

Form 3160-3  
(June 2015)FORM APPROVED  
OMB No. 1004-0137  
Expires: January 31, 2018

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
**APPLICATION FOR PERMIT TO DRILL OR REENTER**

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER 1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		5. Lease Serial No. <b>NMNM014778</b> 6. If Indian, Allottee or Tribe Name  7. If Unit or CA Agreement, Name and No.  8. Lease Name and Well No. <b>SHANGHAI ROOSTER 22-27 FED</b> <b>901H</b>
2. Name of Operator <b>XTO ENERGY INCORPORATED</b> 3a. Address <b>222777 SPRINGWOODS VILLAGE PKWY, SPRING, TX</b> 3b. Phone No. (include area code) <b>(817) 870-2800</b>		9. API Well No. <b>30-015-50046</b> 10. Field and Pool, or Exploratory <del>PURPLE SAGE WOLF CAMP GAS</del>
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface <b>SWSW / 330 FSL / 291 FWL / LAT 32.123526 / LONG -103.979434</b> At proposed prod. zone <b>SWSW / 200 FSL / 330 FWL / LAT 32.121836 / LONG -103.97979</b>		11. Sec., T. R. M. or Blk. and Survey or Area <b>SEC 15/T25S/R29E/NMP</b>
14. Distance in miles and direction from nearest town or post office*  15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) <b>330 feet</b> 16. No of acres in lease  17. Spacing Unit dedicated to this well <b>320.0</b>		12. County or Parish <b>EDDY</b> 13. State <b>NM</b>
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. <b>30 feet</b> 19. Proposed Depth <b>8816 feet / 19230 feet</b> 20. BLM/BIA Bond No. in file <b>FED:</b>		21. Elevations (Show whether DF, KDB, RT, GL, etc.) <b>3034 feet</b> 22. Approximate date work will start* <b>06/30/2022</b> 23. Estimated duration <b>45 days</b>
24. Attachments		

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

- |   |   |
|---|---|
| 1. Well plat certified by a registered surveyor.<br>2. A Drilling Plan.<br>3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).<br>5. Operator certification.<br>6. Such other site specific information and/or plans as may be requested by the BLM. |
|---|---|

25. Signature (Electronic Submission)	Name (Printed/Typed) <b>CASSIE EVANS / Ph: (432) 620-6700</b>	Date <b>10/03/2021</b>
Title <b>Regulatory Analyst</b>		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) <b>CODY LAYTON / Ph: (575) 234-5959</b>	Date <b>03/07/2022</b>
Title <b>Assistant Field Manager Lands &amp; Minerals</b> Office <b>Carlsbad Field Office</b>		

Application approval 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.

Conditions of approval, if any, are attached.

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.

APPROVED WITH CONDITIONS  
 Approval Date: 03/07/2022

(Continued on page 2)

\*(Instructions on page 2)

**District I**  
1625 N. French Dr., Hobbs, NM 88240  
Phone: (575) 393-6161 Fax: (575) 393-0720

**District II**  
811 S. First St., Artesia, NM 88210  
Phone: (575) 748-1283 Fax: (575) 748-9720

**District III**  
1000 Rio Brazos Road, Aztec, NM 87410  
Phone: (505) 334-6178 Fax: (505) 334-6170

**District IV**  
1220 S. St. Francis Dr., Santa Fe, NM 87505  
Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

## WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-015-50046		<sup>2</sup> Pool Code 96217	<sup>3</sup> Pool Name Willow Lake; Bone Spring, Southeast
<sup>4</sup> Property Code 333342	<sup>5</sup> Property Name SHANGHAI ROOSTER 22-27 FED		<sup>6</sup> Well Number 901H
<sup>7</sup> OGRID No. 005380	<sup>8</sup> Operator Name XTO ENERGY, INC.		<sup>9</sup> Elevation 3,034'

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	15	25 S	29 E		330	SOUTH	291	WEST	EDDY

## 11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	27	25 S	29 E		200	SOUTH	330	WEST	EDDY

<sup>12</sup> Dedicated Acres 320	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

T25S R29E SEC. 16		SEC. 15		GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y= 408,841.0 X= 609,560.0 LAT.=32.123526"N LONG.= 103.979434"W		GEODETIC COORDINATES NAD 83 NME SURFACE LOCATION Y= 408,899.3 X= 650,744.5 LAT.=32.123650"N LONG.= 103.979920"W																					
<p>GRID AZ.=176°18'44" HORIZ. DIST.=661.15'</p>		<p>FIRST TAKE POINT NAD 27 NME Y= 408,181.2 X= 609,602.5 LAT.= 32.121712"N LONG.= 103.979303"W</p>		<p>FIRST TAKE POINT NAD 83 NME Y= 408,239.5 X= 650,787.0 LAT.= 32.121836"N LONG.= 103.979790"W</p>		<p>CORNER COORDINATES TABLE NAD 27 NME</p> <table border="0" style="width: 100%;"> <tr><td>A - Y= 408,509.5</td><td>N, X= 609,270.8</td></tr> <tr><td>B - Y= 408,516.4</td><td>N, X= 610,596.1</td></tr> <tr><td>C - Y= 405,854.4</td><td>N, X= 609,284.5</td></tr> <tr><td>D - Y= 405,861.3</td><td>N, X= 610,610.8</td></tr> <tr><td>E - Y= 403,201.3</td><td>N, X= 609,298.2</td></tr> <tr><td>F - Y= 403,207.9</td><td>N, X= 610,625.5</td></tr> <tr><td>G - Y= 400,547.1</td><td>N, X= 609,330.1</td></tr> <tr><td>H - Y= 400,553.3</td><td>N, X= 610,654.5</td></tr> <tr><td>I - Y= 397,893.5</td><td>N, X= 609,363.3</td></tr> <tr><td>J - Y= 397,898.9</td><td>N, X= 610,684.0</td></tr> </table>		A - Y= 408,509.5	N, X= 609,270.8	B - Y= 408,516.4	N, X= 610,596.1	C - Y= 405,854.4	N, X= 609,284.5	D - Y= 405,861.3	N, X= 610,610.8	E - Y= 403,201.3	N, X= 609,298.2	F - Y= 403,207.9	N, X= 610,625.5	G - Y= 400,547.1	N, X= 609,330.1	H - Y= 400,553.3	N, X= 610,654.5	I - Y= 397,893.5	N, X= 609,363.3	J - Y= 397,898.9	N, X= 610,684.0
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J - Y= 397,898.9	N, X= 610,684.0																										
<p>GRID AZ.=179°29'48" HORIZ. DIST.=10,087.03</p>		<p>CORNER COORDINATES TABLE NAD 83 NME</p> <table border="0" style="width: 100%;"> <tr><td>A - Y= 408,567.8</td><td>N, X= 650,455.3</td></tr> <tr><td>B - Y= 408,574.7</td><td>N, X= 651,780.6</td></tr> <tr><td>C - Y= 405,912.6</td><td>N, X= 650,469.1</td></tr> <tr><td>D - Y= 405,919.5</td><td>N, X= 651,795.4</td></tr> <tr><td>E - Y= 403,259.5</td><td>N, X= 650,482.8</td></tr> <tr><td>F - Y= 403,266.1</td><td>N, X= 651,810.2</td></tr> <tr><td>G - Y= 400,605.2</td><td>N, X= 650,514.8</td></tr> <tr><td>H - Y= 400,611.4</td><td>N, X= 651,839.2</td></tr> <tr><td>I - Y= 397,951.6</td><td>N, X= 650,548.1</td></tr> <tr><td>J - Y= 397,957.0</td><td>N, X= 651,868.8</td></tr> </table>		A - Y= 408,567.8	N, X= 650,455.3	B - Y= 408,574.7	N, X= 651,780.6	C - Y= 405,912.6	N, X= 650,469.1	D - Y= 405,919.5	N, X= 651,795.4	E - Y= 403,259.5	N, X= 650,482.8	F - Y= 403,266.1	N, X= 651,810.2	G - Y= 400,605.2	N, X= 650,514.8	H - Y= 400,611.4	N, X= 651,839.2	I - Y= 397,951.6	N, X= 650,548.1	J - Y= 397,957.0	N, X= 651,868.8	<p>1<sup>st</sup> OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p><u>Stephanie Rabadue</u> 12/11/2018</p> <p>Signature Date</p> <p>Stephanie Rabadue</p> <p>Printed Name</p> <p>stephanie_rabadue@xtoenergy.com</p> <p>E-mail Address</p>			
A - Y= 408,567.8	N, X= 650,455.3																										
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J - Y= 397,957.0	N, X= 651,868.8																										
<p>PROJECT AREA</p>		<p>PROJECT AREA</p>		<p>2<sup>nd</sup> SURVEYOR CERTIFICATION</p> <p>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.</p> <p>07-12-2018</p> <p>Date of Survey</p> <p>Professional Surveyor:</p> <p>MARK DILLON HARP 23786</p> <p>Certificate Number</p>		<p>MARK DILLON HARP 23786</p> <p>AI/AW/JC 201802064</p>																					
<p>B.H.L.</p>		<p>BOTTOM HOLE LOCATION NAD 27 NME Y= 398,094.8 X= 609,690.8 LAT.= 32.093983"N LONG.= 103.979125"W</p>		<p>BOTTOM HOLE LOCATION NAD 83 NME Y= 398,152.9 X= 650,875.6 LAT.= 32.094108"N LONG.= 103.979610"W</p>		<p>Professional Surveyor:</p> <p>(Signature)</p>																					



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 Energy, Inc. **OGRID:** 005380 **Date:** 9 / 19 / 2022

**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	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Shanghai Rooster 22-27 Fed 102H		M-15-25S-29E	330'FSL & 541'FWL	2000	3200	3500
Shanghai Rooster 22-27 Fed 104H		N-15-25S-29E	330'FSL & 2150'FWL	2000	3200	3500
Shanghai Rooster 22-27 Fed 105H		15-25S-29E	295'FSL & 242445'FEL	2000	3200	3500
Shanghai Rooster 22-27 Fed 106H		O-15-25S-29E	330'FSL & 2205'FEL	2000	3200	3500
Shanghai Rooster 22-27 Fed 108H		P-15-25S-29E	340'FSL & 910'FEL	2000	3200	3500
Shanghai Rooster 22-27 Fed 121H		M-15-25S-29E	365'FSL & 291 FWL	2000	3200	3500
Shanghai Rooster 22-27 Fed 122H		M-15-25S-29E	365'FSL & 541'FWL	2000	3200	3500
Shanghai Rooster 22-27 Fed 123H		N-15-25S-29E	365'FSL & 1855'FWL	2000	3200	3500
Shanghai Rooster 22-27 Fed 124H		N-15-25S-29E	365'FSL & 2105'FWL	2000	3200	3500
Shanghai Rooster 22-27 Fed 125H		O-15-25S-29E	365'FSL & 2455'FEL	2000	3200	3500
Shanghai Rooster 22-27 Fed 126H		O-15-25S-29E	365'FSL & 2205'FEL	2000	3200	3500
Shanghai Rooster 22-27 Fed 127H		P-15-25S-29E	365'FSL & 1160'FEL	2000	3200	3500
Shanghai Rooster 22-27 Fed 128H		P-15-25S-29E	365'FSL & 910'FEL	2000	3200	3500
Shanghai Rooster 22-27 Fed 161H		M-15-25S-29E	365'FSL & 291'FWI	2000	3200	3500
Shanghai Rooster 22-27 Fed 162H		M-15-25S-29E	365'FSL & 541'FWL	2000	3200	3500
Shanghai Rooster 22-27 Fed 163H		N-15-25S-29E	365'FSL & 1855'FWL	2000	3200	3500
Shanghai Rooster 22-27 Fed 164H		N-15-25S-29E	365'FSL & 2105'FWI	2000	3200	3500
Shanghai Rooster 22-27 Fed 701H		M-15-25S-29E	365'FSL & 291'FWI	2000	3200	3500
Shanghai Rooster 22-27 Fed 702H		M-15-25S-29E	365'FSL & 541'FWL	2000	3200	3500
Shanghai Rooster 22-27 Fed 703H		N-15-25S-29E	365'FSL & 1855'FWI	2000	3200	3500
Shanghai Rooster 22-27 Fed 704H		N-15-25S-29E	295'FSL & 2105'FWI	2000	3200	3500
Shanghai Rooster 22-27 Fed 705H		O-15-25S-29E	3295'FSL & 2455'FEL	2000	3200	3500
Shanghai Rooster 22-27 Fed 706H		O-15-25S-29E	295'FSL & 2205'FEL	2000	3200	3500
Shanghai Rooster 22-27 Fed 707H		P-15-25S-29E	305'FSL & 1160'FEL	2000	3200	3500
Shanghai Rooster 22-27 Fed 708H		P-15-25S-29E	305'FSL & 910'FEL	2000	3200	3500
Shanghai Rooster 22-27 Fed 901H		M-15-25S-29E	330'FSL & 291'FWL	2000	3200	3500
Shanghai Rooster 22-27 Fed 903H		N-15-25S-29E	330'FSL & 1855'FWL	2000	3200	3500
Shanghai Rooster 22-27 Fed 905H		O-15-25S-29E	330'FSL & 2455'FEL	2000	3200	3500
Shanghai Rooster 22-27 Fed 907H		P-15-25S-29E	340'FSL & 1160'FEI	2000	3200	3500

