.000	0.000	10.221	9.269	-3.887	MWD+IFR1+MS
2600.000	8.828	76.677	2585.714	10.522	0.000	9.666	0.000	3.790	0.000	0.000	10.554	9.635	-2.992	MWD+IFR1+MS
2700.000	8.828	76.677	2684.529	10.858	0.000	10.037	0.000	3.886	0.000	0.000	10.890	10.002	-2.106	MWD+IFR1+MS
2800.000	8.828	76.677	2783.345	11.197	0.000	10.407	0.000	3.984	0.000	0.000	11.229	10.368	-1.231	MWD+IFR1+MS
2900.000	8.828	76.677	2882.160	11.537	0.000	10.778	0.000	4.083	0.000	0.000	11.569	10.734	-0.368	MWD+IFR1+MS



3000.000	8.828	76.677	2980.975	11.880	0.000	11.148	0.000	4.184	0.000	0.000	11.912	11.101	0.482	MWD+IFR1+MS
3100.000	8.828	76.677	3079.791	12.225	0.000	11.519	0.000	4.286	0.000	0.000	12.257	11.467	1.318	MWD+IFR1+MS
3200.000	8.828	76.677	3178.606	12.571	0.000	11.890	0.000	4.390	0.000	0.000	12.603	11.833	2.139	MWD+IFR1+MS
3300.000	8.828	76.677	3277.421	12.919	0.000	12.260	0.000	4.495	0.000	0.000	12.951	12.200	2.945	MWD+IFR1+MS
3400.000	8.828	76.677	3376.236	13.268	0.000	12.631	0.000	4.602	0.000	0.000	13.300	12.566	3.736	MWD+IFR1+MS
3500.000	8.828	76.677	3475.052	13.619	0.000	13.002	0.000	4.711	0.000	0.000	13.651	12.933	4.510	MWD+IFR1+MS
3600.000	8.828	76.677	3573.867	13.971	0.000	13.373	0.000	4.821	0.000	0.000	14.003	13.300	5.268	MWD+IFR1+MS
3700.000	8.828	76.677	3672.682	14.324	0.000	13.744	0.000	4.932	0.000	0.000	14.356	13.666	6.010	MWD+IFR1+MS
3800.000	8.828	76.677	3771.498	14.678	0.000	14.114	0.000	5.045	0.000	0.000	14.710	14.033	6.734	MWD+IFR1+MS
3900.000	8.828	76.677	3870.313	15.034	0.000	14.485	0.000	5.160	0.000	0.000	15.065	14.400	7.442	MWD+IFR1+MS
4000.000	8.828	76.677	3969.128	15.390	0.000	14.856	0.000	5.276	0.000	0.000	15.421	14.767	8.132	MWD+IFR1+MS
4100.000	8.828	76.677	4067.943	15.747	0.000	15.227	0.000	5.394	0.000	0.000	15.778	15.134	8.806	MWD+IFR1+MS
4200.000	8.828	76.677	4166.759	16.105	0.000	15.598	0.000	5.513	0.000	0.000	16.135	15.501	9.463	MWD+IFR1+MS
4300.000	8.828	76.677	4265.574	16.463	0.000	15.969	0.000	5.634	0.000	0.000	16.493	15.869	10.104	MWD+IFR1+MS
4400.000	8.828	76.677	4364.389	16.822	0.000	16.340	0.000	5.757	0.000	0.000	16.852	16.236	10.729	MWD+IFR1+MS
4500.000	8.828	76.677	4463.205	17.182	0.000	16.711	0.000	5.881	0.000	0.000	17.211	16.604	11.337	MWD+IFR1+MS
4600.000	8.828	76.677	4562.020	17.543	0.000	17.082	0.000	6.007	0.000	0.000	17.571	16.971	11.930	MWD+IFR1+MS
4700.000	8.828	76.677	4660.835	17.904	0.000	17.453	0.000	6.134	0.000	0.000	17.931	17.339	12.508	MWD+IFR1+MS
4800.000	8.828	76.677	4759.650	18.266	0.000	17.824	0.000	6.264	0.000	0.000	18.292	17.707	13.071	MWD+IFR1+MS
4900.000	8.828	76.677	4858.466	18.628	0.000	18.195	0.000	6.395	0.000	0.000	18.653	18.075	13.619	MWD+IFR1+MS
5000.000	8.828	76.677	4957.281	18.990	0.000	18.566	0.000	6.527	0.000	0.000	19.015	18.443	14.152	MWD+IFR1+MS
5100.000	8.828	76.677	5056.096	19.353	0.000	18.937	0.000	6.662	0.000	0.000	19.377	18.811	14.672	MWD+IFR1+MS
5200.000	8.828	76.677	5154.912	19.717	0.000	19.309	0.000	6.798	0.000	0.000	19.739	19.180	15.178	MWD+IFR1+MS
5300.000	8.828	76.677	5253.727	20.081	0.000	19.680	0.000	6.937	0.000	0.000	20.102	19.548	15.671	MWD+IFR1+MS
5400.000	8.828	76.677	5352.542	20.445	0.000	20.051	0.000	7.077	0.000	0.000	20.465	19.917	16.152	MWD+IFR1+MS
5500.000	8.828	76.677	5451.357	20.810	0.000	20.422	0.000	7.219	0.000	0.000	20.828	20.285	16.620	MWD+IFR1+MS
5600.000	8.828	76.677	5550.173	21.175	0.000	20.793	0.000	7.363	0.000	0.000	21.192	20.654	17.076	MWD+IFR1+MS
5700.000	8.828	76.677	5648.988	21.540	0.000	21.164	0.000	7.509	0.000	0.000	21.556	21.023	17.520	MWD+IFR1+MS
5800.000	8.828	76.677	5747.803	21.906	0.000	21.535	0.000	7.657	0.000	0.000	21.920	21.392	17.954	MWD+IFR1+MS
5900.000	8.828	76.677	5846.619	22.272	0.000	21.906	0.000	7.807	0.000	0.000	22.284	21.761	18.376	MWD+IFR1+MS
6000.000	8.828	76.677	5945.434	22.638	0.000	22.278	0.000	7.959	0.000	0.000	22.649	22.130	18.788	MWD+IFR1+MS
6100.000	8.828	76.677	6044.249	23.005	0.000	22.649	0.000	8.113	0.000	0.000	23.014	22.499	19.189	MWD+IFR1+MS
6200.000	8.828	76.677	6143.064	23.372	0.000	23.020	0.000	8.270	0.000	0.000	23.379	22.868	19.581	MWD+IFR1+MS

