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

Sundry Print Report

06/27/2024

Well Name: POKER LAKE UNIT 20 DTD

Well Location: T24S / R30E / SEC 20 / NWNE / 32.207795 / -103.902881

County or Parish/State: EDDY / NM

Well Number: 312H

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: 2781334

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 03/24/2024

Time Sundry Submitted: 09:24

Date proposed operation will begin: 07/01/2024

Procedure Description: XTO Permian Operating, LLC. respectfully requests approval to make the following changes to the approved APD. Changes to include SHL, FTP, LTP, BHL, casing sizes, cement, proposed total depth. FROM: TO: SHL: 952' FNL & 2472’ FEL of Section 20-T24S-R30E 877' FNL & 2102' FEL of Section 20-T24S-R30E FTP: 100' FSL & 2090' FEL of Section 20-T24S-R30E 100' FNL & 2284' FEL of Section 20-T24S-R30E LTP: 300' FNL & 2090' FEL of Section 32-T23S-R30E 2335' FNL & 2286' FEL of Section 5-T24S-R30E BHL: 200' FNL & 2090' FEL of Section 32-T23S-R30E 2435' FNL & 2286' FEL of Section 5-T24S-R30E Proposed total depth will change from 32893’ MD; 11681’ TVD (Wolfcamp) to 28965’ MD; TVD 110050’ (Wolfcamp). See attached Drilling Plan for updated cement and casing program. Attachments: C-102, Drilling Plan, Directional Drilling Plan, MBS, BOP Variance, Well Control Plan

NOI Attachments

Procedure Description

PLU_20_DTD_312H_BLM_APD_Change_Sundry_Attachments_20240324092407.pdf

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Conditions of Approval

Additional

Sec_20_24S_30E_NMP_Sundry_2781334_Poker_Lake_Unit_20_DTD_312H_COAs_20240404144743.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 09:24 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: CODY LAYTON

BLM POC Title: Assistant Field Manager Lands & Minerals

BLM POC Phone: 5752345959

BLM POC Email Address: clayton@blm.gov

Disposition: Approved

Disposition Date: 06/26/2024

Signature: Cody R. Layton

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.

6. If Indian, Allottee or Tribe Name

7. If Unit of CA/Agreement, Name and/or No.

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

8. Well Name and No.

2. Name of Operator

9. API Well No.

3a. Address

3b. Phone No. *(include area code)*

10. Field and Pool or Exploratory Area

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)*

11. Country or Parish, State

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

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ 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.)

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

Title

Signature

Date

THE SPACE FOR FEDERAL OR STATE OFICE USE

Approved by

Title

Date

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

Office

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

(Instructions on page 2)

GENERAL INSTRUCTIONS

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

SPECIFIC INSTRUCTIONS

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

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

NOTICES

The privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.
PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c)and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.
ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.
EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.
Response to this request is mandatory.
The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect 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: NWNE / 952 FNL / 2472 FEL / TWSP: 24S / RANGE: 30E / SECTION: 20 / LAT: 32.207795 / LONG: -103.902881 (TVD: 0 feet, MD: 0 feet)

PPP: SWSE / 330 FSL / 2090 FEL / TWSP: 24S / RANGE: 30E / SECTION: 8 / LAT: 32.22542 / LONG: -103.90163 (TVD: 11681 feet, MD: 17400 feet)

PPP: SWSE / 100 FSL / 2090 FEL / TWSP: 24S / RANGE: 30E / SECTION: 17 / LAT: 32.210693 / LONG: -103.90164 (TVD: 11681 feet, MD: 12100 feet)

PPP: SWSE / 330 FSL / 2090 FEL / TWSP: 24S / RANGE: 30E / SECTION: 5 / LAT: 32.24045 / LONG: -103.90163 (TVD: 11681 feet, MD: 22700 feet)

BHL: NWNE / 200 FNL / 2090 FEL / TWSP: 23S / RANGE: 30E / SECTION: 32 / LAT: 32.268048 / LONG: -103.901646 (TVD: 11681 feet, MD: 32893 feet)

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO Permian Operating LLC
WELL NAME & NO.:	Poker Lake Unit 20 312H
LOCATION:	Sec 20-24S-30E-NMP
COUNTY:	Eddy County, New Mexico

*Changes approved through engineering via **Sundry 2781334** 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
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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] API ID Number	[2] Pool Code	[3] Pool Name
10400089263	98220	Purple Sage; Wolfcamp (Gas)

[4] Property Code	[5] Property Name	[6] Well Number
	POKER LAKE UNIT 20 DTD	312H

[7] OGRID No.	[8] Operator Name	[9] Elevation
373075	XTO PERMIAN OPERATING, LLC	3,262'

[10] Surface Location

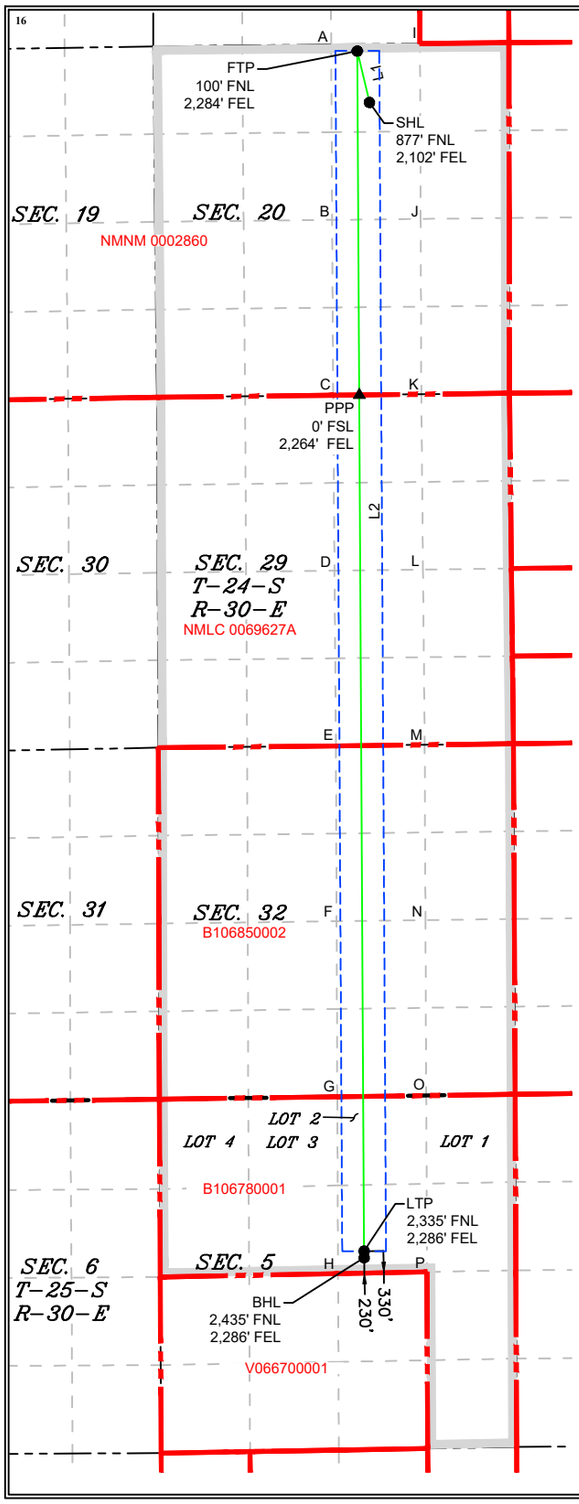
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	20	24S	30E		877	NORTH	2,102	EAST	EDDY

[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
G	5	25S	30E		2,435	NORTH	2,286	EAST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
2,321.00			

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.



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
LOT 3 = 40.39 ACRES
LOT 4 = 40.66 ACRES

LINE TABLE

LINE	AZIMUTH	LENGTH
L1	346°41'57"	796.51'
L2	179°40'34"	18,199.53'

COORDINATE TABLE

	SHL (NAD 83 NME)	SHL (NAD 27 NME)
Y =	439,675.3 N	439,616.0 N
X =	674,840.8 E	633,657.1 E
LAT. =	32.208007 °N	32.207883 °N
LONG. =	103.901685 °W	103.901198 °W

	FTP (NAD 83 NME)	FTP (NAD 27 NME)
Y =	440,450.4 N	440,391.1 N
X =	674,657.6 E	633,473.9 E
LAT. =	32.210140 °N	32.210016 °N
LONG. =	103.902268 °W	103.901780 °W

	PPP (NAD 83 NME)	PPP (NAD 27 NME)
Y =	435,262.2 N	435,203.1 N
X =	674,686.9 E	633,503.1 E
LAT. =	32.195878 °N	32.195754 °N
LONG. =	103.902240 °W	103.901753 °W

	LTP (NAD 83 NME)	LTP (NAD 27 NME)
Y =	422,351.2 N	422,292.4 N
X =	674,759.9 E	633,575.6 E
LAT. =	32.160387 °N	32.160262 °N
LONG. =	103.902171 °W	103.901686 °W

	BHL (NAD 83 NME)	BHL (NAD 27 NME)
Y =	422,251.2 N	422,192.4 N
X =	674,760.5 E	633,576.2 E
LAT. =	32.160112 °N	32.159987 °N
LONG. =	103.902171 °W	103.901686 °W

CORNER COORDINATES (NAD 83 NME)

A - Y =	440,546.3 N	A - X =	674,262.0 E
B - Y =	437,901.7 N	B - X =	674,277.4 E
C - Y =	435,257.7 N	C - X =	674,292.8 E
D - Y =	432,613.8 N	D - X =	674,254.9 E
E - Y =	429,970.0 N	E - X =	674,334.4 E
F - Y =	427,326.7 N	F - X =	674,344.5 E
G - Y =	424,680.6 N	G - X =	674,354.7 E
H - Y =	422,013.8 N	H - X =	674,366.7 E
I - Y =	440,560.2 N	I - X =	675,601.6 E
J - Y =	437,916.2 N	J - X =	675,611.7 E
K - Y =	435,272.8 N	K - X =	675,621.8 E
L - Y =	432,629.6 N	L - X =	675,647.0 E
M - Y =	429,987.0 N	M - X =	675,672.5 E
N - Y =	427,344.2 N	N - X =	675,684.2 E
O - Y =	424,698.7 N	O - X =	675,695.7 E
P - Y =	422,038.9 N	P - X =	675,706.9 E

CORNER COORDINATES (NAD 27 NME)

A - Y =	440,487.1 N	A - X =	633,078.3 E
B - Y =	437,842.5 N	B - X =	633,093.6 E
C - Y =	435,198.6 N	C - X =	633,108.9 E
D - Y =	432,554.7 N	D - X =	633,129.7 E
E - Y =	429,911.0 N	E - X =	633,150.4 E
F - Y =	427,267.8 N	F - X =	633,160.4 E
G - Y =	424,621.7 N	G - X =	633,170.5 E
H - Y =	421,954.9 N	H - X =	633,182.4 E
I - Y =	440,500.9 N	I - X =	634,417.9 E
J - Y =	437,857.0 N	J - X =	634,427.9 E
K - Y =	435,213.7 N	K - X =	634,437.9 E
L - Y =	432,570.5 N	L - X =	634,463.1 E
M - Y =	429,928.0 N	M - X =	634,488.4 E
N - Y =	427,285.3 N	N - X =	634,500.0 E
O - Y =	424,639.8 N	O - X =	634,511.5 E
P - Y =	421,980.1 N	P - X =	634,522.6 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.

