U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

# Sundry Print Report

05/18/2024

**Well Name:** POKER LAKE UNIT 20 DTD

**Well Location:** T24S / R30E / SEC 20 / NENE / 32.209257 / -103.896847

**County or Parish/State:** EDDY / NM

**Well Number:** 421H

**Type of Well:** CONVENTIONAL GAS WELL

**Allottee or Tribe Name:**

**Lease Number:** NMNM02860

**Unit or CA Name:** POKER LAKE UNIT

**Unit or CA Number:** NMNM71016X

**US Well Number:**

**Operator:** XTO PERMIAN OPERATING LLC

## Notice of Intent

**Sundry ID:** 2781335

**Type of Submission:** Notice of Intent

**Type of Action:** APD Change

**Date Sundry Submitted:** 03/24/2024

**Time Sundry Submitted:** 08:53

**Date proposed operation will begin:** 05/01/2024

**Procedure Description:** XTO Permian Operating, LLC. respectfully requests approval to make the following changes to the approved APD. Changes to include FTP, LTP, BHL, casing sizes, cement, proposed total depth, and formation (pool). FROM: TO: FTP: 100' FSL & 1430' FEL of Section 17-T24S-R30E 100' FNL & 1319' FEL of Section 20-T24S-R30E LTP: 330' FNL & 1430' FEL of Section 32-T23S-R30E 100' FSL & 1005' FEL of Section 5-T25S-R30E BHL: 200' FNL & 1430' FEL of Section 32-T23S-R30E 50' FSL & 1005' FEL of Section 5-T25S-R30E Proposed total depth will change from 31993’ MD; 10762’ TVD (Wolfcamp) to 30225’ MD; TVD 9405’ (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**

PLU_20_DTD_421H_BLM_APD_Change_Sundry_Attachments_20240324085320.pdf

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**Operator:** XTO PERMIAN OPERATING LLC

## Conditions of Approval

**Additional**

Sec_20_24S_30E_NMP_Sundry_2781335_Poker_Lake_Unit_20_DTD_421H_COAs_20240404134154.pdf

## Operator

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

**Operator Electronic Signature:** RICHARD REDUS

**Signed on:** MAR 24, 2024 08:53 AM

**Name:** XTO PERMIAN OPERATING LLC

**Title:** Permitting Manager

**Street Address:** 22777 SPRINGWOODS VILLAGE PARKWAY

**City:** SPRING **State:** TX

**Phone:** (720) 539-1673

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

## Field

**Representative Name:**

**Street Address:**

**City:** **State:** **Zip:**

**Phone:**

**Email address:**

## BLM Point of Contact

**BLM POC Name:** CHRISTOPHER WALLS

**BLM POC Title:** Petroleum Engineer

**BLM POC Phone:** 5752342234

**BLM POC Email Address:** cwalls@blm.gov

**Disposition:** Approved

**Disposition Date:** 05/17/2024

**Signature:** Chris Walls

Form 3160-5
(June 2019)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

**SUNDRY NOTICES AND REPORTS ON WELLS**

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

***SUBMIT IN TRIPLICATE*** *- Other instructions on page 2*

5. Lease Serial No. NMNM02860

6. If Indian, Allottee or Tribe Name

7. If Unit of CA/Agreement, Name and/or No. POKER LAKE UNIT/NMNM71016X

1. Type of Well
☐ Oil Well ☑ Gas Well ☐ Other

8. Well Name and No. POKER LAKE UNIT 20 DTD/421H

2. Name of Operator XTO PERMIAN OPERATING LLC

9. API Well No.

3a. Address 6401 HOLIDAY HILL ROAD BLDG 5, MIDLAND,

3b. Phone No. *(include area code)* (432) 683-2277

10. Field and Pool or Exploratory Area Gatuna Canyon/Wolfcamp

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)* SEC 20/T24S/R30E/NMP

11. Country or Parish, State EDDY/NM

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

| TYPE OF SUBMISSION | TYPE OF ACTION | | | |
|---|---|---|---|---|
| ☑ Notice of Intent | ☐ Acidize | ☐ Deepen | ☐ Production (Start/Resume) | ☐ Water Shut-Off |
| | ☐ Alter Casing | ☐ Hydraulic Fracturing | ☐ Reclamation | ☐ Well Integrity |
| ☐ Subsequent Report | ☐ Casing Repair | ☐ New Construction | ☐ Recomplete | ☐ Other |
| | ☑ Change Plans | ☐ Plug and Abandon | ☐ Temporarily Abandon | |
| ☐ Final Abandonment Notice | ☐ Convert to Injection | ☐ Plug Back | ☐ 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 recomplete 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.)

XTO Permian Operating, LLC. respectfully requests approval to make the following changes to the approved APD. Changes to include FTP, LTP, BHL, casing sizes, cement, proposed total depth, and formation (pool).

FROM: TO:

FTP: 100' FSL & 1430' FEL of Section 17-T24S-R30E 100' FNL & 1319' FEL of Section 20-T24S-R30E
LTP: 330' FNL & 1430' FEL of Section 32-T23S-R30E 100' FSL & 1005' FEL of Section 5-T25S-R30E
BHL: 200' FNL & 1430' FEL of Section 32-T23S-R30E 50' FSL & 1005' FEL of Section 5-T25S-R30E

Proposed total depth will change from 31993 MD; 10762 TVD (Wolfcamp) to 30225 MD; TVD 9405 (Bone Spring).

See attached Drilling Plan for updated cement and casing program.

Continued on page 3 additional information

14. I hereby certify that the foregoing is true and correct. Name *(Printed/Typed)* RICHARD REDUS / Ph: (720) 539-1673

Title Permitting Manager

Signature (Electronic Submission)

Date 03/24/2024

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

Approved by CHRISTOPHER WALLS / Ph: (575) 234-2234 / Approved

Title Petroleum Engineer

Date 05/17/2024

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 CARLSBAD

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 ofthis form to U.S. Department ofthe Interior, Bureau ofLand 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: NENE / 432 FNL / 607 FEL / TWSP: 24S / RANGE: 30E / SECTION: 20 / LAT: 32.209257 / LONG: -103.896847 ( TVD: 0 feet, MD: 0 feet )

PPP: SWSE / 330 FSL / 1430 FEL / TWSP: 24S / RANGE: 30E / SECTION: 8 / LAT: 32.22543 / LONG: -103.89957 ( TVD: 10762 feet, MD: 16500 feet )

PPP: SWSE / 100 FSL / 1430 FEL / TWSP: 24S / RANGE: 30E / SECTION: 17 / LAT: 32.210705 / LONG: -103.899506 ( TVD: 10762 feet, MD: 11200 feet )

PPP: SWSE / 330 FSL / 1430 FEL / TWSP: 24S / RANGE: 30E / SECTION: 5 / LAT: 32.24009 / LONG: -103.89957 ( TVD: 10762 feet, MD: 21800 feet )

BHL: NWNE / 200 FNL / 1430 FEL / TWSP: 23S / RANGE: 30E / SECTION: 32 / LAT: 32.26806 / LONG: -103.899511 ( TVD: 10762 feet, MD: 31993 feet )

# PECOS DISTRICT
# DRILLING CONDITIONS OF APPROVAL

| | |
|---|---|
| **OPERATOR'S NAME:** | XTO Permian Operating LLC |
| **WELL NAME & NO.:** | Poker Lake Unit 20 421H |
| **LOCATION:** | Sec 20-24S-30E-NMP |
| **COUNTY:** | Eddy County, New Mexico |

*Changes approved through engineering via **Sundry 2781335** on 04/04/2024. Any previous COAs not addressed within the updated COAs still apply.*

COA

| | | | | |
|---|---|---|---|---|
| **$H_2S$** | ○ No | ○ Yes | | |
| **Potash / WIPP** | ○ None | ○ Secretary | ○ R-111-P | ☐ WIPP |
| **Cave / Karst** | ○ Low | ○ Medium | ○ High | ○ Critical |
| **Wellhead** | ○ Conventional | ○ Multibowl | ○ Both | ○ Diverter |
| **Cementing** | ☐ Primary Squeeze | ☑ Cont. Squeeze | ☐ EchoMeter | ☐ DV Tool |
| **Special Req** | ☑ Break Testing | ☐ Water Disposal | ☐ COM | ☑ Unit |
| **Variance** | ☑ Flex Hose | ☐ Casing Clearance | ☐ Pilot Hole | ☐ Capitan Reef |
| **Variance** | ☐ Four-String | ☑ Offline Cementing | ☐ Fluid-Filled | ☐ Open Annulus |
| ☐ **Batch APD / Sundry** | | | | |

## A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet 43 CFR 3176 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

## B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately 700 feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface. ***Set depth adjusted per BLM geologist.***

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead

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

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

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

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

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

3. The minimum required fill of cement behind the **6** inch production casing is:

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

## C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'

2. Operator has proposed a multi-bowl wellhead assembly. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
c. Manufacturer representative shall install the test plug for the initial BOP test.
d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
e. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172 must be followed.

## D. SPECIAL REQUIREMENT (S)

**Unit Wells**

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

**Commercial Well Determination**

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

**BOPE Break Testing Variance**

- BOPE Break Testing is ONLY permitted for 5M BOPE or less. **(Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP)**
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer **(575-706-2779)** prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted (575-361-2822 Eddy County) 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per Onshore Oil and Gas Order No. 2.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

**Offline Cementing**

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

# GENERAL REQUIREMENTS

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

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

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

Email **or** call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
BLM_NM_CFO_DrillingNotifications@blm.gov; (575) 361-2822

**Lea County (API No. / US Well No. contains 30-025-#####)**
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240; (575) 689-5981

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per **43 CFR part 3170 Subpart 3172** as soon as 2nd Rig is rigged up on well.
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 intergrity 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.

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 Road, Aztec, NM 87410
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District IV
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State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

☑ AMENDED REPORT

# WELL LOCATION AND ACREAGE DEDICATION PLAT

| [1] APD ID | [2] Pool Code | [3] Pool Name |
|---|---|---|
| 10400089183 | 97814 | Wildcat;Bone Spring |

| [4] Property Code | [5] Property Name | [6] Well Number |
|---|---|---|
| | POKER LAKE UNIT 20 DTD | 421H |

| [7] OGRID No. | [8] Operator Name | [9] Elevation |
|---|---|---|
| 373075 | XTO PERMIAN OPERATING, LLC | 3,296' |

## [10] Surface Location

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| A | 20 | 24S | 30E | | 432 | NORTH | 607 | EAST | EDDY |

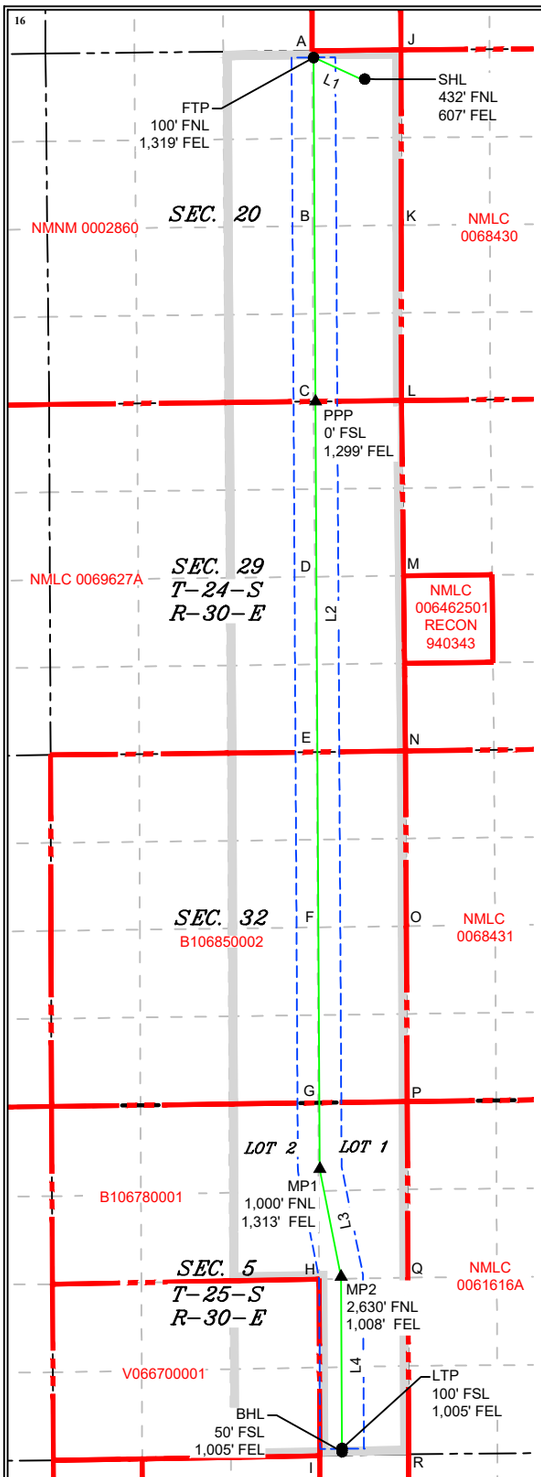
## [11] Bottom Hole Location If Different From Surface

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| P | 5 | 25S | 30E | | 50 | SOUTH | 1,005 | EAST | EDDY |

| [12] Dedicated Acres | [13] Joint or Infill | [14] Consolidation Code | [15] Order No. |
|---|---|---|---|
| 1,159.95 | | | |

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

16




## LEGEND

- SECTION LINE
- PROPOSED WELL BORE
- NEW MEXICO MINERAL LEASE
- 330' BUFFER
- ALLOCATION AREA

LOT ACREAGE TABLE

SECTION 5
T-25-S R-30-E
LOT 1 = 39.84 ACRES
LOT 2 = 40.11 ACRES

LINE TABLE

| LINE | AZIMUTH | LENGTH |
|---|---|---|
| L1 | 294°28'25" | 783.26' |
| L2 | 179°40'30" | 16,761.76' |
| L3 | 168°49'36" | 1,657.20' |
| L4 | 179°40'43" | 2,639.89' |