**IV. Central Delivery Point Name:** \_\_\_\_\_ SR2227 100 CTB \_\_\_\_\_ [See 19.15.27.9(D)(1) NMAC]

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

Well Name	API	Spud Date	TD Reached Date	Completion Commence ment Date	Initial Flow Back Date	First Production Date
Shanghai Rooster 22-27 Fed 102H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 104H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 105H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 106H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 108H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 121H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 122H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 123H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 124H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 125H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 126H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 127H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 128H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 161H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 162H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 163H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 164H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 701H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 702H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 703H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 704H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 705H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 706H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 707H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 708H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 901H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 903H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 905H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 907H		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: <i>Jessica Dooling</i>
Printed Name: Jessica Dooling
Title: Lead Regulatory Coordinator
E-mail Address: Jessica.dooling@exxonmobil.com
Date: 9/19/2022
Phone: 970-769-6048
<b>OIL CONSERVATION DIVISION</b> <b>(Only applicable when submitted as a standalone form)</b>
Approved By:
Title:
Approval Date:
Conditions of Approval:

**VI. Separation Equipment:**

XTO Permian Operating, LLC. production tank batteries include separation equipment designed to efficiently separate gas from liquid phases to optimize gas capture based on projected and estimated volumes from the targeted pool in conjunction with the total number of wells planned to or existing within the facility. Separation equipment is upgraded prior to well being drilled or completed, if determined to be undersized or needed. The separation equipment is designed and built according to the relevant industry specifications (API Specification 12J and ASME Sec VIII Div I). Other recognized industry publications such as the Gas Processors Suppliers Association (GPSA) are referenced when designing separation equipment to optimize gas capture.

**VII. Operational Practices:****1. Subsection B.**

- During drilling, flare stacks will be located a minimum of 150 feet from the nearest surface hole location. All gas is captured or combusted. If an emergency or malfunction occurs, gas will be flared or vented for public health, safety and the environment and be properly reported to the NMOCD pursuant to 19.15.27.8.G.
- Measure or estimate the volume of natural gas that is vented, flared or beneficially used during drilling, completion and production operations, regardless of the reason or authorization for such venting or flaring.
- At any point in the well life (drilling, completion, production, inactive) an audio, visual and olfactory (AVO) inspection will be performed weekly (at minimum) to confirm that all production equipment is operating properly and there are no leaks or releases except as allowed in Subsection D of 19.15.27.8 NMAC.

**2. Subsection C.**

- During completion operations, operator does not produce oil or gas but maintains adequate well control through completion operations.

For emergencies, equipment malfunction, or if the operator decides to produce oil and gas during well completion:

- Flowlines will be routed for flowback fluids into a completion or storage tank and, if feasible under well conditions, flare rather than vent and commence operation of a separator as soon as it is technically feasible for a separator to function.
- Measure or estimate the volume of natural gas that is vented, flared or beneficially used during drilling, completion and production operations, regardless of the reason or authorization for such venting or flaring.
- At any point in the well life (drilling, completion, production, inactive) an audio, visual and olfactory (AVO) inspection will be performed weekly (at minimum) to confirm that all production equipment is operating properly and there are no leaks or releases except as allowed in Subsection D of 19.15.27.8 NMAC.

**3. Subsection D.**

- At any point in the well life (drilling, completion, production, inactive) an audio, visual and olfactory (AVO) inspection will be performed weekly (at minimum) to confirm that all production equipment is operating properly and there are no leaks or releases except as allowed in Subsection D of 19.15.27.8 NMAC.
- Monitor manual liquid unloading for wells on-site or in close proximity (<30 minutes' drive time), take reasonable actions to achieve a stabilized rate and pressure at the earliest practical time, and take reasonable actions to minimize venting to the maximum extent practicable.



- Measure or estimate the volume of natural gas that is vented, flared or beneficially used during drilling, completion and production operations, regardless of the reason or authorization for such venting or flaring.
- 4. Subsection E.
  - All tanks and separation equipment are designed for maximum throughput and pressure to minimize waste.
  - Flare stack was installed prior to May 25, 2021 but has been designed for proper size and combustion efficiency. Flare currently has a continuous pilot and is located more than 100 feet from any known well and storage tanks.
  - At any point in the well life (drilling, completion, production, inactive) an audio, visual and olfactory (AVO) inspection will be performed weekly (at minimum) to confirm that all production equipment is operating properly and there are no leaks or releases except as allowed in Subsection D of 19.15.27.8 NMAC.
- 5. Subsection F.
  - Measurement equipment is installed to measure the volume of natural gas flared from process piping or a flowline piped from the equipment associated with a well and facility associated with the approved application for permit to drill that has an average daily production greater than 60 mcf of natural gas.
  - Measurement equipment installed is not designed or equipped with a manifold to allow diversion of natural gas around the metering equipment, except for the sole purpose of inspecting and servicing the measurement equipment, as noted in NMAC 19.15.27.8 Subsection G.

#### **VIII. Best Management Practices:**

1. During completion operations, operator does not produce oil or gas but maintains adequate well control through completion operations.
2. Operator does not flow well (well shut in) during initial production until all flowlines, tank batteries, and oil/gas takeaway are installed, tested, and determined operational.
3. Operator equips storage tanks with an automatic gauging system to reduce venting of natural gas.
4. Operator reduces the number of blowdowns by looking for opportunities to coordinate repair and maintenance activities.
5. Operator combusts natural gas that would otherwise be vented or flared, when feasible.
6. Operator has a flare stack designed in accordance with need and to handle sufficient volume to ensure proper combustion efficiency. Flare stacks are equipped with continuous pilots and securely anchored at least 100 feet (at minimum) from storage tanks and wells.
7. Operator minimizes venting (when feasible) through pump downs of vessels and reducing time required to purge equipment before returning equipment to service.
8. Operator will shut in wells (when feasible) in the event of a takeaway disruption, emergency situation, or other operations where venting or flaring may occur due to equipment failures.



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

# Drilling Plan Data Report

10/04/2021

APD ID: 10400080220

Submission Date: 10/03/2021

Highlighted data  
reflects the most  
recent changes

Operator Name: XTO ENERGY INC

Well Name: SHANGHAI ROOSTER 22-27 FED

Well Number: 901H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

## Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
6975200	QUATERNARY	3034	0	0	ALLUVIUM	NONE	N
6975201	RUSTLER ANHYDRITE	2465	569	569	ANHYDRITE, SANDSTONE, SILTSTONE	USEABLE WATER	N
6975202	TOP SALT	2208	826	826	SALT	NONE	N
6975203	BASE OF SALT	146	2888	2888	SALT	NONE	N
6975204	DELAWARE	-45	3079	3079	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
6975207	BRUSHY CANYON	-2531	5565	5565	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced wtr	Y
6975208	BONE SPRING	-3825	6859	6859	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced water	Y

## Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M

Rating Depth: 8816

**Equipment:** Once the permanent WH is installed on the 9-5/8" casing, the blow out preventer equipment (BOP) will consist of a 13-5/8 minimum 5M Hydril and a 13-5/8 minimum 5M 3-Ram BOP. MASP should not exceed 3779 psi. In any instance where 10M BOP is required by BLM, XTO requests a variance to utilize 5M annular with 10M ram preventers (a common BOP configuration, which allows use of 10M rams in unlikely event that pressures exceed 5M). Also a variance is requested to test the 5M annular to 70% of working pressure at 3500 psi.

**Requesting Variance?** YES

**Variance request:** A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test chart will be kept on the rig. Attached is an example of a certification and pressure test chart. The manufacturer does not require anchors. XTO requests a variance to be able to batch drill this well if necessary. In doing so, XTO will set each casing string and ensure that the well is cemented properly and the well is static. With floats holding, no pressure on the csg annulus, and the installation of a 10K TA cap as per manufacturer recommendations, XTO will contact the BLM on each rig skid on the pad. Once surface and intermediate strings are all completed, XTO will begin drilling the production hole on each of the wells. A variance is requested to ONLY test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53. API standard 53 states, that for pad drilling operation, moving from one wellhead to another within 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken. Based on discussions with the BLM on February 27th 2020, we will request permission to ONLY retest broken pressure seals if the following conditions are met: 1. After a full BOP test is conducted on the first well on the pad (First well will be the deepest Intermediate) 2. When skidding to drill an intermediate section does not penetrate into the Wolfcamp 3. Full BOP test will be required prior to drilling the production hole. A variance is requested to cement offline for the surface and

Page 1 of 6

**Operator Name:** XTO ENERGY INC**Well Name:** SHANGHAI ROOSTER 22-27 FED**Well Number:** 901H

intermediate casing strings according to attached offline cementing supporting documentation.

**Testing Procedure:** All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 70% of the working pressure. When nipping up on the 11-3/4", 10M bradenhead and flange, the BOP test will be limited to 7500 psi. All BOP tests will include a low pressure test as per BLM regulations. The 10M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

**Choke Diagram Attachment:**

Shanghai\_22\_27\_Fed\_10MCM\_20210907193820.pdf

**BOP Diagram Attachment:**

Shanghai\_22\_27\_Fed\_5M10MBOP\_20210907193858.pdf

**Section 3 - Casing**

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	12.25	9.625	NEW	API	N	0	776	0	776	3034	2258	776	J-55	40	BUTT	7.32	1.9	DRY	20.3	DRY	20.3
2	INTERMEDIATE	8.75	7.625	NEW	API	Y	0	8051	0	8051	0	-5017	8051	HCL-80	29.7	OTHER - Liberty FJ	2.8	2.92	DRY	2.33	DRY	2.33
3	PRODUCTION	6.75	5.5	NEW	API	Y	0	19230	0	8816	0	-5782	19230	P-110	23	OTHER - Semi-Flush	2.38	1.05	DRY	2.56	DRY	2.56

**Casing Attachments****Casing ID:** 1 **String Type:** SURFACE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

Shanghai\_Rooster\_22\_27\_901H\_csg\_20210910224047.pdf

**Operator Name:** XTO ENERGY INC**Well Name:** SHANGHAI ROOSTER 22-27 FED**Well Number:** 901H**Casing Attachments****Casing ID:** 2      **String Type:** INTERMEDIATE**Inspection Document:****Spec Document:****Tapered String Spec:**

Shanghai\_Rooster\_22\_27\_901H\_csg\_20210910224219.pdf

**Casing Design Assumptions and Worksheet(s):**

Shanghai\_Rooster\_22\_27\_901H\_csg\_20210910224310.pdf

**Casing ID:** 3      **String Type:** PRODUCTION**Inspection Document:****Spec Document:****Tapered String Spec:**

Shanghai\_Rooster\_22\_27\_901H\_csg\_20210910223822.pdf

**Casing Design Assumptions and Worksheet(s):**

Shanghai\_Rooster\_22\_27\_901H\_csg\_20210910223848.pdf

**Section 4 - Cement**

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	776	150	1.87	12.8	504.9	100	HalCem-C	2% CaCl
SURFACE	Tail		0	776	130	1.35	14.8	175.5	100	HalCem-C	2% CaCl
INTERMEDIATE	Lead		0	8051	480	2.77	10.5	6080.1	100	NeoCem - See Attachment for Cmt Variance	None
INTERMEDIATE	Tail		0	8051	520	1.35	14.8	1363.5	100	HalCem-C See Attachment for Cmt Variance	None



**Operator Name:** XTO ENERGY INC**Well Name:** SHANGHAI ROOSTER 22-27 FED**Well Number:** 901H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Lead		8816	1923 0	20	2.69	11.5	230	100	VersaCem	None
PRODUCTION	Tail		8816	1923 0	970	1.51	13.2	1464. 7	100	VersaCem	NONE

### Section 5 - Circulating Medium

**Mud System Type:** Closed**Will an air or gas system be Used?** NO**Description of the equipment for the circulating system in accordance with Onshore Order #2:****Diagram of the equipment for the circulating system in accordance with Onshore Order #2:**

**Describe what will be on location to control well or mitigate other conditions:** Spud with fresh water/native mud and set 9-5/8" surface casing, isolating the fresh water aquifer. Drill out from under 9-5/8 surface casing with a brine/oil direct emulsion mud system. 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.

