

Well Name: JRU APACHE FEDERAL COM	Well Location: T22S / R30E / SEC 13 / NESE / 32.391927 / -103.828228	County or Parish/State: EDDY / NM
Well Number: 111H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM89051	Unit or CA Name:	Unit or CA Number:
US Well Number:	Operator: XTO PERMIAN OPERATING LLC	

Notice of Intent

Sundry ID: 2831479

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

Date Sundry Submitted: 01/13/2025 Time Sundry Submitted: 01:24

Date proposed operation will begin: 01/17/2025

Procedure Description: JRU APACHE FEDERAL COM 111H APD ID# 10400085713 SUNDRY LANGUAGE XTO Permian Operating, LLC. respectfully requests approval to make the following changes to the approved APD. Changes to include SHL, KOP, FTP, LTP, BHL, casing design, cement program, mud circulation system, proposed total depth and pool. FROM: TO: SHL: 2575' FSL & 817' FEL OF SECTION 13-T22S-R30E 2576' FSL & 867' FEL OF SECTION 13-T22S-R30E KOP: 2575' FSL & 817' FEL OF SECTION 13-T22S-R30E 544' FNL & 330' FEL OF SECTION 13-T22S-R30E FTP: 330' FNL & 330' FEL OF SECTION 13-T22S-R30E 544' FNL & 330' FEL OF SECTION 13-T22S-R30E LTP: 330' FNL & 100' FWL OF SECTION 14-T22S-R30E 544' FNL & 100' FWL OF SECTION 14-T22S-R30E BHL: 330' FNL & 50' FWL OF SECTION 14-T22S-R30E 544' FNL & 50' FWL OF SECTION 14-T22S-R30E The proposed total depth is changing from 22136' MD/11000' TVD to 21523.1' MD/11082' TVD The pool is changing from Los Medanos; Wolfcamp, South to Los Medanos; Wolfcamp, North (Gas) and Los Medanos; Wolfcamp (Gas). Individual C102s for each pool highlighting the corresponding dedicated acreage are attached. There are no changes requested to the facilities/surface usage that was approved along with the APD. See attached drilling program for the updated casing design, cement program and the mud circulation system.

NOI Attachments

Procedure Description

Sundry_Attachments___James_Ranch_Unit_Apache_111H_20250228150502.pdf

Received by OCD: 4/4/2025 8:19:37 AM

Page 2 of 54

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Conditions of Approval

Additional

JRU_Apache_Fed_Com_111H_COA_20250402122925.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: SRINIVAS LAGHUVARAPU

Signed on: FEB 28, 2025 03:05 PM

Name: XTO PERMIAN OPERATING LLC

Title: REGULATORY ANALYST

Street Address: 22777 SPRINGWOODS VILLAGE PARKWAY

City: SPRINGState: TX

Phone: (720) 539-1673

Email address: SRINIVAS.N.LAGHUVARAPU@EXXONMOBIL.COM

Field

Representative Name:

Street Address:

City:State:Zip:

Phone:

Email address:

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5752342234

BLM POC Email Address: cwalls@blm.gov

Disposition: Approved

Disposition Date: 04/03/2025

Signature: Chris Walls

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

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

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

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

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

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

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

(Instructions on page 2)

GENERAL INSTRUCTIONS

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

SPECIFIC INSTRUCTIONS

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

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

NOTICES

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

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

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

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

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

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

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

Response to this request is mandatory.

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

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

Additional Information

Additional Remarks

BHL: 330' FNL & 50' FWL OF SECTION 14-T22S-R30E 544' FNL & 50' FWL OF SECTION 14-T22S-R30E

The proposed total depth is changing from 22136 MD/11000 TVD to 21523.1 MD/11082 TVD

The pool is changing from Los Medanos; Wolfcamp, South to Los Medanos; Wolfcamp, North (Gas) and Los Medanos; Wolfcamp (Gas).

Individual C102s for each pool highlighting the corresponding dedicated acreage are attached.

There are no changes requested to the facilities/surface usage that was approved along with the APD.

See attached drilling program for the updated casing design, cement program and the mud circulation system.

Location of Well

0. SHL: NESE / 2575 FSL / 817 FEL / TWSP: 22S / RANGE: 30E / SECTION: 13 / LAT: 32.391927 / LONG: -103.828228 (TVD: 0 feet, MD: 0 feet)

PPP: NENW / 328 FNL / 2674 FWL / TWSP: 22S / RANGE: 30E / SECTION: 13 / LAT: 32.398474 / LONG: -103.834248 (TVD: 11075 feet, MD: 14500 feet)

PPP: NENE / 330 FNL / 330 FEL / TWSP: 22S / RANGE: 30E / SECTION: 13 / LAT: 32.398466 / LONG: -103.82665 (TVD: 11101 feet, MD: 11900 feet)

BHL: NWNW / 330 FNL / 50 FWL / TWSP: 22S / RANGE: 30E / SECTION: 14 / LAT: 32.398501 / LONG: -103.860083 (TVD: 11000 feet, MD: 22136 feet)

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO
LEASE NO.:	NMNM089051
LOCATION:	Sec. 13, T.22 S, R 30 E
COUNTY:	Eddy County, New Mexico ▼
WELL NAME & NO.:	JRU Apache Fed Com 111H
SURFACE HOLE FOOTAGE:	2576'/S & 867'/E
BOTTOM HOLE FOOTAGE:	544'/N & 50'/W

*Changes approved through engineering via **Sundry 2831479** on **4-2-2025**. Any previous COAs not addressed within the updated COAs still apply.*

COA

H ₂ S	<input checked="" type="radio"/> No		<input type="radio"/> Yes	
Potash / WIPP	<input type="radio"/> None	<input type="radio"/> Secretary	<input checked="" type="radio"/> R-111-Q	<input checked="" type="checkbox"/> Open Annulus <input checked="" type="checkbox"/> WIPP
	4-String Design: Engineered Weak Point			
Cave / Karst	<input type="radio"/> Low	<input checked="" type="radio"/> Medium	<input type="radio"/> High	<input type="radio"/> Critical
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both	<input type="radio"/> Diverter
Cementing	<input checked="" type="checkbox"/> Primary Squeeze	<input type="checkbox"/> Cont. Squeeze	<input checked="" type="checkbox"/> EchoMeter	<input type="checkbox"/> DV Tool
Special Req	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> Water Disposal	<input type="checkbox"/> COM	<input checked="" type="checkbox"/> Unit
Waste Prev.	<input type="radio"/> Self-Certification	<input checked="" type="radio"/> Waste Min. Plan	<input type="radio"/> APD Submitted prior to 06/10/2024	
Additional Language	<input checked="" type="checkbox"/> Flex Hose	<input checked="" type="checkbox"/> Casing Clearance	<input type="checkbox"/> Pilot Hole	<input checked="" type="checkbox"/> Break Testing
	<input checked="" type="checkbox"/> Four-String	<input checked="" type="checkbox"/> Offline Cementing	<input type="checkbox"/> Fluid-Filled	

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.

APD is within the R-111-Q defined boundary. Operator must follow all procedures and requirements listed within the updated order.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **720** 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.
 - 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 **1st 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, or potash.
3. The minimum required fill of cement behind the **7-5/8** inch **2nd Intermediate** casing is:

Operator has proposed to cement in two stages by conventionally cementing the first stage and performing a bradenhead squeeze on the second stage, contingent upon no returns to surface.

 - a. **First stage:** Operator will cement with intent to reach the top of the **Brushy Canyon at 6012'**.
 - b. **Second stage:** Operator will perform bradenhead squeeze and top-out. Cement should tie-back **500 feet** into the previous casing but not higher than USGS Marker Bed No. 126. **Operator must verify top of cement per R-111-Q requirements.** Submit results to the BLM. If cement does not circulate, contact the appropriate BLM office.

Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, or potash.

Operator has proposed to pump down **Intermediate 1 X Intermediate 2** annulus after primary cementing stage. **Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus OR operator shall run a CBL from TD of the Intermediate 1 casing to tieback requirements listed above after the second stage BH to verify TOC.** Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry between second stage BH and top out. Operator must use a limited flush fluid volume of 1 bbl following backside cementing procedures.

If cement does not reach surface, the next casing string must come to surface.

- ❖ **A monitored open annulus will be incorporated during completion by leaving the Intermediate Casing x Production Casing annulus un-cemented and monitored inside the Intermediate String.** Operator must follow monitoring requirements listed within R-111-Q. Tieback requirements shall be met within **180 days**.

Operator has proposed to pump down **intermediate x production** annulus post completion. **Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus OR operator shall run a CBL from TD of the production casing to surface after the second stage BH to verify TOC.** Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry during second stage bradenhead when running Echo-meter if cement is required to surface. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.

Operator has proposed an open annulus completion in R-111-Q. Operator shall provide a method of verification pre-completion top of cement. **Submit results to the BLM. Pressure monitoring device and Pressure Safety Valves must be installed at surface on both the intermediate annulus and the production annulus for the life of the well.**

In the event of a casing failure during completion, the operator must contact the BLM at (575-706-2779) and (575-361-2822 Eddy County).

4. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - Cement should tie-back **500 feet** into the previous casing but not higher than USGS Marker Bed No. 126. **Operator must verify top of cement per R-111-Q requirements.** Submit results to the BLM. If cement does not circulate, contact the appropriate BLM office.

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).
1. Operator has proposed a multi-bowl wellhead assembly. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M) psi**.
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. If the cement does not circulate and one-inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 - e. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172 must be followed.

D. SPECIAL REQUIREMENT (S)

Unit Wells

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

Commercial Well Determination

A commercial well determination shall be submitted after production has been established for at least six months. **(This is not necessary for secondary recovery unit wells)**

WIPP Requirements

The proposed surface well or bottom hole is located within 330 feet of the WIPP Land Withdrawal Area boundary. As a result, the operator is required to submit daily drilling reports, logs and deviation survey information to the Bureau of Land Management Engineering Department and the U.S. Department of Energy per requirements of the Joint Powers Agreement until a total vertical depth of 7,000 feet is reached. These reports will have at a minimum, the depth of any excess mud returns (brine flows), the rate of penetration and a clearly marked section showing the deviation for each 500-foot interval. Operator may be required to do more frequent deviation surveys based on the daily information submitted and may be required to take other corrective measures. Information will also be provided to the New Mexico Oil Conservation Division after drilling activities have been completed. Upon completion of the

well, the operator shall submit a complete directional survey. Any future entry into the well for purposes of completing additional drilling will require supplemental information.

Any oil and gas well operator drilling within one mile of the WIPP Boundary must notify WIPP as soon as possible if any of the following conditions are encountered during oil and gas operations: R-111-Q Amendment - Notification to Operators (Potash)

- a) Indication of any well collision event,
- b) Suspected well fluid flow (oil, gas, or produced water) outside of casing,
- c) Sustained annulus pressure between the 1st intermediate and next innermost casing string in excess of 500 psi above the baseline pressure of the well, or above 1500 psi total,
- d) Increasing pressure buildup rates (psi/day) across multiple successive bleed-off cycles on the annulus between the 1st intermediate and next innermost casing during well production, or
- e) Sustained losses in excess of 50% through the salt formation during drilling.

The operator can email the required information to OilGasReports@wipp.ws. Attached files must not be greater than 20 MB. Call WIPP Tech Support at 575-234-7422, during the hours 7:00am to 4:30pm, if there are any issues sending to this address.

BOPE Break Testing Variance

- BOPE Break Testing is ONLY permitted for intervals utilizing a 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 **43 CFR 3172**.
- 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.

Engineer may elect to vary this language. Speak with Chris about implementing changes and whether that change seems reasonable.

Casing Clearance

String does not meet 0.422" clearance requirement per 43 CFR 3172. Cement tieback requirement increased 100' for Production casing tieback. Operator may contact approving engineer to discuss changing casing set depth or grade to meet clearance requirement.

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)

Contact Eddy County Petroleum Engineering Inspection Staff:

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

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
 - i. Notify the BLM when moving in and removing the Spudder Rig.
 - ii. 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.
 - iii. BOP/BOPE test to be conducted per **43 CFR 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. For intervals in which cement to surface is required, cement to surface should be verified with a visual check and density or pH check to differentiate cement from spacer and drilling mud. The results should be documented in the driller's log and daily reports.

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 of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which

have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

8. Whenever a casing string is cemented in the R-111-Q 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 3172**.
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:
 - i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - ii. 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.
 - iii. Manufacturer representative shall install the test plug for the initial BOP test.
 - iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
 - v. 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.
 - i. 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).

- ii. 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.)
- iii. 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 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 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- iv. 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.
- v. The results of the test shall be reported to the appropriate BLM office.
- vi. 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.
- vii. 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.
- viii. 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 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.

Approved by Zota Stevens on 4/2/2025
575-234-5998 / zstevens@blm.gov

C-102 Sumbit electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONVERSION DIVISION	Revised July, 09 2024	
		Submittal Type:	<input type="checkbox"/> Initial Submittal
			<input checked="" type="checkbox"/> Amended Report
		<input type="checkbox"/> As Drilled	

WELL LOCATION INFORMATION			
API Number 30-015-	Pool Code 96597	Pool Name LOS MEDANOS; WOLFCAMP (GAS)	
Property Code	Property Name JRU Apache Federal Com	Well Number 111H	
OGRID No. 373075	Operator Name XTO PERMIAN OPERATING, LLC.	Ground Level Elevation 3,346'	
Surface Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal		Mineral Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal	

Surface Hole Location									
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
I	13	22S	30E		2,576 FSL	867 FEL	32.391930	-103.828390	EDDY

Bottom Hole Location									
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
D	14	22S	30E		544 FNL	50 FWL	32.397915	-103.860075	EDDY


Dedicated Acres 240.00	Infill or Defining Well DEFINING	Defining Well API	Overlapping Spacing Unit (Y/N) Y	Consolidation Code U
Order Numbers. R-279-C			Well Setbacks are under Common Ownership: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Kick Off Point (KOP)									
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
A	13	22S	30E		544 FNL	330 FEL	32.397878	-103.826650	EDDY

First Take Point (FTP)									
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
A	13	22S	30E		544 FNL	330 FEL	32.397878	-103.826650	EDDY

Last Take Point (LTP)									
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
D	14	22S	30E		544 FNL	100 FWL	32.397915	-103.859913	EDDY

