

Well Name: JRU APACHE FEDERAL COM	Well Location: T22S / R30E / SEC 24 / NESE / 32.376378 / -103.82825	County or Parish/State: EDDY / NM
Well Number: 906H	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: 2827610

Type of Submission: Notice of Intent	Type of Action: APD Change
Date Sundry Submitted: 12/16/2024	Time Sundry Submitted: 09:49
Date proposed operation will begin: 12/30/2024	

Procedure Description: JRU APACHE FEDERAL COM 906H APD ID# 10400085853 SUNDRY LANGUAGE XTO Permian Operating, LLC. respectfully requests approval to make the following changes to the approved APD. Changes to include name of the well, SHL, KOP, FTP, LTP, BHL, casing design, cement program, mud circulation system and proposed total depth. The API number for this well is 30-015-55860. The well name is changing from “JRU APACHE FEDERAL COM 906H” to “JAMES RANCH UNIT APACHE 906H” FROM: TO: SHL: 2198' FSL & 821' FEL OF SECTION 24-T22S-R30E 2287' FSL & 971' FEL OF SECTION 24-T22S-R30E KOP: 2198' FSL & 821' FEL OF SECTION 24-T22S-R30E 1930' FNL & 330' FEL OF SECTION 24-T22S-R30E FTP: 2310' FNL & 330' FEL OF SECTION 24-T22S-R30E 1930' FNL & 330' FEL OF SECTION 24-T22S-R30E LTP: 2310' FNL & 2540' FEL OF SECTION 23-T22S-R30E 1930' FNL & 2579' FEL OF SECTION 23-T22S-R30E BHL: 2310' FNL & 2590' FEL OF SECTION 23-T22S-R30E 1930' FNL & 2629' FEL OF SECTION 23-T22S-R30E The proposed total depth is changing from 19023' MD/10876' TVD to 17326.7' MD/9826' TVD. There will be no changes required 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. Attachments: C-102, Drilling Program, Directional Plan, Choke Manifold Diagram, BOP Diagram, Non-API Spec documents for Production Casing, Well Bore Diagram, MBS diagram, Gas Capture Plan, Break Test Variance.

NOI Attachments

Procedure Description

Sundry_Attachments___James_Ranch_Unit_Apache_906H_20241216094758.pdf

Received by OCD: 3/7/2025 10:08:03 AM

Page 2 of 50

Well Name: JRU APACHE FEDERAL COM	Well Location: T22S / R30E / SEC 24 / NESE / 32.376378 / -103.82825	County or Parish/State: EDDY / NM
Well Number: 906H	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	

Conditions of Approval

Additional
James_Ranch_Unit_Apache_906H_COA_20250226073721.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: DEC 16, 2024 09:48 AM
Name: XTO PERMIAN OPERATING LLC
Title: REGULATORY ANALYST
Street Address: 22777 SPRINGWOODS VILLAGE PARKWAY
City: SPRING State: 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: 02/28/2025
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

KOP: 2198' FSL & 821' FEL OF SECTION 24-T22S-R30E 1930' FNL & 330' FEL OF SECTION 24-T22S-R30E
FTP: 2310' FNL & 330' FEL OF SECTION 24-T22S-R30E 1930' FNL & 330' FEL OF SECTION 24-T22S-R30E
LTP: 2310' FNL & 2540' FEL OF SECTION 23-T22S-R30E 1930' FNL & 2579' FEL OF SECTION 23-T22S-R30E
BHL: 2310' FNL & 2590' FEL OF SECTION 23-T22S-R30E 1930' FNL & 2629' FEL OF SECTION 23-T22S-R30E

The proposed total depth is changing from 19023 MD/10876 TVD to 17326.7 MD/9826 TVD.

There will be no changes required 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.

Attachments: C-102, Drilling Program, Directional Plan, Choke Manifold Diagram, BOP Diagram, Non-API Spec documents for Production Casing, Well Bore Diagram, MBS diagram, Gas Capture Plan, Break Test Variance.

Location of Well

0. SHL: NESE / 2198 FSL / 821 FEL / TWSP: 22S / RANGE: 30E / SECTION: 24 / LAT: 32.376378 / LONG: -103.82825 (TVD: 0 feet, MD: 0 feet)
PPP: SENE / 2310 FNL / 330 FEL / TWSP: 22S / RANGE: 30E / SECTION: 24 / LAT: 32.378498 / LONG: -103.826658 (TVD: 10876 feet, MD: 11412 feet)
BHL: SWNE / 2310 FNL / 2590 FEL / TWSP: 22S / RANGE: 30E / SECTION: 23 / LAT: 32.378535 / LONG: -103.85131 (TVD: 10876 feet, MD: 19023 feet)

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO
LEASE NO.:	NMNM89051
LOCATION:	Sec. 24, T.22 S, R 30 E
COUNTY:	Eddy County, New Mexico ▼
WELL NAME & NO.:	James Ranch Unit Apache 906H
SURFACE HOLE FOOTAGE:	2287'/S & 971'/E
BOTTOM HOLE FOOTAGE:	1930'/N & 2629'/E

Changes approved through engineering via **Sundry 2827610** on 2-25-2025_. 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
	3-String Design: Open Production Casing Annulus			
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 type="radio"/> Waste Min. Plan	<input checked="" 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 9-5/8 inch surface casing shall be set at approximately **730** 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 7-5/8 inch Intermediate casing is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above.

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

Operator has proposed to pump down **Surface X Intermediate 1** 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 Surface 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.

- ❖ **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).

- a. **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, Capitan Reef, or potash.**
- ❖ **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**.
- 3. 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. Operator shall provide method of verification.

C. PRESSURE CONTROL

- 1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).
- 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 2/25/2025
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 40295	Pool Name LOS MEDANOS, BONE SPRING	
Property Code	Property Name JAMES RANCH UNIT APACHE	Well Number 906H	
OGRID No. 373075	Operator Name XTO PERMIAN OPERATING, LLC.	Ground Level Elevation 3,392'	
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 checked="" 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
H	24	22S	30E		2,287 FSL	971 FEL	32.376625	-103.828736	EDDY

Bottom Hole Location									
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
G	23	22S	30E		1,930 FNL	2,629 FEL	32.379580	-103.851428	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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Kick Off Point (KOP)									
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
H	24	22S	30E		1,930 FNL	330 FEL	32.379542	-103.826657	EDDY

First Take Point (FTP)									
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
H	24	22S	30E		1,930 FNL	330 FEL	32.379542	-103.826657	EDDY

Last Take Point (LTP)									
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
G	23	22S	30E		1,930 FNL	2,579 FEL	32.379579	-103.851266	EDDY

Unitized Area of Area of Interest NMNM-070965X	Spacing Unit Type : <input checked="" type="checkbox"/> Horizontal <input type="checkbox"/> Vertical	Ground Elevation 3,392'
--	--	-----------------------------------

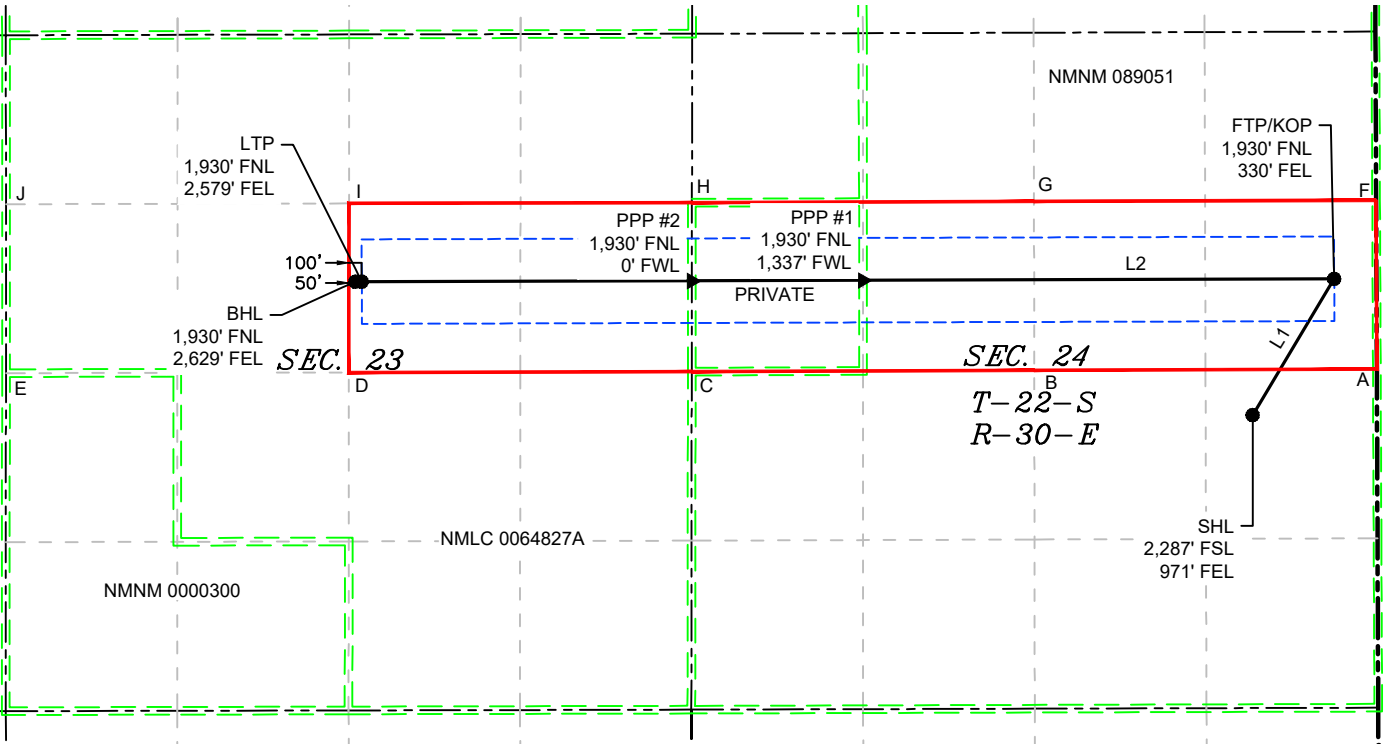
<div>OPERATOR CERTIFICATIONS</div> <p><i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land 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></p> <p><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></p> <div><div>Srinivas Naveen</div><div>12/16/2024</div></div> <div>SignatureDate</div> <div>Srinivas Naveen Laghuvarapu</div> <div>Printed Name</div> <div>srinivas.n.laghuvarapu@exxonmobil.com</div> <div>Email Address</div>	<div>SURVEYOR CERTIFICATIONS</div> <p><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></p> <div><div></div><div>Signature and Seal of Professional Surveyor</div></div> <div><div>MARK DILLON HARP 23786</div><div>12/9/2024</div></div> <div>Certificate NumberDate of Survey</div> <div>KT618.013002.10-48</div>
--	---

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	030°53'19.62"	1,240.16
L2	269°50'13.79"	7,646.46