6300.000	8.828	76.677	6241.880	23.739	0.000	23.391	0.000	8.428	0.000	0.000	23.744	23.238	19.963	MWD+IFR1+MS
6318.674	8.828	76.677	6260.332	23.806	0.000	23.459	0.000	8.458	0.000	0.000	23.809	23.306	19.971	MWD+IFR1+MS
6400.000	7.202	76.677	6340.861	24.121	0.000	23.754	0.000	8.589	0.000	0.000	24.107	23.606	19.534	MWD+IFR1+MS
6500.000	5.202	76.677	6440.271	24.554	0.000	24.118	0.000	8.751	0.000	0.000	24.541	23.976	16.610	MWD+IFR1+MS
6600.000	3.202	76.677	6539.997	24.971	0.000	24.477	0.000	8.910	0.000	0.000	24.990	24.339	13.950	MWD+IFR1+MS
6700.000	1.202	76.677	6639.918	25.352	0.000	24.830	0.000	9.066	0.000	0.000	25.434	24.693	11.997	MWD+IFR1+MS
6760.086	0.000	0.000	6700.000	24.934	0.000	25.612	0.000	9.158	0.000	0.000	25.640	24.905	11.401	MWD+IFR1+MS
6800.000	0.000	0.000	6739.914	25.071	0.000	25.739	0.000	9.219	0.000	0.000	25.768	25.042	11.440	MWD+IFR1+MS
6900.000	0.000	0.000	6839.914	25.412	0.000	26.063	0.000	9.374	0.000	0.000	26.090	25.384	11.355	MWD+IFR1+MS
7000.000	0.000	0.000	6939.914	25.757	0.000	26.392	0.000	9.532	0.000	0.000	26.416	25.732	10.994	MWD+IFR1+MS
7100.000	0.000	0.000	7039.914	26.103	0.000	26.721	0.000	9.692	0.000	0.000	26.743	26.080	10.619	MWD+IFR1+MS
7200.000	0.000	0.000	7139.914	26.448	0.000	27.051	0.000	9.855	0.000	0.000	27.071	26.428	10.230	MWD+IFR1+MS
7300.000	0.000	0.000	7239.914	26.795	0.000	27.381	0.000	10.021	0.000	0.000	27.399	26.776	9.826	MWD+IFR1+MS
7400.000	0.000	0.000	7339.914	27.141	0.000	27.713	0.000	10.190	0.000	0.000	27.729	27.125	9.407	MWD+IFR1+MS
7500.000	0.000	0.000	7439.914	27.488	0.000	28.045	0.000	10.361	0.000	0.000	28.059	27.474	8.972	MWD+IFR1+MS
7600.000	0.000	0.000	7539.914	27.835	0.000	28.377	0.000	10.536	0.000	0.000	28.389	27.822	8.519	MWD+IFR1+MS
7700.000	0.000	0.000	7639.914	28.182	0.000	28.710	0.000	10.713	0.000	0.000	28.721	28.171	8.049	MWD+IFR1+MS
7800.000	0.000	0.000	7739.914	28.530	0.000	29.044	0.000	10.893	0.000	0.000	29.053	28.521	7.560	MWD+IFR1+MS
7900.000	0.000	0.000	7839.914	28.878	0.000	29.379	0.000	11.076	0.000	0.000	29.386	28.870	7.052	MWD+IFR1+MS
8000.000	0.000	0.000	7939.914	29.226	0.000	29.714	0.000	11.262	0.000	0.000	29.720	29.220	6.524	MWD+IFR1+MS
8100.000	0.000	0.000	8039.914	29.574	0.000	30.049	0.000	11.450	0.000	0.000	30.054	29.569	5.975	MWD+IFR1+MS
8200.000	0.000	0.000	8139.914	29.923	0.000	30.385	0.000	11.642	0.000	0.000	30.389	29.919	5.403	MWD+IFR1+MS
8300.000	0.000	0.000	8239.914	30.272	0.000	30.722	0.000	11.836	0.000	0.000	30.725	30.269	4.809	MWD+IFR1+MS
8400.000	0.000	0.000	8339.914	30.621	0.000	31.059	0.000	12.034	0.000	0.000	31.061	30.619	4.192	MWD+IFR1+MS
8500.000	0.000	0.000	8439.914	30.970	0.000	31.396	0.000	12.234	0.000	0.000	31.398	30.969	3.550	MWD+IFR1+MS
8600.000	0.000	0.000	8539.914	31.320	0.000	31.734	0.000	12.438	0.000	0.000	31.735	31.319	2.883	MWD+IFR1+MS
8700.000	0.000	0.000	8639.914	31.670	0.000	32.072	0.000	12.644	0.000	0.000	32.073	31.669	2.190	MWD+IFR1+MS
8800.000	0.000	0.000	8739.914	32.020	0.000	32.411	0.000	12.853	0.000	0.000	32.412	32.019	1.470	MWD+IFR1+MS
8900.000	0.000	0.000	8839.914	32.370	0.000	32.751	0.000	13.065	0.000	0.000	32.751	32.370	0.723	MWD+IFR1+MS
9000.000	0.000	0.000	8939.914	32.720	0.000	33.090	0.000	13.281	0.000	0.000	33.090	32.720	-0.052	MWD+IFR1+MS
9100.000	0.000	0.000	9039.914	33.070	0.000	33.430	0.000	13.499	0.000	0.000	33.430	33.070	-0.855	MWD+IFR1+MS
9200.000	0.000	0.000	9139.914	33.421	0.000	33.771	0.000	13.720	0.000	0.000	33.771	33.421	-1.686	MWD+IFR1+MS
9300.000	0.000	0.000	9239.914	33.772	0.000	34.112	0.000	13.945	0.000	0.000	34.112	33.771	-2.546	MWD+IFR1+MS

9400.000	0.000	0.000	9339.914	34.123	0.000	34.453	0.000	14.172	0.000	0.000	34.454	34.122	-3.434	MWD+IFR1+MS
9500.000	0.000	0.000	9439.914	34.474	0.000	34.794	0.000	14.402	0.000	0.000	34.796	34.472	-4.350	MWD+IFR1+MS
9600.000	0.000	0.000	9539.914	34.825	0.000	35.136	0.000	14.636	0.000	0.000	35.139	34.822	-5.293	MWD+IFR1+MS
9700.000	0.000	0.000	9639.914	35.176	0.000	35.478	0.000	14.872	0.000	0.000	35.482	35.173	-6.263	MWD+IFR1+MS
9800.000	0.000	0.000	9739.914	35.528	0.000	35.821	0.000	15.111	0.000	0.000	35.826	35.523	-7.257	MWD+IFR1+MS
9900.000	0.000	0.000	9839.914	35.880	0.000	36.164	0.000	15.354	0.000	0.000	36.170	35.874	-8.276	MWD+IFR1+MS
9948.886	0.000	0.000	9888.800	36.050	0.000	36.329	0.000	15.474	0.000	0.000	36.336	36.044	-8.449	MWD+IFR1+MS
10000.000	4.089	179.722	9939.871	36.121	0.000	36.497	-0.000	15.599	0.000	0.000	36.503	36.231	-8.940	MWD+IFR1+MS
10100.000	12.089	179.722	10038.795	36.459	0.000	36.810	-0.000	15.881	0.000	0.000	37.217	36.794	100.801	MWD+IFR1+MS
10200.000	20.089	179.722	10134.800	36.734	0.000	37.113	-0.000	16.316	0.000	0.000	38.557	37.098	95.473	MWD+IFR1+MS
10300.000	28.089	179.722	10226.017	36.473	0.000	37.400	-0.000	16.960	0.000	0.000	39.735	37.381	94.744	MWD+IFR1+MS
10400.000	36.089	179.722	10310.671	35.738	0.000	37.668	-0.000	17.852	0.000	0.000	40.729	37.645	94.579	MWD+IFR1+MS
10500.000	44.089	179.722	10387.113	34.619	0.000	37.915	-0.000	18.998	0.000	0.000	41.529	37.887	94.645	MWD+IFR1+MS
10600.000	52.089	179.722	10453.856	33.232	0.000	38.139	-0.000	20.372	0.000	0.000	42.139	38.105	94.866	MWD+IFR1+MS
10700.000	60.089	179.722	10509.601	31.727	0.000	38.339	-0.000	21.927	0.000	0.000	42.570	38.298	95.222	MWD+IFR1+MS
10800.000	68.089	179.722	10553.263	30.288	0.000	38.513	-0.000	23.607	0.000	0.000	42.844	38.463	95.707	MWD+IFR1+MS
10900.000	76.089	179.722	10583.992	29.123	0.000	38.660	-0.000	25.349	0.000	0.000	42.994	38.599	96.309	MWD+IFR1+MS
11000.000	84.089	179.722	10601.189	28.443	0.000	38.780	-0.000	27.095	0.000	0.000	43.058	38.706	96.999	MWD+IFR1+MS
11073.886	90.000	179.722	10604.997	27.854	0.000	38.847	-0.000	27.854	0.000	0.000	43.076	38.763	97.512	MWD+IFR1+MS
11100.000	90.000	179.722	10604.997	27.909	0.000	38.867	-0.000	27.909	0.000	0.000	43.080	38.780	97.695	MWD+IFR1+MS
11200.000	90.000	179.722	10604.997	28.079	0.000	38.958	-0.000	28.079	0.000	0.000	43.100	38.856	98.430	MWD+IFR1+MS
11300.000	90.000	179.722	10604.997	28.273	0.000	39.067	-0.000	28.273	0.000	0.000	43.121	38.947	99.219	MWD+IFR1+MS
11400.000	90.000	179.722	10604.997	28.487	0.000	39.190	-0.000	28.487	0.000	0.000	43.145	39.052	100.067	MWD+IFR1+MS
11500.000	90.000	179.722	10604.997	28.721	0.000	39.328	-0.000	28.721	0.000	0.000	43.172	39.168	100.981	MWD+IFR1+MS
11600.000	90.000	179.722	10604.997	28.975	0.000	39.481	-0.000	28.975	0.000	0.000	43.202	39.297	101.975	MWD+IFR1+MS
11700.000	90.000	179.722	10604.997	29.247	0.000	39.647	-0.000	29.247	0.000	0.000	43.236	39.436	103.060	MWD+IFR1+MS
11800.000	90.000	179.722	10604.997	29.538	0.000	39.828	-0.000	29.538	0.000	0.000	43.274	39.586	104.251	MWD+IFR1+MS
11900.000	90.000	179.722	10604.997	29.846	0.000	40.023	-0.000	29.846	0.000	0.000	43.316	39.745	105.566	MWD+IFR1+MS
12000.000	90.000	179.722	10604.997	30.172	0.000	40.231	-0.000	30.172	0.000	0.000	43.364	39.913	107.023	MWD+IFR1+MS
12100.000	90.000	179.722	10604.997	30.515	0.000	40.452	-0.000	30.515	0.000	0.000	43.419	40.089	108.642	MWD+IFR1+MS
12200.000	90.000	179.722	10604.997	30.873	0.000	40.687	-0.000	30.873	0.000	0.000	43.481	40.271	110.447	MWD+IFR1+MS
12300.000	90.000	179.722	10604.997	31.248	0.000	40.934	-0.000	31.248	0.000	0.000	43.552	40.457	112.460	MWD+IFR1+MS
12400.000	90.000	179.722	10604.997	31.637	0.000	41.195	-0.000	31.637	0.000	0.000	43.633	40.646	114.701	MWD+IFR1+MS

