

Well Name: POKER LAKE UNIT 19 DTD	Well Location: T24S / R30E / SEC 19 / NWNE /	County or Parish/State:
Well Number: 410H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM002860	Unit or CA Name:	Unit or CA Number: NMNM07016Z
US Well Number: 3001553987	Well Status: Approved Application for Permit to Drill	Operator: XTO PERMIAN OPERATING LLC

Notice of Intent

Sundry ID: 2777488

Type of Submission: Notice of Intent	Type of Action: APD Change
Date Sundry Submitted: 02/29/2024	Time Sundry Submitted: 04:53
Date proposed operation will begin: 03/21/2024	

**Procedure Description:** XTO Permian Operating, LLC. respectfully requests approval to make the following changes to the approved APD. Changes to include SHL, FTP, LTP, BHL, casing sizes, cement, and proposed total depth. FROM: TO: SHL: 197' FNL & 1626' FEL of Section 19-T24S-R30E 272' FNL & 1626' FEL of Section 19-T24S-R30E FTP: 100' FSL & 1090' FWL of Section 18-T24S-R30E 100' FNL & 1006' FEL of Section 19-T24S-R30E LTP: 2310' FSL & 1090' FWL of Section 31-T23S-R30E 100' FSL & 1019' FEL of Section 31-T24S-R30E BHL: 2440' FSL & 1090' FEL of Section 31-T23S-R30E 50' FSL & 1019' FEL of Section 31-T24S-R30E Proposed total depth will change from 28485' MD; 9916' TVD (Bone Springs) to 25365' MD; TVD 9913' (Bone Spring). See attached Drilling Plan for updated cement and casing program. Attachments: C-102, Drilling Plan, Directional Drilling Plan, MBS, BOP Variance, Well Control Plan

NOI Attachments

Procedure Description

- Well\_Plan\_Report\_\_\_\_Poker\_Lake\_Unit\_19\_DTD\_South\_410H\_20240229165229.pdf
- BOP\_Variance\_new\_Language\_BOP\_BTV\_20240229165229.pdf
- 3\_String\_Slimhole\_HBE0000479\_4\_20240229165229.pdf
- Well\_Control\_Plan\_w\_CFR\_43\_3172\_20240229165229.pdf
- PLU\_19\_DTD\_410H\_Pad\_D\_Drilling\_Plan\_20240229165229.pdf
- POKER\_LAKE\_UNIT\_19\_DTD\_410H\_C\_102\_FINAL\_20240229165229.pdf

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Conditions of Approval

Additional

Sec19\_24S\_30E\_NMP\_Sundry\_2777488\_Poker\_Lake\_Unit\_19\_DTD\_410H\_COAs\_20240321152716.pdf

Operator

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

<b>Operator Electronic Signature:</b> TERRA SEBASTIAN	<b>Signed on:</b> FEB 29, 2024 04:53 PM
<b>Name:</b> XTO PERMIAN OPERATING LLC	
<b>Title:</b> Regulatory Advisor	
<b>Street Address:</b> 6401 HOLIDAY HILL ROAD SUITE 200	
<b>City:</b> MIDLAND	<b>State:</b> TX
<b>Phone:</b> (432) 999-3107	
<b>Email address:</b> TERRA.B.SEBASTIAN@EXXONMOBIL.COM	

Field

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

BLM Point of Contact

<b>BLM POC Name:</b> CHRISTOPHER WALLS	<b>BLM POC Title:</b> Petroleum Engineer
<b>BLM POC Phone:</b> 5752342234	<b>BLM POC Email Address:</b> cwalls@blm.gov
<b>Disposition:</b> Approved	<b>Disposition Date:</b> 04/01/2024
<b>Signature:</b> Chris Walls	

Form 3160-5  
(June 2019)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

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

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

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

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

## Location of Well

0. SHL: NWNE / 197 FNL / 1626 FEL / TWSP: 24S / RANGE: 30E / SECTION: 19 / LAT: 32.209764 / LONG: -103.917465 ( TVD: 0 feet, MD: 0 feet )

PPP: SESE / 330 FSL / 1090 FEL / TWSP: 24S / RANGE: 30E / SECTION: 7 / LAT: 32.22544 / LONG: -103.91565 ( TVD: 9916 feet, MD: 15600 feet )

PPP: SESE / 100 FSL / 1090 FEL / TWSP: 24S / RANGE: 30E / SECTION: 18 / LAT: 32.210597 / LONG: -103.915735 ( TVD: 9916 feet, MD: 10300 feet )

BHL: NESE / 2440 FSL / 1090 FEL / TWSP: 23S / RANGE: 30E / SECTION: 31 / LAT: 32.26068 / LONG: -103.915712 ( TVD: 9916 feet, MD: 28485 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 410H
<b>LOCATION:</b>	Sec 19-24S-30E-NMP
<b>COUNTY:</b>	Eddy County, New Mexico

*Changes approved through engineering via **Sundry 2777488** on 03/21/2024. 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.

## Well Plan Report - Poker Lake Unit 19 DTD South 410H

Measured Depth: 25365.54 ft

TVD RKB: 9913.00 ft

### Location

Cartographic Reference System: New Mexico East - NAD 27

Northing: 440160.50 ft

Easting: 628774.80 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 410H

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		
1450.06	7.00	73.62	1449.19	6.02	20.49	2.00	0.00	2.00		
6388.51	7.00	73.62	6350.81	175.78	598.01	0.00	0.00	0.00		
6738.56	0.00	0.00	6700.00	181.80	618.50	-2.00	0.00	2.00		
9235.36	0.00	0.00	9196.80	181.80	618.50	0.00	0.00	0.00		
10360.36	90.00	179.72	9913.00	-534.39	621.95	8.00	0.00	8.00		
25315.44	90.00	179.72	9913.00	-15489.30	693.99	0.00	0.00	0.00	LTP 26	
25365.54	90.00	179.72	9913.00	-15539.39	694.23	0.00	0.00	0.00	BHL 26	

### Position Uncertainty

Poker Lake Unit 19 DTD South 410H

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	73.620	1199.980	5.019	0.000	4.499	0.000	2.686	0.000	0.000	5.200	4.291	-43.796	MWD+IFR1+MS
1300.000	4.000	73.620	1299.838	5.791	0.000	4.869	0.000	2.745	0.000	0.000	5.838	4.822	-28.172	MWD+IFR1+MS
1400.000	6.000	73.620	1399.452	6.484	0.000	5.237	0.000	2.810	0.000	0.000	6.507	5.233	-19.517	MWD+IFR1+MS
1450.058	7.001	73.620	1449.187	6.664	0.000	5.409	0.000	2.840	0.000	0.000	6.695	5.407	-18.756	MWD+IFR1+MS
1500.000	7.001	73.620	1498.757	6.805	0.000	5.579	0.000	2.871	0.000	0.000	6.836	5.577	-18.644	MWD+IFR1+MS
1600.000	7.001	73.620	1598.012	7.091	0.000	5.935	0.000	2.940	0.000	0.000	7.118	5.934	-18.120	MWD+IFR1+MS
1700.000	7.001	73.620	1697.266	7.394	0.000	6.305	0.000	3.013	0.000	0.000	7.418	6.305	-17.006	MWD+IFR1+MS
1800.000	7.001	73.620	1796.520	7.703	0.000	6.675	0.000	3.087	0.000	0.000	7.725	6.675	-15.877	MWD+IFR1+MS
1900.000	7.001	73.620	1895.775	8.017	0.000	7.044	0.000	3.165	0.000	0.000	8.037	7.043	-14.737	MWD+IFR1+MS
2000.000	7.001	73.620	1995.029	8.335	0.000	7.413	0.000	3.244	0.000	0.000	8.355	7.410	-13.589	MWD+IFR1+MS
2100.000	7.001	73.620	2094.283	8.658	0.000	7.781	0.000	3.326	0.000	0.000	8.676	7.777	-12.437	MWD+IFR1+MS
2200.000	7.001	73.620	2193.538	8.984	0.000	8.149	0.000	3.409	0.000	0.000	9.002	8.142	-11.284	MWD+IFR1+MS
2300.000	7.001	73.620	2292.792	9.313	0.000	8.517	0.000	3.495	0.000	0.000	9.332	8.507	-10.134	MWD+IFR1+MS
2400.000	7.001	73.620	2392.046	9.645	0.000	8.885	0.000	3.582	0.000	0.000	9.665	8.872	-8.990	MWD+IFR1+MS
2500.000	7.001	73.620	2491.301	9.980	0.000	9.253	0.000	3.671	0.000	0.000	10.000	9.236	-7.856	MWD+IFR1+MS
2600.000	7.001	73.620	2590.555	10.317	0.000	9.621	0.000	3.762	0.000	0.000	10.339	9.599	-6.736	MWD+IFR1+MS
2700.000	7.001	73.620	2689.810	10.656	0.000	9.988	0.000	3.854	0.000	0.000	10.679	9.963	-5.631	MWD+IFR1+MS
2800.000	7.001	73.620	2789.064	10.997	0.000	10.356	0.000	3.948	0.000	0.000	11.022	10.326	-4.546	MWD+IFR1+MS
2900.000	7.001	73.620	2888.318	11.340	0.000	10.723	0.000	4.044	0.000	0.000	11.366	10.688	-3.481	MWD+IFR1+MS



