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

Sundry Print Report

12/12/2022

Well Name: SHANGHAI ROOSTER 15-3 FEDERAL

Well Location: T25S / R29E / SEC 15 / SWSE / 32.123762 / -103.970857

County or Parish/State: EDDY / NM

Well Number: 166H

Type of Well: CONVENTIONAL GAS WELL

Allottee or Tribe Name:

Lease Number: NMNM14778

Unit or CA Name:

Unit or CA Number:

US Well Number: 3001550093

Well Status: Approved Application for Permit to Drill

Operator: XTO ENERGY INCORPORATED

Notice of Intent

Sundry ID: 2701770

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 11/07/2022

Time Sundry Submitted: 06:03

Date proposed operation will begin: 11/29/2022

Procedure Description: **Well Name and Number Change, Surface Hole Location Change, Bottom Hole Location Change, First and Last Take Point Changes, Casing/Cement and Wellhead Configuration Changes XTO Energy, Inc. requests permission to make the following changes to the original APD: Change Well Name from Shanghai Rooster 22-27 Fed to Shanghai Rooster 15-3 Fed Change Well Number from 126H to 166H Change SHL fr/365'FSL & 2205'FEL to 360' FSL & 2230' FEL, Section 15-T25S-R29E No Additional Surface Disturbance Change BHL fr/200'FSL & 1660'FEL, Section 27-T25S-R29E to 200'FNL & 1590'FEL, Section 3-T25S-R29E Change FTP fr/330'FNL & 1660'FEL to 330'FSL & 1590'FEL Change LTP fr/330'FSL & 1660'FEL to 330'FNL & 1590'FEL XTO Energy, Inc. respectfully requests permission to downsize the surface, intermediate and production hole, casing and cement based on the attached drilling program. Due to downsize in these strings, the wellhead configuration has also changed based on the attached drilling program. Attachments: C102 Drilling Program MBS Diagram Spudder Rig Variance BOP Break Test Variance Cement Variance Offline Cement Variance Directional Plan

NOI Attachments

Procedure Description

Shanghai_Rooster_15_3_Fed_166H_Attachments_20221107180234.pdf

Well Name: SHANGHAI ROOSTER 15-3 FEDERAL	**Well Location:** T25S / R29E / SEC 15 / SWSE / 32.123762 / -103.970857	**County or Parish/State:** EDDY / NM
Well Number: 166H	**Type of Well:** CONVENTIONAL GAS WELL	**Allottee or Tribe Name:**
Lease Number: NMNM14778	**Unit or CA Name:**	**Unit or CA Number:**
US Well Number: 3001550093	**Well Status:** Approved Application for Permit to Drill	**Operator:** XTO ENERGY INCORPORATED

Conditions of Approval

Additional

Sec_15_25S_29E_NMP_2701770__Shanghai_Rooster_15_3_Fed_166H_Eddy_NMNM014778_XTO_COAs_20221116080135.pdf

Sec_15_25S_29E_NMP_2701770__Shanghai_Rooster_15_3_Fed_166H_Eddy_NMNM014778_XTO_13_22_44881_AM_20221116080135.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: CASSIE EVANS **Signed on:** NOV 07, 2022 06:02 PM

Name: XTO ENERGY INCORPORATED

Title: Regulatory Analyst

Street Address: 6401 Holiday Hill Road, Bldg 5

City: Midland **State:** TX

Phone: (432) 218-3671

Email address: CASSIE.EVANS@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:** 12/07/2022

Signature: Chris Walls

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-015-50093	98220	Purple Sage; Wolfcamp

[4] Property Code	[5] Property Name	[6] Well Number
333604	SHANGHAI ROOSTER 15-3 FED	166H
[7] OGRID No.	**[8] Operator Name**	**[9] Elevation**
005380	XTO ENERGY, INC.	3,076'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	15	25 S	29 E		360	SOUTH	2,230	EAST	EDDY

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
2	3	25 S	29 E		200	NORTH	1,590	EAST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
959.4			

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.

16

	SHL (NAD83 NME)	LTP (NAD83 NME)
Y =	408,944.0	424,180.4
X =	653,524.6	654,126.7
LAT. =	32.123747 °N	32.165625 °N
LONG. =	103.970939 °W	103.968828 °W
	FTP (NAD83 NME)	**BHL (NAD83 NME)**
Y =	408,917.7	424,310.4
X =	654,165.0	654,126.6
LAT. =	32.123669 °N	32.165982 °N
LONG. =	103.968871 °W	103.968826 °W

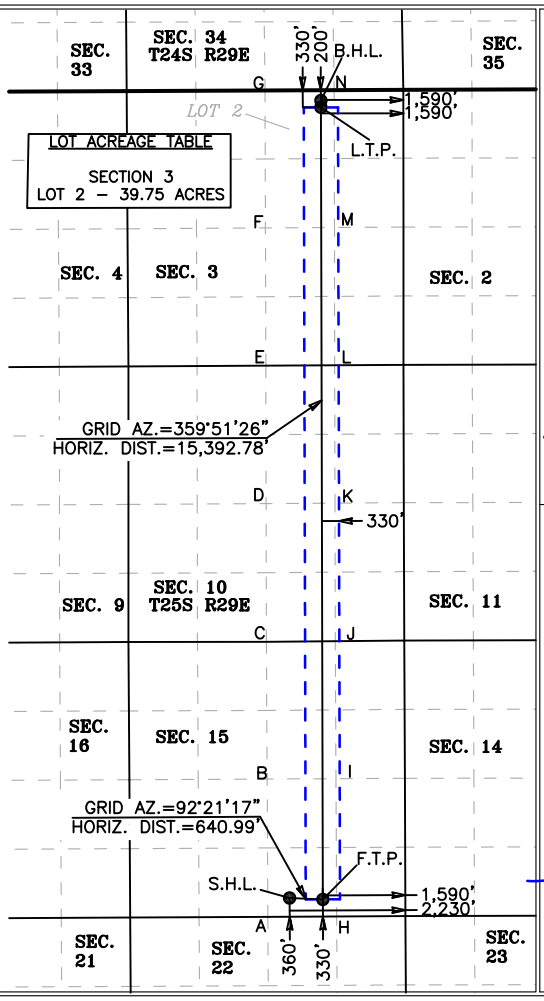
CORNER COORDINATES (NAD83 NME)

A - Y =	408,581.6 N	X =	653,106.0 E
B - Y =	411,236.4 N	X =	653,091.8 E
C - Y =	413,880.4 N	X =	653,077.7 E
D - Y =	416,544.8 N	X =	653,072.5 E
E - Y =	419,202.6 N	X =	653,067.3 E
F - Y =	421,856.6 N	X =	653,059.3 E
G - Y =	424,506.1 N	X =	653,051.4 E
H - Y =	408,589.2 N	X =	654,431.2 E
I - Y =	411,243.4 N	X =	654,418.1 E
J - Y =	413,893.3 N	X =	654,405.3 E
K - Y =	416,553.2 N	X =	654,399.0 E
L - Y =	419,210.1 N	X =	654,392.5 E
M - Y =	421,865.0 N	X =	654,388.5 E
N - Y =	424,511.4 N	X =	654,384.0 E

	SHL (NAD27 NME)	LTP (NAD27 NME)
Y =	408,885.5	424,121.5
X =	612,340.3	612,942.8
LAT. =	32.123623 °N	32.165501 °N
LONG. =	103.970452 °W	103.968340 °W
	FTP (NAD27 NME)	**BHL (NAD27 NME)**
Y =	408,859.2	424,251.5
X =	612,980.8	612,942.7
LAT. =	32.123544 °N	32.165858 °N
LONG. =	103.968384 °W	103.968338 °W

CORNER COORDINATES (NAD27 NME)

A - Y =	408,523.2 N	X =	611,921.7 E
B - Y =	411,177.9 N	X =	611,907.5 E
C - Y =	413,821.7 N	X =	611,893.5 E
D - Y =	416,486.1 N	X =	611,888.3 E
E - Y =	419,143.8 N	X =	611,883.2 E
F - Y =	421,797.8 N	X =	611,875.4 E
G - Y =	424,447.3 N	X =	611,867.5 E
H - Y =	408,530.7 N	X =	613,246.9 E
I - Y =	411,184.9 N	X =	613,233.9 E
J - Y =	413,834.6 N	X =	613,221.1 E
K - Y =	416,494.5 N	X =	613,214.9 E
L - Y =	419,151.4 N	X =	613,208.5 E
M - Y =	421,806.2 N	X =	613,204.5 E
N - Y =	424,452.6 N	X =	613,200.1 E



[17] OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Jessica Dooling 11/7/2022
Signature Date

Jessica Dooling
Printed Name

jessica.dooling@exxonmobil.com
E-mail Address

[18] SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

9-21-2022
Date of Survey

Signature and Seal of Professional Surveyor:

