

Well Name: JRU APACHE FEDERAL COM	Well Location: T22S / R30E / SEC 24 / NENE / 32.383641 / -103.82856	County or Parish/State: EDDY / NM
Well Number: 115H	Type of Well: CONVENTIONAL GAS 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: 2827464

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

Date Sundry Submitted: 12/13/2024 Time Sundry Submitted: 12:12

Date proposed operation will begin: 12/27/2024

Procedure Description: JRU APACHE FEDERAL COM 115H APD ID# 10400085778 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, proposed total depth and pool. The API number for the well is 30-015-55831. The name of the well is changing from “JRU Apache Federal Com 115H” to “James Ranch Unit Apache 115H”. FROM: TO: SHL: 440' FNL & 918' FEL OF SECTION 24-T22S-R30E 408' FNL & 848' FEL OF SECTION 24-T22S-R30E KOP: 440' FNL & 918' FEL OF SECTION 24-T22S-R30E 940' FNL & 330' FEL OF SECTION 24-T22S-R30E FTP: 330' FNL & 330' FEL OF SECTION 24-T22S-R30E 940' FNL & 330' FEL OF SECTION 24-T22S-R30E LTP: 330' FNL & 2540' FEL OF SECTION 23-T22S-R30E 940' FNL & 2579' FEL OF SECTION 23-T22S-R30E BHL: 330' FNL & 2590' FEL OF SECTION 23-T22S-R30E 940' FNL & 2629' FEL OF SECTION 23-T22S-R30E The proposed total depth is changing from 19148’ MD/11029’ TVD to 18540.15’ MD/11151’ TVD. The pool is changing from Los Medanos; Wolfcamp, South to Los Medanos; Wolfcamp (Gas). 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, Well bore diagram, MBS diagram, Gas Capture Plan, Break Test Variance.

NOI Attachments

Procedure Description

Sundry_Attachments___James_Ranch_Unit_Apache_115H_20241213120651.pdf

Received by OCD: 2/25/2025 10:55:31 AM

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Conditions of Approval

Additional

JRU_Apache_Fed_Com_115H_COA_20250213114840.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 13, 2024 12:09 PM

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: 02/25/2025

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"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

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

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

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

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

(Instructions on page 2)

GENERAL INSTRUCTIONS

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

SPECIFIC INSTRUCTIONS

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

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

NOTICES

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

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

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

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

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

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

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

Response to this request is mandatory.

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

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

Additional Information

Additional Remarks

KOP: 440' FNL & 918' FEL OF SECTION 24-T22S-R30E 940' FNL & 330' FEL OF SECTION 24-T22S-R30E
FTP: 330' FNL & 330' FEL OF SECTION 24-T22S-R30E 940' FNL & 330' FEL OF SECTION 24-T22S-R30E
LTP: 330' FNL & 2540' FEL OF SECTION 23-T22S-R30E 940' FNL & 2579' FEL OF SECTION 23-T22S-R30E
BHL: 330' FNL & 2590' FEL OF SECTION 23-T22S-R30E 940' FNL & 2629' FEL OF SECTION 23-T22S-R30E

The proposed total depth is changing from 19148 MD/11029 TVD to 18540.15 MD/11151 TVD.

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

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, Well bore diagram, MBS diagram, Gas Capture Plan, Break Test Variance.

Location of Well

0. SHL: NENE / 440 FNL / 918 FEL / TWSP: 22S / RANGE: 30E / SECTION: 24 / LAT: 32.383641 / LONG: -103.82856 (TVD: 0 feet, MD: 0 feet)

PPP: NENE / 330 FNL / 330 FEL / TWSP: 22S / RANGE: 30E / SECTION: 24 / LAT: 32.38394 / LONG: -103.826654 (TVD: 11130 feet, MD: 11600 feet)

BHL: NWNE / 330 FNL / 2590 FEL / TWSP: 22S / RANGE: 30E / SECTION: 23 / LAT: 32.383977 / LONG: -103.851274 (TVD: 11029 feet, MD: 19148 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.:	JRU Apache Fed Com 115H
SURFACE HOLE FOOTAGE:	408'/S & 848/E
BOTTOM HOLE FOOTAGE:	940'/N & 2629'/E

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
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	

Changes approved through engineering via **Sundry 2827464** on 2-13-2025__. Any previous COAs not addressed within the updated COAs still apply.

A. HYDROGEN SULFIDE

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

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

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **720** feet (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or **500 pounds compressive strength**, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **9-5/8** inch 1st Intermediate casing is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above.

Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, or potash.
3. The minimum required fill of cement behind the **7-5/8** inch 2nd Intermediate casing is: Operator has proposed to cement in two stages by conventionally cementing the first stage and performing a bradenhead squeeze on the second stage, contingent upon no returns to surface.
 - a. **First stage:** Operator will cement with intent to reach the top of the **Brushy Canyon at 7766'**. **Excess calculates to 20%. Additional cement maybe required.**
 - b. **Second stage:** Operator will perform bradenhead squeeze and top-out. Cement should tie-back **500 feet** into the previous casing but not higher than USGS Marker Bed No. 126. **Operator must verify top of cement per R-111-Q requirements.** Submit results to the BLM. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, or potash.**

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

- ❖ **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 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**.
4. The minimum required fill of cement behind the **5-1/2 inch** production casing is:
 - Cement should tie-back **500 feet** into the previous casing but not higher than the Engineering Weak Point. **Operator must verify top of cement per R-111-Q requirements.** Submit results to the BLM. If cement does not circulate, contact the appropriate BLM office.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).
1. Operator has proposed a multi-bowl wellhead assembly. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M) psi**.
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.

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

D. SPECIAL REQUIREMENT (S)

Unit Wells

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

Commercial Well Determination

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

WIPP Requirements

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

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

- a) Indication of any well collision event,
- b) Suspected well fluid flow (oil, gas, or produced water) outside of casing,

- c) Sustained annulus pressure between the 1st intermediate and next innermost casing string in excess of 500 psi above the baseline pressure of the well, or above 1500 psi total,
- d) Increasing pressure buildup rates (psi/day) across multiple successive bleed-off cycles on the annulus between the 1st intermediate and next innermost casing during well production, or
- e) Sustained losses in excess of 50% through the salt formation during drilling.

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

BOPE Break Testing Variance

- BOPE Break Testing is ONLY permitted for intervals utilizing a 5M BOPE or less. **(Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP.)**
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer **(575-706-2779)** prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted **(575-361-2822 Eddy County)** 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per **43 CFR 3172**.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

Offline Cementing

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

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

Casing Clearance

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

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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](mailto: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 2/13/2025

575-234-5998 / zstevens@blm.gov

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

WELL LOCATION INFORMATION			
API Number 30-015-	Pool Code 96597	Pool Name LOS MEDANOS; WOLFCAMP (GAS)	
Property Code	Property Name JAMES RANCH UNIT APACHE	Well Number 115H	
OGRID No. 373075	Operator Name XTO PERMIAN OPERATING, LLC.	Ground Level Elevation 3,376'	
Surface Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal		Mineral Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal	

Surface Hole Location									
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
A	24	22S	30E		408 FNL	848 FEL	32.383727	-103.828334	EDDY

Bottom Hole Location									
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
B	23	22S	30E		940 FNL	2,629 FEL	32.382301	-103.851411	EDDY


Dedicated Acres 240.00	Infill or Defining Well DEFINING	Defining Well API	Overlapping Spacing Unit (Y/N) N	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
A	24	22S	30E		940 FNL	330 FEL	32.382263	-103.826656	EDDY

First Take Point (FTP)									
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
A	24	22S	30E		940 FNL	330 FEL	32.382263	-103.826656	EDDY

Last Take Point (LTP)									
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
B	23	22S	30E		940 FNL	2,579 FEL	32.382300	-103.851249	EDDY





Unitized Area of Area of Interest NMMN-070965X	Spacing Unit Type : <input checked="" type="checkbox"/> Horizontal <input type="checkbox"/> Vertical	Ground Elevation 3,376'
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<div>OPERATOR CERTIFICATIONS</div> <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>12/12/24</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>	<div>SURVEYOR CERTIFICATIONS</div> <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><div>KT</div><div>618.013002.10-28</div></div></div>
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Note: No allowable will be assigned to this completion until all interest have been consolidated or a non-standard unit has been approved by the division.

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 is not surveyed, contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.



