

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

Sundry Print Reports
12/12/2022

Well Name: SHANGHAI ROOSTER 15- Well Location: T25S / R29E / SEC 15 / County or Parish/State:

3 FED SWSE /

Well Number: 803H Type of Well: OIL WELL Allottee or Tribe Name:

Lease Number: NMNM014778 Unit or CA Name: Unit or CA Number:

US Well Number: 3001550048 Well Status: Approved Application for Operator: XTO ENERGY

Permit to Drill INCORPORATED

### **Notice of Intent**

**Sundry ID: 2701771** 

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 11/07/2022 Time Sundry Submitted: 06:06

Date proposed operation will begin: 11/29/2022

Procedure Description: \*\*Well Name and Number Change, Pool 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 706H to 803H Change Pool from 96217 Willow Lake; Bone Spring, Southeast to 98220 Purple Sage; Wolfcamp Change SHL fr/295'FSL & 2205'FEL to 300' FSL & 2230' FEL, Section 15-T25S-R29E No Additional Surface Disturbance Change BHL fr/50'FSL & 1980'FEL, Section 27-T25S-R29E to 200'FNL & 2220'FEL, Section 3-T25S-R29E Change FTP fr/100'FNL & 1980'FEL to 330'FSL & 2220'FEL Change LTP fr/100'FSL & 1980'FEL to 330'FNL & 2220'FEL Additionally, XTO Energy, Inc. respectfully requests permission to upsize the surface, intermediate and production hole, casing and cement based on the attached drilling program. Due to the upsize in these strings, the wellhead configuration has also changed based on the attached drilling program. Attachments: C102 Drilling Program MBS Diagram Directional Plan

### **NOI Attachments**

### **Procedure Description**

Shanghai\_Rooster\_15\_3\_Fed\_803H\_Attachments\_20221107180528.pdf

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eived by OCD: 12/12/2022 2:05:59 PM Well Name: SHANGHAI ROOSTER 15-Well Location: T25S / R29E / SEC 15 / County or Parish/State:

3 FED

SWSE /

Page 2 of

Well Number: 803H Type of Well: OIL WELL **Allottee or Tribe Name:** 

Lease Number: NMNM014778 **Unit or CA Name: Unit or CA Number:** 

**US Well Number: 3001550048** Well Status: Approved Application for **Operator: XTO ENERGY** 

Permit to Drill **INCORPORATED** 

### **Conditions of Approval**

### **Additional**

Sec 15 25S 29E NMP 2701771 Shanghai Rooster 15 3 Fed 803H Eddy NMNM014778 XTO COAs 20221116 073827.pdf

Sec\_15\_25S\_29E\_NMP\_2701771\_\_Shanghai\_Rooster\_15\_3\_Fed\_803H\_Eddy\_NMNM014778\_XTO\_13\_22\_44881\_A M\_20221116073827.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 06:05 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 Date:** 12/07/2022 **Disposition:** Approved

Signature: Chris Walls

Page 2 of 2

District I

District III

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

1000 Rio Brazos Road, Aztec, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170 <u>District IV</u>

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.

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- (	50048	<sup>2</sup> Pool Code 98220	Purple Sage; Wolfcamp				
<sup>4</sup> Property Code		<sup>5</sup> Pr	operty Name	<sup>6</sup> Well Number			
		SHANGHAI ROOSTER 15-3 FED					
<sup>7</sup> OGRID No.		8 O <sub>l</sub>	perator Name	<sup>9</sup> Elevation			
005380		XTO E	ENERGY, INC.	3,076'			

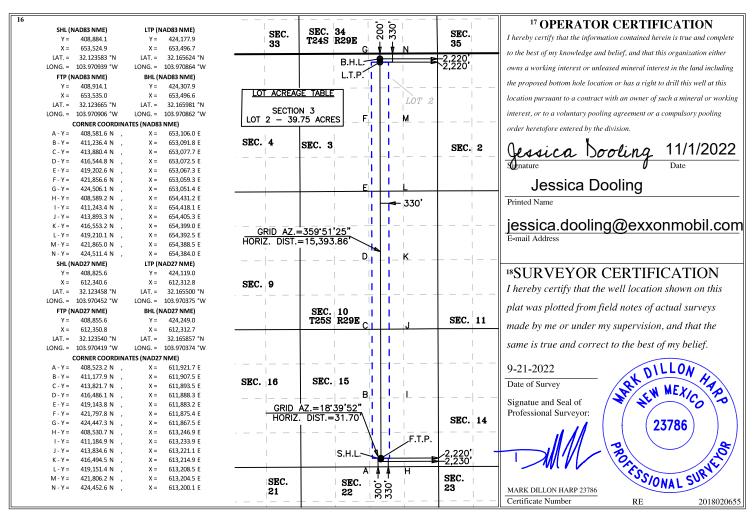
### <sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
О	15	25 S	29 E		300	SOUTH	2,230	EAST	EDDY

### <sup>11</sup> Bottom Hole Location If Different From Surface

	Bottom Hole Eccation in 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	2,220	EAST	EDDY			
12 Dedicated Acres	13 Joint o	r Infill 14	Consolidation	Code 15 Or	der 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.



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

XTO Energy Inc.

Shanghai Rooster 15-3 Fed 803H Projected TD: 26848.86' MD / 11101' TVD SHL: 300' FSL & 2230' FEL , Section 15, T25S, R29E BHL: 200' FNL & 2220' 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	3122'	Water
Brushy Canyon	5620'	Water/Oil/Gas
Bone Spring	6877'	Water
1st Bone Spring Ss	7840'	Water/Oil/Gas
2nd Bone Spring Ss	8666'	Water/Oil/Gas
3rd Bone Spring Ss	9739'	Water/Oil/Gas
Wolfcamp	10093'	Water/Oil/Gas
Wolfcamp X	10119'	Water/Oil/Gas
Wolfcamp Y	10188'	Water/Oil/Gas
Wolfcamp A	10232'	Water/Oil/Gas
Wolfcamp B	10575'	Water/Oil/Gas
Wolfcamp D	11026'	Water/Oil/Gas
Target/Land Curve	11101'	Water/Oil/Gas

<sup>\*\*\*</sup> Hydrocarbons @ Brushy Canyon

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 13.375 inch casing @ 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 9.625 inch casing at 10399.98' and cemented to surface. A 8.5 inch curve and 8.5 inch lateral hole will be drilled to 26848.86 MD/TD and 5.5 inch production casing will be set at TD and cemented back up in the intermediate shoe (estimated TOC 10099.98 feet).

### 3. Casing Design

Hole Size	Depth	OD Csg	Weight	Grade	Collar	New/Used	SF Burst	SF Collapse	SF Tension
17.5	0' – 721'	13.375	54.5	J-55	втс	New	0.93	3.46	21.71
12.25	0' – 821'	9.625	40	HC P-110	втс	New	1.56	10.21	3.03
12.25	821' – 10399.98'	9.625	40	HC L-80	ВТС	New	1.14	1.29	2.39
8.5	0' - 10299.98'	5.5	23	RY P-110	Semi-Premium	New	1.21	2.09	1.74
8.5	10299.98' - 26848.86'	5.5	23	RY P-110	Semi-Premium	New	1.21	1.94	1.88

- $\cdot$  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
- $\cdot$  9.625 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

<sup>\*\*\*</sup> Groundwater depth 40' (per NM State Engineers Office).

### Wellhead:

- Permanent Wellhead Multibowl System.

  A. Starting Head: 13-5/8" 10M top flange x 13-3/8" SOW bottom

  B. 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 9-5/8" casing per BLM Onshore Order 2
  - · Wellhead Manufacturer representative will not be present for BOP test plug installation

#### 4. Cement Program

### Surface Casing: 13.375, 54.5 New BTC, J-55 casing to be set at +/- 721'

Lead: 310 sxs EconoCem-HLTRRC (mixed at 12.9 ppg, 1.87 ft3/sx, 10.13 gal/sx water)

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

Top of Cement: Surface

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

#### 2nd Intermediate Casing: 9.625, 40 New casing to be set at +/- 10399.98'

st Stage

Optional Lead: 950 sxs Class C (mixed at 10.5 ppg, 2.77 ft3/sx, 15.59 gal/sx water)

TOC: Surface

Tail: 1380 sxs Class C (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)

TOC: Brushy Canyon @ 5620

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: 1980 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 9-5/8" intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brush Canyon (5620') 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-Premium, RY P-110 casing to be set at +/- 26848.86'

Lead: 50 sxs NeoCem (mixed at 11.5 ppg, 2.69 ft3/sx, 15.00 gal/sx water) Top of Cement: 10099.98 feet
Tail: 3200 sxs VersaCem (mixed at 13.2 ppg, 1.51 ft3/sx, 8.38 gal/sx water) Top of Cement: 10599.98 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 13.375 casing, the blow out preventer equipment (BOP) will consist of a 13-5/8" minimum 10M Hydril and a 13-5/8" minimum 10M Double Ram BOP. MASP should not exceed 5062 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 13.375, 10M bradenhead and flange, the BOP test will be limited to 10000 psi. When nippling up on the 9.625, the BOP will be tested to a minimum of 10000 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.

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	Viscosity	Fluid Loss
INTERVAL	Tible Size	widd Type	(ppg)	(sec/qt)	(cc)
0' - 721'	17.5	FW/Native	8.7-9.2	35-40	NC
721' - 10399.98'	12.25	FW / Cut Brine / Direct Emulsion	9.7-10.2	30-32	NC
10399.98' - 26848.86'	8.5	ОВМ	13-13.5	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 13-3/8" 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 13.375 casing.