MARK DILLON HARP NEW MEXICO 23786 PROFESSIONAL SURVEYOR

MARK DILLON HARP 23786
Certificate Number RE 2018020660

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

XTO Energy Inc.
Shanghai Rooster 15-3 Fed 166H
Projected TD: 26364.95' MD / 10447' TVD
SHL: 360' FSL & 2230' FEL , Section 15, T25S, R29E
BHL: 200' FNL & 1590' FEL , Section 3, T25S, R29E
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	621'	Water
Top of Salt	901'	Water
Base of Salt	2936'	Water
Delaware	3137'	Water
Brushy Canyon	5635'	Water/Oil/Gas
Bone Spring	6892'	Water
1st Bone Spring Ss	7855'	Water/Oil/Gas
2nd Bone Spring Ss	8681'	Water/Oil/Gas
3rd Bone Spring Ss	9754'	Water/Oil/Gas
Wolfcamp	10108'	Water/Oil/Gas
Wolfcamp X	10134'	Water/Oil/Gas
Wolfcamp Y	10203'	Water/Oil/Gas
Target/Land Curve	10447'	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 9.625 inch casing @ 721' (180' above the salt) and circulating cement back to surface. The intermediate will isolate from the top of salt down to the next casing seat by setting 7.625 inch casing at 9699.98' and cemented to surface. A 6.75 inch curve and 6.75 inch lateral hole will be drilled to 26364.95 MD/TD and 5.5 inch production casing will be set at TD and cemented back up in the intermediate shoe (estimated TOC 9399.98 feet).

3. Casing Design

Hole Size	Depth	OD Csg	Weight	Grade	Collar	New/Used	SF Burst	SF Collapse	SF Tension
12.25	0’ – 721'	9.625	40	J-55	BTC	New	1.51	8.06	21.84
8.75	0’ – 4000'	7.625	29.7	RY P-110	Flush Joint	New	2.65	2.74	1.94
8.75	4000' – 9699.98'	7.625	29.7	HC L-80	Flush Joint	New	1.93	2.18	2.40
6.75	0’ – 9599.98'	5.5	23	RY P-110	Semi-Premium	New	1.21	2.70	1.80
6.75	9599.98' - 26364.95'	5.5	23	RY P-110	Semi-Flush	New	1.21	2.48	1.94

· XTO requests the option to utilize a spudder rig (Atlas Copco RD20 or Equivalent) to set and cement surface casing per this Sundry
· XTO requests to not utilize centralizers in the curve and lateral
· 7.625 Collapse analyzed using 50% evacuation based on regional experience.
· 5.5 Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35
· Test on Casing will be limited to 70% burst of the casing or 1500 psi, whichever is less
· XTO requests the option to use 5" BTC Float equipment for the the production casing

Wellhead:

Permanent Wellhead – Multibowl System

A. Starting Head: 11” 10M top flange x 9-5/8” bottom

B. Tubing Head: 11” 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

4. Cement Program

Surface Casing: 9.625, 40 New BTC, J-55 casing to be set at +/- 721'

Lead: 140 sxs EconoCem-HLTRRC (mixed at 12.9 ppg, 1.87 ft3/sx, 10.13 gal/sx water)
Tail: 130 sxs Class C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)
Top of Cement: Surface
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

2nd Intermediate Casing: 7.625, 29.7 New casing to be set at +/- 9699.98'
1st Stage
Optional Lead: 300 sxs Class C (mixed at 10.5 ppg, 2.77 ft3/sx, 15.59 gal/sx water)
TOC: Surface
Tail: 370 sxs Class C (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)
TOC: Brushy Canyon @ 5635
Compressives: 12-hr = 900 psi 24 hr = 1150 psi

2nd Stage
Lead: 0 sxs Class C (mixed at 12.9 ppg, 2.16 ft3/sx, 9.61 gal/sx water)
Tail: 630 sxs Class C (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water)
Top of Cement: 0
Compressives: 12-hr = 900 psi 24 hr = 1150 psi

XTO requests to pump a two stage cement job on the 7-5/8" intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brush Canyon (5635') 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 inside the first intermediate casing. If cement reaches the desired height, the BLM will be notified and the second stage bradenhead squeeze and subsequent TOC verification will be negated.

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

Production Casing: 5.5, 23 New Semi-Flush, RY P-110 casing to be set at +/- 26364.95'

Lead: 20 sxs NeoCem (mixed at 11.5 ppg, 2.69 ft3/sx, 15.00 gal/sx water) Top of Cement: 9399.98 feet
Tail: 1180 sxs VersaCem (mixed at 13.2 ppg, 1.51 ft3/sx, 8.38 gal/sx water) Top of Cement: 9899.98 feet
Compressives: 12-hr = 800 psi 24 hr = 1500 psi

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

5. Pressure Control Equipment

Once the permanent WH is installed on the 9.625 casing, the blow out preventer equipment (BOP) will consist of a 13-5/8" minimum 5M Hydril and a 13-5/8" minimum 5M Double Ram BOP. MASP should not exceed 3569 psi. In any instance where 10M BOP is required by BLM, XTO requests a variance to utilize 5M annular with 10M ram preventers (a common BOP configuration, which allows use of 10M rams in unlikely event that pressures exceed 5M).

All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 50% of the working pressure. When nippling up on the 9.625, 5M bradenhead and flange, the BOP test will be limited to 5000 psi. When nippling up on the 7.625, the BOP will be tested to a minimum of 5000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 5M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test chart will be kept on the rig. Attached is an example of a certification and pressure test chart. The manufacturer does not require anchors.

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

on each of the wells.

A variance is requested to **ONLY** test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53. API standard 53 states, that for pad drilling operation, moving from one wellhead to another within 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken. Based on discussions with the BLM on February 27th 2020, we will request permission to **ONLY** retest broken pressure seals if the following conditions are met: 1. After a full BOP test is conducted on the first well on the pad 2. When skidding to drill an intermediate section that does not penetrate into the Wolfcamp.

6. Proposed Mud Circulation System

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' - 721'	12.25	FW/Native	8.5-9	35-40	NC
721' - 9699.98'	8.75	FW / Cut Brine / Direct Emulsion	9.4-9.9	30-32	NC
9699.98' - 26364.95'	6.75	OBM	10.8-11.3	50-60	NC - 20

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

Spud with fresh water/native mud. Drill out from under 9-5/8" surface casing with brine solution. A 9.7 ppg - 10.2 ppg cut brine mud will be used while drilling through the salt formation. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Pump speed will be recorded on a daily drilling report after mudding up. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

7. Auxiliary Well Control and Monitoring Equipment

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

8. Logging, Coring and Testing Program

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

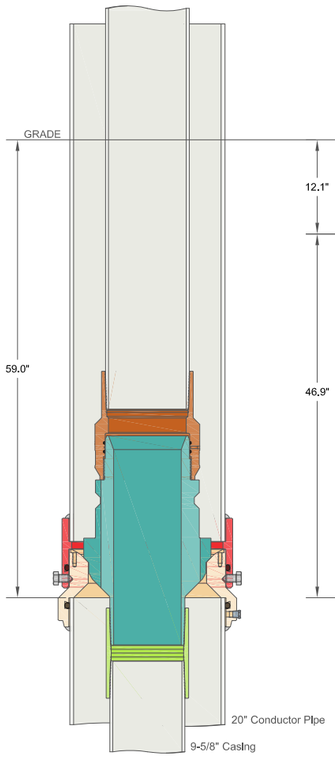
Open hole logging will not be done on this well.

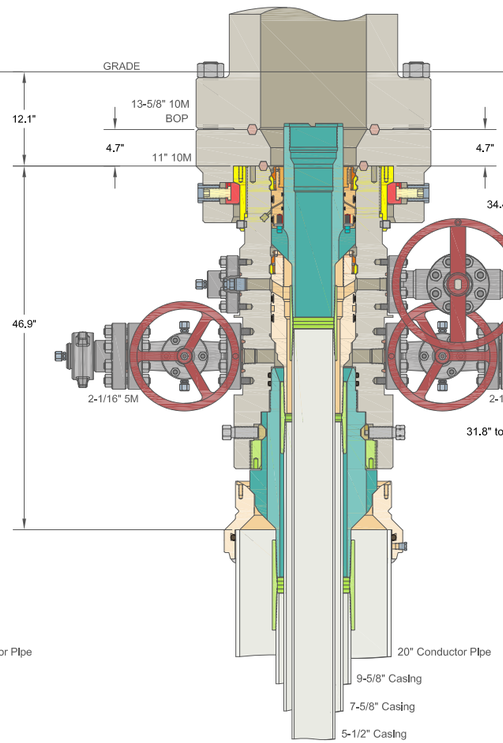
9. Abnormal Pressures and Temperatures / Potential Hazards

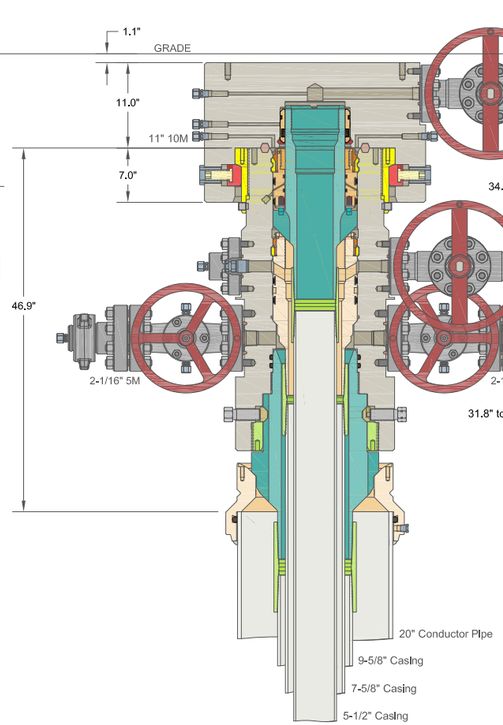
None Anticipated. BHT of 170 to 190 F is anticipated. No H2S is expected but monitors will be in place to detect any H2S occurrences. Should these circumstances be encountered the operator and drilling contractor are prepared to take all necessary steps to ensure safety of all personnel and environment. 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 5867 psi.