12500.000	90.000	179.722	10604.997	32.041	0.000	41.468	-0.000	32.041	0.000	0.000	43.727	40.836	117.185	MWD+IFR1+MS
12600.000	90.000	179.722	10604.997	32.459	0.000	41.753	-0.000	32.459	0.000	0.000	43.836	41.024	119.916	MWD+IFR1+MS
12700.000	90.000	179.722	10604.997	32.890	0.000	42.050	-0.000	32.890	0.000	0.000	43.962	41.207	122.882	MWD+IFR1+MS
12800.000	90.000	179.722	10604.997	33.334	0.000	42.359	-0.000	33.334	0.000	0.000	44.107	41.383	126.049	MWD+IFR1+MS
12900.000	90.000	179.722	10604.997	33.790	0.000	42.679	-0.000	33.790	0.000	0.000	44.273	41.550	129.361	MWD+IFR1+MS
13000.000	90.000	179.722	10604.997	34.259	0.000	43.011	-0.000	34.259	0.000	0.000	44.463	41.706	132.740	MWD+IFR1+MS
13100.000	90.000	179.722	10604.997	34.739	0.000	43.354	-0.000	34.739	0.000	0.000	44.677	41.849	-43.902	MWD+IFR1+MS
13200.000	90.000	179.722	10604.997	35.229	0.000	43.707	-0.000	35.229	0.000	0.000	44.915	41.979	-40.648	MWD+IFR1+MS
13300.000	90.000	179.722	10604.997	35.731	0.000	44.071	-0.000	35.731	0.000	0.000	45.177	42.096	-37.570	MWD+IFR1+MS
13400.000	90.000	179.722	10604.997	36.242	0.000	44.445	-0.000	36.242	0.000	0.000	45.461	42.201	-34.713	MWD+IFR1+MS
13500.000	90.000	179.722	10604.997	36.763	0.000	44.829	-0.000	36.763	0.000	0.000	45.767	42.296	-32.104	MWD+IFR1+MS
13600.000	90.000	179.722	10604.997	37.293	0.000	45.222	-0.000	37.293	0.000	0.000	46.093	42.381	-29.746	MWD+IFR1+MS
13700.000	90.000	179.722	10604.997	37.832	0.000	45.626	-0.000	37.832	0.000	0.000	46.437	42.457	-27.631	MWD+IFR1+MS
13800.000	90.000	179.722	10604.997	38.380	0.000	46.038	-0.000	38.380	0.000	0.000	46.797	42.527	-25.742	MWD+IFR1+MS
13900.000	90.000	179.722	10604.997	38.935	0.000	46.459	-0.000	38.935	0.000	0.000	47.173	42.592	-24.056	MWD+IFR1+MS
14000.000	90.000	179.722	10604.997	39.499	0.000	46.889	-0.000	39.499	0.000	0.000	47.563	42.651	-22.552	MWD+IFR1+MS
14100.000	90.000	179.722	10604.997	40.070	0.000	47.328	-0.000	40.070	0.000	0.000	47.966	42.706	-21.207	MWD+IFR1+MS
14200.000	90.000	179.722	10604.997	40.648	0.000	47.774	-0.000	40.648	0.000	0.000	48.381	42.758	-20.003	MWD+IFR1+MS
14300.000	90.000	179.722	10604.997	41.232	0.000	48.229	-0.000	41.232	0.000	0.000	48.808	42.808	-18.921	MWD+IFR1+MS
14400.000	90.000	179.722	10604.997	41.824	0.000	48.692	-0.000	41.824	0.000	0.000	49.245	42.855	-17.946	MWD+IFR1+MS
14500.000	90.000	179.722	10604.997	42.421	0.000	49.162	-0.000	42.421	0.000	0.000	49.692	42.900	-17.065	MWD+IFR1+MS
14600.000	90.000	179.722	10604.997	43.025	0.000	49.639	-0.000	43.025	0.000	0.000	50.149	42.944	-16.264	MWD+IFR1+MS
14700.000	90.000	179.722	10604.997	43.635	0.000	50.124	-0.000	43.635	0.000	0.000	50.615	42.986	-15.536	MWD+IFR1+MS
14800.000	90.000	179.722	10604.997	44.250	0.000	50.615	-0.000	44.250	0.000	0.000	51.089	43.027	-14.870	MWD+IFR1+MS
14900.000	90.000	179.722	10604.997	44.870	0.000	51.113	-0.000	44.870	0.000	0.000	51.571	43.068	-14.260	MWD+IFR1+MS
15000.000	90.000	179.722	10604.997	45.495	0.000	51.618	-0.000	45.495	0.000	0.000	52.061	43.108	-13.699	MWD+IFR1+MS
15100.000	90.000	179.722	10604.997	46.125	0.000	52.129	-0.000	46.125	0.000	0.000	52.558	43.148	-13.182	MWD+IFR1+MS
15200.000	90.000	179.722	10604.997	46.760	0.000	52.647	-0.000	46.760	0.000	0.000	53.063	43.187	-12.703	MWD+IFR1+MS
15300.000	90.000	179.722	10604.997	47.400	0.000	53.170	-0.000	47.400	0.000	0.000	53.575	43.226	-12.260	MWD+IFR1+MS
15400.000	90.000	179.722	10604.997	48.043	0.000	53.699	-0.000	48.043	0.000	0.000	54.093	43.264	-11.847	MWD+IFR1+MS
15500.000	90.000	179.722	10604.997	48.691	0.000	54.234	-0.000	48.691	0.000	0.000	54.617	43.303	-11.463	MWD+IFR1+MS
15600.000	90.000	179.722	10604.997	49.343	0.000	54.774	-0.000	49.343	0.000	0.000	55.147	43.341	-11.104	MWD+IFR1+MS
15700.000	90.000	179.722	10604.997	49.999	0.000	55.320	-0.000	49.999	0.000	0.000	55.684	43.380	-10.768	MWD+IFR1+MS