3000.000	7.001	73.620	2987.573	11.685	0.000	11.090	0.000	4.141	0.000	0.000	11.713	11.051	-2.441	MWD+IFR1+MS
3100.000	7.001	73.620	3086.827	12.030	0.000	11.458	0.000	4.240	0.000	0.000	12.060	11.413	-1.426	MWD+IFR1+MS
3200.000	7.001	73.620	3186.081	12.377	0.000	11.825	0.000	4.340	0.000	0.000	12.410	11.776	-0.437	MWD+IFR1+MS
3300.000	7.001	73.620	3285.336	12.726	0.000	12.192	0.000	4.441	0.000	0.000	12.760	12.138	0.523	MWD+IFR1+MS
3400.000	7.001	73.620	3384.590	13.075	0.000	12.559	0.000	4.544	0.000	0.000	13.112	12.500	1.455	MWD+IFR1+MS
3500.000	7.001	73.620	3483.845	13.426	0.000	12.926	0.000	4.649	0.000	0.000	13.464	12.862	2.357	MWD+IFR1+MS
3600.000	7.001	73.620	3583.099	13.777	0.000	13.293	0.000	4.755	0.000	0.000	13.818	13.224	3.229	MWD+IFR1+MS
3700.000	7.001	73.620	3682.353	14.130	0.000	13.659	0.000	4.863	0.000	0.000	14.172	13.586	4.072	MWD+IFR1+MS
3800.000	7.001	73.620	3781.608	14.483	0.000	14.026	0.000	4.972	0.000	0.000	14.527	13.949	4.886	MWD+IFR1+MS
3900.000	7.001	73.620	3880.862	14.837	0.000	14.393	0.000	5.082	0.000	0.000	14.883	14.311	5.670	MWD+IFR1+MS
4000.000	7.001	73.620	3980.116	15.191	0.000	14.760	0.000	5.195	0.000	0.000	15.240	14.673	6.425	MWD+IFR1+MS
4100.000	7.001	73.620	4079.371	15.547	0.000	15.126	0.000	5.308	0.000	0.000	15.597	15.035	7.152	MWD+IFR1+MS
4200.000	7.001	73.620	4178.625	15.902	0.000	15.493	0.000	5.424	0.000	0.000	15.954	15.398	7.852	MWD+IFR1+MS
4300.000	7.001	73.620	4277.880	16.259	0.000	15.860	0.000	5.541	0.000	0.000	16.312	15.760	8.525	MWD+IFR1+MS
4400.000	7.001	73.620	4377.134	16.616	0.000	16.226	0.000	5.659	0.000	0.000	16.671	16.123	9.172	MWD+IFR1+MS
4500.000	7.001	73.620	4476.388	16.974	0.000	16.593	0.000	5.779	0.000	0.000	17.030	16.486	9.794	MWD+IFR1+MS
4600.000	7.001	73.620	4575.643	17.331	0.000	16.959	0.000	5.901	0.000	0.000	17.389	16.848	10.392	MWD+IFR1+MS
4700.000	7.001	73.620	4674.897	17.690	0.000	17.326	0.000	6.025	0.000	0.000	17.749	17.211	10.966	MWD+IFR1+MS
4800.000	7.001	73.620	4774.151	18.049	0.000	17.692	0.000	6.151	0.000	0.000	18.109	17.574	11.518	MWD+IFR1+MS
4900.000	7.001	73.620	4873.406	18.408	0.000	18.059	0.000	6.278	0.000	0.000	18.469	17.937	12.049	MWD+IFR1+MS
5000.000	7.001	73.620	4972.660	18.768	0.000	18.425	0.000	6.407	0.000	0.000	18.829	18.300	12.559	MWD+IFR1+MS
5100.000	7.001	73.620	5071.914	19.128	0.000	18.792	0.000	6.538	0.000	0.000	19.190	18.663	13.049	MWD+IFR1+MS
5200.000	7.001	73.620	5171.169	19.488	0.000	19.158	0.000	6.671	0.000	0.000	19.551	19.027	13.520	MWD+IFR1+MS
5300.000	7.001	73.620	5270.423	19.848	0.000	19.525	0.000	6.805	0.000	0.000	19.912	19.390	13.972	MWD+IFR1+MS
5400.000	7.001	73.620	5369.678	20.209	0.000	19.891	0.000	6.942	0.000	0.000	20.274	19.754	14.408	MWD+IFR1+MS
5500.000	7.001	73.620	5468.932	20.571	0.000	20.258	0.000	7.081	0.000	0.000	20.635	20.117	14.827	MWD+IFR1+MS
5600.000	7.001	73.620	5568.186	20.932	0.000	20.624	0.000	7.221	0.000	0.000	20.997	20.481	15.230	MWD+IFR1+MS
5700.000	7.001	73.620	5667.441	21.294	0.000	20.990	0.000	7.364	0.000	0.000	21.359	20.845	15.617	MWD+IFR1+MS
5800.000	7.001	73.620	5766.695	21.656	0.000	21.357	0.000	7.509	0.000	0.000	21.721	21.209	15.990	MWD+IFR1+MS
5900.000	7.001	73.620	5865.949	22.018	0.000	21.723	0.000	7.656	0.000	0.000	22.083	21.573	16.350	MWD+IFR1+MS
6000.000	7.001	73.620	5965.204	22.380	0.000	22.089	0.000	7.805	0.000	0.000	22.445	21.937	16.696	MWD+IFR1+MS
6100.000	7.001	73.620	6064.458	22.743	0.000	22.456	0.000	7.956	0.000	0.000	22.808	22.301	17.029	MWD+IFR1+MS
6200.000	7.001	73.620	6163.713	23.106	0.000	22.822	0.000	8.109	0.000	0.000	23.170	22.665	17.349	MWD+IFR1+MS