Richard L Redus 3/24/2024
Signature Date

Richard L Redus
Printed Name

richard.l.redus@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 618.013003.06-48

J:\618.013 XTO Energy - NM\003 Poker Lake Unit\06 - PLU 20 DTD - EDDY\Wells\48 - 312H\DWG\SOUTH 312H C-102.dwg

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

XTO Energy Inc.
PLU 20 Dog Town Draw 312H
Projected TD: 28965.57' MD / 11005' TVD
SHL: 877' FNL & 2102' FEL , Section 20, T24S, R30E
BHL: 2435' FNL & 2286' 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	871'	Water
Top of Salt	1274'	Water
Base of Salt	3467'	Water
Delaware	3661'	Water
Brushy Canyon	6159'	Water/Oil/Gas
Bone Spring	7455'	Water
1st Bone Spring	8441'	Water/Oil/Gas
2nd Bone Spring	9259'	Water/Oil/Gas
3rd Bone Spring	10353'	Water/Oil/Gas
Wolfcamp	10744'	Water/Oil/Gas
Wolfcamp X	10765'	Water/Oil/Gas
Wolfcamp Y	10843'	Water/Oil/Gas
Wolfcamp A	10885'	Water/Oil/Gas
Target/Land Curve	11005'	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 @ 971' (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 10157.78' and cemented to surface. A 8.5 inch curve and 8.5 inch lateral hole will be drilled to 28965.57 MD/TD and 6 inch production casing will be set at TD and cemented back up in the intermediate shoe (estimated TOC 9857.78 feet).

3. Casing Design

Hole Size	Depth	OD Csg	Weight	Grade	Collar	New/Used	SF Burst	SF Collapse	SF Tension
17.5	0' – 971'	13.375	54.5	J-55	BTC	New	1.14	2.66	17.18
12.25	0' – 4000'	9.625	40	HC P-110	BTC	New	1.83	2.31	3.12
12.25	4000' – 10157.78'	9.625	40	HC L-80	BTC	New	1.33	1.72	3.72
8.5	0' – 10057.78'	6	26	P-110	Semi-Premium	New	1.17	2.20	1.62
8.5	10057.78' - 28965.57'	6	26	P-110	Semi-Premium	New	1.17	2.01	1.83

· 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 +/- 971'

Lead: 490 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 +/- 10157.78'
1st Stage
Optional Lead: 1040 sxs Class C (mixed at 10.5 ppg, 2.77 ft3/sx, 15.59 gal/sx water)
TOC: Surface
Tail: 1150 sxs Class C (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)
TOC: Brushy Canyon @ 6159
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: 2170 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 (6159') 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 +/- 28965.57'

Lead: 40 sxs NeoCem (mixed at 11.5 ppg, 2.69 ft3/sx, 15.00 gal/sx water) Top of Cement: 9857.78 feet
Tail: 3160 sxs VersaCem (mixed at 13.2 ppg, 1.51 ft3/sx, 8.38 gal/sx water) Top of Cement: 10357.78 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 5M Hydril and a 13-5/8" minimum 10M Double Ram BOP. MASP should not exceed 4332 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, 5M bradenhead and flange, the BOP test will be limited to 5000 psi. When nippling up on the 9.625, the BOP will be tested to a minimum of 5000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 5M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each 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' - 971'	17.5	FW/Native	8.4-8.9	35-40	NC
971' - 10157.78'	12.25	FW / Cut Brine / Direct Emulsion	8.8-9.3	30-32	NC
10157.78' - 28965.57'	8.5	OBM	11.8-12.3	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 175 to 195 F is anticipated. No H2S is expected but monitors will be in place to detect any H2S occurrences. Should these circumstances be encountered the operator and drilling contractor are prepared to take all necessary steps to ensure safety of all personnel and environment. Lost circulation could occur but is not expected to be a serious problem in this area and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid. The maximum anticipated bottom hole pressure for this well is 6753 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 312H

Measured Depth:	28965.00 ft
TVD RKB:	11005.00 ft
Location	
Cartographic Reference System:	New Mexico East - NAD 27
Northing:	439616.00 ft
Easting:	633657.10 ft
RKB:	3294.00 ft
Ground Level:	3262.00 ft
North Reference:	Grid
Convergence Angle:	0.23 Deg

Plan Sections Poker Lake Unit 20 DTD South 312H

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	
1614.87	10.30	346.70	1612.10	44.91	-10.61	2.00	0.00	2.00	
5554.11	10.30	346.70	5487.90	730.19	-172.59	0.00	0.00	0.00	
6068.98	0.00	0.00	6000.00	775.10	-183.20	-2.00	0.00	2.00	
10357.78	0.00	0.00	10288.80	775.10	-183.20	0.00	0.00	0.00	
11482.78	90.00	179.68	11005.00	58.91	-179.18	8.00	0.00	8.00	
28865.52	90.00	179.68	11005.00	-17323.56	-81.49	0.00	0.00	0.00	LTP 16
28965.57	90.00	179.68	11005.00	-17423.60	-80.92	0.00	0.00	0.00	BHL 16

Position Uncertainty Poker Lake Unit 20 DTD South 312H

Measured	TVD	Highside	Lateral	Vertical	Magnitude	Semi-major	Semi-minor	Semi-minor	Tool

Depth	Inclination	Azimuth	RKB	Error	Bias	Error	Bias	Error	Bias	of Bias	Error	Error	Azimuth	Used
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	MWD+IFR1+MS
100.000	0.000	0.000	100.000	0.700	0.000	0.350	0.000	2.300	0.000	0.000	0.751	0.220	112.260	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	122.728	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	125.475	MWD+IFR1+MS
400.000	0.000	0.000	400.000	1.871	0.000	1.658	0.000	2.346	0.000	0.000	2.108	1.343	126.713	MWD+IFR1+MS
500.000	0.000	0.000	500.000	2.240	0.000	2.034	0.000	2.373	0.000	0.000	2.503	1.701	127.421	MWD+IFR1+MS
600.000	0.000	0.000	600.000	2.607	0.000	2.405	0.000	2.405	0.000	0.000	2.888	2.059	127.870	MWD+IFR1+MS
700.000	0.000	0.000	700.000	2.971	0.000	2.773	0.000	2.442	0.000	0.000	3.267	2.417	128.192	MWD+IFR1+MS
800.000	0.000	0.000	800.000	3.333	0.000	3.138	0.000	2.484	0.000	0.000	3.642	2.774	128.446	MWD+IFR1+MS
900.000	0.000	0.000	900.000	3.696	0.000	3.501	0.000	2.529	0.000	0.000	4.014	3.132	128.582	MWD+IFR1+MS
1000.000	0.000	0.000	1000.000	4.057	0.000	3.865	0.000	2.579	0.000	0.000	4.384	3.491	128.759	MWD+IFR1+MS
1100.000	0.000	0.000	1100.000	4.418	0.000	4.227	0.000	2.632	0.000	0.000	4.752	3.849	128.868	MWD+IFR1+MS
1200.000	1.999	346.700	1199.980	4.573	0.000	4.787	0.000	2.688	0.000	0.000	5.242	4.248	122.622	MWD+IFR1+MS
1300.000	4.000	346.700	1299.838	5.154	0.000	5.133	0.000	2.748	0.000	0.000	5.951	4.710	110.842	MWD+IFR1+MS
1400.000	6.000	346.700	1399.452	5.573	0.000	5.480	0.000	2.813	0.000	0.000	6.646	5.096	104.880	MWD+IFR1+MS
1500.000	7.999	346.700	1498.702	5.860	0.000	5.828	0.000	2.886	0.000	0.000	7.306	5.458	101.582	MWD+IFR1+MS
1600.000	10.000	346.700	1597.465	6.027	0.000	6.176	0.000	2.969	0.000	0.000	7.931	5.809	99.555	MWD+IFR1+MS
1614.800	10.290	346.700	1612.103	6.007	0.000	6.224	0.000	2.974	0.000	0.000	7.973	5.860	99.517	MWD+IFR1+MS
1700.000	10.290	346.700	1695.862	6.199	0.000	6.504	0.000	3.035	0.000	0.000	8.208	6.151	99.578	MWD+IFR1+MS
1800.000	10.290	346.700	1794.251	6.433	0.000	6.853	0.000	3.112	0.000	0.000	8.508	6.501	99.973	MWD+IFR1+MS
1900.000	10.290	346.700	1892.640	6.674	0.000	7.209	0.000	3.192	0.000	0.000	8.819	6.855	100.420	MWD+IFR1+MS
2000.000	10.290	346.700	1991.029	6.919	0.000	7.566	0.000	3.276	0.000	0.000	9.134	7.210	100.850	MWD+IFR1+MS
2100.000	10.290	346.700	2089.419	7.169	0.000	7.925	0.000	3.362	0.000	0.000	9.455	7.567	101.252	MWD+IFR1+MS
2200.000	10.290	346.700	2187.808	7.421	0.000	8.285	0.000	3.450	0.000	0.000	9.779	7.925	101.643	MWD+IFR1+MS
2300.000	10.290	346.700	2286.197	7.678	0.000	8.645	0.000	3.540	0.000	0.000	10.107	8.283	102.010	MWD+IFR1+MS
2400.000	10.290	346.700	2384.587	7.934	0.000	9.007	0.000	3.633	0.000	0.000	10.434	8.643	102.399	MWD+IFR1+MS
2500.000	10.290	346.700	2482.976	8.196	0.000	9.370	0.000	3.727	0.000	0.000	10.770	9.004	102.726	MWD+IFR1+MS
2600.000	10.290	346.700	2581.365	8.462	0.000	9.733	0.000	3.824	0.000	0.000	11.109	9.365	103.033	MWD+IFR1+MS
2700.000	10.290	346.700	2679.755	8.728	0.000	10.097	0.000	3.923	0.000	0.000	11.447	9.727	103.354	MWD+IFR1+MS
2800.000	10.290	346.700	2778.144	8.995	0.000	10.458	0.000	4.022	0.000	0.000	11.788	10.086	103.628	MWD+IFR1+MS
2900.000	10.290	346.700	2876.533	9.266	0.000	10.824	0.000	4.126	0.000	0.000	12.132	10.450	103.914	MWD+IFR1+MS