COORDINATE TABLE

| | SHL (NAD 83 NME) | SHL (NAD 27 NME) |
|---|---|---|
| Y = | 440,135.9 N | 440,076.6 N |
| X = | 676,335.4 E | 635,151.7 E |
| LAT. = | 32.209257 °N | 32.209133 °N |
| LONG. = | 103.896847 °W | 103.896360 °W |

| | FTP (NAD 83 NME) | FTP (NAD 27 NME) |
|---|---|---|
| Y = | 440,460.4 N | 440,401.1 N |
| X = | 675,822.5 E | 634,438.8 E |
| LAT. = | 32.210157 °N | 32.210032 °N |
| LONG. = | 103.899148 °W | 103.898660 °W |

| | PPP (NAD 83 NME) | PPP (NAD 27 NME) |
|---|---|---|
| Y = | 435,273.2 N | 435,214.0 N |
| X = | 675,652.0 E | 634,468.1 E |
| LAT. = | 32.195898 °N | 32.195773 °N |
| LONG. = | 103.899120 °W | 103.898634 °W |

| | MP1 (NAD 83 NME) | MP1 (NAD 27 NME) |
|---|---|---|
| Y = | 423,698.9 N | 423,640.0 N |
| X = | 675,717.7 E | 634,533.4 E |
| LAT. = | 32.164081 °N | 32.163956 °N |
| LONG. = | 103.899059 °W | 103.898574 °W |

| | MP2 (NAD 83 NME) | MP2 (NAD 27 NME) |
|---|---|---|
| Y = | 422,073.1 N | 422,014.3 N |
| X = | 676,038.8 E | 634,854.5 E |
| LAT. = | 32.159608 °N | 32.159484 °N |
| LONG. = | 103.898042 °W | 103.897557 °W |

| | LTP (NAD 83 NME) | LTP (NAD 27 NME) |
|---|---|---|
| Y = | 419,483.2 N | 419,424.5 N |
| X = | 676,053.3 E | 634,868.9 E |
| LAT. = | 32.152489 °N | 32.152364 °N |
| LONG. = | 103.898029 °W | 103.897544 °W |

| | BHL (NAD 83 NME) | BHL (NAD 27 NME) |
|---|---|---|
| Y = | 419,433.2 N | 419,374.5 N |
| X = | 676,053.6 E | 634,869.2 E |
| LAT. = | 32.152352 °N | 32.152227 °N |
| LONG. = | 103.898029 °W | 103.897544 °W |

CORNER COORDINATES (NAD 83 NME)

| | | | |
|---|---|---|---|
| A - Y = | 440,560.2 N | A - X = | 675,601.6 E |
| B - Y = | 437,916.2 N | B - X = | 675,611.7 E |
| C - Y = | 435,272.8 N | C - X = | 675,621.8 E |
| D - Y = | 432,629.6 N | D - X = | 675,647.0 E |
| E - Y = | 429,987.0 N | E - X = | 675,672.5 E |
| F - Y = | 427,344.2 N | F - X = | 675,684.2 E |
| G - Y = | 424,698.7 N | G - X = | 675,695.7 E |
| H - Y = | 422,038.9 N | H - X = | 675,706.9 E |
| I - Y = | 419,377.0 N | I - X = | 675,718.6 E |
| J - Y = | 440,574.0 N | J - X = | 676,941.2 E |
| K - Y = | 437,930.7 N | K - X = | 676,946.1 E |
| L - Y = | 435,287.9 N | L - X = | 676,950.7 E |
| M - Y = | 432,645.4 N | M - X = | 676,980.5 E |
| N - Y = | 430,004.1 N | N - X = | 677,010.5 E |
| O - Y = | 427,361.7 N | O - X = | 677,023.8 E |
| P - Y = | 424,716.9 N | P - X = | 677,036.7 E |
| Q - Y = | 422,064.1 N | Q - X = | 677,047.1 E |
| R - Y = | 419,401.9 N | R - X = | 677,058.4 E |

CORNER COORDINATES (NAD 27 NME)

| | | | |
|---|---|---|---|
| A - Y = | 440,500.9 N | A - X = | 634,417.9 E |
| B - Y = | 437,857.0 N | B - X = | 634,427.9 E |
| C - Y = | 435,213.7 N | C - X = | 634,437.9 E |
| D - Y = | 432,570.5 N | D - X = | 634,463.1 E |
| E - Y = | 429,928.0 N | E - X = | 634,488.4 E |
| F - Y = | 427,285.3 N | F - X = | 634,500.0 E |
| G - Y = | 424,639.8 N | G - X = | 634,511.5 E |
| H - Y = | 421,980.1 N | H - X = | 634,522.6 E |
| I - Y = | 419,318.3 N | I - X = | 634,534.2 E |
| J - Y = | 440,514.7 N | J - X = | 635,757.5 E |
| K - Y = | 437,871.5 N | K - X = | 635,762.3 E |
| L - Y = | 435,228.8 N | L - X = | 635,766.8 E |
| M - Y = | 432,586.3 N | M - X = | 635,796.5 E |
| N - Y = | 429,945.0 N | N - X = | 635,826.4 E |
| O - Y = | 427,302.8 N | O - X = | 635,839.6 E |
| P - Y = | 424,658.0 N | P - X = | 635,852.5 E |
| Q - Y = | 422,005.3 N | Q - X = | 635,862.8 E |
| R - Y = | 419,343.1 N | R - X = | 635,874.0 E |

## [17] OPERATOR CERTIFICATION

*I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.*

Manish Saini 03/21/2024
Signature Date

Manish Saini
Printed Name

manish.saini@exxonmobil.com
E-mail Address

## [18] SURVEYOR CERTIFICATION

*I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.*

3/15/2024
Date of Survey

Signature and Seal of Professional Surveyor:

MARK DILLON HARP NEW MEXICO 23786 PROFESSIONAL SURVEYOR

MARK DILLON HARP 23786
Certificate Number

RP/AI 618.013003.06-53

J:\618.013 XTO Energy - NM\003 Poker Lake Unit\06 - PLU 20 DTD - EDDY\Wells\53 - 421H\DWG\SOUTH 421H C-102.dwg

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

XTO Energy Inc.
PLU 20 Dog Town Draw 421H
Projected TD: 30225.963' MD / 9405' TVD
SHL: 432' FNL & 607' FEL , Section 20, T24S, R30E
BHL: 50' FSL & 1005' FEL , Section 5, T25S, R30E
Eddy County, NM

**1. Geologic Name of Surface Formation**

A. Quaternary

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

| Formation | Well Depth (TVD) | Water/Oil/Gas |
|---|---|---|
| Rustler | 935' | Water |
| Top of Salt | 1338' | Water |
| Base of Salt | 3531' | Water |
| Delaware | 3725' | Water |
| Brushy Canyon | 6223' | Water/Oil/Gas |
| Bone Spring | 7519' | Water |
| 1st Bone Spring | 8505' | Water/Oil/Gas |
| 2nd Bone Spring | 9323' | Water/Oil/Gas |
| **Target/Land Curve** | 9405' | Water/Oil/Gas |
| | | |

*** Hydrocarbons @ Brushy Canyon
*** Groundwater depth 40' (per NM State Engineers Office).

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 13.375 inch casing @ 1035' (303' above the salt) and circulating cement back to surface. The intermediate will isolate from the top of salt down to the next casing seat by setting 9.625 inch casing at 8546.19' and cemented to surface. A 8.5 inch curve and 8.5 inch lateral hole will be drilled to 30225.963 MD/TD and 6 inch production casing will be set at TD and cemented back up in the intermediate shoe (estimated TOC 8246.19 feet).

**3. Casing Design**

| Hole Size | Depth | OD Csg | Weight | Grade | Collar | New/Used | SF Burst | SF Collapse | SF Tension |
|---|---|---|---|---|---|---|---|---|---|
| 17.5 | 0' – 1035' | 13.375 | 54.5 | J-55 | BTC | New | 1.35 | 2.50 | 16.11 |
| 12.25 | 0' – 4000' | 9.625 | 40 | HC P-110 | BTC | New | 3.32 | 2.31 | 3.70 |
| 12.25 | 4000' – 8546.19' | 9.625 | 40 | HC L-80 | BTC | New | 2.41 | 2.05 | 5.04 |
| 8.5 | 0' – 8446.19' | 6 | 26 | P-110 | Semi-Premium | New | 1.17 | 3.40 | 1.70 |
| 8.5 | 8446.19' - 30225.963' | 6 | 26 | P-110 | Semi-Premium | New | 1.17 | 3.05 | 1.90 |

· XTO requests the option to utilize a spudder rig (Atlas Copco RD20 or Equivalent) to set and cement surface casing per this Sundry
· XTO requests to not utilize centralizers in the curve and lateral
· 9.625 Collapse analyzed using 50% evacuation based on regional experience.
· 6 Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35
· Test on Casing will be limited to 70% burst of the casing or 1500 psi, whichever is less
. XTO requests the option to use **5.5"** BTC Float equipment for the the production casing

**Wellhead:**

*Permanent Wellhead – Multibowl System*

A. Starting Head: 13-5/8” 10M top flange x 13-3/8” SOW bottom (or equivalent)

B. Tubing Head: 13-5/8” 10M bottom flange x 7-1/16” 15M top flange (or equivalent)

- Wellhead will be installed by manufacturer’s representatives.
- Manufacturer will monitor welding process to ensure appropriate temperature of seal.
- Operator will test the 9-5/8" casing per BLM Onshore Order 2
- Wellhead Manufacturer representative will not be present for BOP test plug installation

**4. Cement Program**

***Surface Casing: 13.375, 54.5 New BTC, J-55 casing to be set at +/- 1035'***

Lead: 540 sxs EconoCem-HLTRRC (mixed at 10.5 ppg, 1.87 ft3/sx, 10.13 gal/sx water)
Tail: 300 sxs Class C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)
Top of Cement: Surface
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

***2nd Intermediate Casing: 9.625, 40 New casing to be set at +/- 8546.19'***
*1st Stage*
Optional Lead: 1050 sxs Class C (mixed at 10.5 ppg, 2.77 ft3/sx, 15.59 gal/sx water)
TOC: Surface
Tail: 670 sxs Class C (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)
TOC: Brushy Canyon @ 6223
Compressives: 12-hr = 900 psi 24 hr = 1150 psi

*2nd Stage*
Lead: 0 sxs Class C (mixed at 12.9 ppg, 2.16 ft3/sx, 9.61 gal/sx water)
Tail: 2190 sxs Class C (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water)
Top of Cement: 0
Compressives: 12-hr = 900 psi 24 hr = 1150 psi

XTO requests to pump a two stage cement job on the 9-5/8" intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brush Canyon (6223') and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. If cement is not visually confirmed to circulate to surface, the final cement top after the second stage job will be verified by Echo-meter. If necessary, a top out consisting of 1,500 sack of Class C cement + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (2.30 yld, 12.91 ppg) will be executed as a contingency. If cement is still unable to circulate to surface, another Echo-meter run will be performed for cement top verification.

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

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

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

***Production Casing: 6, 26 New Semi-Premium, P-110 casing to be set at +/- 30225.963'***

Lead: 40 sxs NeoCem (mixed at 11.5 ppg, 2.69 ft3/sx, 15.00 gal/sx water) Top of Cement: 8246.19 feet
Tail: 3650 sxs VersaCem (mixed at 13.2 ppg, 1.51 ft3/sx, 8.38 gal/sx water) Top of Cement: 8746.19 feet
Compressives: 12-hr = 800 psi 24 hr = 1500 psi

XTO requests the option to offline cement and remediate (if needed) surface and intermediate casing strings where batch drilling is approved and if unplanned remediation is needed. XTO will ensure well is static with no pressure on the csg annulus, as with all other casing strings where batch drilling operations occur before moving off the rig. The TA cap will also be installed when applicable per Cactus procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops. Offline cement operations will then be conducted after the rig is moved off the current well to the next well in the batch sequence.

**5. Pressure Control Equipment**

Once the permanent WH is installed on the 13.375 casing, the blow out preventer equipment (BOP) will consist of a 13-5/8" minimum 3M Hydril and a 13-5/8" minimum 10M Double Ram BOP. MASP should not exceed 2381 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 nippling up on the 13.375, 3M bradenhead and flange, the BOP test will be limited to 3000 psi. When nippling up on the 9.625, the BOP will be tested to a minimum of 3000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 3M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each week.

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

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

hole on each of the wells.

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

**6. Proposed Mud Circulation System**

| INTERVAL | Hole Size | Mud Type | MW (ppg) | Viscosity (sec/qt) | Fluid Loss (cc) |
|---|---|---|---|---|---|
| 0' - 1035' | 17.5 | FW/Native | 8.4-8.9 | 35-40 | NC |
| 1035' - 8546.19' | 12.25 | FW / Cut Brine / Direct Emulsion | 8.8-9.3 | 30-32 | NC |
| 8546.19' - 30225.963' | 8.5 | OBM | 9.1-9.6 | 50-60 | NC - 20 |

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

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

**7. Auxiliary Well Control and Monitoring Equipment**

A. A Kelly cock will be in the drill string at all times.
B. A full opening drill pipe stabbing valve having appropriate connections will be on the rig floor at all times.
C. H2S monitors will be on location when drilling below the 13.375 casing.

**8. Logging, Coring and Testing Program**

Open hole logging will not be done on this well.

**9. Abnormal Pressures and Temperatures / Potential Hazards**

None Anticipated. BHT of 160 to 180 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 4450 psi.

**10. Anticipated Starting Date and Duration of Operations**

Anticipated spud date will be after BLM approval. Move in operations and drilling is expected to take 40 days.

# Well Plan Report - Poker Lake Unit 20 DTD South 421H

| | |
|---|---|
| **Measured Depth:** | 30225.96 ft |
| **TVD RKB:** | 9405.00 ft |
| **Location** | |
| **Cartographic Reference System:** | New Mexico East - NAD 27 |
| **Northing:** | 440076.60 ft |
| **Easting:** | 635151.70 ft |
| **RKB:** | 3328.00 ft |
| **Ground Level:** | 3296.00 ft |
| **North Reference:** | Grid |
| **Convergence Angle:** | 0.23 Deg |

**Plan Sections** Poker Lake Unit 20 DTD South 421H

| Measured Depth (ft) | Inclination (Deg) | Azimuth (Deg) | TVD RKB (ft) | Y Offset (ft) | X Offset (ft) | Build Rate (Deg/100ft) | Turn Rate (Deg/100ft) | Dogleg Rate (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 | |
| 1530.89 | 8.62 | 294.47 | 1529.27 | 13.40 | -29.44 | 2.00 | 0.00 | 2.00 | |
| 6326.50 | 8.62 | 294.47 | 6270.73 | 311.10 | -683.46 | 0.00 | 0.00 | 0.00 | |
| 6757.39 | 0.00 | 0.00 | 6700.00 | 324.50 | -712.90 | -2.00 | 0.00 | 2.00 | |
| 8746.19 | 0.00 | 0.00 | 8688.80 | 324.50 | -712.90 | 0.00 | 0.00 | 0.00 | |
| 9871.19 | 90.00 | 179.68 | 9405.00 | -391.69 | -708.86 | 8.00 | 0.00 | 8.00 | |
| 9871.21 | 90.00 | 179.68 | 9405.00 | -391.71 | -708.86 | 0.00 | 0.00 | 0.00 | |
| 25916.36 | 90.00 | 179.68 | 9405.00 | -16436.60 | -618.30 | 0.00 | 0.00 | 0.00 | MP1 421H |
| 26598.75 | 90.00 | 166.03 | 9405.00 | -17112.09 | -533.60 | -0.00 | -2.00 | 2.00 | |
| 27577.93 | 90.00 | 166.03 | 9405.00 | -18062.30 | -297.20 | 0.00 | 0.00 | 0.00 | MP2 421H |
| 28385.73 | 90.00 | 182.19 | 9405.00 | -18863.18 | -214.54 | 0.00 | 2.00 | 2.00 | |
| 30175.96 | 90.00 | 182.19 | 9405.00 | -20652.10 | -282.80 | 0.00 | 0.00 | 0.00 | LTP 21 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 30225.96 | 90.00 | 182.19 | 9405.00 | -20702.07 | -284.71 | 0.00 | 0.00 | 0.00 BHL 21 |