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

CORNER COORDINATES (NAD 83 NME)					
A - Y =	504,110.5	N	A - X =	698,073.3	E
B - Y =	504,101.3	N	B - X =	695,403.9	E
C - Y =	504,092.8	N	C - X =	692,735.3	E
D - Y =	504,087.6	N	D - X =	690,056.2	E
E - Y =	504,081.7	N	E - X =	687,374.1	E
F - Y =	502,793.0	N	F - X =	698,078.8	E
G - Y =	502,783.1	N	G - X =	695,405.9	E
H - Y =	502,773.8	N	H - X =	692,733.8	E
I - Y =	502,768.1	N	I - X =	690,055.0	E
J - Y =	502,762.3	N	J - X =	687,374.3	E
CORNER COORDINATES (NAD 27 NME)					
A - Y =	504,049.9	N	A - X =	656,891.7	E
B - Y =	504,040.7	N	B - X =	654,222.4	E
C - Y =	504,032.2	N	C - X =	651,553.8	E
D - Y =	504,026.9	N	D - X =	648,874.7	E
E - Y =	504,021.0	N	E - X =	646,192.7	E
F - Y =	502,732.5	N	F - X =	656,897.2	E
G - Y =	502,722.6	N	G - X =	654,224.3	E
H - Y =	502,713.2	N	H - X =	651,552.3	E
I - Y =	502,707.5	N	I - X =	648,873.4	E
J - Y =	502,701.6	N	J - X =	646,192.8	E

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

XTO Energy Inc.

JAMES RANCH UNIT APACHE 115H

Projected TD: 18540.15' MD / 11151' TVD

SHL: 408' FNL & 848' FEL , Section 24, T22S, R30E

BHL: 940' 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	484'	Water
Top of Salt	774'	Water
MB 126	1468'	Water
Base of Salt	3629'	Water
Delaware	3887'	Water
Brushy Canyon	6630'	Water/Oil/Gas
Bone Spring	7766'	Water
1st Bone Spring Ss	8686'	Water/Oil/Gas
2nd Bone Spring Ss	9272'	Water/Oil/Gas
3rd Bone Spring Sh	9914'	Water/Oil/Gas
Wolfcamp	11029'	Water/Oil/Gas
Wolfcamp X	11045'	Water/Oil/Gas
Wolfcamp Y	11106'	Water/Oil/Gas
Target/Land Curve	11151'	Water/Oil/Gas

*** Hydrocarbons @ Brushy Canyon

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

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 13.375 inch casing @ 749' (25' above the salt) and circulating cement back to surface. The salt will be isolated by setting 9.625 inch casing at 3729' and circulating cement to surface. The second intermediate will isolate from the salt down to the next casing seat by setting 7.625 inch casing at 10234.8'. A 6.75 inch curve and 6.75 inch lateral hole will be drilled to 18540.15 MD/TD and 5.5 inch production casing will be set at TD.

3. Casing Design

Hole Size	TVD	OD Csg	Weight	Grade	Collar	New/Used	SF Burst	SF Collapse	SF Tension
17.5	0' – 749'	13.375	54.5	J-55	BTC	New	2.45	3.41	22.27
12.25	0' – 3729'	9.625	40	J-55	BTC	New	1.41	2.42	4.22
8.75	0' – 3829'	7.625	29.7	RY P-110	Flush Joint	New	2.24	2.83	1.84
8.75	3829' – 10234.8'	7.625	29.7	HC L-80	Flush Joint	New	1.63	2.74	2.13
6.75	0' – 10134.8'	5.5	20	RY P-110	Semi-Premium / Freedom	New	1.26	1.83	2.28
6.75	10134.8' - 18540.15'	5.5	20	RY P-110	Semi-Flush / Talon	New	1.26	1.66	8.21

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

Wellhead:**Permanent Wellhead**

Multibowl System for 4 String desing as per 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: 13.375, 54.5 New BTC, J-55 casing to be set at +/- 749'

Lead: 330 sxs EconoCem-HLTRRC (mixed at 12.9 ppg, 1.87 ft3/sx, 10.13 gal/sx water)

Tail: 300 sxs Class C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)

Top of Cement: Surface

Compressives: 12-hr = 250 psi 24 hr = 500 psi

Due to the high probability of not getting cement to surface during conventional top-out jobs in the area, ~10-20 ppb gravel will be added on the backside of the 1" to get cement to surface, if required.

1st Intermediate Casing: 9.625, 40 New BTC, J-55 casing to be set at +/- 3729'

Lead: 1540 sxs Class C (mixed at 12.9 ppg, 1.39 ft3/sx, 10.13 gal/sx water)

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

Top of Cement: Surface

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

2nd Intermediate Casing: 7.625, 29.7 New casing to be set at +/- 10234.8'

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

TOC:@ 7766

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

2nd Stage

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

Top of Cement: 3229

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

XTO requests to pump a two stage cement job on the intermediate casing string with the first stage being pumped conventionally with the calculated (TOC:@ 7766') and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to 3229 (~500' inside 1st Intermediate csg string but below MB126 @ 1468 ').

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

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

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

Production Casing: 5.5, 20 New Semi-Flush / Talon, RY P-110 casing to be set at +/- 18540.15'

Lead: 30 sxs NeoCem (mixed at 11.5 ppg, 2.69 ft ³ /sx, 15.00 gal/sx water)	Top of Cement:	9734.8 feet
Tail: 570 sxs VersaCem (mixed at 13.2 ppg, 1.51 ft ³ /sx, 8.38 gal/sx water)	Top of Cement:	10489.52 feet
Compressives:	12-hr =	1375 psi
	24 hr =	2285 psi

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

5. Pressure Control Equipment

Once the permanent WH is installed on the casing, the blow out preventer equipment (BOP) will consist of 5M Hydril and 10M 3-Ram BOP.

All BOP testing will be done by an independent service company. Operator will test as per CFR43-3172

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

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

A break testing variance is requested to ONLY test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53.

6. Proposed Mud Circulation System

INTERVAL	Hole Size	Mud Type	MW	Viscosity	Fluid Loss	Comments
			(ppg)	(sec/qt)	(cc)	
0' - 749'	17.5	FW/Native	8.5-9	35-40	NC	Fresh water or native water
749' - 3729'	12.25	Sat Brine	10-10.5	30-32	NC	Run saturated salt across seals
3729' to 10234.8'	8.75	BDE/OBM or FW/Brine	9.5-10	30-32	NC	Depending on well conditions
10234.8' to 18540.15'	6.75	OBM	11.5-12	50-60	NC - 20	N/A

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

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

7. Auxiliary Well Control and Monitoring Equipment

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

8. Logging, Coring and Testing Program

Open hole logging will not be done on this well.

9. Abnormal Pressures and Temperatures / Potential Hazards

None Anticipated. BHT of 175 to 195 F is anticipated. No H2S is expected but monitors will be in place to detect any H2S occurrences. Should these circumstances be encountered the operator and drilling contractor are prepared to take all necessary steps to ensure safety of all personnel and environment. Lost circulation could occur but is not expected to be a serious problem in this area and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid. The maximum anticipated bottom hole pressure for this well is 6668 psi.

10. Anticipated Starting Date and Duration of Operations

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

Well Plan Report - James Ranch Unit Apache 115H

Measured Depth: 18540.15 ft

TVD RKB: 11151.00 ft

Location

Cartographic Reference System: New Mexico East - NAD 27

Northing: 503638.70 ft

Easting: 656045.00 ft

RKB: 3408.00 ft

Ground Level: 3376.00 ft

North Reference: Grid

Convergence Angle: 0.27 Deg

Site: I

Slot: James Ranch Unit
Apache 115H

Plan Sections

James Ranch Unit Apache 115H

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	
4134.07	8.68	135.51	4132.41	-23.41	23.00	2.00	0.00	2.00	
8620.65	8.68	135.51	8567.59	-506.49	497.60	0.00	0.00	0.00	
9054.72	0.00	0.00	9000.00	-529.90	520.60	-2.00	0.00	2.00	
10489.52	0.00	0.00	10434.80	-529.90	520.60	0.00	0.00	0.00	
11614.52	90.00	269.84	11151.00	-531.95	-195.59	8.00	0.00	8.00	
18490.07	90.00	269.84	11151.00	-551.63	-7071.12	0.00	0.00	0.00	LTP 8
18540.15	90.00	269.84	11151.00	-551.77	-7121.19	0.00	0.00	0.00	BHL 8