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

COORDINATE TABLE									
SHL (NAD 83 NME)		FTP/KOP (NAD 83 NME)		PPP1 (NAD 83 NME)		PPP2 (NAD 83 NME)		LTP (NAD 83 NME)	
Y =	501,115.1 N	Y =	502,179.4 N	Y =	502,167.6 N	Y =	502,163.3 N	Y =	502,157.7 N
X =	697,114.8 E	X =	697,751.4 E	X =	694,069.9 E	X =	692,733.0 E	X =	690,154.4 E
LAT. =	32.376625 °N	LAT. =	32.379542 °N	LAT. =	32.379557 °N	LAT. =	32.379562 °N	LAT. =	32.379579 °N
LONG. =	103.828736 °W	LONG. =	103.826657 °W	LONG. =	103.838583 °W	LONG. =	103.842913 °W	LONG. =	103.851266 °W
BHL (NAD 83 NME)									
Y =	502,157.6 N								
X =	690,104.4 E								
LAT. =	32.379580 °N								
LONG. =	103.851428 °W								
SHL (NAD 27 NME)		FTP/KOP (NAD 27 NME)		PPP1 (NAD 27 NME)		PPP2 (NAD 27 NME)		LTP (NAD 27 NME)	
Y =	501,054.6 N	Y =	502,118.8 N	Y =	502,107.0 N	Y =	502,102.8 N	Y =	502,097.1 N
X =	655,933.1 E	X =	656,569.8 E	X =	652,888.3 E	X =	651,551.4 E	X =	648,972.9 E
LAT. =	32.376502 °N	LAT. =	32.379419 °N	LAT. =	32.379434 °N	LAT. =	32.379440 °N	LAT. =	32.379456 °N
LONG. =	103.828243 °W	LONG. =	103.826164 °W	LONG. =	103.838089 °W	LONG. =	103.842420 °W	LONG. =	103.850772 °W
BHL (NAD 27 NME)									
Y =	502,097.0 N								
X =	648,922.9 E								
LAT. =	32.379457 °N								
LONG. =	103.850934 °W								
CORNER COORDINATES (NAD 83 NME)				CORNER COORDINATES (NAD 27 NME)					
A - Y =	501,475.7 N	A - X =	698,084.5 E	A - Y =	501,415.1 N	A - X =	656,902.8 E		
B - Y =	501,464.9 N	B - X =	695,408.0 E	B - Y =	501,404.4 N	B - X =	654,226.3 E		
C - Y =	501,454.3 N	C - X =	692,732.0 E	C - Y =	501,393.7 N	C - X =	651,550.4 E		
D - Y =	501,448.6 N	D - X =	690,053.7 E	D - Y =	501,388.0 N	D - X =	648,872.2 E		
E - Y =	501,442.8 N	E - X =	687,374.4 E	E - Y =	501,382.2 N	E - X =	646,192.9 E		
F - Y =	502,793.0 N	F - X =	698,078.8 E	F - Y =	502,732.5 N	F - X =	656,897.2 E		
G - Y =	502,783.1 N	G - X =	695,405.9 E	G - Y =	502,722.6 N	G - X =	654,224.3 E		
H - Y =	502,773.8 N	H - X =	692,733.8 E	H - Y =	502,713.2 N	H - X =	651,552.3 E		
I - Y =	502,768.1 N	I - X =	690,055.0 E	I - Y =	502,707.5 N	I - X =	648,873.4 E		
J - Y =	502,762.3 N	J - X =	687,374.3 E	J - Y =	502,701.6 N	J - X =	646,192.8 E		

\\618.013 XTO Energy - NM\002 James Ranch Unit\10 - APACHE DI - EDDY\Wells\48 - 906H\DWG\APACHE 906H C-102.dwg

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

XTO Energy Inc.
JAMES RANCH UNIT APACHE 906H
Projected TD: 17326.7' MD / 9826' TVD
SHL: 2287' FSL & 971' FEL , Section 24, T22S, R30E
BHL: 1930' FNL & 2629' FEL , Section 23, 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	500'	Water
Top of Salt	790'	Water
MB 126	1484'	Water
Base of Salt	3645'	Water
Delaware	3903'	Water/Oil/Gas
Brushy Canyon	6646'	Water
Bone Spring	7782'	Water/Oil/Gas
Avalon	7858'	Water/Oil/Gas
1st Bone Spring	8702'	Water/Oil/Gas
2nd Bone Spring	9288'	Water/Oil/Gas
Target/Land Curve	9826'	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 surface casing casing @ 690' (100' above the salt) and circulating cement back to surface. The intermediate will isolate from the top of salt down to the next casing seat by setting 7.625 inch casing at 3888' and cemented to surface. A 6.75 inch curve and 6.75 inch lateral hole will be drilled to 17326.7 MD/TD and 5.5 inch production casing will be set at TD.

3. Casing Design

Hole Size	Depth	OD Csg	Weight	Grade	Collar	New/Used	SF Burst	SF Collapse	SF Tension
12.25	0' – 690'	9.625	40	J-55	BTC	New	3.71	9.12	22.83
8.75	0' – 3888'	7.625	29.7	RY P-110	Flush Joint	New	3.80	2.86	4.83
6.75	0' – 3788'	5.5	20	RY P-110	Semi-Premium / Freedom	New	1.26	6.19	2.50
6.75	3788' - 17326.7'	5.5	20	RY P-110	Semi-Flush / Talon	New	1.26	2.39	2.50

· 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 3 String desing as per attachement.

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: 9.625, 40 New BTC, J-55 casing to be set at +/- 690'

Lead: 130 sxs EconoCem-HLTRRC (mixed at 10.5 ppg, 1.87 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

1St Intermediate Casing: 7.625, 29.7 New casing to be set at +/- 3888'

Lead: 190 sxs Class C (mixed at 10.5 ppg, 2.77 ft3/sx, 15.59 gal/sx water)
TOC: Surface
Tail: 30 sxs Class C (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)
TOC:@ 3588
Compressives: 12-hr = 900 psi 24 hr = 1150 psi

Production Casing: 5.5, 20 New Semi-Flush / Talon, RY P-110 casing to be set at +/- 17326.7'

Lead: 100 sxs NeoCem (mixed at 11.5 ppg, 2.69 ft3/sx, 15.00 gal/sx water)	Top of Cement:	6646 feet
Tail: 570 sxs VersaCem (mixed at 13.2 ppg, 1.51 ft3/sx, 8.38 gal/sx water)	Top of Cement:	9270.95 feet
Compressives:	12-hr = 800 psi	24 hr = 1500 psi

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 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 (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)	Additional Comments
0' - 690'	12.25	FW/Native	8.4-8.9	35-40	NC	Fresh water or native water
690' - 3888'	8.75	Saturated brine for salt	9.5-10.5	30-32	NC	Fully saturated salt across salado
3888' - 17326.7'	6.75	OBM	9.1-9.6	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. A saturated salt brine mud will be used while drilling through the salt formation. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Pump speed will be recorded on a daily drilling report after mudding up. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

7. Auxiliary Well Control and Monitoring Equipment

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

8. Logging, Coring and Testing Program

Open hole logging will not be done on this well.

9. Abnormal Pressures and Temperatures / Potential Hazards

None Anticipated. BHT of 165 to 185 F is anticipated. No H2S is expected but monitors will be in place to detect any H2S occurrences. Should these circumstances be encountered the operator and drilling contractor are prepared to take all necessary steps to ensure safety of all personnel and environment. Lost circulation could occur but is not expected to be a serious problem in this area and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid.

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 - James Ranch Unit Apache 906H

Measured Depth: 17326.70 ft

TVD RKB: 9826.00 ft

Location

Cartographic Reference System: New Mexico East - NAD 27

Northing: 501054.60 ft

Easting: 655933.10 ft

RKB: 3424.00 ft

Ground Level: 3392.00 ft

North Reference: Grid

Convergence Angle: 0.27 Deg

Site: K

Slot: James Ranch Unit
Apache 906H

Plan Sections James Ranch Unit Apache 906H

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	
4485.37	15.71	30.89	4475.57	91.81	54.93	2.00	0.00	2.00	
8275.77	15.71	30.89	8124.43	972.39	581.77	0.00	0.00	0.00	
9061.15	0.00	0.00	8900.00	1064.20	636.70	-2.00	0.00	2.00	
9270.95	0.00	0.00	9109.80	1064.20	636.70	0.00	0.00	0.00	
10395.95	90.00	269.84	9826.00	1062.15	-79.49	8.00	0.00	8.00	
17277.31	90.00	269.84	9826.00	1042.45	-6960.82	0.00	0.00	0.00	LTP 25
17326.70	90.00	269.84	9826.00	1042.31	-7010.21	0.00	0.00	0.00	BHL 25

Position Uncertainty James Ranch Unit Apache 906H

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

Depth	Inclination	Azimuth	RKB	Error	Bias	Error	Bias	Error	Bias	of Bias	Error	Error	Azimuth	Used
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	MWD+IFR1+MS
100.000	0.000	0.000	100.000	0.700	0.000	0.350	0.000	2.300	0.000	0.000	0.751	0.220	112.264	MWD+IFR1+MS
200.000	0.000	0.000	200.000	1.112	0.000	0.861	0.000	2.310	0.000	0.000	1.259	0.627	122.711	MWD+IFR1+MS
300.000	0.000	0.000	300.000	1.497	0.000	1.271	0.000	2.325	0.000	0.000	1.698	0.986	125.469	MWD+IFR1+MS
400.000	0.000	0.000	400.000	1.871	0.000	1.658	0.000	2.347	0.000	0.000	2.108	1.344	126.713	MWD+IFR1+MS
500.000	0.000	0.000	500.000	2.240	0.000	2.034	0.000	2.374	0.000	0.000	2.503	1.701	127.419	MWD+IFR1+MS
600.000	0.000	0.000	600.000	2.607	0.000	2.405	0.000	2.407	0.000	0.000	2.888	2.059	127.873	MWD+IFR1+MS
700.000	0.000	0.000	700.000	2.971	0.000	2.773	0.000	2.444	0.000	0.000	3.267	2.417	128.190	MWD+IFR1+MS
800.000	0.000	0.000	800.000	3.334	0.000	3.138	0.000	2.486	0.000	0.000	3.642	2.775	128.423	MWD+IFR1+MS
900.000	0.000	0.000	900.000	3.696	0.000	3.502	0.000	2.532	0.000	0.000	4.014	3.133	128.602	MWD+IFR1+MS
1000.000	0.000	0.000	1000.000	4.058	0.000	3.865	0.000	2.582	0.000	0.000	4.384	3.491	128.744	MWD+IFR1+MS
1100.000	0.000	0.000	1100.000	4.419	0.000	4.228	0.000	2.635	0.000	0.000	4.752	3.849	128.859	MWD+IFR1+MS
1200.000	0.000	0.000	1200.000	4.779	0.000	4.589	0.000	2.692	0.000	0.000	5.119	4.207	128.954	MWD+IFR1+MS
1300.000	0.000	0.000	1300.000	5.140	0.000	4.950	0.000	2.752	0.000	0.000	5.484	4.565	129.034	MWD+IFR1+MS
1400.000	0.000	0.000	1400.000	5.500	0.000	5.311	0.000	2.814	0.000	0.000	5.849	4.924	129.102	MWD+IFR1+MS
1500.000	0.000	0.000	1500.000	5.860	0.000	5.672	0.000	2.879	0.000	0.000	6.213	5.282	129.161	MWD+IFR1+MS
1600.000	0.000	0.000	1600.000	6.219	0.000	6.032	0.000	2.947	0.000	0.000	6.577	5.640	129.212	MWD+IFR1+MS
1700.000	0.000	0.000	1700.000	6.579	0.000	6.392	0.000	3.016	0.000	0.000	6.939	5.999	129.257	MWD+IFR1+MS
1800.000	0.000	0.000	1800.000	6.938	0.000	6.752	0.000	3.088	0.000	0.000	7.302	6.357	129.297	MWD+IFR1+MS
1900.000	0.000	0.000	1900.000	7.298	0.000	7.112	0.000	3.162	0.000	0.000	7.664	6.715	129.333	MWD+IFR1+MS
2000.000	0.000	0.000	2000.000	7.657	0.000	7.471	0.000	3.237	0.000	0.000	8.026	7.074	129.365	MWD+IFR1+MS
2100.000	0.000	0.000	2100.000	8.016	0.000	7.831	0.000	3.314	0.000	0.000	8.387	7.432	129.394	MWD+IFR1+MS
2200.000	0.000	0.000	2200.000	8.375	0.000	8.190	0.000	3.393	0.000	0.000	8.748	7.791	129.420	MWD+IFR1+MS
2300.000	0.000	0.000	2300.000	8.734	0.000	8.550	0.000	3.474	0.000	0.000	9.109	8.149	129.444	MWD+IFR1+MS
2400.000	0.000	0.000	2400.000	9.093	0.000	8.909	0.000	3.555	0.000	0.000	9.470	8.507	129.466	MWD+IFR1+MS
2500.000	0.000	0.000	2500.000	9.452	0.000	9.268	0.000	3.638	0.000	0.000	9.831	8.866	129.486	MWD+IFR1+MS
2600.000	0.000	0.000	2600.000	9.811	0.000	9.627	0.000	3.723	0.000	0.000	10.191	9.224	129.505	MWD+IFR1+MS
2700.000	0.000	0.000	2700.000	10.170	0.000	9.986	0.000	3.809	0.000	0.000	10.552	9.583	129.522	MWD+IFR1+MS
2800.000	0.000	0.000	2800.000	10.529	0.000	10.345	0.000	3.896	0.000	0.000	10.912	9.941	129.538	MWD+IFR1+MS
2900.000	0.000	0.000	2900.000	10.888	0.000	10.705	0.000	3.985	0.000	0.000	11.272	10.299	129.552	MWD+IFR1+MS
3000.000	0.000	0.000	3000.000	11.247	0.000	11.063	0.000	4.074	0.000	0.000	11.632	10.658	129.566	MWD+IFR1+MS