**Position Uncertainty** Poker Lake Unit 20 DTD South 421H

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | TVD RKB (ft) | Highside Error (ft) | Bias (ft) | Lateral Error (ft) | Bias (ft) | Vertical Error (ft) | Bias (ft) | Magnitude of Bias (ft) | Semi-major Error (ft) | Semi-minor Error (ft) | Semi-minor Azimuth (°) | Tool Used |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 2.347 | 0.000 | 0.000 | 2.108 | 1.344 | 126.713 | MWD+IFR1+MS |
| 500.000 | 0.000 | 0.000 | 500.000 | 2.240 | 0.000 | 2.034 | 0.000 | 2.374 | 0.000 | 0.000 | 2.503 | 1.701 | 127.419 | MWD+IFR1+MS |
| 600.000 | 0.000 | 0.000 | 600.000 | 2.607 | 0.000 | 2.405 | 0.000 | 2.406 | 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 | 2.443 | 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 | 2.484 | 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 | 2.530 | 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 | 2.580 | 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 | 2.633 | 0.000 | 0.000 | 4.752 | 3.849 | 128.859 | MWD+IFR1+MS |
| 1200.000 | 2.000 | 294.474 | 1199.980 | 4.372 | 0.000 | 5.048 | 0.000 | 2.689 | 0.000 | 0.000 | 5.067 | 4.353 | 124.106 | MWD+IFR1+MS |
| 1300.000 | 4.000 | 294.474 | 1299.838 | 5.245 | 0.000 | 5.381 | 0.000 | 2.749 | 0.000 | 0.000 | 5.388 | 5.245 | 101.027 | MWD+IFR1+MS |
| 1400.000 | 6.000 | 294.474 | 1399.452 | 6.008 | 0.000 | 5.717 | 0.000 | 2.814 | 0.000 | 0.000 | 6.085 | 5.651 | 46.987 | MWD+IFR1+MS |
| 1500.000 | 8.000 | 294.474 | 1498.702 | 6.695 | 0.000 | 6.056 | 0.000 | 2.887 | 0.000 | 0.000 | 6.804 | 5.965 | 43.190 | MWD+IFR1+MS |
| 1530.893 | 8.618 | 294.474 | 1529.271 | 6.790 | 0.000 | 6.154 | 0.000 | 2.904 | 0.000 | 0.000 | 6.907 | 6.062 | 43.204 | MWD+IFR1+MS |
| 1600.000 | 8.618 | 294.474 | 1597.597 | 6.992 | 0.000 | 6.375 | 0.000 | 2.951 | 0.000 | 0.000 | 7.112 | 6.280 | 43.709 | MWD+IFR1+MS |
| 1700.000 | 8.618 | 294.474 | 1696.468 | 7.295 | 0.000 | 6.715 | 0.000 | 3.024 | 0.000 | 0.000 | 7.423 | 6.607 | 45.240 | MWD+IFR1+MS |
| 1800.000 | 8.618 | 294.474 | 1795.339 | 7.610 | 0.000 | 7.065 | 0.000 | 3.100 | 0.000 | 0.000 | 7.751 | 6.939 | 47.053 | MWD+IFR1+MS |
| 1900.000 | 8.618 | 294.474 | 1894.210 | 7.930 | 0.000 | 7.417 | 0.000 | 3.179 | 0.000 | 0.000 | 8.085 | 7.274 | 48.731 | MWD+IFR1+MS |
| 2000.000 | 8.618 | 294.474 | 1993.081 | 8.255 | 0.000 | 7.771 | 0.000 | 3.260 | 0.000 | 0.000 | 8.423 | 7.610 | 50.278 | MWD+IFR1+MS |
| 2100.000 | 8.618 | 294.474 | 2091.952 | 8.584 | 0.000 | 8.126 | 0.000 | 3.343 | 0.000 | 0.000 | 8.765 | 7.948 | 51.701 | MWD+IFR1+MS |
| 2200.000 | 8.618 | 294.474 | 2190.823 | 8.916 | 0.000 | 8.483 | 0.000 | 3.429 | 0.000 | 0.000 | 9.110 | 8.288 | 53.006 | MWD+IFR1+MS |
| 2300.000 | 8.618 | 294.474 | 2289.694 | 9.252 | 0.000 | 8.840 | 0.000 | 3.517 | 0.000 | 0.000 | 9.458 | 8.629 | 54.204 | MWD+IFR1+MS |
| 2400.000 | 8.618 | 294.474 | 2388.565 | 9.591 | 0.000 | 9.199 | 0.000 | 3.606 | 0.000 | 0.000 | 9.808 | 8.972 | 55.303 | MWD+IFR1+MS |
| 2500.000 | 8.618 | 294.474 | 2487.436 | 9.932 | 0.000 | 9.559 | 0.000 | 3.698 | 0.000 | 0.000 | 10.161 | 9.316 | 56.312 | MWD+IFR1+MS |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2600.000 | 8.618 | 294.474 | 2586.307 | 10.275 | 0.000 | 9.919 | 0.000 | 3.791 | 0.000 | 0.000 | 10.515 | 9.662 | 57.240 | MWD+IFR1+MS |
| 2700.000 | 8.618 | 294.474 | 2685.178 | 10.620 | 0.000 | 10.281 | 0.000 | 3.886 | 0.000 | 0.000 | 10.871 | 10.009 | 58.093 | MWD+IFR1+MS |
| 2800.000 | 8.618 | 294.474 | 2784.049 | 10.967 | 0.000 | 10.642 | 0.000 | 3.983 | 0.000 | 0.000 | 11.228 | 10.356 | 58.879 | MWD+IFR1+MS |
| 2900.000 | 8.618 | 294.474 | 2882.920 | 11.316 | 0.000 | 11.005 | 0.000 | 4.081 | 0.000 | 0.000 | 11.586 | 10.705 | 59.604 | MWD+IFR1+MS |
| 3000.000 | 8.618 | 294.474 | 2981.790 | 11.667 | 0.000 | 11.368 | 0.000 | 4.181 | 0.000 | 0.000 | 11.946 | 11.055 | 60.275 | MWD+IFR1+MS |
| 3100.000 | 8.618 | 294.474 | 3080.661 | 12.019 | 0.000 | 11.731 | 0.000 | 4.282 | 0.000 | 0.000 | 12.306 | 11.406 | 60.896 | MWD+IFR1+MS |
| 3200.000 | 8.618 | 294.474 | 3179.532 | 12.372 | 0.000 | 12.095 | 0.000 | 4.385 | 0.000 | 0.000 | 12.668 | 11.758 | 61.472 | MWD+IFR1+MS |
| 3300.000 | 8.618 | 294.474 | 3278.403 | 12.726 | 0.000 | 12.460 | 0.000 | 4.489 | 0.000 | 0.000 | 13.030 | 12.111 | 62.008 | MWD+IFR1+MS |
| 3400.000 | 8.618 | 294.474 | 3377.274 | 13.082 | 0.000 | 12.825 | 0.000 | 4.595 | 0.000 | 0.000 | 13.393 | 12.464 | 62.507 | MWD+IFR1+MS |
| 3500.000 | 8.618 | 294.474 | 3476.145 | 13.438 | 0.000 | 13.190 | 0.000 | 4.702 | 0.000 | 0.000 | 13.756 | 12.818 | 62.972 | MWD+IFR1+MS |
| 3600.000 | 8.618 | 294.474 | 3575.016 | 13.796 | 0.000 | 13.555 | 0.000 | 4.811 | 0.000 | 0.000 | 14.120 | 13.173 | 63.406 | MWD+IFR1+MS |
| 3700.000 | 8.618 | 294.474 | 3673.887 | 14.154 | 0.000 | 13.921 | 0.000 | 4.921 | 0.000 | 0.000 | 14.485 | 13.528 | 63.812 | MWD+IFR1+MS |
| 3800.000 | 8.618 | 294.474 | 3772.758 | 14.513 | 0.000 | 14.287 | 0.000 | 5.032 | 0.000 | 0.000 | 14.850 | 13.884 | 64.193 | MWD+IFR1+MS |
| 3900.000 | 8.618 | 294.474 | 3871.629 | 14.873 | 0.000 | 14.653 | 0.000 | 5.146 | 0.000 | 0.000 | 15.216 | 14.241 | 64.550 | MWD+IFR1+MS |
| 4000.000 | 8.618 | 294.474 | 3970.500 | 15.233 | 0.000 | 15.019 | 0.000 | 5.260 | 0.000 | 0.000 | 15.582 | 14.598 | 64.886 | MWD+IFR1+MS |
| 4100.000 | 8.618 | 294.474 | 4069.371 | 15.594 | 0.000 | 15.386 | 0.000 | 5.376 | 0.000 | 0.000 | 15.948 | 14.955 | 65.201 | MWD+IFR1+MS |
| 4200.000 | 8.618 | 294.474 | 4168.242 | 15.956 | 0.000 | 15.753 | 0.000 | 5.494 | 0.000 | 0.000 | 16.315 | 15.313 | 65.499 | MWD+IFR1+MS |
| 4300.000 | 8.618 | 294.474 | 4267.113 | 16.318 | 0.000 | 16.120 | 0.000 | 5.613 | 0.000 | 0.000 | 16.682 | 15.671 | 65.780 | MWD+IFR1+MS |
| 4400.000 | 8.618 | 294.474 | 4365.984 | 16.681 | 0.000 | 16.487 | 0.000 | 5.734 | 0.000 | 0.000 | 17.049 | 16.030 | 66.045 | MWD+IFR1+MS |
| 4500.000 | 8.618 | 294.474 | 4464.855 | 17.044 | 0.000 | 16.854 | 0.000 | 5.857 | 0.000 | 0.000 | 17.417 | 16.389 | 66.296 | MWD+IFR1+MS |
| 4600.000 | 8.618 | 294.474 | 4563.726 | 17.408 | 0.000 | 17.222 | 0.000 | 5.981 | 0.000 | 0.000 | 17.785 | 16.749 | 66.533 | MWD+IFR1+MS |
| 4700.000 | 8.618 | 294.474 | 4662.597 | 17.772 | 0.000 | 17.589 | 0.000 | 6.107 | 0.000 | 0.000 | 18.153 | 17.109 | 66.758 | MWD+IFR1+MS |
| 4800.000 | 8.618 | 294.474 | 4761.468 | 18.136 | 0.000 | 17.957 | 0.000 | 6.234 | 0.000 | 0.000 | 18.521 | 17.469 | 66.971 | MWD+IFR1+MS |
| 4900.000 | 8.618 | 294.474 | 4860.339 | 18.501 | 0.000 | 18.325 | 0.000 | 6.363 | 0.000 | 0.000 | 18.890 | 17.830 | 67.173 | MWD+IFR1+MS |
| 5000.000 | 8.618 | 294.474 | 4959.210 | 18.866 | 0.000 | 18.693 | 0.000 | 6.494 | 0.000 | 0.000 | 19.258 | 18.190 | 67.366 | MWD+IFR1+MS |
| 5100.000 | 8.618 | 294.474 | 5058.081 | 19.232 | 0.000 | 19.061 | 0.000 | 6.627 | 0.000 | 0.000 | 19.627 | 18.551 | 67.548 | MWD+IFR1+MS |
| 5200.000 | 8.618 | 294.474 | 5156.952 | 19.598 | 0.000 | 19.429 | 0.000 | 6.761 | 0.000 | 0.000 | 19.996 | 18.913 | 67.722 | MWD+IFR1+MS |
| 5300.000 | 8.618 | 294.474 | 5255.823 | 19.964 | 0.000 | 19.797 | 0.000 | 6.898 | 0.000 | 0.000 | 20.366 | 19.274 | 67.888 | MWD+IFR1+MS |
| 5400.000 | 8.618 | 294.474 | 5354.694 | 20.331 | 0.000 | 20.166 | 0.000 | 7.036 | 0.000 | 0.000 | 20.735 | 19.636 | 68.046 | MWD+IFR1+MS |
| 5500.000 | 8.618 | 294.474 | 5453.565 | 20.697 | 0.000 | 20.534 | 0.000 | 7.176 | 0.000 | 0.000 | 21.105 | 19.998 | 68.196 | MWD+IFR1+MS |
| 5600.000 | 8.618 | 294.474 | 5552.436 | 21.064 | 0.000 | 20.903 | 0.000 | 7.318 | 0.000 | 0.000 | 21.474 | 20.360 | 68.340 | MWD+IFR1+MS |
| 5700.000 | 8.618 | 294.474 | 5651.307 | 21.432 | 0.000 | 21.271 | 0.000 | 7.462 | 0.000 | 0.000 | 21.844 | 20.723 | 68.477 | MWD+IFR1+MS |
| 5800.000 | 8.618 | 294.474 | 5750.178 | 21.799 | 0.000 | 21.640 | 0.000 | 7.608 | 0.000 | 0.000 | 22.214 | 21.085 | 68.608 | MWD+IFR1+MS |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5900.000 | 8.618 | 294.474 | 5849.049 | 22.167 | 0.000 | 22.009 | 0.000 | 7.756 | 0.000 | 0.000 | 22.584 | 21.448 | 68.733 | MWD+IFR1+MS |
| 6000.000 | 8.618 | 294.474 | 5947.920 | 22.535 | 0.000 | 22.378 | 0.000 | 7.905 | 0.000 | 0.000 | 22.954 | 21.811 | 68.852 | MWD+IFR1+MS |
| 6100.000 | 8.618 | 294.474 | 6046.791 | 22.903 | 0.000 | 22.746 | 0.000 | 8.057 | 0.000 | 0.000 | 23.324 | 22.175 | 68.966 | MWD+IFR1+MS |
| 6200.000 | 8.618 | 294.474 | 6145.662 | 23.271 | 0.000 | 23.115 | 0.000 | 8.212 | 0.000 | 0.000 | 23.695 | 22.538 | 69.075 | MWD+IFR1+MS |
| 6300.000 | 8.618 | 294.474 | 6244.532 | 23.639 | 0.000 | 23.484 | 0.000 | 8.368 | 0.000 | 0.000 | 24.065 | 22.901 | 69.180 | MWD+IFR1+MS |
| 6326.496 | 8.618 | 294.474 | 6270.729 | 23.735 | 0.000 | 23.580 | 0.000 | 8.409 | 0.000 | 0.000 | 24.160 | 22.998 | 69.204 | MWD+IFR1+MS |
| 6400.000 | 7.148 | 294.474 | 6343.537 | 24.018 | 0.000 | 23.846 | 0.000 | 8.526 | 0.000 | 0.000 | 24.428 | 23.266 | 69.060 | MWD+IFR1+MS |
| 6500.000 | 5.148 | 294.474 | 6442.957 | 24.446 | 0.000 | 24.207 | 0.000 | 8.686 | 0.000 | 0.000 | 24.844 | 23.646 | 67.294 | MWD+IFR1+MS |
| 6600.000 | 3.148 | 294.474 | 6542.690 | 24.866 | 0.000 | 24.565 | 0.000 | 8.843 | 0.000 | 0.000 | 25.279 | 24.025 | 65.135 | MWD+IFR1+MS |