Unitized Area of Area of Interest NMMN-070965X	Spacing Unit Type : <input checked="" type="checkbox"/> Horizontal <input type="checkbox"/> Vertical	Ground Elevation 3,346'
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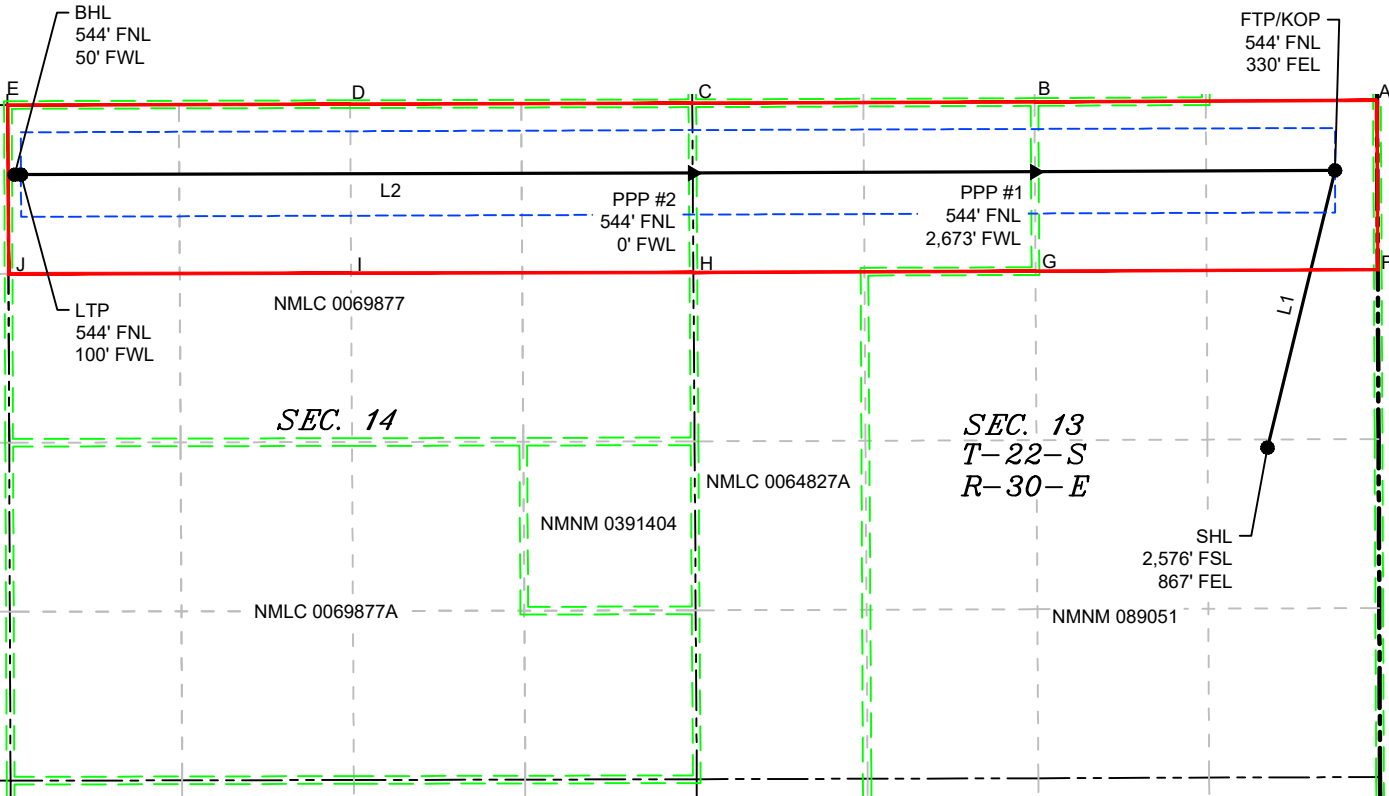
OPERATOR CERTIFICATIONS <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or a voluntary pooling agreement or a compulsory pooling order of heretofore entered by the division.</i> <i>If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or information) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.</i> <div>Srinivas Naveen1/2/2025</div> <div>SignatureDate</div> <div>Srinivas Naveen Laghuvarapu</div> <div>Printed Name</div> <div>srinivas.n.laghuvarapu@exxonmobil.com</div> <div>Email Address</div>	SURVEYOR CERTIFICATIONS <i>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</i> <div></div> <div>Signature and Seal of Professional Surveyor</div> <div><div>MARK DILLON HARP 23786</div><div>12/9/2024</div><div>Certificate NumberDate of Survey</div><div>DN618.013002.10-24</div></div>
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Note: No allowable will be assigned to this completion until all interest have been consolidated or a non-standard unit has been approved by the division.

ACREAGE DEDICATION PLATS

This grid represents a standard section. You may superimpose a non-standard section, or larger area, over this grid. Operators must outline the dedicated acreage in a red box, clearly show the well surface location and bottom hole location, if it is a directionally drilled, with the dimensions from the section lines in the cardinal directions. If this is a horizontal wellbore show on this plat the location of the First Take Point and Last Take Point, and the point within the Completed interval (other then the First Take Point and Last Take Point) that is closest to any outer boundary of the tract.

Surveyor shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land in not surveyed, contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.



LINE TABLE		
LINE	AZIMUTH	LENGTH
L1	013°40'05.75"	2,229.82
L2	269°48'41.63"	10,316.67

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

COORDINATE TABLE					
SHL (NAD 83 NME)			SHL (NAD 27 NME)		
Y =	506,683.3	N	Y =	506,622.7	N
X =	697,195.3	E	X =	656,013.8	E
LAT. =	32.391930	°N	LAT. =	32.391807	°N
LONG. =	103.828390	°W	LONG. =	103.827896	°W
FTP/KOP (NAD 83 NME)			FTP/KOP (NAD 27 NME)		
Y =	508,850.0	N	Y =	508,789.3	N
X =	697,722.2	E	X =	656,540.8	E
LAT. =	32.397878	°N	LAT. =	32.397756	°N
LONG. =	103.826650	°W	LONG. =	103.826156	°W
PPP #1 (NAD 83 NME)			PPP #1 (NAD 83 NME)		
Y =	508,838.9	N	Y =	508,778.2	N
X =	695,377.3	E	X =	654,195.9	E
LAT. =	32.397878	°N	LAT. =	32.397755	°N
LONG. =	103.834247	°W	LONG. =	103.833753	°W
PPP #2 (NAD 83 NME)			PPP #2 (NAD 83 NME)		
Y =	508,828.8	N	Y =	508,768.1	N
X =	692,704.0	E	X =	651,522.6	E
LAT. =	32.397884	°N	LAT. =	32.397762	°N
LONG. =	103.842908	°W	LONG. =	103.842414	°W
LTP (NAD 83 NME)			LTP (NAD 27 NME)		
Y =	508,816.2	N	Y =	508,755.4	N
X =	687,455.6	E	X =	646,274.3	E
LAT. =	32.397915	°N	LAT. =	32.397792	°N
LONG. =	103.859913	°W	LONG. =	103.859418	°W
BHL (NAD 83 NME)			BHL (NAD 27 NME)		
Y =	508,816.1	N	Y =	508,755.3	N
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LAT. =	32.397915	°N	LAT. =	32.397792	°N
LONG. =	103.860075	°W	LONG. =	103.859580	°W

CORNER COORDINATES (NAD 83 NME)					
A - Y =	509,395.5	N	A - X =	698,049.7	E
B - Y =	509,382.9	N	B - X =	695,374.2	E
C - Y =	509,372.8	N	C - X =	692,700.3	E
D - Y =	509,366.4	N	D - X =	690,027.8	E
E - Y =	509,359.9	N	E - X =	687,353.5	E
F - Y =	508,072.9	N	F - X =	698,055.8	E
G - Y =	508,062.1	N	G - X =	695,381.7	E
H - Y =	508,052.6	N	H - X =	692,709.2	E
I - Y =	508,046.7	N	I - X =	690,034.9	E
J - Y =	508,040.4	N	J - X =	687,358.6	E
CORNER COORDINATES (NAD 27 NME)					
A - Y =	509,334.8	N	A - X =	656,868.3	E
B - Y =	509,322.2	N	B - X =	654,192.9	E
C - Y =	509,312.1	N	C - X =	651,519.0	E
D - Y =	509,305.6	N	D - X =	648,846.5	E
E - Y =	509,299.2	N	E - X =	646,172.2	E
F - Y =	508,012.2	N	F - X =	656,874.3	E
G - Y =	508,001.4	N	G - X =	654,200.3	E
H - Y =	507,991.9	N	H - X =	651,527.8	E
I - Y =	507,986.0	N	I - X =	648,853.5	E
J - Y =	507,979.7	N	J - X =	646,177.3	E

C-102 Sumbit electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONVERSION DIVISION	Revised July, 09 2024	
		Submittal Type:	<input type="checkbox"/> Initial Submittal
			<input checked="" type="checkbox"/> Amended Report
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WELL LOCATION INFORMATION			
API Number 30-015-	Pool Code 96921	Pool Name LOS MEDANOS, WOLFCAMP, NORTH (GAS)	
Property Code	Property Name JRU Apache Federal Com	Well Number 111H	
OGRID No. 373075	Operator Name XTO PERMIAN OPERATING, LLC.	Ground Level Elevation 3,346'	
Surface Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal		Mineral Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal	

Surface Hole Location									
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Order Numbers. R-279-C			Well Setbacks are under Common Ownership: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

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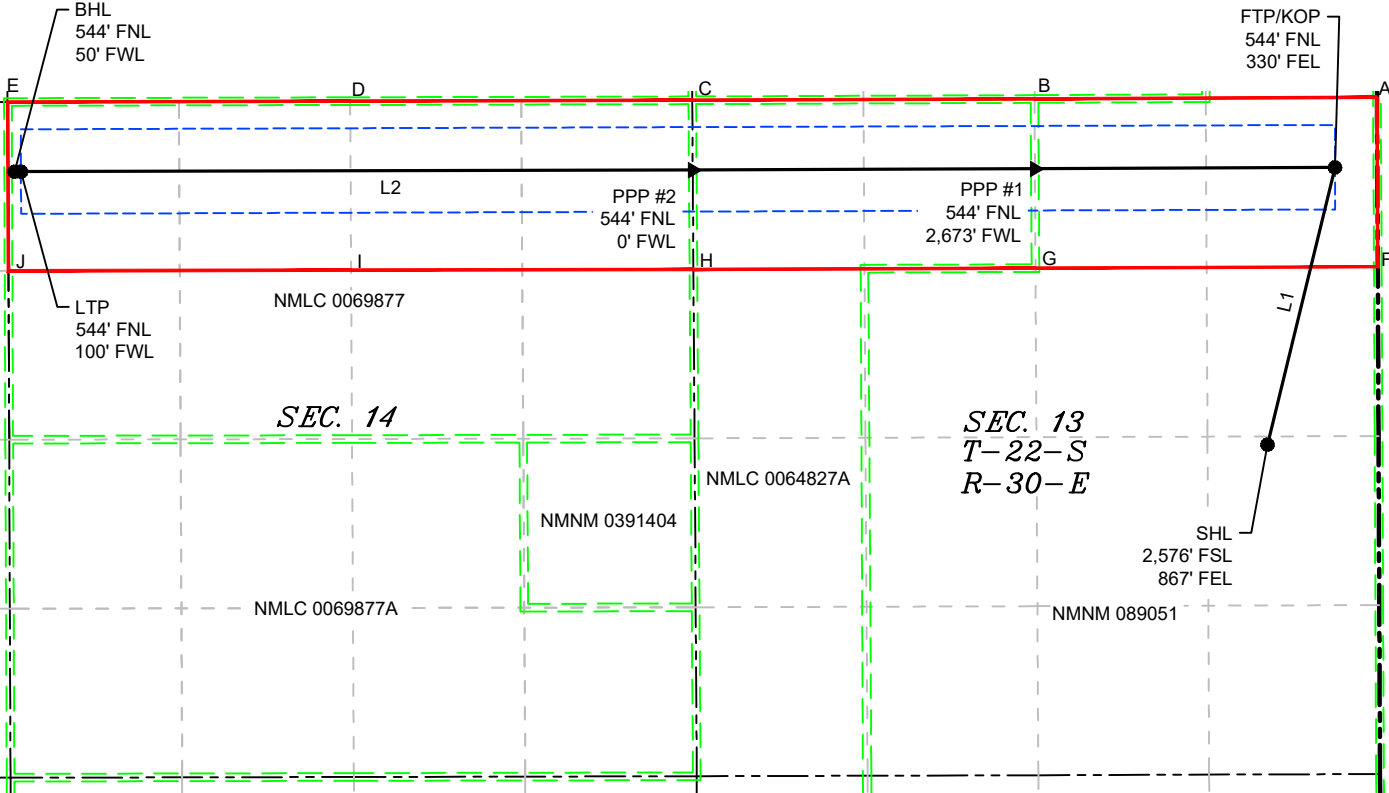
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I - Y =	507,986.0	N	I - X =	648,853.5	E
J - Y =	507,979.7	N	J - X =	646,177.3	E

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

XTO Energy Inc.

JRU Apache Federal Com 111H

Projected TD: 21523.1' MD / 11082' TVD

SHL: 2576' FSL & 867' FEL , Section 13, T22S, R30E

BHL: 544' FNL & 50' FWL , Section 14, T22S, 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	454'	Water
Top of Salt	754'	Water
MB 126	1438'	Water
Base of Salt	3606'	Water
Delaware	3867'	Water
Brushy Canyon	6375'	Water/Oil/Gas
Bone Spring	7784'	Water
1st Bone Spring Ss	8631'	Water/Oil/Gas
2nd Bone Spring Ss	9239'	Water/Oil/Gas
3rd Bone Spring Sh	9855'	Water/Oil/Gas
Wolfcamp	10985'	Water/Oil/Gas
Wolfcamp X	11000'	Water/Oil/Gas
Wolfcamp Y	11054'	Water/Oil/Gas
Target/Land Curve	11082'	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 @ 729' (25' above the salt) and circulating cement back to surface. The salt will be isolated by setting 9.625 inch casing at 3706' and circulating cement to surface. The second intermediate will isolate from the salt down to the next casing seat by setting 7.625 inch casing at 10165.8'. A 6.75 inch curve and 6.75 inch lateral hole will be drilled to 21523.1 MD/TD and 5.5 inch production casing will be set at TD.

3. Casing Design

Hole Size	TVD	OD Csg	Weight	Grade	Collar	New/Used	SF Burst	SF Collapse	SF Tension
17.5	0' – 729'	13.375	54.5	J-55	BTC	New	2.46	3.51	22.88
12.25	0' – 3706'	9.625	40	J-55	BTC	New	1.42	2.44	4.25
8.75	0' – 3806'	7.625	29.7	RY P-110	Flush Joint	New	2.26	2.85	1.85
8.75	3806' – 10165.8'	7.625	29.7	HC L-80	Flush Joint	New	1.64	2.76	2.15
6.75	0' – 10065.8'	5.5	20	RY P-110	Semi-Premium / Freedom	New	1.26	1.84	2.10
6.75	10065.8' - 21523.1'	5.5	20	RY P-110	Semi-Flush / Talon	New	1.26	1.67	6.14

· XTO requests the option to utilize a spudder rig (Atlas Copco RD20 or Equivalent) to set and cement surface casing.

Wellhead:**Permanent Wellhead**

Multibowl System for 4 String desing as per attachment.

4. Cement Program

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.

Surface Casing: 13.375, 54.5 New BTC, J-55 casing to be set at +/- 729'

Lead: 310 sxs EconoCem-HLTRRC (mixed at 12.9 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 = 250 psi 24 hr = 500 psi

1st Intermediate Casing: 9.625, 40 New BTC, J-55 casing to be set at +/- 3706'

Lead: 1530 sxs Class C (mixed at 12.9 ppg, 1.39 ft3/sx, 10.13 gal/sx water)

Tail: 130 sxs Class C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)

Top of Cement: Surface

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

2nd Intermediate Casing: 7.625, 29.7 New casing to be set at +/- 10165.8'

Tail: 220 sxs Class C (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)

TOC:@ 7784

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

2nd Stage

Tail: 580 sxs Class C (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water)

Top of Cement: 3206

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

XTO requests to pump a two stage cement job on the intermediate casing string with the first stage being pumped conventionally with the calculated (TOC:@ 7784') and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to 3206 (~500' inside 1st Intermediate csg string but below MB126 @ 1438 ').

XTO will include the Echo-meter verified fluid top and the volume of displacement fluid above the cement slurry in the annulus in all post-drill sundries on wells utilizing this cement program.

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

Production Casing: 5.5, 20 New Semi-Flush / Talon, RY P-110 casing to be set at +/- 21523.1'

Lead: 40 sxs Neo	Cem (mixed at 11.5 ppg, 2.69 ft ³ /sx, 15.00 gal/sx water)	Top of Cement:	9665.8 feet
Tail: 770 sxs Versa	Cem (mixed at 13.2 ppg, 1.51 ft ³ /sx, 8.38 gal/sx water)	Top of Cement:	10797.74 feet
Compressives:	12-hr =	1375 psi	24 hr = 2285 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 casing, the blow out preventer equipment (BOP) will consist of 5M Hydril and 10M 3-Ram BOP.

All BOP testing will be done by an independent service company. Operator will test as per CFR 43-3172

A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. .

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 break testing 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.