3000.000	10.290	346.700	2974.923	9.538	0.000	11.191	0.000	4.228	0.000	0.000	12.479	10.815	104.188	MWD+IFR1+MS
3100.000	10.290	346.700	3073.312	9.810	0.000	11.555	0.000	4.335	0.000	0.000	12.824	11.178	104.452	MWD+IFR1+MS
3200.000	10.290	346.700	3171.701	10.086	0.000	11.924	0.000	4.442	0.000	0.000	13.176	11.546	104.706	MWD+IFR1+MS
3300.000	10.290	346.700	3270.090	10.362	0.000	12.291	0.000	4.550	0.000	0.000	13.525	11.911	104.943	MWD+IFR1+MS
3400.000	10.290	346.700	3368.480	10.639	0.000	12.655	0.000	4.660	0.000	0.000	13.877	12.273	105.154	MWD+IFR1+MS
3500.000	10.290	346.700	3466.869	10.918	0.000	13.024	0.000	4.772	0.000	0.000	14.230	12.641	105.378	MWD+IFR1+MS
3600.000	10.290	346.700	3565.258	11.198	0.000	13.391	0.000	4.886	0.000	0.000	14.585	13.006	105.561	MWD+IFR1+MS
3700.000	10.290	346.700	3663.648	11.477	0.000	13.759	0.000	5.000	0.000	0.000	14.939	13.372	105.781	MWD+IFR1+MS
3800.000	10.290	346.700	3762.037	11.758	0.000	14.127	0.000	5.117	0.000	0.000	15.295	13.740	105.983	MWD+IFR1+MS
3900.000	10.290	346.700	3860.426	12.039	0.000	14.494	0.000	5.235	0.000	0.000	15.651	14.105	106.154	MWD+IFR1+MS
4000.000	10.290	346.700	3958.816	12.323	0.000	14.864	0.000	5.354	0.000	0.000	16.010	14.474	106.343	MWD+IFR1+MS
4100.000	10.290	346.700	4057.205	12.607	0.000	15.233	0.000	5.474	0.000	0.000	16.369	14.841	106.502	MWD+IFR1+MS
4200.000	10.290	346.700	4155.594	12.892	0.000	15.602	0.000	5.596	0.000	0.000	16.730	15.209	106.645	MWD+IFR1+MS
4300.000	10.290	346.700	4253.984	13.176	0.000	15.969	0.000	5.721	0.000	0.000	17.089	15.575	106.794	MWD+IFR1+MS
4400.000	10.290	346.700	4352.373	13.461	0.000	16.340	0.000	5.846	0.000	0.000	17.449	15.944	106.968	MWD+IFR1+MS
4500.000	10.290	346.700	4450.762	13.747	0.000	16.708	0.000	5.973	0.000	0.000	17.811	16.312	107.097	MWD+IFR1+MS
4600.000	10.290	346.700	4549.152	14.034	0.000	17.078	0.000	6.102	0.000	0.000	18.173	16.680	107.230	MWD+IFR1+MS
4700.000	10.290	346.700	4647.541	14.322	0.000	17.446	0.000	6.233	0.000	0.000	18.536	17.047	107.328	MWD+IFR1+MS
4800.000	10.290	346.700	4745.930	14.608	0.000	17.817	0.000	6.365	0.000	0.000	18.898	17.417	107.474	MWD+IFR1+MS
4900.000	10.290	346.700	4844.319	14.896	0.000	18.186	0.000	6.499	0.000	0.000	19.261	17.785	107.595	MWD+IFR1+MS
5000.000	10.290	346.700	4942.709	15.184	0.000	18.556	0.000	6.635	0.000	0.000	19.625	18.154	107.711	MWD+IFR1+MS
5100.000	10.290	346.700	5041.098	15.473	0.000	18.926	0.000	6.772	0.000	0.000	19.990	18.523	107.824	MWD+IFR1+MS
5200.000	10.290	346.700	5139.487	15.763	0.000	19.295	0.000	6.911	0.000	0.000	20.355	18.891	107.904	MWD+IFR1+MS
5300.000	10.290	346.700	5237.877	16.053	0.000	19.667	0.000	7.051	0.000	0.000	20.721	19.262	108.003	MWD+IFR1+MS
5400.000	10.290	346.700	5336.266	16.342	0.000	20.037	0.000	7.194	0.000	0.000	21.086	19.631	108.106	MWD+IFR1+MS
5500.000	10.290	346.700	5434.655	16.632	0.000	20.405	0.000	7.338	0.000	0.000	21.451	19.998	108.178	MWD+IFR1+MS
5554.100	10.290	346.700	5487.897	16.788	0.000	20.603	0.000	7.417	0.000	0.000	21.644	20.199	108.175	MWD+IFR1+MS
5600.000	9.379	346.700	5533.108	17.380	0.000	20.769	0.000	7.485	0.000	0.000	21.808	20.367	108.122	MWD+IFR1+MS
5700.000	7.379	346.700	5632.036	18.704	0.000	21.132	0.000	7.634	0.000	0.000	22.218	20.738	107.308	MWD+IFR1+MS
5800.000	5.379	346.700	5731.411	20.048	0.000	21.493	0.000	7.781	0.000	0.000	22.676	21.107	105.989	MWD+IFR1+MS
5900.000	3.379	346.700	5831.114	21.367	0.000	21.850	0.000	7.923	0.000	0.000	23.131	21.470	104.832	MWD+IFR1+MS
6000.000	1.379	346.700	5931.023	22.657	0.000	22.201	0.000	8.060	0.000	0.000	23.577	21.825	103.850	MWD+IFR1+MS
6068.900	0.000	0.000	6000.000	23.742	0.000	22.165	0.000	8.153	0.000	0.000	23.838	22.062	103.672	MWD+IFR1+MS