Position Uncertainty

James Ranch Unit Apache 115H

Measured	TVD	Highside	Lateral	Vertical	Magnitude	Semi-major	Semi-minor	Semi-minor	Tool
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Depth	Inclination	Azimuth	RKB	Error	Bias	Error	Bias	Error	Bias	of Bias	Error	Error	Azimuth	Used
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	MWD+IFR1+MS
100.000	0.000	0.000	100.000	0.700	0.000	0.350	0.000	2.300	0.000	0.000	0.751	0.220	112.264	MWD+IFR1+MS
200.000	0.000	0.000	200.000	1.112	0.000	0.861	0.000	2.310	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	2.581	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	2.691	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	2.751	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	2.946	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	3.161	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	3.473	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	3.722	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	3.808	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	3.984	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	4.165	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	4.741	0.000	0.000	14.150	13.167	129.642	MWD+IFR1+MS
3800.000	2.000	135.507	3799.980	13.563	0.000	14.460	-0.000	4.841	0.000	0.000	14.470	13.560	129.504	MWD+IFR1+MS
3900.000	4.000	135.507	3899.838	14.062	0.000	14.780	-0.000	4.944	0.000	0.000	14.808	14.061	124.229	MWD+IFR1+MS
4000.000	6.000	135.507	3999.452	14.536	0.000	15.101	-0.000	5.049	0.000	0.000	15.163	14.535	116.976	MWD+IFR1+MS
4100.000	8.000	135.507	4098.702	14.986	0.000	15.423	-0.000	5.158	0.000	0.000	15.543	14.974	107.977	MWD+IFR1+MS
4134.068	8.681	135.507	4132.409	15.082	0.000	15.530	-0.000	5.191	0.000	0.000	15.653	15.087	107.429	MWD+IFR1+MS
4200.000	8.681	135.507	4197.586	15.296	0.000	15.737	-0.000	5.261	0.000	0.000	15.863	15.297	107.117	MWD+IFR1+MS
4300.000	8.681	135.507	4296.440	15.624	0.000	16.060	-0.000	5.371	0.000	0.000	16.192	15.615	106.708	MWD+IFR1+MS
4400.000	8.681	135.507	4395.294	15.957	0.000	16.388	-0.000	5.482	0.000	0.000	16.528	15.936	106.171	MWD+IFR1+MS
4500.000	8.681	135.507	4494.149	16.292	0.000	16.718	-0.000	5.596	0.000	0.000	16.866	16.260	105.694	MWD+IFR1+MS
4600.000	8.681	135.507	4593.003	16.628	0.000	17.051	-0.000	5.712	0.000	0.000	17.206	16.585	105.270	MWD+IFR1+MS
4700.000	8.681	135.507	4691.857	16.967	0.000	17.385	-0.000	5.829	0.000	0.000	17.547	16.912	104.892	MWD+IFR1+MS
4800.000	8.681	135.507	4790.711	17.306	0.000	17.720	-0.000	5.949	0.000	0.000	17.889	17.241	104.555	MWD+IFR1+MS
4900.000	8.681	135.507	4889.566	17.647	0.000	18.057	-0.000	6.071	0.000	0.000	18.233	17.572	104.254	MWD+IFR1+MS
5000.000	8.681	135.507	4988.420	17.990	0.000	18.396	-0.000	6.195	0.000	0.000	18.578	17.904	103.985	MWD+IFR1+MS
5100.000	8.681	135.507	5087.274	18.333	0.000	18.736	-0.000	6.321	0.000	0.000	18.923	18.238	103.745	MWD+IFR1+MS
5200.000	8.681	135.507	5186.129	18.678	0.000	19.077	-0.000	6.449	0.000	0.000	19.270	18.574	103.531	MWD+IFR1+MS
5300.000	8.681	135.507	5284.983	19.024	0.000	19.420	-0.000	6.579	0.000	0.000	19.618	18.911	103.339	MWD+IFR1+MS
5400.000	8.681	135.507	5383.837	19.371	0.000	19.764	-0.000	6.712	0.000	0.000	19.967	19.249	103.169	MWD+IFR1+MS
5500.000	8.681	135.507	5482.692	19.719	0.000	20.109	-0.000	6.847	0.000	0.000	20.316	19.589	103.018	MWD+IFR1+MS
5600.000	8.681	135.507	5581.546	20.068	0.000	20.455	-0.000	6.983	0.000	0.000	20.666	19.929	102.884	MWD+IFR1+MS
5700.000	8.681	135.507	5680.400	20.417	0.000	20.802	-0.000	7.122	0.000	0.000	21.017	20.271	102.765	MWD+IFR1+MS
5800.000	8.681	135.507	5779.255	20.768	0.000	21.150	-0.000	7.264	0.000	0.000	21.369	20.614	102.661	MWD+IFR1+MS
5900.000	8.681	135.507	5878.109	21.120	0.000	21.499	-0.000	7.407	0.000	0.000	21.722	20.958	102.570	MWD+IFR1+MS
6000.000	8.681	135.507	5976.963	21.472	0.000	21.849	-0.000	7.553	0.000	0.000	22.075	21.303	102.490	MWD+IFR1+MS
6100.000	8.681	135.507	6075.817	21.825	0.000	22.199	-0.000	7.701	0.000	0.000	22.429	21.649	102.422	MWD+IFR1+MS
6200.000	8.681	135.507	6174.672	22.178	0.000	22.551	-0.000	7.851	0.000	0.000	22.783	21.996	102.363	MWD+IFR1+MS

6300.000	8.681	135.507	6273.526	22.533	0.000	22.903	-0.000	8.004	0.000	0.000	23.138	22.344	102.314	MWD+IFR1+MS
6400.000	8.681	135.507	6372.380	22.888	0.000	23.256	-0.000	8.159	0.000	0.000	23.493	22.693	102.274	MWD+IFR1+MS
6500.000	8.681	135.507	6471.235	23.243	0.000	23.609	-0.000	8.316	0.000	0.000	23.849	23.042	102.241	MWD+IFR1+MS
6600.000	8.681	135.507	6570.089	23.599	0.000	23.964	-0.000	8.476	0.000	0.000	24.206	23.392	102.216	MWD+IFR1+MS
6700.000	8.681	135.507	6668.943	23.956	0.000	24.319	-0.000	8.638	0.000	0.000	24.563	23.743	102.197	MWD+IFR1+MS
6800.000	8.681	135.507	6767.798	24.313	0.000	24.674	-0.000	8.802	0.000	0.000	24.920	24.095	102.185	MWD+IFR1+MS
6900.000	8.681	135.507	6866.652	24.671	0.000	25.030	-0.000	8.969	0.000	0.000	25.278	24.447	102.179	MWD+IFR1+MS
7000.000	8.681	135.507	6965.506	25.029	0.000	25.387	-0.000	9.139	0.000	0.000	25.636	24.800	102.178	MWD+IFR1+MS
7100.000	8.681	135.507	7064.361	25.388	0.000	25.744	-0.000	9.311	0.000	0.000	25.995	25.154	102.183	MWD+IFR1+MS
7200.000	8.681	135.507	7163.215	25.747	0.000	26.102	-0.000	9.485	0.000	0.000	26.354	25.508	102.192	MWD+IFR1+MS
7300.000	8.681	135.507	7262.069	26.106	0.000	26.460	-0.000	9.662	0.000	0.000	26.713	25.863	102.205	MWD+IFR1+MS
7400.000	8.681	135.507	7360.923	26.466	0.000	26.818	-0.000	9.841	0.000	0.000	27.073	26.218	102.223	MWD+IFR1+MS
7500.000	8.681	135.507	7459.778	26.826	0.000	27.177	-0.000	10.023	0.000	0.000	27.433	26.574	102.245	MWD+IFR1+MS
7600.000	8.681	135.507	7558.632	27.187	0.000	27.537	-0.000	10.207	0.000	0.000	27.793	26.930	102.270	MWD+IFR1+MS
7700.000	8.681	135.507	7657.486	27.548	0.000	27.897	-0.000	10.394	0.000	0.000	28.154	27.287	102.299	MWD+IFR1+MS
7800.000	8.681	135.507	7756.341	27.909	0.000	28.257	-0.000	10.583	0.000	0.000	28.515	27.644	102.331	MWD+IFR1+MS
7900.000	8.681	135.507	7855.195	28.271	0.000	28.618	-0.000	10.775	0.000	0.000	28.877	28.002	102.366	MWD+IFR1+MS
8000.000	8.681	135.507	7954.049	28.633	0.000	28.979	-0.000	10.970	0.000	0.000	29.238	28.360	102.404	MWD+IFR1+MS
8100.000	8.681	135.507	8052.904	28.995	0.000	29.340	-0.000	11.167	0.000	0.000	29.600	28.719	102.445	MWD+IFR1+MS
8200.000	8.681	135.507	8151.758	29.358	0.000	29.702	-0.000	11.367	0.000	0.000	29.962	29.078	102.488	MWD+IFR1+MS
8300.000	8.681	135.507	8250.612	29.721	0.000	30.064	-0.000	11.570	0.000	0.000	30.325	29.437	102.534	MWD+IFR1+MS
8400.000	8.681	135.507	8349.466	30.084	0.000	30.427	-0.000	11.775	0.000	0.000	30.687	29.797	102.582	MWD+IFR1+MS
8500.000	8.681	135.507	8448.321	30.448	0.000	30.790	-0.000	11.982	0.000	0.000	31.050	30.157	102.632	MWD+IFR1+MS
8600.000	8.681	135.507	8547.175	30.811	0.000	31.153	-0.000	12.193	0.000	0.000	31.413	30.517	102.684	MWD+IFR1+MS
8620.653	8.681	135.507	8567.591	30.885	0.000	31.226	-0.000	12.237	0.000	0.000	31.486	30.592	102.722	MWD+IFR1+MS
8700.000	7.094	135.507	8646.185	31.218	0.000	31.510	-0.000	12.406	0.000	0.000	31.771	30.881	102.542	MWD+IFR1+MS
8800.000	5.094	135.507	8745.615	31.662	0.000	31.868	-0.000	12.623	0.000	0.000	32.160	31.270	100.373	MWD+IFR1+MS
8900.000	3.094	135.507	8845.355	32.084	0.000	32.223	-0.000	12.839	0.000	0.000	32.558	31.659	97.681	MWD+IFR1+MS
9000.000	1.094	135.507	8945.283	32.467	0.000	32.574	-0.000	13.055	0.000	0.000	32.955	32.040	95.099	MWD+IFR1+MS
9054.721	0.000	0.000	9000.000	33.132	0.000	32.237	0.000	13.173	0.000	0.000	33.139	32.230	95.066	MWD+IFR1+MS
9100.000	0.000	0.000	9045.279	33.284	0.000	32.390	0.000	13.271	0.000	0.000	33.291	32.383	95.122	MWD+IFR1+MS
9200.000	0.000	0.000	9145.279	33.619	0.000	32.729	0.000	13.489	0.000	0.000	33.626	32.721	95.343	MWD+IFR1+MS
9300.000	0.000	0.000	9245.279	33.956	0.000	33.072	0.000	13.710	0.000	0.000	33.965	33.063	95.720	MWD+IFR1+MS