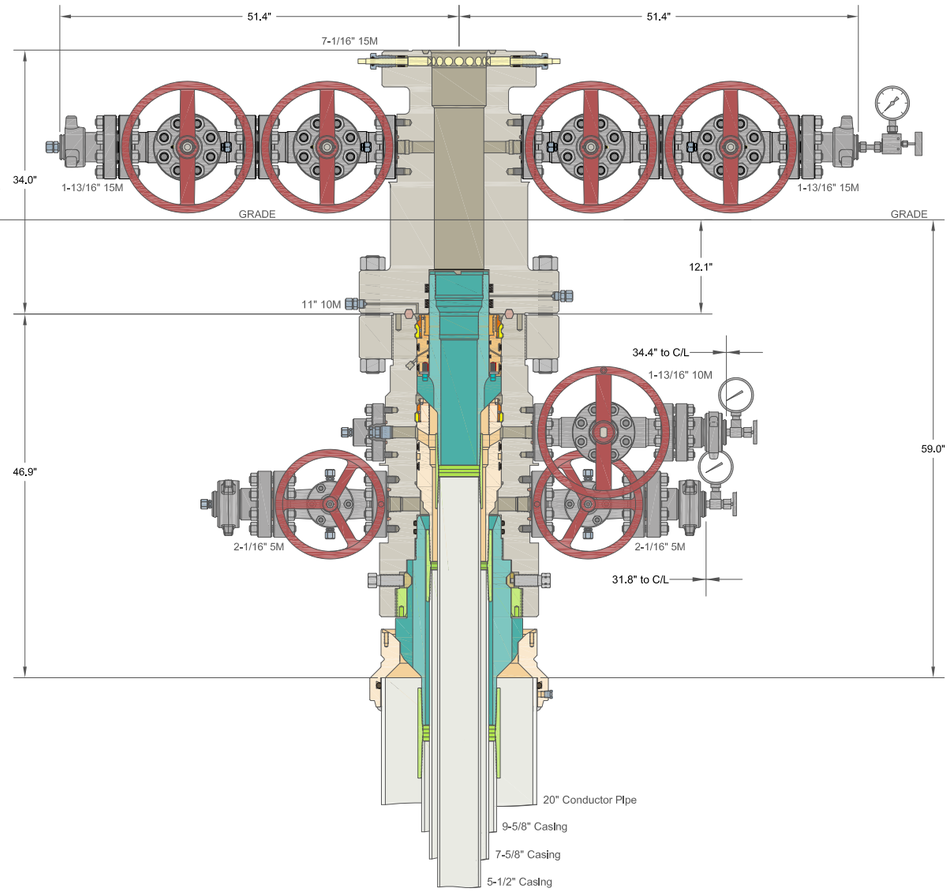
10. Anticipated Starting Date and Duration of Operations

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









ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC

XTO ENERGY INC
DELAWARE BASIN

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

DRAWN	VJK	31MAR22
APPRV		
DRAWING NO.	HBE0000479	

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 nippled 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.

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.

62 API STANDARD 53

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

Component to be Pressure Tested	Pressure Test—Low Pressure[ac] psig (MPa)	Pressure Test—High Pressure[ac]	
		Change Out of Component, Elastomer, or Ring Gasket	No Change Out of Component, Elastomer, or Ring Gasket
Annular preventer[b]	250 to 350 (1.72 to 2.41)	RWP of annular preventer	MASP or 70% annular RWP, whichever is lower.
Fixed pipe, variable bore, blind, and BSR preventers[bd]	250 to 350 (1.72 to 2.41)	RWP of ram preventer or wellhead system, whichever is lower	ITP
Choke and kill line and BOP side outlet valves below ram preventers (both sides)	250 to 350 (1.72 to 2.41)	RWP of side outlet valve or wellhead system, whichever is lower	ITP
Choke manifold—upstream of chokes[e]	250 to 350 (1.72 to 2.41)	RWP of ram preventers or wellhead system, whichever is lower	ITP
Choke manifold—downstream of chokes[e]	250 to 350 (1.72 to 2.41)	RWP of valve(s), line(s), or MASP for the well program, whichever is lower	
Kelly, kelly valves, drill pipe safety valves, IBOPs	250 to 350 (1.72 to 2.41)	MASP for the well program	

[a] Pressure test evaluation periods shall be a minimum of five minutes.
No visible leaks.
The pressure shall remain stable during the evaluation period. The pressure shall not decrease below the intended test pressure.

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

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

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

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

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

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

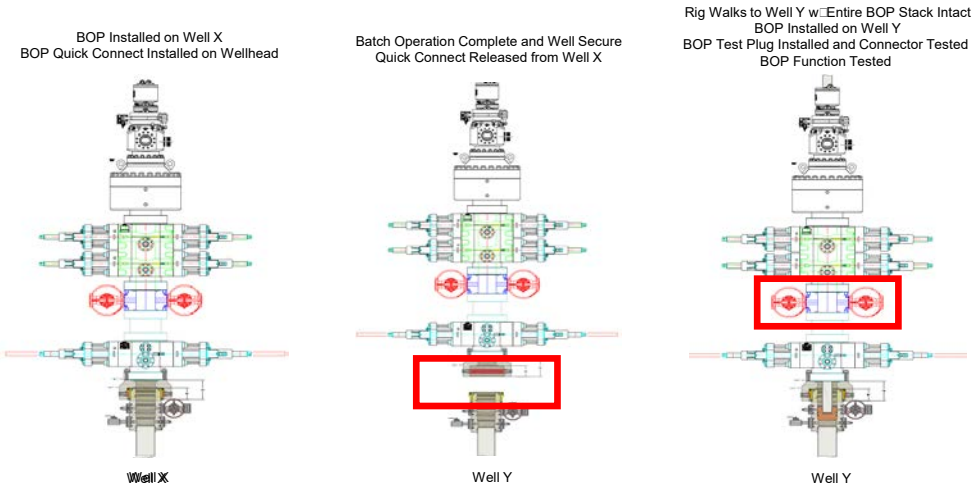
XTO Energy feels break testing and our current procedures meet the intent of OOGO No. 2 and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. XTO Energy's internal standards requires complete BOPE tests more often than that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