15800.000	90.000	179.722	10604.997	50.658	0.000	55.871	-0.000	50.658	0.000	0.000	56.226	43.419	-10.453	MWD+IFR1+MS
15900.000	90.000	179.722	10604.997	51.321	0.000	56.426	-0.000	51.321	0.000	0.000	56.773	43.457	-10.157	MWD+IFR1+MS
16000.000	90.000	179.722	10604.997	51.987	0.000	56.987	-0.000	51.987	0.000	0.000	57.326	43.496	-9.878	MWD+IFR1+MS
16100.000	90.000	179.722	10604.997	52.656	0.000	57.552	-0.000	52.656	0.000	0.000	57.884	43.535	-9.615	MWD+IFR1+MS
16200.000	90.000	179.722	10604.997	53.329	0.000	58.122	-0.000	53.329	0.000	0.000	58.447	43.575	-9.367	MWD+IFR1+MS
16300.000	90.000	179.722	10604.997	54.005	0.000	58.696	-0.000	54.005	0.000	0.000	59.015	43.614	-9.132	MWD+IFR1+MS
16400.000	90.000	179.722	10604.997	54.683	0.000	59.275	-0.000	54.683	0.000	0.000	59.587	43.654	-8.909	MWD+IFR1+MS
16500.000	90.000	179.722	10604.997	55.365	0.000	59.858	-0.000	55.365	0.000	0.000	60.164	43.694	-8.697	MWD+IFR1+MS
16600.000	90.000	179.722	10604.997	56.049	0.000	60.445	-0.000	56.049	0.000	0.000	60.745	43.735	-8.497	MWD+IFR1+MS
16700.000	90.000	179.722	10604.997	56.736	0.000	61.036	-0.000	56.736	0.000	0.000	61.330	43.775	-8.305	MWD+IFR1+MS
16800.000	90.000	179.722	10604.997	57.425	0.000	61.631	-0.000	57.425	0.000	0.000	61.919	43.816	-8.123	MWD+IFR1+MS
16900.000	90.000	179.722	10604.997	58.116	0.000	62.229	-0.000	58.116	0.000	0.000	62.513	43.858	-7.949	MWD+IFR1+MS
17000.000	90.000	179.722	10604.997	58.810	0.000	62.831	-0.000	58.810	0.000	0.000	63.110	43.900	-7.783	MWD+IFR1+MS
17100.000	90.000	179.722	10604.997	59.507	0.000	63.437	-0.000	59.507	0.000	0.000	63.711	43.942	-7.625	MWD+IFR1+MS
17200.000	90.000	179.722	10604.997	60.205	0.000	64.046	-0.000	60.205	0.000	0.000	64.315	43.984	-7.473	MWD+IFR1+MS
17300.000	90.000	179.722	10604.997	60.905	0.000	64.658	-0.000	60.905	0.000	0.000	64.923	44.027	-7.328	MWD+IFR1+MS
17400.000	90.000	179.722	10604.997	61.608	0.000	65.274	-0.000	61.608	0.000	0.000	65.534	44.071	-7.188	MWD+IFR1+MS
17500.000	90.000	179.722	10604.997	62.313	0.000	65.893	-0.000	62.313	0.000	0.000	66.149	44.115	-7.054	MWD+IFR1+MS
17600.000	90.000	179.722	10604.997	63.019	0.000	66.514	-0.000	63.019	0.000	0.000	66.767	44.159	-6.926	MWD+IFR1+MS
17700.000	90.000	179.722	10604.997	63.727	0.000	67.139	-0.000	63.727	0.000	0.000	67.388	44.203	-6.802	MWD+IFR1+MS
17800.000	90.000	179.722	10604.997	64.437	0.000	67.767	-0.000	64.437	0.000	0.000	68.011	44.249	-6.683	MWD+IFR1+MS
17900.000	90.000	179.722	10604.997	65.149	0.000	68.397	-0.000	65.149	0.000	0.000	68.638	44.294	-6.569	MWD+IFR1+MS
18000.000	90.000	179.722	10604.997	65.862	0.000	69.031	-0.000	65.862	0.000	0.000	69.268	44.340	-6.459	MWD+IFR1+MS
18100.000	90.000	179.722	10604.997	66.577	0.000	69.666	-0.000	66.577	0.000	0.000	69.900	44.386	-6.352	MWD+IFR1+MS
18200.000	90.000	179.722	10604.997	67.294	0.000	70.305	-0.000	67.294	0.000	0.000	70.536	44.433	-6.250	MWD+IFR1+MS
18300.000	90.000	179.722	10604.997	68.012	0.000	70.946	-0.000	68.012	0.000	0.000	71.173	44.480	-6.151	MWD+IFR1+MS
18400.000	90.000	179.722	10604.997	68.731	0.000	71.589	-0.000	68.731	0.000	0.000	71.814	44.528	-6.055	MWD+IFR1+MS
18500.000	90.000	179.722	10604.997	69.452	0.000	72.235	-0.000	69.452	0.000	0.000	72.456	44.576	-5.962	MWD+IFR1+MS
18600.000	90.000	179.722	10604.997	70.175	0.000	72.883	-0.000	70.175	0.000	0.000	73.101	44.625	-5.873	MWD+IFR1+MS
18700.000	90.000	179.722	10604.997	70.898	0.000	73.534	-0.000	70.898	0.000	0.000	73.749	44.674	-5.786	MWD+IFR1+MS
18800.000	90.000	179.722	10604.997	71.623	0.000	74.186	-0.000	71.623	0.000	0.000	74.399	44.723	-5.702	MWD+IFR1+MS
18900.000	90.000	179.722	10604.997	72.349	0.000	74.841	-0.000	72.349	0.000	0.000	75.051	44.773	-5.621	MWD+IFR1+MS
19000.000	90.000	179.722	10604.997	73.077	0.000	75.498	-0.000	73.077	0.000	0.000	75.705	44.824	-5.542	MWD+IFR1+MS