6. Proposed Mud Circulation System

INTERVAL	Hole Size	Mud Type	MW	Viscosity	Fluid Loss	Comments
			(ppg)	(sec/qt)	(cc)	
0' - 729'	17.5	FW/Native	8.5-9	35-40	NC	Fresh water or native water
729' - 3706'	12.25	Sat Brine	10-10.5	30-32	NC	Fully Saturated salt across salado
3706' to 10165.8'	8.75	BDE/OBM or FW/Brine	9.5-10	30-32	NC	Depending on well conditions
10165.8' to 21523.1'	6.75	OBM	11.5-12	50-60	NC - 20	N/A

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 surface casing with saturated salt brine solution. A saturated salt brine 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 6627 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

Measured Depth: 21523.00 ft

TVD RKB: 11082.00 ft

Location

Cartographic Reference System: New Mexico East - NAD 27

Northing: 506622.70 ft

Easting: 656013.80 ft

RKB: 3378.00 ft

Ground Level: 3346.00 ft

North Reference: Grid

Convergence Angle: 0.27 Deg

Site: A

Slot: James Ranch Unit
Apache 111H

Plan Sections

Measured				TVD				Build	Turn	Dogleg		
Depth	Inclination	Azimuth		RKB	Y Offset	X Offset		Rate	Rate	Rate	Target	
(ft)	(Deg)	(Deg)		(ft)	(ft)	(ft)		(Deg/100ft)	(Deg/100ft)	(Deg/100ft)		
0.00	0.00	0.00		0.00	0.00	0.00		0.00	0.00	0.00		
3700.00	0.00	0.00		3700.00	0.00	0.00		0.00	0.00	0.00		
4880.19	23.60	13.67		4847.09	232.89	56.65		2.00	0.00	2.00		
9251.75	23.60	13.67		8852.91	1933.71	470.35		0.00	0.00	0.00		
10431.94	0.00	0.00		10000.00	2166.60	527.00		-2.00	0.00	2.00		
10797.74	0.00	0.00		10365.80	2166.60	527.00		0.00	0.00	0.00		
11922.74	90.00	269.81		11082.00	2164.24	-189.19		8.00	0.00	8.00		
21472.69	90.00	269.81		11082.00	2132.74	-9739.10		0.00	0.00	0.00	LTP 13	
21523.10	90.00	269.81		11082.00	2132.57	-9789.51		0.00	0.00	0.00	BHL 13	

Position Uncertainty

Measured	TVD	Highside	Lateral	Vertical	Magnitude	Semi-major	Semi-minor	Semi-minor	Tool
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Depth	Inclination	Azimuth	RKB	Error	Bias	Error	Bias	Error	Bias	of Bias	Error	Error	Azimuth	Used
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	MWD+IFR1+MS
100.000	0.000	0.000	100.000	0.700	0.000	0.350	0.000	2.300	0.000	0.000	0.751	0.220	112.260	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	2.347	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	2.374	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	2.406	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	2.443	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	2.485	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	2.531	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	2.581	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	2.634	0.000	0.000	4.752	3.849	128.868	MWD+IFR1+MS
1200.000	0.000	0.000	1200.000	4.779	0.000	4.589	0.000	2.691	0.000	0.000	5.119	4.207	128.956	MWD+IFR1+MS
1300.000	0.000	0.000	1300.000	5.139	0.000	4.950	0.000	2.750	0.000	0.000	5.484	4.565	129.032	MWD+IFR1+MS
1400.000	0.000	0.000	1400.000	5.499	0.000	5.310	0.000	2.813	0.000	0.000	5.848	4.923	129.096	MWD+IFR1+MS
1500.000	0.000	0.000	1500.000	5.859	0.000	5.671	0.000	2.878	0.000	0.000	6.213	5.281	129.151	MWD+IFR1+MS
1600.000	0.000	0.000	1600.000	6.219	0.000	6.032	0.000	2.945	0.000	0.000	6.576	5.640	129.224	MWD+IFR1+MS
1700.000	0.000	0.000	1700.000	6.579	0.000	6.391	0.000	3.015	0.000	0.000	6.939	5.998	129.242	MWD+IFR1+MS
1800.000	0.000	0.000	1800.000	6.938	0.000	6.751	0.000	3.086	0.000	0.000	7.302	6.357	129.280	MWD+IFR1+MS
1900.000	0.000	0.000	1900.000	7.297	0.000	7.111	0.000	3.160	0.000	0.000	7.663	6.715	129.333	MWD+IFR1+MS
2000.000	0.000	0.000	2000.000	7.656	0.000	7.471	0.000	3.234	0.000	0.000	8.025	7.073	129.383	MWD+IFR1+MS
2100.000	0.000	0.000	2100.000	8.016	0.000	7.831	0.000	3.312	0.000	0.000	8.387	7.432	129.408	MWD+IFR1+MS
2200.000	0.000	0.000	2200.000	8.375	0.000	8.190	0.000	3.391	0.000	0.000	8.748	7.790	129.430	MWD+IFR1+MS
2300.000	0.000	0.000	2300.000	8.734	0.000	8.549	0.000	3.471	0.000	0.000	9.109	8.149	129.435	MWD+IFR1+MS
2400.000	0.000	0.000	2400.000	9.093	0.000	8.908	0.000	3.552	0.000	0.000	9.470	8.507	129.454	MWD+IFR1+MS
2500.000	0.000	0.000	2500.000	9.452	0.000	9.268	0.000	3.636	0.000	0.000	9.830	8.865	129.488	MWD+IFR1+MS
2600.000	0.000	0.000	2600.000	9.811	0.000	9.627	0.000	3.720	0.000	0.000	10.191	9.224	129.504	MWD+IFR1+MS
2700.000	0.000	0.000	2700.000	10.169	0.000	9.986	0.000	3.807	0.000	0.000	10.551	9.582	129.563	MWD+IFR1+MS
2800.000	0.000	0.000	2800.000	10.526	0.000	10.344	0.000	3.894	0.000	0.000	10.910	9.939	129.589	MWD+IFR1+MS
2900.000	0.000	0.000	2900.000	10.886	0.000	10.700	0.000	3.982	0.000	0.000	11.269	10.296	129.506	MWD+IFR1+MS
3000.000	0.000	0.000	3000.000	11.243	0.000	11.063	0.000	4.073	0.000	0.000	11.630	10.656	129.687	MWD+IFR1+MS

3100.000	0.000	0.000	3100.000	11.602	0.000	11.419	0.000	4.164	0.000	0.000	11.988	11.013	129.605	MWD+IFR1+MS
3200.000	0.000	0.000	3200.000	11.962	0.000	11.781	0.000	4.257	0.000	0.000	12.350	11.374	129.651	MWD+IFR1+MS
3300.000	0.000	0.000	3300.000	12.321	0.000	12.137	0.000	4.351	0.000	0.000	12.708	11.730	129.575	MWD+IFR1+MS
3400.000	0.000	0.000	3400.000	12.681	0.000	12.498	0.000	4.446	0.000	0.000	13.070	12.091	129.619	MWD+IFR1+MS
3500.000	0.000	0.000	3500.000	13.038	0.000	12.857	0.000	4.543	0.000	0.000	13.429	12.449	129.660	MWD+IFR1+MS
3600.000	0.000	0.000	3600.000	13.398	0.000	13.214	0.000	4.641	0.000	0.000	13.788	12.806	129.595	MWD+IFR1+MS
3700.000	0.000	0.000	3700.000	13.755	0.000	13.572	0.000	4.741	0.000	0.000	14.147	13.163	129.634	MWD+IFR1+MS
3800.000	1.999	13.670	3799.980	13.897	0.000	13.720	0.000	4.841	0.000	0.000	14.571	13.524	128.913	MWD+IFR1+MS
3900.000	4.000	13.670	3899.838	13.864	0.000	14.080	0.000	4.944	0.000	0.000	15.090	13.885	126.939	MWD+IFR1+MS
4000.000	6.000	13.670	3999.452	13.750	0.000	14.440	0.000	5.050	0.000	0.000	15.602	14.244	125.568	MWD+IFR1+MS
4100.000	7.999	13.670	4098.702	13.549	0.000	14.796	0.000	5.158	0.000	0.000	16.100	14.597	124.521	MWD+IFR1+MS
4200.000	10.000	13.670	4197.465	13.262	0.000	15.151	0.000	5.274	0.000	0.000	16.592	14.950	123.639	MWD+IFR1+MS
4300.000	11.990	13.670	4295.623	12.881	0.000	15.504	0.000	5.394	0.000	0.000	17.071	15.300	123.010	MWD+IFR1+MS
4400.000	14.000	13.670	4393.055	12.392	0.000	15.856	0.000	5.524	0.000	0.000	17.542	15.649	122.472	MWD+IFR1+MS
4500.000	15.990	13.670	4489.643	11.799	0.000	16.207	0.000	5.662	0.000	0.000	18.000	15.997	122.075	MWD+IFR1+MS
4600.000	18.000	13.670	4585.268	11.072	0.000	16.558	0.000	5.809	0.000	0.000	18.450	16.343	121.749	MWD+IFR1+MS
4700.000	19.990	13.670	4679.816	10.213	0.000	16.908	0.000	5.969	0.000	0.000	18.890	16.690	121.472	MWD+IFR1+MS
4800.000	22.000	13.670	4773.169	9.167	0.000	17.260	0.000	6.141	0.000	0.000	19.320	17.039	121.291	MWD+IFR1+MS
4880.100	23.600	13.670	4847.088	8.149	0.000	17.540	0.000	6.269	0.000	0.000	19.625	17.319	121.191	MWD+IFR1+MS
4900.000	23.600	13.670	4865.242	8.170	0.000	17.606	0.000	6.291	0.000	0.000	19.685	17.387	121.152	MWD+IFR1+MS
5000.000	23.600	13.670	4956.876	8.282	0.000	17.957	0.000	6.427	0.000	0.000	19.984	17.741	121.236	MWD+IFR1+MS
5100.000	23.600	13.670	5048.510	8.403	0.000	18.320	0.000	6.572	0.000	0.000	20.294	18.104	121.492	MWD+IFR1+MS
5200.000	23.600	13.670	5140.143	8.527	0.000	18.687	0.000	6.722	0.000	0.000	20.611	18.471	121.714	MWD+IFR1+MS
5300.000	23.600	13.670	5231.777	8.652	0.000	19.055	0.000	6.876	0.000	0.000	20.930	18.840	121.936	MWD+IFR1+MS
5400.000	23.600	13.670	5323.410	8.779	0.000	19.429	0.000	7.036	0.000	0.000	21.252	19.214	122.215	MWD+IFR1+MS
5500.000	23.600	13.670	5415.044	8.909	0.000	19.809	0.000	7.199	0.000	0.000	21.579	19.592	122.526	MWD+IFR1+MS
5600.000	23.600	13.670	5506.678	9.039	0.000	20.189	0.000	7.367	0.000	0.000	21.909	19.972	122.801	MWD+IFR1+MS
5700.000	23.600	13.670	5598.311	9.172	0.000	20.575	0.000	7.539	0.000	0.000	22.244	20.357	123.111	MWD+IFR1+MS
5800.000	23.600	13.670	5689.945	9.306	0.000	20.961	0.000	7.715	0.000	0.000	22.580	20.743	123.421	MWD+IFR1+MS
5900.000	23.600	13.670	5781.579	9.442	0.000	21.351	0.000	7.894	0.000	0.000	22.920	21.132	123.766	MWD+IFR1+MS
6000.000	23.600	13.670	5873.212	9.579	0.000	21.744	0.000	8.078	0.000	0.000	23.264	21.524	124.112	MWD+IFR1+MS
6100.000	23.600	13.670	5964.846	9.718	0.000	22.141	0.000	8.264	0.000	0.000	23.610	21.920	124.529	MWD+IFR1+MS
6200.000	23.600	13.670	6056.480	9.858	0.000	22.538	0.000	8.454	0.000	0.000	23.958	22.316	124.920	MWD+IFR1+MS

6300.000	23.600	13.670	6148.113	10.000	0.000	22.940	0.000	8.648	0.000	0.000	24.309	22.715	125.384	MWD+IFR1+MS
6400.000	23.600	13.670	6239.747	10.143	0.000	23.343	0.000	8.844	0.000	0.000	24.665	23.116	125.822	MWD+IFR1+MS
6500.000	23.600	13.670	6331.380	10.287	0.000	23.747	0.000	9.043	0.000	0.000	25.020	23.518	126.342	MWD+IFR1+MS
6600.000	23.600	13.670	6423.014	10.433	0.000	24.154	0.000	9.245	0.000	0.000	25.380	23.922	126.834	MWD+IFR1+MS
6700.000	23.600	13.670	6514.648	10.579	0.000	24.562	0.000	9.450	0.000	0.000	25.740	24.328	127.377	MWD+IFR1+MS
6800.000	23.600	13.670	6606.281	10.727	0.000	24.973	0.000	9.658	0.000	0.000	26.105	24.736	127.974	MWD+IFR1+MS
6900.000	23.600	13.670	6697.915	10.876	0.000	25.384	0.000	9.868	0.000	0.000	26.470	25.144	128.544	MWD+IFR1+MS
7000.000	23.600	13.670	6789.549	11.027	0.000	25.798	0.000	10.080	0.000	0.000	26.840	25.555	129.173	MWD+IFR1+MS
7100.000	23.600	13.670	6881.182	11.178	0.000	26.213	0.000	10.296	0.000	0.000	27.210	25.966	129.863	MWD+IFR1+MS
7200.000	23.600	13.670	6972.816	11.330	0.000	26.631	0.000	10.512	0.000	0.000	27.582	26.378	130.663	MWD+IFR1+MS
7300.000	23.600	13.670	7064.450	11.484	0.000	27.048	0.000	10.733	0.000	0.000	27.957	26.792	131.400	MWD+IFR1+MS
7400.000	23.600	13.670	7156.083	11.638	0.000	27.468	0.000	10.954	0.000	0.000	28.334	27.206	132.253	MWD+IFR1+MS
7500.000	23.600	13.670	7247.717	11.794	0.000	27.889	0.000	11.180	0.000	0.000	28.713	27.621	133.136	MWD+IFR1+MS
7600.000	23.600	13.670	7339.350	11.950	0.000	28.312	0.000	11.406	0.000	0.000	29.095	28.037	134.051	MWD+IFR1+MS
7700.000	23.600	13.670	7430.984	12.107	0.000	28.734	0.000	11.636	0.000	0.000	29.477	28.453	-44.952	MWD+IFR1+MS
7800.000	23.600	13.670	7522.618	12.266	0.000	29.158	0.000	11.870	0.000	0.000	29.862	28.870	-43.919	MWD+IFR1+MS
7900.000	23.600	13.670	7614.251	12.425	0.000	29.584	0.000	12.104	0.000	0.000	30.250	29.287	-42.798	MWD+IFR1+MS
8000.000	23.600	13.670	7705.885	12.586	0.000	30.011	0.000	12.341	0.000	0.000	30.640	29.705	-41.638	MWD+IFR1+MS
8100.000	23.600	13.670	7797.519	12.746	0.000	30.437	0.000	12.578	0.000	0.000	31.030	30.122	-40.439	MWD+IFR1+MS
8200.000	23.600	13.670	7889.152	12.909	0.000	30.867	0.000	12.822	0.000	0.000	31.424	30.541	-39.097	MWD+IFR1+MS
8300.000	23.600	13.670	7980.786	13.071	0.000	31.296	0.000	13.061	0.000	0.000	31.819	30.958	-37.768	MWD+IFR1+MS
8400.000	23.600	13.670	8072.420	13.234	0.000	31.724	0.000	13.308	0.000	0.000	32.214	31.373	-36.301	MWD+IFR1+MS
8500.000	23.600	13.670	8164.053	13.398	0.000	32.149	0.000	13.554	0.000	0.000	32.611	31.789	-35.053	MWD+IFR1+MS
8600.000	23.600	13.670	8255.687	13.563	0.000	32.584	0.000	13.806	0.000	0.000	33.013	32.204	-33.268	MWD+IFR1+MS
8700.000	23.600	13.670	8347.321	13.730	0.000	33.014	0.000	14.057	0.000	0.000	33.417	32.624	-31.962	MWD+IFR1+MS
8800.000	23.600	13.670	8438.954	13.897	0.000	33.453	0.000	14.307	0.000	0.000	33.827	33.042	-30.155	MWD+IFR1+MS
8900.000	23.600	13.670	8530.588	14.063	0.000	33.886	0.000	14.564	0.000	0.000	34.233	33.453	-28.348	MWD+IFR1+MS
9000.000	23.600	13.670	8622.221	14.232	0.000	34.314	0.000	14.822	0.000	0.000	34.639	33.869	-27.004	MWD+IFR1+MS
9100.000	23.600	13.670	8713.855	14.400	0.000	34.751	0.000	15.080	0.000	0.000	35.053	34.283	-25.221	MWD+IFR1+MS
9200.000	23.600	13.670	8805.489	14.571	0.000	35.184	0.000	15.343	0.000	0.000	35.465	34.702	-23.870	MWD+IFR1+MS
9251.700	23.600	13.670	8852.912	14.656	0.000	35.412	0.000	15.476	0.000	0.000	35.680	34.913	-22.732	MWD+IFR1+MS
9300.000	22.630	13.670	8897.283	16.045	0.000	35.625	0.000	15.604	0.000	0.000	35.884	35.119	-22.030	MWD+IFR1+MS
9400.000	20.630	13.670	8990.231	18.723	0.000	36.042	0.000	15.875	0.000	0.000	36.301	35.542	-22.196	MWD+IFR1+MS