9400.000	0.000	0.000	9345.279	34.295	0.000	33.414	0.000	13.934	0.000	0.000	34.305	33.404	96.091	MWD+IFR1+MS
9500.000	0.000	0.000	9445.279	34.633	0.000	33.758	0.000	14.161	0.000	0.000	34.645	33.746	96.456	MWD+IFR1+MS
9600.000	0.000	0.000	9545.279	34.973	0.000	34.101	0.000	14.391	0.000	0.000	34.985	34.088	96.816	MWD+IFR1+MS
9700.000	0.000	0.000	9645.279	35.312	0.000	34.445	0.000	14.624	0.000	0.000	35.326	34.431	97.170	MWD+IFR1+MS
9800.000	0.000	0.000	9745.279	35.652	0.000	34.789	0.000	14.860	0.000	0.000	35.667	34.773	97.518	MWD+IFR1+MS
9900.000	0.000	0.000	9845.279	35.992	0.000	35.133	0.000	15.099	0.000	0.000	36.009	35.116	97.861	MWD+IFR1+MS
10000.000	0.000	0.000	9945.279	36.333	0.000	35.478	0.000	15.341	0.000	0.000	36.351	35.459	98.198	MWD+IFR1+MS
10100.000	0.000	0.000	10045.279	36.674	0.000	35.822	0.000	15.587	0.000	0.000	36.693	35.803	98.530	MWD+IFR1+MS
10200.000	0.000	0.000	10145.279	37.015	0.000	36.168	0.000	15.835	0.000	0.000	37.036	36.146	98.855	MWD+IFR1+MS
10300.000	0.000	0.000	10245.279	37.356	0.000	36.513	0.000	16.086	0.000	0.000	37.379	36.490	99.176	MWD+IFR1+MS
10400.000	0.000	0.000	10345.279	37.698	0.000	36.859	0.000	16.341	0.000	0.000	37.722	36.834	99.491	MWD+IFR1+MS
10489.521	0.000	0.000	10434.800	38.004	0.000	37.167	0.000	16.571	0.000	0.000	38.029	37.142	99.717	MWD+IFR1+MS
10500.000	0.838	269.836	10445.279	37.178	-0.000	38.038	0.000	16.598	0.000	0.000	38.063	37.177	99.716	MWD+IFR1+MS
10600.000	8.838	269.836	10544.842	37.294	-0.000	38.360	0.000	16.868	0.000	0.000	38.391	37.838	103.584	MWD+IFR1+MS
10700.000	16.838	269.836	10642.263	37.631	-0.000	38.674	0.000	17.235	0.000	0.000	39.236	38.667	-6.312	MWD+IFR1+MS
10800.000	24.838	269.836	10735.646	37.413	-0.000	38.972	0.000	17.770	0.000	0.000	40.435	38.972	-0.251	MWD+IFR1+MS
10900.000	32.838	269.836	10823.173	36.702	-0.000	39.252	0.000	18.525	0.000	0.000	41.463	39.251	1.078	MWD+IFR1+MS
11000.000	40.838	269.836	10903.141	35.583	-0.000	39.512	0.000	19.521	0.000	0.000	42.302	39.509	1.700	MWD+IFR1+MS
11100.000	48.838	269.836	10973.993	34.173	-0.000	39.752	0.000	20.748	0.000	0.000	42.950	39.747	2.122	MWD+IFR1+MS
11200.000	56.838	269.836	11034.351	32.624	-0.000	39.975	0.000	22.173	0.000	0.000	43.416	39.967	2.490	MWD+IFR1+MS
11300.000	64.838	269.836	11083.039	31.118	-0.000	40.181	0.000	23.747	0.000	0.000	43.719	40.171	2.872	MWD+IFR1+MS
11400.000	72.838	269.836	11119.109	29.869	-0.000	40.373	0.000	25.412	0.000	0.000	43.889	40.360	3.301	MWD+IFR1+MS
11500.000	80.838	269.836	11141.861	29.096	-0.000	40.551	0.000	27.111	0.000	0.000	43.961	40.534	3.794	MWD+IFR1+MS
11600.000	88.838	269.836	11150.850	28.980	-0.000	40.712	0.000	28.786	0.000	0.000	43.979	40.691	4.334	MWD+IFR1+MS
11614.521	90.000	269.836	11150.997	28.817	0.000	40.733	0.000	28.817	0.000	0.000	43.981	40.711	4.410	MWD+IFR1+MS
11700.000	90.000	269.836	11150.997	28.959	0.000	40.869	0.000	28.959	0.000	0.000	43.987	40.843	4.909	MWD+IFR1+MS
11800.000	90.000	269.836	11150.997	29.135	0.000	41.059	0.000	29.135	0.000	0.000	43.995	41.028	5.600	MWD+IFR1+MS
11900.000	90.000	269.836	11150.997	29.332	0.000	41.279	0.000	29.332	0.000	0.000	44.006	41.242	6.444	MWD+IFR1+MS
12000.000	90.000	269.836	11150.997	29.549	0.000	41.529	0.000	29.549	0.000	0.000	44.018	41.482	7.500	MWD+IFR1+MS
12100.000	90.000	269.836	11150.997	29.785	0.000	41.807	0.000	29.785	0.000	0.000	44.034	41.749	8.864	MWD+IFR1+MS
12200.000	90.000	269.836	11150.997	30.040	0.000	42.113	0.000	30.040	0.000	0.000	44.055	42.040	10.696	MWD+IFR1+MS
12300.000	90.000	269.836	11150.997	30.312	0.000	42.447	0.000	30.312	0.000	0.000	44.083	42.351	13.270	MWD+IFR1+MS
12400.000	90.000	269.836	11150.997	30.603	0.000	42.807	0.000	30.603	0.000	0.000	44.124	42.678	17.090	MWD+IFR1+MS