19100.000	90.000	179.722	10604.997	73.805	0.000	76.156	-0.000	73.805	0.000	0.000	76.361	44.875	-5.466	MWD+IFR1+MS
19200.000	90.000	179.722	10604.997	74.535	0.000	76.817	-0.000	74.535	0.000	0.000	77.019	44.926	-5.392	MWD+IFR1+MS
19300.000	90.000	179.722	10604.997	75.266	0.000	77.480	-0.000	75.266	0.000	0.000	77.680	44.978	-5.320	MWD+IFR1+MS
19400.000	90.000	179.722	10604.997	75.998	0.000	78.145	-0.000	75.998	0.000	0.000	78.342	45.030	-5.250	MWD+IFR1+MS
19500.000	90.000	179.722	10604.997	76.731	0.000	78.811	-0.000	76.731	0.000	0.000	79.006	45.083	-5.182	MWD+IFR1+MS
19600.000	90.000	179.722	10604.997	77.465	0.000	79.479	-0.000	77.465	0.000	0.000	79.672	45.136	-5.116	MWD+IFR1+MS
19700.000	90.000	179.722	10604.997	78.200	0.000	80.149	-0.000	78.200	0.000	0.000	80.340	45.190	-5.051	MWD+IFR1+MS
19800.000	90.000	179.722	10604.997	78.935	0.000	80.821	-0.000	78.935	0.000	0.000	81.009	45.244	-4.989	MWD+IFR1+MS
19900.000	90.000	179.722	10604.997	79.672	0.000	81.494	-0.000	79.672	0.000	0.000	81.680	45.299	-4.928	MWD+IFR1+MS
20000.000	90.000	179.722	10604.997	80.410	0.000	82.169	-0.000	80.410	0.000	0.000	82.353	45.354	-4.869	MWD+IFR1+MS
20100.000	90.000	179.722	10604.997	81.149	0.000	82.846	-0.000	81.149	0.000	0.000	83.028	45.409	-4.811	MWD+IFR1+MS
20200.000	90.000	179.722	10604.997	81.888	0.000	83.524	-0.000	81.888	0.000	0.000	83.704	45.465	-4.755	MWD+IFR1+MS
20300.000	90.000	179.722	10604.997	82.628	0.000	84.203	-0.000	82.628	0.000	0.000	84.381	45.522	-4.700	MWD+IFR1+MS
20400.000	90.000	179.722	10604.997	83.370	0.000	84.884	-0.000	83.370	0.000	0.000	85.060	45.578	-4.647	MWD+IFR1+MS
20500.000	90.000	179.722	10604.997	84.111	0.000	85.567	-0.000	84.111	0.000	0.000	85.741	45.636	-4.595	MWD+IFR1+MS
20600.000	90.000	179.722	10604.997	84.854	0.000	86.250	-0.000	84.854	0.000	0.000	86.423	45.694	-4.544	MWD+IFR1+MS
20700.000	90.000	179.722	10604.997	85.598	0.000	86.936	-0.000	85.598	0.000	0.000	87.106	45.752	-4.494	MWD+IFR1+MS
20800.000	90.000	179.722	10604.997	86.342	0.000	87.622	-0.000	86.342	0.000	0.000	87.791	45.811	-4.446	MWD+IFR1+MS
20900.000	90.000	179.722	10604.997	87.087	0.000	88.310	-0.000	87.087	0.000	0.000	88.477	45.870	-4.398	MWD+IFR1+MS
21000.000	90.000	179.722	10604.997	87.832	0.000	88.999	-0.000	87.832	0.000	0.000	89.164	45.929	-4.352	MWD+IFR1+MS
21100.000	90.000	179.722	10604.997	88.578	0.000	89.689	-0.000	88.578	0.000	0.000	89.853	45.989	-4.307	MWD+IFR1+MS
21200.000	90.000	179.722	10604.997	89.325	0.000	90.381	-0.000	89.325	0.000	0.000	90.543	46.050	-4.263	MWD+IFR1+MS
21300.000	90.000	179.722	10604.997	90.073	0.000	91.074	-0.000	90.073	0.000	0.000	91.234	46.111	-4.219	MWD+IFR1+MS
21400.000	90.000	179.722	10604.997	90.821	0.000	91.767	-0.000	90.821	0.000	0.000	91.927	46.172	-4.177	MWD+IFR1+MS
21500.000	90.000	179.722	10604.997	91.570	0.000	92.462	-0.000	91.570	0.000	0.000	92.620	46.234	-4.136	MWD+IFR1+MS
21600.000	90.000	179.722	10604.997	92.319	0.000	93.159	-0.000	92.319	0.000	0.000	93.315	46.297	-4.095	MWD+IFR1+MS
21700.000	90.000	179.722	10604.997	93.069	0.000	93.856	-0.000	93.069	0.000	0.000	94.010	46.359	-4.056	MWD+IFR1+MS
21800.000	90.000	179.722	10604.997	93.820	0.000	94.554	-0.000	93.820	0.000	0.000	94.707	46.423	-4.017	MWD+IFR1+MS
21900.000	90.000	179.722	10604.997	94.571	0.000	95.253	-0.000	94.571	0.000	0.000	95.405	46.486	-3.979	MWD+IFR1+MS
22000.000	90.000	179.722	10604.997	95.323	0.000	95.954	-0.000	95.323	0.000	0.000	96.104	46.550	-3.942	MWD+IFR1+MS
22100.000	90.000	179.722	10604.997	96.075	0.000	96.655	-0.000	96.075	0.000	0.000	96.804	46.615	-3.906	MWD+IFR1+MS
22200.000	90.000	179.722	10604.997	96.827	0.000	97.357	-0.000	96.827	0.000	0.000	97.505	46.680	-3.870	MWD+IFR1+MS
22300.000	90.000	179.722	10604.997	97.581	0.000	98.060	-0.000	97.581	0.000	0.000	98.207	46.745	-3.835	MWD+IFR1+MS

22400.000	90.000	179.722	10604.997	98.334	0.000	98.765	-0.000	98.334	0.000	0.000	98.910	46.811	-3.801	MWD+IFR1+MS
22500.000	90.000	179.722	10604.997	99.089	0.000	99.470	-0.000	99.089	0.000	0.000	99.613	46.877	-3.767	MWD+IFR1+MS
22600.000	90.000	179.722	10604.997	99.843	0.000	100.175	-0.000	99.843	0.000	0.000	100.318	46.944	-3.734	MWD+IFR1+MS
22700.000	90.000	179.722	10604.997	100.598	0.000	100.882	-0.000	100.598	0.000	0.000	101.024	47.011	-3.702	MWD+IFR1+MS
22800.000	90.000	179.722	10604.997	101.354	0.000	101.590	-0.000	101.354	0.000	0.000	101.730	47.079	-3.670	MWD+IFR1+MS
22900.000	90.000	179.722	10604.997	102.110	0.000	102.298	-0.000	102.110	0.000	0.000	102.437	47.147	-3.639	MWD+IFR1+MS
23000.000	90.000	179.722	10604.997	102.866	0.000	103.008	-0.000	102.866	0.000	0.000	103.145	47.215	-3.609	MWD+IFR1+MS
23100.000	90.000	179.722	10604.997	103.623	0.000	103.718	-0.000	103.623	0.000	0.000	103.854	47.284	-3.579	MWD+IFR1+MS
23200.000	90.000	179.722	10604.997	104.380	0.000	104.429	-0.000	104.380	0.000	0.000	104.564	47.353	-3.549	MWD+IFR1+MS
23300.000	90.000	179.722	10604.997	105.138	0.000	105.140	-0.000	105.138	0.000	0.000	105.275	47.423	-3.520	MWD+IFR1+MS
23400.000	90.000	179.722	10604.997	105.896	0.000	105.853	-0.000	105.896	0.000	0.000	105.986	47.493	-3.492	MWD+IFR1+MS
23500.000	90.000	179.722	10604.997	106.655	0.000	106.566	-0.000	106.655	0.000	0.000	106.698	47.564	-3.464	MWD+IFR1+MS
23600.000	90.000	179.722	10604.997	107.413	0.000	107.280	-0.000	107.413	0.000	0.000	107.411	47.635	-3.437	MWD+IFR1+MS
23700.000	90.000	179.722	10604.997	108.173	0.000	107.994	-0.000	108.173	0.000	0.000	108.124	47.706	-3.410	MWD+IFR1+MS
23800.000	90.000	179.722	10604.997	108.932	0.000	108.709	-0.000	108.932	0.000	0.000	108.838	47.778	-3.383	MWD+IFR1+MS
23900.000	90.000	179.722	10604.997	109.692	0.000	109.425	-0.000	109.692	0.000	0.000	109.553	47.850	-3.357	MWD+IFR1+MS
24000.000	90.000	179.722	10604.997	110.452	0.000	110.142	-0.000	110.452	0.000	0.000	110.269	47.923	-3.332	MWD+IFR1+MS
24100.000	90.000	179.722	10604.997	111.213	0.000	110.859	-0.000	111.213	0.000	0.000	110.985	47.996	-3.307	MWD+IFR1+MS
24200.000	90.000	179.722	10604.997	111.974	0.000	111.577	-0.000	111.974	0.000	0.000	111.702	48.069	-3.282	MWD+IFR1+MS
24300.000	90.000	179.722	10604.997	112.735	0.000	112.296	-0.000	112.735	0.000	0.000	112.420	48.143	-3.258	MWD+IFR1+MS
24400.000	90.000	179.722	10604.997	113.497	0.000	113.015	-0.000	113.497	0.000	0.000	113.138	48.217	-3.234	MWD+IFR1+MS
24500.000	90.000	179.722	10604.997	114.259	0.000	113.735	-0.000	114.259	0.000	0.000	113.857	48.292	-3.210	MWD+IFR1+MS
24600.000	90.000	179.722	10604.997	115.021	0.000	114.455	-0.000	115.021	0.000	0.000	114.576	48.367	-3.187	MWD+IFR1+MS
24700.000	90.000	179.722	10604.997	115.783	0.000	115.176	-0.000	115.783	0.000	0.000	115.296	48.443	-3.164	MWD+IFR1+MS
24800.000	90.000	179.722	10604.997	116.546	0.000	115.897	-0.000	116.546	0.000	0.000	116.017	48.518	-3.142	MWD+IFR1+MS
24900.000	90.000	179.722	10604.997	117.309	0.000	116.619	-0.000	117.309	0.000	0.000	116.738	48.595	-3.120	MWD+IFR1+MS
25000.000	90.000	179.722	10604.997	118.073	0.000	117.342	-0.000	118.073	0.000	0.000	117.460	48.671	-3.098	MWD+IFR1+MS
25100.000	90.000	179.722	10604.997	118.836	0.000	118.065	-0.000	118.836	0.000	0.000	118.182	48.748	-3.077	MWD+IFR1+MS
25200.000	90.000	179.722	10604.997	119.600	0.000	118.789	-0.000	119.600	0.000	0.000	118.905	48.826	-3.056	MWD+IFR1+MS
25300.000	90.000	179.722	10604.997	120.365	0.000	119.513	-0.000	120.365	0.000	0.000	119.628	48.904	-3.035	MWD+IFR1+MS
25400.000	90.000	179.722	10604.997	121.129	0.000	120.238	-0.000	121.129	0.000	0.000	120.352	48.982	-3.015	MWD+IFR1+MS
25500.000	90.000	179.722	10604.997	121.894	0.000	120.963	-0.000	121.894	0.000	0.000	121.077	49.060	-2.995	MWD+IFR1+MS
25600.000	90.000	179.722	10604.997	122.659	0.000	121.689	-0.000	122.659	0.000	0.000	121.802	49.139	-2.975	MWD+IFR1+MS