6100.000	0.000	0.000	6031.016	23.845	0.000	22.271	0.000	8.195	0.000	0.000	23.941	22.168	103.665	MWD+IFR1+MS
6200.000	0.000	0.000	6131.016	24.170	0.000	22.616	0.000	8.329	0.000	0.000	24.266	22.513	103.779	MWD+IFR1+MS
6300.000	0.000	0.000	6231.016	24.499	0.000	22.965	0.000	8.466	0.000	0.000	24.598	22.860	104.016	MWD+IFR1+MS
6400.000	0.000	0.000	6331.016	24.831	0.000	23.315	0.000	8.606	0.000	0.000	24.932	23.207	104.227	MWD+IFR1+MS
6500.000	0.000	0.000	6431.016	25.163	0.000	23.664	0.000	8.749	0.000	0.000	25.267	23.554	104.441	MWD+IFR1+MS
6600.000	0.000	0.000	6531.016	25.495	0.000	24.015	0.000	8.893	0.000	0.000	25.601	23.902	104.670	MWD+IFR1+MS
6700.000	0.000	0.000	6631.016	25.828	0.000	24.366	0.000	9.040	0.000	0.000	25.936	24.251	104.895	MWD+IFR1+MS
6800.000	0.000	0.000	6731.016	26.163	0.000	24.716	0.000	9.191	0.000	0.000	26.273	24.599	105.101	MWD+IFR1+MS
6900.000	0.000	0.000	6831.016	26.497	0.000	25.068	0.000	9.344	0.000	0.000	26.610	24.948	105.321	MWD+IFR1+MS
7000.000	0.000	0.000	6931.016	26.833	0.000	25.418	0.000	9.500	0.000	0.000	26.948	25.297	105.522	MWD+IFR1+MS
7100.000	0.000	0.000	7031.016	27.168	0.000	25.770	0.000	9.659	0.000	0.000	27.285	25.646	105.737	MWD+IFR1+MS
7200.000	0.000	0.000	7131.016	27.505	0.000	26.121	0.000	9.820	0.000	0.000	27.624	25.995	105.932	MWD+IFR1+MS
7300.000	0.000	0.000	7231.016	27.842	0.000	26.473	0.000	9.983	0.000	0.000	27.964	26.344	106.119	MWD+IFR1+MS
7400.000	0.000	0.000	7331.016	28.180	0.000	26.825	0.000	10.149	0.000	0.000	28.304	26.695	106.326	MWD+IFR1+MS
7500.000	0.000	0.000	7431.016	28.517	0.000	27.177	0.000	10.320	0.000	0.000	28.643	27.044	106.531	MWD+IFR1+MS
7600.000	0.000	0.000	7531.016	28.855	0.000	27.528	0.000	10.488	0.000	0.000	28.983	27.393	106.716	MWD+IFR1+MS
7700.000	0.000	0.000	7631.016	29.194	0.000	27.882	0.000	10.663	0.000	0.000	29.325	27.745	106.916	MWD+IFR1+MS
7800.000	0.000	0.000	7731.016	29.533	0.000	28.233	0.000	10.844	0.000	0.000	29.666	28.094	107.095	MWD+IFR1+MS
7900.000	0.000	0.000	7831.016	29.873	0.000	28.587	0.000	11.023	0.000	0.000	30.008	28.445	107.290	MWD+IFR1+MS
8000.000	0.000	0.000	7931.016	30.214	0.000	28.940	0.000	11.207	0.000	0.000	30.351	28.796	107.465	MWD+IFR1+MS
8100.000	0.000	0.000	8031.016	30.555	0.000	29.292	0.000	11.393	0.000	0.000	30.694	29.146	107.638	MWD+IFR1+MS
8200.000	0.000	0.000	8131.016	30.895	0.000	29.645	0.000	11.584	0.000	0.000	31.036	29.497	107.821	MWD+IFR1+MS
8300.000	0.000	0.000	8231.016	31.238	0.000	29.998	0.000	11.777	0.000	0.000	31.381	29.849	107.989	MWD+IFR1+MS
8400.000	0.000	0.000	8331.016	31.578	0.000	30.351	0.000	11.971	0.000	0.000	31.723	30.200	108.173	MWD+IFR1+MS
8500.000	0.000	0.000	8431.016	31.922	0.000	30.705	0.000	12.170	0.000	0.000	32.069	30.552	108.336	MWD+IFR1+MS
8600.000	0.000	0.000	8531.016	32.265	0.000	31.058	0.000	12.373	0.000	0.000	32.413	30.903	108.497	MWD+IFR1+MS
8700.000	0.000	0.000	8631.016	32.604	0.000	31.412	0.000	12.578	0.000	0.000	32.755	31.254	108.710	MWD+IFR1+MS
8800.000	0.000	0.000	8731.016	32.939	0.000	31.765	0.000	12.783	0.000	0.000	33.093	31.604	108.958	MWD+IFR1+MS
8900.000	0.000	0.000	8831.016	33.287	0.000	32.109	0.000	12.992	0.000	0.000	33.441	31.948	108.968	MWD+IFR1+MS
9000.000	0.000	0.000	8931.016	33.630	0.000	32.465	0.000	13.206	0.000	0.000	33.787	32.302	109.157	MWD+IFR1+MS
9100.000	0.000	0.000	9031.016	33.971	0.000	32.818	0.000	13.424	0.000	0.000	34.129	32.652	109.339	MWD+IFR1+MS
9200.000	0.000	0.000	9131.016	34.322	0.000	33.181	0.000	13.642	0.000	0.000	34.483	33.014	109.524	MWD+IFR1+MS
9300.000	0.000	0.000	9231.016	34.670	0.000	33.526	0.000	13.864	0.000	0.000	34.831	33.358	109.526	MWD+IFR1+MS

9400.000	0.000	0.000	9331.016	35.014	0.000	33.882	0.000	14.089	0.000	0.000	35.178	33.712	109.707	MWD+IFR1+MS
9500.000	0.000	0.000	9431.016	35.355	0.000	34.234	0.000	14.318	0.000	0.000	35.521	34.063	109.885	MWD+IFR1+MS
9600.000	0.000	0.000	9531.016	35.707	0.000	34.598	0.000	14.550	0.000	0.000	35.875	34.424	110.062	MWD+IFR1+MS
9700.000	0.000	0.000	9631.016	36.042	0.000	34.943	0.000	14.785	0.000	0.000	36.211	34.767	110.238	MWD+IFR1+MS
9800.000	0.000	0.000	9731.016	36.387	0.000	35.299	0.000	15.020	0.000	0.000	36.559	35.121	110.411	MWD+IFR1+MS
9900.000	0.000	0.000	9831.016	36.742	0.000	35.651	0.000	15.261	0.000	0.000	36.915	35.473	110.402	MWD+IFR1+MS
10000.000	0.000	0.000	9931.016	37.081	0.000	36.014	0.000	15.505	0.000	0.000	37.257	35.832	110.748	MWD+IFR1+MS
10100.000	0.000	0.000	10031.016	37.430	0.000	36.373	0.000	15.751	0.000	0.000	37.608	36.189	110.916	MWD+IFR1+MS
10200.000	0.000	0.000	10131.016	37.776	0.000	36.729	0.000	16.003	0.000	0.000	37.955	36.543	111.083	MWD+IFR1+MS
10300.000	0.000	0.000	10231.016	38.131	0.000	37.081	0.000	16.254	0.000	0.000	38.311	36.895	111.066	MWD+IFR1+MS
10357.000	0.000	0.000	10288.800	38.328	0.000	37.283	0.000	16.401	0.000	0.000	38.508	37.097	111.105	MWD+IFR1+MS
10400.000	3.377	179.600	10330.992	40.612	0.000	37.423	-0.000	16.511	0.000	0.000	38.649	37.233	110.930	MWD+IFR1+MS
10500.000	11.370	179.600	10430.084	45.744	0.000	37.730	-0.000	16.787	0.000	0.000	39.448	37.575	106.126	MWD+IFR1+MS
10600.000	19.370	179.600	10526.425	50.253	0.000	38.021	-0.000	17.196	0.000	0.000	40.670	37.893	101.776	MWD+IFR1+MS
10700.000	27.370	179.600	10618.142	53.412	0.000	38.284	-0.000	17.796	0.000	0.000	41.766	38.165	99.851	MWD+IFR1+MS
10800.000	35.370	179.600	10703.448	55.083	0.000	38.520	-0.000	18.625	0.000	0.000	42.689	38.401	98.904	MWD+IFR1+MS
10900.000	43.370	179.600	10780.684	55.210	0.000	38.728	-0.000	19.700	0.000	0.000	43.423	38.607	98.445	MWD+IFR1+MS
11000.000	51.370	179.600	10848.346	53.818	0.000	38.909	-0.000	21.002	0.000	0.000	43.976	38.783	98.259	MWD+IFR1+MS
11100.000	59.370	179.600	10905.117	50.991	0.000	39.063	-0.000	22.488	0.000	0.000	44.365	38.932	98.233	MWD+IFR1+MS
11200.000	67.370	179.600	10949.892	46.843	0.000	39.178	-0.000	24.108	0.000	0.000	44.606	39.042	98.295	MWD+IFR1+MS
11300.000	75.370	179.600	10981.799	41.505	0.000	39.268	-0.000	25.803	0.000	0.000	44.722	39.127	98.415	MWD+IFR1+MS
11400.000	83.370	179.600	11000.218	35.080	0.000	39.332	-0.000	27.512	0.000	0.000	44.769	39.189	98.500	MWD+IFR1+MS
11482.000	90.000	179.600	11004.997	28.517	0.000	39.357	-0.000	28.517	0.000	0.000	44.768	39.215	98.499	MWD+IFR1+MS
11500.000	90.000	179.600	11004.997	28.552	0.000	39.357	-0.000	28.552	0.000	0.000	44.768	39.215	98.485	MWD+IFR1+MS
11600.000	90.000	179.600	11004.997	28.718	0.000	39.382	-0.000	28.718	0.000	0.000	44.777	39.243	98.419	MWD+IFR1+MS
11700.000	90.000	179.600	11004.997	28.910	0.000	39.420	-0.000	28.910	0.000	0.000	44.775	39.283	98.394	MWD+IFR1+MS
11800.000	90.000	179.600	11004.997	29.122	0.000	39.483	-0.000	29.122	0.000	0.000	44.774	39.348	98.401	MWD+IFR1+MS
11900.000	90.000	179.600	11004.997	29.353	0.000	39.559	-0.000	29.353	0.000	0.000	44.785	39.425	98.412	MWD+IFR1+MS
12000.000	90.000	179.600	11004.997	29.602	0.000	39.635	-0.000	29.602	0.000	0.000	44.784	39.502	98.442	MWD+IFR1+MS
12100.000	90.000	179.600	11004.997	29.871	0.000	39.748	-0.000	29.871	0.000	0.000	44.795	39.616	98.512	MWD+IFR1+MS
12200.000	90.000	179.600	11004.997	30.158	0.000	39.861	-0.000	30.158	0.000	0.000	44.795	39.729	98.605	MWD+IFR1+MS
12300.000	90.000	179.600	11004.997	30.461	0.000	39.986	-0.000	30.461	0.000	0.000	44.806	39.855	98.702	MWD+IFR1+MS
12400.000	90.000	179.600	11004.997	30.781	0.000	40.136	-0.000	30.781	0.000	0.000	44.818	40.004	98.847	MWD+IFR1+MS