**Describe the mud monitoring system utilized:** The necessary mud products for weight addition and fluid loss control will be on location at all times.

### Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	776	SPUD MUD	8.4	8.8							FW/Native Water
776	8051	OTHER : Brine/Cut Brine/Direct Emulsion	8.5	10.2							
8051	1923 0	OTHER : Cut Brine / WBM / OBM	10.8	12.3							

**Operator Name:** XTO ENERGY INC**Well Name:** SHANGHAI ROOSTER 22-27 FED**Well Number:** 901H

## Section 6 - Test, Logging, Coring

**List of production tests including testing procedures, equipment and safety measures:**

Mud Logger: Mud Logging Unit (2 man) below intermediate casing.

Open hole logging will not be done on this well.

**List of open and cased hole logs run in the well:**

GAMMA RAY LOG, CEMENT BOND LOG, DIRECTIONAL SURVEY,

**Coring operation description for the well:**

No coring operations are planned.

## Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 5180**Anticipated Surface Pressure:** 3240**Anticipated Bottom Hole Temperature(F):** 150**Anticipated abnormal pressures, temperatures, or potential geologic hazards?** NO**Describe:****Contingency Plans geohazards description:****Contingency Plans geohazards attachment:****Hydrogen Sulfide drilling operations plan required?** YES**Hydrogen sulfide drilling operations plan:**

Shanghai\_22\_27\_Fed\_H2S\_Plan\_20210907101745.pdf

Shanghai\_22\_27\_Fed\_H2S\_Dia\_1W\_20210910225033.pdf

## Section 8 - Other Information

**Proposed horizontal/directional/multi-lateral plan submission:**

Shanghai\_22\_27\_Fed\_901H\_DD\_20210910225159.pdf

**Other proposed operations facets description:****Other proposed operations facets attachment:****Other Variance attachment:**

Shanghai\_22\_27\_Fed\_FH\_20210907104844.pdf

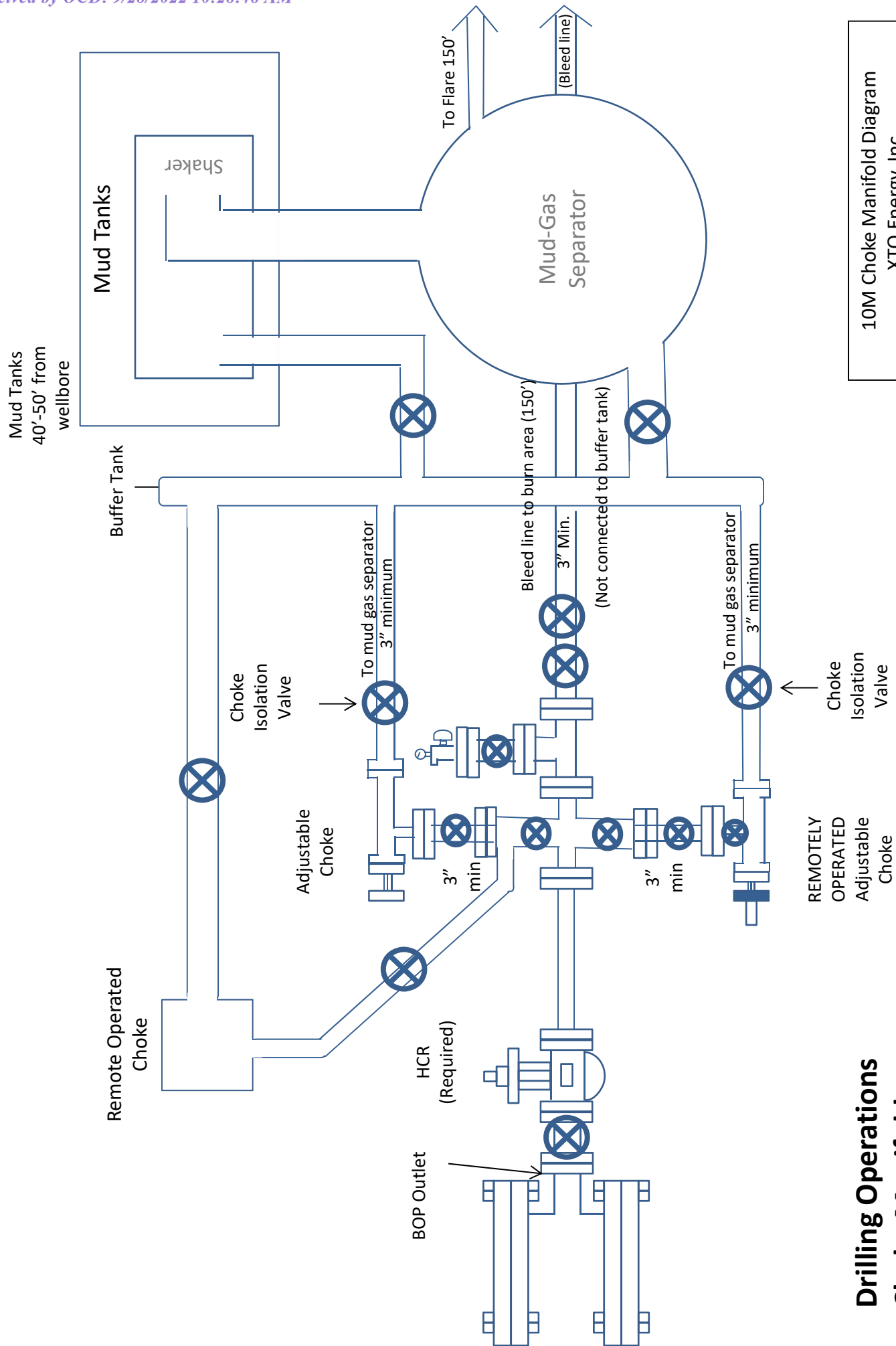
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Shanghai\_22\_27\_Fed\_break\_20210907103704.pdf

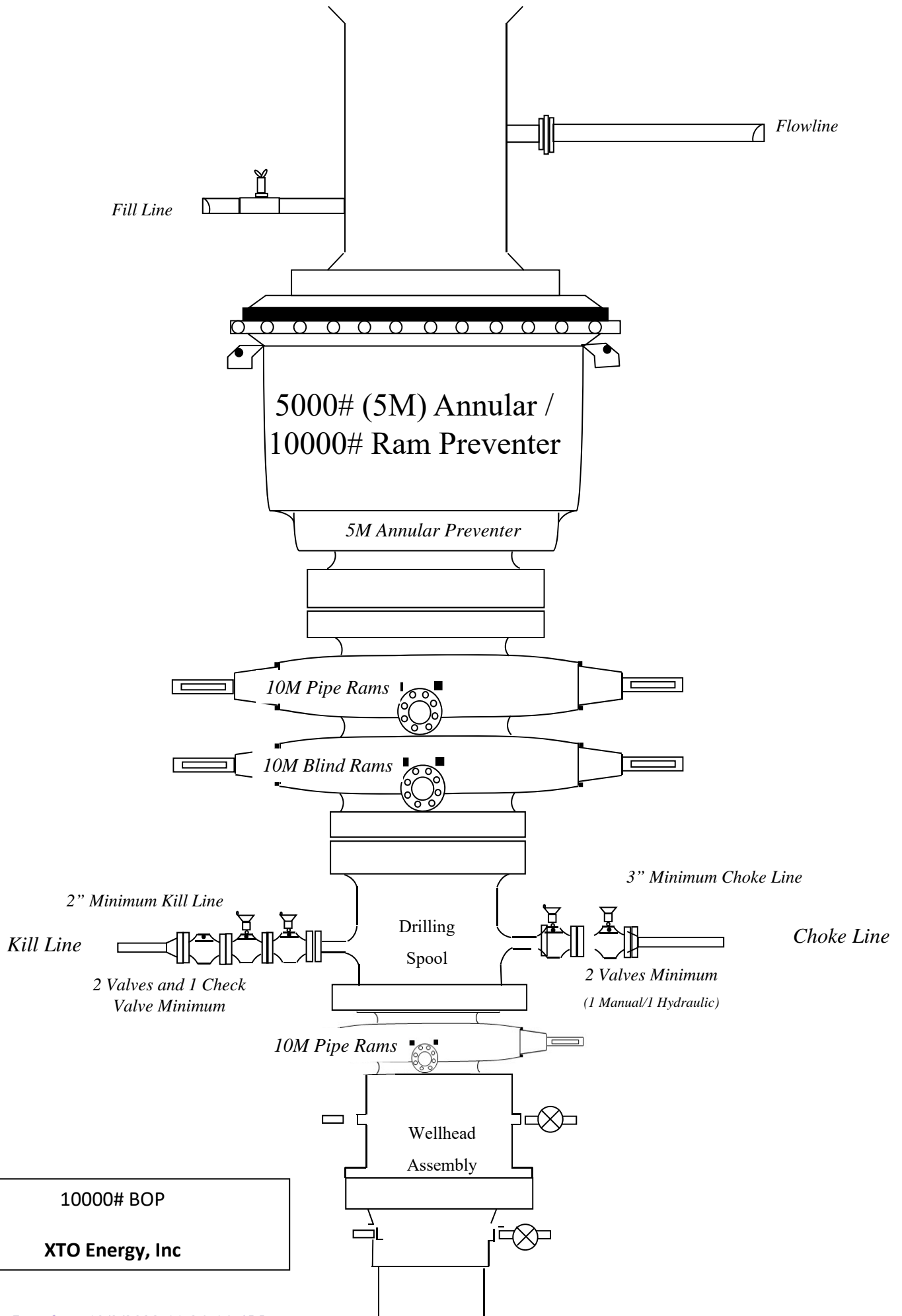
Shanghai\_22\_27\_Fed\_spud\_20210907104931.pdf

Shanghai\_22\_27\_Fed\_901H\_cmt\_20210910225222.pdf



10M Choke Manifold Diagram  
XTO Energy, Inc.

**Drilling Operations  
Choke Manifold  
10M Service**





**Casing Design**

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
12-1/4"	0' – 776'	9-5/8"	40	BTC	J-55	New	1.90	7.32	20.30
8-3/4"	0' – 4000'	7-5/8"	29.7	Liberty FJ	CYP-110	New	2.92	2.80	2.33
8-3/4"	4000' – 8051'	7-5/8"	29.7	Liberty FJ	HCL-80	New	2.12	2.73	3.37
6-3/4"	0' – 7951'	5-1/2"	20	Semi-Premium	P-110	New	1.05	2.38	2.56
6-3/4"	7951' – 11000'	5-1/2"	20	Semi-Flush	P-110	New	1.05	1.72	6.65
6-3/4"	11000' - 19230'	5"	18	Semi-Premium	P-110	New	1.16	2.60	19.25

- XTO requests to not utilize centralizers in the curve and lateral
- 7-5/8" Collapse analyzed using 50% evacuation based on regional experience
- 5-1/2" Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35
- Test on Casing will be limited to 70% burst of the casing or 1500 psi, whichever is less
- Request to use 5" BTC Float equipment for the the production casing

**Wellhead:***Permanent Wellhead – Multibowl System*

- Starting Head: 13-5/8" 10M top flange x 11-3/4" SOW bottom
- Tubing Head: 13-5/8" 10M bottom flange x 7-1/16" 15M top flange
  - Wellhead will be installed by manufacturer's representatives.
  - Manufacturer will monitor welding process to ensure appropriate temperature of seal.
  - Operator will test the 7-5/8" casing per BLM Onshore Order 2
  - Wellhead Manufacturer representative will not be present for BOP test plug installation

### **Cement Variance Request**

XTO requests to pump a two stage cement job on the 7-5/8" intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brushy Canyon (5565') and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. If cement is not visually confirmed to circulate to surface, the final cement top after the second stage job will be verified by Echo-meter. If necessary, a top out consisting of 1,500 sack of Class C cement + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (2.30 yld, 12.91 ppg) will be executed as a contingency. If cement is still unable to circulate to surface, another Echo-meter run will be performed for cement top verification.