12500.000	90.000	269.836	11150.997	30.910	0.000	43.193	0.000	30.910	0.000	0.000	44.187	43.008	23.065	MWD+IFR1+MS
12600.000	90.000	269.836	11150.997	31.235	0.000	43.605	0.000	31.235	0.000	0.000	44.297	43.317	32.503	MWD+IFR1+MS
12700.000	90.000	269.836	11150.997	31.575	0.000	44.042	0.000	31.575	0.000	0.000	44.492	43.567	45.426	MWD+IFR1+MS
12800.000	90.000	269.836	11150.997	31.931	0.000	44.502	0.000	31.931	0.000	0.000	44.798	43.730	57.898	MWD+IFR1+MS
12900.000	90.000	269.836	11150.997	32.303	0.000	44.986	0.000	32.303	0.000	0.000	45.196	43.826	66.623	MWD+IFR1+MS
13000.000	90.000	269.836	11150.997	32.689	0.000	45.492	0.000	32.689	0.000	0.000	45.653	43.885	72.112	MWD+IFR1+MS
13100.000	90.000	269.836	11150.997	33.089	0.000	46.020	0.000	33.089	0.000	0.000	46.151	43.926	75.645	MWD+IFR1+MS
13200.000	90.000	269.836	11150.997	33.502	0.000	46.569	0.000	33.502	0.000	0.000	46.680	43.958	78.045	MWD+IFR1+MS
13300.000	90.000	269.836	11150.997	33.929	0.000	47.138	0.000	33.929	0.000	0.000	47.235	43.984	79.761	MWD+IFR1+MS
13400.000	90.000	269.836	11150.997	34.369	0.000	47.727	0.000	34.369	0.000	0.000	47.813	44.007	81.042	MWD+IFR1+MS
13500.000	90.000	269.836	11150.997	34.820	0.000	48.335	0.000	34.820	0.000	0.000	48.412	44.029	82.031	MWD+IFR1+MS
13600.000	90.000	269.836	11150.997	35.283	0.000	48.961	0.000	35.283	0.000	0.000	49.032	44.049	82.818	MWD+IFR1+MS
13700.000	90.000	269.836	11150.997	35.758	0.000	49.604	0.000	35.758	0.000	0.000	49.670	44.069	83.457	MWD+IFR1+MS
13800.000	90.000	269.836	11150.997	36.243	0.000	50.264	0.000	36.243	0.000	0.000	50.325	44.088	83.988	MWD+IFR1+MS
13900.000	90.000	269.836	11150.997	36.739	0.000	50.941	0.000	36.739	0.000	0.000	50.998	44.107	84.434	MWD+IFR1+MS
14000.000	90.000	269.836	11150.997	37.244	0.000	51.632	0.000	37.244	0.000	0.000	51.686	44.127	84.815	MWD+IFR1+MS
14100.000	90.000	269.836	11150.997	37.759	0.000	52.339	0.000	37.759	0.000	0.000	52.390	44.146	85.145	MWD+IFR1+MS
14200.000	90.000	269.836	11150.997	38.284	0.000	53.060	0.000	38.284	0.000	0.000	53.108	44.166	85.432	MWD+IFR1+MS
14300.000	90.000	269.836	11150.997	38.817	0.000	53.794	0.000	38.817	0.000	0.000	53.840	44.186	85.686	MWD+IFR1+MS
14400.000	90.000	269.836	11150.997	39.358	0.000	54.542	0.000	39.358	0.000	0.000	54.586	44.207	85.910	MWD+IFR1+MS
14500.000	90.000	269.836	11150.997	39.908	0.000	55.303	0.000	39.908	0.000	0.000	55.345	44.228	86.111	MWD+IFR1+MS
14600.000	90.000	269.836	11150.997	40.465	0.000	56.075	0.000	40.465	0.000	0.000	56.116	44.249	86.292	MWD+IFR1+MS
14700.000	90.000	269.836	11150.997	41.030	0.000	56.859	0.000	41.030	0.000	0.000	56.898	44.271	86.455	MWD+IFR1+MS
14800.000	90.000	269.836	11150.997	41.601	0.000	57.655	0.000	41.601	0.000	0.000	57.692	44.293	86.603	MWD+IFR1+MS
14900.000	90.000	269.836	11150.997	42.180	0.000	58.461	0.000	42.180	0.000	0.000	58.497	44.316	86.739	MWD+IFR1+MS
15000.000	90.000	269.836	11150.997	42.765	0.000	59.277	0.000	42.765	0.000	0.000	59.312	44.339	86.863	MWD+IFR1+MS
15100.000	90.000	269.836	11150.997	43.357	0.000	60.103	0.000	43.357	0.000	0.000	60.137	44.363	86.977	MWD+IFR1+MS
15200.000	90.000	269.836	11150.997	43.955	0.000	60.938	0.000	43.955	0.000	0.000	60.971	44.387	87.083	MWD+IFR1+MS
15300.000	90.000	269.836	11150.997	44.558	0.000	61.783	0.000	44.558	0.000	0.000	61.815	44.412	87.181	MWD+IFR1+MS
15400.000	90.000	269.836	11150.997	45.167	0.000	62.636	0.000	45.167	0.000	0.000	62.667	44.437	87.271	MWD+IFR1+MS
15500.000	90.000	269.836	11150.997	45.782	0.000	63.498	0.000	45.782	0.000	0.000	63.528	44.463	87.356	MWD+IFR1+MS
15600.000	90.000	269.836	11150.997	46.401	0.000	64.367	0.000	46.401	0.000	0.000	64.397	44.489	87.435	MWD+IFR1+MS
15700.000	90.000	269.836	11150.997	47.026	0.000	65.245	0.000	47.026	0.000	0.000	65.273	44.516	87.509	MWD+IFR1+MS

15800.000	90.000	269.836	11150.997	47.655	0.000	66.129	0.000	47.655	0.000	0.000	66.157	44.544	87.578	MWD+IFR1+MS
15900.000	90.000	269.836	11150.997	48.289	0.000	67.021	0.000	48.289	0.000	0.000	67.048	44.572	87.644	MWD+IFR1+MS
16000.000	90.000	269.836	11150.997	48.927	0.000	67.919	0.000	48.927	0.000	0.000	67.946	44.600	87.705	MWD+IFR1+MS
16100.000	90.000	269.836	11150.997	49.569	0.000	68.824	0.000	49.569	0.000	0.000	68.851	44.630	87.763	MWD+IFR1+MS
16200.000	90.000	269.836	11150.997	50.215	0.000	69.736	0.000	50.215	0.000	0.000	69.761	44.659	87.818	MWD+IFR1+MS
16300.000	90.000	269.836	11150.997	50.866	0.000	70.653	0.000	50.866	0.000	0.000	70.678	44.689	87.870	MWD+IFR1+MS
16400.000	90.000	269.836	11150.997	51.520	0.000	71.576	0.000	51.520	0.000	0.000	71.601	44.720	87.919	MWD+IFR1+MS
16500.000	90.000	269.836	11150.997	52.177	0.000	72.505	0.000	52.177	0.000	0.000	72.529	44.752	87.966	MWD+IFR1+MS
16600.000	90.000	269.836	11150.997	52.838	0.000	73.439	0.000	52.838	0.000	0.000	73.463	44.783	88.011	MWD+IFR1+MS
16700.000	90.000	269.836	11150.997	53.503	0.000	74.379	0.000	53.503	0.000	0.000	74.402	44.816	88.053	MWD+IFR1+MS
16800.000	90.000	269.836	11150.997	54.171	0.000	75.323	0.000	54.171	0.000	0.000	75.346	44.849	88.093	MWD+IFR1+MS
16900.000	90.000	269.836	11150.997	54.841	0.000	76.272	0.000	54.841	0.000	0.000	76.294	44.882	88.132	MWD+IFR1+MS
17000.000	90.000	269.836	11150.997	55.515	0.000	77.226	0.000	55.515	0.000	0.000	77.247	44.916	88.169	MWD+IFR1+MS
17100.000	90.000	269.836	11150.997	56.192	0.000	78.184	0.000	56.192	0.000	0.000	78.205	44.951	88.204	MWD+IFR1+MS
17200.000	90.000	269.836	11150.997	56.871	0.000	79.146	0.000	56.871	0.000	0.000	79.167	44.986	88.238	MWD+IFR1+MS
17300.000	90.000	269.836	11150.997	57.553	0.000	80.113	0.000	57.553	0.000	0.000	80.134	45.022	88.270	MWD+IFR1+MS
17400.000	90.000	269.836	11150.997	58.238	0.000	81.084	0.000	58.238	0.000	0.000	81.104	45.058	88.301	MWD+IFR1+MS
17500.000	90.000	269.836	11150.997	58.925	0.000	82.058	0.000	58.925	0.000	0.000	82.078	45.095	88.331	MWD+IFR1+MS
17600.000	90.000	269.836	11150.997	59.615	0.000	83.036	0.000	59.615	0.000	0.000	83.056	45.133	88.360	MWD+IFR1+MS
17700.000	90.000	269.836	11150.997	60.307	0.000	84.018	0.000	60.307	0.000	0.000	84.037	45.171	88.387	MWD+IFR1+MS
17800.000	90.000	269.836	11150.997	61.001	0.000	85.003	0.000	61.001	0.000	0.000	85.022	45.209	88.414	MWD+IFR1+MS
17900.000	90.000	269.836	11150.997	61.697	0.000	85.992	0.000	61.697	0.000	0.000	86.010	45.248	88.439	MWD+IFR1+MS
18000.000	90.000	269.836	11150.997	62.396	0.000	86.983	0.000	62.396	0.000	0.000	87.001	45.288	88.464	MWD+IFR1+MS
18100.000	90.000	269.836	11150.997	63.096	0.000	87.978	0.000	63.096	0.000	0.000	87.996	45.328	88.488	MWD+IFR1+MS
18200.000	90.000	269.836	11150.997	63.799	0.000	88.976	0.000	63.799	0.000	0.000	88.994	45.368	88.510	MWD+IFR1+MS
18300.000	90.000	269.836	11150.997	64.503	0.000	89.977	0.000	64.503	0.000	0.000	89.994	45.410	88.533	MWD+IFR1+MS
18400.000	90.000	269.836	11150.997	65.209	0.000	90.980	0.000	65.209	0.000	0.000	90.997	45.451	88.554	MWD+IFR1+MS
18490.072	90.000	269.836	11150.997	65.846	0.000	91.886	0.000	65.846	0.000	0.000	91.903	45.489	88.573	MWD+IFR1+MS
18500.000	90.000	269.836	11150.997	65.916	0.000	91.986	0.000	65.916	0.000	0.000	92.003	45.494	88.575	MWD+IFR1+MS
18540.149	90.000	269.836	11150.997	66.200	0.000	92.389	0.000	66.200	0.000	0.000	92.406	45.511	88.583	MWD+IFR1+MS