6300.000	7.001	73.620	6262.967	23.468	0.000	23.188	0.000	8.264	0.000	0.000	23.533	23.029	17.659	MWD+IFR1+MS
6388.506	7.001	73.620	6350.813	23.788	0.000	23.511	0.000	8.404	0.000	0.000	23.851	23.352	17.861	MWD+IFR1+MS
6400.000	6.771	73.620	6362.224	23.831	0.000	23.552	0.000	8.422	0.000	0.000	23.891	23.394	17.860	MWD+IFR1+MS
6500.000	4.771	73.620	6461.712	24.221	0.000	23.911	0.000	8.582	0.000	0.000	24.271	23.759	16.523	MWD+IFR1+MS
6600.000	2.771	73.620	6561.490	24.655	0.000	24.271	0.000	8.742	0.000	0.000	24.721	24.125	13.093	MWD+IFR1+MS
6700.000	0.771	73.620	6661.438	25.055	0.000	24.626	0.000	8.900	0.000	0.000	25.168	24.484	10.625	MWD+IFR1+MS
6738.564	0.000	0.000	6700.000	24.641	0.000	25.277	0.000	8.960	0.000	0.000	25.299	24.618	10.429	MWD+IFR1+MS
6800.000	0.000	0.000	6761.436	24.854	0.000	25.478	0.000	9.057	0.000	0.000	25.500	24.832	10.434	MWD+IFR1+MS
6900.000	0.000	0.000	6861.436	25.200	0.000	25.809	0.000	9.215	0.000	0.000	25.829	25.179	10.194	MWD+IFR1+MS
7000.000	0.000	0.000	6961.436	25.549	0.000	26.144	0.000	9.377	0.000	0.000	26.161	25.531	9.738	MWD+IFR1+MS
7100.000	0.000	0.000	7061.436	25.899	0.000	26.478	0.000	9.541	0.000	0.000	26.494	25.882	9.266	MWD+IFR1+MS
7200.000	0.000	0.000	7161.436	26.248	0.000	26.814	0.000	9.708	0.000	0.000	26.828	26.234	8.778	MWD+IFR1+MS
7300.000	0.000	0.000	7261.436	26.598	0.000	27.150	0.000	9.877	0.000	0.000	27.162	26.586	8.273	MWD+IFR1+MS
7400.000	0.000	0.000	7361.436	26.948	0.000	27.487	0.000	10.049	0.000	0.000	27.497	26.938	7.750	MWD+IFR1+MS
7500.000	0.000	0.000	7461.436	27.298	0.000	27.824	0.000	10.224	0.000	0.000	27.832	27.290	7.209	MWD+IFR1+MS
7600.000	0.000	0.000	7561.436	27.649	0.000	28.162	0.000	10.402	0.000	0.000	28.169	27.642	6.649	MWD+IFR1+MS
7700.000	0.000	0.000	7661.436	27.999	0.000	28.500	0.000	10.583	0.000	0.000	28.505	27.994	6.070	MWD+IFR1+MS
7800.000	0.000	0.000	7761.436	28.350	0.000	28.838	0.000	10.766	0.000	0.000	28.843	28.346	5.471	MWD+IFR1+MS
7900.000	0.000	0.000	7861.436	28.701	0.000	29.178	0.000	10.952	0.000	0.000	29.181	28.698	4.852	MWD+IFR1+MS
8000.000	0.000	0.000	7961.436	29.053	0.000	29.517	0.000	11.141	0.000	0.000	29.520	29.050	4.212	MWD+IFR1+MS
8100.000	0.000	0.000	8061.436	29.404	0.000	29.857	0.000	11.333	0.000	0.000	29.859	29.402	3.551	MWD+IFR1+MS
8200.000	0.000	0.000	8161.436	29.756	0.000	30.198	0.000	11.527	0.000	0.000	30.199	29.755	2.868	MWD+IFR1+MS
8300.000	0.000	0.000	8261.436	30.107	0.000	30.539	0.000	11.725	0.000	0.000	30.539	30.107	2.164	MWD+IFR1+MS
8400.000	0.000	0.000	8361.436	30.459	0.000	30.880	0.000	11.925	0.000	0.000	30.880	30.459	1.437	MWD+IFR1+MS
8500.000	0.000	0.000	8461.436	30.811	0.000	31.222	0.000	12.129	0.000	0.000	31.222	30.811	0.689	MWD+IFR1+MS
8600.000	0.000	0.000	8561.436	31.164	0.000	31.564	0.000	12.335	0.000	0.000	31.564	31.164	-0.081	MWD+IFR1+MS
8700.000	0.000	0.000	8661.436	31.516	0.000	31.906	0.000	12.544	0.000	0.000	31.906	31.516	-0.873	MWD+IFR1+MS
8800.000	0.000	0.000	8761.436	31.868	0.000	32.249	0.000	12.756	0.000	0.000	32.249	31.868	-1.686	MWD+IFR1+MS
8900.000	0.000	0.000	8861.436	32.221	0.000	32.592	0.000	12.971	0.000	0.000	32.593	32.220	-2.520	MWD+IFR1+MS
9000.000	0.000	0.000	8961.436	32.574	0.000	32.936	0.000	13.189	0.000	0.000	32.937	32.572	-3.374	MWD+IFR1+MS
9100.000	0.000	0.000	9061.436	32.927	0.000	33.279	0.000	13.410	0.000	0.000	33.281	32.925	-4.248	MWD+IFR1+MS
9200.000	0.000	0.000	9161.436	33.280	0.000	33.623	0.000	13.634	0.000	0.000	33.626	33.277	-5.140	MWD+IFR1+MS
9235.364	0.000	0.000	9196.800	33.403	0.000	33.744	0.000	13.714	0.000	0.000	33.746	33.400	-5.201	MWD+IFR1+MS

9300.000	5.171	179.724	9261.349	33.506	0.000	33.955	-0.000	13.860	0.000	0.000	33.958	33.667	-6.293	MWD+IFR1+MS
9400.000	13.171	179.724	9359.990	33.993	0.000	34.268	-0.000	14.143	0.000	0.000	34.820	34.256	98.146	MWD+IFR1+MS
9500.000	21.171	179.724	9455.456	34.345	0.000	34.571	-0.000	14.610	0.000	0.000	36.216	34.556	95.017	MWD+IFR1+MS
9600.000	29.171	179.724	9545.886	34.185	0.000	34.857	-0.000	15.320	0.000	0.000	37.431	34.838	94.538	MWD+IFR1+MS
9700.000	37.171	179.724	9629.523	33.576	0.000	35.124	-0.000	16.306	0.000	0.000	38.446	35.100	94.468	MWD+IFR1+MS
9800.000	45.171	179.724	9704.736	32.605	0.000	35.370	-0.000	17.563	0.000	0.000	39.257	35.341	94.580	MWD+IFR1+MS
9900.000	53.171	179.724	9770.064	31.383	0.000	35.594	-0.000	19.052	0.000	0.000	39.867	35.558	94.822	MWD+IFR1+MS
10000.000	61.171	179.724	9824.233	30.055	0.000	35.794	-0.000	20.719	0.000	0.000	40.293	35.750	95.178	MWD+IFR1+MS
10100.000	69.171	179.724	9866.190	28.792	0.000	35.969	-0.000	22.498	0.000	0.000	40.558	35.917	95.642	MWD+IFR1+MS
10200.000	77.171	179.724	9895.119	27.791	0.000	36.118	-0.000	24.324	0.000	0.000	40.698	36.055	96.199	MWD+IFR1+MS
10300.000	85.171	179.724	9910.455	27.245	0.000	36.240	-0.000	26.138	0.000	0.000	40.753	36.166	96.815	MWD+IFR1+MS
10360.364	90.000	179.724	9912.997	26.610	0.000	36.297	-0.000	26.610	0.000	0.000	40.766	36.216	97.173	MWD+IFR1+MS
10400.000	90.000	179.724	9912.997	26.696	0.000	36.331	-0.000	26.696	0.000	0.000	40.772	36.245	97.411	MWD+IFR1+MS
10500.000	90.000	179.724	9912.997	26.867	0.000	36.433	-0.000	26.867	0.000	0.000	40.789	36.334	98.050	MWD+IFR1+MS
10600.000	90.000	179.724	9912.997	27.063	0.000	36.554	-0.000	27.063	0.000	0.000	40.808	36.440	98.743	MWD+IFR1+MS
10700.000	90.000	179.724	9912.997	27.280	0.000	36.689	-0.000	27.280	0.000	0.000	40.829	36.560	99.493	MWD+IFR1+MS
10800.000	90.000	179.724	9912.997	27.518	0.000	36.841	-0.000	27.518	0.000	0.000	40.853	36.693	100.311	MWD+IFR1+MS
10900.000	90.000	179.724	9912.997	27.776	0.000	37.007	-0.000	27.776	0.000	0.000	40.879	36.839	101.209	MWD+IFR1+MS
11000.000	90.000	179.724	9912.997	28.054	0.000	37.189	-0.000	28.054	0.000	0.000	40.908	36.997	102.201	MWD+IFR1+MS
11100.000	90.000	179.724	9912.997	28.350	0.000	37.385	-0.000	28.350	0.000	0.000	40.941	37.167	103.304	MWD+IFR1+MS
11200.000	90.000	179.724	9912.997	28.665	0.000	37.596	-0.000	28.665	0.000	0.000	40.979	37.348	104.537	MWD+IFR1+MS
11300.000	90.000	179.724	9912.997	28.998	0.000	37.821	-0.000	28.998	0.000	0.000	41.021	37.539	105.925	MWD+IFR1+MS
11400.000	90.000	179.724	9912.997	29.348	0.000	38.061	-0.000	29.348	0.000	0.000	41.070	37.738	107.494	MWD+IFR1+MS
11500.000	90.000	179.724	9912.997	29.715	0.000	38.314	-0.000	29.715	0.000	0.000	41.125	37.944	109.275	MWD+IFR1+MS
11600.000	90.000	179.724	9912.997	30.098	0.000	38.580	-0.000	30.098	0.000	0.000	41.190	38.156	111.303	MWD+IFR1+MS
11700.000	90.000	179.724	9912.997	30.496	0.000	38.860	-0.000	30.496	0.000	0.000	41.265	38.371	113.613	MWD+IFR1+MS
11800.000	90.000	179.724	9912.997	30.909	0.000	39.153	-0.000	30.909	0.000	0.000	41.353	38.586	116.235	MWD+IFR1+MS
11900.000	90.000	179.724	9912.997	31.336	0.000	39.459	-0.000	31.336	0.000	0.000	41.457	38.799	119.191	MWD+IFR1+MS
12000.000	90.000	179.724	9912.997	31.777	0.000	39.776	-0.000	31.777	0.000	0.000	41.580	39.006	122.478	MWD+IFR1+MS
12100.000	90.000	179.724	9912.997	32.231	0.000	40.106	-0.000	32.231	0.000	0.000	41.724	39.203	126.060	MWD+IFR1+MS
12200.000	90.000	179.724	9912.997	32.697	0.000	40.448	-0.000	32.697	0.000	0.000	41.894	39.388	129.861	MWD+IFR1+MS
12300.000	90.000	179.724	9912.997	33.176	0.000	40.802	-0.000	33.176	0.000	0.000	42.091	39.557	133.763	MWD+IFR1+MS
12400.000	90.000	179.724	9912.997	33.665	0.000	41.166	-0.000	33.665	0.000	0.000	42.318	39.710	-42.371	MWD+IFR1+MS