XTO will 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 to pump an Optional Lead if well conditions dictate in an attempt to bring cement to surface on the first stage. If cement is brought to surface, the BLM will be notified and the second stage bradenhead squeeze and subsequent TOC verification will be negated.

In the event cement is not circulated to surface on the first stage, whether intentionally or unintentionally, 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 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 GE procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops.

**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 (OOGO) No. 2, 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. OOGO No. 2, Section I.D.2 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 OOGO No. 2, Section IV., XTO Energy submits this request for the variance.

**Supporting Documentation**

OOGO No. 2 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 OOGO No. 2 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

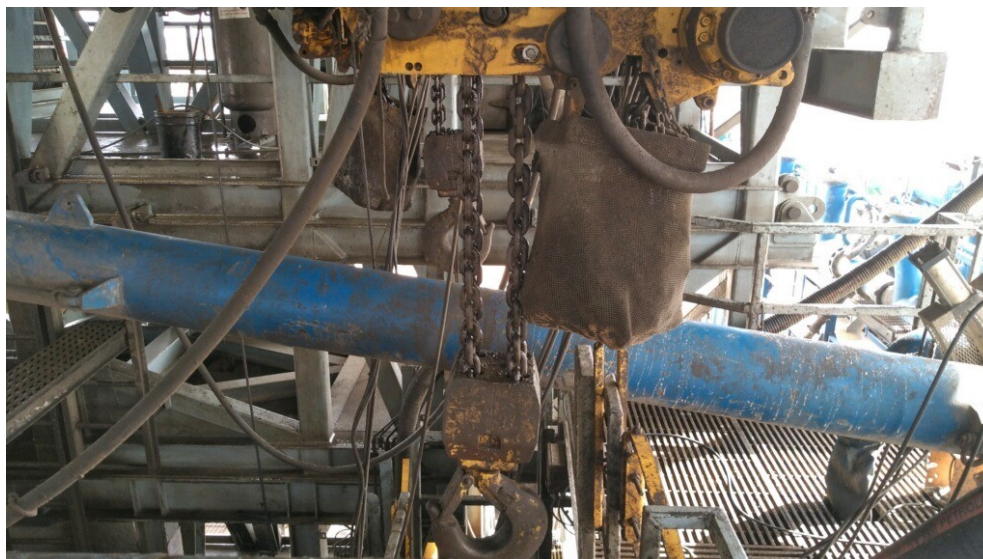


Figure 2: BOP Winch System

American Petroleum Institute (API) standards, specification and recommended practices are considered the industry standard and are consistently utilized and referenced by the industry. OOGO No. 2 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 <sup>ac</sup> psig (MPa)	Pressure Test—High Pressure <sup>ac</sup>	
		Change Out of Component, Elastomer, or Ring Gasket	No Change Out of Component, Elastomer, or Ring Gasket
Annular preventer <sup>b</sup>	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 <sup>bd</sup>	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 <sup>e</sup>	250 to 350 (1.72 to 2.41)	RWP of ram preventers or wellhead system, whichever is lower	ITP
Choke manifold—downstream of chokes <sup>e</sup>	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	

<sup>a</sup> 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.

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

<sup>c</sup> 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.

<sup>d</sup> 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.

<sup>e</sup> 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.

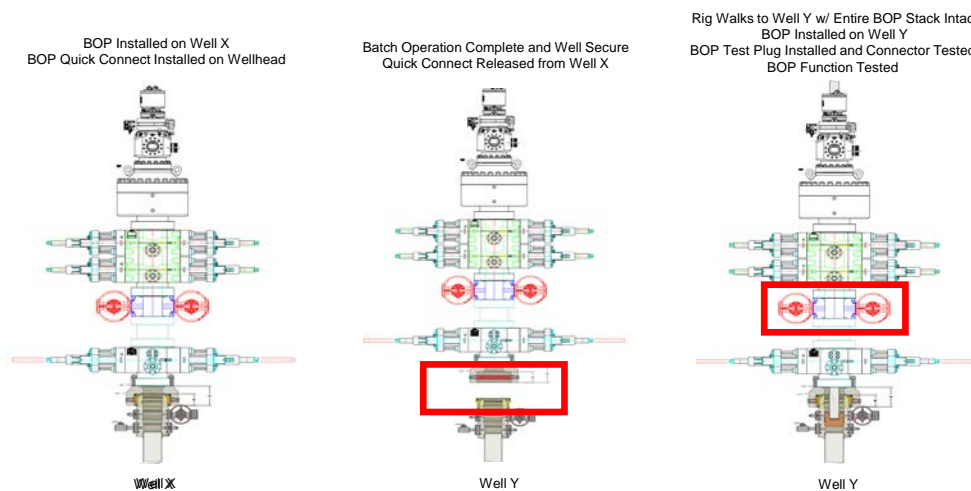
XTO Energy feels break testing and our current procedures meet the intent of OOGO No. 2 and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. XTO Energy's internal standards requires complete BOPE tests more often than that of OOGO No. 2 (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 OOGO No.2.

### **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.

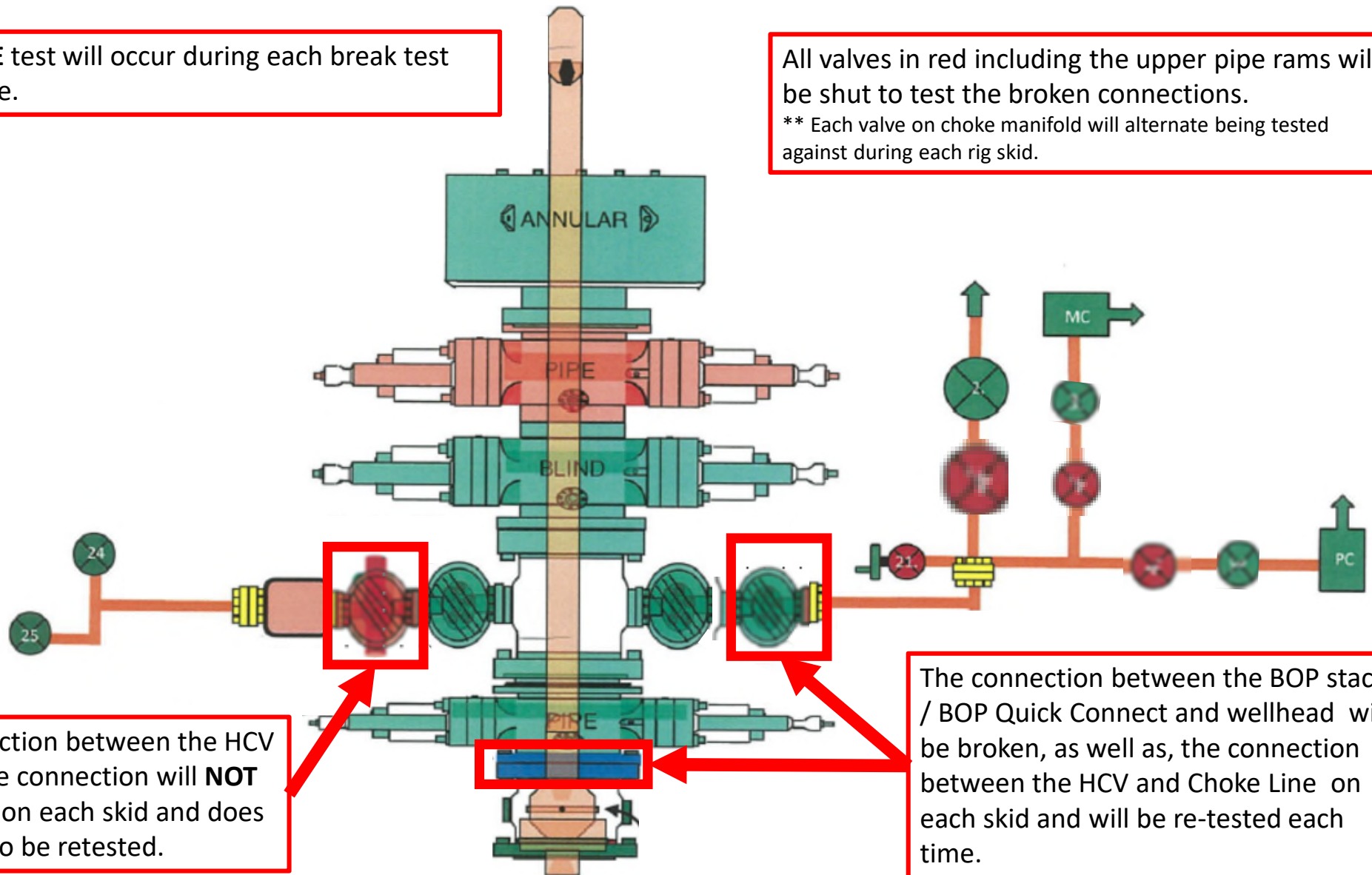
Based on discussions with the BLM on February 27th 2020 and the supporting documentation submitted to the BLM, we will request permission to **ONLY** retest broken pressure seals if the following conditions are met:

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.

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

Description of Operations:

1. Spudder rig will move in to drill the surface hole and pre-set surface casing on the well.
  - a. After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
  - b. The spudder rig will utilize fresh water-based mud to drill the surface hole to TD. Solids control will be handled entirely on a closed loop basis. No earth pits will be used.
2. The wellhead will be installed and tested as soon as the surface casing is cut off and WOC time has been reached.
3. A blind flange at the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on two wing valves.
  - a. A means for intervention will be maintained while the drilling rig is not over the well.
4. Spudder rig operations are expected to take 2-3 days per well on the pad.
5. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.
6. Drilling Operations will begin with a larger rig and a BOP stack equal to or greater than the pressure rating that was permitted will be nipped up and tested on the wellhead before drilling operations resume on each well.
  - a. The larger rig will move back onto the location within 180 days from the point at which the wells are secured and the spudder rig is moved off location.
  - b. The BLM will be notified 24 hours before the larger rig moves back on the pre-set locations
7. XTO will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.
8. Once the rig is removed, XTO will secure the wellhead area by placing a guard rail around the cellar area.





GATES E & S NORTH AMERICA, INC  
DU-TEX  
134 44TH STREET  
CORPUS CHRISTI, TEXAS 78405

PHONE: 361-887-9807  
FAX: 361-887-0812  
EMAIL: crpe@s@gates.com  
WEB: www.gates.com