9500.000	18.630	13.670	9084.409	21.232	0.000	36.462	0.000	16.146	0.000	0.000	36.741	35.974	-23.539	MWD+IFR1+MS
9600.000	16.630	13.670	9179.703	23.603	0.000	36.876	0.000	16.407	0.000	0.000	37.178	36.398	-24.918	MWD+IFR1+MS
9700.000	14.630	13.670	9275.996	25.876	0.000	37.286	0.000	16.658	0.000	0.000	37.614	36.826	-26.698	MWD+IFR1+MS
9800.000	12.630	13.670	9373.171	28.053	0.000	37.677	0.000	16.903	0.000	0.000	38.036	37.233	-28.455	MWD+IFR1+MS
9900.000	10.630	13.670	9471.110	30.154	0.000	38.050	0.000	17.138	0.000	0.000	38.446	37.629	-30.562	MWD+IFR1+MS
10000.000	8.638	13.670	9569.693	32.181	0.000	38.420	0.000	17.367	0.000	0.000	38.854	38.018	-32.586	MWD+IFR1+MS
10100.000	6.638	13.670	9668.801	34.141	0.000	38.785	0.000	17.587	0.000	0.000	39.258	38.391	-34.099	MWD+IFR1+MS
10200.000	4.638	13.670	9768.312	36.038	0.000	39.134	0.000	17.804	0.000	0.000	39.650	38.754	-35.883	MWD+IFR1+MS
10300.000	2.638	13.670	9868.105	37.874	0.000	39.467	0.000	18.019	0.000	0.000	40.034	39.106	-37.904	MWD+IFR1+MS
10400.000	0.639	13.670	9968.059	39.625	0.000	39.784	0.000	18.229	0.000	0.000	40.399	39.433	-39.393	MWD+IFR1+MS
10431.000	0.000	0.000	10000.000	39.925	0.000	40.112	0.000	18.298	0.000	0.000	40.498	39.533	-39.399	MWD+IFR1+MS
10500.000	0.000	0.000	10068.059	40.150	0.000	40.324	0.000	18.439	0.000	0.000	40.712	39.756	-39.753	MWD+IFR1+MS
10600.000	0.000	0.000	10168.059	40.460	0.000	40.645	0.000	18.652	0.000	0.000	41.025	40.074	-39.390	MWD+IFR1+MS
10700.000	0.000	0.000	10268.059	40.780	0.000	40.951	0.000	18.871	0.000	0.000	41.335	40.391	-39.773	MWD+IFR1+MS
10797.000	0.000	0.000	10365.800	41.085	0.000	41.267	0.000	19.084	0.000	0.000	41.645	40.703	-39.425	MWD+IFR1+MS
10800.000	0.181	269.800	10368.059	41.264	-0.000	41.082	0.000	19.089	0.000	0.000	41.645	40.703	-39.423	MWD+IFR1+MS
10900.000	8.180	269.800	10467.711	41.240	-0.000	41.385	0.000	19.324	0.000	0.000	42.092	41.125	-31.313	MWD+IFR1+MS
11000.000	16.180	269.800	10565.381	41.370	-0.000	41.675	0.000	19.644	0.000	0.000	43.159	41.597	-12.988	MWD+IFR1+MS
11100.000	24.180	269.800	10659.166	40.918	-0.000	41.962	0.000	20.130	0.000	0.000	44.221	41.935	-6.423	MWD+IFR1+MS
11200.000	32.180	269.800	10747.240	39.964	-0.000	42.248	0.000	20.828	0.000	0.000	45.165	42.239	-3.303	MWD+IFR1+MS
11300.000	40.180	269.800	10827.891	38.601	-0.000	42.520	0.000	21.772	0.000	0.000	45.948	42.518	-1.482	MWD+IFR1+MS
11400.000	48.180	269.800	10899.547	36.959	-0.000	42.790	0.000	22.954	0.000	0.000	46.562	42.790	-0.296	MWD+IFR1+MS
11500.000	56.180	269.800	10960.814	35.203	-0.000	43.047	0.000	24.347	0.000	0.000	47.011	43.046	0.495	MWD+IFR1+MS
11600.000	64.180	269.800	11010.501	33.529	-0.000	43.313	0.000	25.904	0.000	0.000	47.298	43.312	0.973	MWD+IFR1+MS
11700.000	72.180	269.800	11047.639	32.171	-0.000	43.578	0.000	27.566	0.000	0.000	47.467	43.576	1.127	MWD+IFR1+MS
11800.000	80.180	269.800	11071.505	31.353	-0.000	43.852	0.000	29.275	0.000	0.000	47.530	43.851	0.893	MWD+IFR1+MS
11900.000	88.180	269.800	11081.636	31.259	-0.000	44.114	0.000	30.971	0.000	0.000	47.550	44.113	0.135	MWD+IFR1+MS
11922.000	90.000	269.800	11081.997	31.061	-0.000	44.170	0.000	31.061	0.000	0.000	47.550	44.170	-0.128	MWD+IFR1+MS
12000.000	90.000	269.800	11081.997	31.295	-0.000	44.384	0.000	31.295	0.000	0.000	47.551	44.383	-1.133	MWD+IFR1+MS
12100.000	90.000	269.800	11081.997	31.597	-0.000	44.698	0.000	31.597	0.000	0.000	47.556	44.693	-2.672	MWD+IFR1+MS
12200.000	90.000	269.800	11081.997	31.906	-0.000	45.054	0.000	31.906	0.000	0.000	47.576	45.039	-4.610	MWD+IFR1+MS
12300.000	90.000	269.800	11081.997	32.249	-0.000	45.451	0.000	32.249	0.000	0.000	47.594	45.418	-7.249	MWD+IFR1+MS
12400.000	90.000	269.800	11081.997	32.604	-0.000	45.900	0.000	32.604	0.000	0.000	47.627	45.834	-11.171	MWD+IFR1+MS

12500.000	90.000	269.800	11081.997	32.970	-0.000	46.387	0.000	32.970	0.000	0.000	47.696	46.261	-17.319	MWD+IFR1+MS
12600.000	90.000	269.800	11081.997	33.347	-0.000	46.911	0.000	33.347	0.000	0.000	47.817	46.664	-27.662	MWD+IFR1+MS
12700.000	90.000	269.800	11081.997	33.734	-0.000	47.473	0.000	33.734	0.000	0.000	48.068	46.984	-42.216	MWD+IFR1+MS
12800.000	90.000	269.800	11081.997	34.147	-0.000	48.069	0.000	34.147	0.000	0.000	48.475	47.172	123.923	MWD+IFR1+MS
12900.000	90.000	269.800	11081.997	34.569	-0.000	48.699	0.000	34.569	0.000	0.000	49.011	47.275	115.088	MWD+IFR1+MS
13000.000	90.000	269.800	11081.997	35.000	-0.000	49.371	0.000	35.000	0.000	0.000	49.631	47.337	109.688	MWD+IFR1+MS
13100.000	90.000	269.800	11081.997	35.454	-0.000	50.065	0.000	35.454	0.000	0.000	50.294	47.366	106.288	MWD+IFR1+MS
13200.000	90.000	269.800	11081.997	35.903	-0.000	50.798	0.000	35.903	0.000	0.000	51.008	47.394	103.987	MWD+IFR1+MS
13300.000	90.000	269.800	11081.997	36.373	-0.000	51.559	0.000	36.373	0.000	0.000	51.755	47.417	102.332	MWD+IFR1+MS
13400.000	90.000	269.800	11081.997	36.851	-0.000	52.348	0.000	36.851	0.000	0.000	52.534	47.436	101.082	MWD+IFR1+MS
13500.000	90.000	269.800	11081.997	37.350	-0.000	53.163	0.000	37.350	0.000	0.000	53.341	47.453	100.094	MWD+IFR1+MS
13600.000	90.000	269.800	11081.997	37.842	-0.000	54.011	0.000	37.842	0.000	0.000	54.183	47.468	99.294	MWD+IFR1+MS
13700.000	90.000	269.800	11081.997	38.354	-0.000	54.874	0.000	38.354	0.000	0.000	55.041	47.482	98.640	MWD+IFR1+MS
13800.000	90.000	269.800	11081.997	38.872	-0.000	55.769	0.000	38.872	0.000	0.000	55.931	47.495	98.079	MWD+IFR1+MS
13900.000	90.000	269.800	11081.997	39.395	-0.000	56.684	0.000	39.395	0.000	0.000	56.842	47.507	97.600	MWD+IFR1+MS
14000.000	90.000	269.800	11081.997	39.937	-0.000	57.620	0.000	39.937	0.000	0.000	57.775	47.530	97.192	MWD+IFR1+MS
14100.000	90.000	269.800	11081.997	40.472	-0.000	58.575	0.000	40.472	0.000	0.000	58.726	47.542	96.828	MWD+IFR1+MS
14200.000	90.000	269.800	11081.997	41.024	-0.000	59.548	0.000	41.024	0.000	0.000	59.697	47.553	96.501	MWD+IFR1+MS
14300.000	90.000	269.800	11081.997	41.593	-0.000	60.547	0.000	41.593	0.000	0.000	60.693	47.564	96.208	MWD+IFR1+MS
14400.000	90.000	269.800	11081.997	42.154	-0.000	61.554	0.000	42.154	0.000	0.000	61.697	47.586	95.950	MWD+IFR1+MS
14500.000	90.000	269.800	11081.997	42.732	-0.000	62.585	0.000	42.732	0.000	0.000	62.726	47.597	95.709	MWD+IFR1+MS
14600.000	90.000	269.800	11081.997	43.301	-0.000	63.630	0.000	43.301	0.000	0.000	63.769	47.618	95.496	MWD+IFR1+MS
14700.000	90.000	269.800	11081.997	43.898	-0.000	64.690	0.000	43.898	0.000	0.000	64.826	47.640	95.295	MWD+IFR1+MS
14800.000	90.000	269.800	11081.997	44.486	-0.000	65.762	0.000	44.486	0.000	0.000	65.897	47.650	95.110	MWD+IFR1+MS
14900.000	90.000	269.800	11081.997	45.089	-0.000	66.848	0.000	45.089	0.000	0.000	66.981	47.671	94.942	MWD+IFR1+MS
15000.000	90.000	269.800	11081.997	45.684	-0.000	67.953	0.000	45.684	0.000	0.000	68.084	47.693	94.781	MWD+IFR1+MS
15100.000	90.000	269.800	11081.997	46.293	-0.000	69.062	0.000	46.293	0.000	0.000	69.191	47.703	94.635	MWD+IFR1+MS
15200.000	90.000	269.800	11081.997	46.915	-0.000	70.189	0.000	46.915	0.000	0.000	70.316	47.724	94.496	MWD+IFR1+MS
15300.000	90.000	269.800	11081.997	47.529	-0.000	71.326	0.000	47.529	0.000	0.000	71.452	47.745	94.366	MWD+IFR1+MS
15400.000	90.000	269.800	11081.997	48.156	-0.000	72.474	0.000	48.156	0.000	0.000	72.597	47.766	94.245	MWD+IFR1+MS
15500.000	90.000	269.800	11081.997	48.785	-0.000	73.630	0.000	48.785	0.000	0.000	73.752	47.787	94.130	MWD+IFR1+MS
15600.000	90.000	269.800	11081.997	49.417	-0.000	74.802	0.000	49.417	0.000	0.000	74.922	47.808	94.021	MWD+IFR1+MS
15700.000	90.000	269.800	11081.997	50.050	-0.000	75.976	0.000	50.050	0.000	0.000	76.094	47.829	93.918	MWD+IFR1+MS