3100.000	0.000	0.000	3100.000	11.606	0.000	11.422	0.000	4.166	0.000	0.000	11.992	11.016	129.579	MWD+IFR1+MS
3200.000	0.000	0.000	3200.000	11.965	0.000	11.781	0.000	4.258	0.000	0.000	12.352	11.375	129.591	MWD+IFR1+MS
3300.000	0.000	0.000	3300.000	12.323	0.000	12.140	0.000	4.352	0.000	0.000	12.712	11.733	129.603	MWD+IFR1+MS
3400.000	0.000	0.000	3400.000	12.682	0.000	12.499	0.000	4.447	0.000	0.000	13.071	12.092	129.613	MWD+IFR1+MS
3500.000	0.000	0.000	3500.000	13.041	0.000	12.858	0.000	4.543	0.000	0.000	13.431	12.450	129.623	MWD+IFR1+MS
3600.000	0.000	0.000	3600.000	13.400	0.000	13.217	0.000	4.641	0.000	0.000	13.790	12.809	129.633	MWD+IFR1+MS
3700.000	0.000	0.000	3700.000	13.758	0.000	13.576	0.000	4.740	0.000	0.000	14.150	13.167	129.642	MWD+IFR1+MS
3800.000	2.000	30.892	3799.980	14.541	0.000	13.552	0.000	4.841	0.000	0.000	14.574	13.524	130.008	MWD+IFR1+MS
3900.000	4.000	30.892	3899.838	15.031	0.000	13.918	0.000	4.943	0.000	0.000	15.096	13.881	130.745	MWD+IFR1+MS
4000.000	6.000	30.892	3999.452	15.496	0.000	14.282	0.000	5.048	0.000	0.000	15.607	14.235	131.259	MWD+IFR1+MS
4100.000	8.000	30.892	4098.702	15.936	0.000	14.644	0.000	5.157	0.000	0.000	16.108	14.589	131.636	MWD+IFR1+MS
4200.000	10.000	30.892	4197.465	16.352	0.000	15.005	0.000	5.271	0.000	0.000	16.598	14.941	131.925	MWD+IFR1+MS
4300.000	12.000	30.892	4295.623	16.744	0.000	15.365	0.000	5.392	0.000	0.000	17.077	15.293	132.156	MWD+IFR1+MS
4400.000	14.000	30.892	4393.055	17.112	0.000	15.723	0.000	5.521	0.000	0.000	17.545	15.643	132.349	MWD+IFR1+MS
4485.375	15.707	30.892	4475.574	17.374	0.000	16.025	0.000	5.629	0.000	0.000	17.903	15.942	132.429	MWD+IFR1+MS
4500.000	15.707	30.892	4489.653	17.420	0.000	16.075	0.000	5.643	0.000	0.000	17.949	15.993	132.409	MWD+IFR1+MS
4600.000	15.707	30.892	4585.919	17.742	0.000	16.426	0.000	5.760	0.000	0.000	18.258	16.345	132.404	MWD+IFR1+MS
4700.000	15.707	30.892	4682.184	18.074	0.000	16.785	0.000	5.881	0.000	0.000	18.579	16.704	132.585	MWD+IFR1+MS
4800.000	15.707	30.892	4778.450	18.408	0.000	17.146	0.000	6.006	0.000	0.000	18.903	17.065	132.765	MWD+IFR1+MS
4900.000	15.707	30.892	4874.716	18.746	0.000	17.509	0.000	6.134	0.000	0.000	19.229	17.426	132.942	MWD+IFR1+MS
5000.000	15.707	30.892	4970.981	19.086	0.000	17.873	0.000	6.264	0.000	0.000	19.558	17.790	133.117	MWD+IFR1+MS
5100.000	15.707	30.892	5067.247	19.429	0.000	18.238	0.000	6.398	0.000	0.000	19.889	18.154	133.291	MWD+IFR1+MS
5200.000	15.707	30.892	5163.512	19.774	0.000	18.604	0.000	6.534	0.000	0.000	20.223	18.520	133.462	MWD+IFR1+MS
5300.000	15.707	30.892	5259.778	20.122	0.000	18.971	0.000	6.674	0.000	0.000	20.558	18.887	133.631	MWD+IFR1+MS
5400.000	15.707	30.892	5356.044	20.472	0.000	19.340	0.000	6.816	0.000	0.000	20.896	19.255	133.797	MWD+IFR1+MS
5500.000	15.707	30.892	5452.309	20.824	0.000	19.709	0.000	6.960	0.000	0.000	21.235	19.624	133.962	MWD+IFR1+MS
5600.000	15.707	30.892	5548.575	21.177	0.000	20.079	0.000	7.108	0.000	0.000	21.577	19.993	134.124	MWD+IFR1+MS
5700.000	15.707	30.892	5644.841	21.533	0.000	20.451	0.000	7.258	0.000	0.000	21.920	20.364	134.285	MWD+IFR1+MS
5800.000	15.707	30.892	5741.106	21.890	0.000	20.823	0.000	7.410	0.000	0.000	22.265	20.736	134.442	MWD+IFR1+MS
5900.000	15.707	30.892	5837.372	22.249	0.000	21.196	0.000	7.566	0.000	0.000	22.611	21.108	134.598	MWD+IFR1+MS
6000.000	15.707	30.892	5933.638	22.610	0.000	21.569	0.000	7.723	0.000	0.000	22.959	21.482	134.751	MWD+IFR1+MS
6100.000	15.707	30.892	6029.903	22.972	0.000	21.943	0.000	7.884	0.000	0.000	23.309	21.856	134.902	MWD+IFR1+MS
6200.000	15.707	30.892	6126.169	23.336	0.000	22.318	0.000	8.047	0.000	0.000	23.659	22.230	-44.949	MWD+IFR1+MS

6300.000	15.707	30.892	6222.434	23.701	0.000	22.694	0.000	8.212	0.000	0.000	24.012	22.606	-44.803	MWD+IFR1+MS
6400.000	15.707	30.892	6318.700	24.068	0.000	23.070	0.000	8.380	0.000	0.000	24.365	22.982	-44.660	MWD+IFR1+MS
6500.000	15.707	30.892	6414.966	24.435	0.000	23.447	0.000	8.550	0.000	0.000	24.720	23.358	-44.519	MWD+IFR1+MS
6600.000	15.707	30.892	6511.231	24.804	0.000	23.824	0.000	8.723	0.000	0.000	25.076	23.735	-44.380	MWD+IFR1+MS
6700.000	15.707	30.892	6607.497	25.175	0.000	24.202	0.000	8.898	0.000	0.000	25.433	24.113	-44.244	MWD+IFR1+MS
6800.000	15.707	30.892	6703.763	25.546	0.000	24.581	0.000	9.075	0.000	0.000	25.791	24.491	-44.111	MWD+IFR1+MS
6900.000	15.707	30.892	6800.028	25.918	0.000	24.960	0.000	9.255	0.000	0.000	26.151	24.870	-43.980	MWD+IFR1+MS
7000.000	15.707	30.892	6896.294	26.291	0.000	25.339	0.000	9.437	0.000	0.000	26.511	25.249	-43.852	MWD+IFR1+MS
7100.000	15.707	30.892	6992.560	26.666	0.000	25.719	0.000	9.622	0.000	0.000	26.872	25.629	-43.727	MWD+IFR1+MS
7200.000	15.707	30.892	7088.825	27.041	0.000	26.099	0.000	9.809	0.000	0.000	27.234	26.009	-43.605	MWD+IFR1+MS
7300.000	15.707	30.892	7185.091	27.417	0.000	26.479	0.000	9.999	0.000	0.000	27.598	26.390	-43.485	MWD+IFR1+MS
7400.000	15.707	30.892	7281.356	27.794	0.000	26.860	0.000	10.191	0.000	0.000	27.962	26.771	-43.369	MWD+IFR1+MS
7500.000	15.707	30.892	7377.622	28.172	0.000	27.242	0.000	10.385	0.000	0.000	28.326	27.152	-43.256	MWD+IFR1+MS
7600.000	15.707	30.892	7473.888	28.550	0.000	27.623	0.000	10.582	0.000	0.000	28.692	27.534	-43.145	MWD+IFR1+MS
7700.000	15.707	30.892	7570.153	28.930	0.000	28.005	0.000	10.781	0.000	0.000	29.059	27.916	-43.038	MWD+IFR1+MS
7800.000	15.707	30.892	7666.419	29.310	0.000	28.388	0.000	10.982	0.000	0.000	29.426	28.299	-42.934	MWD+IFR1+MS
7900.000	15.707	30.892	7762.685	29.691	0.000	28.770	0.000	11.186	0.000	0.000	29.794	28.682	-42.833	MWD+IFR1+MS
8000.000	15.707	30.892	7858.950	30.072	0.000	29.153	0.000	11.392	0.000	0.000	30.162	29.065	-42.736	MWD+IFR1+MS
8100.000	15.707	30.892	7955.216	30.454	0.000	29.537	0.000	11.601	0.000	0.000	30.532	29.448	-42.642	MWD+IFR1+MS
8200.000	15.707	30.892	8051.482	30.837	0.000	29.920	0.000	11.812	0.000	0.000	30.902	29.832	-42.551	MWD+IFR1+MS
8275.774	15.707	30.892	8124.426	31.126	0.000	30.209	0.000	11.973	0.000	0.000	31.180	30.122	-42.569	MWD+IFR1+MS
8300.000	15.223	30.892	8147.775	31.247	0.000	30.301	0.000	12.025	0.000	0.000	31.268	30.214	-42.606	MWD+IFR1+MS
8400.000	13.223	30.892	8244.704	31.756	0.000	30.678	0.000	12.244	0.000	0.000	31.662	30.593	-42.832	MWD+IFR1+MS
8500.000	11.223	30.892	8342.432	32.278	0.000	31.056	0.000	12.466	0.000	0.000	32.107	30.968	-43.114	MWD+IFR1+MS
8600.000	9.223	30.892	8440.840	32.757	0.000	31.429	0.000	12.684	0.000	0.000	32.549	31.338	-43.367	MWD+IFR1+MS
8700.000	7.223	30.892	8539.807	33.193	0.000	31.797	0.000	12.896	0.000	0.000	32.986	31.704	-43.589	MWD+IFR1+MS
8800.000	5.223	30.892	8639.212	33.587	0.000	32.160	0.000	13.105	0.000	0.000	33.417	32.064	-43.776	MWD+IFR1+MS
8900.000	3.223	30.892	8738.936	33.937	0.000	32.517	0.000	13.311	0.000	0.000	33.841	32.418	-43.928	MWD+IFR1+MS
9000.000	1.223	30.892	8838.856	34.242	0.000	32.869	0.000	13.514	0.000	0.000	34.258	32.766	-44.042	MWD+IFR1+MS
9061.149	0.000	0.000	8900.000	33.714	0.000	33.754	0.000	13.637	0.000	0.000	34.475	32.977	-44.233	MWD+IFR1+MS
9100.000	0.000	0.000	8938.851	33.846	0.000	33.883	0.000	13.716	0.000	0.000	34.602	33.111	-44.282	MWD+IFR1+MS
9200.000	0.000	0.000	9038.851	34.183	0.000	34.217	0.000	13.920	0.000	0.000	34.931	33.453	-44.342	MWD+IFR1+MS
9270.949	0.000	0.000	9109.800	34.423	0.000	34.454	0.000	14.066	0.000	0.000	35.164	33.697	-44.385	MWD+IFR1+MS