12500.000	90.000	179.724	9912.997	34.166	0.000	41.542	-0.000	34.166	0.000	0.000	42.572	39.845	-38.669	MWD+IFR1+MS
12600.000	90.000	179.724	9912.997	34.678	0.000	41.928	-0.000	34.678	0.000	0.000	42.855	39.964	-35.232	MWD+IFR1+MS
12700.000	90.000	179.724	9912.997	35.199	0.000	42.324	-0.000	35.199	0.000	0.000	43.162	40.068	-32.115	MWD+IFR1+MS
12800.000	90.000	179.724	9912.997	35.730	0.000	42.730	-0.000	35.730	0.000	0.000	43.494	40.159	-29.338	MWD+IFR1+MS
12900.000	90.000	179.724	9912.997	36.271	0.000	43.146	-0.000	36.271	0.000	0.000	43.846	40.240	-26.889	MWD+IFR1+MS
13000.000	90.000	179.724	9912.997	36.820	0.000	43.572	-0.000	36.820	0.000	0.000	44.217	40.311	-24.742	MWD+IFR1+MS
13100.000	90.000	179.724	9912.997	37.377	0.000	44.007	-0.000	37.377	0.000	0.000	44.605	40.376	-22.864	MWD+IFR1+MS
13200.000	90.000	179.724	9912.997	37.943	0.000	44.451	-0.000	37.943	0.000	0.000	45.009	40.434	-21.219	MWD+IFR1+MS
13300.000	90.000	179.724	9912.997	38.516	0.000	44.903	-0.000	38.516	0.000	0.000	45.426	40.488	-19.775	MWD+IFR1+MS
13400.000	90.000	179.724	9912.997	39.097	0.000	45.364	-0.000	39.097	0.000	0.000	45.857	40.539	-18.502	MWD+IFR1+MS
13500.000	90.000	179.724	9912.997	39.685	0.000	45.833	-0.000	39.685	0.000	0.000	46.299	40.586	-17.376	MWD+IFR1+MS
13600.000	90.000	179.724	9912.997	40.279	0.000	46.310	-0.000	40.279	0.000	0.000	46.752	40.630	-16.375	MWD+IFR1+MS
13700.000	90.000	179.724	9912.997	40.880	0.000	46.794	-0.000	40.880	0.000	0.000	47.215	40.673	-15.480	MWD+IFR1+MS
13800.000	90.000	179.724	9912.997	41.487	0.000	47.286	-0.000	41.487	0.000	0.000	47.688	40.714	-14.678	MWD+IFR1+MS
13900.000	90.000	179.724	9912.997	42.100	0.000	47.786	-0.000	42.100	0.000	0.000	48.170	40.753	-13.955	MWD+IFR1+MS
14000.000	90.000	179.724	9912.997	42.718	0.000	48.292	-0.000	42.718	0.000	0.000	48.660	40.792	-13.301	MWD+IFR1+MS
14100.000	90.000	179.724	9912.997	43.342	0.000	48.805	-0.000	43.342	0.000	0.000	49.159	40.830	-12.706	MWD+IFR1+MS
14200.000	90.000	179.724	9912.997	43.971	0.000	49.324	-0.000	43.971	0.000	0.000	49.666	40.867	-12.164	MWD+IFR1+MS
14300.000	90.000	179.724	9912.997	44.605	0.000	49.850	-0.000	44.605	0.000	0.000	50.179	40.903	-11.667	MWD+IFR1+MS
14400.000	90.000	179.724	9912.997	45.243	0.000	50.382	-0.000	45.243	0.000	0.000	50.700	40.940	-11.211	MWD+IFR1+MS
14500.000	90.000	179.724	9912.997	45.887	0.000	50.920	-0.000	45.887	0.000	0.000	51.228	40.976	-10.790	MWD+IFR1+MS
14600.000	90.000	179.724	9912.997	46.534	0.000	51.463	-0.000	46.534	0.000	0.000	51.762	41.012	-10.401	MWD+IFR1+MS
14700.000	90.000	179.724	9912.997	47.186	0.000	52.013	-0.000	47.186	0.000	0.000	52.302	41.047	-10.041	MWD+IFR1+MS
14800.000	90.000	179.724	9912.997	47.841	0.000	52.567	-0.000	47.841	0.000	0.000	52.849	41.083	-9.706	MWD+IFR1+MS
14900.000	90.000	179.724	9912.997	48.501	0.000	53.127	-0.000	48.501	0.000	0.000	53.401	41.119	-9.394	MWD+IFR1+MS
15000.000	90.000	179.724	9912.997	49.164	0.000	53.692	-0.000	49.164	0.000	0.000	53.959	41.155	-9.102	MWD+IFR1+MS
15100.000	90.000	179.724	9912.997	49.831	0.000	54.262	-0.000	49.831	0.000	0.000	54.522	41.191	-8.829	MWD+IFR1+MS
15200.000	90.000	179.724	9912.997	50.501	0.000	54.837	-0.000	50.501	0.000	0.000	55.090	41.227	-8.573	MWD+IFR1+MS
15300.000	90.000	179.724	9912.997	51.174	0.000	55.416	-0.000	51.174	0.000	0.000	55.663	41.264	-8.333	MWD+IFR1+MS
15400.000	90.000	179.724	9912.997	51.851	0.000	56.000	-0.000	51.851	0.000	0.000	56.241	41.300	-8.106	MWD+IFR1+MS
15500.000	90.000	179.724	9912.997	52.531	0.000	56.588	-0.000	52.531	0.000	0.000	56.823	41.337	-7.892	MWD+IFR1+MS
15600.000	90.000	179.724	9912.997	53.213	0.000	57.180	-0.000	53.213	0.000	0.000	57.410	41.374	-7.690	MWD+IFR1+MS
15700.000	90.000	179.724	9912.997	53.898	0.000	57.776	-0.000	53.898	0.000	0.000	58.002	41.412	-7.499	MWD+IFR1+MS