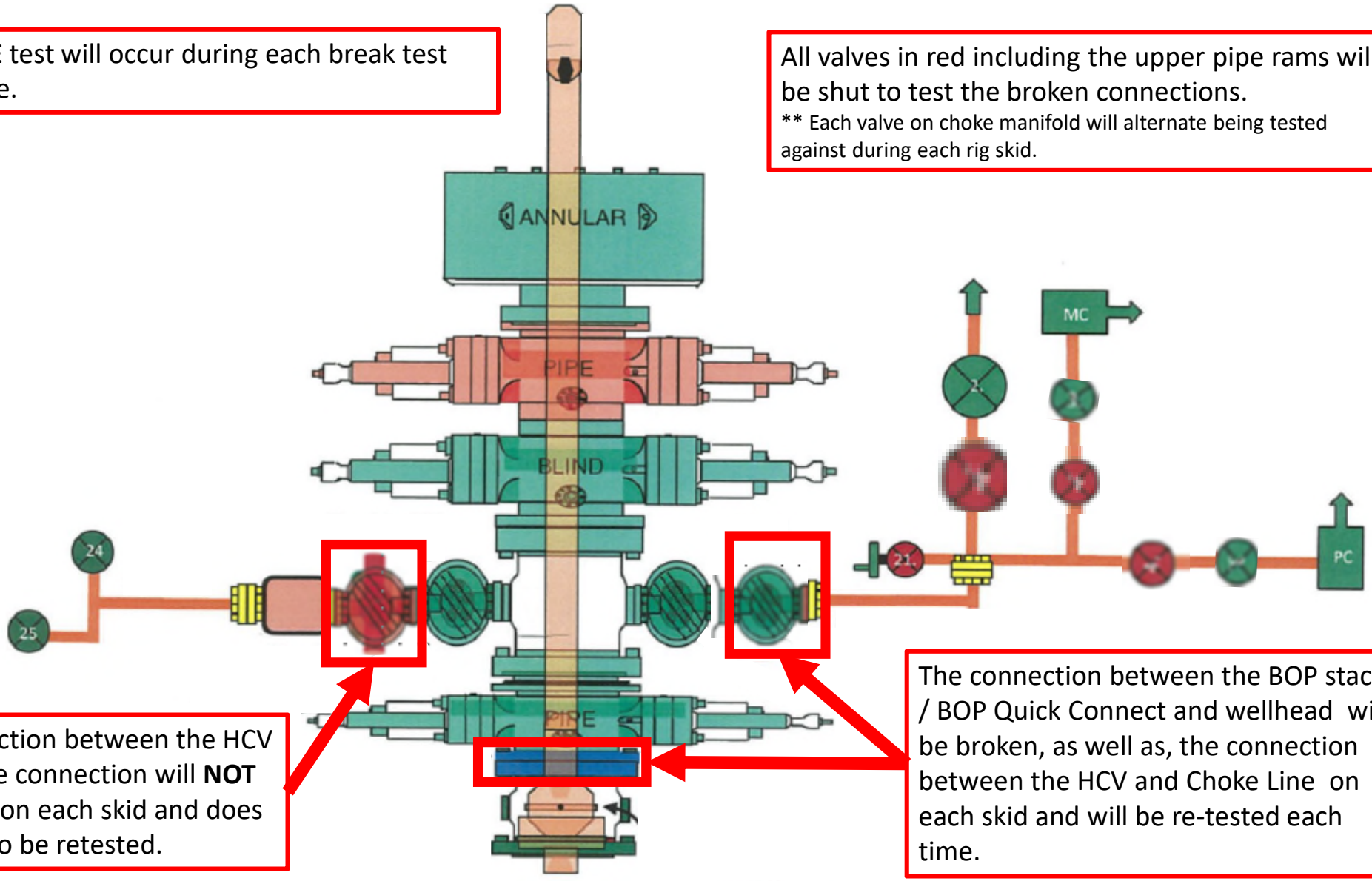
2. The first intermediate hole section drilled on the pad will be the deepest. All of the remaining hole sections will be the same depth or shallower.

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.

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 (5635') 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.

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.

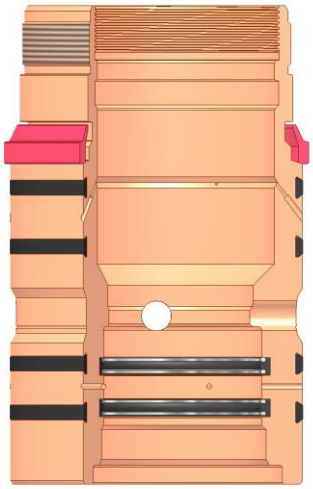
1. Cement Program

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

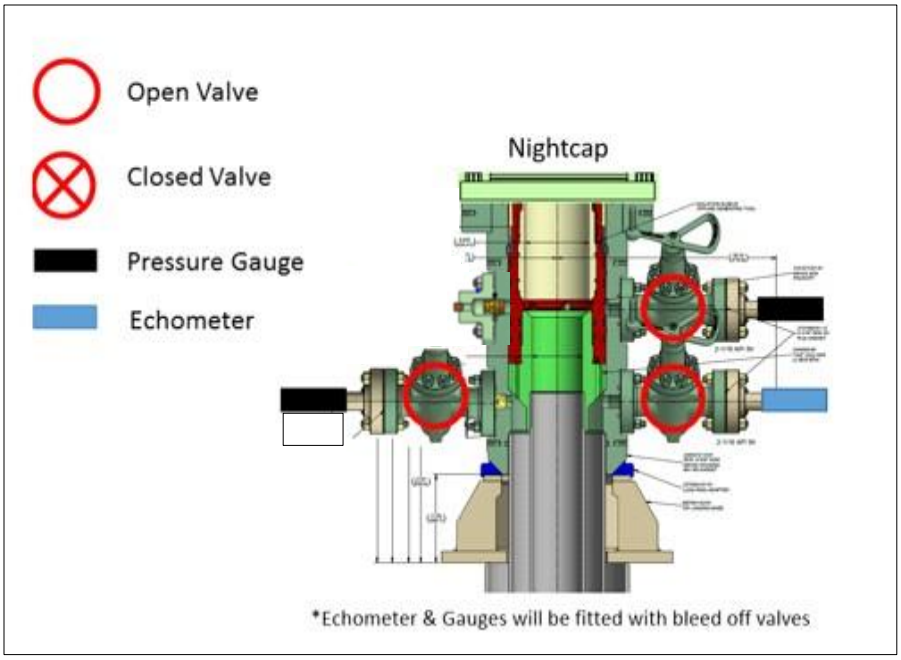
2. Offline Cementing Procedure

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 nippled 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.



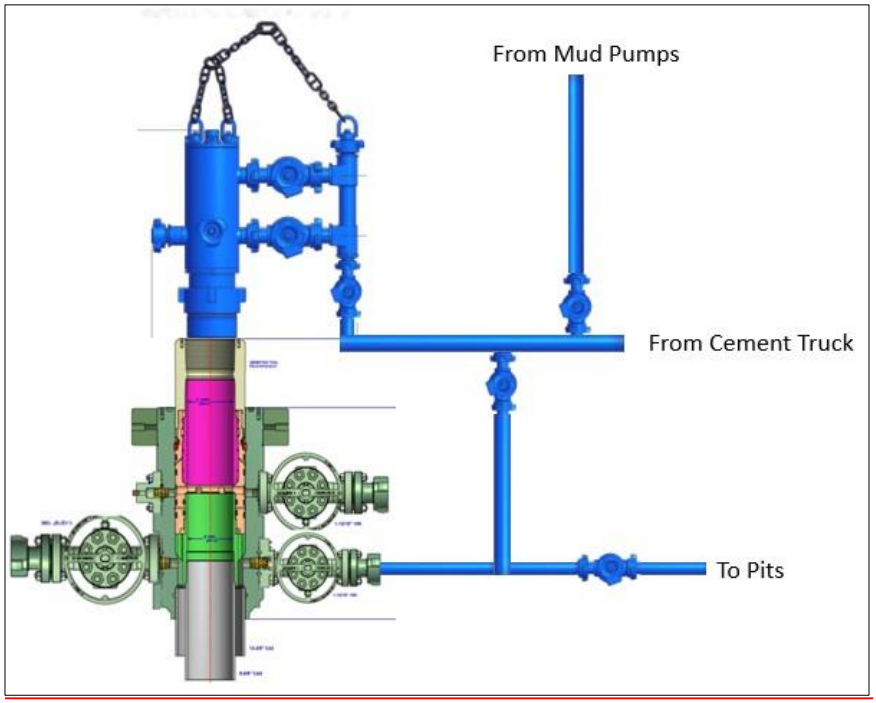
Annular packoff with both external and internal seals



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 nippling up for further remediation.
    a. Well Control Plan
        i. The Drillers Method will be the primary well control method to regain control of the wellbore prior to cementing, if wellbore conditions do not permit the drillers method other methods of well control may be used
        ii. Rig pumps or a 3rd party pump will be tied into the upper casing valve to pump down the casing ID
        iii. A high pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
        iv. Once influx is circulated out of the hole, kill weight mud will be circulated
        v. Well will be confirmed static
        vi. Once confirmed static, cap flange will be removed to allow for offline cementing operations to commence
8. Install offline cement tool
9. Rig up cement equipment

XTO Permian Operating, LLC Offline Cementing Variance Request



Wellhead diagram during offline cementing operations

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

Delaware Basin Asset (Plans)

Eddy County
SHANGHAI ROOSTER 15-3 FED PAD C
SHANGHAI ROOSTER 15-3 FED 166H

SHANGHAI ROOSTER 15-3 FED 166H

Plan: Plan 1

Standard Planning Report

18 October, 2022

XTO Energy

Planning Report

Database:	LMRKPROD3	**Local Co-ordinate Reference:**	Well SHANGHAI ROOSTER 15-3 FED 166H
Company:	Delaware Basin Asset (Plans)	**TVD Reference:**	RKB(25') @ 3101.0usft
Project:	Eddy County	**MD Reference:**	RKB(25') @ 3101.0usft
Site:	SHANGHAI ROOSTER 15-3 FED PAD C	**North Reference:**	Grid
Well:	SHANGHAI ROOSTER 15-3 FED 166H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	SHANGHAI ROOSTER 15-3 FED 166H		
Design:	Plan 1		

Project Eddy County, New Mexico, Well Planning for all projects in Eddy County, NM

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site SHANGHAI ROOSTER 15-3 FED PAD C

Site Position:		**Northing:**	408,825.63 usft	**Latitude:**	32° 7' 24.449 N
From:	Map	**Easting:**	612,340.60 usft	**Longitude:**	103° 58' 13.628 W
Position Uncertainty:	3.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.19 °