25700.000	90.000	179.722	10604.997	123.424	0.000	122.415	-0.000	123.424	0.000	0.000	122.527	49.219	-2.955	MWD+IFR1+MS
25799.635	90.000	179.722	10604.997	124.187	0.000	123.139	-0.000	124.187	0.000	0.000	123.250	49.298	-2.936	MWD+IFR1+MS
25899.654	90.000	179.722	10604.997	124.952	0.000	123.866	-0.000	124.952	0.000	0.000	123.977	49.378	-2.917	MWD+IFR1+MS

Plan Targets

Poker Lake Unit 19 DTD South 411H

Target Name	Measured Depth (ft)	Grid Northing (ft)	Grid Easting (ft)	TVD MSL (ft)	Target Shape
FTP 27	10796.97	440345.50	629584.30	7401.00	RECTANGLE
SHL 29	3374.14	440162.07	629244.94	0.00	RECTANGLE
LTP 27	25799.68	424903.70	629659.20	7401.00	RECTANGLE
BHL 27	25899.96	424803.70	629659.40	7401.00	RECTANGLE

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

XTO Energy Inc.  
PLU 19 Dog Town Draw 411H  
Projected TD: 25899.65' MD / 10605' TVD  
SHL: 272' FNL & 1596' FEL , Section 19, T24S, R30E  
BHL: 230' FSL & 828' FEL , Section 31, T24S, R30E  
Eddy County, NM

**1. Geologic Name of Surface Formation**

A. Quaternary

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

Formation	Well Depth (TVD)	Water/Oil/Gas
Rustler	681'	Water
Top of Salt	1084'	Water
Base of Salt	3277'	Water
Delaware	3471'	Water
Brushy Canyon	5969'	Water/Oil/Gas
Bone Spring	7265'	Water
Avalon	7435'	Water/Oil/Gas
1st Bone Spring	8251'	Water/Oil/Gas
2nd Bone Spring	9069'	Water/Oil/Gas
3rd Bone Spring	10163'	Water/Oil/Gas
Wolfcamp	10554'	Water/Oil/Gas
Wolfcamp X	10575'	Water/Oil/Gas
Wolfcamp Y	10618'	Water/Oil/Gas
Wolfcamp A	10660'	Water/Oil/Gas
<b>Target/Land Curve</b>	<b>10605'</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 @ 781' (303' above the salt) and circulating cement back to surface. The intermediate will isolate from the top of salt down to the next casing seat by setting 7.625 inch casing at 9748.89' and cemented to surface. A 6.75 inch curve and 6.75 inch lateral hole will be drilled to 25899.65 MD/TD and 5.5 inch production casing will be set at TD and cemented back up in the intermediate shoe (estimated TOC 9448.89 feet).

**3. Casing Design**

Hole Size	Depth	OD Csg	Weight	Grade	Collar	New/Used	SF Burst	SF Collapse	SF Tension
12.25	0' – 781'	9.625	40	J-55	BTC	New	1.71	8.06	20.17
8.75	0' – 4000'	7.625	29.7	RY P-110	Flush Joint	New	2.36	2.92	1.93
8.75	4000' – 9748.89'	7.625	29.7	HC L-80	Flush Joint	New	1.72	2.45	2.38
6.75	0' – 9648.89'	5.5	20	RY P-110	Semi-Premium	New	1.05	1.92	1.97
6.75	9648.89' - 25899.65'	5.5	20	RY P-110	Semi-Flush	New	1.05	1.75	1.97

· 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 +/- 781'**

Lead: 160 sxs EconoCem-HLTRRC (mixed at 10.5 ppg, 1.87 ft<sup>3</sup>/sx, 10.13 gal/sx water)

Tail: 130 sxs Class C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft<sup>3</sup>/sx, 6.39 gal/sx water)

Top of Cement: Surface

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

##### **2nd Intermediate Casing: 7.625, 29.7 New casing to be set at +/- 9748.89'**

###### 1st Stage

Optional Lead: 320 sxs Class C (mixed at 10.5 ppg, 2.77 ft<sup>3</sup>/sx, 15.59 gal/sx water)

TOC: Surface

Tail: 350 sxs Class C (mixed at 14.8 ppg, 1.35 ft<sup>3</sup>/sx, 6.39 gal/sx water)

TOC: Brushy Canyon @ 5969

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

###### 2nd Stage

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

Tail: 670 sxs Class C (mixed at 14.8 ppg, 1.33 ft<sup>3</sup>/sx, 6.39 gal/sx water)

Top of Cement: 0

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

XTO requests to pump a two stage cement job on the 7-5/8" intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brush Canyon (5969') 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 +/- 25899.65'**

Lead: 20 sxs NeoCem (mixed at 11.5 ppg, 2.69 ft<sup>3</sup>/sx, 15.00 gal/sx water) Top of Cement: 9448.89 feet

Tail: 1140 sxs VersaCem (mixed at 13.2 ppg, 1.51 ft<sup>3</sup>/sx, 8.38 gal/sx water) Top of Cement: 9948.89 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 10M Double Ram BOP. MASP should not exceed 4009 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' - 781'	12.25	FW/Native	8.4-8.9	35-40	NC
781' - 9748.89'	8.75	FW / Cut Brine / Direct Emulsion	8.8-9.3	30-32	NC
9748.89' - 25899.65'	6.75	OBM	11.5-12	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

Open hole logging will not be done on this well.