15800.000	90.000	179.724	9912.997	54.586	0.000	58.377	-0.000	54.586	0.000	0.000	58.597	41.450	-7.317	MWD+IFR1+MS
15900.000	90.000	179.724	9912.997	55.277	0.000	58.981	-0.000	55.277	0.000	0.000	59.197	41.488	-7.145	MWD+IFR1+MS
16000.000	90.000	179.724	9912.997	55.970	0.000	59.589	-0.000	55.970	0.000	0.000	59.800	41.526	-6.982	MWD+IFR1+MS
16100.000	90.000	179.724	9912.997	56.665	0.000	60.200	-0.000	56.665	0.000	0.000	60.407	41.565	-6.826	MWD+IFR1+MS
16200.000	90.000	179.724	9912.997	57.363	0.000	60.815	-0.000	57.363	0.000	0.000	61.018	41.604	-6.678	MWD+IFR1+MS
16300.000	90.000	179.724	9912.997	58.063	0.000	61.433	-0.000	58.063	0.000	0.000	61.633	41.644	-6.536	MWD+IFR1+MS
16400.000	90.000	179.724	9912.997	58.765	0.000	62.055	-0.000	58.765	0.000	0.000	62.251	41.684	-6.401	MWD+IFR1+MS
16500.000	90.000	179.724	9912.997	59.469	0.000	62.680	-0.000	59.469	0.000	0.000	62.872	41.724	-6.272	MWD+IFR1+MS
16600.000	90.000	179.724	9912.997	60.175	0.000	63.308	-0.000	60.175	0.000	0.000	63.496	41.765	-6.148	MWD+IFR1+MS
16700.000	90.000	179.724	9912.997	60.883	0.000	63.938	-0.000	60.883	0.000	0.000	64.124	41.806	-6.029	MWD+IFR1+MS
16800.000	90.000	179.724	9912.997	61.593	0.000	64.572	-0.000	61.593	0.000	0.000	64.755	41.848	-5.916	MWD+IFR1+MS
16900.000	90.000	179.724	9912.997	62.304	0.000	65.209	-0.000	62.304	0.000	0.000	65.388	41.890	-5.807	MWD+IFR1+MS
17000.000	90.000	179.724	9912.997	63.018	0.000	65.848	-0.000	63.018	0.000	0.000	66.025	41.932	-5.702	MWD+IFR1+MS
17100.000	90.000	179.724	9912.997	63.733	0.000	66.490	-0.000	63.733	0.000	0.000	66.664	41.975	-5.601	MWD+IFR1+MS
17200.000	90.000	179.724	9912.997	64.450	0.000	67.135	-0.000	64.450	0.000	0.000	67.306	42.018	-5.504	MWD+IFR1+MS
17300.000	90.000	179.724	9912.997	65.168	0.000	67.782	-0.000	65.168	0.000	0.000	67.950	42.062	-5.411	MWD+IFR1+MS
17400.000	90.000	179.724	9912.997	65.888	0.000	68.432	-0.000	65.888	0.000	0.000	68.597	42.106	-5.321	MWD+IFR1+MS
17500.000	90.000	179.724	9912.997	66.609	0.000	69.083	-0.000	66.609	0.000	0.000	69.246	42.151	-5.234	MWD+IFR1+MS
17600.000	90.000	179.724	9912.997	67.332	0.000	69.738	-0.000	67.332	0.000	0.000	69.898	42.196	-5.150	MWD+IFR1+MS
17700.000	90.000	179.724	9912.997	68.056	0.000	70.394	-0.000	68.056	0.000	0.000	70.552	42.241	-5.069	MWD+IFR1+MS
17800.000	90.000	179.724	9912.997	68.781	0.000	71.053	-0.000	68.781	0.000	0.000	71.209	42.287	-4.991	MWD+IFR1+MS
17900.000	90.000	179.724	9912.997	69.508	0.000	71.714	-0.000	69.508	0.000	0.000	71.867	42.334	-4.915	MWD+IFR1+MS
18000.000	90.000	179.724	9912.997	70.236	0.000	72.376	-0.000	70.236	0.000	0.000	72.528	42.380	-4.842	MWD+IFR1+MS
18100.000	90.000	179.724	9912.997	70.965	0.000	73.041	-0.000	70.965	0.000	0.000	73.191	42.428	-4.772	MWD+IFR1+MS
18200.000	90.000	179.724	9912.997	71.695	0.000	73.708	-0.000	71.695	0.000	0.000	73.856	42.475	-4.703	MWD+IFR1+MS
18300.000	90.000	179.724	9912.997	72.427	0.000	74.377	-0.000	72.427	0.000	0.000	74.522	42.523	-4.637	MWD+IFR1+MS
18400.000	90.000	179.724	9912.997	73.159	0.000	75.047	-0.000	73.159	0.000	0.000	75.191	42.572	-4.572	MWD+IFR1+MS
18500.000	90.000	179.724	9912.997	73.893	0.000	75.720	-0.000	73.893	0.000	0.000	75.861	42.621	-4.510	MWD+IFR1+MS
18600.000	90.000	179.724	9912.997	74.628	0.000	76.394	-0.000	74.628	0.000	0.000	76.534	42.671	-4.449	MWD+IFR1+MS
18700.000	90.000	179.724	9912.997	75.363	0.000	77.070	-0.000	75.363	0.000	0.000	77.208	42.720	-4.390	MWD+IFR1+MS
18800.000	90.000	179.724	9912.997	76.100	0.000	77.747	-0.000	76.100	0.000	0.000	77.884	42.771	-4.333	MWD+IFR1+MS
18900.000	90.000	179.724	9912.997	76.838	0.000	78.426	-0.000	76.838	0.000	0.000	78.561	42.822	-4.278	MWD+IFR1+MS
19000.000	90.000	179.724	9912.997	77.576	0.000	79.107	-0.000	77.576	0.000	0.000	79.240	42.873	-4.224	MWD+IFR1+MS