Well SHANGHAI ROOSTER 15-3 FED 166H

Well Position	**+N/-S**	59.9 usft	**Northing:**	408,885.50 usft	**Latitude:**	32° 7' 25.042 N
	+E/-W	-0.3 usft	**Easting:**	612,340.30 usft	**Longitude:**	103° 58' 13.629 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	3,076.0 usft

Wellbore SHANGHAI ROOSTER 15-3 FED 166H

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	10/18/2022	6.56	59.71	47,256.10315826

Design Plan 1

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	359.86

Plan Survey Tool Program **Date** 10/18/2022

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	26,364.9	Plan 1 (SHANGHAI ROOSTER 1	XOMR2_OWSG MWD+IFR1+ OWSG MWD + IFR1 + Multi-St	

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,722.8	14.46	139.14	1,715.1	-68.6	59.3	2.00	2.00	0.00	139.14	
4,929.0	14.46	139.14	4,819.9	-673.9	583.0	0.00	0.00	0.00	0.00	
5,651.8	0.00	0.00	5,535.0	-742.5	642.3	2.00	-2.00	0.00	180.00	
9,847.6	0.00	0.00	9,730.8	-742.5	642.3	0.00	0.00	0.00	0.00	
10,972.6	90.00	359.86	10,447.0	-26.3	640.5	8.00	8.00	0.00	0.00	FTP-SR 166H
26,234.9	90.00	359.86	10,447.0	15,236.0	602.5	0.00	0.00	0.00	0.00	LTP-SR 166H
26,364.9	90.00	359.86	10,447.0	15,366.0	602.2	0.00	0.00	0.00	0.00	BHL-SR 166H

XTO Energy

Planning Report

Database:	LMRKPROD3	**Local Co-ordinate Reference:**	Well SHANGHAI ROOSTER 15-3 FED 166H
Company:	Delaware Basin Asset (Plans)	**TVD Reference:**	RKB(25') @ 3101.0usft
Project:	Eddy County	**MD Reference:**	RKB(25') @ 3101.0usft
Site:	SHANGHAI ROOSTER 15-3 FED PAD C	**North Reference:**	Grid
Well:	SHANGHAI ROOSTER 15-3 FED 166H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	SHANGHAI ROOSTER 15-3 FED 166H		
Design:	Plan 1		

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 2.00									
1,100.0	2.00	139.14	1,100.0	-1.3	1.1	-1.3	2.00	2.00	0.00
1,200.0	4.00	139.14	1,199.8	-5.3	4.6	-5.3	2.00	2.00	0.00
1,300.0	6.00	139.14	1,299.5	-11.9	10.3	-11.9	2.00	2.00	0.00
1,400.0	8.00	139.14	1,398.7	-21.1	18.2	-21.1	2.00	2.00	0.00
1,500.0	10.00	139.14	1,497.5	-32.9	28.5	-33.0	2.00	2.00	0.00
1,600.0	12.00	139.14	1,595.6	-47.3	41.0	-47.4	2.00	2.00	0.00
1,700.0	14.00	139.14	1,693.1	-64.4	55.7	-64.5	2.00	2.00	0.00
1,722.8	14.46	139.14	1,715.1	-68.6	59.3	-68.7	2.00	2.00	0.00
Start 3206.3 hold at 1722.8 MD									
1,800.0	14.46	139.14	1,789.9	-83.2	71.9	-83.3	0.00	0.00	0.00
1,900.0	14.46	139.14	1,886.7	-102.1	88.3	-102.3	0.00	0.00	0.00
2,000.0	14.46	139.14	1,983.6	-120.9	104.6	-121.2	0.00	0.00	0.00
2,100.0	14.46	139.14	2,080.4	-139.8	120.9	-140.1	0.00	0.00	0.00
2,200.0	14.46	139.14	2,177.2	-158.7	137.3	-159.0	0.00	0.00	0.00
2,300.0	14.46	139.14	2,274.1	-177.6	153.6	-177.9	0.00	0.00	0.00
2,400.0	14.46	139.14	2,370.9	-196.4	169.9	-196.9	0.00	0.00	0.00
2,500.0	14.46	139.14	2,467.8	-215.3	186.3	-215.8	0.00	0.00	0.00
2,600.0	14.46	139.14	2,564.6	-234.2	202.6	-234.7	0.00	0.00	0.00
2,700.0	14.46	139.14	2,661.4	-253.1	218.9	-253.6	0.00	0.00	0.00
2,800.0	14.46	139.14	2,758.3	-272.0	235.3	-272.5	0.00	0.00	0.00
2,900.0	14.46	139.14	2,855.1	-290.8	251.6	-291.5	0.00	0.00	0.00
3,000.0	14.46	139.14	2,951.9	-309.7	267.9	-310.4	0.00	0.00	0.00
3,100.0	14.46	139.14	3,048.8	-328.6	284.3	-329.3	0.00	0.00	0.00
3,200.0	14.46	139.14	3,145.6	-347.5	300.6	-348.2	0.00	0.00	0.00
3,300.0	14.46	139.14	3,242.4	-366.4	316.9	-367.1	0.00	0.00	0.00
3,400.0	14.46	139.14	3,339.3	-385.2	333.2	-386.1	0.00	0.00	0.00
3,500.0	14.46	139.14	3,436.1	-404.1	349.6	-405.0	0.00	0.00	0.00
3,600.0	14.46	139.14	3,532.9	-423.0	365.9	-423.9	0.00	0.00	0.00
3,700.0	14.46	139.14	3,629.8	-441.9	382.2	-442.8	0.00	0.00	0.00
3,800.0	14.46	139.14	3,726.6	-460.8	398.6	-461.7	0.00	0.00	0.00
3,900.0	14.46	139.14	3,823.4	-479.6	414.9	-480.6	0.00	0.00	0.00
4,000.0	14.46	139.14	3,920.3	-498.5	431.2	-499.6	0.00	0.00	0.00
4,100.0	14.46	139.14	4,017.1	-517.4	447.6	-518.5	0.00	0.00	0.00
4,200.0	14.46	139.14	4,113.9	-536.3	463.9	-537.4	0.00	0.00	0.00
4,300.0	14.46	139.14	4,210.8	-555.2	480.2	-556.3	0.00	0.00	0.00
4,400.0	14.46	139.14	4,307.6	-574.0	496.6	-575.2	0.00	0.00	0.00
4,500.0	14.46	139.14	4,404.4	-592.9	512.9	-594.2	0.00	0.00	0.00
4,600.0	14.46	139.14	4,501.3	-611.8	529.2	-613.1	0.00	0.00	0.00
4,700.0	14.46	139.14	4,598.1	-630.7	545.5	-632.0	0.00	0.00	0.00
4,800.0	14.46	139.14	4,694.9	-649.5	561.9	-650.9	0.00	0.00	0.00
4,900.0	14.46	139.14	4,791.8	-668.4	578.2	-669.8	0.00	0.00	0.00
4,929.0	14.46	139.14	4,819.9	-673.9	583.0	-675.3	0.00	0.00	0.00
Start Drop -2.00									
5,000.0	13.04	139.14	4,888.8	-686.7	594.0	-688.1	2.00	-2.00	0.00
5,100.0	11.04	139.14	4,986.6	-702.4	607.6	-703.9	2.00	-2.00	0.00
5,200.0	9.04	139.14	5,085.1	-715.6	619.0	-717.1	2.00	-2.00	0.00
5,300.0	7.04	139.14	5,184.1	-726.2	628.2	-727.7	2.00	-2.00	0.00
5,400.0	5.04	139.14	5,283.5	-734.1	635.0	-735.7	2.00	-2.00	0.00
5,500.0	3.04	139.14	5,383.3	-739.5	639.7	-741.0	2.00	-2.00	0.00
5,600.0	1.04	139.14	5,483.2	-742.1	642.0	-743.7	2.00	-2.00	0.00

XTO Energy

Planning Report

Database:	LMRKPROD3	**Local Co-ordinate Reference:**	Well SHANGHAI ROOSTER 15-3 FED 166H
Company:	Delaware Basin Asset (Plans)	**TVD Reference:**	RKB(25') @ 3101.0usft
Project:	Eddy County	**MD Reference:**	RKB(25') @ 3101.0usft
Site:	SHANGHAI ROOSTER 15-3 FED PAD C	**North Reference:**	Grid
Well:	SHANGHAI ROOSTER 15-3 FED 166H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	SHANGHAI ROOSTER 15-3 FED 166H		
Design:	Plan 1		