12500.000	90.000	179.600	11004.997	31.119	0.000	40.297	-0.000	31.119	0.000	0.000	44.819	40.165	99.045	MWD+IFR1+MS
12600.000	90.000	179.600	11004.997	31.474	0.000	40.471	-0.000	31.474	0.000	0.000	44.832	40.337	99.257	MWD+IFR1+MS
12700.000	90.000	179.600	11004.997	31.828	0.000	40.655	-0.000	31.828	0.000	0.000	44.845	40.521	99.511	MWD+IFR1+MS
12800.000	90.000	179.600	11004.997	32.218	0.000	40.852	-0.000	32.218	0.000	0.000	44.859	40.715	99.813	MWD+IFR1+MS
12900.000	90.000	179.600	11004.997	32.619	0.000	41.071	-0.000	32.619	0.000	0.000	44.873	40.932	100.199	MWD+IFR1+MS
13000.000	90.000	179.600	11004.997	33.030	0.000	41.290	-0.000	33.030	0.000	0.000	44.888	41.147	100.625	MWD+IFR1+MS
13100.000	90.000	179.600	11004.997	33.451	0.000	41.531	-0.000	33.451	0.000	0.000	44.904	41.384	101.169	MWD+IFR1+MS
13200.000	90.000	179.600	11004.997	33.897	0.000	41.783	-0.000	33.897	0.000	0.000	44.922	41.630	101.823	MWD+IFR1+MS
13300.000	90.000	179.600	11004.997	34.337	0.000	42.057	-0.000	34.337	0.000	0.000	44.941	41.896	102.664	MWD+IFR1+MS
13400.000	90.000	179.600	11004.997	34.799	0.000	42.330	-0.000	34.799	0.000	0.000	44.962	42.159	103.646	MWD+IFR1+MS
13500.000	90.000	179.600	11004.997	35.285	0.000	42.612	-0.000	35.285	0.000	0.000	44.986	42.430	104.868	MWD+IFR1+MS
13600.000	90.000	179.600	11004.997	35.763	0.000	42.916	-0.000	35.763	0.000	0.000	45.024	42.718	106.415	MWD+IFR1+MS
13700.000	90.000	179.600	11004.997	36.263	0.000	43.229	-0.000	36.263	0.000	0.000	45.057	43.010	108.506	MWD+IFR1+MS
13800.000	90.000	179.600	11004.997	36.770	0.000	43.552	-0.000	36.770	0.000	0.000	45.099	43.302	111.283	MWD+IFR1+MS
13900.000	90.000	179.600	11004.997	37.283	0.000	43.883	-0.000	37.283	0.000	0.000	45.163	43.593	114.881	MWD+IFR1+MS
14000.000	90.000	179.600	11004.997	37.802	0.000	44.235	-0.000	37.802	0.000	0.000	45.239	43.880	120.160	MWD+IFR1+MS
14100.000	90.000	179.600	11004.997	38.341	0.000	44.584	-0.000	38.341	0.000	0.000	45.353	44.138	126.718	MWD+IFR1+MS
14200.000	90.000	179.600	11004.997	38.884	0.000	44.952	-0.000	38.884	0.000	0.000	45.509	44.361	-44.722	MWD+IFR1+MS
14300.000	90.000	179.600	11004.997	39.433	0.000	45.329	-0.000	39.433	0.000	0.000	45.729	44.540	-36.046	MWD+IFR1+MS
14400.000	90.000	179.600	11004.997	39.987	0.000	45.713	-0.000	39.987	0.000	0.000	46.004	44.673	-28.429	MWD+IFR1+MS
14500.000	90.000	179.600	11004.997	40.559	0.000	46.105	-0.000	40.559	0.000	0.000	46.322	44.769	-22.509	MWD+IFR1+MS
14600.000	90.000	179.600	11004.997	41.122	0.000	46.515	-0.000	41.122	0.000	0.000	46.680	44.833	-17.935	MWD+IFR1+MS
14700.000	90.000	179.600	11004.997	41.701	0.000	46.922	-0.000	41.701	0.000	0.000	47.052	44.890	-14.773	MWD+IFR1+MS
14800.000	90.000	179.600	11004.997	42.285	0.000	47.346	-0.000	42.285	0.000	0.000	47.451	44.937	-12.353	MWD+IFR1+MS
14900.000	90.000	179.600	11004.997	42.884	0.000	47.777	-0.000	42.884	0.000	0.000	47.864	44.979	-10.515	MWD+IFR1+MS
15000.000	90.000	179.600	11004.997	43.486	0.000	48.215	-0.000	43.486	0.000	0.000	48.287	45.015	-9.083	MWD+IFR1+MS
15100.000	90.000	179.600	11004.997	44.091	0.000	48.658	-0.000	44.091	0.000	0.000	48.719	45.049	-7.945	MWD+IFR1+MS
15200.000	90.000	179.600	11004.997	44.699	0.000	49.119	-0.000	44.699	0.000	0.000	49.171	45.092	-7.020	MWD+IFR1+MS
15300.000	90.000	179.600	11004.997	45.310	0.000	49.574	-0.000	45.310	0.000	0.000	49.619	45.121	-6.260	MWD+IFR1+MS
15400.000	90.000	179.600	11004.997	45.935	0.000	50.046	-0.000	45.935	0.000	0.000	50.085	45.150	-5.611	MWD+IFR1+MS
15500.000	90.000	179.600	11004.997	46.562	0.000	50.523	-0.000	46.562	0.000	0.000	50.557	45.177	-5.065	MWD+IFR1+MS
15600.000	90.000	179.600	11004.997	47.191	0.000	51.006	-0.000	47.191	0.000	0.000	51.035	45.215	-4.607	MWD+IFR1+MS
15700.000	90.000	179.600	11004.997	47.823	0.000	51.503	-0.000	47.823	0.000	0.000	51.529	45.241	-4.196	MWD+IFR1+MS

15800.000	90.000	179.600	11004.997	48.456	0.000	51.996	-0.000	48.456	0.000	0.000	52.019	45.266	-3.848	MWD+IFR1+MS
15900.000	90.000	179.600	11004.997	49.102	0.000	52.503	-0.000	49.102	0.000	0.000	52.523	45.302	-3.542	MWD+IFR1+MS
16000.000	90.000	179.600	11004.997	49.749	0.000	53.015	-0.000	49.749	0.000	0.000	53.033	45.338	-3.273	MWD+IFR1+MS
16100.000	90.000	179.600	11004.997	50.398	0.000	53.531	-0.000	50.398	0.000	0.000	53.547	45.362	-3.031	MWD+IFR1+MS
16200.000	90.000	179.600	11004.997	51.059	0.000	54.051	-0.000	51.059	0.000	0.000	54.066	45.397	-2.818	MWD+IFR1+MS
16300.000	90.000	179.600	11004.997	51.720	0.000	54.576	-0.000	51.720	0.000	0.000	54.589	45.432	-2.627	MWD+IFR1+MS
16400.000	90.000	179.600	11004.997	52.383	0.000	55.114	-0.000	52.383	0.000	0.000	55.125	45.456	-2.451	MWD+IFR1+MS
16500.000	90.000	179.600	11004.997	53.047	0.000	55.646	-0.000	53.047	0.000	0.000	55.657	45.490	-2.296	MWD+IFR1+MS
16600.000	90.000	179.600	11004.997	53.712	0.000	56.192	-0.000	53.712	0.000	0.000	56.201	45.524	-2.154	MWD+IFR1+MS
16700.000	90.000	179.600	11004.997	54.387	0.000	56.741	-0.000	54.387	0.000	0.000	56.749	45.558	-2.025	MWD+IFR1+MS
16800.000	90.000	179.600	11004.997	55.064	0.000	57.302	-0.000	55.064	0.000	0.000	57.309	45.592	-1.905	MWD+IFR1+MS
16900.000	90.000	179.600	11004.997	55.740	0.000	57.858	-0.000	55.740	0.000	0.000	57.864	45.626	-1.797	MWD+IFR1+MS
17000.000	90.000	179.600	11004.997	56.418	0.000	58.425	-0.000	56.418	0.000	0.000	58.431	45.660	-1.697	MWD+IFR1+MS
17100.000	90.000	179.600	11004.997	57.105	0.000	58.987	-0.000	57.105	0.000	0.000	58.992	45.694	-1.606	MWD+IFR1+MS
17200.000	90.000	179.600	11004.997	57.784	0.000	59.561	-0.000	57.784	0.000	0.000	59.565	45.727	-1.521	MWD+IFR1+MS
17300.000	90.000	179.600	11004.997	58.472	0.000	60.137	-0.000	58.472	0.000	0.000	60.141	45.772	-1.444	MWD+IFR1+MS
17400.000	90.000	179.600	11004.997	59.169	0.000	60.716	-0.000	59.169	0.000	0.000	60.720	45.805	-1.371	MWD+IFR1+MS
17500.000	90.000	179.600	11004.997	59.858	0.000	61.306	-0.000	59.858	0.000	0.000	61.310	45.838	-1.303	MWD+IFR1+MS
17600.000	90.000	179.600	11004.997	60.556	0.000	61.899	-0.000	60.556	0.000	0.000	61.902	45.882	-1.240	MWD+IFR1+MS
17700.000	90.000	179.600	11004.997	61.254	0.000	62.485	-0.000	61.254	0.000	0.000	62.488	45.916	-1.182	MWD+IFR1+MS
17800.000	90.000	179.600	11004.997	61.952	0.000	63.083	-0.000	61.952	0.000	0.000	63.085	45.960	-1.128	MWD+IFR1+MS
17900.000	90.000	179.600	11004.997	62.650	0.000	63.682	-0.000	62.650	0.000	0.000	63.684	45.993	-1.077	MWD+IFR1+MS
18000.000	90.000	179.600	11004.997	63.356	0.000	64.292	-0.000	63.356	0.000	0.000	64.293	46.036	-1.029	MWD+IFR1+MS
18100.000	90.000	179.600	11004.997	64.062	0.000	64.895	-0.000	64.062	0.000	0.000	64.897	46.080	-0.985	MWD+IFR1+MS
18200.000	90.000	179.600	11004.997	64.769	0.000	65.509	-0.000	64.769	0.000	0.000	65.510	46.113	-0.942	MWD+IFR1+MS
18300.000	90.000	179.600	11004.997	65.475	0.000	66.116	-0.000	65.475	0.000	0.000	66.118	46.157	-0.904	MWD+IFR1+MS
18400.000	90.000	179.600	11004.997	66.189	0.000	66.734	-0.000	66.189	0.000	0.000	66.735	46.200	-0.867	MWD+IFR1+MS
18500.000	90.000	179.600	11004.997	66.903	0.000	67.360	-0.000	66.903	0.000	0.000	67.361	46.244	-0.832	MWD+IFR1+MS
18600.000	90.000	179.600	11004.997	67.617	0.000	67.981	-0.000	67.617	0.000	0.000	67.981	46.287	-0.799	MWD+IFR1+MS
18700.000	90.000	179.600	11004.997	68.330	0.000	68.603	-0.000	68.330	0.000	0.000	68.604	46.331	-0.768	MWD+IFR1+MS
18800.000	90.000	179.600	11004.997	69.043	0.000	69.234	-0.000	69.043	0.000	0.000	69.235	46.374	-0.739	MWD+IFR1+MS
18900.000	90.000	179.600	11004.997	69.764	0.000	69.867	-0.000	69.764	0.000	0.000	69.867	46.417	-0.712	MWD+IFR1+MS
19000.000	90.000	179.600	11004.997	70.484	0.000	70.501	-0.000	70.484	0.000	0.000	70.501	46.461	-0.685	MWD+IFR1+MS