9300.000	2.324	269.836	9138.843	34.437	-0.000	34.513	0.000	14.126	0.000	0.000	35.256	33.795	-44.370	MWD+IFR1+MS
9400.000	10.324	269.836	9238.154	34.505	-0.000	34.824	0.000	14.356	0.000	0.000	35.811	34.355	-34.449	MWD+IFR1+MS
9500.000	18.324	269.836	9334.966	34.751	-0.000	35.127	0.000	14.731	0.000	0.000	36.927	34.939	-17.806	MWD+IFR1+MS
9600.000	26.324	269.836	9427.396	34.483	-0.000	35.415	0.000	15.328	0.000	0.000	38.051	35.326	-10.410	MWD+IFR1+MS
9700.000	34.324	269.836	9513.644	33.770	-0.000	35.688	0.000	16.199	0.000	0.000	39.036	35.641	-6.780	MWD+IFR1+MS
9800.000	42.324	269.836	9592.032	32.706	-0.000	35.943	0.000	17.355	0.000	0.000	39.841	35.917	-4.729	MWD+IFR1+MS
9900.000	50.324	269.836	9661.034	31.413	-0.000	36.182	0.000	18.770	0.000	0.000	40.456	36.167	-3.480	MWD+IFR1+MS
10000.000	58.324	269.836	9719.307	30.045	-0.000	36.406	0.000	20.391	0.000	0.000	40.889	36.396	-2.719	MWD+IFR1+MS
10100.000	66.324	269.836	9765.716	28.786	-0.000	36.616	0.000	22.156	0.000	0.000	41.163	36.609	-2.318	MWD+IFR1+MS
10200.000	74.324	269.836	9799.359	27.838	-0.000	36.813	0.000	23.996	0.000	0.000	41.306	36.807	-2.234	MWD+IFR1+MS
10300.000	82.324	269.836	9819.580	27.397	-0.000	36.997	0.000	25.849	0.000	0.000	41.360	36.990	-2.465	MWD+IFR1+MS
10395.949	90.000	269.836	9825.997	27.463	0.000	37.158	0.000	27.463	0.000	0.000	41.370	37.147	-2.999	MWD+IFR1+MS
10400.000	90.000	269.836	9825.997	27.472	0.000	37.164	0.000	27.472	0.000	0.000	41.371	37.153	-3.027	MWD+IFR1+MS
10500.000	90.000	269.836	9825.997	27.682	0.000	37.338	0.000	27.682	0.000	0.000	41.378	37.321	-3.778	MWD+IFR1+MS
10600.000	90.000	269.836	9825.997	27.918	0.000	37.549	0.000	27.918	0.000	0.000	41.387	37.524	-4.627	MWD+IFR1+MS
10700.000	90.000	269.836	9825.997	28.173	0.000	37.791	0.000	28.173	0.000	0.000	41.398	37.757	-5.605	MWD+IFR1+MS
10800.000	90.000	269.836	9825.997	28.448	0.000	38.065	0.000	28.448	0.000	0.000	41.413	38.018	-6.760	MWD+IFR1+MS
10900.000	90.000	269.836	9825.997	28.741	0.000	38.370	0.000	28.741	0.000	0.000	41.431	38.307	-8.161	MWD+IFR1+MS
11000.000	90.000	269.836	9825.997	29.053	0.000	38.705	0.000	29.053	0.000	0.000	41.456	38.621	-9.912	MWD+IFR1+MS
11100.000	90.000	269.836	9825.997	29.382	0.000	39.069	0.000	29.382	0.000	0.000	41.488	38.956	-12.171	MWD+IFR1+MS
11200.000	90.000	269.836	9825.997	29.729	0.000	39.462	0.000	29.729	0.000	0.000	41.532	39.309	-15.186	MWD+IFR1+MS
11300.000	90.000	269.836	9825.997	30.092	0.000	39.882	0.000	30.092	0.000	0.000	41.596	39.670	-19.343	MWD+IFR1+MS
11400.000	90.000	269.836	9825.997	30.471	0.000	40.330	0.000	30.471	0.000	0.000	41.691	40.027	-25.183	MWD+IFR1+MS
11500.000	90.000	269.836	9825.997	30.865	0.000	40.803	0.000	30.865	0.000	0.000	41.840	40.357	-33.180	MWD+IFR1+MS
11600.000	90.000	269.836	9825.997	31.274	0.000	41.301	0.000	31.274	0.000	0.000	42.069	40.632	-42.945	MWD+IFR1+MS
11700.000	90.000	269.836	9825.997	31.697	0.000	41.823	0.000	31.697	0.000	0.000	42.396	40.834	127.350	MWD+IFR1+MS
11800.000	90.000	269.836	9825.997	32.133	0.000	42.369	0.000	32.133	0.000	0.000	42.812	40.970	119.479	MWD+IFR1+MS
11900.000	90.000	269.836	9825.997	32.583	0.000	42.937	0.000	32.583	0.000	0.000	43.296	41.061	113.761	MWD+IFR1+MS
12000.000	90.000	269.836	9825.997	33.045	0.000	43.526	0.000	33.045	0.000	0.000	43.830	41.125	109.705	MWD+IFR1+MS
12100.000	90.000	269.836	9825.997	33.520	0.000	44.136	0.000	33.520	0.000	0.000	44.401	41.172	106.777	MWD+IFR1+MS
12200.000	90.000	269.836	9825.997	34.005	0.000	44.766	0.000	34.005	0.000	0.000	45.003	41.209	104.600	MWD+IFR1+MS
12300.000	90.000	269.836	9825.997	34.502	0.000	45.415	0.000	34.502	0.000	0.000	45.630	41.240	102.932	MWD+IFR1+MS
12400.000	90.000	269.836	9825.997	35.009	0.000	46.082	0.000	35.009	0.000	0.000	46.280	41.267	101.617	MWD+IFR1+MS

12500.000	90.000	269.836	9825.997	35.527	0.000	46.766	0.000	35.527	0.000	0.000	46.950	41.292	100.557	MWD+IFR1+MS
12600.000	90.000	269.836	9825.997	36.054	0.000	47.467	0.000	36.054	0.000	0.000	47.640	41.314	99.684	MWD+IFR1+MS
12700.000	90.000	269.836	9825.997	36.590	0.000	48.184	0.000	36.590	0.000	0.000	48.347	41.335	98.953	MWD+IFR1+MS
12800.000	90.000	269.836	9825.997	37.135	0.000	48.916	0.000	37.135	0.000	0.000	49.071	41.356	98.332	MWD+IFR1+MS
12900.000	90.000	269.836	9825.997	37.689	0.000	49.662	0.000	37.689	0.000	0.000	49.811	41.376	97.797	MWD+IFR1+MS
13000.000	90.000	269.836	9825.997	38.250	0.000	50.423	0.000	38.250	0.000	0.000	50.565	41.395	97.331	MWD+IFR1+MS
13100.000	90.000	269.836	9825.997	38.820	0.000	51.196	0.000	38.820	0.000	0.000	51.333	41.415	96.922	MWD+IFR1+MS
13200.000	90.000	269.836	9825.997	39.397	0.000	51.983	0.000	39.397	0.000	0.000	52.114	41.434	96.560	MWD+IFR1+MS
13300.000	90.000	269.836	9825.997	39.980	0.000	52.781	0.000	39.980	0.000	0.000	52.908	41.453	96.236	MWD+IFR1+MS
13400.000	90.000	269.836	9825.997	40.571	0.000	53.591	0.000	40.571	0.000	0.000	53.714	41.473	95.945	MWD+IFR1+MS
13500.000	90.000	269.836	9825.997	41.168	0.000	54.412	0.000	41.168	0.000	0.000	54.532	41.493	95.681	MWD+IFR1+MS
13600.000	90.000	269.836	9825.997	41.772	0.000	55.244	0.000	41.772	0.000	0.000	55.360	41.513	95.442	MWD+IFR1+MS
13700.000	90.000	269.836	9825.997	42.381	0.000	56.086	0.000	42.381	0.000	0.000	56.198	41.533	95.223	MWD+IFR1+MS
13800.000	90.000	269.836	9825.997	42.996	0.000	56.937	0.000	42.996	0.000	0.000	57.047	41.554	95.023	MWD+IFR1+MS
13900.000	90.000	269.836	9825.997	43.616	0.000	57.798	0.000	43.616	0.000	0.000	57.905	41.575	94.838	MWD+IFR1+MS
14000.000	90.000	269.836	9825.997	44.242	0.000	58.667	0.000	44.242	0.000	0.000	58.771	41.596	94.667	MWD+IFR1+MS
14100.000	90.000	269.836	9825.997	44.873	0.000	59.545	0.000	44.873	0.000	0.000	59.647	41.618	94.508	MWD+IFR1+MS
14200.000	90.000	269.836	9825.997	45.508	0.000	60.431	0.000	45.508	0.000	0.000	60.530	41.640	94.360	MWD+IFR1+MS
14300.000	90.000	269.836	9825.997	46.148	0.000	61.325	0.000	46.148	0.000	0.000	61.422	41.662	94.222	MWD+IFR1+MS
14400.000	90.000	269.836	9825.997	46.793	0.000	62.226	0.000	46.793	0.000	0.000	62.321	41.685	94.093	MWD+IFR1+MS
14500.000	90.000	269.836	9825.997	47.441	0.000	63.134	0.000	47.441	0.000	0.000	63.227	41.709	93.972	MWD+IFR1+MS
14600.000	90.000	269.836	9825.997	48.094	0.000	64.048	0.000	48.094	0.000	0.000	64.139	41.733	93.859	MWD+IFR1+MS
14700.000	90.000	269.836	9825.997	48.751	0.000	64.970	0.000	48.751	0.000	0.000	65.059	41.757	93.751	MWD+IFR1+MS
14800.000	90.000	269.836	9825.997	49.411	0.000	65.897	0.000	49.411	0.000	0.000	65.985	41.782	93.650	MWD+IFR1+MS
14900.000	90.000	269.836	9825.997	50.075	0.000	66.831	0.000	50.075	0.000	0.000	66.916	41.807	93.555	MWD+IFR1+MS
15000.000	90.000	269.836	9825.997	50.743	0.000	67.770	0.000	50.743	0.000	0.000	67.854	41.833	93.464	MWD+IFR1+MS
15100.000	90.000	269.836	9825.997	51.413	0.000	68.714	0.000	51.413	0.000	0.000	68.797	41.859	93.378	MWD+IFR1+MS
15200.000	90.000	269.836	9825.997	52.087	0.000	69.664	0.000	52.087	0.000	0.000	69.745	41.885	93.296	MWD+IFR1+MS
15300.000	90.000	269.836	9825.997	52.764	0.000	70.619	0.000	52.764	0.000	0.000	70.699	41.913	93.218	MWD+IFR1+MS
15400.000	90.000	269.836	9825.997	53.444	0.000	71.579	0.000	53.444	0.000	0.000	71.657	41.940	93.144	MWD+IFR1+MS
15500.000	90.000	269.836	9825.997	54.127	0.000	72.543	0.000	54.127	0.000	0.000	72.620	41.968	93.073	MWD+IFR1+MS
15600.000	90.000	269.836	9825.997	54.813	0.000	73.512	0.000	54.813	0.000	0.000	73.588	41.997	93.006	MWD+IFR1+MS
15700.000	90.000	269.836	9825.997	55.501	0.000	74.485	0.000	55.501	0.000	0.000	74.559	42.026	92.941	MWD+IFR1+MS