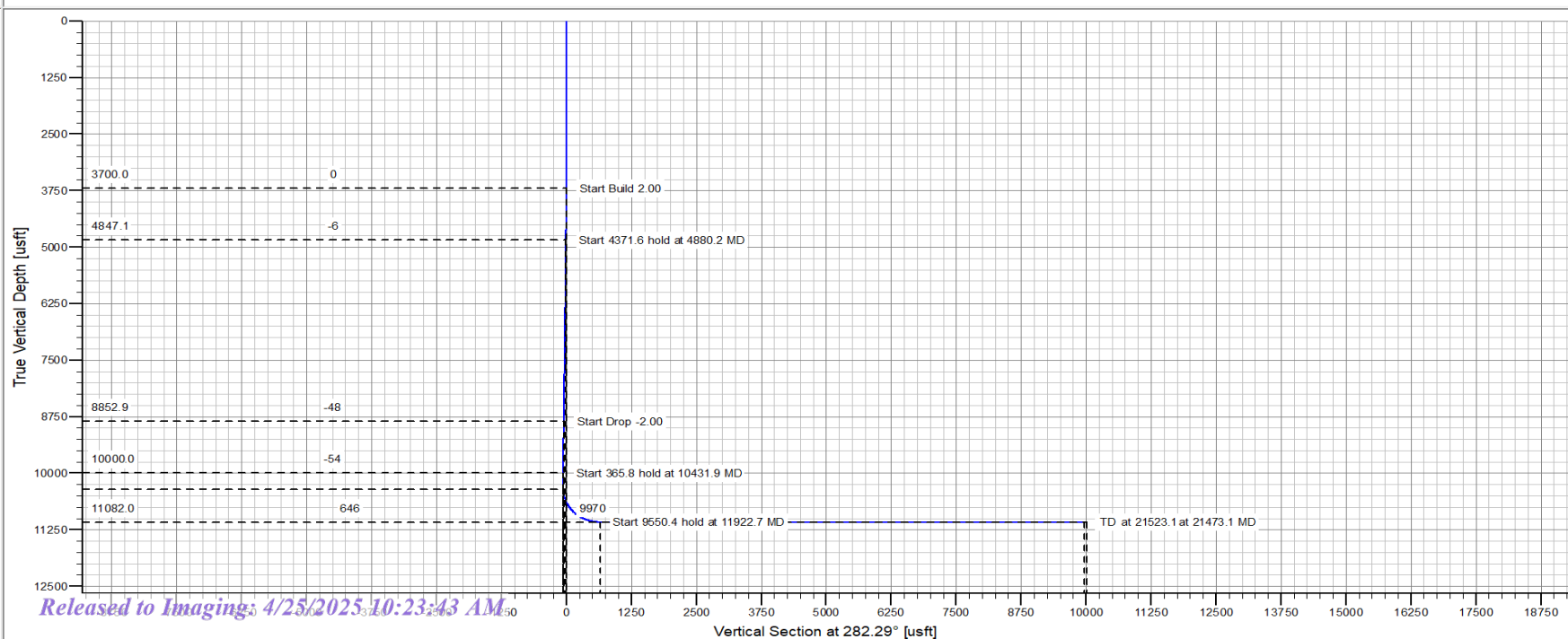
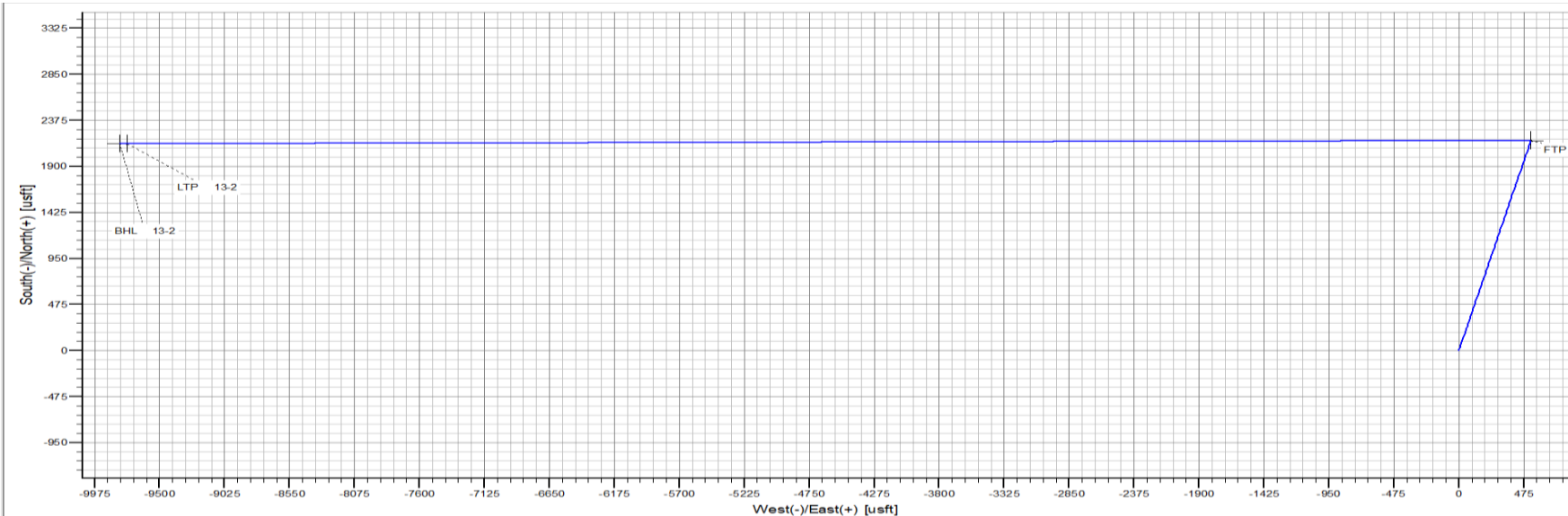
15800.000	90.000	269.800	11081.997	50.695	-0.000	77.164	0.000	50.695	0.000	0.000	77.281	47.850	93.821	MWD+IFR1+MS
15900.000	90.000	269.800	11081.997	51.342	-0.000	78.359	0.000	51.342	0.000	0.000	78.475	47.882	93.729	MWD+IFR1+MS
16000.000	90.000	269.800	11081.997	51.990	-0.000	79.562	0.000	51.990	0.000	0.000	79.677	47.903	93.641	MWD+IFR1+MS
16100.000	90.000	269.800	11081.997	52.650	-0.000	80.772	0.000	52.650	0.000	0.000	80.885	47.923	93.557	MWD+IFR1+MS
16200.000	90.000	269.800	11081.997	53.301	-0.000	81.988	0.000	53.301	0.000	0.000	82.100	47.955	93.478	MWD+IFR1+MS
16300.000	90.000	269.800	11081.997	53.963	-0.000	83.211	0.000	53.963	0.000	0.000	83.321	47.976	93.402	MWD+IFR1+MS
16400.000	90.000	269.800	11081.997	54.626	-0.000	84.445	0.000	54.626	0.000	0.000	84.554	48.007	93.328	MWD+IFR1+MS
16500.000	90.000	269.800	11081.997	55.290	-0.000	85.685	0.000	55.290	0.000	0.000	85.792	48.028	93.259	MWD+IFR1+MS
16600.000	90.000	269.800	11081.997	55.964	-0.000	86.930	0.000	55.964	0.000	0.000	87.036	48.059	93.191	MWD+IFR1+MS
16700.000	90.000	269.800	11081.997	56.639	-0.000	88.181	0.000	56.639	0.000	0.000	88.285	48.080	93.128	MWD+IFR1+MS
16800.000	90.000	269.800	11081.997	57.315	-0.000	89.436	0.000	57.315	0.000	0.000	89.539	48.111	93.066	MWD+IFR1+MS
16900.000	90.000	269.800	11081.997	57.991	-0.000	90.696	0.000	57.991	0.000	0.000	90.798	48.142	93.007	MWD+IFR1+MS
17000.000	90.000	269.800	11081.997	58.669	-0.000	91.960	0.000	58.669	0.000	0.000	92.061	48.174	92.950	MWD+IFR1+MS
17100.000	90.000	269.800	11081.997	59.355	-0.000	93.235	0.000	59.355	0.000	0.000	93.334	48.194	92.895	MWD+IFR1+MS
17200.000	90.000	269.800	11081.997	60.042	-0.000	94.513	0.000	60.042	0.000	0.000	94.611	48.226	92.842	MWD+IFR1+MS
17300.000	90.000	269.800	11081.997	60.729	-0.000	95.794	0.000	60.729	0.000	0.000	95.892	48.257	92.791	MWD+IFR1+MS
17400.000	90.000	269.800	11081.997	61.417	-0.000	97.080	0.000	61.417	0.000	0.000	97.176	48.288	92.741	MWD+IFR1+MS
17500.000	90.000	269.800	11081.997	62.113	-0.000	98.369	0.000	62.113	0.000	0.000	98.464	48.319	92.693	MWD+IFR1+MS
17600.000	90.000	269.800	11081.997	62.809	-0.000	99.662	0.000	62.809	0.000	0.000	99.756	48.350	92.647	MWD+IFR1+MS
17700.000	90.000	269.800	11081.997	63.506	-0.000	100.933	0.000	63.506	0.000	0.000	101.026	48.392	92.605	MWD+IFR1+MS
17800.000	90.000	269.800	11081.997	64.203	-0.000	102.261	0.000	64.203	0.000	0.000	102.353	48.423	92.560	MWD+IFR1+MS
17900.000	90.000	269.800	11081.997	64.908	-0.000	103.525	0.000	64.908	0.000	0.000	103.616	48.454	92.522	MWD+IFR1+MS
18000.000	90.000	269.800	11081.997	65.605	-0.000	104.868	0.000	65.605	0.000	0.000	104.958	48.485	92.479	MWD+IFR1+MS
18100.000	90.000	269.800	11081.997	66.310	-0.000	106.147	0.000	66.310	0.000	0.000	106.237	48.526	92.441	MWD+IFR1+MS
18200.000	90.000	269.800	11081.997	67.022	-0.000	107.504	0.000	67.022	0.000	0.000	107.593	48.557	92.401	MWD+IFR1+MS
18300.000	90.000	269.800	11081.997	67.727	-0.000	108.799	0.000	67.727	0.000	0.000	108.886	48.599	92.366	MWD+IFR1+MS
18400.000	90.000	269.800	11081.997	68.440	-0.000	110.123	0.000	68.440	0.000	0.000	110.210	48.630	92.330	MWD+IFR1+MS
18500.000	90.000	269.800	11081.997	69.152	-0.000	111.432	0.000	69.152	0.000	0.000	111.517	48.671	92.295	MWD+IFR1+MS
18600.000	90.000	269.800	11081.997	69.864	-0.000	112.770	0.000	69.864	0.000	0.000	112.854	48.712	92.261	MWD+IFR1+MS
18700.000	90.000	269.800	11081.997	70.576	-0.000	114.092	0.000	70.576	0.000	0.000	114.176	48.743	92.229	MWD+IFR1+MS
18800.000	90.000	269.800	11081.997	71.295	-0.000	115.442	0.000	71.295	0.000	0.000	115.525	48.784	92.196	MWD+IFR1+MS
18900.000	90.000	269.800	11081.997	72.014	-0.000	116.777	0.000	72.014	0.000	0.000	116.859	48.825	92.165	MWD+IFR1+MS
19000.000	90.000	269.800	11081.997	72.732	-0.000	118.097	0.000	72.732	0.000	0.000	118.178	48.866	92.135	MWD+IFR1+MS

19100.000	90.000	269.800	11081.997	73.451	-0.000	119.444	0.000	73.451	0.000	0.000	119.524	48.908	92.106	MWD+IFR1+MS
19200.000	90.000	269.800	11081.997	74.175	-0.000	120.817	0.000	74.175	0.000	0.000	120.897	48.938	92.075	MWD+IFR1+MS
19300.000	90.000	269.800	11081.997	74.893	-0.000	122.134	0.000	74.893	0.000	0.000	122.213	48.979	92.049	MWD+IFR1+MS
19400.000	90.000	269.800	11081.997	75.617	-0.000	123.477	0.000	75.617	0.000	0.000	123.556	49.031	92.021	MWD+IFR1+MS
19500.000	90.000	269.800	11081.997	76.348	-0.000	124.846	0.000	76.348	0.000	0.000	124.924	49.072	91.994	MWD+IFR1+MS
19600.000	90.000	269.800	11081.997	77.071	-0.000	126.201	0.000	77.071	0.000	0.000	126.277	49.113	91.968	MWD+IFR1+MS
19700.000	90.000	269.800	11081.997	77.801	-0.000	127.540	0.000	77.801	0.000	0.000	127.616	49.153	91.943	MWD+IFR1+MS
19800.000	90.000	269.800	11081.997	78.530	-0.000	128.905	0.000	78.530	0.000	0.000	128.980	49.194	91.918	MWD+IFR1+MS
19900.000	90.000	269.800	11081.997	79.259	-0.000	130.255	0.000	79.259	0.000	0.000	130.330	49.245	91.894	MWD+IFR1+MS
20000.000	90.000	269.800	11081.997	79.987	-0.000	131.630	0.000	79.987	0.000	0.000	131.704	49.286	91.870	MWD+IFR1+MS
20100.000	90.000	269.800	11081.997	80.722	-0.000	132.990	0.000	80.722	0.000	0.000	133.063	49.327	91.847	MWD+IFR1+MS
20200.000	90.000	269.800	11081.997	81.456	-0.000	134.337	0.000	81.456	0.000	0.000	134.409	49.378	91.825	MWD+IFR1+MS
20300.000	90.000	269.800	11081.997	82.189	-0.000	135.707	0.000	82.189	0.000	0.000	135.779	49.418	91.803	MWD+IFR1+MS
20400.000	90.000	269.800	11081.997	82.922	-0.000	137.063	0.000	82.922	0.000	0.000	137.134	49.469	91.781	MWD+IFR1+MS
20500.000	90.000	269.800	11081.997	83.660	-0.000	138.442	0.000	83.660	0.000	0.000	138.513	49.520	91.760	MWD+IFR1+MS
20600.000	90.000	269.800	11081.997	84.398	-0.000	139.808	0.000	84.398	0.000	0.000	139.878	49.560	91.739	MWD+IFR1+MS
20700.000	90.000	269.800	11081.997	85.135	-0.000	141.160	0.000	85.135	0.000	0.000	141.229	49.611	91.720	MWD+IFR1+MS
20800.000	90.000	269.800	11081.997	85.872	-0.000	142.535	0.000	85.872	0.000	0.000	142.603	49.662	91.700	MWD+IFR1+MS
20900.000	90.000	269.800	11081.997	86.608	-0.000	143.931	0.000	86.608	0.000	0.000	143.999	49.712	91.680	MWD+IFR1+MS
21000.000	90.000	269.800	11081.997	87.350	-0.000	145.279	0.000	87.350	0.000	0.000	145.347	49.763	91.661	MWD+IFR1+MS
21100.000	90.000	269.800	11081.997	88.091	-0.000	146.683	0.000	88.091	0.000	0.000	146.750	49.813	91.642	MWD+IFR1+MS
21200.000	90.000	269.800	11081.997	88.831	-0.000	148.040	0.000	88.831	0.000	0.000	148.107	49.863	91.625	MWD+IFR1+MS
21300.000	90.000	269.800	11081.997	89.577	-0.000	149.418	0.000	89.577	0.000	0.000	149.484	49.914	91.607	MWD+IFR1+MS
21400.000	90.000	269.800	11081.997	90.316	-0.000	150.817	0.000	90.316	0.000	0.000	150.883	49.964	91.589	MWD+IFR1+MS
21472.000	90.000	269.800	11081.997	90.857	-0.000	151.808	0.000	90.857	0.000	0.000	151.874	50.004	91.577	MWD+IFR1+MS
21500.000	90.000	269.800	11081.997	91.060	-0.000	152.170	0.000	91.060	0.000	0.000	152.235	50.014	91.572	MWD+IFR1+MS
21523.000	90.000	269.800	11081.997	91.230	-0.000	152.498	0.000	91.230	0.000	0.000	152.563	50.024	91.568	MWD+IFR1+MS

Plan Targets

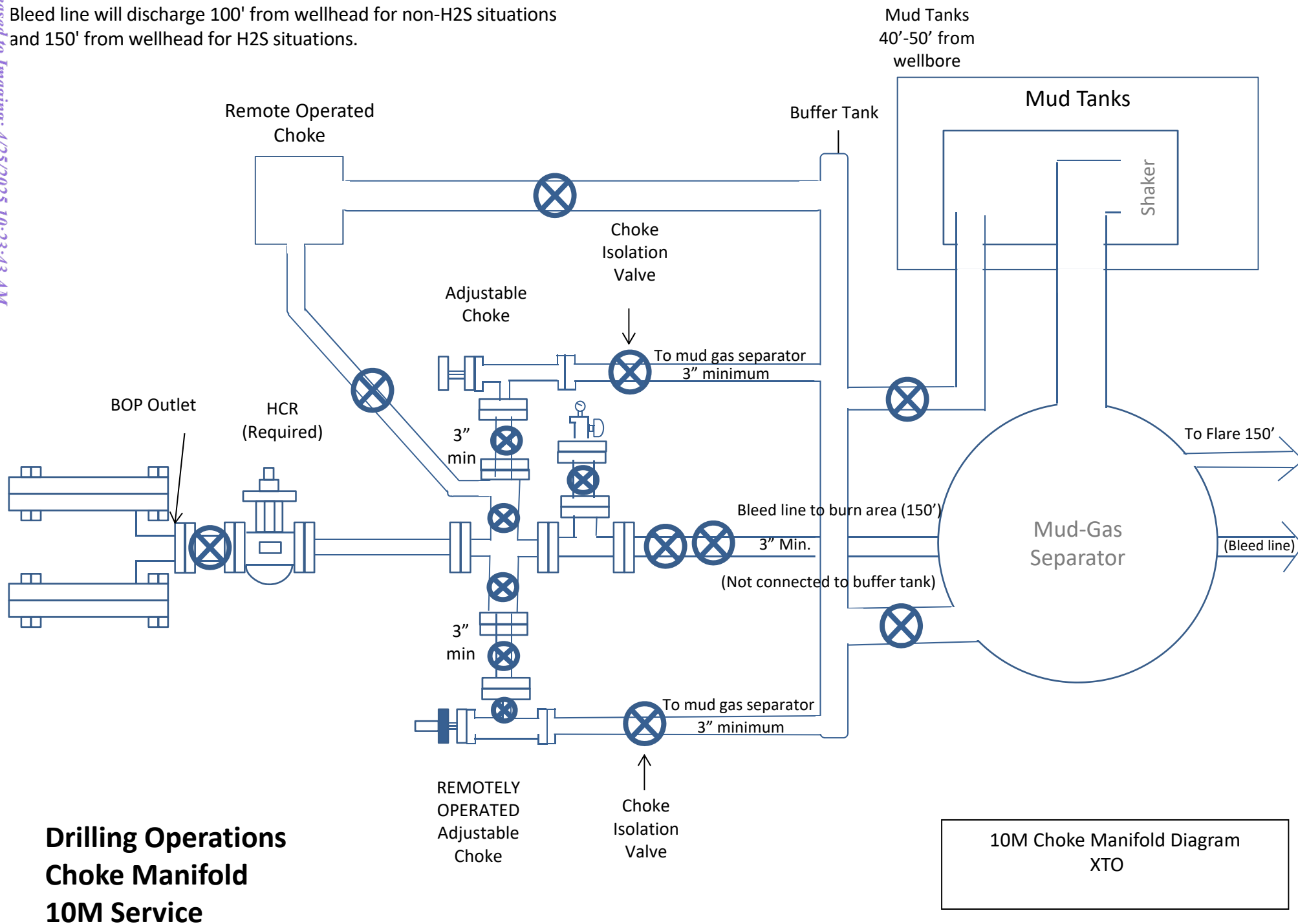
Target Name	Measured Depth (ft)	Grid Northing (ft)	Grid Easting (ft)	TVD MSL (ft)	Target Shape
FTP 13	11700.41	508789.30	656540.80	7704.00	CIRCLE
LTP 13	21472.40	508755.40	646274.30	7704.00	CIRCLE