19100.000	90.000	179.600	11004.997	71.204	0.000	71.136	-0.000	71.204	0.000	0.000	71.136	46.504	-0.661	MWD+IFR1+MS
19200.000	90.000	179.600	11004.997	71.931	0.000	71.773	-0.000	71.931	0.000	0.000	71.773	46.547	-0.637	MWD+IFR1+MS
19300.000	90.000	179.600	11004.997	72.650	0.000	72.418	-0.000	72.650	0.000	0.000	72.418	46.601	-0.615	MWD+IFR1+MS
19400.000	90.000	179.600	11004.997	73.376	0.000	73.064	-0.000	73.376	0.000	0.000	73.064	46.644	-0.594	MWD+IFR1+MS
19500.000	90.000	179.600	11004.997	74.101	0.000	73.704	-0.000	74.101	0.000	0.000	73.704	46.687	-0.574	MWD+IFR1+MS
19600.000	90.000	179.600	11004.997	74.833	0.000	74.359	-0.000	74.833	0.000	0.000	74.359	46.741	-0.555	MWD+IFR1+MS
19700.000	90.000	179.600	11004.997	75.558	0.000	75.009	-0.000	75.558	0.000	0.000	75.009	46.784	-0.537	MWD+IFR1+MS
19800.000	90.000	179.600	11004.997	76.289	0.000	75.659	-0.000	76.289	0.000	0.000	75.659	46.837	-0.520	MWD+IFR1+MS
19900.000	90.000	179.600	11004.997	77.019	0.000	76.317	-0.000	77.019	0.000	0.000	76.317	46.891	-0.504	MWD+IFR1+MS
20000.000	90.000	179.600	11004.997	77.750	0.000	76.969	-0.000	77.750	0.000	0.000	76.969	46.933	-0.488	MWD+IFR1+MS
20100.000	90.000	179.600	11004.997	78.486	0.000	77.629	-0.000	78.486	0.000	0.000	77.629	46.987	-0.474	MWD+IFR1+MS
20200.000	90.000	179.600	11004.997	79.221	0.000	78.290	-0.000	79.221	0.000	0.000	78.290	47.040	-0.460	MWD+IFR1+MS
20300.000	90.000	179.600	11004.997	79.956	0.000	78.957	-0.000	79.956	0.000	0.000	78.957	47.093	-0.446	MWD+IFR1+MS
20400.000	90.000	179.600	11004.997	80.691	0.000	79.619	-0.000	80.691	0.000	0.000	79.619	47.136	-0.433	MWD+IFR1+MS
20500.000	90.000	179.600	11004.997	81.425	0.000	80.288	-0.000	81.425	0.000	0.000	80.288	47.189	-0.421	MWD+IFR1+MS
20600.000	90.000	179.600	11004.997	82.164	0.000	80.952	-0.000	82.164	0.000	0.000	80.952	47.242	-0.409	MWD+IFR1+MS
20700.000	90.000	179.600	11004.997	82.904	0.000	81.622	-0.000	82.904	0.000	0.000	81.622	47.295	-0.398	MWD+IFR1+MS
20800.000	90.000	179.600	11004.997	83.642	0.000	82.293	-0.000	83.642	0.000	0.000	82.293	47.358	-0.388	MWD+IFR1+MS
20900.000	90.000	179.600	11004.997	84.380	0.000	82.971	-0.000	84.380	0.000	0.000	82.971	47.411	-0.377	MWD+IFR1+MS
21000.000	90.000	179.600	11004.997	85.123	0.000	83.643	-0.000	85.123	0.000	0.000	83.643	47.464	-0.368	MWD+IFR1+MS
21100.000	90.000	179.600	11004.997	85.866	0.000	84.322	-0.000	85.866	0.000	0.000	84.322	47.516	-0.358	MWD+IFR1+MS
21200.000	90.000	179.600	11004.997	86.608	0.000	85.001	-0.000	86.608	0.000	0.000	85.001	47.569	-0.349	MWD+IFR1+MS
21300.000	90.000	179.600	11004.997	87.350	0.000	85.681	-0.000	87.350	0.000	0.000	85.681	47.632	-0.341	MWD+IFR1+MS
21400.000	90.000	179.600	11004.997	88.097	0.000	86.361	-0.000	88.097	0.000	0.000	86.361	47.685	-0.333	MWD+IFR1+MS
21500.000	90.000	179.600	11004.997	88.837	0.000	87.041	-0.000	88.837	0.000	0.000	87.041	47.748	-0.325	MWD+IFR1+MS
21600.000	90.000	179.600	11004.997	89.582	0.000	87.722	-0.000	89.582	0.000	0.000	87.722	47.800	-0.317	MWD+IFR1+MS
21700.000	90.000	179.600	11004.997	90.333	0.000	88.409	-0.000	90.333	0.000	0.000	88.409	47.863	-0.310	MWD+IFR1+MS
21800.000	90.000	179.600	11004.997	91.077	0.000	89.096	-0.000	91.077	0.000	0.000	89.096	47.915	-0.303	MWD+IFR1+MS
21900.000	90.000	179.600	11004.997	91.826	0.000	89.784	-0.000	91.826	0.000	0.000	89.784	47.978	-0.297	MWD+IFR1+MS
22000.000	90.000	179.600	11004.997	92.574	0.000	90.472	-0.000	92.574	0.000	0.000	90.472	48.040	-0.290	MWD+IFR1+MS
22100.000	90.000	179.600	11004.997	93.322	0.000	91.160	-0.000	93.322	0.000	0.000	91.160	48.103	-0.284	MWD+IFR1+MS
22200.000	90.000	179.600	11004.997	94.069	0.000	91.854	-0.000	94.069	0.000	0.000	91.854	48.154	-0.278	MWD+IFR1+MS
22300.000	90.000	179.600	11004.997	94.821	0.000	92.548	-0.000	94.821	0.000	0.000	92.548	48.217	-0.273	MWD+IFR1+MS