### 8. Logging, Coring and Testing Program

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

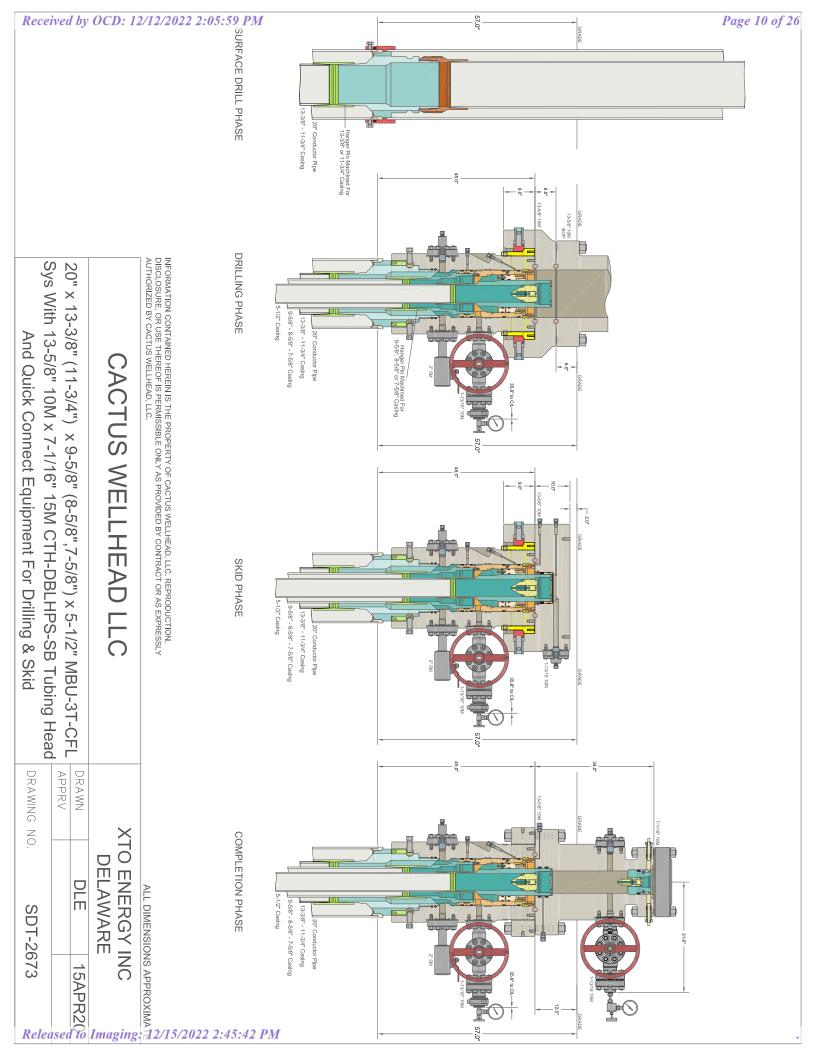
Open hole logging will not be done on this well.

### 9. Abnormal Pressures and Temperatures / Potential Hazards

None Anticipated. BHT of 175 to 195 F is anticipated. No H2S is expected but monitors will be in place to detect any H2S occurrences. Should these circumstances be encountered the operator and drilling contractor are prepared to take all necessary steps to ensure safety of all personnel and environment. Lost circulation could occur but is not expected to be a serious problem in this area and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid. The maximum anticipated bottom hole pressure for this well is 7504 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.



# **Delaware Basin Asset (Plans)**

Eddy County SHANGHAI ROOSTER 15-3 FED PAD C SHANGHAI ROOSTER 15-3 FED 803H

SHANGHAI ROOSTER 15-3 FED 803H OH

Plan: Plan 1

# **Standard Planning Report**

18 October, 2022

### Planning Report

LMRKPROD3 Database:

Company: Delaware Basin Asset (Plans)

Project: **Eddy County** Site:

SHANGHAI ROOSTER 15-3 FED PAD C Well: SHANGHAI ROOSTER 15-3 FED 803H Wellbore: SHANGHAI ROOSTER 15-3 FED 803H OH

Plan 1 Design:

Local Co-ordinate Reference:

**TVD Reference:** MD Reference: North Reference:

**Survey Calculation Method:** 

Well SHANGHAI ROOSTER 15-3 FED 803H

rkb (25') @ 3100.5usft rkb (25') @ 3100.5usft

Grid

Minimum Curvature

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

Map System: US State Plane 1927 (Exact solution) NAD 1927 (NADCON CONUS) Geo Datum:

New Mexico East 3001 Map Zone:

System Datum: Mean Sea Level

SHANGHAI ROOSTER 15-3 FED PAD C Site

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

Well SHANGHAI ROOSTER 15-3 FED 803H

**Well Position** +N/-S 408,825.60 usft Latitude: 32° 7' 24.449 N 0.0 usft Northing: +E/-W 0.0 usft Easting: 612,340.60 usft Longitude: 103° 58' 13.628 W

0.0 usft Wellhead Elevation: **Ground Level:** 3,076.0 usft **Position Uncertainty** 

Wellbore SHANGHAI ROOSTER 15-3 FED 803H OH Dip Angle Magnetics **Model Name** Sample Date Declination Field Strength (°) (°) (nT) IGRF2020 10/18/2022 6.56 59.71 47.256.00931192

Design Plan 1 Audit Notes: Version: Phase: **PROTOTYPE** Tie On Depth: 0.0 Vertical Section: Depth From (TVD) +N/-S +E/-W Direction (usft) (usft) (usft) (°) 0 0 0.0 0.0 359.86

**Plan Survey Tool Program** Date **Depth From** Depth To (usft) (usft) Survey (Wellbore) **Tool Name** Remarks

0.0 26,848.9 Plan 1 (SHANGHAI ROOSTER 1 OWSG MWD+IFR1+MS

OWSG MWD + IFR1 + Multi-St

**Plan Sections** Vertical Build Measured Dogleg Turn Depth Inclination Azimuth Depth +N/-S +E/-W Rate Rate Rate **TFO** (usft) (usft) (°/100usft) (°/100usft) (°/100usft) (°) (°) (usft) (usft) (°) **Target** 0.00 0.0 0.00 0.00 0.0 0.0 0.0 0.00 0.00 0.00 1,000.0 1,000.0 0.00 0.00 0.0 0.0 0.00 0.00 0.00 0.00 1,293.9 5.88 178.77 1,293.4 -15.1 0.3 2.00 2.00 0.00 178.77 6.302.5 5.88 178.77 6.275.6 -527.9 11.3 0.00 0.00 0.00 0.00 6,596.4 0.00 0.00 6,569.0 -5430116 2 00 -2 00 0.00 180 00 10,555.4 0.00 0.00 10,528.0 -543.0 11.6 0.00 0.00 0.00 0.00 11,455.4 90.00 359.86 11,101.0 30.0 10.2 10.00 10.00 0.00 0.00 FTP-SR803H (copy) ( 15,293.4 -27.8 0.00 LTP--SR803H 26,718.9 90.00 359 86 11,101.0 0.00 0.00 0.00 26.848.9 90.00 359.86 11.101.0 15.423.4 -28.1 0.00 0.00 0.00 0.00 BHL--SR803H (copy)

Planning Report

Database: LMRKPROD3

Company: Delaware Basin Asset (Plans)

Project: Eddy County

Site: SHANGHAI ROOSTER 15-3 FED PAD C
Well: SHANGHAI ROOSTER 15-3 FED 803H
Wellbore: SHANGHAI ROOSTER 15-3 FED 803H OH

Design: Plan 1

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well SHANGHAI ROOSTER 15-3 FED 803H