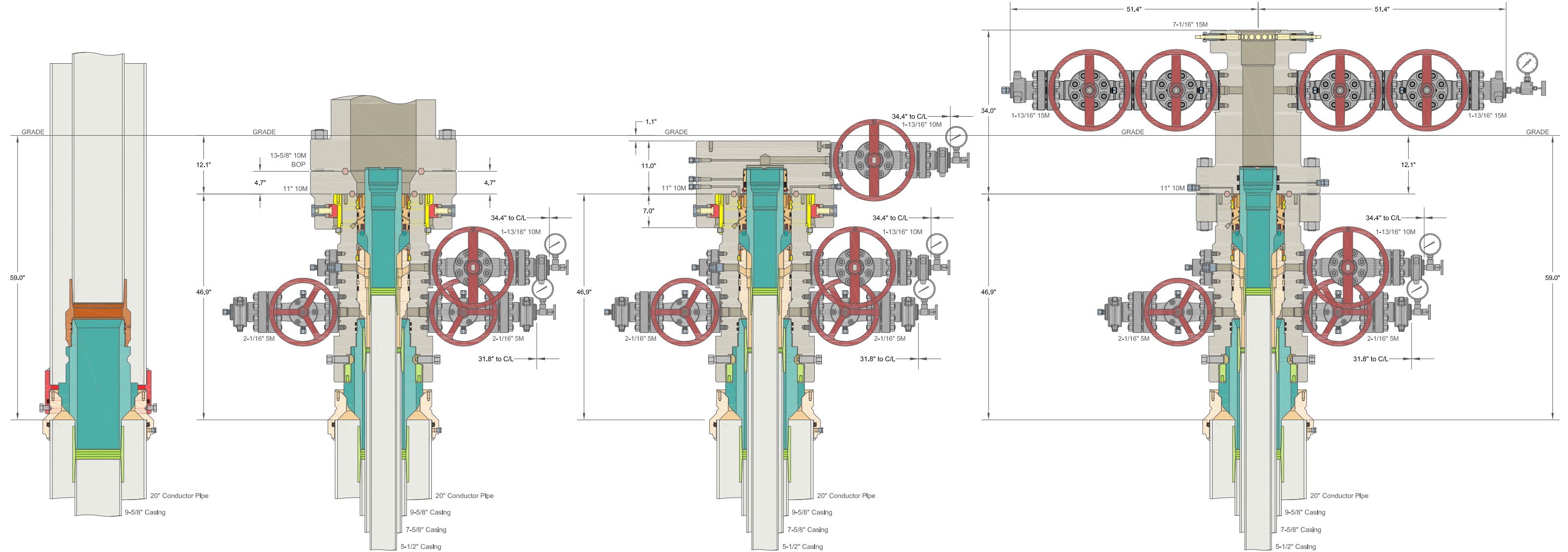
## 9. Abnormal Pressures and Temperatures / Potential Hazards

None Anticipated. BHT of 170 to 190 F is anticipated. No H2S is expected but monitors will be in place to detect any H2S occurrences. Should these circumstances be encountered the operator and drilling contractor are prepared to take all necessary steps to ensure safety of all personnel and environment. Lost circulation could occur but is not expected to be a serious problem in this area and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid. The maximum anticipated bottom hole pressure for this well is 6342 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

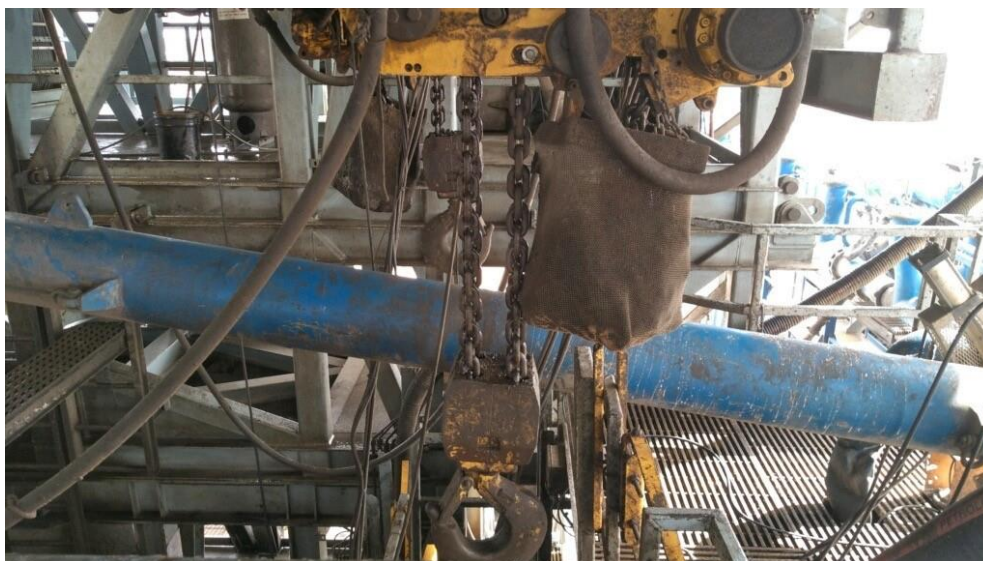


Figure 2: BOP Winch System

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 <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

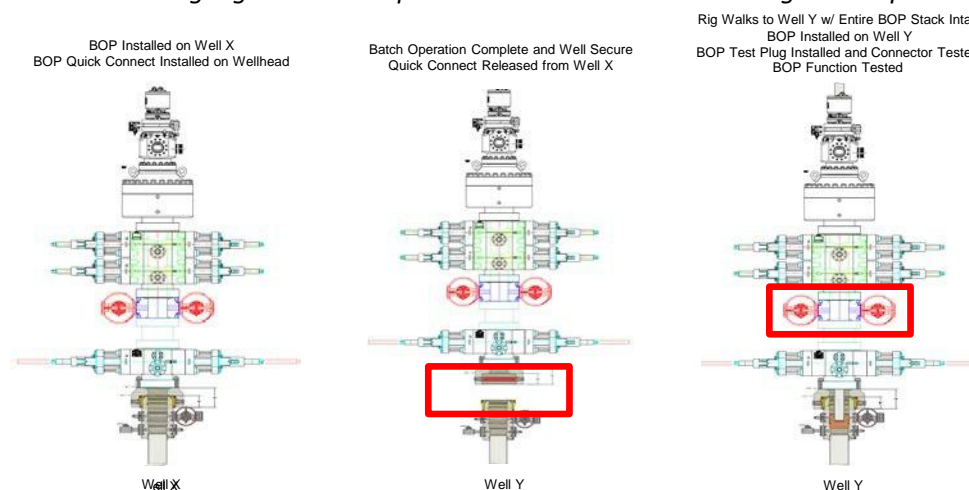
each BOP nipple up, XTO Energy performs a choke drill with the rig crew prior to drilling out every casing shoe. This is additional training for the rig crew that exceeds the requirements of the CFR Title 43 Part 3170.