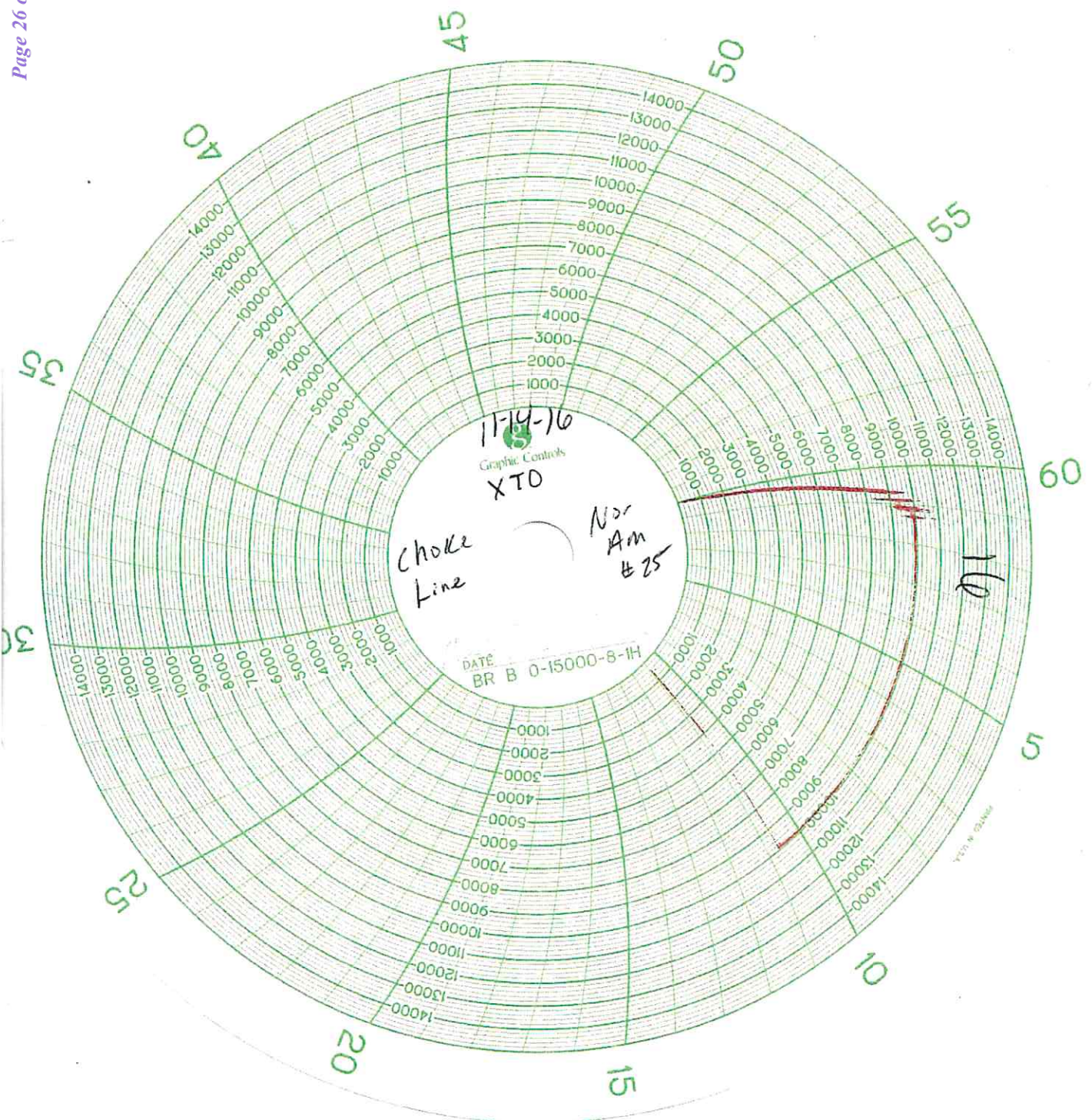
### GRADE D PRESSURE TEST CERTIFICATE

Customer :	AUSTIN DISTRIBUTING	Test Date:	6/8/2014
Customer Ref. :	PENDING	Hose Serial No.:	D-060814-1
Invoice No. :	201709	Created By:	NORMA
Product Description:	FD3.042.0R41/16.5KFLGE/E LE		
End Fitting 1 :	4 1/16 in.5K FLG	End Fitting 2 :	4 1/16 in.5K FLG
Gates Part No. :	4774-6001	Assembly Code :	L33090011513D-060814-1
Working Pressure :	5,000 PSI	Test Pressure :	7,500 PSI

Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 7,500 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.5 times the working pressure per Table 9.

Quality:	QUALITY	Technical Supervisor :	PRODUCTION
Date :	6/8/2014	Date :	6/8/2014
Signature :		Signature :	

Form PTC - 01 Rev.0 2









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CACTUS WELLHEAD LLC			ALL DIMENSIONS APPROXIMATE		
20" x 9-5/8" x 7-5/8" x 5-1/2" MBU-T-CFL-R-DBLO Wellhead With 11" 10M x 7-1/16" 15M CTH-DBLHPS Tubing Head And 9-5/8", 7-5/8" & 5-1/2" Pin Bottom Mandrel Casing Hangers			XTO ENERGY INC ICARUS PAD		
DRAWN		DLE	18JAN21		
APPRV					
DRAWING NO.		HBE0000479			

**XTO Permian Operating, LLC Offline Cementing Variance Request**

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

**1. Cement Program**

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

**2. Offline Cementing Procedure**

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

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



Annular packoff with both external and internal seals

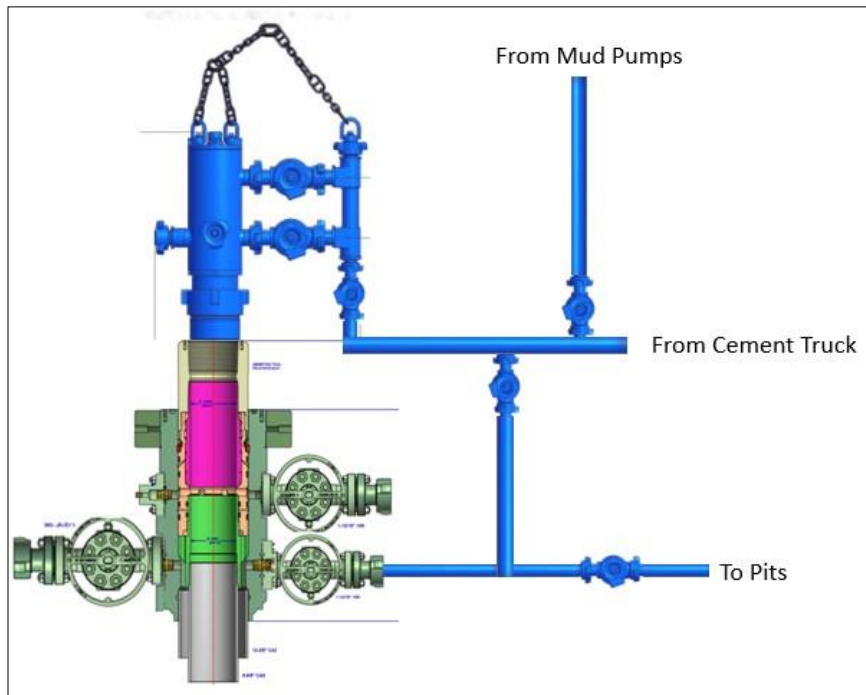
## XTO Permian Operating, LLC Offline Cementing Variance Request



Wellhead diagram during skidding operations

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



**XTO Permian Operating, LLC Offline Cementing Variance Request**

Wellhead diagram during offline cementing operations

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



## **XTO Energy**

**Eddy County, NM (NAD-27)  
Shanghai Rooster 22-27 Fed  
#901H**

**Wellbore #1**

**Plan: PERMIT**

## **Standard Planning Report**

**25 July, 2021**



Project: Eddy County, NM (NAD-27)  
Site: Shanghai Rooster 22-27 Fed  
Well: #901H  
Wellbore: Wellbore #1  
Design: PERMIT

PROJECT DETAILS: Eddy County, NM (NAD-27)  
Geodetic System: US State Plane 1927 (Exact solution)  
Datum: NAD 1927 (NADCON CONUS)  
Ellipsoid: Clarke 1866  
Zone: New Mexico East 3001  
System Datum: Mean Sea Level

WELL DETAILS: #901H

Rig Name:		RKB = 24' @ 3058.00usft		Ground Level: 3034.00	
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	408841.00	609560.00	32.1235257	-103.9794336

DESIGN TARGET DETAILS

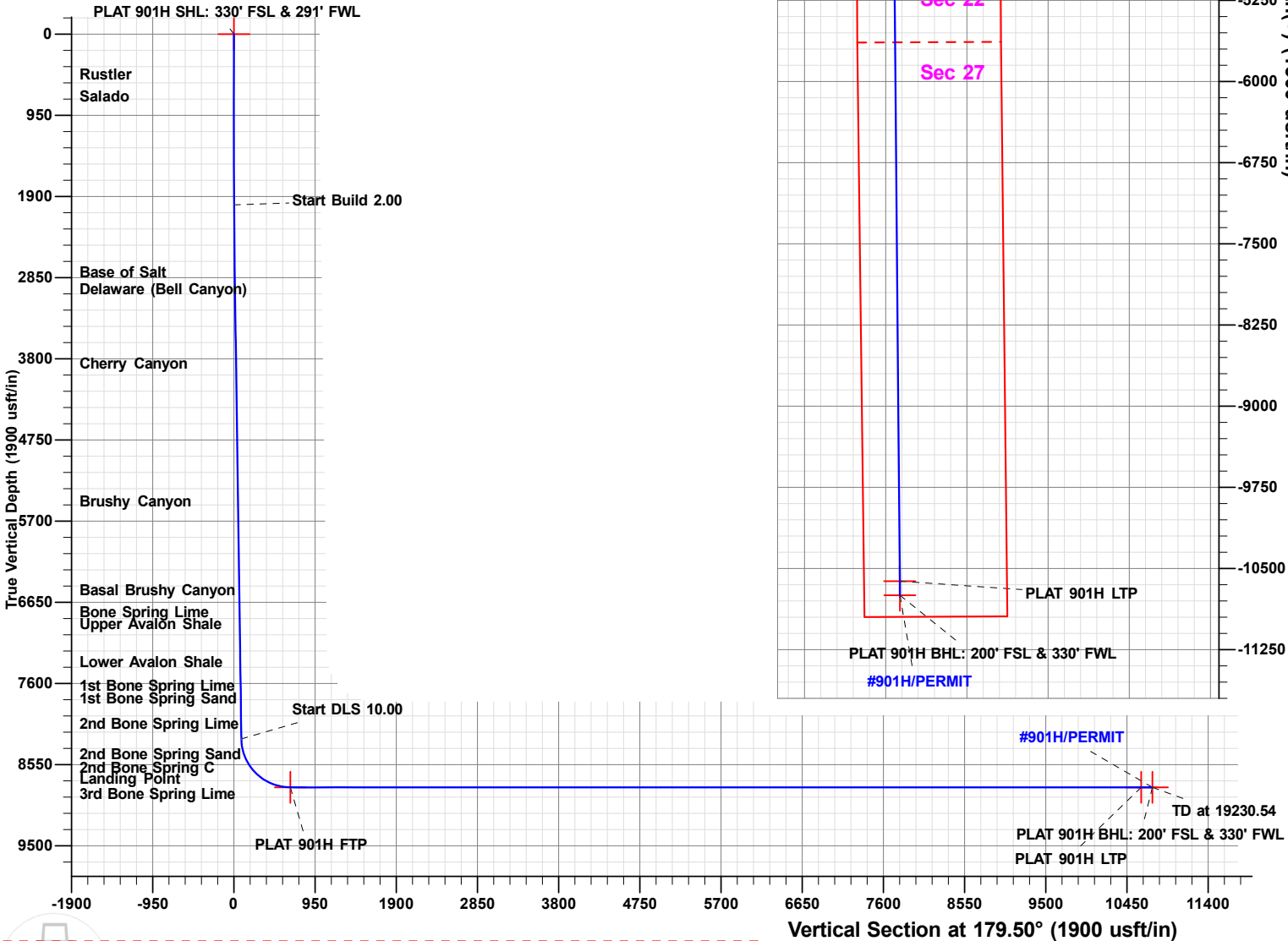
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PLAT 901H SHL: 330' FSL & 291' FWL	0.00	0.00	0.00	408841.00	609560.00	32.1235257	-103.9794336	Point
PLAT 901H BHL: 200' FSL & 330' FWL	8816.00	-10746.20	130.80	398094.80	609690.80	32.0939833	-103.9791252	Point
PLAT 901H FTP	8816.00	-659.80	42.50	408181.20	609602.50	32.1217116	-103.9793034	Point
PLAT 901H LTP	8816.00	-10616.20	129.20	398224.80	609689.20	32.0943407	-103.9791290	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00
3	2043.00	0.86	158.40	2043.00	-0.30	0.12	2.00	158.40	0.30
4	8251.77	0.86	158.40	8251.07	-86.95	34.43	0.00	0.00	87.24
5	9143.75	90.00	179.50	8816.00	-659.80	42.50	10.00	21.10	660.15
6	19100.53	90.00	179.50	8816.00	-10616.20	129.66	0.00	0.00	10616.92
7	19230.54	90.00	179.50	8816.00	-10746.20	130.80	0.00	0.00	10746.93

FORMATION TOP DETAILS

TVDPath	Formation
569.00	Rustler
826.00	Salado
2888.00	Base of Salt
3079.00	Delaware (Bell Canyon)
3954.00	Cherry Canyon
5565.00	Brushy Canyon
6607.00	Basal Brushy Canyon
6859.00	Bone Spring Lime
7004.00	Upper Avalon Shale
7446.00	Lower Avalon Shale
7721.00	1st Bone Spring Lime
7771.00	1st Bone Spring Sand
8171.00	2nd Bone Spring Lime
8597.00	2nd Bone Spring Sand
8779.00	2nd Bone Spring C
8816.00	Landing Point



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## Planning Report

<b>Database:</b>	EDM 5000.1.13 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #901H
<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	RKB = 24' @ 3058.00usft
<b>Project:</b>	Eddy County, NM (NAD-27)	<b>MD Reference:</b>	RKB = 24' @ 3058.00usft
<b>Site:</b>	Shanghai Rooster 22-27 Fed	<b>North Reference:</b>	Grid
<b>Well:</b>	#901H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	PERMIT		