rkb (25') @ 3100.5usft rkb (25') @ 3100.5usft

Grid

Measured Depth (usft)	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
` '	(°)	(°)	(usft)	(usft)	(usft)	(usit)	( / Ioousit)	( / ioousit)	( / Ioousit)
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									
1,100.0	2.00	178.77	1,100.0	-1.7	0.0	-1.7	2.00	2.00	0.00
1,200.0	4.00	178.77	1,199.8	-7.0	0.1	-7.0	2.00	2.00	0.00
1,293.9	5.88	178.77	1,293.4	-15.1	0.3	-15.1	2.00	2.00	0.00
Start 5008.5	hold at 1293.9 N	ID							
1,300.0	5.88	178.77	1,299.5	-15.7	0.3	-15.7	0.00	0.00	0.00
1,400.0	5.88	178.77	1,398.9	-25.9	0.6	-25.9	0.00	0.00	0.00
1,500.0	5.88	178.77	1,498.4	-36.2	0.8	-36.2	0.00	0.00	0.00
1,600.0	5.88	178.77	1,597.9	-46.4	1.0	-46.4	0.00	0.00	0.00
1,700.0	5.88	178.77	1,697.3	-56.6	1.2	-56.6	0.00	0.00	0.00
1,800.0	5.88	178.77	1,796.8	-66.9	1.4	-66.9	0.00	0.00	0.00
1,900.0	5.88	178.77	1,896.3	-77.1	1.7	-77.1	0.00	0.00	0.00
2,000.0	5.88	178.77	1,995.8	-87.4	1.9	-87.4	0.00	0.00	0.00
2,100.0	5.88	178.77	2,095.2	-97.6	2.1	-97.6	0.00	0.00	0.00
2,200.0	5.88	178.77	2,194.7	-107.8	2.3	-107.8	0.00	0.00	0.00
2,300.0	5.88	178.77	2,294.2	-118.1	2.5	-118.1	0.00	0.00	0.00
2,400.0	5.88	178.77	2,393.7	-128.3	2.7	-128.3	0.00	0.00	0.00
2,500.0	5.88	178.77	2,493.1	-138.6	3.0	-138.6	0.00	0.00	0.00
2,600.0	5.88	178.77	2,592.6	-148.8	3.2	-148.8	0.00	0.00	0.00
2,700.0	5.88	178.77	2,692.1	-140.0	3.4	-159.0	0.00	0.00	0.00
2,700.0	5.00	170.77	2,092.1	-139.0	3.4	-159.0	0.00	0.00	0.00
2,800.0	5.88	178.77	2,791.6	-169.3	3.6	-169.3	0.00	0.00	0.00
2,900.0	5.88	178.77	2,891.0	-179.5	3.8	-179.5	0.00	0.00	0.00
3,000.0	5.88	178.77	2,990.5	-189.8	4.1	-189.8	0.00	0.00	0.00
3,100.0	5.88	178.77	3,090.0	-200.0	4.3	-200.0	0.00	0.00	0.00
3,200.0	5.88	178.77	3,189.5	-210.2	4.5	-210.2	0.00	0.00	0.00
2 200 0	5.00	470.77	2 200 0	220 5	4.7	220 5	0.00	0.00	0.00
3,300.0	5.88	178.77	3,288.9	-220.5	4.7	-220.5	0.00	0.00	0.00
3,400.0	5.88	178.77	3,388.4	-230.7	4.9	-230.7	0.00	0.00	0.00
3,500.0	5.88	178.77	3,487.9	-240.9	5.2	-241.0	0.00	0.00	0.00
3,600.0	5.88	178.77	3,587.4	-251.2	5.4	-251.2	0.00	0.00	0.00
3,700.0	5.88	178.77	3,686.8	-261.4	5.6	-261.4	0.00	0.00	0.00
3,800.0	5.88	178.77	3,786.3	-271.7	5.8	-271.7	0.00	0.00	0.00
3,900.0	5.88	178.77	3,885.8	-281.9	6.0	-281.9	0.00	0.00	0.00
4,000.0	5.88	178.77	3,985.3	-292.1	6.3	-292.2	0.00	0.00	0.00
4,100.0	5.88	178.77	4,084.7	-302.4	6.5	-302.4	0.00	0.00	0.00
4,200.0	5.88	178.77	4,184.2	-312.6	6.7	-312.6	0.00	0.00	0.00
4,300.0	5.88	178.77	4,283.7	-322.9	6.9	-322.9	0.00	0.00	0.00
4,400.0	5.88	178.77	4,383.2	-333.1	7.1	-333.1	0.00	0.00	0.00
4,500.0	5.88	178.77	4,482.6	-343.3	7.4	-343.4	0.00	0.00	0.00
4,600.0	5.88	178.77	4,582.1	-353.6	7.6	-353.6	0.00	0.00	0.00
4,700.0	5.88	178.77	4,681.6	-363.8	7.8	-363.8	0.00	0.00	0.00
4,800.0	5.88	178.77	4,781.0	-374.1	8.0	-374.1	0.00	0.00	0.00
4,900.0	5.88	178.77	4,880.5	-384.3	8.2	-384.3	0.00	0.00	0.00
5,000.0	5.88	178.77	4,980.0	-394.5	8.4	-394.6	0.00	0.00	0.00
5,100.0	5.88	178.77	5,079.5	-404.8	8.7	-404.8	0.00	0.00	0.00
5,200.0	5.88	178.77	5,178.9	-415.0	8.9	-404.0 -415.0	0.00	0.00	0.00
5,300.0	5.88	178.77	5,278.4	-425.3	9.1	-425.3	0.00	0.00	0.00
5,400.0	5.88	178.77	5,377.9	-435.5	9.3	-435.5	0.00	0.00	0.00
5,500.0	5.88	178.77	5,477.4	-445.7	9.5	-445.8	0.00	0.00	0.00
5,600.0	5.88	178.77	5,576.8	-456.0	9.8	-456.0	0.00	0.00	0.00
5,700.0	5.88	178.77	5,676.3	-466.2	10.0	-466.2	0.00	0.00	0.00
		178.77	5,775.8	-476.4	10.2	-476.5	0.00	0.00	0.00

Planning Report

Database: LMRKPROD3

Company: Delaware Basin Asset (Plans)

Project: Eddy County

Site: SHANGHAI ROOSTER 15-3 FED PAD C
Well: SHANGHAI ROOSTER 15-3 FED 803H
Wellbore: SHANGHAI ROOSTER 15-3 FED 803H OH

Design: Plan 1

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well SHANGHAI ROOSTER 15-3 FED 803H

rkb (25') @ 3100.5usft rkb (25') @ 3100.5usft

Grid

nned 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)
5,900.0	5.88	178.77	5,875.3	-486.7	10.4	-486.7	0.00	0.00	0.00
6,000.0	5.88	178.77	5,974.7	-496.9	10.6	-497.0	0.00	0.00	0.00
6,100.0	5.88	178.77	6,074.2	-507.2	10.9	-507.2	0.00	0.00	0.00
6,200.0	5.88	178.77	6,173.7	-517.4	11.1	-517.4	0.00	0.00	0.00
0,200.0	5.00	170.77	0,173.7	-517.4	11.1	-517.4	0.00	0.00	0.00
6,300.0	5.88	178.77	6,273.2	-527.6	11.3	-527.7	0.00	0.00	0.00
6,302.5	5.88	178.77	6,275.6	-527.9	11.3	-527.9	0.00	0.00	0.00
Start Drop -2			-,=						
6,400.0		170 77	6 272 0	E26.2	11 E	E26.2	2.00	-2.00	0.00
,	3.93	178.77	6,372.8	-536.2	11.5	-536.3			
6,500.0	1.93	178.77	6,472.7	-541.3	11.6	-541.4	2.00	-2.00	0.00
6,596.4	0.00	0.00	6,569.0	-543.0	11.6	-543.0	2.00	-2.00	0.00
Start 3959.0	hold at 6596.4 N	MD							
4			10						
10,555.4	0.00	0.00	10,528.0	-543.0	11.6	-543.0	0.00	0.00	0.00
Start Build 1	0.00								
10,600.0	4.46	359.86	10,572.6	-541.2	11.6	-541.2	10.00	10.00	0.00
10,700.0	14.46	359.86	10,671.1	-524.8	11.6	-524.8	10.00	10.00	0.00
10,800.0	24.46	359.86	10.765.3	-491.5	11.5	-491.6	10.00	10.00	0.00
10,900.0	34.46	359.86	10,852.2	-442.4	11.4	-442.4	10.00	10.00	0.00
10,300.0					11.4		10.00		
11,000.0	44.46	359.86	10,929.3	-378.9	11.2	-379.0	10.00	10.00	0.00
11,100.0	54.46	359.86	10,994.3	-303.1	11.0	-303.1	10.00	10.00	0.00
11,200.0	64.46	359.86	11,045.0	-217.0	10.8	-217.1	10.00	10.00	0.00
11,300.0	74.46	359.86	11,080.1	-123.5	10.6	-123.5	10.00	10.00	0.00
11,400.0	84.46	359.86	11,098.3	-25.3	10.0	-125.3	10.00	10.00	0.00
11,400.0	84.46	359.86	11,098.3	-25.3	10.3	-25.3	10.00	10.00	0.00
11,455.4	90.00	359.86	11,101.0	30.0	10.2	30.0	10.00	10.00	0.00
,	hold at 11455.4								
			11,101.0	74.6	10.4	74.6	0.00	0.00	0.00
11,500.0	90.00	359.86		74.6	10.1	74.6		0.00	
11,600.0	90.00	359.86	11,101.0	174.6	9.8	174.6	0.00	0.00	0.00
11,700.0	90.00	359.86	11,101.0	274.6	9.6	274.6	0.00	0.00	0.00
11,800.0	90.00	359.86	11,101.0	374.6	9.3	374.6	0.00	0.00	0.00
11,900.0	90.00	359.86	11,101.0	474.6	9.1	474.6	0.00	0.00	0.00
	90.00	359.86	11,101.0	574.6		574.6	0.00	0.00	
12,000.0					8.8				0.00
12,100.0	90.00	359.86	11,101.0	674.6	8.6	674.6	0.00	0.00	0.00
12,200.0	90.00	359.86	11,101.0	774.6	8.3	774.6	0.00	0.00	0.00
12,300.0	90.00	359.86	11,101.0	874.6	8.1	874.6	0.00	0.00	0.00
12,400.0	90.00	359.86	11,101.0	974.6	7.8	974.6	0.00	0.00	0.00
							0.00		
12,500.0	90.00	359.86	11,101.0	1,074.6	7.6	1,074.6		0.00	0.00
12,600.0	90.00	359.86	11,101.0	1,174.6	7.4	1,174.6	0.00	0.00	0.00
12,700.0	90.00	359.86	11,101.0	1,274.6	7.1	1,274.6	0.00	0.00	0.00
12,800.0	90.00	359.86	11,101.0	1,374.6	6.9	1,374.6	0.00	0.00	0.00
12,900.0	90.00	359.86	11,101.0	1,474.6	6.6	1,474.6	0.00	0.00	0.00
,			,						
13,000.0	90.00	359.86	11,101.0	1,574.6	6.4	1,574.6	0.00	0.00	0.00
13,100.0	90.00	359.86	11,101.0	1,674.6	6.1	1,674.6	0.00	0.00	0.00
13,200.0	90.00	359.86	11,101.0	1,774.6	5.9	1,774.6	0.00	0.00	0.00
13,300.0	90.00	359.86	11,101.0	1,874.6	5.6	1,874.6	0.00	0.00	0.00
12 400 0	00.00	250.06	11 101 0	1 074 6	E 1	1 074 6	0.00	0.00	0.00
13,400.0	90.00	359.86	11,101.0	1,974.6	5.4	1,974.6	0.00	0.00	0.00
13,500.0	90.00	359.86	11,101.0	2,074.6	5.1	2,074.6	0.00	0.00	0.00
13,600.0	90.00	359.86	11,101.0	2,174.6	4.9	2,174.6	0.00	0.00	0.00
13,700.0	90.00	359.86	11,101.0	2,274.6	4.6	2,274.6	0.00	0.00	0.00
13,800.0	90.00	359.86	11,101.0	2,374.6	4.4	2,374.6	0.00	0.00	0.00
13,900.0	90.00	359.86	11,101.0	2,474.6	4.1	2,474.6	0.00	0.00	0.00
14,000.0	90.00	359.86	11,101.0	2,574.6	3.9	2,574.6	0.00	0.00	0.00
14,100.0	90.00	359.86	11,101.0	2,674.6	3.6	2,674.6	0.00	0.00	0.00
		359.86	11,101.0	2,774.6	3.4	2,774.6	0.00	0.00	0.00
14,200.0	90.00	339.00							