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)
5,651.8	0.00	0.00	5,535.0	-742.5	642.3	-744.1	2.00	-2.00	0.00
Start 4195.8 hold at 5651.8 MD									
9,847.6	0.00	0.00	9,730.8	-742.5	642.3	-744.1	0.00	0.00	0.00
Start Build 8.00									
9,900.0	4.19	359.86	9,783.2	-740.6	642.3	-742.1	8.00	8.00	0.00
10,000.0	12.19	359.86	9,882.1	-726.3	642.2	-727.9	8.00	8.00	0.00
10,100.0	20.19	359.86	9,978.0	-698.5	642.2	-700.0	8.00	8.00	0.00
10,200.0	28.19	359.86	10,069.2	-657.5	642.1	-659.1	8.00	8.00	0.00
10,300.0	36.19	359.86	10,153.7	-604.3	641.9	-605.9	8.00	8.00	0.00
10,400.0	44.19	359.86	10,230.0	-539.8	641.8	-541.4	8.00	8.00	0.00
10,500.0	52.19	359.86	10,296.7	-465.3	641.6	-466.9	8.00	8.00	0.00
10,600.0	60.19	359.86	10,352.2	-382.3	641.4	-383.9	8.00	8.00	0.00
10,700.0	68.19	359.86	10,395.7	-292.4	641.2	-293.9	8.00	8.00	0.00
10,800.0	76.19	359.86	10,426.3	-197.2	640.9	-198.8	8.00	8.00	0.00
10,900.0	84.19	359.86	10,443.3	-98.8	640.7	-100.3	8.00	8.00	0.00
10,972.6	90.00	359.86	10,447.0	-26.3	640.5	-27.9	8.00	8.00	0.00
Start 15262.3 hold at 10972.6 MD									
11,000.0	90.00	359.86	10,447.0	1.1	640.4	-0.5	0.00	0.00	0.00
11,100.0	90.00	359.86	10,447.0	101.1	640.2	99.5	0.00	0.00	0.00
11,200.0	90.00	359.86	10,447.0	201.1	639.9	199.5	0.00	0.00	0.00
11,300.0	90.00	359.86	10,447.0	301.1	639.7	299.5	0.00	0.00	0.00
11,400.0	90.00	359.86	10,447.0	401.1	639.4	399.5	0.00	0.00	0.00
11,500.0	90.00	359.86	10,447.0	501.1	639.2	499.5	0.00	0.00	0.00
11,600.0	90.00	359.86	10,447.0	601.1	638.9	599.5	0.00	0.00	0.00
11,700.0	90.00	359.86	10,447.0	701.1	638.7	699.5	0.00	0.00	0.00
11,800.0	90.00	359.86	10,447.0	801.1	638.4	799.5	0.00	0.00	0.00
11,900.0	90.00	359.86	10,447.0	901.1	638.2	899.5	0.00	0.00	0.00
12,000.0	90.00	359.86	10,447.0	1,001.1	637.9	999.5	0.00	0.00	0.00
12,100.0	90.00	359.86	10,447.0	1,101.1	637.7	1,099.5	0.00	0.00	0.00
12,200.0	90.00	359.86	10,447.0	1,201.1	637.4	1,199.5	0.00	0.00	0.00
12,300.0	90.00	359.86	10,447.0	1,301.1	637.2	1,299.5	0.00	0.00	0.00
12,400.0	90.00	359.86	10,447.0	1,401.1	636.9	1,399.5	0.00	0.00	0.00
12,500.0	90.00	359.86	10,447.0	1,501.1	636.7	1,499.5	0.00	0.00	0.00
12,600.0	90.00	359.86	10,447.0	1,601.1	636.4	1,599.5	0.00	0.00	0.00
12,700.0	90.00	359.86	10,447.0	1,701.1	636.2	1,699.5	0.00	0.00	0.00
12,800.0	90.00	359.86	10,447.0	1,801.1	636.0	1,799.5	0.00	0.00	0.00
12,900.0	90.00	359.86	10,447.0	1,901.1	635.7	1,899.5	0.00	0.00	0.00
13,000.0	90.00	359.86	10,447.0	2,001.1	635.5	1,999.5	0.00	0.00	0.00
13,100.0	90.00	359.86	10,447.0	2,101.1	635.2	2,099.5	0.00	0.00	0.00
13,200.0	90.00	359.86	10,447.0	2,201.1	635.0	2,199.5	0.00	0.00	0.00
13,300.0	90.00	359.86	10,447.0	2,301.1	634.7	2,299.5	0.00	0.00	0.00
13,400.0	90.00	359.86	10,447.0	2,401.1	634.5	2,399.5	0.00	0.00	0.00
13,500.0	90.00	359.86	10,447.0	2,501.1	634.2	2,499.5	0.00	0.00	0.00
13,600.0	90.00	359.86	10,447.0	2,601.1	634.0	2,599.5	0.00	0.00	0.00
13,700.0	90.00	359.86	10,447.0	2,701.1	633.7	2,699.5	0.00	0.00	0.00
13,800.0	90.00	359.86	10,447.0	2,801.1	633.5	2,799.5	0.00	0.00	0.00
13,900.0	90.00	359.86	10,447.0	2,901.1	633.2	2,899.5	0.00	0.00	0.00
14,000.0	90.00	359.86	10,447.0	3,001.1	633.0	2,999.5	0.00	0.00	0.00
14,100.0	90.00	359.86	10,447.0	3,101.1	632.7	3,099.5	0.00	0.00	0.00
14,200.0	90.00	359.86	10,447.0	3,201.1	632.5	3,199.5	0.00	0.00	0.00
14,300.0	90.00	359.86	10,447.0	3,301.1	632.2	3,299.5	0.00	0.00	0.00
14,400.0	90.00	359.86	10,447.0	3,401.1	632.0	3,399.5	0.00	0.00	0.00
14,500.0	90.00	359.86	10,447.0	3,501.1	631.7	3,499.5	0.00	0.00	0.00

XTO Energy

Planning Report

Database:	LMRKPROD3	**Local Co-ordinate Reference:**	Well SHANGHAI ROOSTER 15-3 FED 166H
Company:	Delaware Basin Asset (Plans)	**TVD Reference:**	RKB(25') @ 3101.0usft
Project:	Eddy County	**MD Reference:**	RKB(25') @ 3101.0usft
Site:	SHANGHAI ROOSTER 15-3 FED PAD C	**North Reference:**	Grid
Well:	SHANGHAI ROOSTER 15-3 FED 166H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	SHANGHAI ROOSTER 15-3 FED 166H		
Design:	Plan 1		