19100.000	90.000	179.724	9912.997	78.316	0.000	79.789	-0.000	78.316	0.000	0.000	79.921	42.925	-4.171	MWD+IFR1+MS
19200.000	90.000	179.724	9912.997	79.056	0.000	80.473	-0.000	79.056	0.000	0.000	80.603	42.977	-4.120	MWD+IFR1+MS
19300.000	90.000	179.724	9912.997	79.797	0.000	81.158	-0.000	79.797	0.000	0.000	81.286	43.029	-4.070	MWD+IFR1+MS
19400.000	90.000	179.724	9912.997	80.539	0.000	81.845	-0.000	80.539	0.000	0.000	81.972	43.082	-4.022	MWD+IFR1+MS
19500.000	90.000	179.724	9912.997	81.282	0.000	82.533	-0.000	81.282	0.000	0.000	82.658	43.136	-3.975	MWD+IFR1+MS
19600.000	90.000	179.724	9912.997	82.026	0.000	83.222	-0.000	82.026	0.000	0.000	83.346	43.190	-3.929	MWD+IFR1+MS
19700.000	90.000	179.724	9912.997	82.770	0.000	83.913	-0.000	82.770	0.000	0.000	84.035	43.244	-3.884	MWD+IFR1+MS
19800.000	90.000	179.724	9912.997	83.515	0.000	84.605	-0.000	83.515	0.000	0.000	84.726	43.299	-3.840	MWD+IFR1+MS
19900.000	90.000	179.724	9912.997	84.261	0.000	85.298	-0.000	84.261	0.000	0.000	85.418	43.354	-3.798	MWD+IFR1+MS
20000.000	90.000	179.724	9912.997	85.007	0.000	85.992	-0.000	85.007	0.000	0.000	86.111	43.410	-3.756	MWD+IFR1+MS
20100.000	90.000	179.724	9912.997	85.755	0.000	86.688	-0.000	85.755	0.000	0.000	86.805	43.466	-3.716	MWD+IFR1+MS
20200.000	90.000	179.724	9912.997	86.503	0.000	87.385	-0.000	86.503	0.000	0.000	87.501	43.523	-3.676	MWD+IFR1+MS
20300.000	90.000	179.724	9912.997	87.251	0.000	88.083	-0.000	87.251	0.000	0.000	88.198	43.580	-3.637	MWD+IFR1+MS
20400.000	90.000	179.724	9912.997	88.000	0.000	88.782	-0.000	88.000	0.000	0.000	88.895	43.637	-3.599	MWD+IFR1+MS
20500.000	90.000	179.724	9912.997	88.750	0.000	89.482	-0.000	88.750	0.000	0.000	89.594	43.695	-3.562	MWD+IFR1+MS
20600.000	90.000	179.724	9912.997	89.500	0.000	90.183	-0.000	89.500	0.000	0.000	90.294	43.754	-3.526	MWD+IFR1+MS
20700.000	90.000	179.724	9912.997	90.251	0.000	90.886	-0.000	90.251	0.000	0.000	90.996	43.812	-3.491	MWD+IFR1+MS
20800.000	90.000	179.724	9912.997	91.003	0.000	91.589	-0.000	91.003	0.000	0.000	91.698	43.872	-3.457	MWD+IFR1+MS
20900.000	90.000	179.724	9912.997	91.755	0.000	92.293	-0.000	91.755	0.000	0.000	92.401	43.931	-3.423	MWD+IFR1+MS
21000.000	90.000	179.724	9912.997	92.507	0.000	92.998	-0.000	92.507	0.000	0.000	93.105	43.991	-3.390	MWD+IFR1+MS
21100.000	90.000	179.724	9912.997	93.261	0.000	93.704	-0.000	93.261	0.000	0.000	93.810	44.052	-3.357	MWD+IFR1+MS
21200.000	90.000	179.724	9912.997	94.014	0.000	94.412	-0.000	94.014	0.000	0.000	94.516	44.113	-3.326	MWD+IFR1+MS
21300.000	90.000	179.724	9912.997	94.768	0.000	95.120	-0.000	94.768	0.000	0.000	95.223	44.174	-3.295	MWD+IFR1+MS
21400.000	90.000	179.724	9912.997	95.523	0.000	95.828	-0.000	95.523	0.000	0.000	95.931	44.236	-3.264	MWD+IFR1+MS
21500.000	90.000	179.724	9912.997	96.278	0.000	96.538	-0.000	96.278	0.000	0.000	96.640	44.298	-3.235	MWD+IFR1+MS
21600.000	90.000	179.724	9912.997	97.034	0.000	97.249	-0.000	97.034	0.000	0.000	97.350	44.361	-3.205	MWD+IFR1+MS
21700.000	90.000	179.724	9912.997	97.790	0.000	97.960	-0.000	97.790	0.000	0.000	98.060	44.424	-3.177	MWD+IFR1+MS
21800.000	90.000	179.724	9912.997	98.546	0.000	98.672	-0.000	98.546	0.000	0.000	98.771	44.487	-3.149	MWD+IFR1+MS
21900.000	90.000	179.724	9912.997	99.303	0.000	99.385	-0.000	99.303	0.000	0.000	99.483	44.551	-3.121	MWD+IFR1+MS
22000.000	90.000	179.724	9912.997	100.061	0.000	100.099	-0.000	100.061	0.000	0.000	100.196	44.615	-3.094	MWD+IFR1+MS
22100.000	90.000	179.724	9912.997	100.819	0.000	100.814	-0.000	100.819	0.000	0.000	100.910	44.680	-3.068	MWD+IFR1+MS
22200.000	90.000	179.724	9912.997	101.577	0.000	101.529	-0.000	101.577	0.000	0.000	101.625	44.745	-3.042	MWD+IFR1+MS
22300.000	90.000	179.724	9912.997	102.335	0.000	102.245	-0.000	102.335	0.000	0.000	102.340	44.811	-3.017	MWD+IFR1+MS

22400.000	90.000	179.724	9912.997	103.094	0.000	102.962	-0.000	103.094	0.000	0.000	103.056	44.877	-2.992	MWD+IFR1+MS
22500.000	90.000	179.724	9912.997	103.854	0.000	103.679	-0.000	103.854	0.000	0.000	103.772	44.943	-2.967	MWD+IFR1+MS
22600.000	90.000	179.724	9912.997	104.614	0.000	104.397	-0.000	104.614	0.000	0.000	104.490	45.010	-2.943	MWD+IFR1+MS
22700.000	90.000	179.724	9912.997	105.374	0.000	105.116	-0.000	105.374	0.000	0.000	105.208	45.077	-2.920	MWD+IFR1+MS
22800.000	90.000	179.724	9912.997	106.134	0.000	105.836	-0.000	106.134	0.000	0.000	105.926	45.144	-2.896	MWD+IFR1+MS
22900.000	90.000	179.724	9912.997	106.895	0.000	106.556	-0.000	106.895	0.000	0.000	106.646	45.212	-2.874	MWD+IFR1+MS
23000.000	90.000	179.724	9912.997	107.656	0.000	107.276	-0.000	107.656	0.000	0.000	107.366	45.281	-2.851	MWD+IFR1+MS
23100.000	90.000	179.724	9912.997	108.418	0.000	107.998	-0.000	108.418	0.000	0.000	108.086	45.349	-2.829	MWD+IFR1+MS
23200.000	90.000	179.724	9912.997	109.180	0.000	108.720	-0.000	109.180	0.000	0.000	108.807	45.418	-2.808	MWD+IFR1+MS
23300.000	90.000	179.724	9912.997	109.942	0.000	109.442	-0.000	109.942	0.000	0.000	109.529	45.488	-2.786	MWD+IFR1+MS
23400.000	90.000	179.724	9912.997	110.704	0.000	110.165	-0.000	110.704	0.000	0.000	110.252	45.558	-2.765	MWD+IFR1+MS
23500.000	90.000	179.724	9912.997	111.467	0.000	110.889	-0.000	111.467	0.000	0.000	110.975	45.628	-2.745	MWD+IFR1+MS
23600.000	90.000	179.724	9912.997	112.230	0.000	111.613	-0.000	112.230	0.000	0.000	111.698	45.699	-2.725	MWD+IFR1+MS
23700.000	90.000	179.724	9912.997	112.994	0.000	112.338	-0.000	112.994	0.000	0.000	112.422	45.770	-2.705	MWD+IFR1+MS
23800.000	90.000	179.724	9912.997	113.757	0.000	113.063	-0.000	113.757	0.000	0.000	113.147	45.842	-2.685	MWD+IFR1+MS
23900.000	90.000	179.724	9912.997	114.521	0.000	113.789	-0.000	114.521	0.000	0.000	113.872	45.913	-2.666	MWD+IFR1+MS
24000.000	90.000	179.724	9912.997	115.286	0.000	114.516	-0.000	115.286	0.000	0.000	114.598	45.986	-2.647	MWD+IFR1+MS
24100.000	90.000	179.724	9912.997	116.050	0.000	115.242	-0.000	116.050	0.000	0.000	115.324	46.058	-2.629	MWD+IFR1+MS
24200.000	90.000	179.724	9912.997	116.815	0.000	115.970	-0.000	116.815	0.000	0.000	116.051	46.131	-2.610	MWD+IFR1+MS
24300.000	90.000	179.724	9912.997	117.580	0.000	116.698	-0.000	117.580	0.000	0.000	116.778	46.205	-2.592	MWD+IFR1+MS
24400.000	90.000	179.724	9912.997	118.345	0.000	117.426	-0.000	118.345	0.000	0.000	117.506	46.279	-2.575	MWD+IFR1+MS
24500.000	90.000	179.724	9912.997	119.111	0.000	118.155	-0.000	119.111	0.000	0.000	118.234	46.353	-2.557	MWD+IFR1+MS
24600.000	90.000	179.724	9912.997	119.877	0.000	118.884	-0.000	119.877	0.000	0.000	118.963	46.427	-2.540	MWD+IFR1+MS
24700.000	90.000	179.724	9912.997	120.643	0.000	119.614	-0.000	120.643	0.000	0.000	119.692	46.502	-2.523	MWD+IFR1+MS
24800.000	90.000	179.724	9912.997	121.409	0.000	120.344	-0.000	121.409	0.000	0.000	120.422	46.577	-2.506	MWD+IFR1+MS
24900.000	90.000	179.724	9912.997	122.176	0.000	121.075	-0.000	122.176	0.000	0.000	121.152	46.653	-2.490	MWD+IFR1+MS
25000.000	90.000	179.724	9912.997	122.942	0.000	121.806	-0.000	122.942	0.000	0.000	121.882	46.729	-2.474	MWD+IFR1+MS
25100.000	90.000	179.724	9912.997	123.709	0.000	122.537	-0.000	123.709	0.000	0.000	122.613	46.805	-2.458	MWD+IFR1+MS
25200.000	90.000	179.724	9912.997	124.477	0.000	123.269	-0.000	124.477	0.000	0.000	123.344	46.882	-2.442	MWD+IFR1+MS
25300.000	90.000	179.724	9912.997	125.244	0.000	124.001	-0.000	125.244	0.000	0.000	124.076	46.959	-2.427	MWD+IFR1+MS
25315.443	90.000	179.724	9912.997	125.362	0.000	124.114	-0.000	125.362	0.000	0.000	124.189	46.971	-2.424	MWD+IFR1+MS
25365.538	90.000	179.724	9912.997	125.746	0.000	124.480	-0.000	125.746	0.000	0.000	124.554	47.010	-2.417	MWD+IFR1+MS