### Planning Report

Database: LMRKPROD3

Company: Delaware Basin Asset (Plans)

Project: Eddy County

Site: SHANGHAI ROOSTER 15-3 FED PAD C
Well: SHANGHAI ROOSTER 15-3 FED 803H
Wellbore: SHANGHAI ROOSTER 15-3 FED 803H OH

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well SHANGHAI ROOSTER 15-3 FED 803H

rkb (25') @ 3100.5usft rkb (25') @ 3100.5usft

Grid

Planned Survey										
_									_	
Measured	1		Vertical		. = / \.	Vertical	Dogleg Rate	Build Rate	Turn Rate	
Depth (usft)	Inclination (°)	Azimuth (°)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Section (usft)	(°/100usft)	(°/100usft)	(°/100usft)	
` '				` '		, ,	, ,	, ,	,	
14,400.0	90.00	359.86	11,101.0	2,974.6	2.9	2,974.6	0.00	0.00	0.00	
14,500.0	90.00	359.86	11,101.0	3,074.6	2.6	3,074.6	0.00	0.00	0.00	
14,600.0	90.00	359.86	11,101.0	3,174.6	2.4	3,174.6	0.00	0.00	0.00	
14,700.0	90.00	359.86	11,101.0	3,274.6	2.1	3,274.6	0.00	0.00	0.00	
14,800.0	90.00	359.86	11,101.0	3,374.6	1.9	3,374.6	0.00	0.00	0.00	
14,900.0	90.00	359.86	11,101.0	3,474.6	1.6	3,474.6	0.00	0.00	0.00	
15,000.0	90.00	359.86	11,101.0	3,574.6	1.4	3,574.6	0.00	0.00	0.00	
15,100.0	90.00	359.86	11,101.0	3,674.6	1.1	3,674.6	0.00	0.00	0.00	
15,200.0	90.00	359.86	11,101.0	3,774.6	0.9	3,774.6	0.00	0.00	0.00	
15,300.0	90.00	359.86	11,101.0	3,874.6	0.6	3,874.6	0.00	0.00	0.00	
15,400.0	90.00	359.86	11,101.0	3,974.6	0.4	3,974.6	0.00	0.00	0.00	
15,500.0	90.00	359.86	11,101.0	4,074.6	0.1	4,074.6	0.00	0.00	0.00	
15,600.0	90.00	359.86	11,101.0	4,174.6	-0.1	4,174.6	0.00	0.00	0.00	
15,700.0	90.00	359.86	11,101.0	4,274.6	-0.4	4,274.6	0.00	0.00	0.00	
15,800.0	90.00	359.86	11,101.0	4,374.6	-0.6	4,374.6	0.00	0.00	0.00	
15,900.0	90.00	359.86	11,101.0	4,474.6	-0.9	4,474.6	0.00	0.00	0.00	
16,000.0	90.00	359.86	11,101.0	4,574.6	-1.1	4,574.6	0.00	0.00	0.00	
16,100.0	90.00	359.86	11,101.0	4,674.6	-1.4	4,674.6	0.00	0.00	0.00	
16,200.0 16,300.0	90.00 90.00	359.86 359.86	11,101.0 11,101.0	4,774.6 4,874.6	-1.6 -1.9	4,774.6 4,874.6	0.00 0.00	0.00 0.00	0.00 0.00	
10,300.0	90.00	339.00	11,101.0	•	-1.9	4,074.0	0.00	0.00	0.00	
16,400.0	90.00	359.86	11,101.0	4,974.6	-2.1	4,974.6	0.00	0.00	0.00	
16,500.0	90.00	359.86	11,101.0	5,074.6	-2.4	5,074.6	0.00	0.00	0.00	
16,600.0	90.00	359.86	11,101.0	5,174.6	-2.6	5,174.6	0.00	0.00	0.00	
16,700.0	90.00	359.86	11,101.0	5,274.6	-2.9	5,274.6	0.00	0.00	0.00	
16,800.0	90.00	359.86	11,101.0	5,374.6	-3.1	5,374.6	0.00	0.00	0.00	
16,900.0	90.00	359.86	11,101.0	5,474.6	-3.4	5,474.6	0.00	0.00	0.00	
17,000.0	90.00	359.86	11,101.0	5,574.6	-3.6	5,574.6	0.00	0.00	0.00	
17,100.0	90.00	359.86	11,101.0	5,674.6	-3.9	5,674.6	0.00	0.00	0.00	
17,200.0	90.00	359.86	11,101.0	5,774.6	-4.1	5,774.6	0.00	0.00	0.00	
17,300.0	90.00	359.86	11,101.0	5,874.6	-4.4	5,874.6	0.00	0.00	0.00	
17,400.0	90.00	359.86	11,101.0	5,974.6	-4.6	5,974.6	0.00	0.00	0.00	
17,500.0	90.00	359.86	11,101.0	6,074.6	-4.8	6,074.6	0.00	0.00	0.00	
17,600.0	90.00	359.86	11,101.0	6,174.6	-5.1	6,174.6	0.00	0.00	0.00	
17,700.0	90.00	359.86	11,101.0	6,274.6	-5.3	6,274.6	0.00	0.00	0.00	
17,800.0	90.00	359.86	11,101.0	6,374.6	-5.6	6,374.6	0.00	0.00	0.00	
17,900.0	90.00 90.00	359.86 359.86	11,101.0	6,474.6 6,574.6	-5.8 6.1	6,474.6 6,574.6	0.00 0.00	0.00 0.00	0.00 0.00	
18,000.0 18,100.0	90.00	359.86 359.86	11,101.0 11,101.0	6,574.6 6,674.6	-6.1 -6.3	6,574.6 6,674.6	0.00	0.00	0.00	
18,200.0	90.00	359.86	11,101.0	6,774.6	-6.6	6,774.6	0.00	0.00	0.00	
18,300.0	90.00	359.86	11,101.0	6,874.6	-6.8	6,874.6	0.00	0.00	0.00	
			,							
18,400.0	90.00	359.86	11,101.0	6,974.6	-7.1	6,974.6	0.00	0.00	0.00	
18,500.0	90.00	359.86	11,101.0	7,074.6	-7.3	7,074.6	0.00	0.00	0.00	
18,600.0	90.00	359.86	11,101.0	7,174.6	-7.6	7,174.6	0.00	0.00	0.00	
18,700.0	90.00	359.86	11,101.0	7,274.6	-7.8	7,274.6	0.00	0.00	0.00	
18,800.0	90.00	359.86	11,101.0	7,374.6	-8.1	7,374.6	0.00	0.00	0.00	
18,900.0	90.00	359.86	11,101.0	7,474.6	-8.3	7,474.6	0.00	0.00	0.00	
19,000.0	90.00	359.86	11,101.0	7,574.6	-8.6	7,574.6	0.00	0.00	0.00	
19,100.0	90.00	359.86	11,101.0	7,674.6	-8.8	7,674.6	0.00	0.00	0.00	
19,200.0	90.00	359.86	11,101.0	7,774.6	-9.1	7,774.6	0.00	0.00	0.00	
19,300.0	90.00	359.86	11,101.0	7,874.6	-9.3	7,874.6	0.00	0.00	0.00	
19,400.0	90.00	359.86	11,101.0	7,974.6	-9.6	7,974.6	0.00	0.00	0.00	
19,500.0	90.00	359.86	11,101.0	8,074.6	-9.8	8,074.6	0.00	0.00	0.00	
19,600.0	90.00	359.86	11,101.0	8,174.6	-10.1	8,174.6	0.00	0.00	0.00	
19,700.0	90.00	359.86	11,101.0	8,274.6	-10.3	8,274.6	0.00	0.00	0.00	

Planning Report

Database: LMRKPROD3

Company: Delaware Basin Asset (Plans)