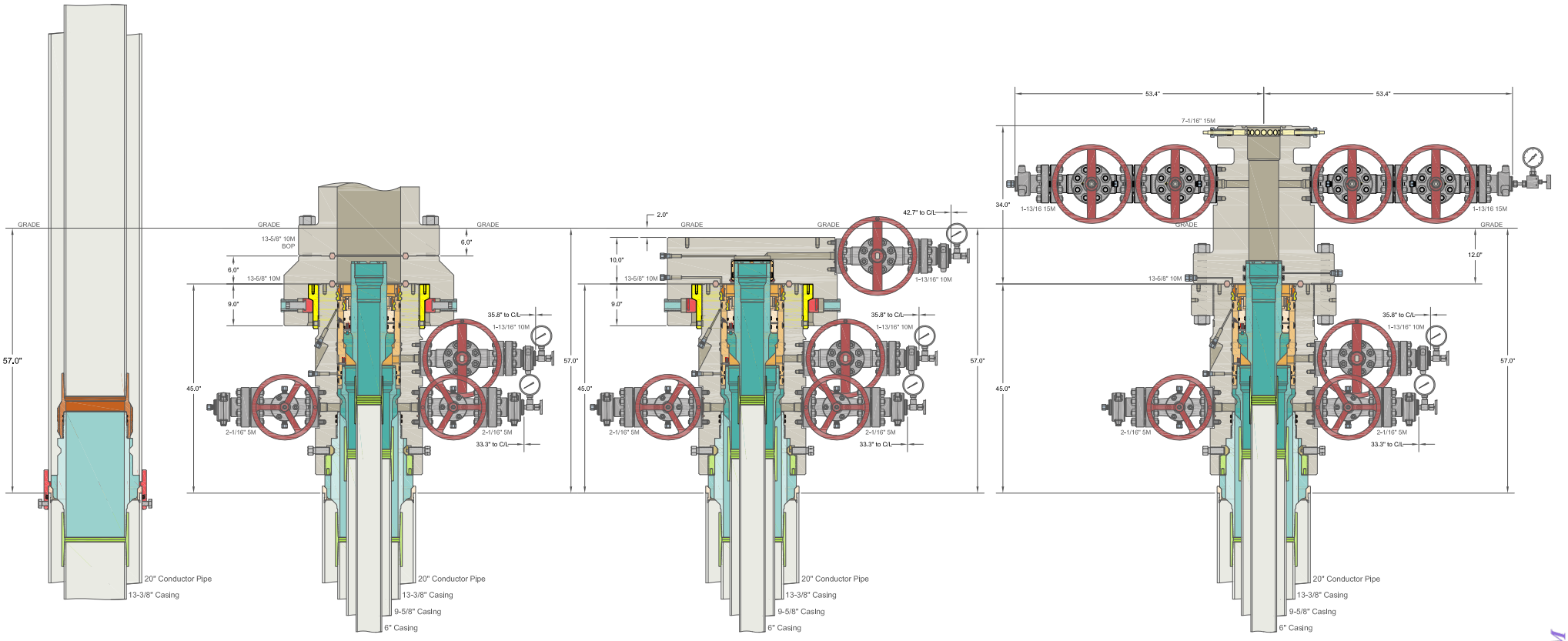
22400.000	90.000	179.600	11004.997	95.572	0.000	93.237	-0.000	95.572	0.000	0.000	93.237	48.279	-0.267	MWD+IFR1+MS
22500.000	90.000	179.600	11004.997	96.322	0.000	93.937	-0.000	96.322	0.000	0.000	93.937	48.341	-0.262	MWD+IFR1+MS
22600.000	90.000	179.600	11004.997	97.072	0.000	94.631	-0.000	97.072	0.000	0.000	94.632	48.403	-0.257	MWD+IFR1+MS
22700.000	90.000	179.600	11004.997	97.826	0.000	95.326	-0.000	97.826	0.000	0.000	95.326	48.465	-0.252	MWD+IFR1+MS
22800.000	90.000	179.600	11004.997	98.575	0.000	96.026	-0.000	98.575	0.000	0.000	96.027	48.527	-0.248	MWD+IFR1+MS
22900.000	90.000	179.600	11004.997	99.328	0.000	96.722	-0.000	99.328	0.000	0.000	96.722	48.599	-0.243	MWD+IFR1+MS
23000.000	90.000	179.600	11004.997	100.050	0.000	97.422	-0.000	100.050	0.000	0.000	97.422	48.661	-0.239	MWD+IFR1+MS
23100.000	90.000	179.600	11004.997	100.797	0.000	98.123	-0.000	100.797	0.000	0.000	98.123	48.722	-0.235	MWD+IFR1+MS
23200.000	90.000	179.600	11004.997	101.587	0.000	98.828	-0.000	101.587	0.000	0.000	98.829	48.794	-0.231	MWD+IFR1+MS
23300.000	90.000	179.600	11004.997	102.323	0.000	99.529	-0.000	102.323	0.000	0.000	99.529	48.856	-0.228	MWD+IFR1+MS
23400.000	90.000	179.600	11004.997	103.102	0.000	100.200	-0.000	103.102	0.000	0.000	100.200	48.917	-0.224	MWD+IFR1+MS
23500.000	90.000	179.600	11004.997	103.827	0.000	100.896	-0.000	103.827	0.000	0.000	100.897	48.989	-0.221	MWD+IFR1+MS
23600.000	90.000	179.600	11004.997	104.594	0.000	101.637	-0.000	104.594	0.000	0.000	101.637	49.060	-0.217	MWD+IFR1+MS
23700.000	90.000	179.600	11004.997	105.357	0.000	102.323	-0.000	105.357	0.000	0.000	102.324	49.121	-0.214	MWD+IFR1+MS
23800.000	90.000	179.600	11004.997	106.113	0.000	103.053	-0.000	106.113	0.000	0.000	103.054	49.192	-0.211	MWD+IFR1+MS
23900.000	90.000	179.600	11004.997	106.864	0.000	103.730	-0.000	106.864	0.000	0.000	103.731	49.263	-0.208	MWD+IFR1+MS
24000.000	90.000	179.600	11004.997	107.610	0.000	104.451	-0.000	107.610	0.000	0.000	104.451	49.324	-0.205	MWD+IFR1+MS
24100.000	90.000	179.600	11004.997	108.397	0.000	105.167	-0.000	108.397	0.000	0.000	105.167	49.395	-0.202	MWD+IFR1+MS
24200.000	90.000	179.600	11004.997	109.133	0.000	105.877	-0.000	109.133	0.000	0.000	105.878	49.466	-0.200	MWD+IFR1+MS
24300.000	90.000	179.600	11004.997	109.909	0.000	106.583	-0.000	109.909	0.000	0.000	106.584	49.537	-0.197	MWD+IFR1+MS
24400.000	90.000	179.600	11004.997	110.635	0.000	107.285	-0.000	110.635	0.000	0.000	107.285	49.607	-0.195	MWD+IFR1+MS
24500.000	90.000	179.600	11004.997	111.400	0.000	108.028	-0.000	111.400	0.000	0.000	108.028	49.678	-0.192	MWD+IFR1+MS
24600.000	90.000	179.600	11004.997	112.161	0.000	108.720	-0.000	112.161	0.000	0.000	108.720	49.748	-0.190	MWD+IFR1+MS
24700.000	90.000	179.600	11004.997	112.916	0.000	109.453	-0.000	112.916	0.000	0.000	109.454	49.819	-0.188	MWD+IFR1+MS
24800.000	90.000	179.600	11004.997	113.710	0.000	110.136	-0.000	113.710	0.000	0.000	110.137	49.889	-0.186	MWD+IFR1+MS
24900.000	90.000	179.600	11004.997	114.455	0.000	110.860	-0.000	114.455	0.000	0.000	110.861	49.969	-0.184	MWD+IFR1+MS
25000.000	90.000	179.600	11004.997	115.239	0.000	111.579	-0.000	115.239	0.000	0.000	111.580	50.039	-0.182	MWD+IFR1+MS
25100.000	90.000	179.600	11004.997	115.974	0.000	112.294	-0.000	115.974	0.000	0.000	112.295	50.109	-0.180	MWD+IFR1+MS
25200.000	90.000	179.600	11004.997	116.748	0.000	113.004	-0.000	116.748	0.000	0.000	113.005	50.189	-0.178	MWD+IFR1+MS
25300.000	90.000	179.600	11004.997	117.516	0.000	113.754	-0.000	117.516	0.000	0.000	113.755	50.258	-0.176	MWD+IFR1+MS
25400.000	90.000	179.600	11004.997	118.279	0.000	114.455	-0.000	118.279	0.000	0.000	114.456	50.338	-0.175	MWD+IFR1+MS
25500.000	90.000	179.600	11004.997	119.038	0.000	115.152	-0.000	119.038	0.000	0.000	115.152	50.407	-0.173	MWD+IFR1+MS
25600.000	90.000	179.600	11004.997	119.791	0.000	115.888	-0.000	119.791	0.000	0.000	115.888	50.487	-0.172	MWD+IFR1+MS

25700.000	90.000	179.600	11004.997	120.540	0.000	116.619	-0.000	120.540	0.000	0.000	116.619	50.566	-0.170	MWD+IFR1+MS
25800.000	90.000	179.600	11004.997	121.326	0.000	117.345	-0.000	121.326	0.000	0.000	117.346	50.635	-0.169	MWD+IFR1+MS
25900.000	90.000	179.600	11004.997	122.066	0.000	118.067	-0.000	122.066	0.000	0.000	118.068	50.714	-0.167	MWD+IFR1+MS
26000.000	90.000	179.600	11004.997	122.841	0.000	118.785	-0.000	122.841	0.000	0.000	118.786	50.793	-0.166	MWD+IFR1+MS
26100.000	90.000	179.600	11004.997	123.612	0.000	119.499	-0.000	123.612	0.000	0.000	119.499	50.871	-0.165	MWD+IFR1+MS
26200.000	90.000	179.600	11004.997	124.378	0.000	120.208	-0.000	124.378	0.000	0.000	120.209	50.950	-0.164	MWD+IFR1+MS
26300.000	90.000	179.600	11004.997	125.140	0.000	120.954	-0.000	125.140	0.000	0.000	120.955	51.028	-0.163	MWD+IFR1+MS
26400.000	90.000	179.600	11004.997	125.897	0.000	121.655	-0.000	125.897	0.000	0.000	121.656	51.107	-0.162	MWD+IFR1+MS
26500.000	90.000	179.600	11004.997	126.689	0.000	122.392	-0.000	126.689	0.000	0.000	122.393	51.185	-0.160	MWD+IFR1+MS
26600.000	90.000	179.600	11004.997	127.436	0.000	123.125	-0.000	127.436	0.000	0.000	123.126	51.263	-0.159	MWD+IFR1+MS
26700.000	90.000	179.600	11004.997	128.219	0.000	123.854	-0.000	128.219	0.000	0.000	123.855	51.341	-0.158	MWD+IFR1+MS
26800.000	90.000	179.600	11004.997	128.957	0.000	124.579	-0.000	128.957	0.000	0.000	124.580	51.429	-0.157	MWD+IFR1+MS
26900.000	90.000	179.600	11004.997	129.730	0.000	125.299	-0.000	129.730	0.000	0.000	125.300	51.506	-0.157	MWD+IFR1+MS
27000.000	90.000	179.600	11004.997	130.499	0.000	126.015	-0.000	130.499	0.000	0.000	126.016	51.584	-0.156	MWD+IFR1+MS
27100.000	90.000	179.600	11004.997	131.263	0.000	126.767	-0.000	131.263	0.000	0.000	126.768	51.671	-0.155	MWD+IFR1+MS
27200.000	90.000	179.600	11004.997	132.023	0.000	127.475	-0.000	132.023	0.000	0.000	127.476	51.748	-0.154	MWD+IFR1+MS
27300.000	90.000	179.600	11004.997	132.816	0.000	128.218	-0.000	132.816	0.000	0.000	128.219	51.835	-0.153	MWD+IFR1+MS
27400.000	90.000	179.600	11004.997	133.566	0.000	128.957	-0.000	133.566	0.000	0.000	128.958	51.912	-0.153	MWD+IFR1+MS
27500.000	90.000	179.600	11004.997	134.350	0.000	129.691	-0.000	134.350	0.000	0.000	129.692	51.999	-0.152	MWD+IFR1+MS
27600.000	90.000	179.600	11004.997	135.093	0.000	130.383	-0.000	135.093	0.000	0.000	130.384	52.086	-0.151	MWD+IFR1+MS
27700.000	90.000	179.600	11004.997	135.868	0.000	131.148	-0.000	135.868	0.000	0.000	131.149	52.162	-0.151	MWD+IFR1+MS
27800.000	90.000	179.600	11004.997	136.638	0.000	131.870	-0.000	136.638	0.000	0.000	131.872	52.248	-0.150	MWD+IFR1+MS
27900.000	90.000	179.600	11004.997	137.405	0.000	132.589	-0.000	137.405	0.000	0.000	132.590	52.334	-0.149	MWD+IFR1+MS
28000.000	90.000	179.600	11004.997	138.167	0.000	133.341	-0.000	138.167	0.000	0.000	133.342	52.420	-0.149	MWD+IFR1+MS
28100.000	90.000	179.600	11004.997	138.960	0.000	134.052	-0.000	138.960	0.000	0.000	134.053	52.506	-0.148	MWD+IFR1+MS
28200.000	90.000	179.600	11004.997	139.714	0.000	134.795	-0.000	139.714	0.000	0.000	134.797	52.592	-0.148	MWD+IFR1+MS
28300.000	90.000	179.600	11004.997	140.499	0.000	135.535	-0.000	140.499	0.000	0.000	135.536	52.677	-0.147	MWD+IFR1+MS
28400.000	90.000	179.600	11004.997	141.244	0.000	136.271	-0.000	141.244	0.000	0.000	136.272	52.763	-0.147	MWD+IFR1+MS
28500.000	90.000	179.600	11004.997	142.021	0.000	137.003	-0.000	142.021	0.000	0.000	137.004	52.848	-0.146	MWD+IFR1+MS
28600.000	90.000	179.600	11004.997	142.794	0.000	137.731	-0.000	142.794	0.000	0.000	137.732	52.933	-0.146	MWD+IFR1+MS
28700.000	90.000	179.600	11004.997	143.562	0.000	138.455	-0.000	143.562	0.000	0.000	138.456	53.027	-0.146	MWD+IFR1+MS
28800.000	90.000	179.600	11004.997	144.326	0.000	139.175	-0.000	144.326	0.000	0.000	139.177	53.112	-0.145	MWD+IFR1+MS
28865.000	90.000	179.600	11004.997	144.845	0.000	139.677	-0.000	144.845	0.000	0.000	139.679	53.169	-0.145	MWD+IFR1+MS