| 6700.000 | 1.148 | 294.474 | 6642.614 | 25.251 | 0.000 | 24.918 | 0.000 | 8.997 | 0.000 | 0.000 | 25.708 | 24.395 | 63.217 | MWD+IFR1+MS |
| 6757.390 | 0.000 | 0.000 | 6700.000 | 25.651 | 0.000 | 24.864 | 0.000 | 9.084 | 0.000 | 0.000 | 25.913 | 24.591 | 63.273 | MWD+IFR1+MS |
| 6800.000 | 0.000 | 0.000 | 6742.610 | 25.794 | 0.000 | 25.006 | 0.000 | 9.149 | 0.000 | 0.000 | 26.052 | 24.737 | 63.401 | MWD+IFR1+MS |
| 6900.000 | 0.000 | 0.000 | 6842.610 | 26.128 | 0.000 | 25.343 | 0.000 | 9.302 | 0.000 | 0.000 | 26.378 | 25.083 | 63.664 | MWD+IFR1+MS |
| 7000.000 | 0.000 | 0.000 | 6942.610 | 26.466 | 0.000 | 25.684 | 0.000 | 9.458 | 0.000 | 0.000 | 26.705 | 25.435 | 64.023 | MWD+IFR1+MS |
| 7100.000 | 0.000 | 0.000 | 7042.610 | 26.804 | 0.000 | 26.025 | 0.000 | 9.617 | 0.000 | 0.000 | 27.033 | 25.787 | 64.386 | MWD+IFR1+MS |
| 7200.000 | 0.000 | 0.000 | 7142.610 | 27.143 | 0.000 | 26.366 | 0.000 | 9.778 | 0.000 | 0.000 | 27.361 | 26.140 | 64.754 | MWD+IFR1+MS |
| 7300.000 | 0.000 | 0.000 | 7242.610 | 27.483 | 0.000 | 26.708 | 0.000 | 9.943 | 0.000 | 0.000 | 27.691 | 26.492 | 65.127 | MWD+IFR1+MS |
| 7400.000 | 0.000 | 0.000 | 7342.610 | 27.823 | 0.000 | 27.050 | 0.000 | 10.110 | 0.000 | 0.000 | 28.021 | 26.845 | 65.504 | MWD+IFR1+MS |
| 7500.000 | 0.000 | 0.000 | 7442.610 | 28.163 | 0.000 | 27.393 | 0.000 | 10.279 | 0.000 | 0.000 | 28.353 | 27.197 | 65.886 | MWD+IFR1+MS |
| 7600.000 | 0.000 | 0.000 | 7542.610 | 28.504 | 0.000 | 27.737 | 0.000 | 10.452 | 0.000 | 0.000 | 28.685 | 27.550 | 66.273 | MWD+IFR1+MS |
| 7700.000 | 0.000 | 0.000 | 7642.610 | 28.845 | 0.000 | 28.080 | 0.000 | 10.627 | 0.000 | 0.000 | 29.017 | 27.902 | 66.663 | MWD+IFR1+MS |
| 7800.000 | 0.000 | 0.000 | 7742.610 | 29.187 | 0.000 | 28.424 | 0.000 | 10.805 | 0.000 | 0.000 | 29.351 | 28.255 | 67.058 | MWD+IFR1+MS |
| 7900.000 | 0.000 | 0.000 | 7842.610 | 29.529 | 0.000 | 28.768 | 0.000 | 10.986 | 0.000 | 0.000 | 29.685 | 28.608 | 67.458 | MWD+IFR1+MS |
| 8000.000 | 0.000 | 0.000 | 7942.610 | 29.871 | 0.000 | 29.113 | 0.000 | 11.170 | 0.000 | 0.000 | 30.019 | 28.960 | 67.861 | MWD+IFR1+MS |
| 8100.000 | 0.000 | 0.000 | 8042.610 | 30.214 | 0.000 | 29.458 | 0.000 | 11.357 | 0.000 | 0.000 | 30.355 | 29.313 | 68.269 | MWD+IFR1+MS |
| 8200.000 | 0.000 | 0.000 | 8142.610 | 30.557 | 0.000 | 29.803 | 0.000 | 11.547 | 0.000 | 0.000 | 30.691 | 29.666 | 68.680 | MWD+IFR1+MS |
| 8300.000 | 0.000 | 0.000 | 8242.610 | 30.901 | 0.000 | 30.149 | 0.000 | 11.739 | 0.000 | 0.000 | 31.027 | 30.019 | 69.096 | MWD+IFR1+MS |
| 8400.000 | 0.000 | 0.000 | 8342.610 | 31.245 | 0.000 | 30.495 | 0.000 | 11.935 | 0.000 | 0.000 | 31.365 | 30.371 | 69.515 | MWD+IFR1+MS |
| 8500.000 | 0.000 | 0.000 | 8442.610 | 31.589 | 0.000 | 30.841 | 0.000 | 12.133 | 0.000 | 0.000 | 31.702 | 30.724 | 69.938 | MWD+IFR1+MS |
| 8600.000 | 0.000 | 0.000 | 8542.610 | 31.933 | 0.000 | 31.187 | 0.000 | 12.335 | 0.000 | 0.000 | 32.041 | 31.077 | 70.364 | MWD+IFR1+MS |
| 8700.000 | 0.000 | 0.000 | 8642.610 | 32.278 | 0.000 | 31.534 | 0.000 | 12.539 | 0.000 | 0.000 | 32.379 | 31.430 | 70.794 | MWD+IFR1+MS |
| 8746.190 | 0.000 | 0.000 | 8688.800 | 32.435 | 0.000 | 31.692 | 0.000 | 12.635 | 0.000 | 0.000 | 32.535 | 31.590 | 70.899 | MWD+IFR1+MS |
| 8800.000 | 4.305 | 179.677 | 8742.560 | 32.467 | 0.000 | 31.865 | -0.000 | 12.746 | 0.000 | 0.000 | 32.730 | 31.770 | 71.437 | MWD+IFR1+MS |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8900.000 | 12.305 | 179.677 | 8841.431 | 32.828 | 0.000 | 32.176 | -0.000 | 12.999 | 0.000 | 0.000 | 33.716 | 32.142 | 81.307 | MWD+IFR1+MS |
| 9000.000 | 20.305 | 179.677 | 8937.331 | 33.191 | 0.000 | 32.474 | -0.000 | 13.443 | 0.000 | 0.000 | 35.117 | 32.467 | 86.722 | MWD+IFR1+MS |
| 9100.000 | 28.305 | 179.677 | 9028.394 | 33.051 | 0.000 | 32.753 | -0.000 | 14.144 | 0.000 | 0.000 | 36.350 | 32.752 | 88.815 | MWD+IFR1+MS |
| 9200.000 | 36.305 | 179.677 | 9112.847 | 32.473 | 0.000 | 33.012 | -0.000 | 15.140 | 0.000 | 0.000 | 37.384 | 33.012 | 89.920 | MWD+IFR1+MS |
| 9300.000 | 44.305 | 179.677 | 9189.046 | 31.544 | 0.000 | 33.247 | -0.000 | 16.426 | 0.000 | 0.000 | 38.211 | 33.246 | 90.598 | MWD+IFR1+MS |
| 9400.000 | 52.305 | 179.677 | 9255.509 | 30.376 | 0.000 | 33.460 | -0.000 | 17.959 | 0.000 | 0.000 | 38.834 | 33.456 | 91.037 | MWD+IFR1+MS |
| 9500.000 | 60.305 | 179.677 | 9310.941 | 29.113 | 0.000 | 33.647 | -0.000 | 19.679 | 0.000 | 0.000 | 39.266 | 33.643 | 91.309 | MWD+IFR1+MS |
| 9600.000 | 68.305 | 179.677 | 9354.265 | 27.926 | 0.000 | 33.811 | -0.000 | 21.517 | 0.000 | 0.000 | 39.534 | 33.805 | 91.437 | MWD+IFR1+MS |
| 9700.000 | 76.305 | 179.677 | 9384.635 | 27.007 | 0.000 | 33.948 | -0.000 | 23.405 | 0.000 | 0.000 | 39.670 | 33.943 | 91.414 | MWD+IFR1+MS |
| 9800.000 | 84.305 | 179.677 | 9401.462 | 26.545 | 0.000 | 34.060 | -0.000 | 25.280 | 0.000 | 0.000 | 39.717 | 34.055 | 91.221 | MWD+IFR1+MS |
| 9871.190 | 90.000 | 179.677 | 9404.997 | 26.017 | 0.000 | 34.120 | -0.000 | 26.017 | 0.000 | 0.000 | 39.723 | 34.117 | 90.954 | MWD+IFR1+MS |
| 9871.209 | 90.000 | 179.677 | 9404.997 | 26.017 | 0.000 | 34.120 | -0.000 | 26.017 | 0.000 | 0.000 | 39.723 | 34.117 | 90.954 | MWD+IFR1+MS |
| 9900.000 | 90.000 | 179.677 | 9404.997 | 26.064 | 0.000 | 34.140 | -0.000 | 26.064 | 0.000 | 0.000 | 39.723 | 34.138 | 90.829 | MWD+IFR1+MS |
| 10000.000 | 90.000 | 179.677 | 9404.997 | 26.245 | 0.000 | 34.229 | -0.000 | 26.245 | 0.000 | 0.000 | 39.726 | 34.228 | 90.389 | MWD+IFR1+MS |
| 10100.000 | 90.000 | 179.677 | 9404.997 | 26.452 | 0.000 | 34.337 | -0.000 | 26.452 | 0.000 | 0.000 | 39.730 | 34.337 | 89.938 | MWD+IFR1+MS |
| 10200.000 | 90.000 | 179.677 | 9404.997 | 26.680 | 0.000 | 34.462 | -0.000 | 26.680 | 0.000 | 0.000 | 39.734 | 34.462 | 89.469 | MWD+IFR1+MS |
| 10300.000 | 90.000 | 179.677 | 9404.997 | 26.929 | 0.000 | 34.604 | -0.000 | 26.929 | 0.000 | 0.000 | 39.740 | 34.603 | 88.978 | MWD+IFR1+MS |
| 10400.000 | 90.000 | 179.677 | 9404.997 | 27.199 | 0.000 | 34.761 | -0.000 | 27.199 | 0.000 | 0.000 | 39.748 | 34.759 | 88.460 | MWD+IFR1+MS |
| 10500.000 | 90.000 | 179.677 | 9404.997 | 27.488 | 0.000 | 34.935 | -0.000 | 27.488 | 0.000 | 0.000 | 39.756 | 34.930 | 87.907 | MWD+IFR1+MS |
| 10600.000 | 90.000 | 179.677 | 9404.997 | 27.797 | 0.000 | 35.125 | -0.000 | 27.797 | 0.000 | 0.000 | 39.767 | 35.117 | 87.310 | MWD+IFR1+MS |
| 10700.000 | 90.000 | 179.677 | 9404.997 | 28.124 | 0.000 | 35.330 | -0.000 | 28.124 | 0.000 | 0.000 | 39.778 | 35.317 | 86.661 | MWD+IFR1+MS |
| 10800.000 | 90.000 | 179.677 | 9404.997 | 28.469 | 0.000 | 35.551 | -0.000 | 28.469 | 0.000 | 0.000 | 39.792 | 35.532 | 85.945 | MWD+IFR1+MS |
| 10900.000 | 90.000 | 179.677 | 9404.997 | 28.831 | 0.000 | 35.787 | -0.000 | 28.831 | 0.000 | 0.000 | 39.807 | 35.760 | 85.148 | MWD+IFR1+MS |
| 11000.000 | 90.000 | 179.677 | 9404.997 | 29.210 | 0.000 | 36.037 | -0.000 | 29.210 | 0.000 | 0.000 | 39.825 | 36.001 | 84.248 | MWD+IFR1+MS |
| 11100.000 | 90.000 | 179.677 | 9404.997 | 29.605 | 0.000 | 36.302 | -0.000 | 29.605 | 0.000 | 0.000 | 39.845 | 36.254 | 83.218 | MWD+IFR1+MS |
| 11200.000 | 90.000 | 179.677 | 9404.997 | 30.015 | 0.000 | 36.580 | -0.000 | 30.015 | 0.000 | 0.000 | 39.869 | 36.518 | 82.023 | MWD+IFR1+MS |
| 11300.000 | 90.000 | 179.677 | 9404.997 | 30.440 | 0.000 | 36.873 | -0.000 | 30.440 | 0.000 | 0.000 | 39.897 | 36.793 | 80.615 | MWD+IFR1+MS |
| 11400.000 | 90.000 | 179.677 | 9404.997 | 30.879 | 0.000 | 37.179 | -0.000 | 30.879 | 0.000 | 0.000 | 39.930 | 37.076 | 78.929 | MWD+IFR1+MS |
| 11500.000 | 90.000 | 179.677 | 9404.997 | 31.331 | 0.000 | 37.498 | -0.000 | 31.331 | 0.000 | 0.000 | 39.970 | 37.366 | 76.876 | MWD+IFR1+MS |
| 11600.000 | 90.000 | 179.677 | 9404.997 | 31.796 | 0.000 | 37.831 | -0.000 | 31.796 | 0.000 | 0.000 | 40.019 | 37.661 | 74.335 | MWD+IFR1+MS |
| 11700.000 | 90.000 | 179.677 | 9404.997 | 32.274 | 0.000 | 38.175 | -0.000 | 32.274 | 0.000 | 0.000 | 40.080 | 37.955 | 71.149 | MWD+IFR1+MS |
| 11800.000 | 90.000 | 179.677 | 9404.997 | 32.764 | 0.000 | 38.532 | -0.000 | 32.764 | 0.000 | 0.000 | 40.160 | 38.244 | 67.129 | MWD+IFR1+MS |
| 11900.000 | 90.000 | 179.677 | 9404.997 | 33.265 | 0.000 | 38.900 | -0.000 | 33.265 | 0.000 | 0.000 | 40.266 | 38.520 | 62.108 | MWD+IFR1+MS |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12000.000 | 90.000 | 179.677 | 9404.997 | 33.776 | 0.000 | 39.280 | -0.000 | 33.776 | 0.000 | 0.000 | 40.407 | 38.772 | 56.058 | MWD+IFR1+MS |
| 12100.000 | 90.000 | 179.677 | 9404.997 | 34.298 | 0.000 | 39.671 | -0.000 | 34.298 | 0.000 | 0.000 | 40.592 | 38.990 | 49.281 | MWD+IFR1+MS |
| 12200.000 | 90.000 | 179.677 | 9404.997 | 34.830 | 0.000 | 40.073 | -0.000 | 34.830 | 0.000 | 0.000 | 40.829 | 39.170 | 42.427 | MWD+IFR1+MS |
| 12300.000 | 90.000 | 179.677 | 9404.997 | 35.371 | 0.000 | 40.485 | -0.000 | 35.371 | 0.000 | 0.000 | 41.115 | 39.311 | 36.191 | MWD+IFR1+MS |
| 12400.000 | 90.000 | 179.677 | 9404.997 | 35.922 | 0.000 | 40.908 | -0.000 | 35.922 | 0.000 | 0.000 | 41.444 | 39.420 | 30.956 | MWD+IFR1+MS |
| 12500.000 | 90.000 | 179.677 | 9404.997 | 36.481 | 0.000 | 41.340 | -0.000 | 36.481 | 0.000 | 0.000 | 41.807 | 39.504 | 26.752 | MWD+IFR1+MS |
| 12600.000 | 90.000 | 179.677 | 9404.997 | 37.048 | 0.000 | 41.782 | -0.000 | 37.048 | 0.000 | 0.000 | 42.197 | 39.572 | 23.427 | MWD+IFR1+MS |