Plan Targets

Poker Lake Unit 19 DTD South 410H

Target Name	Measured Depth (ft)	Grid Northing (ft)	Grid Easting (ft)	TVD MSL (ft)	Target Shape
FTP 26	10096.67	440342.30	629393.30	6709.00	RECTANGLE
LTP 26	25315.58	424671.10	629468.70	6709.00	RECTANGLE
BHL 26	25365.77	424621.10	629468.80	6709.00	RECTANGLE



**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.

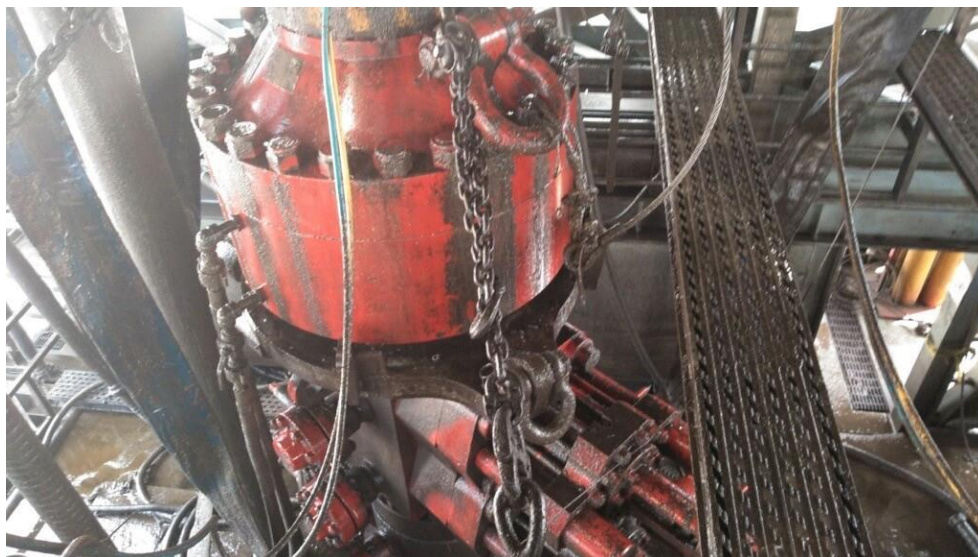


Figure 1: Winch System attached to BOP Stack

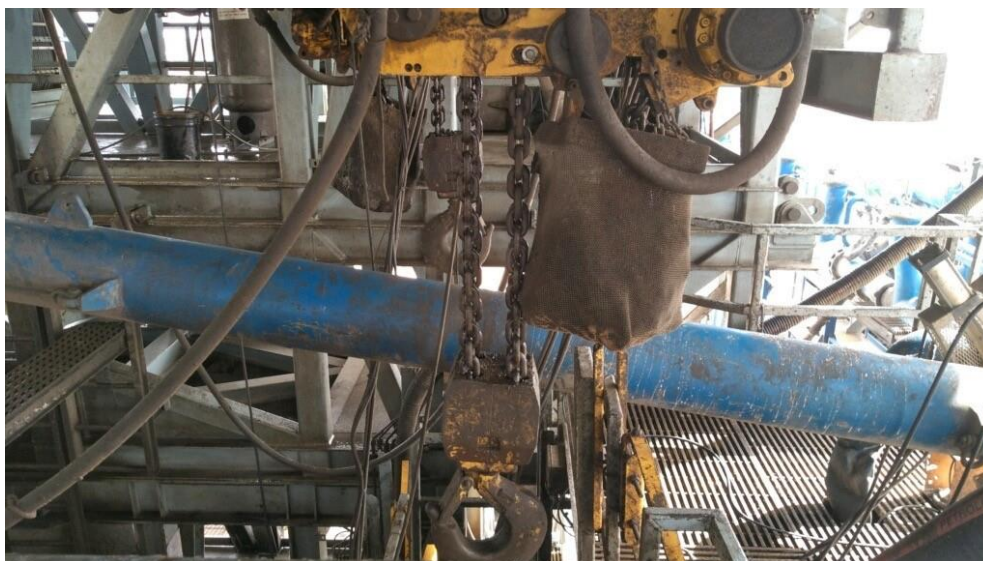


Figure 2: BOP Winch System

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

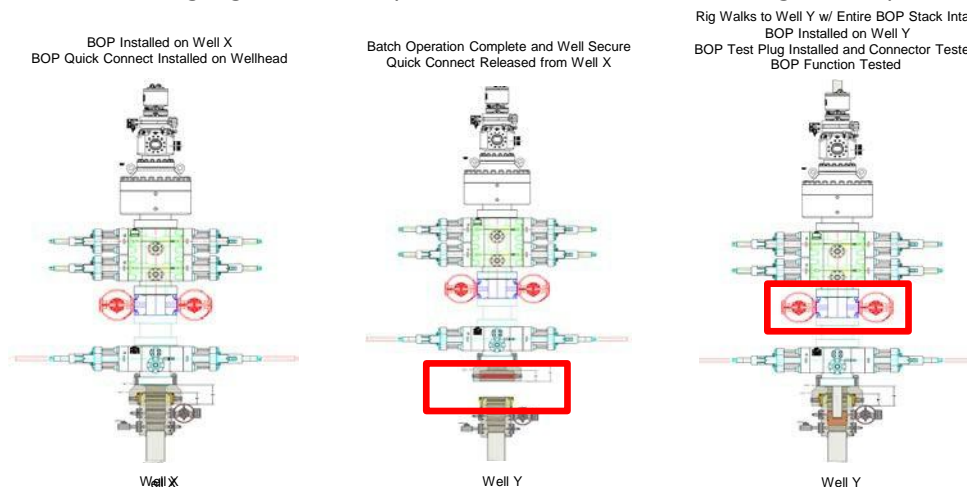
each BOP nipple up, XTO Energy performs a choke drill with the rig crew prior to drilling out every casing shoe. This is additional training for the rig crew that exceeds the requirements of the CFR Title 43 Part 3170.