28900.000	90.000	179.600	11004.997	145.121	0.000	139.928	-0.000	145.121	0.000	0.000	139.929	53.197	-0.145	MWD+IFR1+MS
28965.000	90.000	179.600	11004.997	145.602	0.000	140.391	-0.000	145.602	0.000	0.000	140.393	53.253	-0.145	MWD+IFR1+MS

Plan Targets Poker Lake Unit 20 DTD South 312H

Target Name	Measured Depth (ft)	Grid Northing (ft)	Grid Easting (ft)	TVD MSL (ft)	Target Shape
FTP 16	11197.64	440391.10	633473.90	7711.00	RECTANGLE
SHL 16	11867.03	439583.29	633660.00	7516.73	RECTANGLE
LTP 16	28865.04	422292.40	633575.60	7711.00	RECTANGLE
BHL 16	28965.02	422192.40	633576.20	7711.00	RECTANGLE



ALL DIMENSIONS APPROXIMATE

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

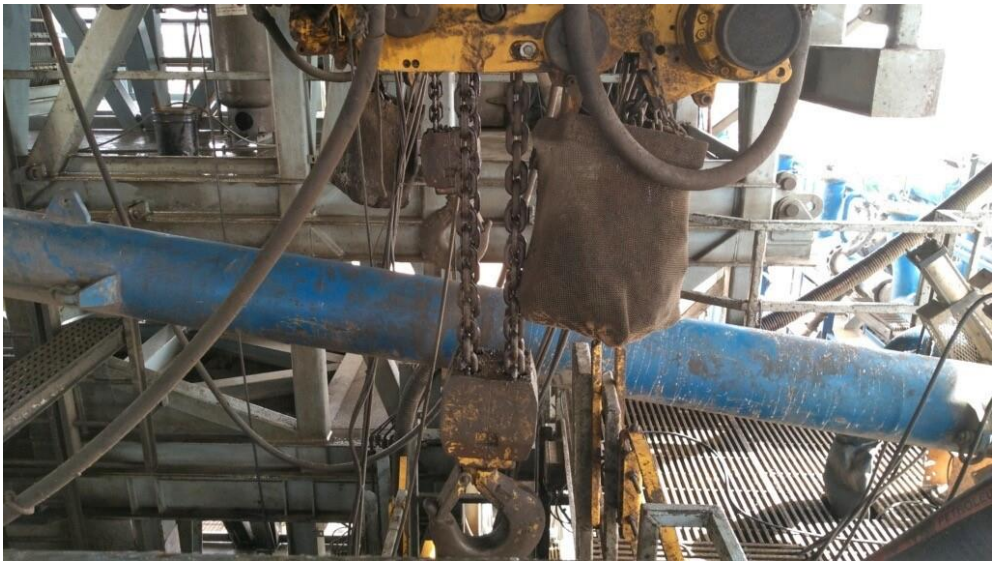


Figure 2: BOP Winch System

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.

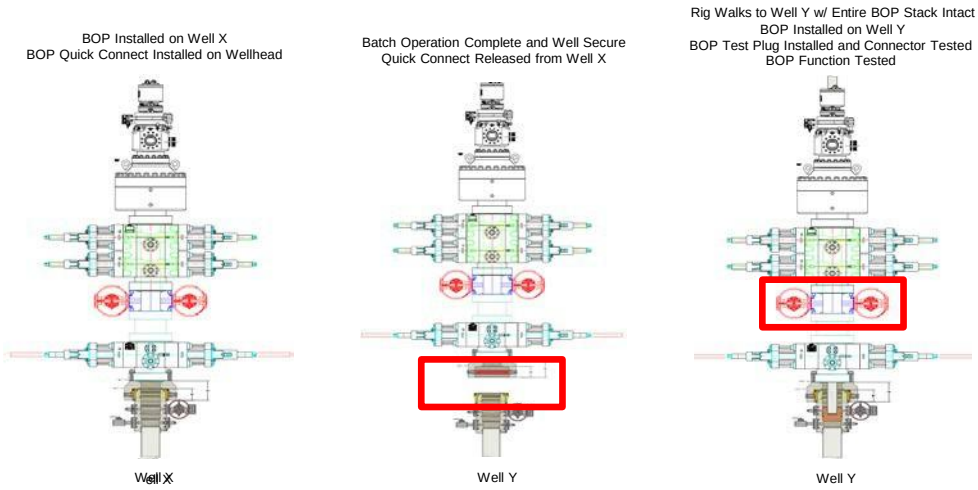
XTO Energy feels break testing and our current procedures meet the intent of CFR Title 43 Part 317 0and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. XTO Energy's internal standards requires complete BOPE tests more often 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.

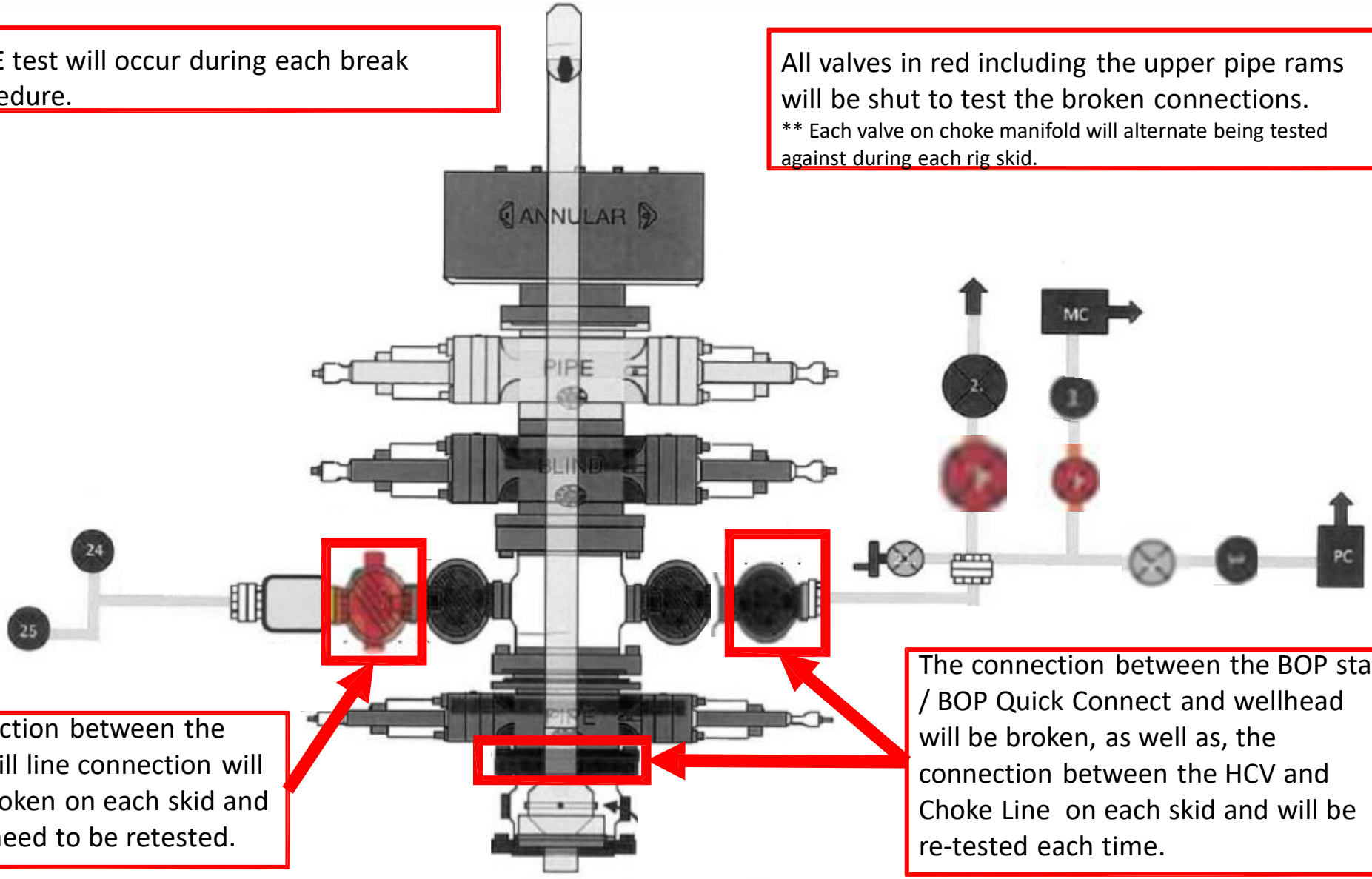
3. Full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.

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

2. Well Control Procedures

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

General Procedure While Drilling

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

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

General Procedure While Tripping

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

General Procedure While Running Production Casing

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

General Procedure With No Pipe In Hole (Open Hole)

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

General Procedures While Pulling BHA Through Stack

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

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

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

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

CONDITIONS

Action 359230

CONDITIONS

Operator: XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	OGRID: 373075
	Action Number: 359230
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	All original COA's still apply. Additionally, if cement is not circulated to surface during cementing operations, then a CBL is required.	6/28/2024