| 12700.000 | 90.000 | 179.677 | 9404.997 | 37.623 | 0.000 | 42.233 | -0.000 | 37.623 | 0.000 | 0.000 | 42.608 | 39.629 | 20.791 | MWD+IFR1+MS |
| 12800.000 | 90.000 | 179.677 | 9404.997 | 38.205 | 0.000 | 42.694 | -0.000 | 38.205 | 0.000 | 0.000 | 43.037 | 39.677 | 18.679 | MWD+IFR1+MS |
| 12900.000 | 90.000 | 179.677 | 9404.997 | 38.794 | 0.000 | 43.162 | -0.000 | 38.794 | 0.000 | 0.000 | 43.481 | 39.719 | 16.963 | MWD+IFR1+MS |
| 13000.000 | 90.000 | 179.677 | 9404.997 | 39.391 | 0.000 | 43.640 | -0.000 | 39.391 | 0.000 | 0.000 | 43.938 | 39.757 | 15.547 | MWD+IFR1+MS |
| 13100.000 | 90.000 | 179.677 | 9404.997 | 39.993 | 0.000 | 44.125 | -0.000 | 39.993 | 0.000 | 0.000 | 44.407 | 39.793 | 14.363 | MWD+IFR1+MS |
| 13200.000 | 90.000 | 179.677 | 9404.997 | 40.603 | 0.000 | 44.618 | -0.000 | 40.603 | 0.000 | 0.000 | 44.886 | 39.826 | 13.360 | MWD+IFR1+MS |
| 13300.000 | 90.000 | 179.677 | 9404.997 | 41.218 | 0.000 | 45.119 | -0.000 | 41.218 | 0.000 | 0.000 | 45.375 | 39.857 | 12.499 | MWD+IFR1+MS |
| 13400.000 | 90.000 | 179.677 | 9404.997 | 41.838 | 0.000 | 45.627 | -0.000 | 41.838 | 0.000 | 0.000 | 45.873 | 39.888 | 11.753 | MWD+IFR1+MS |
| 13500.000 | 90.000 | 179.677 | 9404.997 | 42.464 | 0.000 | 46.142 | -0.000 | 42.464 | 0.000 | 0.000 | 46.379 | 39.918 | 11.099 | MWD+IFR1+MS |
| 13600.000 | 90.000 | 179.677 | 9404.997 | 43.096 | 0.000 | 46.665 | -0.000 | 43.096 | 0.000 | 0.000 | 46.893 | 39.947 | 10.523 | MWD+IFR1+MS |
| 13700.000 | 90.000 | 179.677 | 9404.997 | 43.732 | 0.000 | 47.193 | -0.000 | 43.732 | 0.000 | 0.000 | 47.414 | 39.976 | 10.010 | MWD+IFR1+MS |
| 13800.000 | 90.000 | 179.677 | 9404.997 | 44.373 | 0.000 | 47.728 | -0.000 | 44.373 | 0.000 | 0.000 | 47.943 | 40.004 | 9.550 | MWD+IFR1+MS |
| 13900.000 | 90.000 | 179.677 | 9404.997 | 45.018 | 0.000 | 48.270 | -0.000 | 45.018 | 0.000 | 0.000 | 48.479 | 40.033 | 9.136 | MWD+IFR1+MS |
| 14000.000 | 90.000 | 179.677 | 9404.997 | 45.668 | 0.000 | 48.817 | -0.000 | 45.668 | 0.000 | 0.000 | 49.021 | 40.062 | 8.761 | MWD+IFR1+MS |
| 14100.000 | 90.000 | 179.677 | 9404.997 | 46.322 | 0.000 | 49.371 | -0.000 | 46.322 | 0.000 | 0.000 | 49.569 | 40.090 | 8.418 | MWD+IFR1+MS |
| 14200.000 | 90.000 | 179.677 | 9404.997 | 46.981 | 0.000 | 49.929 | -0.000 | 46.981 | 0.000 | 0.000 | 50.123 | 40.119 | 8.105 | MWD+IFR1+MS |
| 14300.000 | 90.000 | 179.677 | 9404.997 | 47.642 | 0.000 | 50.494 | -0.000 | 47.642 | 0.000 | 0.000 | 50.683 | 40.148 | 7.817 | MWD+IFR1+MS |
| 14400.000 | 90.000 | 179.677 | 9404.997 | 48.308 | 0.000 | 51.063 | -0.000 | 48.308 | 0.000 | 0.000 | 51.249 | 40.177 | 7.551 | MWD+IFR1+MS |
| 14500.000 | 90.000 | 179.677 | 9404.997 | 48.977 | 0.000 | 51.638 | -0.000 | 48.977 | 0.000 | 0.000 | 51.820 | 40.207 | 7.305 | MWD+IFR1+MS |
| 14600.000 | 90.000 | 179.677 | 9404.997 | 49.650 | 0.000 | 52.217 | -0.000 | 49.650 | 0.000 | 0.000 | 52.396 | 40.237 | 7.076 | MWD+IFR1+MS |
| 14700.000 | 90.000 | 179.677 | 9404.997 | 50.326 | 0.000 | 52.801 | -0.000 | 50.326 | 0.000 | 0.000 | 52.977 | 40.267 | 6.863 | MWD+IFR1+MS |
| 14800.000 | 90.000 | 179.677 | 9404.997 | 51.004 | 0.000 | 53.390 | -0.000 | 51.004 | 0.000 | 0.000 | 53.562 | 40.297 | 6.663 | MWD+IFR1+MS |
| 14900.000 | 90.000 | 179.677 | 9404.997 | 51.686 | 0.000 | 53.983 | -0.000 | 51.686 | 0.000 | 0.000 | 54.153 | 40.328 | 6.476 | MWD+IFR1+MS |
| 15000.000 | 90.000 | 179.677 | 9404.997 | 52.371 | 0.000 | 54.581 | -0.000 | 52.371 | 0.000 | 0.000 | 54.747 | 40.359 | 6.301 | MWD+IFR1+MS |
| 15100.000 | 90.000 | 179.677 | 9404.997 | 53.059 | 0.000 | 55.182 | -0.000 | 53.059 | 0.000 | 0.000 | 55.346 | 40.391 | 6.135 | MWD+IFR1+MS |
| 15200.000 | 90.000 | 179.677 | 9404.997 | 53.749 | 0.000 | 55.788 | -0.000 | 53.749 | 0.000 | 0.000 | 55.950 | 40.423 | 5.979 | MWD+IFR1+MS |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15300.000 | 90.000 | 179.677 | 9404.997 | 54.442 | 0.000 | 56.398 | -0.000 | 54.442 | 0.000 | 0.000 | 56.557 | 40.455 | 5.831 | MWD+IFR1+MS |
| 15400.000 | 90.000 | 179.677 | 9404.997 | 55.137 | 0.000 | 57.011 | -0.000 | 55.137 | 0.000 | 0.000 | 57.168 | 40.488 | 5.691 | MWD+IFR1+MS |
| 15500.000 | 90.000 | 179.677 | 9404.997 | 55.835 | 0.000 | 57.628 | -0.000 | 55.835 | 0.000 | 0.000 | 57.782 | 40.521 | 5.559 | MWD+IFR1+MS |
| 15600.000 | 90.000 | 179.677 | 9404.997 | 56.535 | 0.000 | 58.249 | -0.000 | 56.535 | 0.000 | 0.000 | 58.401 | 40.555 | 5.433 | MWD+IFR1+MS |
| 15700.000 | 90.000 | 179.677 | 9404.997 | 57.237 | 0.000 | 58.872 | -0.000 | 57.237 | 0.000 | 0.000 | 59.023 | 40.589 | 5.312 | MWD+IFR1+MS |
| 15800.000 | 90.000 | 179.677 | 9404.997 | 57.941 | 0.000 | 59.500 | -0.000 | 57.941 | 0.000 | 0.000 | 59.648 | 40.623 | 5.198 | MWD+IFR1+MS |
| 15900.000 | 90.000 | 179.677 | 9404.997 | 58.647 | 0.000 | 60.130 | -0.000 | 58.647 | 0.000 | 0.000 | 60.276 | 40.658 | 5.089 | MWD+IFR1+MS |
| 16000.000 | 90.000 | 179.677 | 9404.997 | 59.355 | 0.000 | 60.764 | -0.000 | 59.355 | 0.000 | 0.000 | 60.908 | 40.694 | 4.984 | MWD+IFR1+MS |
| 16100.000 | 90.000 | 179.677 | 9404.997 | 60.066 | 0.000 | 61.400 | -0.000 | 60.066 | 0.000 | 0.000 | 61.543 | 40.729 | 4.884 | MWD+IFR1+MS |
| 16200.000 | 90.000 | 179.677 | 9404.997 | 60.778 | 0.000 | 62.040 | -0.000 | 60.778 | 0.000 | 0.000 | 62.181 | 40.766 | 4.788 | MWD+IFR1+MS |
| 16300.000 | 90.000 | 179.677 | 9404.997 | 61.491 | 0.000 | 62.682 | -0.000 | 61.491 | 0.000 | 0.000 | 62.821 | 40.802 | 4.696 | MWD+IFR1+MS |
| 16400.000 | 90.000 | 179.677 | 9404.997 | 62.207 | 0.000 | 63.327 | -0.000 | 62.207 | 0.000 | 0.000 | 63.464 | 40.840 | 4.608 | MWD+IFR1+MS |
| 16500.000 | 90.000 | 179.677 | 9404.997 | 62.924 | 0.000 | 63.975 | -0.000 | 62.924 | 0.000 | 0.000 | 64.111 | 40.877 | 4.523 | MWD+IFR1+MS |
| 16600.000 | 90.000 | 179.677 | 9404.997 | 63.643 | 0.000 | 64.625 | -0.000 | 63.643 | 0.000 | 0.000 | 64.759 | 40.915 | 4.442 | MWD+IFR1+MS |
| 16700.000 | 90.000 | 179.677 | 9404.997 | 64.363 | 0.000 | 65.278 | -0.000 | 64.363 | 0.000 | 0.000 | 65.411 | 40.954 | 4.363 | MWD+IFR1+MS |
| 16800.000 | 90.000 | 179.677 | 9404.997 | 65.085 | 0.000 | 65.933 | -0.000 | 65.085 | 0.000 | 0.000 | 66.064 | 40.993 | 4.287 | MWD+IFR1+MS |
| 16900.000 | 90.000 | 179.677 | 9404.997 | 65.808 | 0.000 | 66.590 | -0.000 | 65.808 | 0.000 | 0.000 | 66.720 | 41.032 | 4.214 | MWD+IFR1+MS |
| 17000.000 | 90.000 | 179.677 | 9404.997 | 66.532 | 0.000 | 67.250 | -0.000 | 66.532 | 0.000 | 0.000 | 67.379 | 41.072 | 4.144 | MWD+IFR1+MS |
| 17100.000 | 90.000 | 179.677 | 9404.997 | 67.258 | 0.000 | 67.912 | -0.000 | 67.258 | 0.000 | 0.000 | 68.039 | 41.113 | 4.076 | MWD+IFR1+MS |
| 17200.000 | 90.000 | 179.677 | 9404.997 | 67.986 | 0.000 | 68.577 | -0.000 | 67.986 | 0.000 | 0.000 | 68.702 | 41.154 | 4.010 | MWD+IFR1+MS |
| 17300.000 | 90.000 | 179.677 | 9404.997 | 68.714 | 0.000 | 69.243 | -0.000 | 68.714 | 0.000 | 0.000 | 69.367 | 41.195 | 3.946 | MWD+IFR1+MS |
| 17400.000 | 90.000 | 179.677 | 9404.997 | 69.444 | 0.000 | 69.911 | -0.000 | 69.444 | 0.000 | 0.000 | 70.034 | 41.237 | 3.885 | MWD+IFR1+MS |
| 17500.000 | 90.000 | 179.677 | 9404.997 | 70.175 | 0.000 | 70.581 | -0.000 | 70.175 | 0.000 | 0.000 | 70.703 | 41.279 | 3.825 | MWD+IFR1+MS |
| 17600.000 | 90.000 | 179.677 | 9404.997 | 70.907 | 0.000 | 71.254 | -0.000 | 70.907 | 0.000 | 0.000 | 71.374 | 41.321 | 3.767 | MWD+IFR1+MS |
| 17700.000 | 90.000 | 179.677 | 9404.997 | 71.640 | 0.000 | 71.928 | -0.000 | 71.640 | 0.000 | 0.000 | 72.047 | 41.364 | 3.711 | MWD+IFR1+MS |
| 17800.000 | 90.000 | 179.677 | 9404.997 | 72.374 | 0.000 | 72.604 | -0.000 | 72.374 | 0.000 | 0.000 | 72.722 | 41.408 | 3.656 | MWD+IFR1+MS |
| 17900.000 | 90.000 | 179.677 | 9404.997 | 73.110 | 0.000 | 73.281 | -0.000 | 73.110 | 0.000 | 0.000 | 73.399 | 41.452 | 3.603 | MWD+IFR1+MS |
| 18000.000 | 90.000 | 179.677 | 9404.997 | 73.846 | 0.000 | 73.961 | -0.000 | 73.846 | 0.000 | 0.000 | 74.077 | 41.497 | 3.552 | MWD+IFR1+MS |
| 18100.000 | 90.000 | 179.677 | 9404.997 | 74.583 | 0.000 | 74.642 | -0.000 | 74.583 | 0.000 | 0.000 | 74.757 | 41.541 | 3.502 | MWD+IFR1+MS |
| 18200.000 | 90.000 | 179.677 | 9404.997 | 75.322 | 0.000 | 75.325 | -0.000 | 75.322 | 0.000 | 0.000 | 75.439 | 41.587 | 3.454 | MWD+IFR1+MS |
| 18300.000 | 90.000 | 179.677 | 9404.997 | 76.061 | 0.000 | 76.009 | -0.000 | 76.061 | 0.000 | 0.000 | 76.122 | 41.633 | 3.406 | MWD+IFR1+MS |
| 18400.000 | 90.000 | 179.677 | 9404.997 | 76.801 | 0.000 | 76.695 | -0.000 | 76.801 | 0.000 | 0.000 | 76.806 | 41.679 | 3.360 | MWD+IFR1+MS |
| 18500.000 | 90.000 | 179.677 | 9404.997 | 77.542 | 0.000 | 77.382 | -0.000 | 77.542 | 0.000 | 0.000 | 77.493 | 41.726 | 3.316 | MWD+IFR1+MS |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18600.000 | 90.000 | 179.677 | 9404.997 | 78.284 | 0.000 | 78.071 | -0.000 | 78.284 | 0.000 | 0.000 | 78.181 | 41.773 | 3.272 | MWD+IFR1+MS |
| 18700.000 | 90.000 | 179.677 | 9404.997 | 79.027 | 0.000 | 78.761 | -0.000 | 79.027 | 0.000 | 0.000 | 78.870 | 41.820 | 3.230 | MWD+IFR1+MS |
| 18800.000 | 90.000 | 179.677 | 9404.997 | 79.770 | 0.000 | 79.452 | -0.000 | 79.770 | 0.000 | 0.000 | 79.560 | 41.868 | 3.188 | MWD+IFR1+MS |
| 18900.000 | 90.000 | 179.677 | 9404.997 | 80.514 | 0.000 | 80.145 | -0.000 | 80.514 | 0.000 | 0.000 | 80.252 | 41.917 | 3.148 | MWD+IFR1+MS |