Plan Targets

James Ranch Unit Apache 115H

Measured Depth

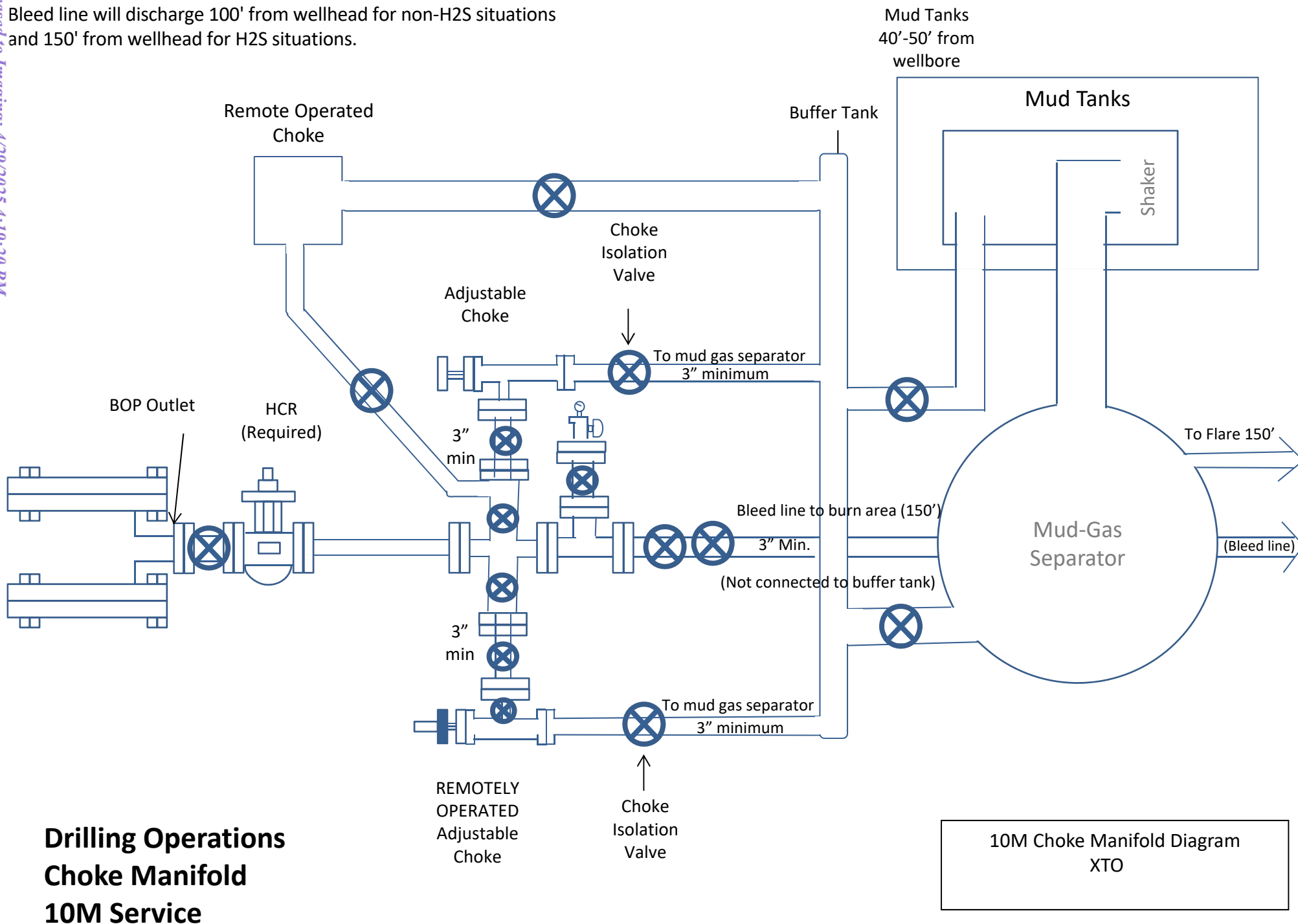
Grid Northing

Grid Easting

TVD MSL Target Shape

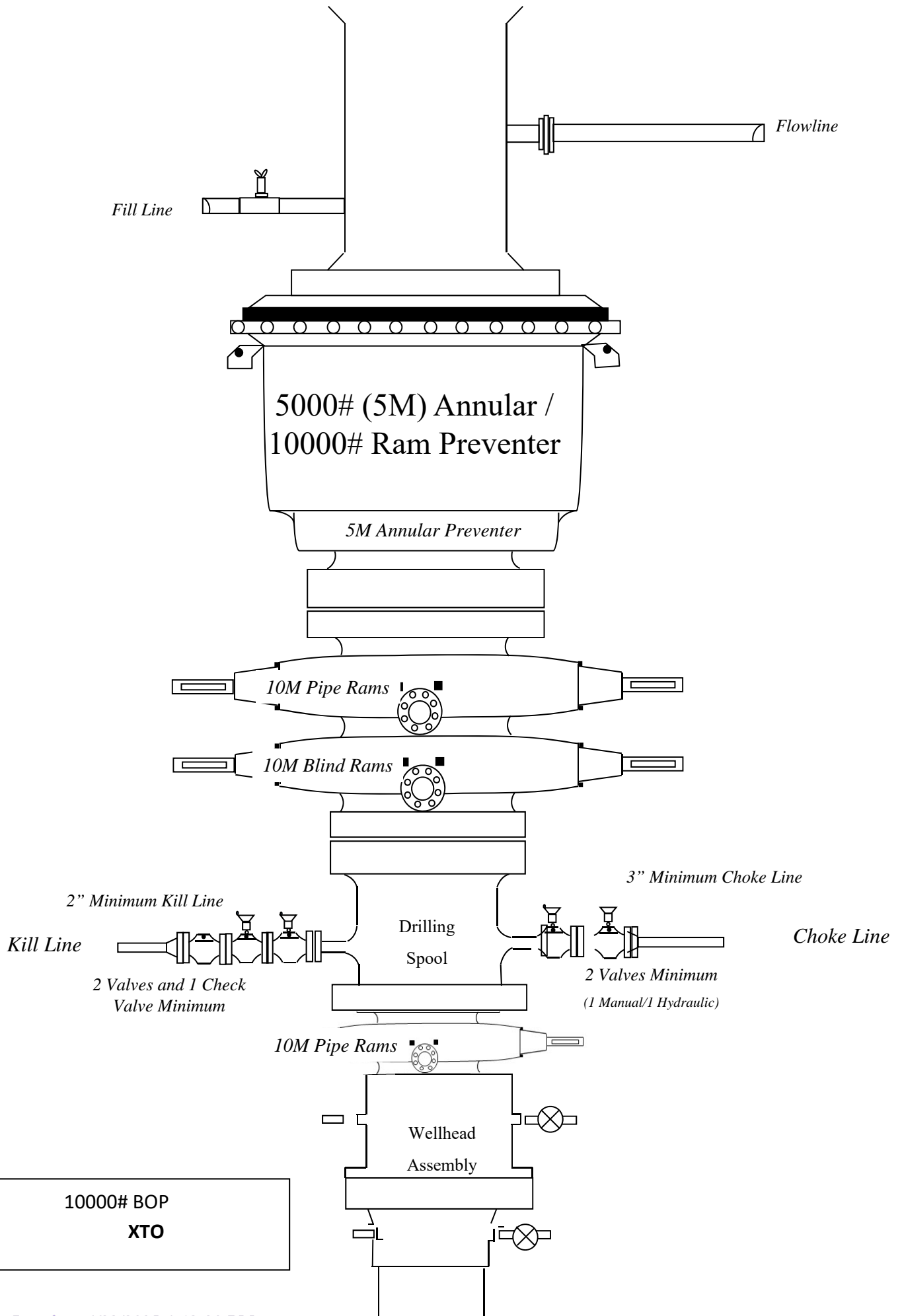
Target Name	(ft)	(ft)	(ft)	(ft)
FTP 8	11402.10	503108.80	656565.60	7743.00 CIRCLE
LTP 8	18490.16	503087.10	648973.80	7743.00 CIRCLE
BHL 8	18540.22	503087.00	648923.80	7743.00 CIRCLE