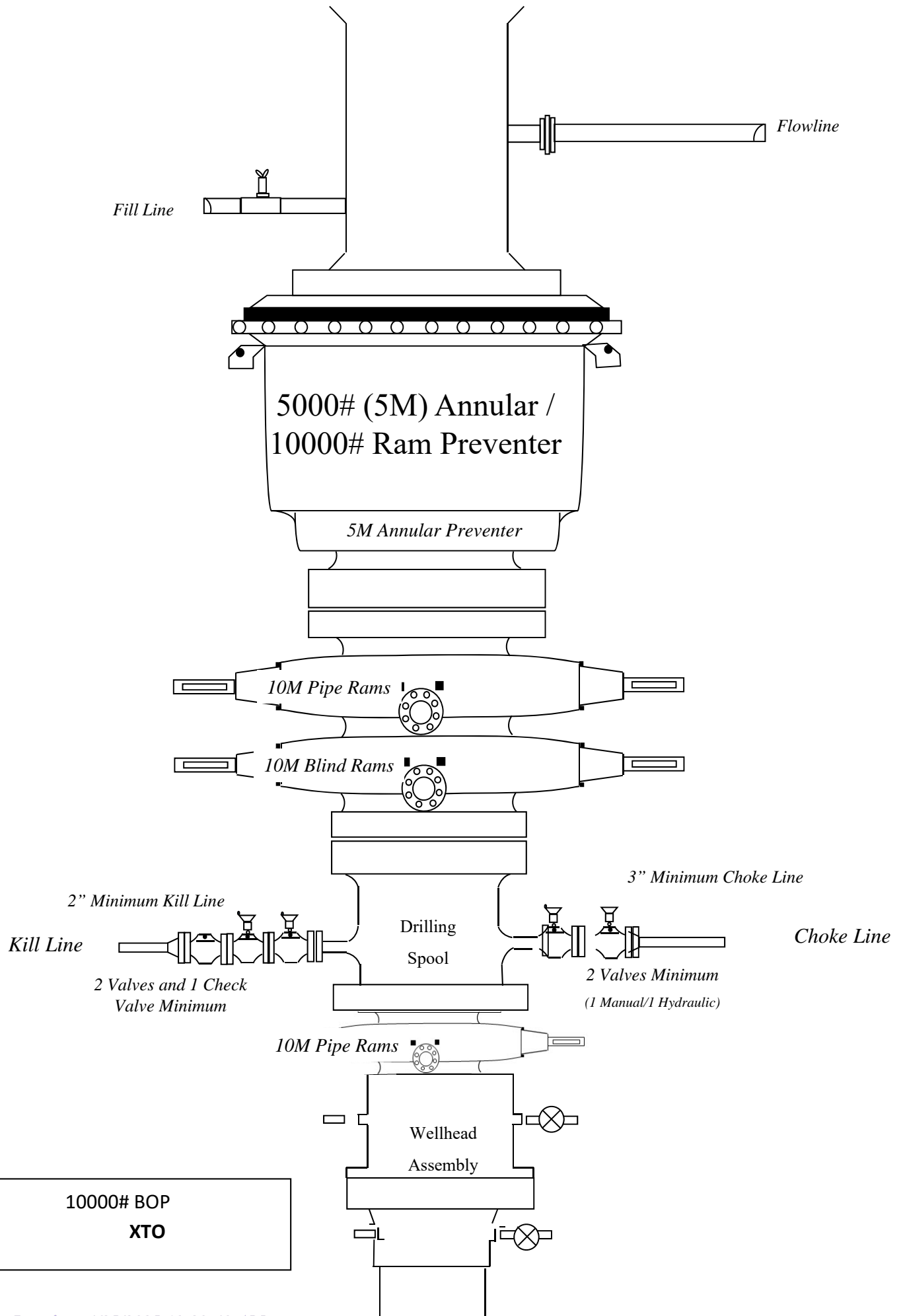
BHL 13	21523.03	508755.30	646224.30	7704.00	CIRCLE
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Formation	TVDSS (feet)	MD TVD (feet)
Alluvium	surface	surface
Rustler	2,924'	454'
Salado/Top of Salt	2,624'	754'
MB 126	1,940'	1,438'
Castile Anhydrite 1 Top	880'	2,498'
Castile Anhydrite 1 Base	455'	2,923'
Castile Anhydrite 2 Top	219'	3,159'
Castile Anhydrite 2 Base	124'	3,254'
Base Salt	-228'	3,606'
Delaware/Lamar	-489'	3,867'
Bell Canyon	-530'	3,908'
Cherry Canyon	-1,635'	5,013'
Brushy Canyon Ss.	-2,997'	6,375'
Bone Spring Lm.	-4,406'	7,784'
Avalon Ss.	-4,471'	7,849'
Upper Avalon Carb.	-4,694'	8,072'
Upper Avalon Sh.	-4,779'	8,157'
Middle Avalon Carb.	-4,923'	8,301'
Lw. Avalon Sh.	-4,997'	8,375'
First Bone Spring Carb.	-5,253'	8,631'
First Bone Spring Ss.	-5,424'	8,802'
Second Bone Spring Carb.	-5,861'	9,239'
Second Bone Spring A Ss.	-6,130'	9,508'
Second Bone Spring A/B Carb.	-6,294'	9,672'
Second Bone Spring B Ss.	-6,343'	9,721'
Third Bone Spring Carb.	-6,477'	9,855'
Harkey Ss.	-6,687'	10,065'
Third Bone Spring Shale	-6,782'	10,160'
Third Bone Spring Ss.	-7,163'	10,541'
Third Bone Spring Ss.- Red Hills	-7,479'	10,857'
Wolfcamp Shale	-7,607'	10,985'
Wolfcamp X Ss.	-7,622'	11,000'
Wolfcamp Y Ss.	-7,676'	11,054'
Landing Point	-7,704'	11,082'
Horizontal TD	-7,604'	10,982'
Wolfcamp A	-7,724'	11,102'
Wolfcamp B	-7,997'	11,375'

Bleed line will discharge 100' from wellhead for non-H2S situations and 150' from wellhead for H2S situations.







U. S. Steel Tubular Products

5.500" 20.00lb/ft (0.361" Wall) P110 RY USS-FREEDOM HTQ®

11/8/2023 1:08:50 PM



MECHANICAL PROPERTIES	Pipe	USS-FREEDOM HTQ®		--
Minimum Yield Strength	110,000	--	psi	--
Maximum Yield Strength	125,000	--	psi	--
Minimum Tensile Strength	125,000	--	psi	--
DIMENSIONS	Pipe	USS-FREEDOM HTQ®		--
Outside Diameter	5.500	6.300	in.	--
Wall Thickness	0.361	--	in.	--
Inside Diameter	4.778	4.778	in.	--
Standard Drift	4.653	4.653	in.	--
Alternate Drift	--	--	in.	--
Nominal Linear Weight, T&C	20.00	--	lb/ft	--
Plain End Weight	19.83	--	lb/ft	--
SECTION AREA	Pipe	USS-FREEDOM HTQ®		--
Critical Area	5.828	5.828	sq. in.	--
Joint Efficiency	--	100.0	%	--
PERFORMANCE	Pipe	USS-FREEDOM HTQ®		--
Minimum Collapse Pressure	11,100	11,100	psi	--
Minimum Internal Yield Pressure	12,640	12,640	psi	--
Minimum Pipe Body Yield Strength	641,000	--	lb	--
Joint Strength	--	641,000	lb	--
Compression Rating	--	641,000	lb	--
Reference Length [4]	--	21,370	ft	--
Maximum Uniaxial Bend Rating [2]	--	91.7	deg/100 ft	--
MAKE-UP DATA	Pipe	USS-FREEDOM HTQ®		--
Make-Up Loss	--	4.13	in.	--
Minimum Make-Up Torque [3]	--	15,000	ft-lb	--
Maximum Make-Up Torque [3]	--	21,000	ft-lb	--
Maximum Operating Torque[3]	--	29,500	ft-lb	--

UNCONTROLLED

Notes

1.

Other than proprietary collapse and connection values, performance properties have been calculated using standard equations defined by API 5C3 and do not incorporate any additional design or safety factors. Calculations assume nominal pipe OD, nominal wall thickness, and Specified Minimum Yield Strength (SMYS).
2.

Uniaxial bending rating shown is structural only, and equal to compression efficiency.
3.

Torques have been calculated assuming a thread compound friction factor of 1.0 and are recommended only. Field make-up torques may require adjustment based on actual field conditions (e.g. make-up speed, temperature, thread compound, etc.).
4.

Reference length is calculated by joint strength divided by plain end weight with 1.5 safety factor.

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U. S. Steel Tubular Products

11/29/2021 4:16:04 PM

5.500" 20.00lb/ft (0.361" Wall) P110 RY USS-TALON HTQ™ RD



MECHANICAL PROPERTIES	Pipe	USS-TALON HTQ™ RD		[6]
Minimum Yield Strength	110,000	--	psi	--
Maximum Yield Strength	125,000	--	psi	--
Minimum Tensile Strength	125,000	--	psi	--
DIMENSIONS	Pipe	USS-TALON HTQ™ RD		--
Outside Diameter	5.500	5.900	in.	--
Wall Thickness	0.361	--	in.	--
Inside Diameter	4.778	4.778	in.	--
Standard Drift	4.653	4.653	in.	--
Alternate Drift	--	--	in.	--
Nominal Linear Weight, T&C	20.00	--	lb/ft	--
Plain End Weight	19.83	--	lb/ft	--
SECTION AREA	Pipe	USS-TALON HTQ™ RD		--
Critical Area	5.828	5.828	sq. in.	--
Joint Efficiency	--	100.0	%	[2]
PERFORMANCE	Pipe	USS-TALON HTQ™ RD		--
Minimum Collapse Pressure	11,100	11,100	psi	--
Minimum Internal Yield Pressure	12,640	12,640	psi	--
Minimum Pipe Body Yield Strength	641,000	--	lb	--
Joint Strength	--	641,000	lb	--
Compression Rating	--	641,000	lb	--
Reference Length	--	21,370	ft	[5]
Maximum Uniaxial Bend Rating	--	91.7	deg/100 ft	[3]
MAKE-UP DATA	Pipe	USS-TALON HTQ™ RD		--
Make-Up Loss	--	5.58	in.	--
Minimum Make-Up Torque	--	17,000	ft-lb	[4]
Maximum Make-Up Torque	--	20,000	ft-lb	[4]
Maximum Operating Torque	--	39,500	ft-lb	[4]

UNCONTROLLED

Notes

- Other than proprietary collapse and connection values, performance properties have been calculated using standard equations defined by API 5C3 and do not incorporate any additional design or safety factors. Calculations assume nominal pipe OD, nominal wall thickness, and Specified Minimum Yield Strength (SMYS).
- Joint efficiencies are calculated by dividing the connection critical area by the pipe body area.
- Uniaxial bend rating shown is structural only.
- Torques have been calculated assuming a thread compound friction factor of 1.0 and are recommended only. Field make-up torques may require adjustment based on actual field conditions (e.g. make-up speed, temperature, thread compound, etc.).
- Reference length is calculated by Joint Strength divided by Nominal Linear Weight, T&C with a 1.5 Safety factor.
- Coupling must meet minimum mechanical properties of the pipe.

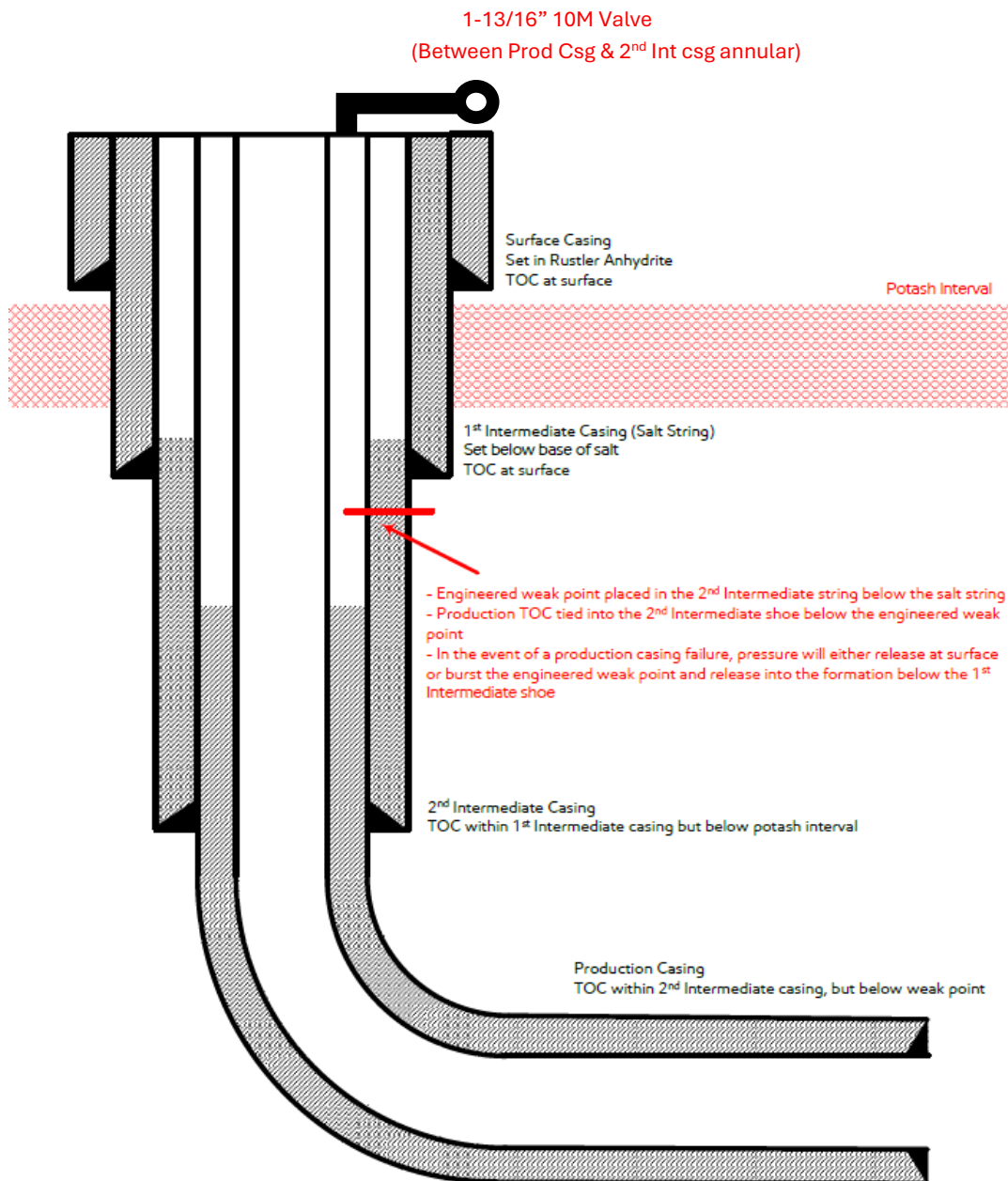
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XTO ENERGY INC
DELAWARE BASIN

DRAWN	VJK	31MAR22
APPRV		
DRAWING NO. SDT-3301		



[Figure F] 4 String – 2nd Intermediate casing engineered weak point

Update May 2024:

XTO is aware of R-111-Q update and will comply with these requirements including (but not limited to):

- 1) Alignment with KPLA requirements per schematic below, with engineering weak point casing design and utilizing new casing that meets API standards.
- 2) Contingency plans in place to divert fluids away from salt interval in event of production casing failure.
- 3) Intermediate 2 casing will consist of a primary cement job with TOC at the top of the Brushy Canyon formation within the Delaware Mountain Group.
 - a. Bradenhead squeeze to be completed after primary cement job to tie back TOC to intermediate 1 "Salt string" & below Marker Bed 126 "Potash Interval".
- 4) Production cement to be tied back no less than 500' inside previous casing shoe (intermediate 2 casing) and below the engineered weak point.