| 19000.000 | 90.000 | 179.677 | 9404.997 | 81.260 | 0.000 | 80.839 | -0.000 | 81.260 | 0.000 | 0.000 | 80.946 | 41.966 | 3.109 | MWD+IFR1+MS |
| 19100.000 | 90.000 | 179.677 | 9404.997 | 82.005 | 0.000 | 81.535 | -0.000 | 82.005 | 0.000 | 0.000 | 81.640 | 42.015 | 3.070 | MWD+IFR1+MS |
| 19200.000 | 90.000 | 179.677 | 9404.997 | 82.752 | 0.000 | 82.232 | -0.000 | 82.752 | 0.000 | 0.000 | 82.336 | 42.065 | 3.033 | MWD+IFR1+MS |
| 19300.000 | 90.000 | 179.677 | 9404.997 | 83.499 | 0.000 | 82.930 | -0.000 | 83.499 | 0.000 | 0.000 | 83.033 | 42.115 | 2.996 | MWD+IFR1+MS |
| 19400.000 | 90.000 | 179.677 | 9404.997 | 84.247 | 0.000 | 83.629 | -0.000 | 84.247 | 0.000 | 0.000 | 83.731 | 42.166 | 2.960 | MWD+IFR1+MS |
| 19500.000 | 90.000 | 179.677 | 9404.997 | 84.995 | 0.000 | 84.329 | -0.000 | 84.995 | 0.000 | 0.000 | 84.431 | 42.217 | 2.925 | MWD+IFR1+MS |
| 19600.000 | 90.000 | 179.677 | 9404.997 | 85.745 | 0.000 | 85.030 | -0.000 | 85.745 | 0.000 | 0.000 | 85.131 | 42.269 | 2.891 | MWD+IFR1+MS |
| 19700.000 | 90.000 | 179.677 | 9404.997 | 86.495 | 0.000 | 85.733 | -0.000 | 86.495 | 0.000 | 0.000 | 85.833 | 42.321 | 2.858 | MWD+IFR1+MS |
| 19800.000 | 90.000 | 179.677 | 9404.997 | 87.245 | 0.000 | 86.437 | -0.000 | 87.245 | 0.000 | 0.000 | 86.536 | 42.373 | 2.825 | MWD+IFR1+MS |
| 19900.000 | 90.000 | 179.677 | 9404.997 | 87.996 | 0.000 | 87.141 | -0.000 | 87.996 | 0.000 | 0.000 | 87.240 | 42.426 | 2.793 | MWD+IFR1+MS |
| 20000.000 | 90.000 | 179.677 | 9404.997 | 88.748 | 0.000 | 87.847 | -0.000 | 88.748 | 0.000 | 0.000 | 87.944 | 42.479 | 2.762 | MWD+IFR1+MS |
| 20100.000 | 90.000 | 179.677 | 9404.997 | 89.500 | 0.000 | 88.553 | -0.000 | 89.500 | 0.000 | 0.000 | 88.650 | 42.533 | 2.731 | MWD+IFR1+MS |
| 20200.000 | 90.000 | 179.677 | 9404.997 | 90.253 | 0.000 | 89.261 | -0.000 | 90.253 | 0.000 | 0.000 | 89.357 | 42.587 | 2.701 | MWD+IFR1+MS |
| 20300.000 | 90.000 | 179.677 | 9404.997 | 91.006 | 0.000 | 89.970 | -0.000 | 91.006 | 0.000 | 0.000 | 90.065 | 42.642 | 2.672 | MWD+IFR1+MS |
| 20400.000 | 90.000 | 179.677 | 9404.997 | 91.760 | 0.000 | 90.679 | -0.000 | 91.760 | 0.000 | 0.000 | 90.774 | 42.697 | 2.643 | MWD+IFR1+MS |
| 20500.000 | 90.000 | 179.677 | 9404.997 | 92.514 | 0.000 | 91.390 | -0.000 | 92.514 | 0.000 | 0.000 | 91.483 | 42.752 | 2.615 | MWD+IFR1+MS |
| 20600.000 | 90.000 | 179.677 | 9404.997 | 93.269 | 0.000 | 92.101 | -0.000 | 93.269 | 0.000 | 0.000 | 92.194 | 42.808 | 2.587 | MWD+IFR1+MS |
| 20700.000 | 90.000 | 179.677 | 9404.997 | 94.024 | 0.000 | 92.813 | -0.000 | 94.024 | 0.000 | 0.000 | 92.905 | 42.864 | 2.560 | MWD+IFR1+MS |
| 20800.000 | 90.000 | 179.677 | 9404.997 | 94.780 | 0.000 | 93.526 | -0.000 | 94.780 | 0.000 | 0.000 | 93.618 | 42.921 | 2.533 | MWD+IFR1+MS |
| 20900.000 | 90.000 | 179.677 | 9404.997 | 95.536 | 0.000 | 94.240 | -0.000 | 95.536 | 0.000 | 0.000 | 94.331 | 42.978 | 2.507 | MWD+IFR1+MS |
| 21000.000 | 90.000 | 179.677 | 9404.997 | 96.293 | 0.000 | 94.954 | -0.000 | 96.293 | 0.000 | 0.000 | 95.045 | 43.036 | 2.482 | MWD+IFR1+MS |
| 21100.000 | 90.000 | 179.677 | 9404.997 | 97.050 | 0.000 | 95.670 | -0.000 | 97.050 | 0.000 | 0.000 | 95.760 | 43.094 | 2.457 | MWD+IFR1+MS |
| 21200.000 | 90.000 | 179.677 | 9404.997 | 97.808 | 0.000 | 96.386 | -0.000 | 97.808 | 0.000 | 0.000 | 96.475 | 43.152 | 2.432 | MWD+IFR1+MS |
| 21300.000 | 90.000 | 179.677 | 9404.997 | 98.566 | 0.000 | 97.103 | -0.000 | 98.566 | 0.000 | 0.000 | 97.191 | 43.211 | 2.408 | MWD+IFR1+MS |
| 21400.000 | 90.000 | 179.677 | 9404.997 | 99.324 | 0.000 | 97.821 | -0.000 | 99.324 | 0.000 | 0.000 | 97.908 | 43.270 | 2.384 | MWD+IFR1+MS |
| 21500.000 | 90.000 | 179.677 | 9404.997 | 100.083 | 0.000 | 98.539 | -0.000 | 100.083 | 0.000 | 0.000 | 98.626 | 43.329 | 2.361 | MWD+IFR1+MS |
| 21600.000 | 90.000 | 179.677 | 9404.997 | 100.843 | 0.000 | 99.258 | -0.000 | 100.843 | 0.000 | 0.000 | 99.345 | 43.389 | 2.338 | MWD+IFR1+MS |
| 21700.000 | 90.000 | 179.677 | 9404.997 | 101.602 | 0.000 | 99.978 | -0.000 | 101.602 | 0.000 | 0.000 | 100.064 | 43.450 | 2.316 | MWD+IFR1+MS |
| 21800.000 | 90.000 | 179.677 | 9404.997 | 102.362 | 0.000 | 100.698 | -0.000 | 102.362 | 0.000 | 0.000 | 100.784 | 43.510 | 2.294 | MWD+IFR1+MS |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21900.000 | 90.000 | 179.677 | 9404.997 | 103.123 | 0.000 | 101.419 | -0.000 | 103.123 | 0.000 | 0.000 | 101.504 | 43.572 | 2.272 | MWD+IFR1+MS |
| 22000.000 | 90.000 | 179.677 | 9404.997 | 103.883 | 0.000 | 102.141 | -0.000 | 103.883 | 0.000 | 0.000 | 102.225 | 43.633 | 2.251 | MWD+IFR1+MS |
| 22100.000 | 90.000 | 179.677 | 9404.997 | 104.644 | 0.000 | 102.864 | -0.000 | 104.644 | 0.000 | 0.000 | 102.947 | 43.695 | 2.230 | MWD+IFR1+MS |
| 22200.000 | 90.000 | 179.677 | 9404.997 | 105.406 | 0.000 | 103.587 | -0.000 | 105.406 | 0.000 | 0.000 | 103.670 | 43.757 | 2.209 | MWD+IFR1+MS |
| 22300.000 | 90.000 | 179.677 | 9404.997 | 106.168 | 0.000 | 104.310 | -0.000 | 106.168 | 0.000 | 0.000 | 104.393 | 43.820 | 2.189 | MWD+IFR1+MS |
| 22400.000 | 90.000 | 179.677 | 9404.997 | 106.930 | 0.000 | 105.034 | -0.000 | 106.930 | 0.000 | 0.000 | 105.116 | 43.883 | 2.169 | MWD+IFR1+MS |
| 22500.000 | 90.000 | 179.677 | 9404.997 | 107.692 | 0.000 | 105.759 | -0.000 | 107.692 | 0.000 | 0.000 | 105.841 | 43.947 | 2.149 | MWD+IFR1+MS |
| 22600.000 | 90.000 | 179.677 | 9404.997 | 108.455 | 0.000 | 106.485 | -0.000 | 108.455 | 0.000 | 0.000 | 106.566 | 44.011 | 2.130 | MWD+IFR1+MS |
| 22700.000 | 90.000 | 179.677 | 9404.997 | 109.218 | 0.000 | 107.211 | -0.000 | 109.218 | 0.000 | 0.000 | 107.291 | 44.075 | 2.111 | MWD+IFR1+MS |
| 22800.000 | 90.000 | 179.677 | 9404.997 | 109.982 | 0.000 | 107.937 | -0.000 | 109.982 | 0.000 | 0.000 | 108.017 | 44.140 | 2.092 | MWD+IFR1+MS |
| 22900.000 | 90.000 | 179.677 | 9404.997 | 110.745 | 0.000 | 108.664 | -0.000 | 110.745 | 0.000 | 0.000 | 108.743 | 44.205 | 2.074 | MWD+IFR1+MS |
| 23000.000 | 90.000 | 179.677 | 9404.997 | 111.509 | 0.000 | 109.392 | -0.000 | 111.509 | 0.000 | 0.000 | 109.471 | 44.270 | 2.056 | MWD+IFR1+MS |
| 23100.000 | 90.000 | 179.677 | 9404.997 | 112.274 | 0.000 | 110.120 | -0.000 | 112.274 | 0.000 | 0.000 | 110.198 | 44.336 | 2.038 | MWD+IFR1+MS |
| 23200.000 | 90.000 | 179.677 | 9404.997 | 113.038 | 0.000 | 110.848 | -0.000 | 113.038 | 0.000 | 0.000 | 110.926 | 44.402 | 2.021 | MWD+IFR1+MS |
| 23300.000 | 90.000 | 179.677 | 9404.997 | 113.803 | 0.000 | 111.577 | -0.000 | 113.803 | 0.000 | 0.000 | 111.655 | 44.469 | 2.003 | MWD+IFR1+MS |
| 23400.000 | 90.000 | 179.677 | 9404.997 | 114.568 | 0.000 | 112.307 | -0.000 | 114.568 | 0.000 | 0.000 | 112.384 | 44.536 | 1.986 | MWD+IFR1+MS |
| 23500.000 | 90.000 | 179.677 | 9404.997 | 115.333 | 0.000 | 113.037 | -0.000 | 115.333 | 0.000 | 0.000 | 113.113 | 44.603 | 1.970 | MWD+IFR1+MS |
| 23600.000 | 90.000 | 179.677 | 9404.997 | 116.099 | 0.000 | 113.767 | -0.000 | 116.099 | 0.000 | 0.000 | 113.843 | 44.671 | 1.953 | MWD+IFR1+MS |
| 23700.000 | 90.000 | 179.677 | 9404.997 | 116.865 | 0.000 | 114.498 | -0.000 | 116.865 | 0.000 | 0.000 | 114.574 | 44.739 | 1.937 | MWD+IFR1+MS |
| 23800.000 | 90.000 | 179.677 | 9404.997 | 117.631 | 0.000 | 115.230 | -0.000 | 117.631 | 0.000 | 0.000 | 115.305 | 44.807 | 1.921 | MWD+IFR1+MS |
| 23900.000 | 90.000 | 179.677 | 9404.997 | 118.397 | 0.000 | 115.962 | -0.000 | 118.397 | 0.000 | 0.000 | 116.036 | 44.876 | 1.905 | MWD+IFR1+MS |
| 24000.000 | 90.000 | 179.677 | 9404.997 | 119.164 | 0.000 | 116.694 | -0.000 | 119.164 | 0.000 | 0.000 | 116.768 | 44.945 | 1.890 | MWD+IFR1+MS |
| 24100.000 | 90.000 | 179.677 | 9404.997 | 119.931 | 0.000 | 117.427 | -0.000 | 119.931 | 0.000 | 0.000 | 117.500 | 45.015 | 1.874 | MWD+IFR1+MS |
| 24200.000 | 90.000 | 179.677 | 9404.997 | 120.698 | 0.000 | 118.160 | -0.000 | 120.698 | 0.000 | 0.000 | 118.233 | 45.085 | 1.859 | MWD+IFR1+MS |
| 24300.000 | 90.000 | 179.677 | 9404.997 | 121.465 | 0.000 | 118.893 | -0.000 | 121.465 | 0.000 | 0.000 | 118.966 | 45.155 | 1.844 | MWD+IFR1+MS |
| 24400.000 | 90.000 | 179.677 | 9404.997 | 122.233 | 0.000 | 119.627 | -0.000 | 122.233 | 0.000 | 0.000 | 119.700 | 45.225 | 1.830 | MWD+IFR1+MS |
| 24500.000 | 90.000 | 179.677 | 9404.997 | 123.001 | 0.000 | 120.361 | -0.000 | 123.001 | 0.000 | 0.000 | 120.433 | 45.296 | 1.815 | MWD+IFR1+MS |
| 24600.000 | 90.000 | 179.677 | 9404.997 | 123.769 | 0.000 | 121.096 | -0.000 | 123.769 | 0.000 | 0.000 | 121.168 | 45.368 | 1.801 | MWD+IFR1+MS |
| 24700.000 | 90.000 | 179.677 | 9404.997 | 124.537 | 0.000 | 121.831 | -0.000 | 124.537 | 0.000 | 0.000 | 121.902 | 45.439 | 1.787 | MWD+IFR1+MS |
| 24800.000 | 90.000 | 179.677 | 9404.997 | 125.305 | 0.000 | 122.567 | -0.000 | 125.305 | 0.000 | 0.000 | 122.637 | 45.511 | 1.773 | MWD+IFR1+MS |
| 24900.000 | 90.000 | 179.677 | 9404.997 | 126.074 | 0.000 | 123.303 | -0.000 | 126.074 | 0.000 | 0.000 | 123.373 | 45.584 | 1.759 | MWD+IFR1+MS |
| 25000.000 | 90.000 | 179.677 | 9404.997 | 126.842 | 0.000 | 124.039 | -0.000 | 126.842 | 0.000 | 0.000 | 124.109 | 45.656 | 1.746 | MWD+IFR1+MS |
| 25100.000 | 90.000 | 179.677 | 9404.997 | 127.611 | 0.000 | 124.775 | -0.000 | 127.611 | 0.000 | 0.000 | 124.845 | 45.730 | 1.732 | MWD+IFR1+MS |