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)
14,600.0	90.00	359.86	10,447.0	3,601.1	631.5	3,599.5	0.00	0.00	0.00
14,700.0	90.00	359.86	10,447.0	3,701.1	631.2	3,699.5	0.00	0.00	0.00
14,800.0	90.00	359.86	10,447.0	3,801.1	631.0	3,799.5	0.00	0.00	0.00
14,900.0	90.00	359.86	10,447.0	3,901.1	630.7	3,899.5	0.00	0.00	0.00
15,000.0	90.00	359.86	10,447.0	4,001.1	630.5	3,999.5	0.00	0.00	0.00
15,100.0	90.00	359.86	10,447.0	4,101.1	630.2	4,099.5	0.00	0.00	0.00
15,200.0	90.00	359.86	10,447.0	4,201.1	630.0	4,199.5	0.00	0.00	0.00
15,300.0	90.00	359.86	10,447.0	4,301.1	629.7	4,299.5	0.00	0.00	0.00
15,400.0	90.00	359.86	10,447.0	4,401.1	629.5	4,399.5	0.00	0.00	0.00
15,500.0	90.00	359.86	10,447.0	4,501.1	629.2	4,499.5	0.00	0.00	0.00
15,600.0	90.00	359.86	10,447.0	4,601.1	629.0	4,599.5	0.00	0.00	0.00
15,700.0	90.00	359.86	10,447.0	4,701.1	628.7	4,699.5	0.00	0.00	0.00
15,800.0	90.00	359.86	10,447.0	4,801.1	628.5	4,799.5	0.00	0.00	0.00
15,900.0	90.00	359.86	10,447.0	4,901.1	628.2	4,899.5	0.00	0.00	0.00
16,000.0	90.00	359.86	10,447.0	5,001.1	628.0	4,999.5	0.00	0.00	0.00
16,100.0	90.00	359.86	10,447.0	5,101.1	627.7	5,099.5	0.00	0.00	0.00
16,200.0	90.00	359.86	10,447.0	5,201.1	627.5	5,199.5	0.00	0.00	0.00
16,300.0	90.00	359.86	10,447.0	5,301.1	627.2	5,299.5	0.00	0.00	0.00
16,400.0	90.00	359.86	10,447.0	5,401.1	627.0	5,399.5	0.00	0.00	0.00
16,500.0	90.00	359.86	10,447.0	5,501.1	626.7	5,499.5	0.00	0.00	0.00
16,600.0	90.00	359.86	10,447.0	5,601.1	626.5	5,599.5	0.00	0.00	0.00
16,700.0	90.00	359.86	10,447.0	5,701.1	626.2	5,699.5	0.00	0.00	0.00
16,800.0	90.00	359.86	10,447.0	5,801.1	626.0	5,799.5	0.00	0.00	0.00
16,900.0	90.00	359.86	10,447.0	5,901.1	625.7	5,899.5	0.00	0.00	0.00
17,000.0	90.00	359.86	10,447.0	6,001.1	625.5	5,999.5	0.00	0.00	0.00
17,100.0	90.00	359.86	10,447.0	6,101.1	625.2	6,099.5	0.00	0.00	0.00
17,200.0	90.00	359.86	10,447.0	6,201.1	625.0	6,199.5	0.00	0.00	0.00
17,300.0	90.00	359.86	10,447.0	6,301.1	624.7	6,299.5	0.00	0.00	0.00
17,400.0	90.00	359.86	10,447.0	6,401.1	624.5	6,399.5	0.00	0.00	0.00
17,500.0	90.00	359.86	10,447.0	6,501.1	624.2	6,499.5	0.00	0.00	0.00
17,600.0	90.00	359.86	10,447.0	6,601.1	624.0	6,599.5	0.00	0.00	0.00
17,700.0	90.00	359.86	10,447.0	6,701.1	623.8	6,699.5	0.00	0.00	0.00
17,800.0	90.00	359.86	10,447.0	6,801.1	623.5	6,799.5	0.00	0.00	0.00
17,900.0	90.00	359.86	10,447.0	6,901.1	623.3	6,899.5	0.00	0.00	0.00
18,000.0	90.00	359.86	10,447.0	7,001.1	623.0	6,999.5	0.00	0.00	0.00
18,100.0	90.00	359.86	10,447.0	7,101.1	622.8	7,099.5	0.00	0.00	0.00
18,200.0	90.00	359.86	10,447.0	7,201.1	622.5	7,199.5	0.00	0.00	0.00
18,300.0	90.00	359.86	10,447.0	7,301.1	622.3	7,299.5	0.00	0.00	0.00
18,400.0	90.00	359.86	10,447.0	7,401.1	622.0	7,399.5	0.00	0.00	0.00
18,500.0	90.00	359.86	10,447.0	7,501.1	621.8	7,499.5	0.00	0.00	0.00
18,600.0	90.00	359.86	10,447.0	7,601.1	621.5	7,599.5	0.00	0.00	0.00
18,700.0	90.00	359.86	10,447.0	7,701.1	621.3	7,699.5	0.00	0.00	0.00
18,800.0	90.00	359.86	10,447.0	7,801.1	621.0	7,799.5	0.00	0.00	0.00
18,900.0	90.00	359.86	10,447.0	7,901.1	620.8	7,899.5	0.00	0.00	0.00
19,000.0	90.00	359.86	10,447.0	8,001.1	620.5	7,999.5	0.00	0.00	0.00
19,100.0	90.00	359.86	10,447.0	8,101.1	620.3	8,099.5	0.00	0.00	0.00
19,200.0	90.00	359.86	10,447.0	8,201.1	620.0	8,199.5	0.00	0.00	0.00
19,300.0	90.00	359.86	10,447.0	8,301.1	619.8	8,299.5	0.00	0.00	0.00
19,400.0	90.00	359.86	10,447.0	8,401.1	619.5	8,399.5	0.00	0.00	0.00
19,500.0	90.00	359.86	10,447.0	8,501.1	619.3	8,499.5	0.00	0.00	0.00
19,600.0	90.00	359.86	10,447.0	8,601.1	619.0	8,599.5	0.00	0.00	0.00
19,700.0	90.00	359.86	10,447.0	8,701.1	618.8	8,699.5	0.00	0.00	0.00
19,800.0	90.00	359.86	10,447.0	8,801.1	618.5	8,799.5	0.00	0.00	0.00
19,900.0	90.00	359.86	10,447.0	8,901.1	618.3	8,899.5	0.00	0.00	0.00

XTO Energy

Planning Report

Database:	LMRKPROD3	**Local Co-ordinate Reference:**	Well SHANGHAI ROOSTER 15-3 FED 166H
Company:	Delaware Basin Asset (Plans)	**TVD Reference:**	RKB(25') @ 3101.0usft
Project:	Eddy County	**MD Reference:**	RKB(25') @ 3101.0usft
Site:	SHANGHAI ROOSTER 15-3 FED PAD C	**North Reference:**	Grid
Well:	SHANGHAI ROOSTER 15-3 FED 166H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	SHANGHAI ROOSTER 15-3 FED 166H		
Design:	Plan 1		

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)
20,000.0	90.00	359.86	10,447.0	9,001.1	618.0	8,999.5	0.00	0.00	0.00
20,100.0	90.00	359.86	10,447.0	9,101.1	617.8	9,099.5	0.00	0.00	0.00
20,200.0	90.00	359.86	10,447.0	9,201.1	617.5	9,199.5	0.00	0.00	0.00
20,300.0	90.00	359.86	10,447.0	9,301.1	617.3	9,299.5	0.00	0.00	0.00
20,400.0	90.00	359.86	10,447.0	9,401.1	617.0	9,399.5	0.00	0.00	0.00
20,500.0	90.00	359.86	10,447.0	9,501.1	616.8	9,499.5	0.00	0.00	0.00
20,600.0	90.00	359.86	10,447.0	9,601.1	616.5	9,599.5	0.00	0.00	0.00
20,700.0	90.00	359.86	10,447.0	9,701.1	616.3	9,699.5	0.00	0.00	0.00
20,800.0	90.00	359.86	10,447.0	9,801.1	616.0	9,799.5	0.00	0.00	0.00
20,900.0	90.00	359.86	10,447.0	9,901.1	615.8	9,899.5	0.00	0.00	0.00
21,000.0	90.00	359.86	10,447.0	10,001.1	615.5	9,999.5	0.00	0.00	0.00
21,100.0	90.00	359.86	10,447.0	10,101.1	615.3	10,099.5	0.00	0.00	0.00
21,200.0	90.00	359.86	10,447.0	10,201.1	615.0	10,199.5	0.00	0.00	0.00
21,300.0	90.00	359.86	10,447.0	10,301.1	614.8	10,299.5	0.00	0.00	0.00
21,400.0	90.00	359.86	10,447.0	10,401.1	614.5	10,399.5	0.00	0.00	0.00
21,500.0	90.00	359.86	10,447.0	10,501.1	614.3	10,499.5	0.00	0.00	0.00
21,600.0	90.00	359.86	10,447.0	10,601.1	614.0	10,599.5	0.00	0.00	0.00
21,700.0	90.00	359.86	10,447.0	10,701.1	613.8	10,699.5	0.00	0.00	0.00
21,800.0	90.00	359.86	10,447.0	10,801.1	613.5	10,799.5	0.00	0.00	0.00
21,900.0	90.00	359.86	10,447.0	10,901.1	613.3	10,899.5	0.00	0.00	0.00
22,000.0	90.00	359.86	10,447.0	11,001.1	613.0	10,999.5	0.00	0.00	0.00
22,100.0	90.00	359.86	10,447.0	11,101.1	612.8	11,099.5	0.00	0.00	0.00
22,200.0	90.00	359.86	10,447.0	11,201.1	612.5	11,199.5	0.00	0.00	0.00
22,300.0	90.00	359.86	10,447.0	11,301.1	612.3	11,299.5	0.00	0.00	0.00
22,400.0	90.00	359.86	10,447.0	11,401.1	612.0	11,399.5	0.00	0.00	0.00
22,500.0	90.00	359.86	10,447.0	11,501.1	611.8	11,499.5	0.00	0.00	0.00
22,600.0	90.00	359.86	10,447.0	11,601.1	611.6	11,599.5	0.00	0.00	0.00
22,700.0	90.00	359.86	10,447.0	11,701.1	611.3	11,699.5	0.00	0.00	0.00
22,800.0	90.00	359.86	10,447.0	11,801.1	611.1	11,799.5	0.00	0.00	0.00
22,900.0	90.00	359.86	10,447.0	11,901.1	610.8	11,899.5	0.00	0.00	0.00
23,000.0	90.00	359.86	10,447.0	12,001.1	610.6	11,999.5	0.00	0.00	0.00
23,100.0	90.00	359.86	10,447.0	12,101.1	610.3	12,099.5	0.00	0.00	0.00
23,200.0	90.00	359.86	10,447.0	12,201.1	610.1	12,199.5	0.00	0.00	0.00
23,300.0	90.00	359.86	10,447.0	12,301.1	609.8	12,299.5	0.00	0.00	0.00
23,400.0	90.00	359.86	10,447.0	12,401.1	609.6	12,399.5	0.00	0.00	0.00
23,500.0	90.00	359.86	10,447.0	12,501.1	609.3	12,499.5	0.00	0.00	0.00
23,600.0	90.00	359.86	10,447.0	12,601.1	609.1	12,599.5	0.00	0.00	0.00
23,700.0	90.00	359.86	10,447.0	12,701.1	608.8	12,699.5	0.00	0.00	0.00
23,800.0	90.00	359.86	10,447.0	12,801.1	608.6	12,799.5	0.00	0.00	0.00
23,900.0	90.00	359.86	10,447.0	12,901.1	608.3	12,899.5	0.00	0.00	0.00
24,000.0	90.00	359.86	10,447.0	13,001.1	608.1	12,999.5	0.00	0.00	0.00
24,100.0	90.00	359.86	10,447.0	13,101.1	607.8	13,099.5	0.00	0.00	0.00
24,200.0	90.00	359.86	10,447.0	13,201.1	607.6	13,199.5	0.00	0.00	0.00
24,300.0	90.00	359.86	10,447.0	13,301.1	607.3	13,299.5	0.00	0.00	0.00
24,400.0	90.00	359.86	10,447.0	13,401.1	607.1	13,399.5	0.00	0.00	0.00
24,500.0	90.00	359.86	10,447.0	13,501.1	606.8	13,499.5	0.00	0.00	0.00
24,600.0	90.00	359.86	10,447.0	13,601.1	606.6	13,599.5	0.00	0.00	0.00
24,700.0	90.00	359.86	10,447.0	13,701.1	606.3	13,699.5	0.00	0.00	0.00
24,800.0	90.00	359.86	10,447.0	13,801.1	606.1	13,799.5	0.00	0.00	0.00
24,900.0	90.00	359.86	10,447.0	13,901.1	605.8	13,899.5	0.00	0.00	0.00
25,000.0	90.00	359.86	10,447.0	14,001.1	605.6	13,999.5	0.00	0.00	0.00
25,100.0	90.00	359.86	10,447.0	14,101.1	605.3	14,099.5	0.00	0.00	0.00
25,200.0	90.00	359.86	10,447.0	14,201.1	605.1	14,199.5	0.00	0.00	0.00
25,300.0	90.00	359.86	10,447.0	14,301.1	604.8	14,299.5	0.00	0.00	0.00