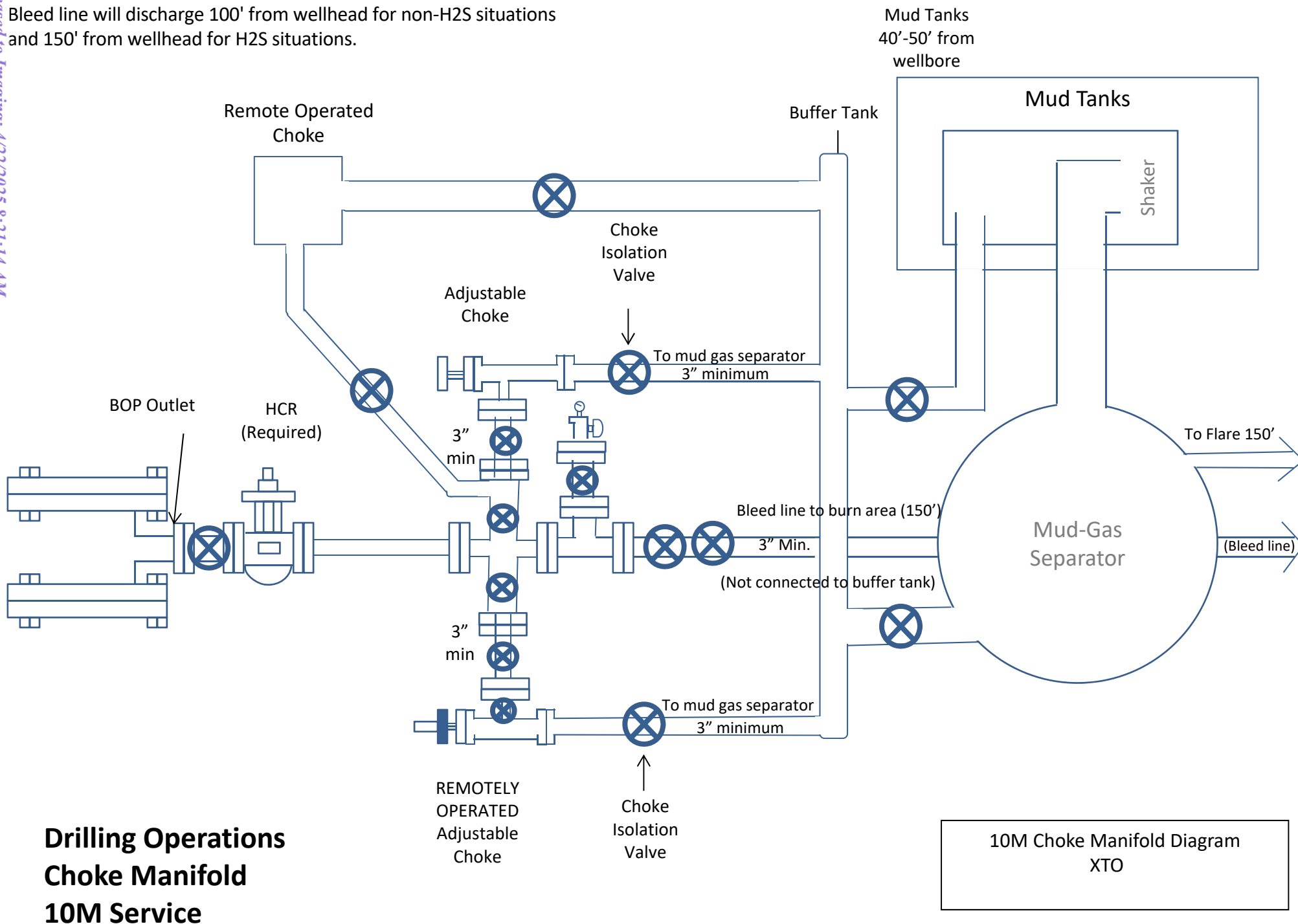
15800.000	90.000	269.836	9825.997	56.191	0.000	75.462	0.000	56.191	0.000	0.000	75.535	42.055	92.879	MWD+IFR1+MS
15900.000	90.000	269.836	9825.997	56.884	0.000	76.443	0.000	56.884	0.000	0.000	76.515	42.085	92.820	MWD+IFR1+MS
16000.000	90.000	269.836	9825.997	57.580	0.000	77.428	0.000	57.580	0.000	0.000	77.499	42.116	92.763	MWD+IFR1+MS
16100.000	90.000	269.836	9825.997	58.278	0.000	78.416	0.000	58.278	0.000	0.000	78.487	42.147	92.708	MWD+IFR1+MS
16200.000	90.000	269.836	9825.997	58.978	0.000	79.409	0.000	58.978	0.000	0.000	79.478	42.178	92.656	MWD+IFR1+MS
16300.000	90.000	269.836	9825.997	59.680	0.000	80.404	0.000	59.680	0.000	0.000	80.472	42.210	92.605	MWD+IFR1+MS
16400.000	90.000	269.836	9825.997	60.384	0.000	81.403	0.000	60.384	0.000	0.000	81.470	42.242	92.556	MWD+IFR1+MS
16500.000	90.000	269.836	9825.997	61.090	0.000	82.405	0.000	61.090	0.000	0.000	82.471	42.275	92.509	MWD+IFR1+MS
16600.000	90.000	269.836	9825.997	61.798	0.000	83.410	0.000	61.798	0.000	0.000	83.475	42.309	92.464	MWD+IFR1+MS
16700.000	90.000	269.836	9825.997	62.507	0.000	84.418	0.000	62.507	0.000	0.000	84.482	42.342	92.420	MWD+IFR1+MS
16800.000	90.000	269.836	9825.997	63.219	0.000	85.428	0.000	63.219	0.000	0.000	85.492	42.377	92.378	MWD+IFR1+MS
16900.000	90.000	269.836	9825.997	63.932	0.000	86.442	0.000	63.932	0.000	0.000	86.505	42.412	92.338	MWD+IFR1+MS
17000.000	90.000	269.836	9825.997	64.647	0.000	87.458	0.000	64.647	0.000	0.000	87.520	42.447	92.298	MWD+IFR1+MS
17100.000	90.000	269.836	9825.997	65.364	0.000	88.477	0.000	65.364	0.000	0.000	88.538	42.483	92.260	MWD+IFR1+MS
17200.000	90.000	269.836	9825.997	66.082	0.000	89.498	0.000	66.082	0.000	0.000	89.558	42.519	92.223	MWD+IFR1+MS
17277.308	90.000	269.836	9825.997	66.637	0.000	90.288	0.000	66.637	0.000	0.000	90.347	42.547	92.195	MWD+IFR1+MS
17300.000	90.000	269.836	9825.997	66.800	0.000	90.520	0.000	66.800	0.000	0.000	90.579	42.556	92.187	MWD+IFR1+MS
17326.696	90.000	269.836	9825.997	66.992	0.000	90.792	0.000	66.992	0.000	0.000	90.852	42.566	92.178	MWD+IFR1+MS

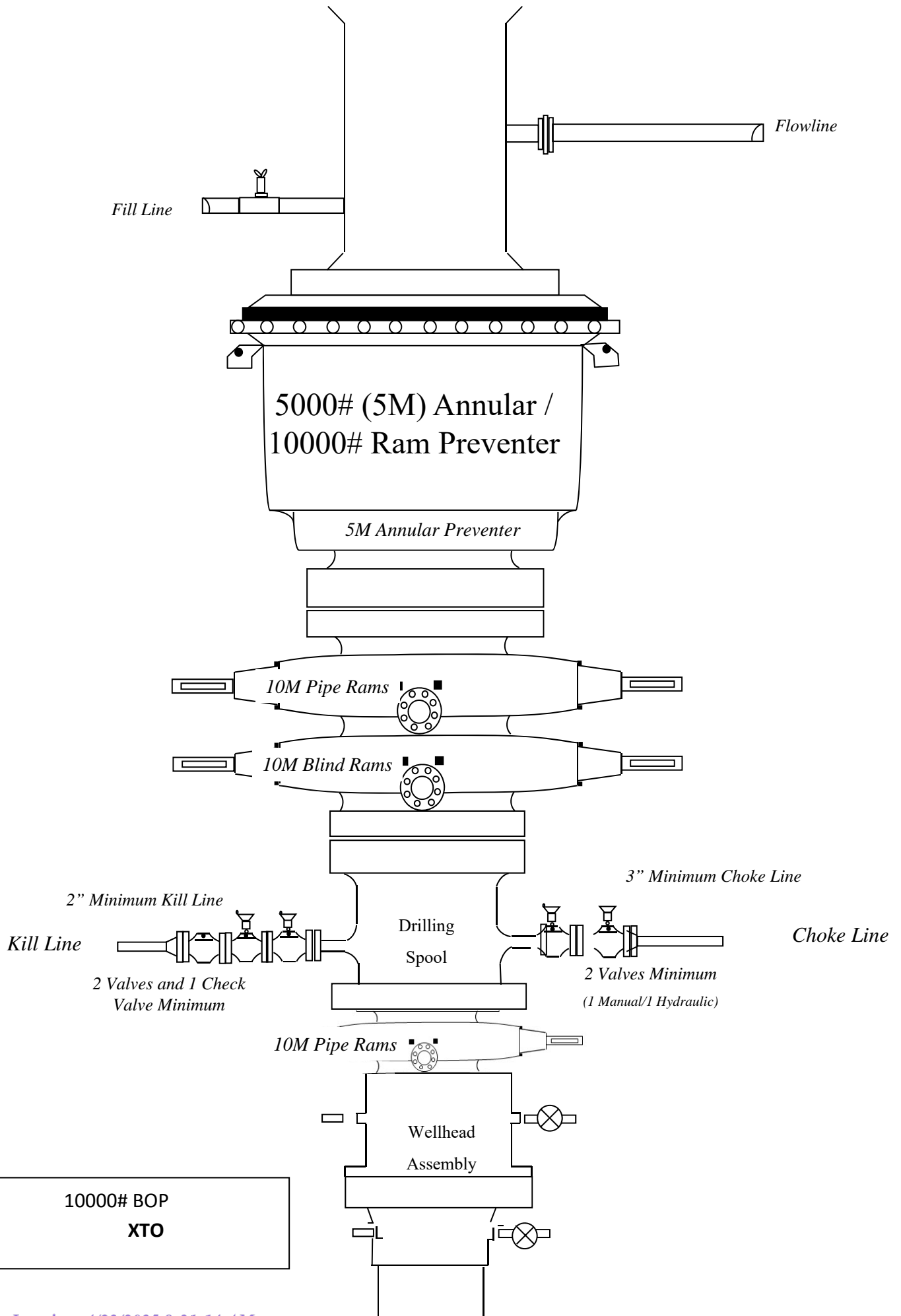
Plan Targets

James Ranch Unit Apache 906H

Target Name	Measured Depth (ft)	Grid Northing (ft)	Grid Easting (ft)	TVD MSL (ft)	Target Shape
FTP 25	10099.32	502118.80	656569.80	6402.00	CIRCLE
LTP 25	17276.68	502097.10	648972.90	6402.00	CIRCLE
BHL 25	17326.68	502097.00	648922.90	6402.00	CIRCLE

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.