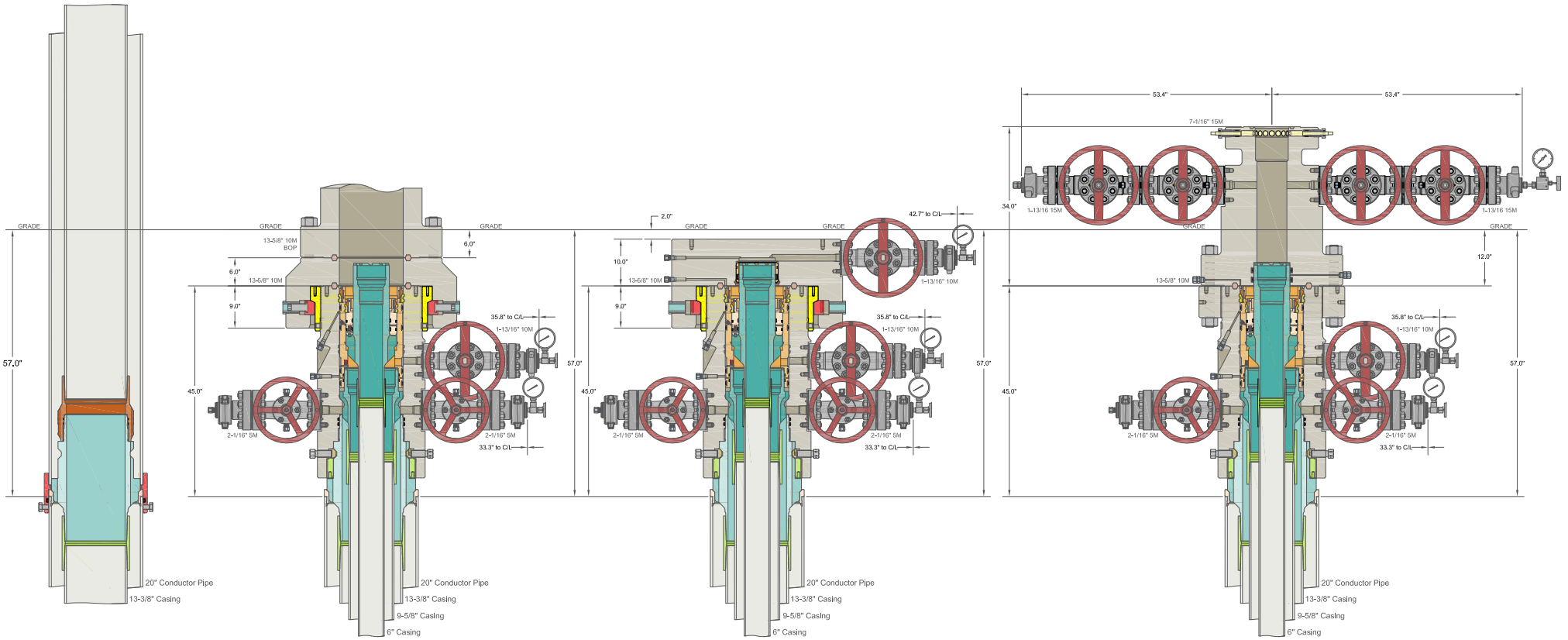
| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25200.000 | 90.000 | 179.677 | 9404.997 | 128.381 | 0.000 | 125.512 | -0.000 | 128.381 | 0.000 | 0.000 | 125.581 | 45.803 | 1.719 | MWD+IFR1+MS |
| 25300.000 | 90.000 | 179.677 | 9404.997 | 129.150 | 0.000 | 126.249 | -0.000 | 129.150 | 0.000 | 0.000 | 126.318 | 45.877 | 1.706 | MWD+IFR1+MS |
| 25400.000 | 90.000 | 179.677 | 9404.997 | 129.919 | 0.000 | 126.987 | -0.000 | 129.919 | 0.000 | 0.000 | 127.055 | 45.951 | 1.693 | MWD+IFR1+MS |
| 25500.000 | 90.000 | 179.677 | 9404.997 | 130.689 | 0.000 | 127.725 | -0.000 | 130.689 | 0.000 | 0.000 | 127.793 | 46.025 | 1.681 | MWD+IFR1+MS |
| 25600.000 | 90.000 | 179.677 | 9404.997 | 131.459 | 0.000 | 128.463 | -0.000 | 131.459 | 0.000 | 0.000 | 128.531 | 46.100 | 1.668 | MWD+IFR1+MS |
| 25700.000 | 90.000 | 179.677 | 9404.997 | 132.229 | 0.000 | 129.202 | -0.000 | 132.229 | 0.000 | 0.000 | 129.269 | 46.175 | 1.656 | MWD+IFR1+MS |
| 25800.000 | 90.000 | 179.677 | 9404.997 | 132.999 | 0.000 | 129.940 | -0.000 | 132.999 | 0.000 | 0.000 | 130.007 | 46.251 | 1.644 | MWD+IFR1+MS |
| 25900.000 | 90.000 | 179.677 | 9404.997 | 133.770 | 0.000 | 130.680 | -0.000 | 133.770 | 0.000 | 0.000 | 130.746 | 46.326 | 1.632 | MWD+IFR1+MS |
| 25916.359 | 90.000 | 179.677 | 9405.000 | 133.896 | 0.000 | 130.800 | -0.000 | 133.896 | 0.000 | 0.000 | 130.867 | 46.339 | 1.630 | MWD+IFR1+MS |
| 26000.000 | 90.000 | 178.004 | 9405.000 | 134.539 | 0.000 | 131.259 | -0.000 | 134.539 | 0.000 | 0.000 | 131.487 | 46.402 | 1.616 | MWD+IFR1+MS |
| 26100.000 | 90.000 | 176.004 | 9405.000 | 135.310 | 0.000 | 131.696 | -0.000 | 135.310 | 0.000 | 0.000 | 132.245 | 46.479 | 1.586 | MWD+IFR1+MS |
| 26200.000 | 90.000 | 174.004 | 9405.000 | 136.081 | 0.000 | 131.998 | -0.000 | 136.081 | 0.000 | 0.000 | 133.007 | 46.555 | 1.544 | MWD+IFR1+MS |
| 26300.000 | 90.000 | 172.004 | 9405.000 | 136.852 | 0.000 | 132.163 | -0.000 | 136.852 | 0.000 | 0.000 | 133.769 | 46.633 | 1.489 | MWD+IFR1+MS |
| 26400.000 | 90.000 | 170.004 | 9405.000 | 137.623 | 0.000 | 132.190 | -0.000 | 137.623 | 0.000 | 0.000 | 134.529 | 46.711 | 1.422 | MWD+IFR1+MS |
| 26500.000 | 90.000 | 168.004 | 9405.000 | 138.394 | 0.000 | 132.079 | -0.000 | 138.394 | 0.000 | 0.000 | 135.287 | 46.789 | 1.342 | MWD+IFR1+MS |
| 26598.755 | 90.000 | 166.029 | 9405.000 | 139.156 | 0.000 | 131.833 | -0.000 | 139.156 | 0.000 | 0.000 | 136.031 | 46.868 | 1.252 | MWD+IFR1+MS |
| 26600.000 | 90.000 | 166.029 | 9405.000 | 139.166 | 0.000 | 131.843 | -0.000 | 139.166 | 0.000 | 0.000 | 136.040 | 46.868 | 1.251 | MWD+IFR1+MS |
| 26700.000 | 90.000 | 166.029 | 9405.000 | 139.937 | 0.000 | 132.601 | -0.000 | 139.937 | 0.000 | 0.000 | 136.775 | 46.945 | 1.159 | MWD+IFR1+MS |
| 26800.000 | 90.000 | 166.029 | 9405.000 | 140.708 | 0.000 | 133.360 | -0.000 | 140.708 | 0.000 | 0.000 | 137.511 | 47.023 | 1.068 | MWD+IFR1+MS |
| 26900.000 | 90.000 | 166.029 | 9405.000 | 141.480 | 0.000 | 134.121 | -0.000 | 141.480 | 0.000 | 0.000 | 138.247 | 47.100 | 0.977 | MWD+IFR1+MS |
| 27000.000 | 90.000 | 166.029 | 9405.000 | 142.252 | 0.000 | 134.881 | -0.000 | 142.252 | 0.000 | 0.000 | 138.985 | 47.179 | 0.888 | MWD+IFR1+MS |
| 27100.000 | 90.000 | 166.029 | 9405.000 | 143.025 | 0.000 | 135.643 | -0.000 | 143.025 | 0.000 | 0.000 | 139.724 | 47.257 | 0.799 | MWD+IFR1+MS |
| 27200.000 | 90.000 | 166.029 | 9405.000 | 143.797 | 0.000 | 136.405 | -0.000 | 143.797 | 0.000 | 0.000 | 140.463 | 47.336 | 0.712 | MWD+IFR1+MS |
| 27300.000 | 90.000 | 166.029 | 9405.000 | 144.570 | 0.000 | 137.168 | -0.000 | 144.570 | 0.000 | 0.000 | 141.203 | 47.415 | 0.625 | MWD+IFR1+MS |
| 27400.000 | 90.000 | 166.029 | 9405.000 | 145.342 | 0.000 | 137.931 | -0.000 | 145.342 | 0.000 | 0.000 | 141.944 | 47.495 | 0.539 | MWD+IFR1+MS |
| 27500.000 | 90.000 | 166.029 | 9405.000 | 146.115 | 0.000 | 138.695 | -0.000 | 146.115 | 0.000 | 0.000 | 142.686 | 47.575 | 0.455 | MWD+IFR1+MS |
| 27577.926 | 90.000 | 166.029 | 9405.000 | 146.717 | 0.000 | 139.290 | -0.000 | 146.717 | 0.000 | 0.000 | 143.264 | 47.637 | 0.390 | MWD+IFR1+MS |
| 27600.000 | 90.000 | 166.471 | 9405.000 | 146.887 | 0.000 | 139.697 | -0.000 | 146.887 | 0.000 | 0.000 | 143.428 | 47.655 | 0.371 | MWD+IFR1+MS |
| 27700.000 | 90.000 | 168.471 | 9405.000 | 147.660 | 0.000 | 141.458 | -0.000 | 147.660 | 0.000 | 0.000 | 144.179 | 47.736 | 0.296 | MWD+IFR1+MS |
| 27800.000 | 90.000 | 170.471 | 9405.000 | 148.433 | 0.000 | 143.077 | -0.000 | 148.433 | 0.000 | 0.000 | 144.945 | 47.820 | 0.230 | MWD+IFR1+MS |
| 27900.000 | 90.000 | 172.471 | 9405.000 | 149.206 | 0.000 | 144.538 | -0.000 | 149.206 | 0.000 | 0.000 | 145.712 | 47.903 | 0.178 | MWD+IFR1+MS |
| 28000.000 | 90.000 | 174.471 | 9405.000 | 149.979 | 0.000 | 145.841 | -0.000 | 149.979 | 0.000 | 0.000 | 146.480 | 47.986 | 0.138 | MWD+IFR1+MS |
| 28100.000 | 90.000 | 176.471 | 9405.000 | 150.753 | 0.000 | 146.981 | -0.000 | 150.753 | 0.000 | 0.000 | 147.247 | 48.069 | 0.111 | MWD+IFR1+MS |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 28200.000 | 90.000 | 178.471 | 9405.000 | 151.526 | 0.000 | 147.958 | -0.000 | 151.526 | 0.000 | 0.000 | 148.012 | 48.152 | 0.095 | MWD+IFR1+MS |
| 28300.000 | 90.000 | 180.471 | 9405.000 | 152.300 | 0.000 | 148.770 | 0.000 | 152.300 | 0.000 | 0.000 | 148.773 | 48.236 | 0.092 | MWD+IFR1+MS |
| 28385.733 | 90.000 | 182.185 | 9405.000 | 152.963 | 0.000 | 149.329 | 0.000 | 152.963 | 0.000 | 0.000 | 149.418 | 48.307 | 0.098 | MWD+IFR1+MS |
| 28400.000 | 90.000 | 182.185 | 9405.000 | 153.074 | 0.000 | 149.434 | 0.000 | 153.074 | 0.000 | 0.000 | 149.523 | 48.319 | 0.099 | MWD+IFR1+MS |
| 28500.000 | 90.000 | 182.185 | 9405.000 | 153.847 | 0.000 | 150.172 | 0.000 | 153.847 | 0.000 | 0.000 | 150.260 | 48.403 | 0.111 | MWD+IFR1+MS |
| 28600.000 | 90.000 | 182.185 | 9405.000 | 154.621 | 0.000 | 150.911 | 0.000 | 154.621 | 0.000 | 0.000 | 150.999 | 48.487 | 0.123 | MWD+IFR1+MS |
| 28700.000 | 90.000 | 182.185 | 9405.000 | 155.395 | 0.000 | 151.650 | 0.000 | 155.395 | 0.000 | 0.000 | 151.737 | 48.572 | 0.134 | MWD+IFR1+MS |
| 28800.000 | 90.000 | 182.185 | 9405.000 | 156.169 | 0.000 | 152.390 | 0.000 | 156.169 | 0.000 | 0.000 | 152.476 | 48.657 | 0.146 | MWD+IFR1+MS |
| 28900.000 | 90.000 | 182.185 | 9405.000 | 156.944 | 0.000 | 153.129 | 0.000 | 156.944 | 0.000 | 0.000 | 153.215 | 48.742 | 0.157 | MWD+IFR1+MS |
| 29000.000 | 90.000 | 182.185 | 9405.000 | 157.718 | 0.000 | 153.869 | 0.000 | 157.718 | 0.000 | 0.000 | 153.955 | 48.827 | 0.168 | MWD+IFR1+MS |
| 29100.000 | 90.000 | 182.185 | 9405.000 | 158.493 | 0.000 | 154.609 | 0.000 | 158.493 | 0.000 | 0.000 | 154.694 | 48.913 | 0.179 | MWD+IFR1+MS |
| 29200.000 | 90.000 | 182.185 | 9405.000 | 159.268 | 0.000 | 155.349 | 0.000 | 159.268 | 0.000 | 0.000 | 155.434 | 48.999 | 0.190 | MWD+IFR1+MS |
| 29300.000 | 90.000 | 182.185 | 9405.000 | 160.042 | 0.000 | 156.090 | 0.000 | 160.042 | 0.000 | 0.000 | 156.174 | 49.085 | 0.201 | MWD+IFR1+MS |
| 29400.000 | 90.000 | 182.185 | 9405.000 | 160.817 | 0.000 | 156.830 | 0.000 | 160.817 | 0.000 | 0.000 | 156.914 | 49.171 | 0.212 | MWD+IFR1+MS |
| 29500.000 | 90.000 | 182.185 | 9405.000 | 161.592 | 0.000 | 157.571 | 0.000 | 161.592 | 0.000 | 0.000 | 157.655 | 49.258 | 0.223 | MWD+IFR1+MS |
| 29600.000 | 90.000 | 182.185 | 9405.000 | 162.367 | 0.000 | 158.312 | 0.000 | 162.367 | 0.000 | 0.000 | 158.395 | 49.345 | 0.233 | MWD+IFR1+MS |
| 29700.000 | 90.000 | 182.185 | 9405.000 | 163.143 | 0.000 | 159.053 | 0.000 | 163.143 | 0.000 | 0.000 | 159.136 | 49.432 | 0.243 | MWD+IFR1+MS |
| 29800.000 | 90.000 | 182.185 | 9405.000 | 163.918 | 0.000 | 159.795 | 0.000 | 163.918 | 0.000 | 0.000 | 159.877 | 49.520 | 0.254 | MWD+IFR1+MS |
| 29900.000 | 90.000 | 182.185 | 9405.000 | 164.693 | 0.000 | 160.537 | 0.000 | 164.693 | 0.000 | 0.000 | 160.618 | 49.608 | 0.264 | MWD+IFR1+MS |
| 30000.000 | 90.000 | 182.185 | 9405.000 | 165.469 | 0.000 | 161.278 | 0.000 | 165.469 | 0.000 | 0.000 | 161.360 | 49.696 | 0.274 | MWD+IFR1+MS |
| 30100.000 | 90.000 | 182.185 | 9405.000 | 166.244 | 0.000 | 162.020 | 0.000 | 166.244 | 0.000 | 0.000 | 162.101 | 49.784 | 0.284 | MWD+IFR1+MS |
| 30175.956 | 90.000 | 182.185 | 9405.000 | 166.833 | 0.000 | 162.584 | 0.000 | 166.833 | 0.000 | 0.000 | 162.664 | 49.851 | 0.291 | MWD+IFR1+MS |
| 30200.000 | 90.000 | 182.185 | 9405.000 | 167.019 | 0.000 | 162.762 | 0.000 | 167.019 | 0.000 | 0.000 | 162.842 | 49.873 | 0.294 | MWD+IFR1+MS |
| 30225.963 | 90.000 | 182.185 | 9405.000 | 167.220 | 0.000 | 162.954 | 0.000 | 167.220 | 0.000 | 0.000 | 163.034 | 49.896 | 0.296 | MWD+IFR1+MS |