<b>Project</b>	Eddy County, NM (NAD-27)		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	New Mexico East 3001		

Site		Shanghai Rooster 22-27 Fed			
Site Position:		Northing:	408,856.20 usft	Latitude:	32.1235419
From:	Map	Easting:	612,365.50 usft	Longitude:	-103.9703713
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.19 °

Well	#901H					
Well Position	+N/-S	-15.20 usft	Northing:	408,841.00 usft	Latitude:	32.1235258
	+E/-W	-2,805.50 usft	Easting:	609,560.00 usft	Longitude:	-103.9794336
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,034.00 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2020	07/25/21	6.71	59.74	47,383

<b>Design</b>	PERMIT				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00	
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	179.50	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,043.00	0.86	158.40	2,043.00	-0.30	0.12	2.00	2.00	0.00	158.40	
8,251.78	0.86	158.40	8,251.07	-86.95	34.43	0.00	0.00	0.00	0.00	
9,143.75	90.00	179.50	8,816.00	-659.80	42.50	10.00	9.99	2.37	21.10	PLAT 901H FTP
19,100.53	90.00	179.50	8,816.00	-10,616.20	129.66	0.00	0.00	0.00	0.00	PLAT 901H LTP
19,230.54	90.00	179.50	8,816.00	-10,746.20	130.80	0.00	0.00	0.00	0.00	PLAT 901H BHL: 20



## Planning Report

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<b>Site:</b>	Shanghai Rooster 22-27 Fed	<b>North Reference:</b>	Grid
<b>Well:</b>	#901H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	PERMIT		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
569.00	0.00	0.00	569.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Rustler</b>									
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
826.00	0.00	0.00	826.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Salado</b>									
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,043.00	0.86	158.40	2,043.00	-0.30	0.12	0.30	2.00	2.00	0.00
2,100.00	0.86	158.40	2,099.99	-1.10	0.43	1.10	0.00	0.00	0.00
2,200.00	0.86	158.40	2,199.98	-2.49	0.99	2.50	0.00	0.00	0.00
2,300.00	0.86	158.40	2,299.97	-3.89	1.54	3.90	0.00	0.00	0.00
2,400.00	0.86	158.40	2,399.96	-5.28	2.09	5.30	0.00	0.00	0.00
2,500.00	0.86	158.40	2,499.95	-6.68	2.64	6.70	0.00	0.00	0.00
2,600.00	0.86	158.40	2,599.94	-8.07	3.20	8.10	0.00	0.00	0.00
2,700.00	0.86	158.40	2,699.92	-9.47	3.75	9.50	0.00	0.00	0.00
2,800.00	0.86	158.40	2,799.91	-10.86	4.30	10.90	0.00	0.00	0.00
2,888.10	0.86	158.40	2,888.00	-12.09	4.79	12.14	0.00	0.00	0.00
<b>Base of Salt</b>									
2,900.00	0.86	158.40	2,899.90	-12.26	4.86	12.30	0.00	0.00	0.00
3,000.00	0.86	158.40	2,999.89	-13.66	5.41	13.70	0.00	0.00	0.00
3,079.12	0.86	158.40	3,079.00	-14.76	5.84	14.81	0.00	0.00	0.00
<b>Delaware (Bell Canyon)</b>									
3,100.00	0.86	158.40	3,099.88	-15.05	5.96	15.10	0.00	0.00	0.00
3,200.00	0.86	158.40	3,199.87	-16.45	6.51	16.50	0.00	0.00	0.00
3,300.00	0.86	158.40	3,299.86	-17.84	7.07	17.90	0.00	0.00	0.00
3,400.00	0.86	158.40	3,399.85	-19.24	7.62	19.30	0.00	0.00	0.00
3,500.00	0.86	158.40	3,499.83	-20.63	8.17	20.70	0.00	0.00	0.00
3,600.00	0.86	158.40	3,599.82	-22.03	8.72	22.10	0.00	0.00	0.00
3,700.00	0.86	158.40	3,699.81	-23.42	9.28	23.50	0.00	0.00	0.00
3,800.00	0.86	158.40	3,799.80	-24.82	9.83	24.90	0.00	0.00	0.00
3,900.00	0.86	158.40	3,899.79	-26.22	10.38	26.31	0.00	0.00	0.00
3,954.22	0.86	158.40	3,954.00	-26.97	10.68	27.06	0.00	0.00	0.00
<b>Cherry Canyon</b>									
4,000.00	0.86	158.40	3,999.78	-27.61	10.93	27.71	0.00	0.00	0.00
4,100.00	0.86	158.40	4,099.77	-29.01	11.49	29.11	0.00	0.00	0.00
4,200.00	0.86	158.40	4,199.76	-30.40	12.04	30.51	0.00	0.00	0.00





## Planning Report

<b>Database:</b>	EDM 5000.1.13 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #901H
<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	RKB = 24' @ 3058.00usft
<b>Project:</b>	Eddy County, NM (NAD-27)	<b>MD Reference:</b>	RKB = 24' @ 3058.00usft
<b>Site:</b>	Shanghai Rooster 22-27 Fed	<b>North Reference:</b>	Grid
<b>Well:</b>	#901H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	PERMIT		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,300.00	0.86	158.40	4,299.74	-31.80	12.59	31.91	0.00	0.00	0.00
4,400.00	0.86	158.40	4,399.73	-33.19	13.14	33.31	0.00	0.00	0.00
4,500.00	0.86	158.40	4,499.72	-34.59	13.70	34.71	0.00	0.00	0.00
4,600.00	0.86	158.40	4,599.71	-35.98	14.25	36.11	0.00	0.00	0.00
4,700.00	0.86	158.40	4,699.70	-37.38	14.80	37.51	0.00	0.00	0.00
4,800.00	0.86	158.40	4,799.69	-38.78	15.36	38.91	0.00	0.00	0.00
4,900.00	0.86	158.40	4,899.68	-40.17	15.91	40.31	0.00	0.00	0.00
5,000.00	0.86	158.40	4,999.67	-41.57	16.46	41.71	0.00	0.00	0.00
5,100.00	0.86	158.40	5,099.65	-42.96	17.01	43.11	0.00	0.00	0.00
5,200.00	0.86	158.40	5,199.64	-44.36	17.57	44.51	0.00	0.00	0.00
5,300.00	0.86	158.40	5,299.63	-45.75	18.12	45.91	0.00	0.00	0.00
5,400.00	0.86	158.40	5,399.62	-47.15	18.67	47.31	0.00	0.00	0.00
5,500.00	0.86	158.40	5,499.61	-48.54	19.22	48.71	0.00	0.00	0.00
5,565.40	0.86	158.40	5,565.00	-49.46	19.59	49.63	0.00	0.00	0.00
<b>Brushy Canyon</b>									
5,600.00	0.86	158.40	5,599.60	-49.94	19.78	50.11	0.00	0.00	0.00
5,700.00	0.86	158.40	5,699.59	-51.34	20.33	51.51	0.00	0.00	0.00
5,800.00	0.86	158.40	5,799.58	-52.73	20.88	52.91	0.00	0.00	0.00
5,900.00	0.86	158.40	5,899.56	-54.13	21.43	54.31	0.00	0.00	0.00
6,000.00	0.86	158.40	5,999.55	-55.52	21.99	55.71	0.00	0.00	0.00
6,100.00	0.86	158.40	6,099.54	-56.92	22.54	57.11	0.00	0.00	0.00
6,200.00	0.86	158.40	6,199.53	-58.31	23.09	58.51	0.00	0.00	0.00
6,300.00	0.86	158.40	6,299.52	-59.71	23.65	59.91	0.00	0.00	0.00
6,400.00	0.86	158.40	6,399.51	-61.10	24.20	61.31	0.00	0.00	0.00
6,500.00	0.86	158.40	6,499.50	-62.50	24.75	62.71	0.00	0.00	0.00
6,600.00	0.86	158.40	6,599.49	-63.90	25.30	64.11	0.00	0.00	0.00
6,607.52	0.86	158.40	6,607.00	-64.00	25.34	64.22	0.00	0.00	0.00
<b>Basal Brushy Canyon</b>									
6,700.00	0.86	158.40	6,699.47	-65.29	25.86	65.51	0.00	0.00	0.00
6,800.00	0.86	158.40	6,799.46	-66.69	26.41	66.91	0.00	0.00	0.00
6,859.54	0.86	158.40	6,859.00	-67.52	26.74	67.75	0.00	0.00	0.00
<b>Bone Spring Lime</b>									
6,900.00	0.86	158.40	6,899.45	-68.08	26.96	68.31	0.00	0.00	0.00
7,000.00	0.86	158.40	6,999.44	-69.48	27.51	69.72	0.00	0.00	0.00
7,004.56	0.86	158.40	7,004.00	-69.54	27.54	69.78	0.00	0.00	0.00
<b>Upper Avalon Shale</b>									
7,100.00	0.86	158.40	7,099.43	-70.87	28.07	71.12	0.00	0.00	0.00
7,200.00	0.86	158.40	7,199.42	-72.27	28.62	72.52	0.00	0.00	0.00
7,300.00	0.86	158.40	7,299.41	-73.66	29.17	73.92	0.00	0.00	0.00
7,400.00	0.86	158.40	7,399.40	-75.06	29.72	75.32	0.00	0.00	0.00
7,446.61	0.86	158.40	7,446.00	-75.71	29.98	75.97	0.00	0.00	0.00
<b>Lower Avalon Shale</b>									
7,500.00	0.86	158.40	7,499.38	-76.46	30.28	76.72	0.00	0.00	0.00
7,600.00	0.86	158.40	7,599.37	-77.85	30.83	78.12	0.00	0.00	0.00
7,700.00	0.86	158.40	7,699.36	-79.25	31.38	79.52	0.00	0.00	0.00
7,721.64	0.86	158.40	7,721.00	-79.55	31.50	79.82	0.00	0.00	0.00
<b>1st Bone Spring Lime</b>									
7,771.65	0.86	158.40	7,771.00	-80.25	31.78	80.52	0.00	0.00	0.00
<b>1st Bone Spring Sand</b>									
7,800.00	0.86	158.40	7,799.35	-80.64	31.93	80.92	0.00	0.00	0.00
7,900.00	0.86	158.40	7,899.34	-82.04	32.49	82.32	0.00	0.00	0.00
8,000.00	0.86	158.40	7,999.33	-83.43	33.04	83.72	0.00	0.00	0.00
8,100.00	0.86	158.40	8,099.32	-84.83	33.59	85.12	0.00	0.00	0.00