Legal Notice

All material contained in this publication is for general information only. This material should not therefore be used or relied upon for any specific application without independent competent professional examination and verification of accuracy, suitability and applicability. Anyone making use of this material does so at their own risk and assumes any and all liability resulting from such use. U. S. Steel disclaims any and all expressed or implied warranties of fitness for any general or particular application.

U. S. Steel Tubular Products
460 Wildwood Forest Drive, Suite 300S
Spring, Texas 77380

1-877-893-9461
connections@uss.com
www.usstubular.com



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.

Legal Notice

All material contained in this publication is for general information only. This material should not therefore be used or relied upon for any specific application without independent competent professional examination and verification of accuracy, suitability and applicability. Anyone making use of this material does so at their own risk and assumes any and all liability resulting from such use. U. S. Steel disclaims any and all expressed or implied warranties of fitness for any general or particular application.

U. S. Steel Tubular Products
460 Wildwood Forest Drive, Suite 300S
Spring, Texas 77380

1-877-893-9461
connections@uss.com
www.usstubular.com

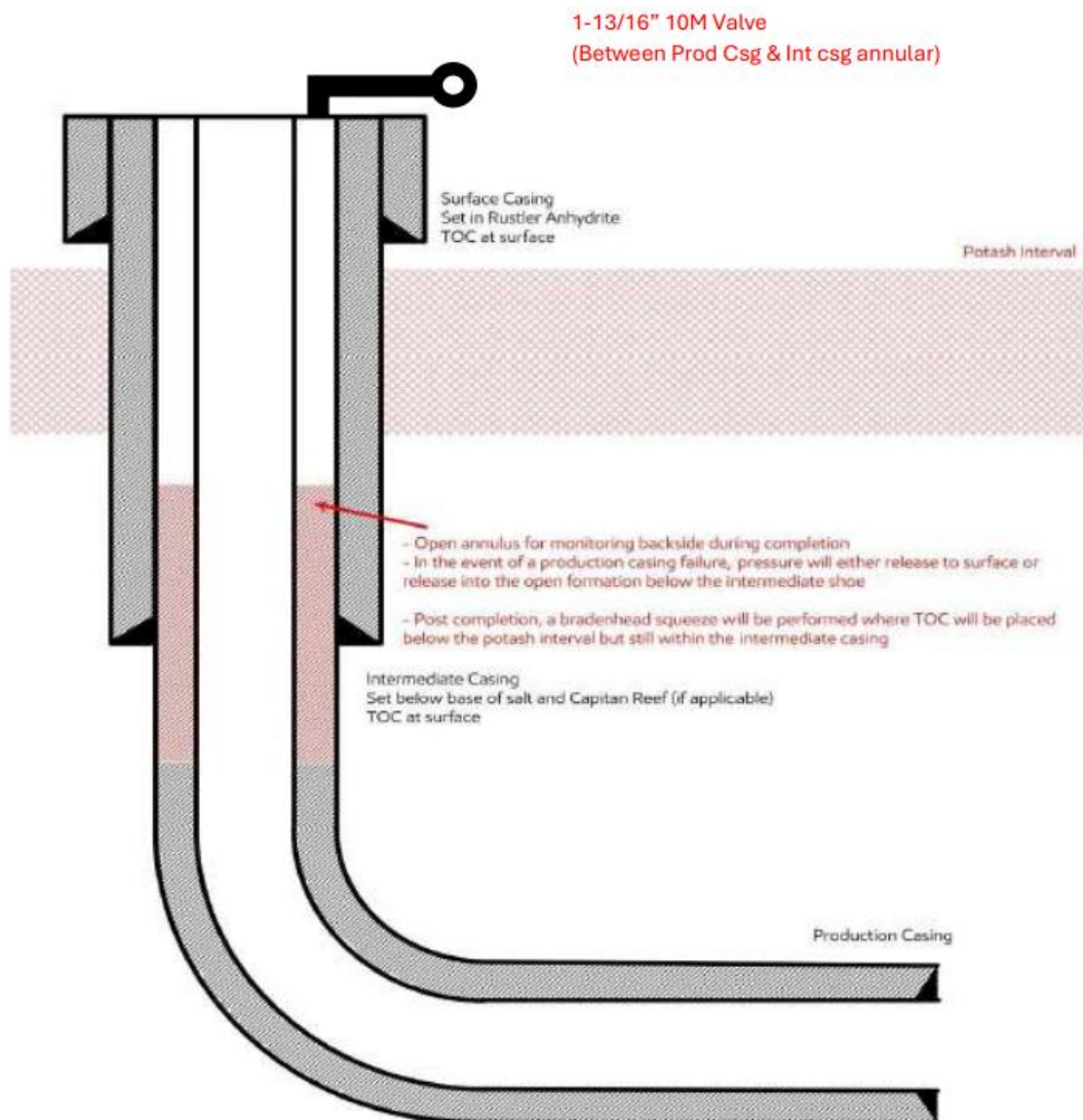
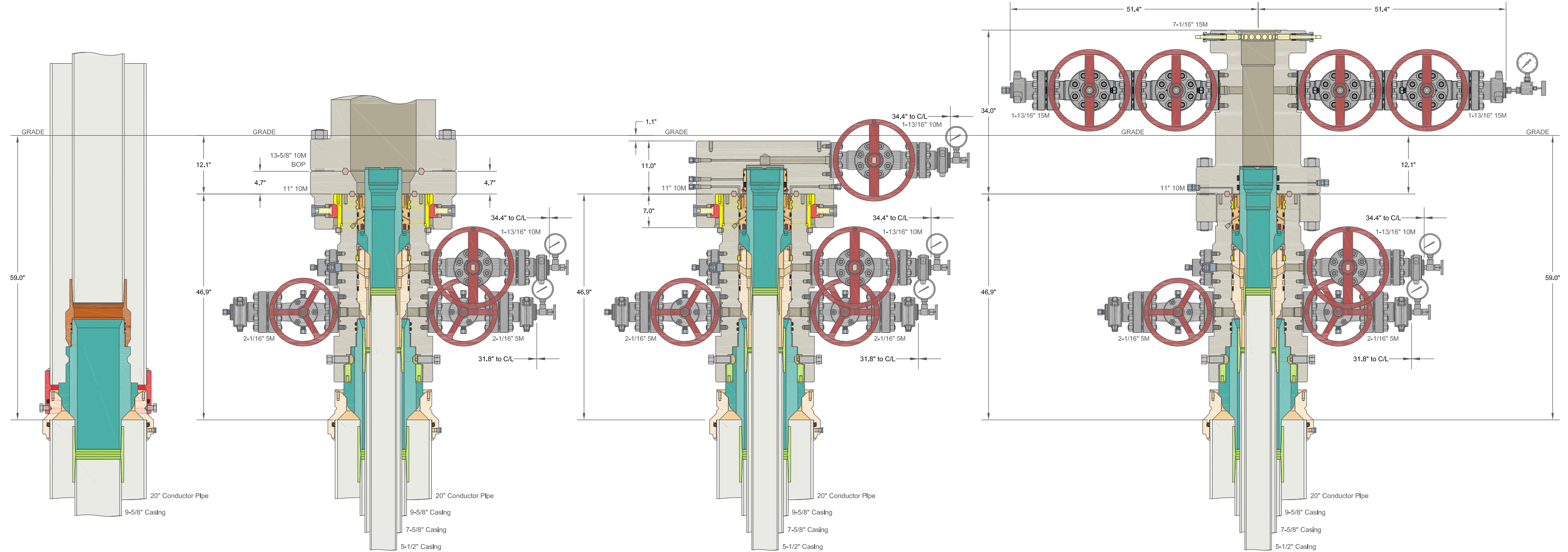


Figure B – 3 String Design – Open Production Casing Annulus (Updated May 2024):

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

1. Alignment with KPLA requirements per schematic above, leaving open annulus for pressure monitoring during frac and utilizing new casing that meets API standards
2. Contingency plans in place to divert formation fluids away from salt interval in event of production casing failure
3. TOC in the annulus between intermediate & production casing string shall stand uncemented at least 500 feet below the intermediate casing shoe
4. Bradenhead squeeze to be completed within 180 days after hydraulic frac operations have been concluded to ensure at least a 500 feet tie-back has been established inside salt string but with top below MB 126

ALL INFORMATION CONTAINED HEREIN IS THE PROPERTY OF CACTUS WELLHEAD, LLC. REPRODUCTION, DISCLOSURE, OR USE THEREOF IS PERMISSIBLE ONLY AS PROVIDED BY CONTRACT OR AS EXPRESSLY AUTHORIZED BY CACTUS WELLHEAD, LLC.



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

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: XTO PERMIAN OPERATING, LLC

OGRID: 373075

Date: 08/19/2024

II. Type: ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	3 yr Anticipated decline Oil BBL/D	Anticipated Gas MCF/D	3 yr anticipated decline Gas MCF/D	Anticipated Produced Water BBL/D	3 yr anticipated decline Water BBL/D
James Ranch Unit Apache 149H	TBD	13 22S 30E	507 FSL, 864 FEL	600	100	2500	1500	5000	200
James Ranch Unit Apache 150H	TBD	13 22S 30E	477 FSL, 863 FEL	600	100	2500	1500	5000	200
James Ranch Unit Apache 142H	TBD	24 22S 30E	1524 FNL, 829 FEL	600	100	2500	1500	5000	200
James Ranch Unit Apache 135H	TBD	24 22S 30E	2228 FSL, 871 FEL	600	100	2500	1500	5000	200
James Ranch Unit Apache 136H	TBD	24 22S 30E	2227 FSL, 971 FEL	600	100	2500	1500	5000	200
James Ranch Unit Apache 137H	TBD	24 22S 30E	2257 FSL, 971 FEL	600	100	2500	1500	5000	200
James Ranch Unit Apache 138H	TBD	24 22S 30E	2167 FSL, 971 FEL	600	100	2500	1500	5000	200
James Ranch Unit Apache 139H	TBD	24 22S 30E	2258 FSL, 871 FEL	600	100	2500	1500	5000	200
James Ranch Unit Apache 140H	TBD	24 22S 30E	2288 FSL, 871 FEL	600	100	2500	1500	5000	200
James Ranch Unit Apache 141H	TBD	24 22S 30E	2197 FSL, 971 FEL	600	100	2500	1500	5000	200