XTO Energy

Planning Report

Database:	LMRKPROD3	**Local Co-ordinate Reference:**	Well SHANGHAI ROOSTER 15-3 FED 166H
Company:	Delaware Basin Asset (Plans)	**TVD Reference:**	RKB(25') @ 3101.0usft
Project:	Eddy County	**MD Reference:**	RKB(25') @ 3101.0usft
Site:	SHANGHAI ROOSTER 15-3 FED PAD C	**North Reference:**	Grid
Well:	SHANGHAI ROOSTER 15-3 FED 166H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	SHANGHAI ROOSTER 15-3 FED 166H		
Design:	Plan 1		

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)
25,400.0	90.00	359.86	10,447.0	14,401.1	604.6	14,399.5	0.00	0.00	0.00
25,500.0	90.00	359.86	10,447.0	14,501.1	604.3	14,499.5	0.00	0.00	0.00
25,600.0	90.00	359.86	10,447.0	14,601.1	604.1	14,599.5	0.00	0.00	0.00
25,700.0	90.00	359.86	10,447.0	14,701.1	603.8	14,699.5	0.00	0.00	0.00
25,800.0	90.00	359.86	10,447.0	14,801.1	603.6	14,799.5	0.00	0.00	0.00
25,900.0	90.00	359.86	10,447.0	14,901.1	603.3	14,899.5	0.00	0.00	0.00
26,000.0	90.00	359.86	10,447.0	15,001.1	603.1	14,999.5	0.00	0.00	0.00
26,100.0	90.00	359.86	10,447.0	15,101.1	602.8	15,099.5	0.00	0.00	0.00
26,200.0	90.00	359.86	10,447.0	15,201.1	602.6	15,199.5	0.00	0.00	0.00
26,234.9	90.00	359.86	10,447.0	15,236.0	602.5	15,234.5	0.00	0.00	0.00
Start 130.0 hold at 26234.9 MD									
26,300.0	90.00	359.86	10,447.0	15,301.1	602.3	15,299.5	0.00	0.00	0.00
26,364.9	90.00	359.86	10,447.0	15,366.0	602.2	15,364.5	0.00	0.00	0.00
TD at 26364.9									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LTP-SR 166H - plan hits target center - Point	0.00	0.01	10,447.0	15,236.0	602.5	424,121.50	612,942.80	32° 9' 55.802 N	103° 58' 6.022 W
BHL-SR 166H - plan misses target center by 0.2usft at 26364.9usft MD (10447.0 TVD, 15366.0 N, 602.2 E) - Point	0.00	0.01	10,447.0	15,366.0	602.4	424,251.50	612,942.70	32° 9' 57.088 N	103° 58' 6.018 W
FTP-SR 166H - plan hits target center - Point	0.00	0.00	10,447.0	-26.3	640.5	408,859.20	612,980.80	32° 7' 24.760 N	103° 58' 6.182 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1,000.0	1,000.0	0.0	0.0	Start Build 2.00
1,722.8	1,715.1	-68.6	59.3	Start 3206.3 hold at 1722.8 MD
4,929.0	4,819.9	-673.9	583.0	Start Drop -2.00
5,651.8	5,535.0	-742.5	642.3	Start 4195.8 hold at 5651.8 MD
9,847.6	9,730.8	-742.5	642.3	Start Build 8.00
10,972.6	10,447.0	-26.3	640.5	Start 15262.3 hold at 10972.6 MD
26,234.9	10,447.0	15,236.0	602.5	Start 130.0 hold at 26234.9 MD
26,364.9	10,447.0	15,366.0	602.2	TD at 26364.9

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO Energy Incorporated
WELL NAME & NO.:	Shanghai Rooster 15-3 Fed 166H
LOCATION:	Sec 15-25S-29E-NMP
COUNTY:	Eddy County, New Mexico

COA

H2S	○ Yes	◉ No	
Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	○ Low	◉ Medium	○ High
Cave/Karst Potential	○ Critical		
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	◉ Multibowl	○ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☐ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☐ COM	☐ Unit

Break Testing	◉ Yes	○ No

*Previously known as **Shanghai Rooster 22-27 Fed 126H**. Changes approved through engineering via Sundry **2701770** on **11/16/2022**. 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 Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately 721 feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite and above the salt) 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 intermediate casing is:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool:

- Cement to surface. 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.

❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'

2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. 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 OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

BOPE Break Testing Variance (Note: For 5M BOPE or less)

- BOPE Break Testing is ONLY permitted for 5M BOPE or less.
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- 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 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.
- The BLM is to be contacted (575-689-5981 Lea County) 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per Onshore Oil and Gas Order No. 2.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

☒ Eddy County
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 689-5981

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
    e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

    b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

    c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for

the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

e. The results of the test shall be reported to the appropriate BLM office.

f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

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.

Shanghai Rooster 15-3 Fed 166H

13 3/8	surface csg in a	17 1/2	inch hole.	Design Factors			Surface			
Segment	#/ft	Grade	Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	5□.50	J 55	BTC	21.□1	3.35	1.33	□21	9	2.32	6.33	39,295
"B"			BTC				0				0
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,500			Tail Cmt	does not	circ to sfc.	Totals:	□21				39,295

Comparison of Proposed to Minimum Required Cement Volumes

Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg
17 1/2	0.69□6	270	□3□	501	-13	9.00	11□□	2M	1.56

Site plat (pipe racks S or E) as per O.O.1.III.D.4.i. not found.

9 5/8	casing inside the	13 3/8		Design Factors			Int 1			
Segment	#/ft	Grade	Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	□0.00	HCP 110	BTC	□.□□	2.06	1.33	□,000	□	2.13	3.59	160,000
"B"	40.00	HCL 80	BTC	∞	2.06	0.97	5,700	3	1.55	3.59	228,000
w/8.4#/g mud, 30min Sfc Csg Test psig:						Totals:	9,□00				3□□,000
The cement volume(s) are intended to achieve a top of				0	ft from surface or a		721				overlap.

Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg
12 1/4	0.3132	670	1331	3074	-5□	9.90	3□0□	5M	0.□1

Burst Frac Gradient(s) for Segment(s): A, B, C, D = a, 1.44, c, d All > 0.70, OK.

5 1/2	casing inside the	9 5/8		Design Factors			Prod 1			
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	23.00	P 110	Semi-Premiur	2.61	2.5□	1.69	9,600	2	2.□0	□.13	220,□00
"B"	23.00	P 110	Semi-Premiur	52.□0	2.45	1.69	16,765	2	2.70	3.92	385,595
w/8.4#/g mud, 30min Sfc Csg Test psig: 2,112						Totals:	26,365				606,395
The cement volume(s) are intended to achieve a top of				3800	ft from surface or a		5900				overlap.

Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg
8 1/2	0.2291	3180	□162	5356	3□	11.30			1.50

Class 'C' tail cmt yld > 1.35

□□□A

0		5 1/2		Design Factors			<Choose Casing>			
Segment	#/ft	Grade	Coupling	#N/A	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"			0.00				0				0
"B"			0.00				0				0
w/8.4#/g mud, 30min Sfc Csg Test psig:						Totals:	0				0
Cmt vol calc below includes this csg, TOC intended				#N/A	ft from surface or a		#N/A				overlap.

Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg
0		#N/A	□□□A	0	□□□A				

#N/A Capitan Reef est top XXXX.

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 166190

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 166190
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
kpickford	Adhere to previous NMOCD Conditions of Approval	12/16/2022
jagarcia	New property Code is 333604	10/6/2023