### **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.

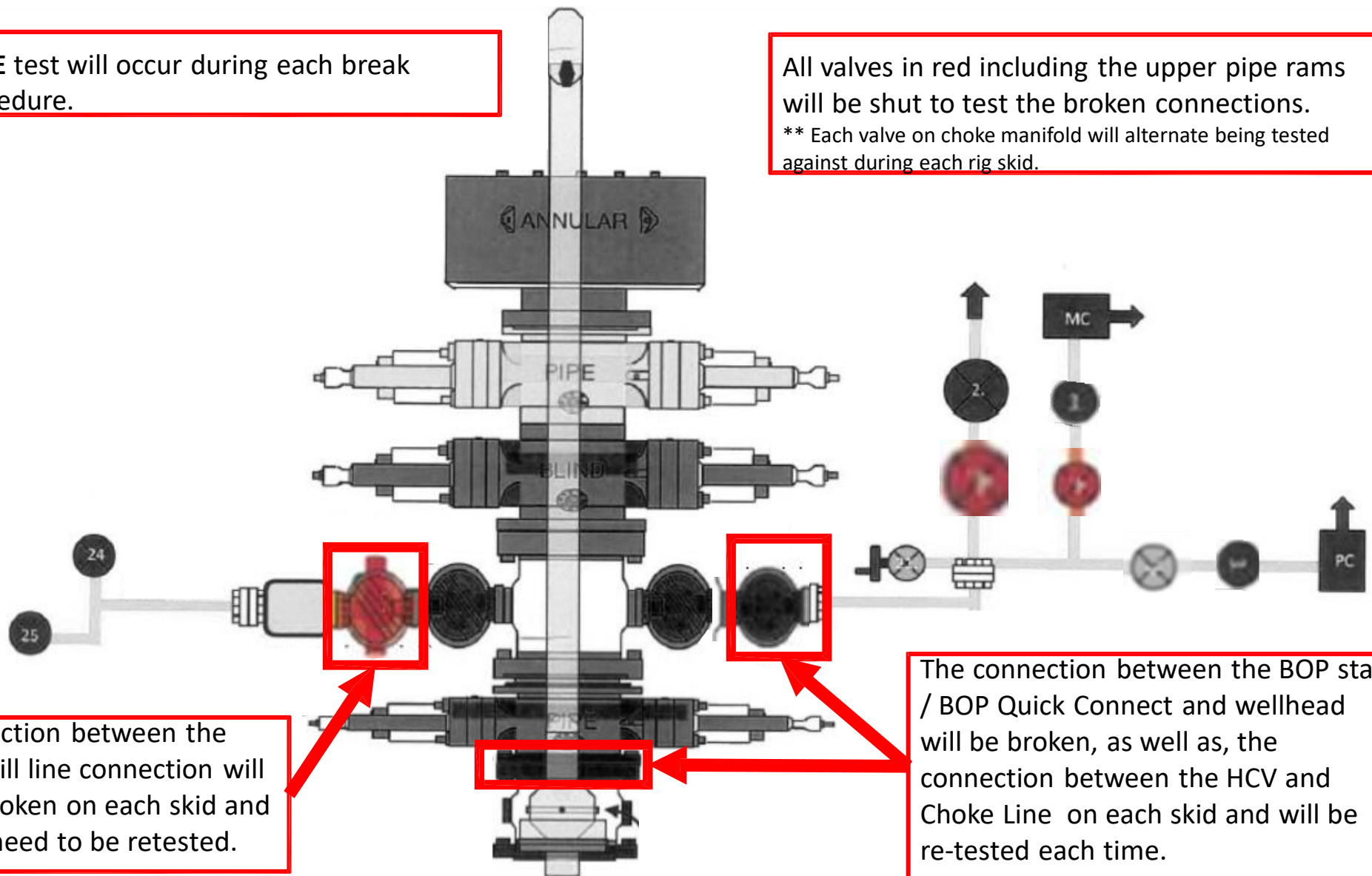
Based on discussions with the BLM on February 27th 2020 and the supporting documentation submitted to the BLM, we will request permission to **ONLY** retest broken pressure seals if the following conditions are met:

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.

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

### 10,000 PSI Annular BOP Variance Request

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

#### 1. Component and Preventer Compatibility Tables

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

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



## 2. Well Control Procedures

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

### General Procedure While Drilling

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

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

#### General Procedure While Tripping

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

#### General Procedure While Running Production Casing

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

General Procedure With No Pipe In Hole (Open Hole)

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

General Procedures While Pulling BHA Through Stack

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

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

XTO Energy Inc.  
PLU 19 Dog Town Draw 410H  
Projected TD: 25365.54' MD / 9913' TVD  
SHL: 272' FNL & 1626' FEL , Section 19, T24S, R30E  
BHL: 50' FSL & 1019' 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	9763'	Water/Oil/Gas
<b>Target/Land Curve</b>	<b>9913'</b>	Water/Oil/Gas

\*\*\* Hydrocarbons @ Brushy Canyon

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

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 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 9035.36' and cemented to surface. A 6.75 inch curve and 6.75 inch lateral hole will be drilled to 25365.54 MD/TD and 5.5 inch production casing will be set at TD and cemented back up in the intermediate shoe (estimated TOC 8735.36 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	1.84	8.06	20.17
8.75	0' – 4000'	7.625	29.7	RY P-110	Flush Joint	New	3.07	2.92	2.08
8.75	4000' – 9035.36'	7.625	29.7	HC L-80	Flush Joint	New	2.24	2.65	2.71
6.75	0' – 8935.36'	5.5	20	RY P-110	Semi-Premium	New	1.05	2.34	2.05
6.75	8935.36' - 25365.54'	5.5	20	RY P-110	Semi-Flush	New	1.05	2.11	2.05

- 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 +/- 9035.36'**

###### 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: 280 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 +/- 25365.54'**

Lead: 20 sxs NeoCem (mixed at 11.5 ppg, 2.69 ft<sup>3</sup>/sx, 15.00 gal/sx water) Top of Cement: 8735.36 feet

Tail: 1150 sxs VersaCem (mixed at 13.2 ppg, 1.51 ft<sup>3</sup>/sx, 8.38 gal/sx water) Top of Cement: 9235.36 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 3077 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' - 9035.36'	8.75	FW / Cut Brine / Direct Emulsion	8.8-9.3	30-32	NC
9035.36' - 25365.54'	6.75	OBM	10.2-10.7	50-60	NC - 20

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

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

## 7. Auxiliary Well Control and Monitoring Equipment

- A Kelly cock will be in the drill string at all times.
- A full opening drill pipe stabbing valve having appropriate connections will be on the rig floor at all times.
- H2S monitors will be on location when drilling below the 9.625 casing.

## 8. Logging, Coring and Testing Program

Open hole logging will not be done on this well.

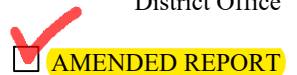
## 9. Abnormal Pressures and Temperatures / Potential Hazards

None Anticipated. BHT of 165 to 185 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 5258 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.

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



  
  
MARK DILLON HARP 23786  
 Certificate Number

Intent ☐ As Drilled ☐

API #		
Operator Name:	Property Name:	Well Number

## Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

## First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

## Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

Is this well the defining well for the Horizontal Spacing Unit? ☐Is this well an infill well? ☐

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #		
Operator Name:	Property Name:	Well Number

KZ 06/29/2018

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

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

CONDITIONS  
  
Action 328856

CONDITIONS

Operator: XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	OGRID: 373075
	Action Number: 328856
	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.	4/11/2024