James Ranch Unit Apache 131H	TBD	24 22S 30E	419 FSL, 890 FEL	600	100	2500	1500	5000	200
James Ranch Unit Apache 132H	TBD	24 22S 30E	389 FSL, 889 FEL	600	100	2500	1500	5000	200
James Ranch Unit Apache 133H	TBD	24 22S 30E	359 FSL, 889 FEL	600	100	2500	1500	5000	200
James Ranch Unit Apache 134H	TBD	24 22S 30E	329 FSL, 889 FEL	600	100	2500	1500	5000	200
James Ranch Unit Apache 111H	TBD	13 22S 30E	2576 FSL, 867 FEL	2000	200	5000	1400	7000	400
James Ranch Unit Apache 112H	TBD	13 22S 30E	2516 FSL, 868 FEL	2000	200	5000	1400	7000	400
James Ranch Unit Apache 113H	TBD	13 22S 30E	416 FSL, 962 FEL	2000	200	5000	1400	7000	400
James Ranch Unit Apache 114H	TBD	24 22S 30E	350 FNL, 949 FEL	2000	200	5000	1400	7000	400
James Ranch Unit Apache 115H	TBD	24 22S 30E	408 FNL, 848 FEL	2000	200	5000	1400	7000	400
James Ranch Unit Apache 701H	TBD	13 22S 30E	2577 FSL, 967 FEL	1000	100	2000	1300	4500	400
James Ranch Unit Apache 702H	TBD	13 22S 30E	2517 FSL, 968 FEL	1000	100	2000	1300	4500	400
James Ranch Unit Apache 703H	TBD	13 22S 30E	2486 FSL, 868 FEL	1000	100	2000	1300	4500	400
James Ranch Unit Apache 704H	TBD	13 22S 30E	2547 FSL, 967 FEL	1000	100	2000	1300	4500	400
James Ranch Unit Apache 705H	TBD	13 22S 30E	2487 FSL, 968 FEL	1000	100	2000	1300	4500	400
James Ranch Unit Apache 706H	TBD	13 22S 30E	2456 FSL, 869 FEL	1000	100	2000	1300	4500	400
James Ranch Unit Apache 707H	TBD	24 22S 30E	320 FNL, 950 FEL	1000	100	2000	1300	4500	400
James Ranch Unit Apache 708H	TBD	24 22S 30E	380 FNL, 949 FEL	1000	100	2000	1300	4500	400
James Ranch Unit Apache 709H	TBD	24 22S 30E	348 FNL, 849 FEL	1000	100	2000	1300	4500	400
James Ranch Unit Apache 710H	TBD	24 22S 30E	410 FNL, 948 FEL	1000	100	2000	1300	4500	400
James Ranch Unit Apache 711H	TBD	24 22S 30E	318 FNL, 850 FEL	1000	100	2000	1300	4500	400
James Ranch Unit Apache 801H	TBD	13 22S 30E	2546 FSL, 867 FEL	2000	100	6000	1000	7000	300
James Ranch Unit Apache 802H	TBD	13 22S 30E	446 FSL, 963 FEL	2000	100	6000	1000	7000	300

James Ranch Unit Apache 803H	TBD	13 22S 30E	476 FSL, 963 FEL	2000	100	6000	1000	7000	300
James Ranch Unit Apache 804H	TBD	24 22S 30E	378 FNL, 849 FEL	2000	100	6000	1000	7000	300
James Ranch Unit Apache 901H	TBD	13 22S 30E	2457 FSL, 969 FEL	2000	200	5000	1100	8000	500
James Ranch Unit Apache 902H	TBD	13 22S 30E	506 FSL, 964 FEL	2000	200	5000	1100	8000	500
James Ranch Unit Apache 903H	TBD	13 22S 30E	386 FSL, 962 FEL	2000	200	5000	1100	8000	500
James Ranch Unit Apache 904H	TBD	24 22S 30E	440 FNL, 948 FEL	2000	200	5000	1100	8000	500
James Ranch Unit Apache 906H	TBD	24 22S 30E	2287 FSL, 971 FEL	2000	200	5000	1100	8000	500
James Ranch Unit Apache 805H	TBD	24 22S 30E	909 FEL, 1526 FNL	2000	100	6000	1000	7000	300
James Ranch Unit Apache 116H	TBD	24 22S 30E	909 FEL, 1556 FNL	2000	200	5000	1400	7000	400
James Ranch Unit Apache 905H	TBD	24 22S 30E	908 FEL, 1616 FNL	2000	200	5000	1100	8000	500
James Ranch Unit Apache 806H	TBD	24 22S 30E	906 FEL, 1646 FNL	2000	100	6000	1000	7000	300
James Ranch Unit Apache 117H	TBD	24 22S 30E	907 FEL, 1676 FNL	2000	200	5000	1400	7000	400
James Ranch Unit Apache 907H	TBD	24 22S 30E	930 FEL, 389 FSL	2000	200	5000	1100	8000	500
James Ranch Unit Apache 807H	TBD	24 22S 30E	929 FEL, 359 FSL	2000	100	6000	1000	7000	300
James Ranch Unit Apache 808H	TBD	24 22S 30E	929 FEL, 329 FSL	2000	100	6000	1000	7000	300

IV. Central Delivery Point Name: Longhorn Compressor Station [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
James Ranch Unit Apache 149H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 150H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 142H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 135H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 136H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 137H	TBD	TBD	TBD	TBD	TBD	TBD

James Ranch Unit Apache 138H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 139H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 140H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 141H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 131H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 132H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 133H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 134H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 111H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 112H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 113H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 114H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 115H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 701H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 702H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 703H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 704H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 705H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 706H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 707H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 708H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 709H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 710H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 711H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 801H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 802H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 803H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 804H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 901H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 902H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 903H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 904H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 906H	TBD	TBD	TBD	TBD	TBD	TBD

James Ranch Unit Apache 805H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 116H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 905H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 806H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 117H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 907H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 807H	TBD	TBD	TBD	TBD	TBD	TBD
James Ranch Unit Apache 808H	TBD	TBD	TBD	TBD	TBD	TBD

VI. Separation Equipment: ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☒ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

XIV. Confidentiality: ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Section 3 - Certifications**Effective May 25, 2021**

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system.

If Operator checks this box, Operator will select one of the following:

Well Shut-In. ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- (b) power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (f) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (h) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature: 

Printed Name: Adrian Baker

Title: Environmental and Regulatory Advisor

E-mail Address: adrian.baker@exxonmobil.com

Date: 9/26/24

Phone: 4322363808

OIL CONSERVATION DIVISION
(Only applicable when submitted as a standalone form)

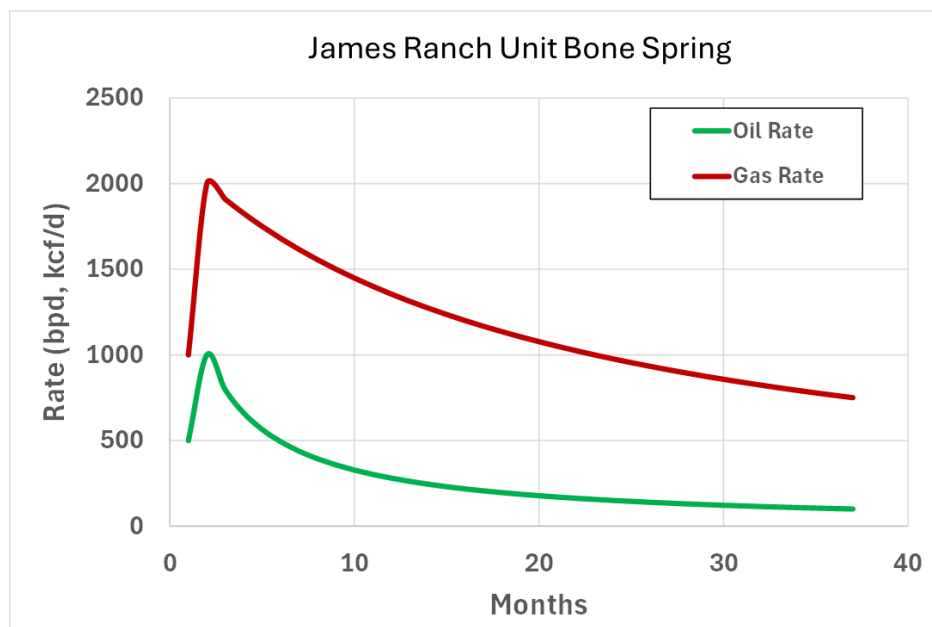
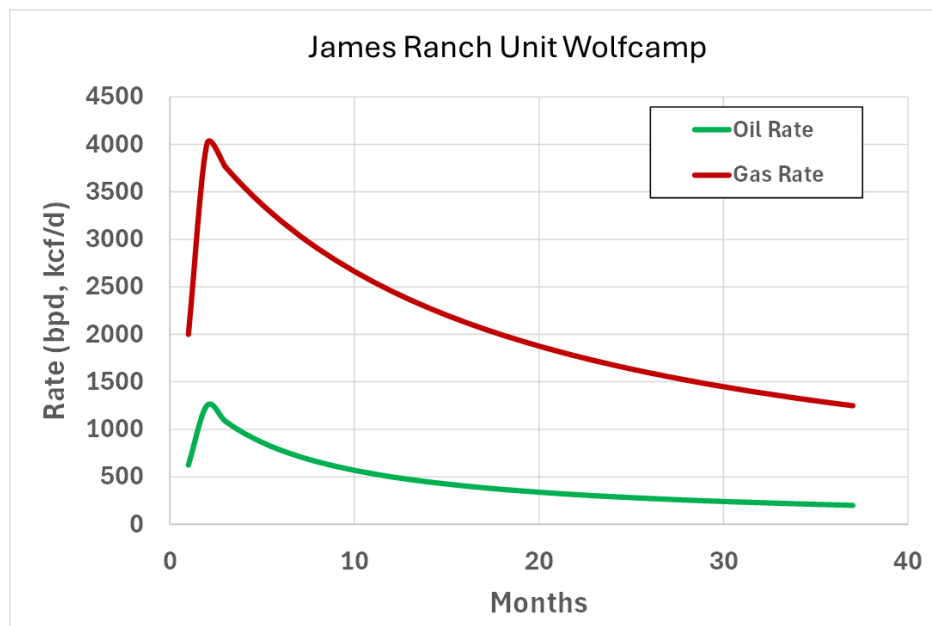
Approved By:

Title:

Approval Date:

Conditions of Approval:

JRU Decline Curves – Wolfcamp and Bone Spring



VI. Separation Equipment:

XTO Permian Operating LLC. utilizes a "stage separation" process in which oil and gas separation is carried out through a series of separators operating at successively reduced pressures. Hydrocarbon liquids are produced into a high-pressure inlet separator, then carried through one or more lower pressure separation vessels before entering the storage tanks. The purpose of this separation process is to attain maximum recovery of liquid hydrocarbons from the fluids and allow maximum capture of produced gas into the sales pipeline. XTO utilizes a series of Low-Pressure Compression units to capture gas off the staged separation and send it to the sales pipeline. This process minimizes the amount of flash gas that enters the end-stage storage tanks that is subsequently vented or flared.

VII. Operational Practices

XTO Permian Operating LLC will employ best management practices and control technologies to maximize the recovery and minimize waste of natural gas through venting and flaring.

- During drilling operations, XTO will utilize flares to capture and control natural gas, where technically feasible. If flaring is deemed technically in-feasible, XTO will employ best management practices to minimize or reduce venting to the extent possible.
- During completions operations, XTO will utilize Green Completion methods to capture gas produced during well completions that is otherwise vented or flared. If capture is technically in-feasible, flares will be used to control flow back fluids entering into frac tanks during initial flowback. Upon indication of first measurable hydrocarbon volumes, XTO Permian Operating LLC will turn operations to onsite separation vessels and flow to the gathering pipeline.
- During production operations, XTO Permian Operating LLC will take every practical effort to minimize waste of natural gas through venting and flaring by:
 - Designing and constructing facilities in a manner consistent to achieve maximum capture and control of hydrocarbon liquids & produced gas
 - Utilizing a closed-loop capture system to collect, and route produced gas to sales line via low pressure compression, or to a flare/combustor
 - Flaring in lieu of venting, where technically feasible
 - Utilizing auto-ignitors or continuous pilots, with thermocouples connected to Scada, to quickly detect and resolve issues related to malfunctioning flares/combustors
 - Employ the use of automatic tank gauging to minimize storage tank venting during loading events
 - Installing air-driven or electric-driven pneumatics & combustion engines, where technically feasible to minimize venting to the atmosphere
 - Confirm equipment is properly maintained and repaired through a preventative maintenance and repair program to ensure equipment meets all manufacturer specifications

- Conduct and document AVO inspections on the frequency set forth in Part 27 to detect and repair any onsite leaks as quickly and efficiently as is feasible.