## Planning Report

<b>Database:</b>	EDM 5000.1.13 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #901H
<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	RKB = 24' @ 3058.00usft
<b>Project:</b>	Eddy County, NM (NAD-27)	<b>MD Reference:</b>	RKB = 24' @ 3058.00usft
<b>Site:</b>	Shanghai Rooster 22-27 Fed	<b>North Reference:</b>	Grid
<b>Well:</b>	#901H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	PERMIT		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,171.69	0.86	158.40	8,171.00	-85.83	33.99	86.12	0.00	0.00	0.00
<b>2nd Bone Spring Lime</b>									
8,200.00	0.86	158.40	8,199.30	-86.22	34.15	86.52	0.00	0.00	0.00
8,251.78	0.86	158.40	8,251.07	-86.95	34.43	87.24	0.00	0.00	0.00
8,300.00	5.63	176.36	8,299.21	-89.65	34.72	89.95	10.00	9.90	37.24
8,350.00	10.63	177.85	8,348.69	-96.71	35.04	97.01	10.00	9.99	2.98
8,400.00	15.63	178.39	8,397.37	-108.06	35.41	108.36	10.00	10.00	1.09
8,450.00	20.63	178.68	8,444.87	-123.60	35.80	123.91	10.00	10.00	0.57
8,500.00	25.63	178.85	8,490.84	-143.23	36.22	143.54	10.00	10.00	0.35
8,550.00	30.63	178.98	8,534.92	-166.79	36.66	167.10	10.00	10.00	0.24
8,600.00	35.63	179.07	8,576.78	-194.10	37.13	194.42	10.00	10.00	0.18
8,625.28	38.15	179.10	8,597.00	-209.28	37.37	209.59	10.00	10.00	0.15
<b>2nd Bone Spring Sand</b>									
8,650.00	40.63	179.14	8,616.10	-224.96	37.61	225.28	10.00	10.00	0.13
8,700.00	45.63	179.20	8,652.58	-259.12	38.11	259.45	10.00	10.00	0.12
8,750.00	50.63	179.24	8,685.95	-296.34	38.62	296.66	10.00	10.00	0.10
8,800.00	55.63	179.29	8,715.94	-336.32	39.13	336.65	10.00	10.00	0.08
8,850.00	60.63	179.32	8,742.33	-378.76	39.64	379.10	10.00	10.00	0.08
8,900.00	65.63	179.36	8,764.93	-423.35	40.15	423.68	10.00	10.00	0.07
8,936.72	69.30	179.38	8,779.00	-457.25	40.53	457.59	10.00	10.00	0.06
<b>2nd Bone Spring C</b>									
8,950.00	70.63	179.39	8,783.55	-469.73	40.66	470.07	10.00	10.00	0.06
9,000.00	75.63	179.42	8,798.06	-517.56	41.16	517.90	10.00	10.00	0.06
9,050.00	80.63	179.45	8,808.35	-566.47	41.64	566.81	10.00	10.00	0.06
9,100.00	85.62	179.47	8,814.33	-616.09	42.11	616.44	10.00	10.00	0.05
9,143.75	90.00	179.50	8,816.00	-659.80	42.50	660.15	10.00	10.00	0.05
<b>Landing Point</b>									
9,200.00	90.00	179.50	8,816.00	-716.05	42.99	716.39	0.00	0.00	0.00
9,300.00	90.00	179.50	8,816.00	-816.04	43.87	816.39	0.00	0.00	0.00
9,400.00	90.00	179.50	8,816.00	-916.04	44.74	916.39	0.00	0.00	0.00
9,500.00	90.00	179.50	8,816.00	-1,016.04	45.62	1,016.39	0.00	0.00	0.00
9,600.00	90.00	179.50	8,816.00	-1,116.03	46.49	1,116.39	0.00	0.00	0.00
9,700.00	90.00	179.50	8,816.00	-1,216.03	47.37	1,216.39	0.00	0.00	0.00
9,800.00	90.00	179.50	8,816.00	-1,316.02	48.24	1,316.39	0.00	0.00	0.00
9,900.00	90.00	179.50	8,816.00	-1,416.02	49.12	1,416.39	0.00	0.00	0.00
10,000.00	90.00	179.50	8,816.00	-1,516.02	50.00	1,516.39	0.00	0.00	0.00
10,100.00	90.00	179.50	8,816.00	-1,616.01	50.87	1,616.39	0.00	0.00	0.00
10,200.00	90.00	179.50	8,816.00	-1,716.01	51.75	1,716.39	0.00	0.00	0.00
10,300.00	90.00	179.50	8,816.00	-1,816.00	52.62	1,816.39	0.00	0.00	0.00
10,400.00	90.00	179.50	8,816.00	-1,916.00	53.50	1,916.39	0.00	0.00	0.00
10,500.00	90.00	179.50	8,816.00	-2,016.00	54.37	2,016.39	0.00	0.00	0.00
10,600.00	90.00	179.50	8,816.00	-2,115.99	55.25	2,116.39	0.00	0.00	0.00
10,700.00	90.00	179.50	8,816.00	-2,215.99	56.12	2,216.39	0.00	0.00	0.00
10,800.00	90.00	179.50	8,816.00	-2,315.99	57.00	2,316.39	0.00	0.00	0.00
10,900.00	90.00	179.50	8,816.00	-2,415.98	57.87	2,416.39	0.00	0.00	0.00
11,000.00	90.00	179.50	8,816.00	-2,515.98	58.75	2,516.39	0.00	0.00	0.00
11,100.00	90.00	179.50	8,816.00	-2,615.97	59.63	2,616.39	0.00	0.00	0.00
11,200.00	90.00	179.50	8,816.00	-2,715.97	60.50	2,716.39	0.00	0.00	0.00
11,300.00	90.00	179.50	8,816.00	-2,815.97	61.38	2,816.39	0.00	0.00	0.00
11,400.00	90.00	179.50	8,816.00	-2,915.96	62.25	2,916.39	0.00	0.00	0.00
11,500.00	90.00	179.50	8,816.00	-3,015.96	63.13	3,016.39	0.00	0.00	0.00
11,600.00	90.00	179.50	8,816.00	-3,115.95	64.00	3,116.39	0.00	0.00	0.00
11,700.00	90.00	179.50	8,816.00	-3,215.95	64.88	3,216.39	0.00	0.00	0.00
11,800.00	90.00	179.50	8,816.00	-3,315.95	65.75	3,316.39	0.00	0.00	0.00



## Planning Report

<b>Database:</b>	EDM 5000.1.13 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #901H
<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	RKB = 24' @ 3058.00usft
<b>Project:</b>	Eddy County, NM (NAD-27)	<b>MD Reference:</b>	RKB = 24' @ 3058.00usft
<b>Site:</b>	Shanghai Rooster 22-27 Fed	<b>North Reference:</b>	Grid
<b>Well:</b>	#901H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	PERMIT		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,900.00	90.00	179.50	8,816.00	-3,415.94	66.63	3,416.39	0.00	0.00	0.00
12,000.00	90.00	179.50	8,816.00	-3,515.94	67.50	3,516.39	0.00	0.00	0.00
12,100.00	90.00	179.50	8,816.00	-3,615.94	68.38	3,616.39	0.00	0.00	0.00
12,200.00	90.00	179.50	8,816.00	-3,715.93	69.25	3,716.39	0.00	0.00	0.00
12,300.00	90.00	179.50	8,816.00	-3,815.93	70.13	3,816.39	0.00	0.00	0.00
12,400.00	90.00	179.50	8,816.00	-3,915.92	71.01	3,916.39	0.00	0.00	0.00
12,500.00	90.00	179.50	8,816.00	-4,015.92	71.88	4,016.39	0.00	0.00	0.00
12,600.00	90.00	179.50	8,816.00	-4,115.92	72.76	4,116.39	0.00	0.00	0.00
12,700.00	90.00	179.50	8,816.00	-4,215.91	73.63	4,216.39	0.00	0.00	0.00
12,800.00	90.00	179.50	8,816.00	-4,315.91	74.51	4,316.39	0.00	0.00	0.00
12,900.00	90.00	179.50	8,816.00	-4,415.90	75.38	4,416.39	0.00	0.00	0.00
13,000.00	90.00	179.50	8,816.00	-4,515.90	76.26	4,516.39	0.00	0.00	0.00
13,100.00	90.00	179.50	8,816.00	-4,615.90	77.13	4,616.39	0.00	0.00	0.00
13,200.00	90.00	179.50	8,816.00	-4,715.89	78.01	4,716.39	0.00	0.00	0.00
13,300.00	90.00	179.50	8,816.00	-4,815.89	78.88	4,816.39	0.00	0.00	0.00
13,400.00	90.00	179.50	8,816.00	-4,915.89	79.76	4,916.39	0.00	0.00	0.00
13,500.00	90.00	179.50	8,816.00	-5,015.88	80.63	5,016.39	0.00	0.00	0.00
13,600.00	90.00	179.50	8,816.00	-5,115.88	81.51	5,116.39	0.00	0.00	0.00
13,700.00	90.00	179.50	8,816.00	-5,215.87	82.39	5,216.39	0.00	0.00	0.00
13,800.00	90.00	179.50	8,816.00	-5,315.87	83.26	5,316.39	0.00	0.00	0.00
13,900.00	90.00	179.50	8,816.00	-5,415.87	84.14	5,416.39	0.00	0.00	0.00
14,000.00	90.00	179.50	8,816.00	-5,515.86	85.01	5,516.39	0.00	0.00	0.00
14,100.00	90.00	179.50	8,816.00	-5,615.86	85.89	5,616.39	0.00	0.00	0.00
14,200.00	90.00	179.50	8,816.00	-5,715.86	86.76	5,716.39	0.00	0.00	0.00
14,300.00	90.00	179.50	8,816.00	-5,815.85	87.64	5,816.39	0.00	0.00	0.00
14,400.00	90.00	179.50	8,816.00	-5,915.85	88.51	5,916.39	0.00	0.00	0.00
14,500.00	90.00	179.50	8,816.00	-6,015.84	89.39	6,016.39	0.00	0.00	0.00
14,600.00	90.00	179.50	8,816.00	-6,115.84	90.26	6,116.39	0.00	0.00	0.00
14,700.00	90.00	179.50	8,816.00	-6,215.84	91.14	6,216.39	0.00	0.00	0.00
14,800.00	90.00	179.50	8,816.00	-6,315.83	92.01	6,316.39	0.00	0.00	0.00
14,900.00	90.00	179.50	8,816.00	-6,415.83	92.89	6,416.39	0.00	0.00	0.00
15,000.00	90.00	179.50	8,816.00	-6,515.82	93.77	6,516.39	0.00	0.00	0.00
15,100.00	90.00	179.50	8,816.00	-6,615.82	94.64	6,616.39	0.00	0.00	0.00
15,200.00	90.00	179.50	8,816.00	-6,715.82	95.52	6,716.39	0.00	0.00	0.00
15,300.00	90.00	179.50	8,816.00	-6,815.81	96.39	6,816.39	0.00	0.00	0.00
15,400.00	90.00	179.50	8,816.00	-6,915.81	97.27	6,916.39	0.00	0.00	0.00
15,500.00	90.00	179.50	8,816.00	-7,015.81	98.14	7,016.39	0.00	0.00	0.00
15,600.00	90.00	179.50	8,816.00	-7,115.80	99.02	7,116.39	0.00	0.00	0.00
15,700.00	90.00	179.50	8,816.00	-7,215.80	99.89	7,216.39	0.00	0.00	0.00
15,800.00	90.00	179.50	8,816.00	-7,315.79	100.77	7,316.39	0.00	0.00	0.00
15,900.00	90.00	179.50	8,816.00	-7,415.79	101.64	7,416.39	0.00	0.00	0.00
16,000.00	90.00	179.50	8,816.00	-7,515.79	102.52	7,516.39	0.00	0.00	0.00
16,100.00	90.00	179.50	8,816.00	-7,615.78	103.40	7,616.39	0.00	0.00	0.00
16,200.00	90.00	179.50	8,816.00	-7,715.78	104.27	7,716.39	0.00	0.00	0.00
16,300.00	90.00	179.50	8,816.00	-7,815.77	105.15	7,816.39	0.00	0.00	0.00
16,400.00	90.00	179.50	8,816.00	-7,915.77	106.02	7,916.39	0.00	0.00	0.00
16,500.00	90.00	179.50	8,816.00	-8,015.77	106.90	8,016.39	0.00	0.00	0.00
16,600.00	90.00	179.50	8,816.00	-8,115.76	107.77	8,116.39	0.00	0.00	0.00
16,700.00	90.00	179.50	8,816.00	-8,215.76	108.65	8,216.39	0.00	0.00	0.00
16,800.00	90.00	179.50	8,816.00	-8,315.76	109.52	8,316.39	0.00	0.00	0.00
16,900.00	90.00	179.50	8,816.00	-8,415.75	110.40	8,416.39	0.00	0.00	0.00
17,000.00	90.00	179.50	8,816.00	-8,515.75	111.27	8,516.39	0.00	0.00	0.00
17,100.00	90.00	179.50	8,816.00	-8,615.74	112.15	8,616.39	0.00	0.00	0.00
17,200.00	90.00	179.50	8,816.00	-8,715.74	113.02	8,716.39	0.00	0.00	0.00