**Plan Targets** Poker Lake Unit 20 DTD South 421H

| Target Name | Measured Depth (ft) | Grid Northing (ft) | Grid Easting (ft) | TVD MSL (ft) | Target Shape |
|---|---|---|---|---|---|
| FTP 21 | 9596.84 | 440401.10 | 634438.80 | 6077.00 | RECTANGLE |
| MP1 421H | 25916.36 | 423640.00 | 634533.40 | 6077.00 | CIRCLE |
| MP2 421H | 27577.93 | 422014.30 | 634854.50 | 6077.00 | CIRCLE |
| SHL 22 | 11371.37 | 440171.85 | 635180.61 | 7521.91 | RECTANGLE |
| LTP 21 | 30175.96 | 419424.50 | 634868.90 | 6077.00 | RECTANGLE |

| | | | | | |
|---|---|---|---|---|---|
| BHL 21 | 30228.17 | 419374.50 | 634869.20 | 6077.00 | RECTANGLE |






ALL DIMENSIONS APPROXIMA

# CACTUS WELLHEAD LLC

XTO ENERGY INC
DELAWARE BASIN

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

| | | |
|---|---|---|
| DRAWN | DLE | 04NOV22 |
| APPRV | | |
| DRAWING NO. | HBE0000833 | |

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

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

**Background**

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

**Supporting Documentation**

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

Figure 1: Winch System attached to BOP Stack

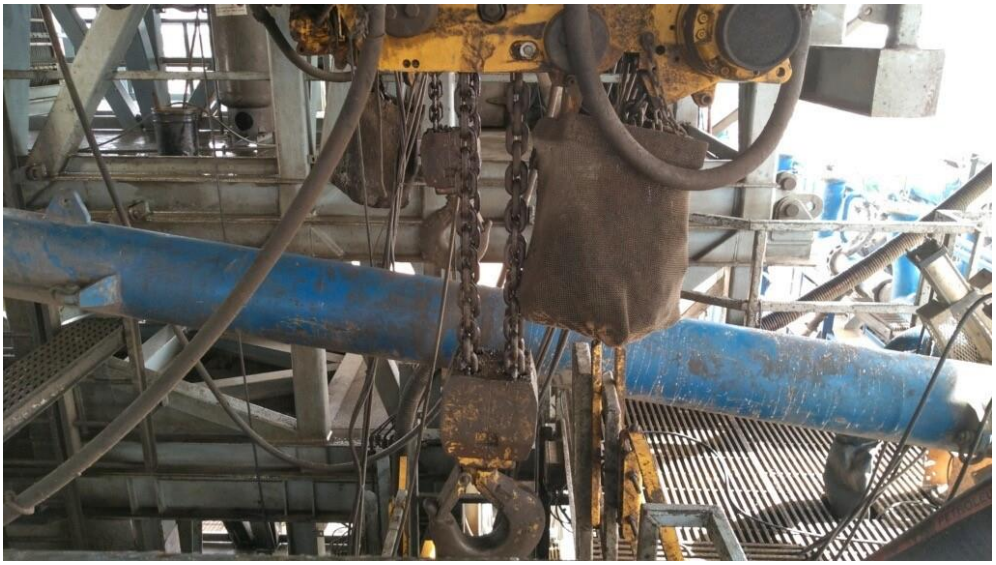


Figure 2: BOP Winch System

American Petroleum Institute (API) standards, specification and recommended practices are considered the industry standard and are consistently utilized and referenced by the industry. CFR Title 43 Part 3170recognizes 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.

62 API STANDARD 53

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

| Component to be Pressure Tested | Pressure Test—Low Pressure[ac] psig (MPa) | Pressure Test—High Pressure[ac] | |
|---|---|---|---|
| | | Change Out of Component, Elastomer, or Ring Gasket | No Change Out of Component, Elastomer, or Ring Gasket |
| Annular preventer[b] | 250 to 350 (1.72 to 2.41) | RWP of annular preventer | MASP or 70% annular RWP, whichever is lower. |
| Fixed pipe, variable bore, blind, and BSR preventers[bd] | 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[e] | 250 to 350 (1.72 to 2.41) | RWP of ram preventers or wellhead system, whichever is lower | ITP |
| Choke manifold—downstream of chokes[e] | 250 to 350 (1.72 to 2.41) | RWP of valve(s), line(s), or MASP for the well program, whichever is lower | |
| Kelly, kelly valves, drill pipe safety valves, IBOPs | 250 to 350 (1.72 to 2.41) | MASP for the well program | |

[a] Pressure test evaluation periods shall be a minimum of five minutes.
No visible leaks.
The pressure shall remain stable during the evaluation period. The pressure shall not decrease below the intended test pressure.

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

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

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

[e] Adjustable chokes are not required to be full sealing devices. Pressure testing against a closed choke is not required.

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

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

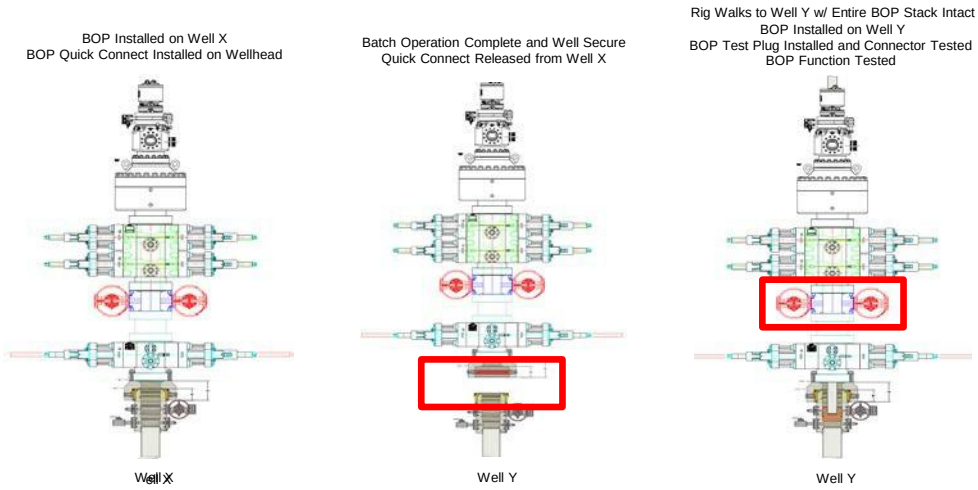
XTO Energy feels break testing and our current procedures meet the intent of CFR Title 43 Part 317 0and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. XTO Energy's internal standards requires complete BOPE tests more often than that of CFR Title 43 Part 3170 (Every 21 days). In addition to function testing the annular, pipe rams and blind rams after
each BOP nipple up, XTO Energy performs a choke drill with the rig crew prior to drilling out every casing shoe. This is additional training for the rig crew that exceeds the requirements of the CFR Title 43 Part 3170.

**Procedures**

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

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

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




**Summary**

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

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

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

1. After a full BOP test is conducted on the first well on the pad.

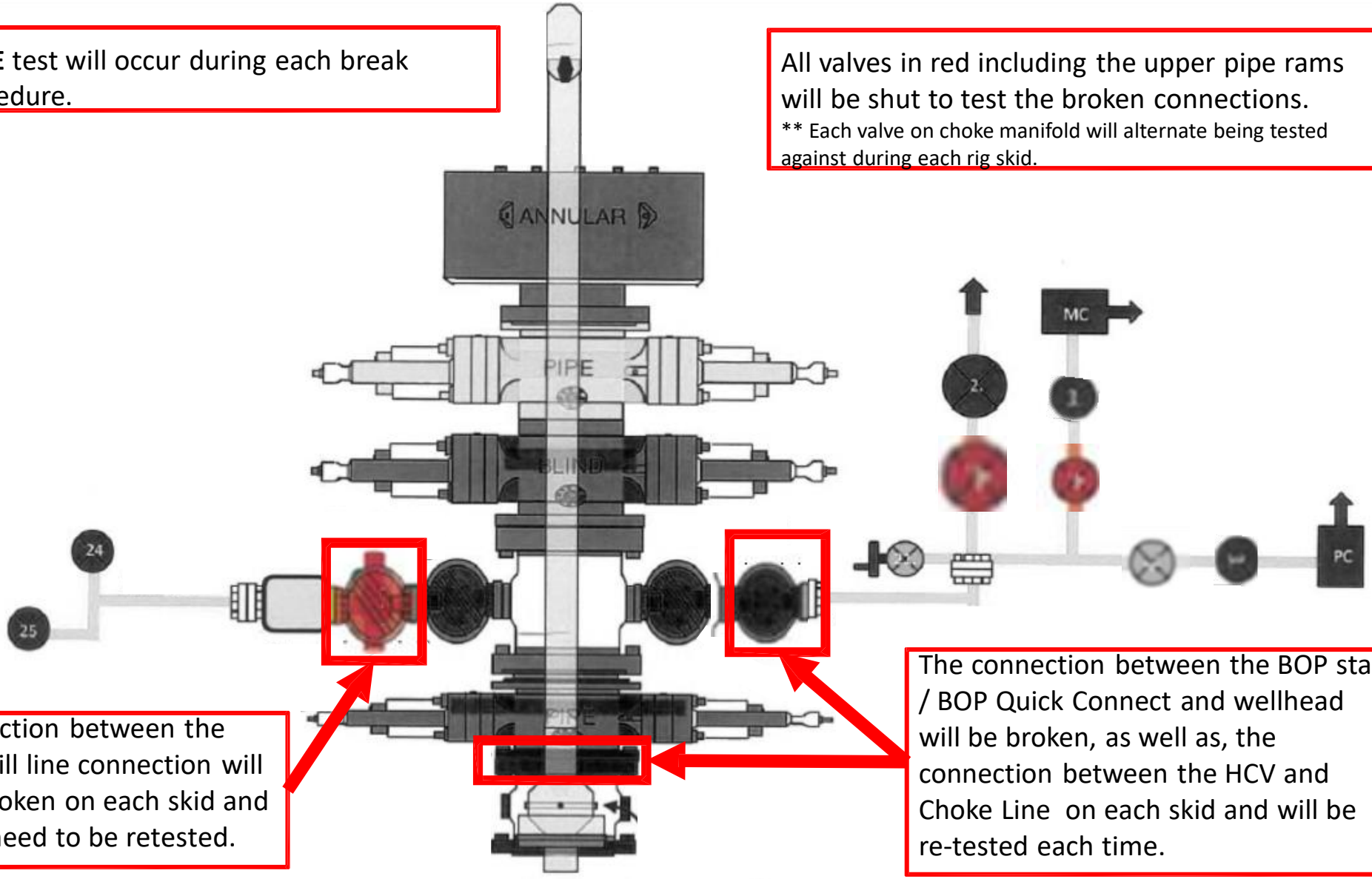
2. The first intermediate hole section drilled on the pad will be the deepest. All of the remaining hole sections will be the same depth or shallower.

3. Full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.

4. Full BOP test will be required prior to drilling the production hole.

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

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




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

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

# 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<br>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<br>Lower 3.5"-5.5" VBR | 10M<br>10M |
| HWDP | 5.000" or 4.500" | Annular | 5M | Upper 3.5"-5.5" VBR<br>Lower 3.5"-5.5" VBR | 10M<br>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.

<u>General Procedure While Drilling</u>

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

h. Regroup and identify forward plan

3. With BHA in the stack and NO compatible ram preventer and pipe combination immediately available:
    a. Sound alarm (alert crew)
    b. If possible, pull string clear of the stack and follow "Open Hole" procedure.
    c. If impossible to pull string clear of the stack:
    d. Stab crossover, make up one joint/stand of drillpipe and full-opening safety valve and close
    e. Space out drill string with tooljoint just beneath the upper variable bore ram
    f. Shut-in using upper variable bore ram (HCR & choke will already be in the closed position)
    g. Confirm shut-in
    h. Notify toolpusher/company representative
    i. Read and record the following:
        i. SIDPP & SICP
        ii. Pit gain
        iii. Time
    j. Regroup and identify forward plan

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

CONDITIONS

Action 345458

## CONDITIONS

| | |
|---|---|
| Operator:<br>XTO PERMIAN OPERATING LLC.<br>6401 HOLIDAY HILL ROAD<br>MIDLAND, TX 79707 | OGRID:<br>373075 |
| | Action Number:<br>345458 |
| | Action Type:<br>[C-103] NOI Change of Plans (C-103A) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| ward.rikala | All original COA's still apply. Additionally a NSL/NSP may be required. | 5/21/2024 |