Project: Eddy County

Site: SHANGHAI ROOSTER 15-3 FED PAD C
Well: SHANGHAI ROOSTER 15-3 FED 803H
Wellbore: SHANGHAI ROOSTER 15-3 FED 803H OH

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well SHANGHAI ROOSTER 15-3 FED 803H

rkb (25') @ 3100.5usft rkb (25') @ 3100.5usft

Grid

esign:	Plan 1								
lanned 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)
19,800.0	90.00	359.86	11,101.0	8,374.6	-10.6	8,374.6	0.00	0.00	0.00
19,900.0	90.00	359.86	11,101.0	8,474.6	-10.8	8,474.6	0.00	0.00	0.00
20,000.0	90.00	359.86	11,101.0	8,574.6	-11.1	8,574.6	0.00	0.00	0.00
20,100.0	90.00	359.86	11,101.0	8,674.6	-11.3	8,674.6	0.00	0.00	0.00
20,200.0	90.00	359.86	11,101.0	8,774.6	-11.6	8,774.6	0.00	0.00	0.00
20,300.0	90.00	359.86	11,101.0	8,874.6	-11.8	8,874.6	0.00	0.00	0.00
20,400.0	90.00	359.86	11,101.0	8,974.6	-12.1	8,974.6	0.00	0.00	0.00
20,500.0	90.00	359.86	11,101.0	9,074.6	-12.3	9,074.6	0.00	0.00	0.00
20,600.0	90.00	359.86	11,101.0	9,174.6	-12.6	9,174.6	0.00	0.00	0.00
20,700.0	90.00	359.86	11,101.0	9,274.6	-12.8	9,274.6	0.00	0.00	0.00
20,800.0	90.00	359.86	11,101.0	9,374.6	-13.1	9,374.6	0.00	0.00	0.00
20,900.0	90.00	359.86	11,101.0	9,474.6	-13.3	9,474.6	0.00	0.00	0.00
21,000.0	90.00	359.86	11,101.0	9,574.6	-13.6	9,574.6	0.00	0.00	0.00
21,100.0	90.00	359.86	11,101.0	9,674.6	-13.8	9,674.6	0.00	0.00	0.00
21,200.0	90.00	359.86	11,101.0	9,774.6	-14.1	9,774.6	0.00	0.00	0.00
21,300.0	90.00	359.86	11,101.0	9,874.6	-14.3	9,874.6	0.00	0.00	0.00
21,400.0	90.00	359.86	11,101.0	9,974.6	-14.6	9,974.6	0.00	0.00	0.00
21,500.0	90.00	359.86	11,101.0	10,074.6	-14.8	10,074.6	0.00	0.00	0.00
21,600.0	90.00	359.86	11,101.0	10,174.6	-15.1	10,174.6	0.00	0.00	0.00
21,700.0	90.00	359.86	11,101.0	10,274.6	-15.3	10,274.6	0.00	0.00	0.00
21,800.0	90.00	359.86	11,101.0	10,374.6	-15.6	10,374.6	0.00	0.00	0.00
21,900.0	90.00	359.86	11,101.0	10,474.6	-15.8	10,474.6	0.00	0.00	0.00
22,000.0	90.00	359.86	11,101.0	10,574.6	-16.1	10,574.6	0.00	0.00	0.00
22,100.0	90.00	359.86	11,101.0	10,674.6	-16.3	10,674.6	0.00	0.00	0.00
22,200.0	90.00	359.86	11,101.0	10,774.6	-16.5	10,774.6	0.00	0.00	0.00
22,300.0	90.00	359.86	11,101.0	10,874.6	-16.8	10,874.6	0.00	0.00	0.00
22,400.0	90.00	359.86	11,101.0	10,974.6	-17.0	10,974.6	0.00	0.00	0.00
22,500.0	90.00	359.86	11,101.0	11,074.6	-17.3	11,074.6	0.00	0.00	0.00
22,600.0	90.00	359.86	11,101.0	11,174.6	-17.5	11,174.6	0.00	0.00	0.00
22,700.0	90.00	359.86	11,101.0	11,274.6	-17.8	11,274.6	0.00	0.00	0.00
22,800.0	90.00	359.86	11,101.0	11,374.6	-18.0	11,374.6	0.00	0.00	0.00
22,900.0	90.00	359.86	11,101.0	11,474.6	-18.3	11,474.6	0.00	0.00	0.00
23,000.0	90.00	359.86	11,101.0	11,574.6	-18.5	11,574.6	0.00	0.00	0.00
23,100.0	90.00	359.86	11,101.0	11,674.6	-18.8	11,674.6	0.00	0.00	0.00
23,200.0	90.00	359.86	11,101.0	11,774.6	-19.0	11,774.6	0.00	0.00	0.00
23,300.0	90.00	359.86	11,101.0	11,874.6	-19.3	11,874.6	0.00	0.00	0.00
23,400.0	90.00	359.86	11,101.0	11,974.6	-19.5	11,974.6	0.00	0.00	0.00
23,500.0	90.00	359.86	11,101.0	12,074.6	-19.8	12,074.6	0.00	0.00	0.00
23,600.0	90.00	359.86	11,101.0	12,174.6	-20.0	12,174.6	0.00	0.00	0.00
23,700.0	90.00	359.86	11,101.0	12,274.6	-20.3	12,274.6	0.00	0.00	0.00
23,800.0	90.00	359.86	11,101.0	12,374.6	-20.5	12,374.6	0.00	0.00	0.00
23,900.0	90.00	359.86	11,101.0	12,474.6	-20.8	12,474.6	0.00	0.00	0.00
24,000.0	90.00	359.86	11,101.0	12,574.6	-21.0	12,574.6	0.00	0.00	0.00
24,100.0	90.00	359.86	11,101.0	12,674.6	-21.3	12,674.6	0.00	0.00	0.00
24,200.0	90.00	359.86	11,101.0	12,774.6	-21.5	12,774.6	0.00	0.00	0.00
24,300.0	90.00	359.86	11,101.0	12,874.6	-21.8	12,874.6	0.00	0.00	0.00
24,400.0	90.00	359.86	11,101.0	12,974.6	-22.0	12,974.6	0.00	0.00	0.00
24,500.0	90.00	359.86	11,101.0	13,074.6	-22.3	13,074.6	0.00	0.00	0.00
24,600.0	90.00	359.86	11,101.0	13,174.5	-22.5	13,174.6	0.00	0.00	0.00
24,700.0	90.00	359.86	11,101.0	13,274.5	-22.8	13,274.6	0.00	0.00	0.00
24,800.0	90.00	359.86	11,101.0	13,374.5	-23.0	13,374.6	0.00	0.00	0.00
24,900.0	90.00	359.86	11,101.0	13,474.5	-23.3	13,474.6	0.00	0.00	0.00
25,000.0	90.00	359.86	11,101.0	13,574.5	-23.5	13,574.6	0.00	0.00	0.00
25,100.0	90.00	359.86	11,101.0	13,674.5	-23.8	13,674.6	0.00	0.00	0.00

Planning Report

Database: LMRKPROD3

Company: Delaware Basin Asset (Plans)

Project: Eddy County

Site: SHANGHAI ROOSTER 15-3 FED PAD C
Well: SHANGHAI ROOSTER 15-3 FED 803H
Wellbore: SHANGHAI ROOSTER 15-3 FED 803H OH

Design: Plan 1

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well SHANGHAI ROOSTER 15-3 FED 803H

rkb (25') @ 3100.5usft rkb (25') @ 3100.5usft

Grid

ed 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)
25,200.0 25,300.0	90.00 90.00	359.86 359.86	11,101.0 11,101.0	13,774.5 13,874.5	-24.0 -24.3	13,774.6 13,874.6	0.00 0.00	0.00 0.00	0.00 0.00
25,400.0 25,500.0 25,600.0	90.00 90.00 90.00	359.86 359.86 359.86	11,101.0 11,101.0 11,101.0	13,974.5 14,074.5 14,174.5	-24.5 -24.8 -25.0	13,974.6 14,074.6 14,174.6	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
25,700.0 25,800.0	90.00 90.00	359.86 359.86	11,101.0 11,101.0	14,274.5 14,374.5	-25.3 -25.5	14,274.6 14,374.6	0.00	0.00	0.00
25,900.0 26,000.0 26,100.0	90.00 90.00 90.00	359.86 359.86 359.86	11,101.0 11,101.0 11,101.0	14,474.5 14,574.5 14,674.5	-25.8 -26.0 -26.3	14,474.6 14,574.6 14,674.6	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
26,200.0 26,300.0 26,400.0	90.00 90.00 90.00	359.86 359.86 359.86	11,101.0 11,101.0 11,101.0	14,774.5 14,874.5 14,974.5	-26.5 -26.8 -27.0	14,774.6 14,874.6 14,974.6	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
26,500.0 26,600.0 26,700.0	90.00 90.00 90.00	359.86 359.86 359.86	11,101.0 11,101.0 11,101.0 11,101.0	15,074.5 15,174.5 15,274.5	-27.3 -27.5 -27.8	15,074.6 15,174.6 15,274.6	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00 0.00
	90.00 old at <b>26718.9 M</b>		11,101.0	15,293.4	-27.8	15,293.4	0.00	0.00	0.00
26,800.0 26,848.9 <b>TD at 26848.</b>	90.00 90.00	359.86 359.86	11,101.0 11,101.0	15,374.5 15,423.4	-28.0 -28.1	15,374.6 15,423.4	0.00 0.00	0.00 0.00	0.00 0.00

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
FTP-SR803H (copy) (co - plan hits target cen - Point		0.00	11,101.0	30.0	10.2	408,855.60	612,350.80	32° 7' 24.745 N	103° 58' 13.508 W
BHLSR803H (copy) - plan misses target - Point	0.00 center by 0.2u	0.00 usft at 26848	11,101.0 .9usft MD (1	15,423.4 1101.0 TVD, 1	-27.9 5423.4 N, -28	424,249.00 1 E)	612,312.70	32° 9' 57.084 N	103° 58' 13.347 W
LTPSR803H - plan hits target cen - Point	0.00 iter	0.00	11,101.0	15,293.4	-27.8	424,119.00	612,312.80	32° 9' 55.798 N	103° 58' 13.351 W