## Planning Report

<b>Database:</b>	EDM 5000.1.13 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #901H
<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	RKB = 24' @ 3058.00usft
<b>Project:</b>	Eddy County, NM (NAD-27)	<b>MD Reference:</b>	RKB = 24' @ 3058.00usft
<b>Site:</b>	Shanghai Rooster 22-27 Fed	<b>North Reference:</b>	Grid
<b>Well:</b>	#901H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	PERMIT		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
17,300.00	90.00	179.50	8,816.00	-8,815.74	113.90	8,816.39	0.00	0.00	0.00
17,400.00	90.00	179.50	8,816.00	-8,915.73	114.78	8,916.39	0.00	0.00	0.00
17,500.00	90.00	179.50	8,816.00	-9,015.73	115.65	9,016.39	0.00	0.00	0.00
17,600.00	90.00	179.50	8,816.00	-9,115.72	116.53	9,116.39	0.00	0.00	0.00
17,700.00	90.00	179.50	8,816.00	-9,215.72	117.40	9,216.39	0.00	0.00	0.00
17,800.00	90.00	179.50	8,816.00	-9,315.72	118.28	9,316.39	0.00	0.00	0.00
17,900.00	90.00	179.50	8,816.00	-9,415.71	119.15	9,416.39	0.00	0.00	0.00
18,000.00	90.00	179.50	8,816.00	-9,515.71	120.03	9,516.39	0.00	0.00	0.00
18,100.00	90.00	179.50	8,816.00	-9,615.71	120.90	9,616.39	0.00	0.00	0.00
18,200.00	90.00	179.50	8,816.00	-9,715.70	121.78	9,716.39	0.00	0.00	0.00
18,300.00	90.00	179.50	8,816.00	-9,815.70	122.65	9,816.39	0.00	0.00	0.00
18,400.00	90.00	179.50	8,816.00	-9,915.69	123.53	9,916.39	0.00	0.00	0.00
18,500.00	90.00	179.50	8,816.00	-10,015.69	124.40	10,016.39	0.00	0.00	0.00
18,600.00	90.00	179.50	8,816.00	-10,115.69	125.28	10,116.39	0.00	0.00	0.00
18,700.00	90.00	179.50	8,816.00	-10,215.68	126.16	10,216.39	0.00	0.00	0.00
18,800.00	90.00	179.50	8,816.00	-10,315.68	127.03	10,316.39	0.00	0.00	0.00
18,900.00	90.00	179.50	8,816.00	-10,415.68	127.91	10,416.39	0.00	0.00	0.00
19,000.00	90.00	179.50	8,816.00	-10,515.67	128.78	10,516.39	0.00	0.00	0.00
19,100.53	90.00	179.50	8,816.00	-10,616.20	129.66	10,616.92	0.00	0.00	0.00
19,200.00	90.00	179.50	8,816.00	-10,715.66	130.53	10,716.39	0.00	0.00	0.00
19,230.54	90.00	179.50	8,816.00	-10,746.20	130.80	10,746.93	0.00	0.00	0.00

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PLAT 901H SHL: 330' - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	408,841.00	609,560.00	32.1235258	-103.9794336
PLAT 901H FTP - plan hits target center - Point	0.00	0.00	8,816.00	-659.80	42.50	408,181.20	609,602.50	32.1217116	-103.9793033
PLAT 901H LTP - plan misses target center by 0.46usft at 19100.53usft MD (8816.00 TVD, -10616.20 N, 129.66 E) - Point	0.00	0.00	8,816.00	-10,616.20	129.20	398,224.80	609,689.20	32.0943407	-103.9791290
PLAT 901H BHL: 200' - plan hits target center - Point	0.00	0.00	8,816.00	-10,746.20	130.80	398,094.80	609,690.80	32.0939834	-103.9791252



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<b>Design:</b>	PERMIT		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
569.00	569.00	Rustler				
826.00	826.00	Salado				
2,888.10	2,888.00	Base of Salt				
3,079.12	3,079.00	Delaware (Bell Canyon)				
3,954.22	3,954.00	Cherry Canyon				
5,565.40	5,565.00	Brushy Canyon				
6,607.52	6,607.00	Basal Brushy Canyon				
6,859.54	6,859.00	Bone Spring Lime				
7,004.56	7,004.00	Upper Avalon Shale				
7,446.61	7,446.00	Lower Avalon Shale				
7,721.64	7,721.00	1st Bone Spring Lime				
7,771.65	7,771.00	1st Bone Spring Sand				
8,171.69	8,171.00	2nd Bone Spring Lime				
8,625.28	8,597.00	2nd Bone Spring Sand				
8,936.72	8,779.00	2nd Bone Spring C				
9,143.75	8,816.00	Landing Point				





## HYDROGEN SULFIDE (H<sub>2</sub>S) CONTINGENCY PLAN

### Assumed 100 ppm ROE = 3000'

100 ppm H<sub>2</sub>S concentration shall trigger activation of this plan.

#### Emergency Procedures

In the event of a release of gas containing H<sub>2</sub>S, the first responder(s) must

- Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- Evacuate any public places encompassed by the 100 ppm ROE.
- Be equipped with H<sub>2</sub>S monitors and air packs in order to control the release.
- Use the "buddy system" to ensure no injuries occur during the response
- Take precautions to avoid personal injury during this operation.
- Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- Have received training in the
  - o Detection of H<sub>2</sub>S, and
  - o Measures for protection against the gas,
  - o Equipment used for protection and emergency response.

#### Ignition of Gas source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO<sub>2</sub>). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever this is an ignition of the gas.

#### Characteristics of H<sub>2</sub>S and SO<sub>2</sub>

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H <sub>2</sub> S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO <sub>2</sub>	2.21 Air = 1	2 ppm	N/A	1000 ppm

#### Contacting Authorities

XTO Energy, Inc. personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available including directions to site. The following call list of essential and potential responders has been prepared for use during a release. (Operator Name)'s response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER).

**CARLSBAD OFFICE – EDDY & LEA COUNTIES**

3104 E. Greene St., Carlsbad, NM 88220  
Carlsbad, NM

575-887-7329

**XTO Energy, Inc. PERSONNEL:**

Kendall Decker, Drilling Manager

903-521-6477

Milton Turman, Drilling Superintendent

817-524-5107

Jeff Raines, Construction Foreman

432-557-3159

Toady Sanders, EH &amp; S Manager

903-520-1601

Wes McSpadden, Production Foreman

575-441-1147

**SHERIFF DEPARTMENTS:**

Eddy County

575-887-7551

Lea County

575-396-3611

**NEW MEXICO STATE POLICE:**

575-392-5588

**FIRE DEPARTMENTS:**

911

Carlsbad

575-885-2111

Eunice

575-394-2111

Hobbs

575-397-9308

Jal

575-395-2221

Lovington

575-396-2359

**HOSPITALS:**

911

Carlsbad Medical Emergency

575-885-2111

Eunice Medical Emergency

575-394-2112

Hobbs Medical Emergency

575-397-9308

Jal Medical Emergency

575-395-2221

Lovington Medical Emergency

575-396-2359

**AGENT NOTIFICATIONS:****For Lea County:**

Bureau of Land Management – Hobbs

575-393-3612

New Mexico Oil Conservation Division – Hobbs

575-393-6161

**For Eddy County:**

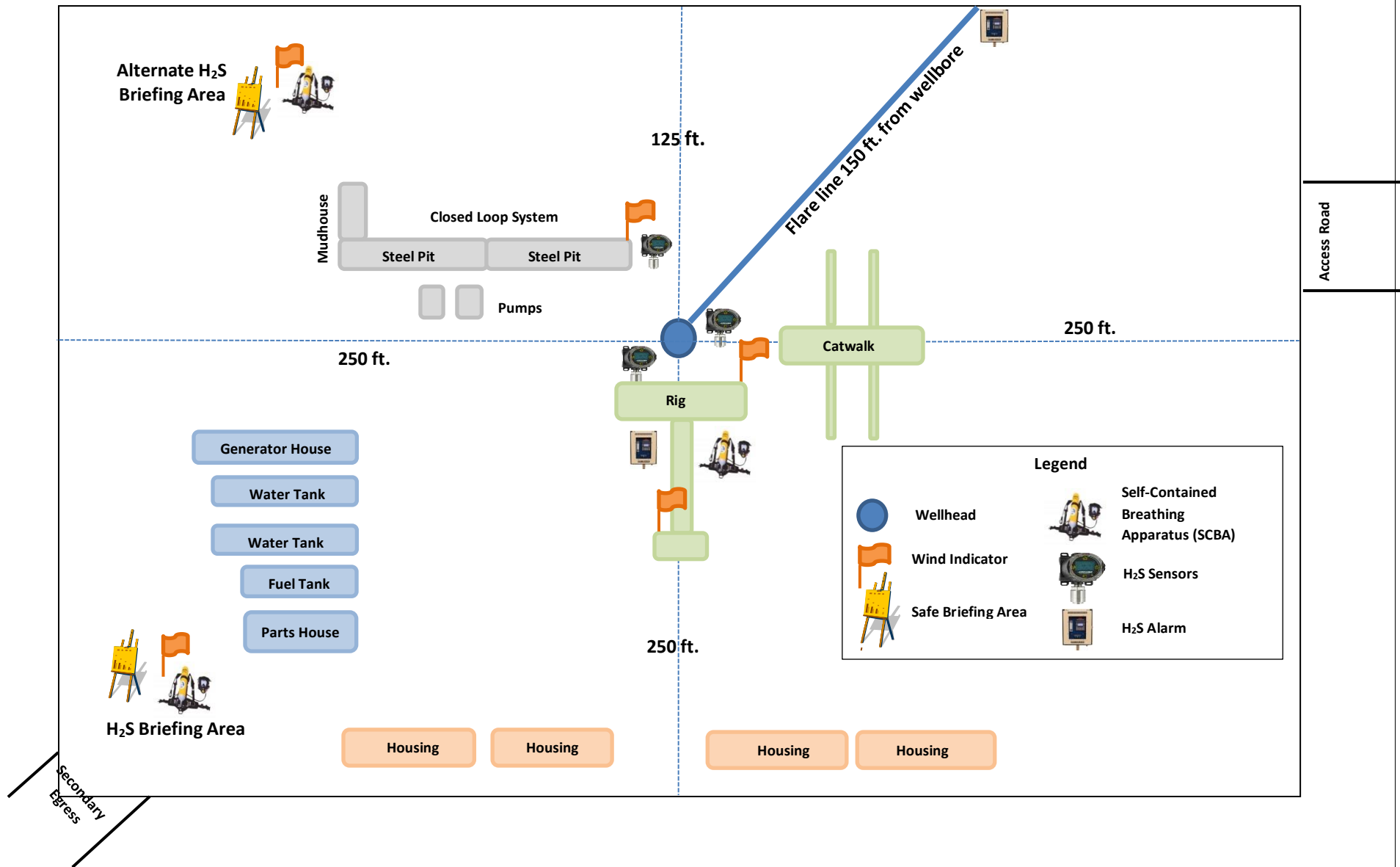
Bureau of Land Management - Carlsbad

575-234-5972

New Mexico Oil Conservation Division - Artesia

575-748-1283

## H<sub>2</sub>S Briefing Areas and Alarm Locations



**Operator Name:** XTO ENERGY INC**Well Name:** SHANGHAI ROOSTER 22-27 FED**Well Number:** 901H**Waste type:** DRILLING**Waste content description:** Cuttings**Amount of waste:** 2100 pounds**Waste disposal frequency :** One Time Only**Safe containment description:** The well will be drilled utilizing a closed-loop mud system. Drill cuttings will be held in roll-off style mud boxes.**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY**Disposal location ownership:** COMMERCIAL**Disposal type description:****Disposal location description:** R360 Environmental Solutions 4507 W Carlsbad Hwy, Hobbs, NM 88240**Waste type:** DRILLING**Waste content description:** Fluid**Amount of waste:** 500 barrels**Waste disposal frequency :** One Time Only**Safe containment description:** Steel Mud Pits**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY**Disposal location ownership:** COMMERCIAL**Disposal type description:****Disposal location description:** R360 Environmental Solutions 4507 W Carlsbad Hwy, Hobbs, NM 88240

### Reserve Pit

**Reserve Pit being used?** NO**Temporary disposal of produced water into reserve pit?** NO**Reserve pit length (ft.)** Reserve pit width (ft.)**Reserve pit depth (ft.)** Reserve pit volume (cu. yd.)**Is at least 50% of the reserve pit in cut?****Reserve pit liner****Reserve pit liner specifications and installation description**

### Cuttings Area

**Cuttings Area being used?** NO**Are you storing cuttings on location?** Y

**District I**

1625 N. French Dr., Hobbs, NM 88240  
 Phone:(575) 393-6161 Fax:(575) 393-0720

**District II**

811 S. First St., Artesia, NM 88210  
 Phone:(575) 748-1283 Fax:(575) 748-9720

**District III**

1000 Rio Brazos Rd., Aztec, NM 87410  
 Phone:(505) 334-6178 Fax:(505) 334-6170

**District IV**

1220 S. St Francis Dr., Santa Fe, NM 87505  
 Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 146870

**CONDITIONS**

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 146870
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

**CONDITIONS**

Created By	Condition	Condition Date
kpickford	Notify OCD 24 hours prior to casing & cement	10/3/2022
kpickford	Will require a File As Drilled C-102 and a Directional Survey with the C-104	10/3/2022
kpickford	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	10/3/2022
kpickford	Cement is required to circulate on both surface and intermediate1 strings of casing	10/3/2022
kpickford	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	10/3/2022