**BLACK GOLD®**

GATES ENGINEERING & SERVICES NORTH AMERICA
7603 Prairie Oak Dr.
Houston, TX. 77086

PHONE: +1 (281) 602-4100**FAX: +1 (281) 602-4147****EMAIL: gesna.quality@gates.com****WEB: www.gates.com/oilandgas**

*NEW CHOKE HOSE
INSTALLED 02-10-2024*

CERTIFICATE OF CONFORMANCE

This is to verify that the items detailed below meet the requirements of the Customer's Purchase Order referenced herein, and are in Conformance with applicable specifications, and that Records of Required Tests are on file and subject to examination. The following items were inspected and hydrostatically tested at **Gates Engineering & Services North America** facilities in Houston, TX, USA.

CUSTOMER: NABORS DRILLING TECHNOLOGIES USA DBA NABORS DRILLING USA
CUSTOMER P.O.#: 15582803 (TAG NABORS PO #15582803 SN 74621 ASSET 66-1531)
CUSTOMER P/N: IMR RETEST SN 74621 ASSET #66-1531

PART DESCRIPTION: RETEST OF CUSTOMER 3" X 45 FT 16C CHOKE & KILL HOSE ASSEMBLY C/W 4 1/16" 10K FLANGES

SALES ORDER #: 529480
QUANTITY: 1
SERIAL #: 74621 H3-012524-1

SIGNATURE:*F. Cismos***TITLE:****QUALITY ASSURANCE****DATE:****1/25/2024**



H3-15/16

1/25/2024 11:48:06 AM

TEST REPORT

CUSTOMER

Company: Nabors Industries Inc.

Production description: 74621/66-1531

Sales order #: 529480

Customer reference: FG1213

TEST OBJECT

Serial number: H3-012524-1

Lot number:

Description: 74621/66-1531

Hose ID: 3" 16C CK

Part number:

TEST INFORMATION

Test procedure: GTS-04-053

Test pressure: 15000.00 psi

Test pressure hold: 3600.00 sec

Work pressure: 10000.00 psi

Work pressure hold: 900.00 sec

Length difference: 0.00 %

Length difference: 0.00 inch

Fitting 1: 3.0 x 4-1/16 10K

Part number:

Description:

Fitting 2: 3.0 x 4-1/16 10K

Part number:

Description:

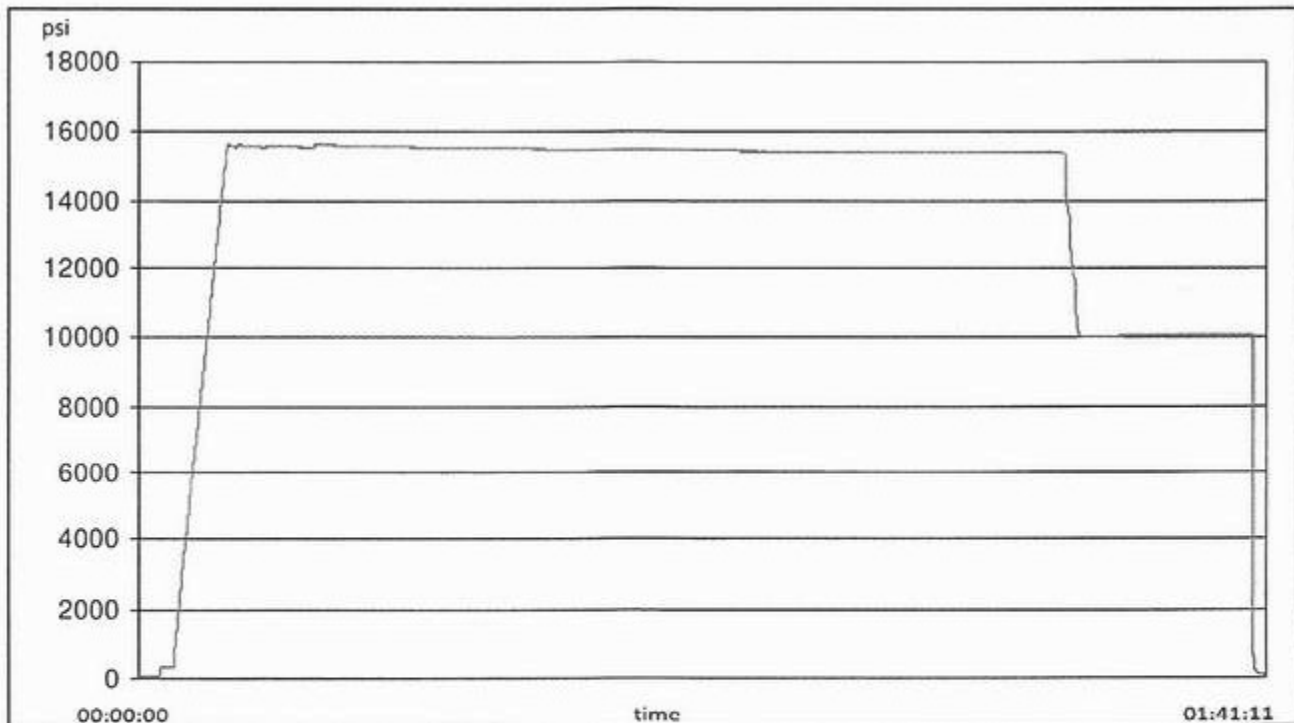
Visual check:

Pressure test result: PASS

Length measurement result:

Length: 45 feet

Test operator: Travis





H3-15/16

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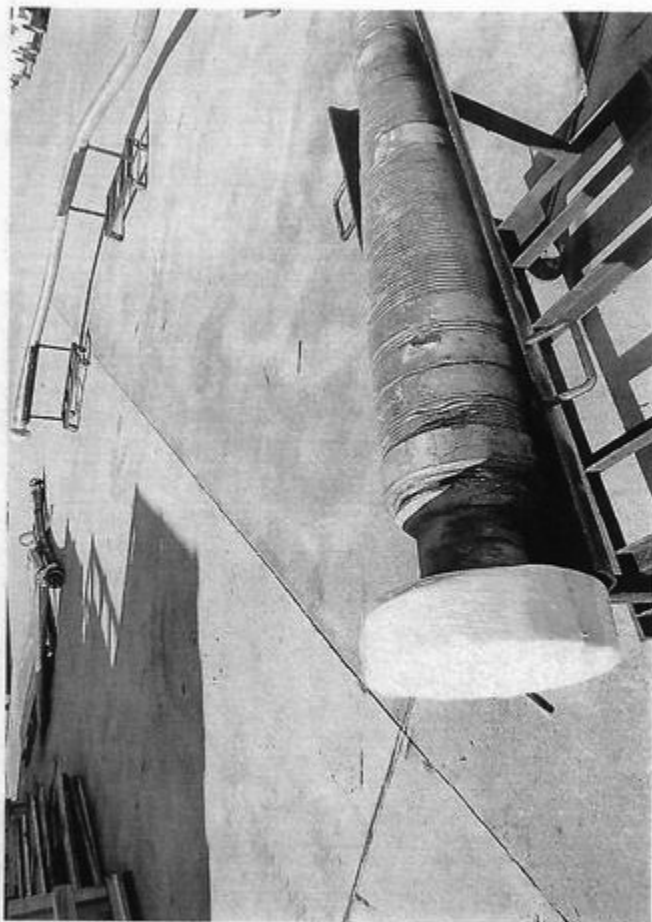
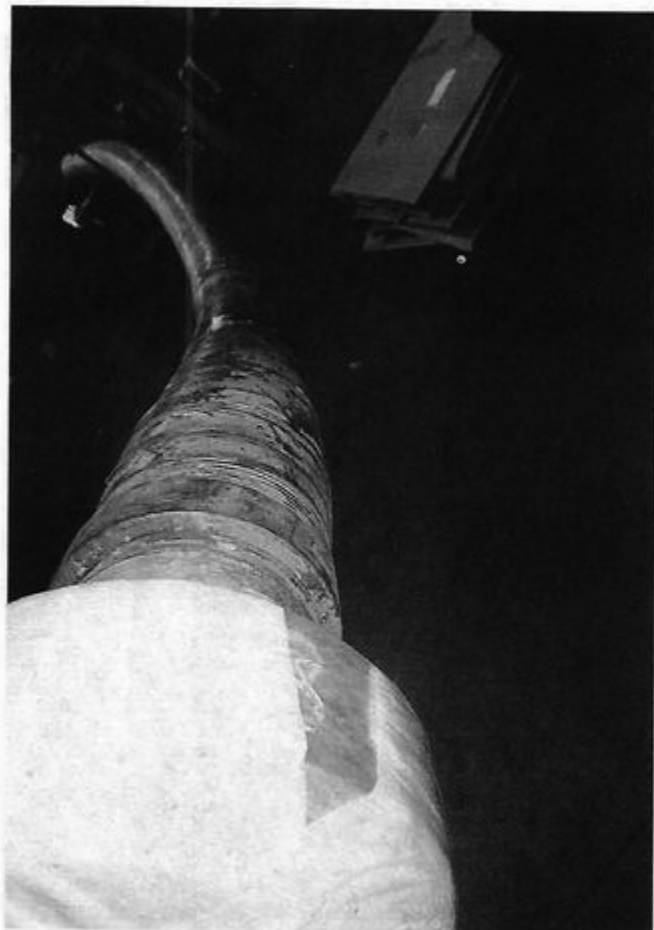
TEST REPORT

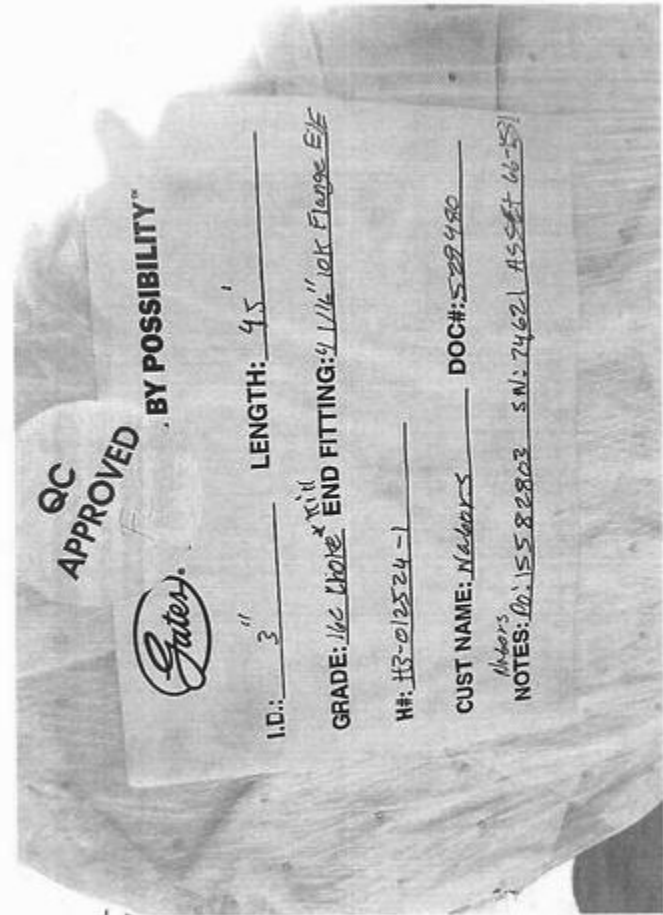
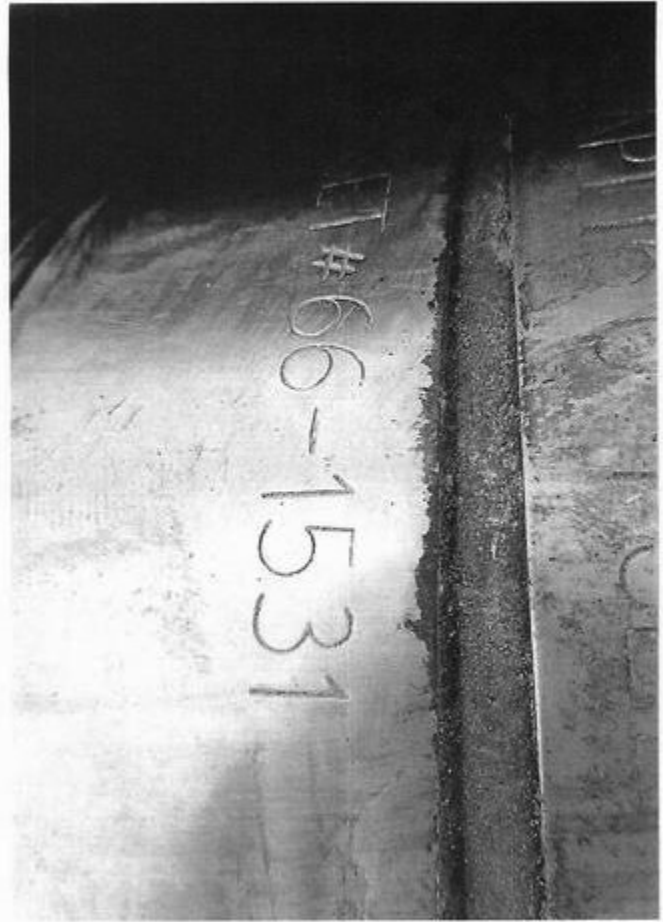
GAUGE TRACEABILITY

Description	Serial number	Calibration date	Calibration due date
S-25-A-W	110D3PHO	2023-06-06	2024-06-06
S-25-A-W	110IQWDG	2023-05-16	2024-05-16

Comment

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

Description of Operations:

1. Spudder rig will move in to drill the surface hole and pre-set surface casing on the well.
 - a. After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
 - b. The spudder rig will utilize fresh water-based mud to drill the surface hole to TD. Solids control will be handled entirely on a closed loop basis. No earth pits will be used.
2. The wellhead will be installed and tested as soon as the surface casing is cut off and WOC time has been reached.
3. A blind flange at the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on two wing valves.
 - a. A means for intervention will be maintained while the drilling rig is not over the well.
4. Spudder rig operations are expected to take 2-3 days per well on the pad.
5. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.
6. Drilling Operations will begin with a larger rig and a BOP stack equal to or greater than the pressure rating that was permitted will be nipped up and tested on the wellhead before drilling operations resume on each well.
 - a. The larger rig will move back onto the location within 90 days from the point at which the wells are secured and the spudder rig is moved off location.
 - b. The BLM will be notified 24 hours before the larger rig moves back on the pre-set locations
7. XTO will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.
8. Once the rig is removed, XTO will secure the wellhead area by placing a guard rail around the cellar area.