Plan Annotations					
Measured	Vertical	Local Coor	dinates		
Depth (usft)	Depth (usft)	+N/-S	+E/-W	0	
(usit)	(usit)	(usft)	(usft)	Comment	
1,000.0	1,000.0	0.0	0.0	Start Build 2.00	
1,293.9	1,293.4	-15.1	0.3	Start 5008.5 hold at 1293.9 MD	
6,302.5	6,275.6	-527.9	11.3	Start Drop -2.00	
6,596.4	6,569.0	-543.0	11.6	Start 3959.0 hold at 6596.4 MD	
10,555.4	10,528.0	-543.0	11.6	Start Build 10.00	
11,455.4	11,101.0	30.0	10.2	Start 15263.4 hold at 11455.4 MD	
26,718.9	11,101.0	15,293.4	-27.8	Start 130.0 hold at 26718.9 MD	
26,848.9	11,101.0	15,423.4	-28.1	TD at 26848.9	

# PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME: XTO Energy Incorporated
WELL NAME & NO.: Shanghai Rooster 15-3 Fed 803H
LOCATION: Sec 15-25S-29E-NMP
COUNTY: Eddy County, New Mexico

COA

H2S	© Yes	<b>⊙</b> No	
Potash	None	Secretary	© R-111-P
Cave/Karst Potential	C Low	• Medium	C High
Cave/Karst Potential	Critical		
Variance	O None	• Flex Hose	Other
Wellhead	Conventional	• Multibowl	O Both
Other	☐ 4 String Area	☐ Capitan Reef	$\square$ WIPP
Other	☐ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	□ СОМ	□ Unit
Break Testing	• Yes	O No	

Previously known as **Shanghai Rooster 22-27 Fed 706H**. Changes approved through engineering via Sundry **2701771** 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 10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 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)

  - 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 2<sup>nd</sup> 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 803H