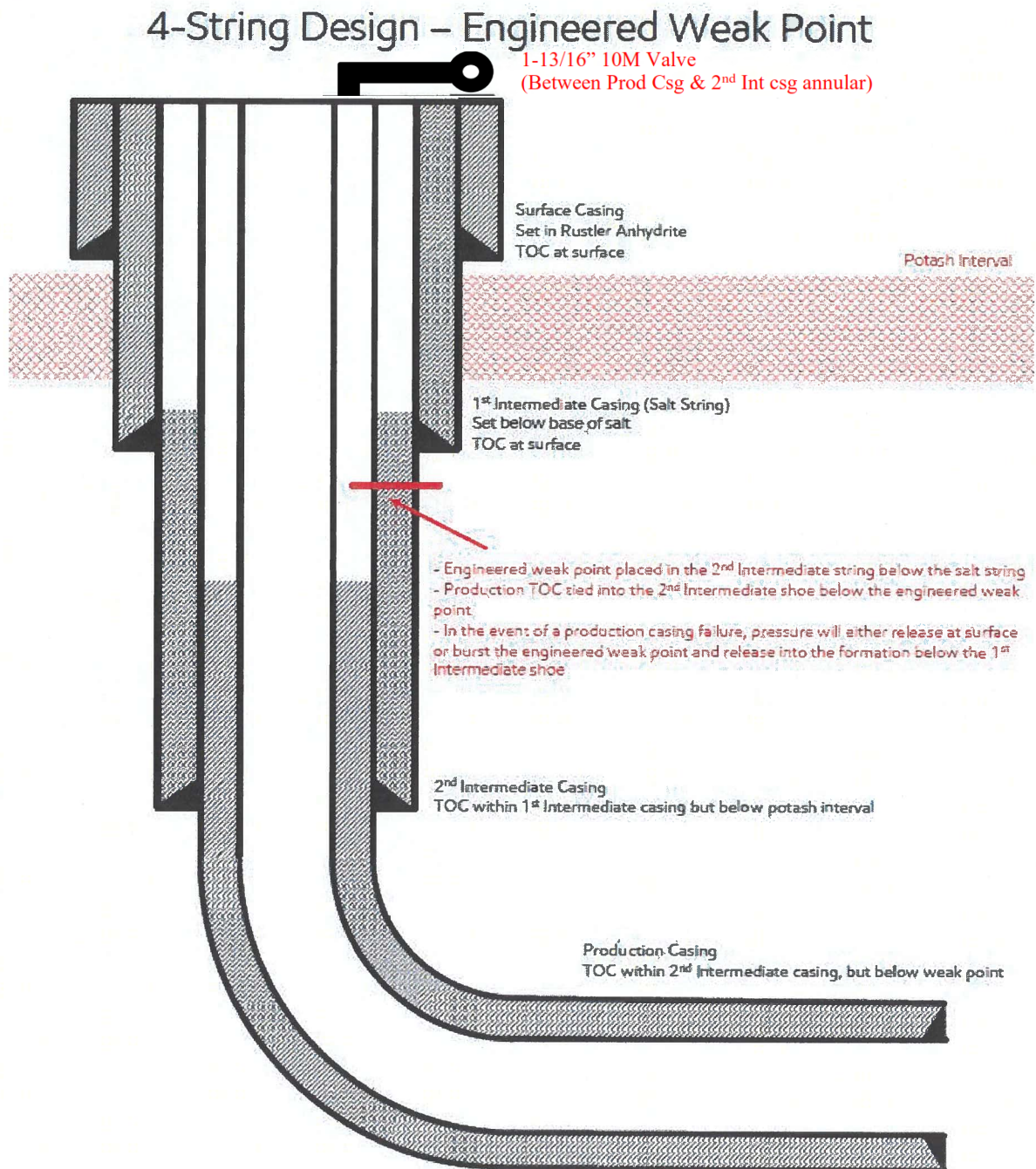
Bleed line will discharge 100' from wellhead for non-H2S situations and 150' from wellhead for H2S situations.



Drilling Operations Choke Manifold 10M Service

10M Choke Manifold Diagram
XTO





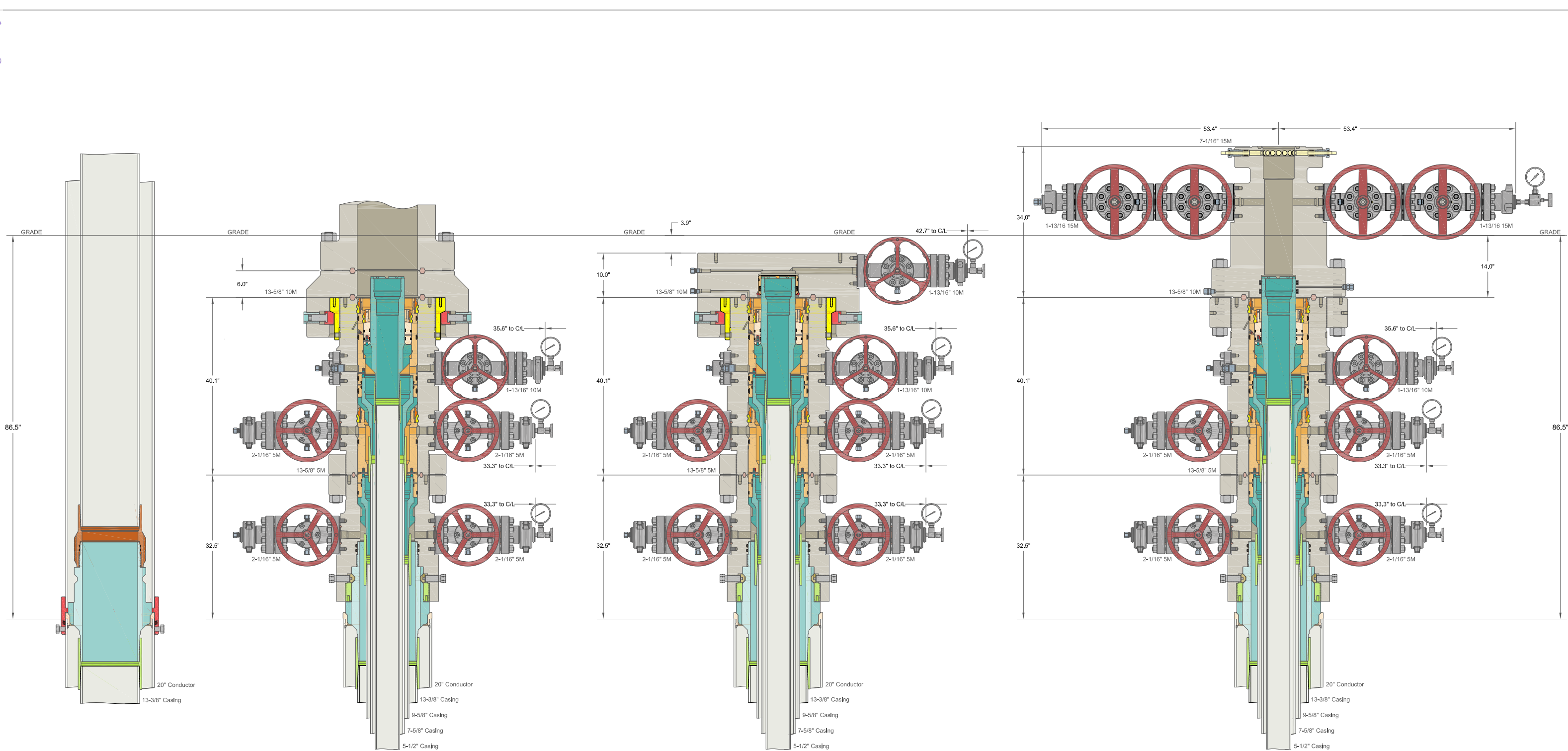
[Figure F] 4 String – 2nd Intermediate casing engineered weak point

31592723_v1

Update May 2024:

XTO is aware of the R111-Q update and 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) Bradenhead squeeze to be completed within 180 days to tie back TOC to salt string at least 500ft but with top below Marker Bed 126
- 4) Production cement to be tied back no less than 500ft inside previous casing shoe



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 13-3/8" x 9-5/8" x 7-5/8" x 5-1/2" MBU-4T-CFL-R-DBLO With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS-SB Tubing Head And Drilling & Skid Configurations			
XTO ENERGY INC DELAWARE BASIN			
DRAWN	VJK	31MAR22	
APPRV			
DRAWING NO.		SDT-3301	

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 [Sec 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)