XTO Permian Operating, LLC Offline Cementing Variance Request

XTO requests the option to cement the surface and intermediate casing strings offline as a prudent batch drilling efficiency of acreage development.

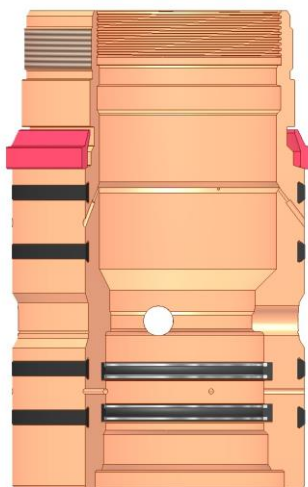
1. Cement Program

No changes to the cement program will take place for offline cementing.

2. Offline Cementing Procedure

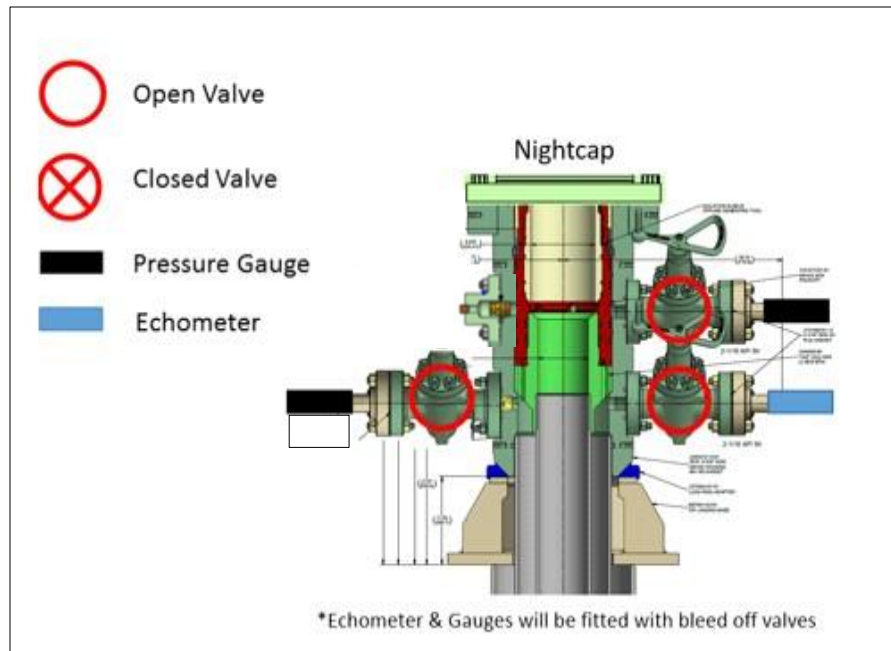
The operational sequence will be as follows. If a well control event occurs, the BLM will be contacted for approval prior to conducting offline cementing operations.

1. Run casing as per normal operations. While running casing, conduct negative pressure test and confirm integrity of the float equipment (float collar and shoe)
2. Land casing with mandrel
3. Fill pipe with kill weight fluid, do not circulate through floats and confirm well is static
4. Set annular packoff shown below and pressure test to confirm integrity of the seal. Pressure ratings of wellhead components and valves is 5,000 psi.
5. After confirmation of both annular barriers and internal barriers, nipple down BOP and install cap flange.
 - a. If any barrier fails to test, the BOP stack will not be nippedled down until after the cement job is completed with cement 500ft above the highest formation capable of flow with kill weight mud above or after it has achieved 50-psi compressive strength if kill weight fluid cannot be verified.



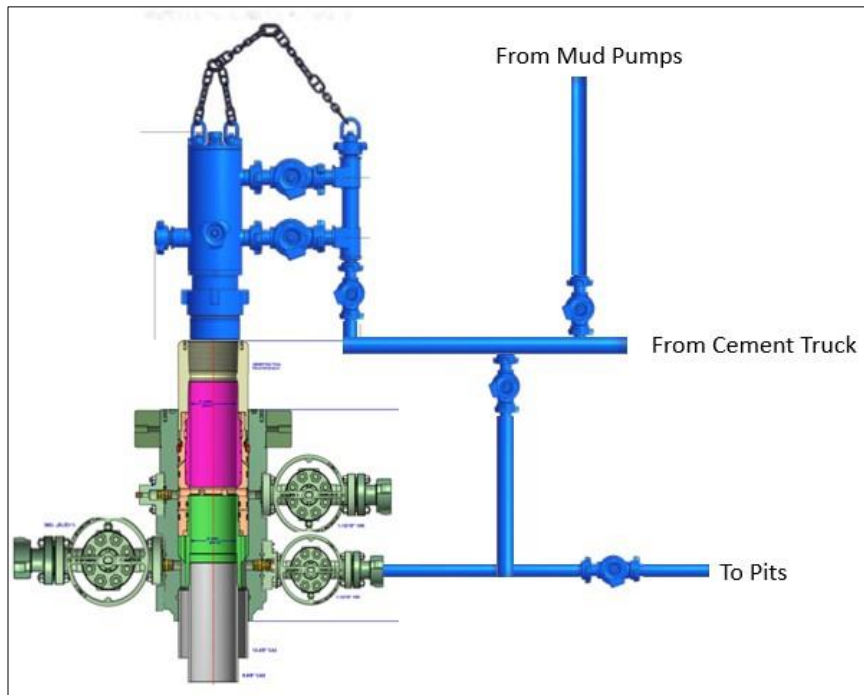
Annular packoff with both external and internal seals

XTO Permian Operating, LLC Offline Cementing Variance Request



Wellhead diagram during skidding operations

6. Skid rig to next well on pad.
7. Confirm well is static before removing cap flange, flange will not be removed and offline cementing operations will not commence until well is under control. If well is not static, casing outlet valves will provide access to both the casing ID and annulus. Rig or third party pump truck will kill well prior to cementing or nipping up for further remediation.
 - a. Well Control Plan
 - i. The Drillers Method will be the primary well control method to regain control of the wellbore prior to cementing, if wellbore conditions do not permit the drillers method other methods of well control may be used
 - ii. Rig pumps or a 3rd party pump will be tied into the upper casing valve to pump down the casing ID
 - iii. A high pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
 - iv. Once influx is circulated out of the hole, kill weight mud will be circulated
 - v. Well will be confirmed static
 - vi. Once confirmed static, cap flange will be removed to allow for offline cementing operations to commence
8. Install offline cement tool
9. Rig up cement equipment

XTO Permian Operating, LLC Offline Cementing Variance Request

Wellhead diagram during offline cementing operations

10. Circulate bottoms up with cement truck
 - a. If gas is present on bottoms up, well will be shut in and returns rerouted through gas buster to handle entrained gas
 - b. Max anticipated time before circulating with cement truck is 6 hrs
11. Perform cement job taking returns from the annulus wellhead valve
12. Confirm well is static and floats are holding after cement job
13. Remove cement equipment, offline cement tools and install night cap with pressure gauge for monitoring.

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

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

Background

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

Supporting Documentation

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



Figure 1: Winch System attached to BOP Stack

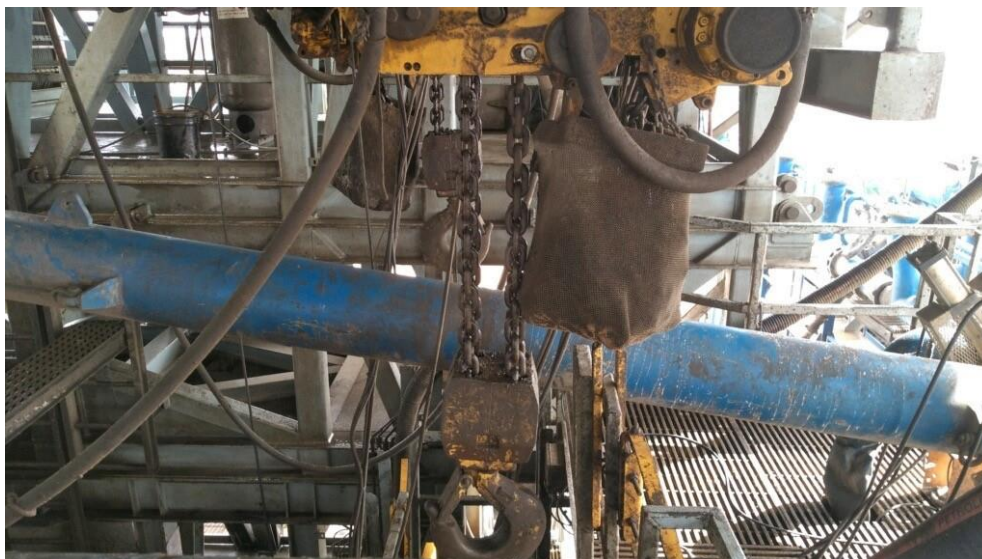


Figure 2: BOP Winch System

American Petroleum Institute (API) standards, specification and recommended practices are considered the industry standard and are consistently utilized and referenced by the industry. CFR Title 43 Part 3170 recognizes API recommended Practices (RP) 53 in its original development. API Standard 53, *Well Control Equipment Systems for Drilling Wells* (Fifth Edition, December 2018, Annex C, Table C.4) recognizes break testing as an acceptable practice. Specifically, API Standard 53, Section 5.3.7.1 states “A pressure test of the pressure containing component shall be performed following the disconnection or repair, limited to the affected component.” See Table C.4 below for reference.

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 ^a	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

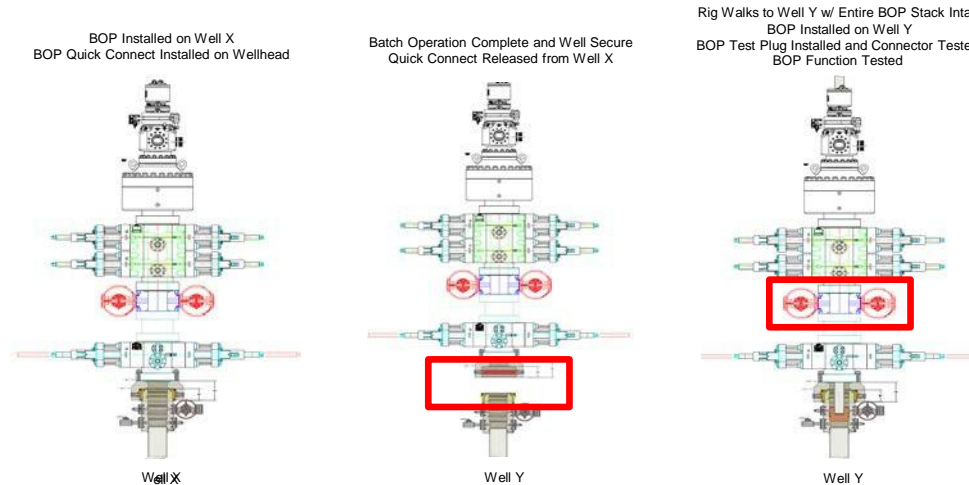
each BOP nipple up, XTO Energy performs a choke drill with the rig crew prior to drilling out every casing shoe. This is additional training for the rig crew that exceeds the requirements of the CFR Title 43 Part 3170.

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.

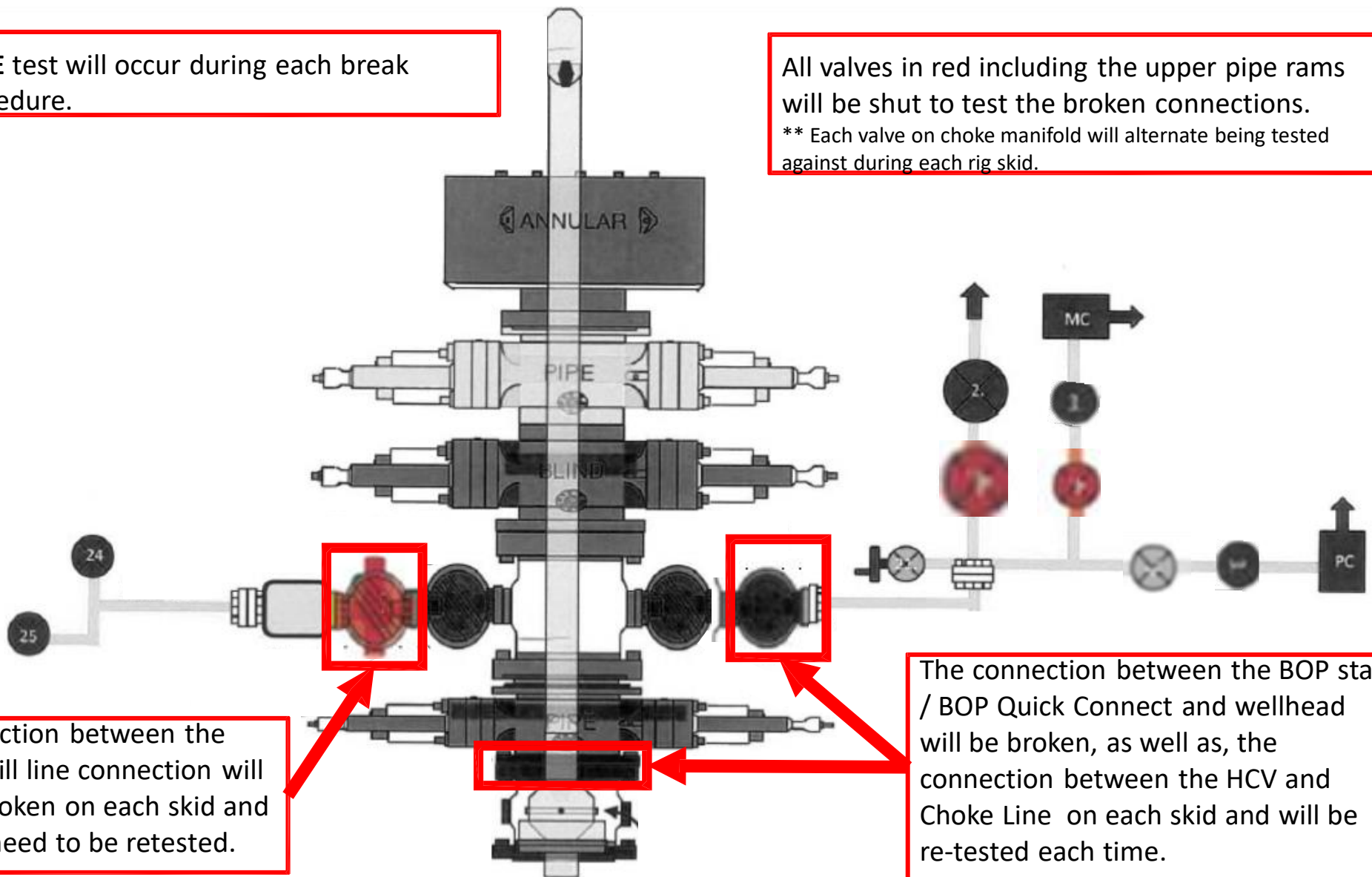
The BOP will be secured by a hydraulic carrier or cradle. The BLM will be contacted if a Well Control event occurs prior to the commencement of a BOPE Break Testing operation.

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.

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

CONDITIONS

Action 448755

CONDITIONS

Operator: XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	OGRID: 373075
	Action Number: 448755
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Operator must comply with all of the R-111-Q requirements.	4/25/2025
ward.rikala	Any previous COA's not addressed within the updated COA's still apply.	4/25/2025