"A" 54.50 J 55 BTC 21.71 3.28 6.28 721 8 10.73 6.08 39 "B" BTC 0 Tailcrut does not circ to sfc. Totals: 721 35  W/8.4#/g mud, 30min sfc Csg Test psig: 1,500 Tail Crut does not circ to sfc. Totals: 721 35  Hole Annular 1 Stage 1 Stage Min 1 Stage Drilling Calc Req'd Min 17 1/2 0.6946 610 985 501 97 9.20 254 2M 11  P5/8 casing inside the 13 3/8 Design Factors Int 1  Segment #/ft Grade Coupling Body Collapse Burst Length B@s a-B a-C Windows Win	"A"	"A" 54.50 J "B"  w/8.4#/g mud, 30min Sfc Csg Test psig: Comparison of Proposed to Minimum Re Hole Annular 1 Stage Size Volume Cmt Sx 17 1/2 0.6946 610   9 5/8 casing inside the Segment #/ft Grade "A" 40.00 HCL  w/8.4#/g mud, 30min Sfc Csg Test psig: The cement volume(s) are it Hole Annular 1 Stage Volume Cmt Sx 12 1/4 0.3132 2330  Burst Frac Gradient(s) for Segment(s): A, B, OK.  Tail cmt 5 1/2 casing inside the Segment #/ft Grade "A" 23.00 P  w/8.4#/g mud, 30min Sfc Csg Test psig: The cement volume(s) are it Grade "A" 23.00 P  w/8.4#/g mud, 30min Sfc Csg Test psig: The cement volume(s) are it Hole Annular 1 Stage	J 55 E E psig: 1,500 um Required Cement Vol tige 1 Stage Sx CuFt Cmt 0 985  e 13 3/8 de Co HCP 110 E HCL 80 E psig: 1 Stage Sx CuFt Cmt 0 4495 3 A, B, C, D = a, 7, c, d All the Stage P 110 Semi- P 110 Semi-	BTC BTC Tail Cmt ement Volumes e Min mt Cu Ft 501  Coupling BTC BTC to achieve a top of e Min nt Cu Ft 3293  7, c, d All > 0.70,	g Body 38.37 of 0 1 Stage % Excess 36	3.28  ot circ to sfc.  e Drilling Mud Wt 9.20  Design Collapse 9.72 9.72 ft from s Drilling Mud Wt	Totals:  Calc MASP 254  Description  Factors Burst 1.07 0.78 Totals:	721 0 721 Req'd BOPE 2M Length 821 9,579	8 ound. B@s 18	Int 1 a-B	6.08	Weight 39,295 0 39,295 Min Dist Hole-Cpl 1.56
"B"	BTC	"B"  w/8.4#/g mud, 30min Sfc Csg Test psig: Comparison of Proposed to Minimum Re Hole Annular 1 Stage Size Volume Cmt Sx 17 1/2 0.6946 610   9 5/8 casing inside the Segment #/ft Grade "A" 40.00 HCL  w/8.4#/g mud, 30min Sfc Csg Test psig: The cement volume(s) are if Hole Annular 1 Stage Size Volume Cmt Sx 12 1/4 0.3132 2330  Surst Frac Gradient(s) for Segment(s): A, B, OK.  Tail Cmt 5 1/2 casing inside the Segment #/ft Grade "A" 23.00 P  w/8.4#/g mud, 30min Sfc Csg Test psig: The cement volume(s) are if Grade "A" 23.00 P  w/8.4#/g mud, 30min Sfc Csg Test psig: The cement volume(s) are if Hole Annular 1 Stage	e 13 3/8  c psig: 1,500  Im Required Cement Vol  Ige 1 Stage Sx CuFt Cmt 0 985  e 13 3/8  de Co HCP 110 E HCL 80 E psig: 0 are intended to achieve 1 Stage Sx CuFt Cmt 0 4495 3  A, B, C, D = a, 7, c, d All  e 9 5/8  de Co P 110 Semi- P 110 Semi-	BTC Tail Cmt ement Volumes  Min Cu Ft 501  Coupling BTC BTC to achieve a top of e Min Cu Ft 3293  7, c, d All > 0.70,	of 0 1 Stage % Excess 36	Design Collapse 9.72 9.72 ft from s Drilling Mud Wt 9.20	Totals:  Calc MASP 254  Description  Factors Burst 1.07 0.78 Totals:	0 721 Req'd BOPE 2M Length 821 9,579	B@s 18	Int 1 a-B		0 39,295 Min Disi Hole-Cpl
W/8.4#/g mud, 30min Src Csg Test psig: 1,500   Tail Cmt	w/8.4#/g mud, 30min Sfc Cag Test psig: 1,500 Tail Cmt does not circ to sfc. Totals: 721 39,25	w/8.4#/g mud, 30min Sfc Csg Test psig: Comparison of Proposed to Minimum Re Hole Annular 1 Stage Size Volume Cmt Sx 17 1/2 0.6946 610  Segment #/ft Grade "A" 40.00 HCL w/8.4#/g mud, 30min Sfc Csg Test psig: The cement volume(s) are it Annular 1 Stage Volume Cmt Sx 12 1/4 0.3132 2330  curst Frac Gradient(s) for Segment(s): A, B, ok. Tail cmt 5 1/2 casing inside the Segment #/ft Grade "A" 23.00 P w/8.4#/g mud, 30min Sfc Csg Test psig: The cement volume(s) are it Tail cmt 5 1/2 casing inside the Segment #/ft Grade "A" 23.00 P w/8.4#/g mud, 30min Sfc Csg Test psig: The cement volume(s) are it Annular 1 Stage	e 13 3/8  c	Tail Cmt ement Volumes e Min nt Cu Ft 501  Coupling BTC BTC to achieve a top of e Min nt Cu Ft 3293  7, c, d All > 0.70,	1 Stage % Excess 97  Site plat (plat)  g Body 38.37  of 0 1 Stage % Excess 36	Design Collapse 9.72 9.72 ft from s Drilling Mud Wt 9.20	Calc MASP 254  Factors Burst 1.07 0.78 Totals:	721  Req'd BOPE 2M  Length 821 9,579	18	а-В	2.	39,295 Min Dis Hole-Cp
Segment	Segment	Hole Annular 1 Stage Volume Cmt Sx 17 1/2 0.6946 610  9 5/8 casing inside the Cmt Sx 17 1/2 0.6946 610  9 5/8 casing inside the Segment #/ft Grade "A" 40.00 HCL w/8.4#/g mud, 30min Sfc Csg Test psig: The cement volume(s) are it Hole Annular 1 Stage Size Volume Cmt Sx 12 1/4 0.3132 2330  Purst Frac Gradient(s) for Segment(s): A, B, ox. Tail cmt 5 1/2 casing inside the Segment #/ft Grade "A" 23.00 P w/8.4#/g mud, 30min Sfc Csg Test psig: The cement volume(s) are it Hole Annular 1 Stage	m Required Cement Vol. 1982	Coupling BTC BTC Co achieve a top of e Min Cu Ft S01	1 Stage % Excess 97  Site plat (plat)  g Body 38.37  of 0 1 Stage % Excess 36	Design Collapse 9.72 9.72 ft from s Drilling Mud Wt 9.20	Calc MASP 254  Factors Burst 1.07 0.78 Totals:	Req'd BOPE 2M Length 821 9,579	18	а-В	2.	Min Dis
Size   Volume   Comparison of Proposed to Minimum Required Cement Volumes	Hole	## 1	m Required Cement Vol  1 Stage Sx	Coupling BTC BTC To achieve a top of e Min Cu Ft 3293  7, c, d All > 0.70,	g Body 38.37 of 0 1 Stage % Excess 36	Design Collapse 9.72 9.72 ft from s Drilling Mud Wt	MASP 254 1 Factors 2 Burst 1.07 0.78 Totals:	BOPE 2M  Length 821 9,579	18	а-В	2.	Hole-Cp
Hole   Annular   1 Stage   1 Stage   Min   1 Stage   Nin   1 Stage   Nin   1 Stage   Nin   Ni	Hole	Hole   Size   Volume   Cmt Sx	ge 1 Stage Sx CuFt Cmt 985  e 13 3/8  de Co HCP 110 HCL 80 E psig: ) are intended to achieve ge 1 Stage Sx CuFt Cmt 4495 3  A, B, C, D = a, 7, c, d All  e 9 5/8  de Co P 110 Semi- P 110 Semi-	Coupling BTC BTC to achieve a top of e Min Cu Ft 3293 7, c, d All > 0.70,	g Body 38.37 of 0 1 Stage % Excess 36	Design Collapse 9.72 9.72 ft from s Drilling Mud Wt	MASP 254 1 Factors 2 Burst 1.07 0.78 Totals:	BOPE 2M  Length 821 9,579	18	а-В	2.	Hole-Cp
Size   17 1/2   0.6946   610   985   501   97   9.20   254   2M   10   10   10   10   10   10   10   1	Size   Volume   Cmt Sx   CuFt Cmt   Cu Ft   % Excess   Mud Wt   MASP   BOPE   Hole-Ct   1.56	9 5/8 casing inside the  Segment #/ft Grade  "A" 40.00 HCP  "B" 40.00 HCL  w/8.4#/g mud, 30min Sfc Csg Test psig:  The cement volume(s) are i  Hole Annular 1 Stage  Size Volume Cmt Sx 12 1/4 0.3132 2330  Surst Frac Gradient(s) for Segment(s): A, B,	985  e 13 3/8  de Con HCP 110 E HCL 80 E page 1 Stage Sx CuFt Cmt 0 4495 3  A, B, C, D = a, 7, c, d All  e 95/8  de Con P 110 Semi-	Coupling BTC BTC to achieve a top of e Min nt Cu Ft 3293 7, c, d All > 0.70,	g Body 38.37  of 0 1 Stage % Excess 36	Design Collapse 9.72 9.72 ft from s Drilling Mud Wt	254  Dispersion 1.07  0.78  Totals:	BOPE 2M  Length 821 9,579	18	а-В	2.	
95/8	17 1/2  0.6946  610  985  501  97  9.20  254  2M  1.56    95/8	9 5/8 casing inside the  Segment #/ft Grade  "A" 40.00 HCP  "B" 40.00 HCL  w/8.4#/g mud, 30min Sfc Csg Test psig:  The cement volume(s) are i  Hole Annular 1 Stage  Size Volume Cmt Sx 12 1/4 0.3132 2330  Surst Frac Gradient(s) for Segment(s): A, B, BK.  Tail Cmt 5 1/2 casing inside the  Segment #/ft Grade  "A" 23.00 P  w/8.4#/g mud, 30min Sfc Csg Test psig:  The cement volume(s) are i  Hole Annular 1 Stage	985  e 133/8  de Condition  dicP 110 E  dicP 10 E  dicP 10 E  spage 1 Stage  Sx CuFt Cmt 0  4495 3  A, B, C, D = a, 7, c, d All  e 95/8  de Condition  P 110 Semi-	Coupling BTC BTC to achieve a top of e Min nt Cu Ft 3293 7, c, d All > 0.70,	g Body 38.37  of 0 1 Stage % Excess 36	Design Collapse 9.72 9.72 ft from s Drilling Mud Wt	n Factors Burst 1.07 0.78 Totals:	2M Length 821 9,579	18	а-В	2.0	
9 5/8 casing inside the 13 3/8	9 5/8	9 5/8	e 13 3/8  de Con HCP 110 E HCL 80 E P spsig: 1 stage Sx CuFt Cmt C 4495 3  A, B, C, D = a, 7, c, d All  e 9 5/8  de Con P 110 Semi- P 110 Semi-	BTC BTC  to achieve a top of e Min nt Cu Ft 3293  7, c, d All > 0.70,	g Body 38.37  of 0 1 Stage % Excess 36	Design Collapse 9.72 9.72 ft from s Drilling Mud Wt	n Factors Burst 1.07 0.78 Totals:	Length 821 9,579	18	а-В	2.0	
Segment	Segment	Segment	de Condition	BTC BTC  to achieve a top of e Min nt Cu Ft 3293  7, c, d All > 0.70,	38.37 ∞  of 0  1 Stage % Excess 36	y Collapse 9.72 9.72 ft from s Drilling Mud Wt	9 Burst 1.07 0.78 Totals:	821 <b>9,579</b>	18	а-В	a-C	
"A" 40.00 HCP 110 BTC 38.37 9.72 1.07 821 18 1.56 16.63 32  "B" 40.00 HCL 80 BTC ∞ 9.72 0.78 9,579 13 1.14 16.63 38  w/8.4#/g mud, 30min 5fc Csg Test psig: Totals: 10,400  The cement volume(s) are intended to achieve a top of 1 Stage Nin 1 Stage Volume Cmt Sx CuFt Cmt Cu Ft % Excess Mud Wt MASP BOPE Hol 12 1/4 0.3132 2330 4495 3293 36 10.20 5054 10M  MASP is within 10% of 5000psig, need exrta equip?  Burst Frac Gradient(s) for Segment(s): A, B, C, D = a, 7, c, d All > 0.70, OK.  Tail cmt  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 Writing Totals: 10,300 1 1.98 2.93 23	"A"	"A" 40.00 HCP "B" 40.00 HCL  w/8.4#/g mud, 30min Sfc Csg Test psig:  The cement volume(s) are i  Hole Annular 1 Stage  Volume Cmt Sx 12 1/4 0.3132 2330  Burst Frac Gradient(s) for Segment(s): A, B, ox.  Tail cmt 5 1/2 casing inside the  Segment #/ft Grade  "A" 23.00 P  w/8.4#/g mud, 30min Sfc Csg Test psig:  The cement volume(s) are i  Hole Annular 1 Stage	HCP 110 E HCL 80 E  psig: are intended to achieve ge 1 Stage Sx CuFt Cmt 0 4495 3  A, B, C, D = a, 7, c, d All  e 95/8 de Co P 110 Semi- P 110 Semi-	BTC BTC  to achieve a top of e Min nt Cu Ft 3293  7, c, d All > 0.70,	38.37 ∞  of 0  1 Stage % Excess 36	9.72 9.72 9.72 ft from s Drilling ss Mud Wt	1.07 <b>0.78</b> Totals:	821 <b>9,579</b>	18		2-C	