VIII. Best Management Practices during Maintenance

XTO Permian Operating LLC. will utilize best management practices to minimize venting during active and planned maintenance activities. XTO is operating under guidance that production facilities permitted under NOI permits have no provisions to allow high pressure flaring and high-pressure flaring is only allowed in disruption scenarios so long as the duration is less than eight hours. When technically feasible, flaring during maintenance activities will be utilized in lieu of venting to the atmosphere. XTO will work with third-party operators during scheduled maintenance of downstream pipeline or processing plants to address those events ahead of time to minimize venting. Actions considered include identifying alternative capture approaches or planning to temporarily reduce production or shut in the well to address these circumstances.

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.

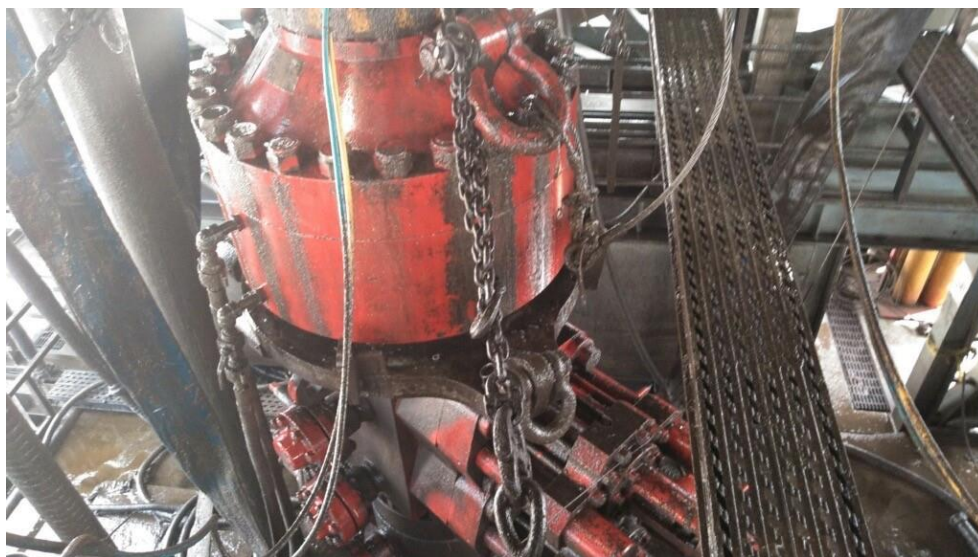


Figure 1: Winch System attached to BOP Stack

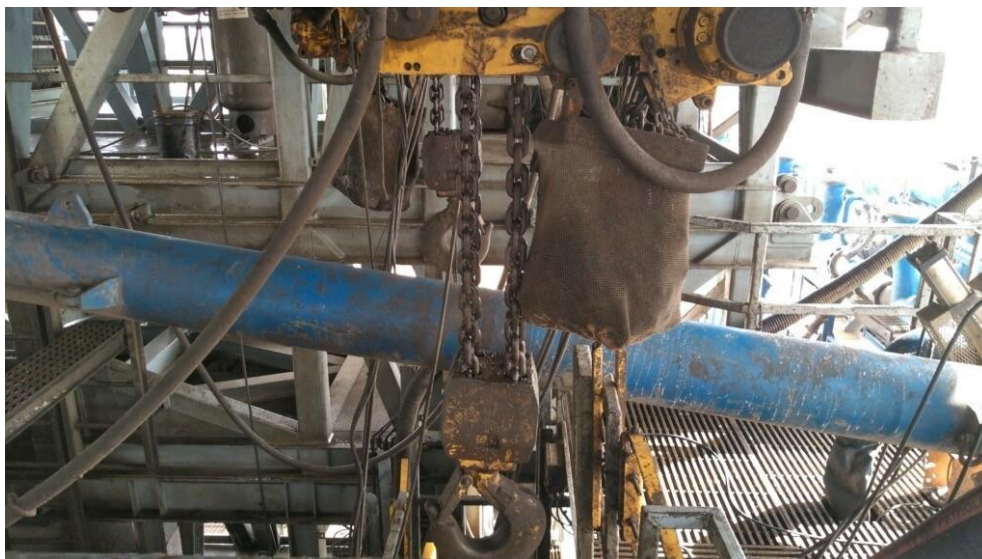


Figure 2: BOP Winch System

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 ^b	250 to 350 (1.72 to 2.41)	RWP of annular preventer	MASP or 70% annular RWP, whichever is lower.
Fixed pipe, variable bore, blind, and BSR preventers ^{bd}	250 to 350 (1.72 to 2.41)	RWP of ram preventer or wellhead system, whichever is lower	ITP
Choke and kill line and BOP side outlet valves below ram preventers (both sides)	250 to 350 (1.72 to 2.41)	RWP of side outlet valve or wellhead system, whichever is lower	ITP
Choke manifold—upstream of chokes ^e	250 to 350 (1.72 to 2.41)	RWP of ram preventers or wellhead system, whichever is lower	ITP
Choke manifold—downstream of chokes ^e	250 to 350 (1.72 to 2.41)	RWP of valve(s), line(s), or MASP for the well program, whichever is lower	
Kelly, kelly valves, drill pipe safety valves, IBOPs	250 to 350 (1.72 to 2.41)	MASP for the well program	

^a Pressure test evaluation periods shall be a minimum of five minutes.

No visible leaks.

The pressure shall remain stable during the evaluation period. The pressure shall not decrease below the intended test pressure.

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

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

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

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

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

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

XTO Energy feels break testing and our current procedures meet the intent of CFR Title 43 Part 317 0and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. XTO Energy's internal standards requires complete BOPE tests more often than that of CFR Title 43 Part 3170 (Every 21 days). In addition to function testing the annular, pipe rams and blind rams after

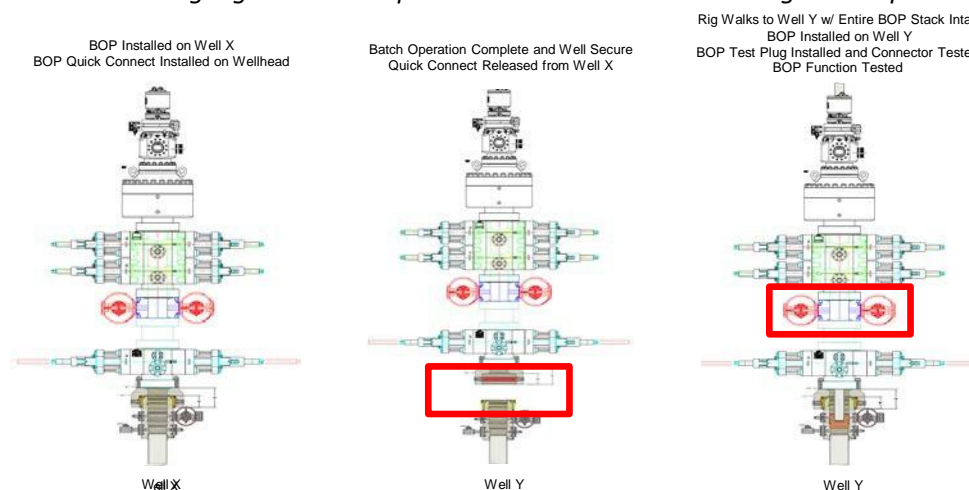
each BOP nipple up, XTO Energy performs a choke drill with the rig crew prior to drilling out every casing shoe. This is additional training for the rig crew that exceeds the requirements of the CFR Title 43 Part 3170.

Procedures

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

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

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



Summary

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

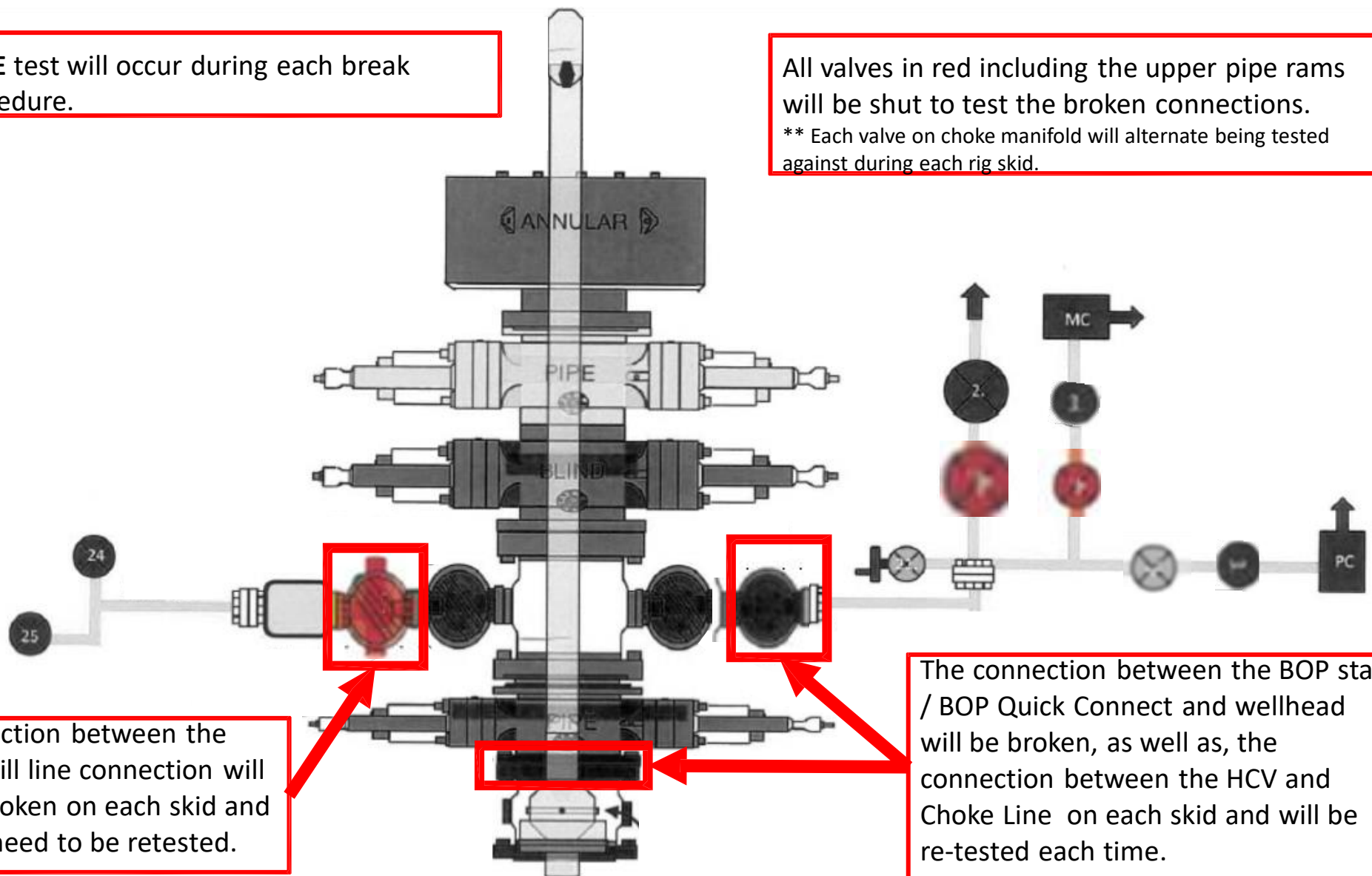
The BOP will be secured by a hydraulic carrier or cradle. The BLM will be contacted if a Well Control event occurs prior to the commencement of a BOPE Break Testing operation.

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

1. After a full BOP test is conducted on the first well on the pad.
2. The first intermediate hole section drilled on the pad will be the deepest. All of the remaining hole sections will be the same depth or shallower.
3. Full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
4. Full BOP test will be required prior to drilling the production hole.

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

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



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

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

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

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

CONDITIONS

Action 440308

CONDITIONS

Operator: XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	OGRID: 373075
	Action Number: 440308
	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.	4/22/2025
ward.rikala	Any previous COA's not addressed within the updated COA's still apply.	4/22/2025