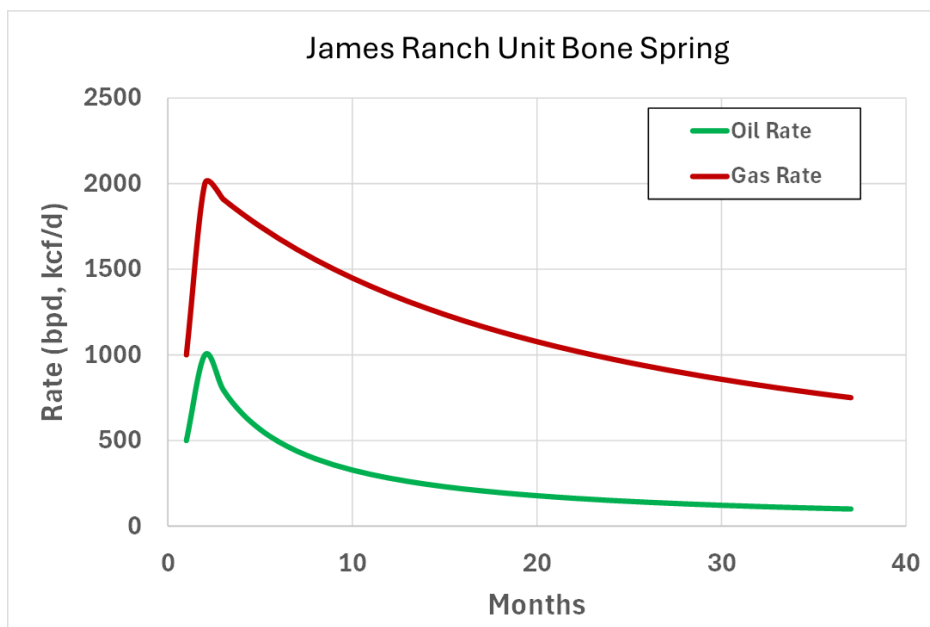
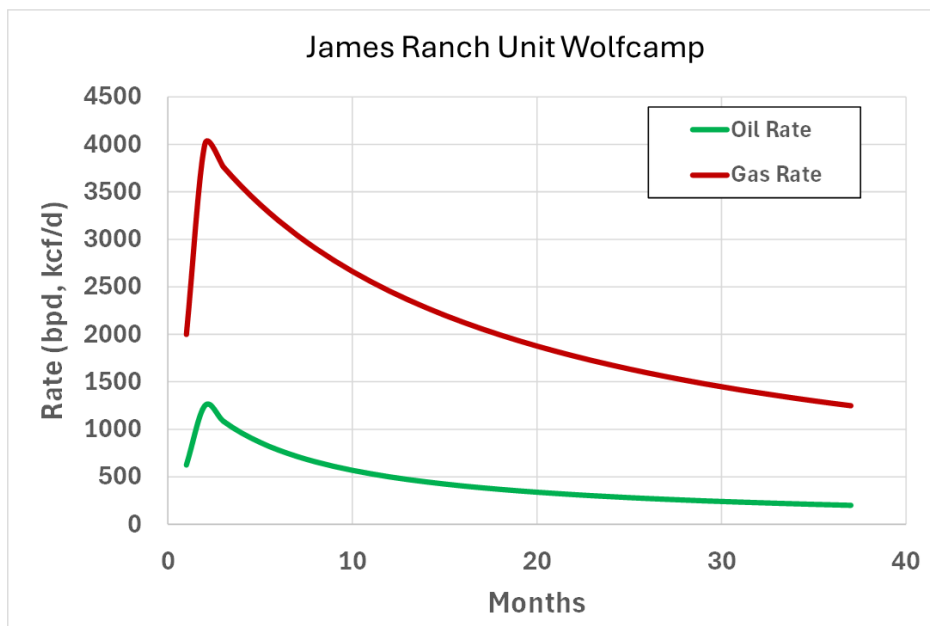
Approved By:

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.

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API STANDARD 53

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

Component to be Pressure Tested	Pressure Test—Low Pressure ^{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

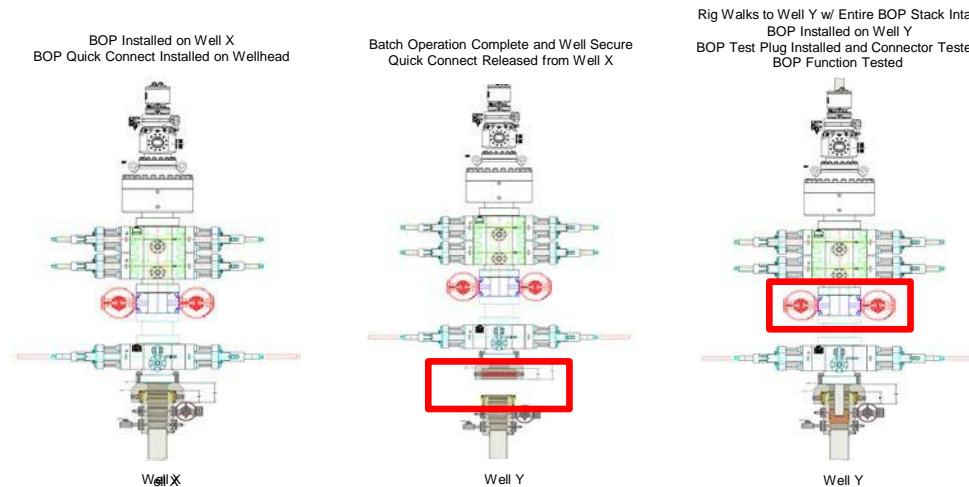
each BOP nipple up, XTO Energy performs a choke drill with the rig crew prior to drilling out every casing shoe. This is additional training for the rig crew that exceeds the requirements of the CFR Title 43 Part 3170.

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.

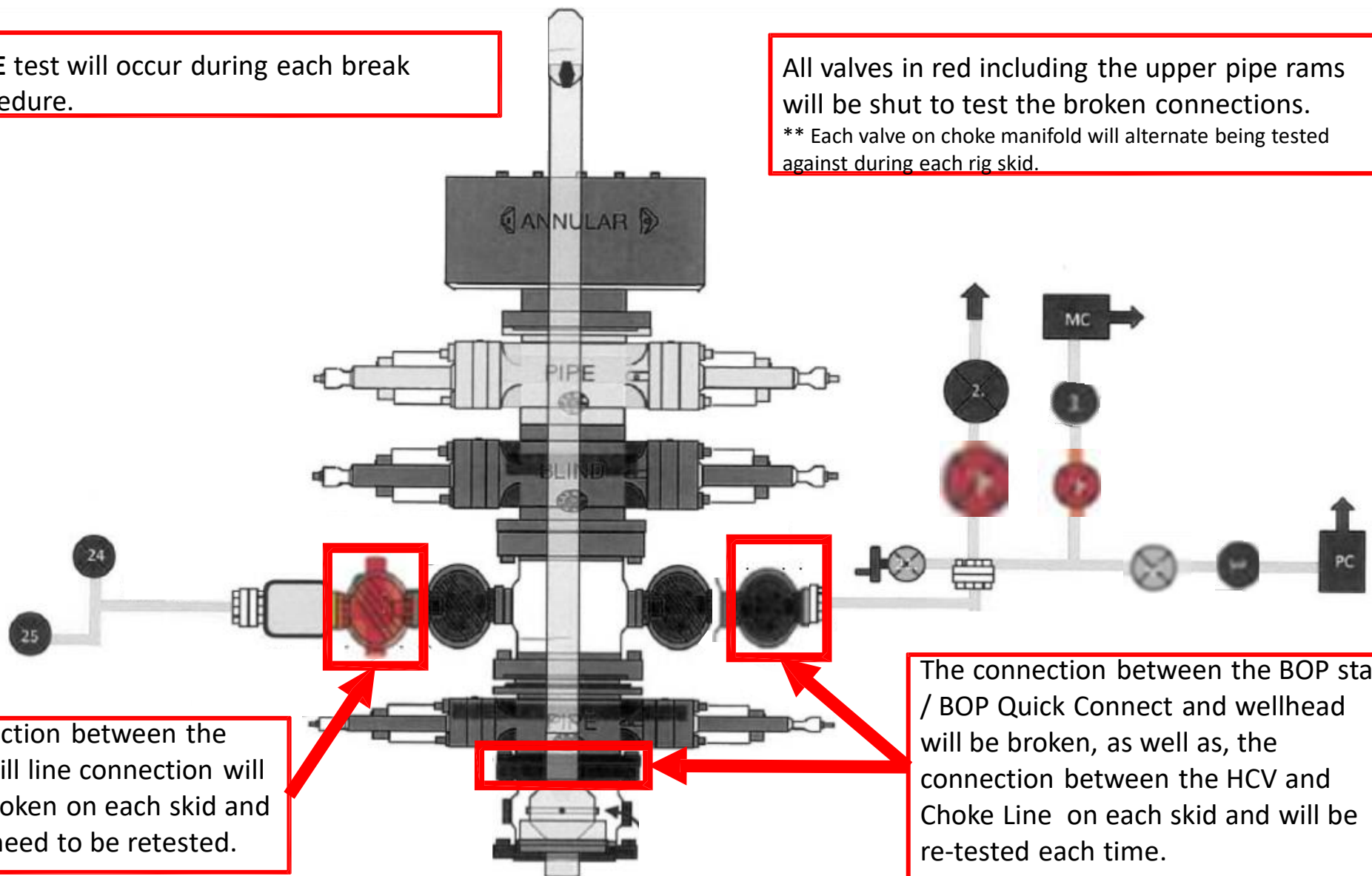
The BOP will be secured by a hydraulic carrier or cradle. The BLM will be contacted if a Well Control event occurs prior to the commencement of a BOPE Break Testing operation.

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 435119

CONDITIONS

Operator: XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	OGRID: 373075
	Action Number: 435119
	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.	4/29/2025
ward.rikala	Any previous COA's not addressed within the updated COA's still apply.	4/29/2025