### **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.

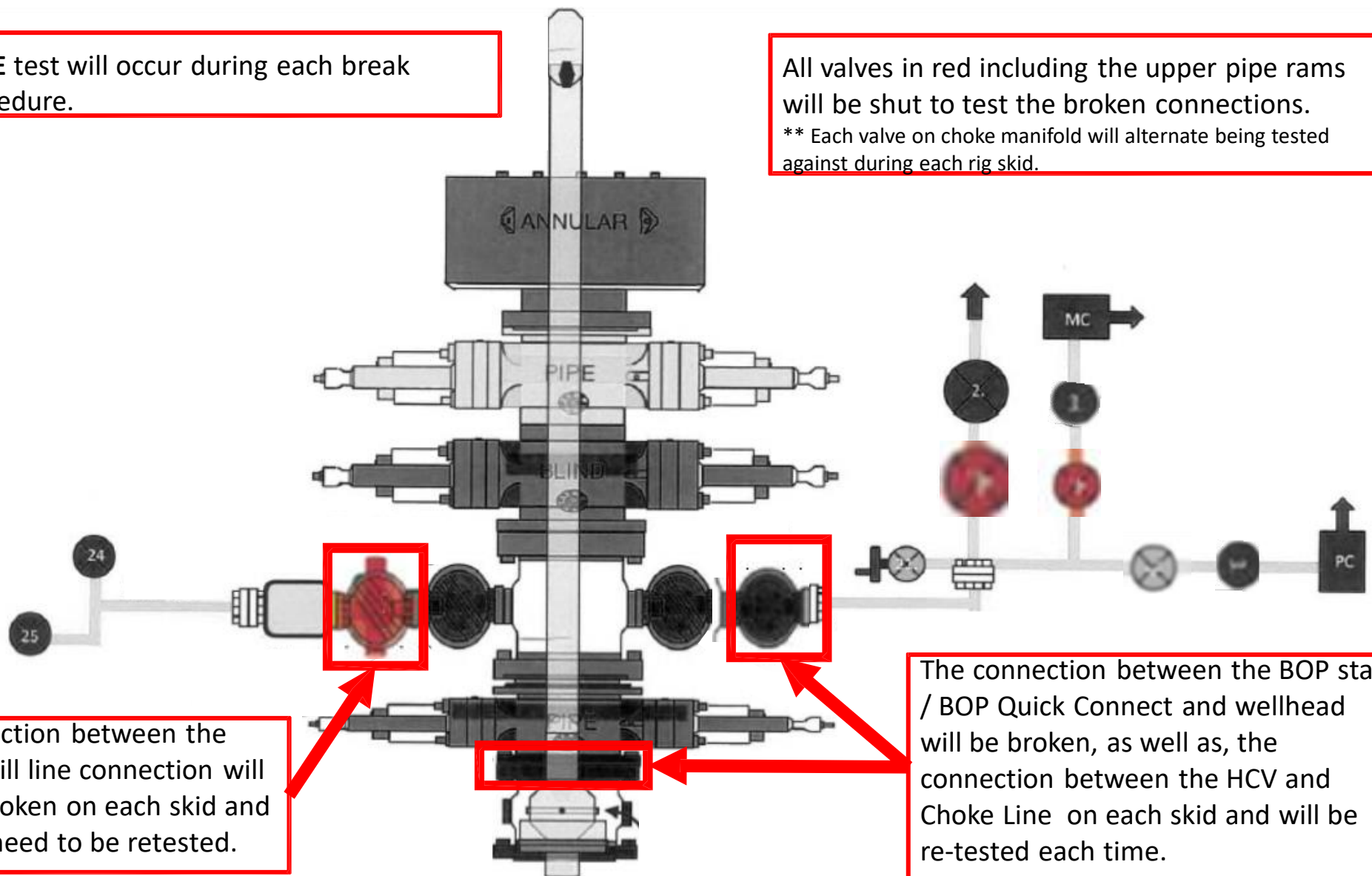
Based on discussions with the BLM on February 27th 2020 and the supporting documentation submitted to the BLM, we will request permission to **ONLY** retest broken pressure seals if the following conditions are met:

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.

### 10,000 PSI Annular BOP Variance Request

XTO Energy/XTO Permian Op. request a variance to use a 5000 psi annular BOP with a 10,000 psi BOP stack. The component and compatibility tables along with the general well control plans demonstrate how the 5000 psi annular BOP will be protected from pressures that exceed its rated working pressure (RWP). The pressure at which the control of the wellbore is transferred from the annular preventer to another available preventer will not exceed 3500 psi (70% of the RWP of the 5000 psi annular BOPL).

#### 1. Component and Preventer Compatibility Tables

The tables below outline the tubulars and the compatible preventers in use. This table, combined with the drilling fluid, documents that two barriers to flow will be maintained at all times.

8-1/2" Production Hole Section 10M psi Requirement					
Component	OD	Primary Preventer	RWP	Alternate Preventer(s)	RWP
Drillpipe	5.000" or 4.500"	Annular	5M	Upper 3.5"-5.5" VBR Lower 3.5"-5.5" VBR	10M 10M
HWDP	5.000" or 4.500"	Annular	5M	Upper 3.5"-5.5" VBR Lower 3.5"-5.5" VBR	10M 10M
Jars	6.500"	Annular	5M	-	-
DCs and MWD tools	6.500"-8.000"	Annular	5M	-	-
Mud Motor	6.750"-8.000"	Annular	5M	-	-
Production Casing	5-1/2"	Annular	5M	-	-
Open-Hole	-	Blind Rams	10M	-	-

## 2. Well Control Procedures

Below are the minimal high-level tasks prescribed to assure a proper shut-in while drilling, tripping, running casing, pipe out of the hole (open hole), and moving the BHA through the BOPs. At least one well control drill will be performed weekly per crew to demonstrate compliance with the procedure and well control plan. The well control drill will be recorded in the daily drilling log. The type of drill will be determined by the ongoing operations, but reasonable attempts will be made to vary the type of drill conducted (pit, trip, open hole, choke, etc.). This well control plan will be available for review by rig personnel in the XTO Energy/Permian Operating drilling supervisor's office on location and on the rig floor. All BOP equipment will be tested as per 43.CFR.3172 with the exception of the 5000 psi annular which will be tested to 70% of its RWP.

### General Procedure While Drilling

1. Sound alarm (alert crew)
2. Space out drill string
3. Shut down pumps (stop pumps and rotary)
4. Shut-in well (uppermost applicable BOP, typically annular preventer, first. HCR & choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
  - a. SIDPP & SICP
  - b. Pit gain
  - c. Time
8. Regroup and identify forward plan



9. If pressure has built or is anticipated during the kill to reach 70% or greater of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

#### General Procedure While Tripping

1. Sound alarm (alert crew)
2. Stab full-opening safety valve & close
3. Space out drill string
4. Shut-in well (uppermost applicable BOP, typically annular preventer, first. HCR & choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
  - a. SIDPP & SICP
  - b. Pit gain
  - c. Time
8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach 70% of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

#### General Procedure While Running Production Casing

- a. Sound alarm (alert crew)
- b. Stab crossover and full-opening safety valve and close
- c. Space out string
- d. Shut-in well (uppermost applicable BOP, typically annular preventer, first. HCR & choke will already be in the closed position.)
- e. Confirm shut-in
- f. Notify toolpusher/company representative
- g. Read and record the following:
  - a. SIDPP & SICP
  - b. Pit gain
  - c. Time
- h. Regroup and identify forward plan
- i. If pressure has built or is anticipated during the kill to reach 70% or greater of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

General Procedure With No Pipe In Hole (Open Hole)

1. Sound alarm (alert crew)
2. Shut-in with blind rams (HCR & choke will already be in the closed position)
3. Confirm shut-in
4. Notify toolpusher/company representative
5. Read and record the following:
  - a. SICP
  - b. Pit gain
  - c. Time
6. Regroup and identify forward plan

General Procedures While Pulling BHA Through Stack

1. PRIOR to pulling last joint of drillpipe through stack:
  - a. Perform flow check. If flowing, continue to (b).
  - b. Sound alarm (alert crew)
  - c. Stab full-opening safety valve and close
  - d. Space out drill string with tool joint just beneath the upper variable bore rams
  - e. Shut-in using upper variable bore rams (HCR & choke will already be in the closed position)
  - f. Confirm shut-in
  - g. Notify toolpusher/company representative
  - h. Read and record the following:
    - i. SIDPP & SICP
    - ii. Pit gain
    - iii. Time
  - i. Regroup and identify forward plan
2. With BHA in the stack and compatible ram preventer and pipe combination immediately available:
  - a. Sound alarm (alert crew)
  - b. Stab crossover and full-opening safety valve and close
  - c. Space out drill string with upset just beneath the upper variable bore rams
  - d. Shut-in using upper variable bore rams (HCR & choke will already be in the closed position)
  - e. Confirm shut-in
  - f. Notify toolpusher/company representative
  - g. Read and record the following:
    - i. SIDPP & SICP
    - ii. Pit gain
    - iii. Time

- Released to Imaging: 4/16/2024 8:09:09 AM

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

CONDITIONS  
  
Action 332001

CONDITIONS

Operator: XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	OGRID: 373075
	Action Number: 332001
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	All original COA's still apply. Additionally, if cement is not circulated to surface during cementing operations, then a CBL is required.	4/16/2024