"B"       40.00       HCL 80       BTC       ∞       9.72       0.78       9,579       13       1.14       16.63       38         w/8.4#/g mud, 30min Sfc Csg Test psig:       Totals: 10,400       41: 41: 66.63       38         W/8.4#/g mud, 30min Sfc Csg Test psig:       Totals: 10,400       41: 41: 66.63       38         The cement volume(s) are intended to achieve a top of The cement volume(s) are	"B" 40.00 HCL 80 BTC ∞ 9.72 0.78 9,579 13 1.14 16.63 383,1    w/8.4#/g mud, 30min Sfc Csg Test psig: Totals: 10,400	"B" 40.00 HCL  w/8.4#/g mud, 30min Sfc Csg Test psig:  The cement volume(s) are i  Hole Annular 1 Stage  Size Volume Cmt Sx 12 1/4 0.3132 2330  Burst Frac Gradient(s) for Segment(s): A, B, ok.  Tail cmt 5 1/2 casing inside the  Segment #/ft Grade  "A" 23.00 P  w/8.4#/g mud, 30min Sfc Csg Test psig:  The cement volume(s) are i  Hole Annular 1 Stage	ACL 80  E psig: are intended to achieve ge 1 Stage Sx CuFt Cmt 0 4495 3  A, B, C, D = a, 7, c, d All  e 95/8 de Co P 110 Semi- P 110 Semi-	BTC to achieve a top of e Min nt Cu Ft 3293 7, c, d All > 0.70,	of 0 1 Stage % Excess 36	9.72  ft from s  Prilling  Mud Wt	0.78 Totals:	9,579		1.56	a-0	Weigh
"B"       40.00       HCL 80       BTC       ∞       9.72       0.78       9,579       13       1.14       16.63       38         w/8.4#/g mud, 30min Sfc Csg Test psig:       Totals: 10,400       41         The cement volume(s) are intended to achieve a top of The cement volume(s) are	## ## ## ## ## ## ## ## ## ## ## ## ##	w/8.4#/g mud, 30min Sfc Csg Test psig:  The cement volume(s) are i Hole Annular 1 Stage Size Volume Cmt Sx 12 1/4 0.3132 2330  Burst Frac Gradient(s) for Segment(s): A, B, ok.  Tail cmt 5 1/2 casing inside the Segment #/ft Grade "A" 23.00 P w/8.4#/g mud, 30min Sfc Csg Test psig: The cement volume(s) are i Hole Annular 1 Stage	psig: ) are intended to achieve ge	to achieve a top of e Min nt Cu Ft 3293 7, c, d All > 0.70,	of 0 1 Stage % Excess 36	ft from s e Drilling ss Mud Wt	Totals:	•	4.0		16.63	32,840
w/8.4#/g mud, 30min Sfc Csg Test psig:       Totals: 10,400       41         The cement volume(s) are intended to achieve a top of the cement volume(s) are intended to achieve a top of the cement volume (s) are intended to achieve a top of the cement volume (s) are intended to achieve a top of the cement volume (s) are intended to achieve a top of the cement volume (s) are intended to achieve a top of the cement volume(s) are intended to achieve a top of the ce	W/8.4#/g mud, 30min Sfc Csg Test psig:	w/8.4#/g mud, 30min Sfc Csg Test psig:  The cement volume(s) are i  Hole Annular 1 Stage  Volume Cmt Sx 12 1/4 0.3132 2330  Burst Frac Gradient(s) for Segment(s): A, B, OK.  Tail cmt 5 1/2 casing inside the  Segment #/ft Grade  "A" 23.00 P  w/8.4#/g mud, 30min Sfc Csg Test psig:  The cement volume(s) are i  Hole Annular 1 Stage	are intended to achieve age 1 Stage Sx CuFt Cmt 4495 3  A, B, C, D = a, 7, c, d All 4 Semi-P 110 Semi-	e Min Cu Ft 3293 7, c, d All > 0.70,  Coupling	1 Stage % Excess 36	e Drilling ss Mud Wt		10 100	13	1.14	16.63	383,16
Hole   Annular   1 Stage   1 Stage   Min   1 Stage   Mul Wt   MASP   BOPE   Hole   Masp   M	Hole   Annular   1 Stage   Size   Volume   Cmt Sx   CuFt Cmt   Cu Ft   % Excess   Mud Wt   MASP   BOPE   Hole-Co	Hole Size Volume Cmt Sx 12 1/4 0.3132 2330  Surst Frac Gradient(s) for Segment(s): A, B, ox.  Tail cmt 5 1/2 casing inside the Segment #/ft Grade  "A" 23.00 P  "B" 23.00 P  w/8.4#/g mud, 30min Sfc Csg Test psig: The cement volume(s) are i Hole Annular 1 Stage	ge 1 Stage Sx CuFt Cmt 0 4495 3  A, B, C, D = a, 7, c, d All  e 95/8 de Cor P 110 Semi- P 110 Semi-	e Min Cu Ft 3293 7, c, d All > 0.70,  Coupling	1 Stage % Excess 36	e Drilling ss Mud Wt	surface or a	10,400	1			416,00
Hole   Annular   1 Stage   Volume   Cmt Sx   CuFt Cmt   Cu Ft   % Excess   Mud Wt   MASP   BOPE   Hole   Masp   Masp   Bope   Hole   Masp   Bope   Hole   Masp   Bope   Bope   Masp   Bope   Bope   Masp   Bope	Hole   Annular   1 Stage   Size   Volume   Cmt Sx   CuFt Cmt   Cu Ft   % Excess   Mud Wt   MASP   BOPE   Hole-Co	Hole Size Volume Cmt Sx 12 1/4 0.3132 2330  Burst Frac Gradient(s) for Segment(s): A, B, ox.  Tail cmt 5 1/2 casing inside the Segment #/ft Grade  "A" 23.00 P  "B" 23.00 P  w/8.4#/g mud, 30min Sfc Csg Test psig: The cement volume(s) are i Hole Annular 1 Stage	ge 1 Stage Sx CuFt Cmt 0 4495 3  A, B, C, D = a, 7, c, d All  e 95/8 de Cor P 110 Semi- P 110 Semi-	e Min Cu Ft 3293 7, c, d All > 0.70,  Coupling	1 Stage % Excess 36	ss Mud Wt		721				overlap.
Size 1/4         Volume 1/2 1/4         Cmt Sx 2/330         Cuft Cmt 4/495         Cu Ft 3293         % Excess 36         Mud Wt 1/2 1/2         MASP 5054         BOPE 1/2         Hold 1/2           MASP is within 10% of 5000psig, need exrta equip?           MASP is within 10% of 5000psig, need exrta equip?           MASP is within 10% of 5000psig, need exrta equip?           Tail cmt           5 1/2         casing inside the 25/8         Design Factors         Prod 1           Segment #/ft Grade Coupling "A" 23.00         Coupling Joint Collapse Burst Length B@s a-B a-C WG           "A" 23.00         P 110         Semi-Premiur 2.51         2.01         1.36         10,300         1         1.98         2.93         23	Size   Volume   Cmt Sx   2330   2495   3293   36   10.20   5054   10M   0.87	Size   Volume   Cmt Sx     12 1/4   0.3132   2330     Surst Frac Gradient(s) for Segment(s): A, B, B, BK.     Tail cmt   5 1/2   casing inside the     Segment   #/ft   Grade     "A"   23.00   P     "B"   23.00   P     w/8.4#/g mud, 30min Sfc Csg Test psig: The cement volume(s) are in     Hole   Annular   1 Stage	Sx CuFt Cmt 4495 3  A, B, C, D = a, 7, c, d All  e 95/8  de Cor  P 110 Semi- P 110 Semi-	nt Cu Ft 3293 7, c, d All > 0.70, Coupling	% Excess 36	ss Mud Wt	Calc	Rea'd				Min Dis
12 1/4 0.3132 2330 4495 3293 36 10.20 5054 10M MASP is within 10% of 5000psig, need exrta equip?  Surst Frac Gradient(s) for Segment(s): A, B, C, D = a, 7, c, d All > 0.70, ox.  Tail cmt 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 Work and a collapse Burst Length B accordance Burst Bu	12 1/4	12 1/4   0.3132   2330	4495 3 A, B, C, D = a, 7, c, d All  e 95/8 de Cor P 110 Semi- P 110 Semi-	3293 7, c, d All > 0.70, Coupling	36		MASP					Hole-Cp
MASP is within 10% of 5000psig, need exrta equip?  Burst Frac Gradient(s) for Segment(s): A, B, C, D = a, 7, c, d All > 0.70, DK.  Tail cmt  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 We "A" 23.00 P 110 Semi-Premiur 2.51 2.01 1.36 10,300 1 1.98 2.93 23	MASP is within 10% of 5000psig, need exrta equip?    Surst Frac Gradient(s) for Segment(s): A, B, C, D = a, 7, c, d   All > 0.70, ox.   Tail cmt	Surst Frac Gradient(s) for Segment(s): A, B, B, BK.  Tail cmt 5 1/2 casing inside the Segment #/ft Grade "A" 23.00 P "B" 23.00 P w/8.4#/g mud, 30min Sfc Csg Test psig: The cement volume(s) are it Hole Annular 1 Stage	A, B, C, D = a, 7, c, d All  e 95/8  de Con P 110 Semi- P 110 Semi-	Coupling		10.20						
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         West           "A"         23.00         P 110         Semi-Premiur         2.51         2.01         1.36         10,300         1         1.98         2.93         23	5 1/2         casing inside the segment         9 5/8	S 1/2   casing inside the	de         Col           P 110         Semi-           P 110         Semi-								4	
"A" 23.00 P 110 Semi-Premiur 2.51 2.01 1.36 10,300 1 1.98 2.93 23	"A" 23.00 P 110 Semi-Premiur 2.51 2.01 1.36 10,300 1 1.98 2.93 236,9  "B" 23.00 P 110 Semi-Premiur 131.74 1.97 1.36 16,549 1 1.98 2.88 380,6  w/8.4#/g mud, 30min Sfc Csg Test psig: 2,266 Totals: 26,849  The cement volume(s) are intended to achieve a top of 10000 ft from surface or a 400 voverlap  Hole Annular 1 Stage 1 Stage Min 1 Stage Drilling Calc Req'd Size Volume Cmt Sx CuFt Cmt Cu Ft % Excess Mud Wt MASP BOPE Hole-C 8 1/2 0.2291 3250 4967 3872 28 13.50	"A" 23.00 P  "B" 23.00 P  w/8.4#/g mud, 30min Sfc Csg Test psig:  The cement volume(s) are i  Hole Annular 1 Stage	P 110 Semi-			Design F	actors			Prod 1	. "	
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	"B"       23.00       P 110       Semi-Premiur       131.74       1.97       1.36       16,549       1       1.98       2.88       380,6         w/8.4#/g mud, 30min Sfc Csg Test psig: 2,266       Totals:       26,849       617,5         The cement volume(s) are intended to achieve a top of Hole       10000       ft from surface or a from surface or a surface or a from surface or a surfa	"B" 23.00 P w/8.4#/g mud, 30min Sfc Csg Test psig: The cement volume(s) are i Hole Annular 1 Stage	P 110 Semi-	'ami Dramiu	g Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weigh
"B" 23.00 P 110 Semi-Premiur 131.74 1.97 1.36 16,549 1 1.98 2.88 38	w/8.4#/g mud, 30min Sfc Csg Test psig: 2,266  The cement volume(s) are intended to achieve a top of Th	w/8.4#/g mud, 30min Sfc Csg Test psig: The cement volume(s) are i Hole Annular 1 Stage	-	emi-Premiu	iur 2.51	2.01	1.36	10,300	1	1.98	2.93	236,90
	The cement volume(s) are intended to achieve a top of Hole Annular 1 Stage Min 1 Stage Drilling Calc Size Volume Cmt Sx CuFt Cmt Cu Ft Excess Mud Wt MASP BOPE Hole-C 8 1/2 0.2291 3250 4967 3872 28 13.50	The cement volume(s) are i Hole Annular 1 Stage	. 2.200	Semi-Premiu	iur 131.74	4 1.97	1.36	16,549	1	1.98	2.88	380,62
w/8.4#/g mud, 30min Sfc Csg Test psig: 2,266 Totals: 26,849 61	Hole         Annular         1 Stage         Min         1 Stage         Drilling         Calc         Req'd         Min D           Size         Volume         Cmt Sx         CuFt Cmt         Cu Ft         % Excess         Mud Wt         MASP         BOPE         Hole-C           8 1/2         0.2291         3250         4967         3872         28         13.50	Hole Annular 1 Stage	psig: <b>2,266</b>				Totals:	26,849				617,52
The cement volume(s) are intended to achieve a top of 10000 ft from surface or a 400 over	Size         Volume         Cmt Sx         CuFt Cmt         Cu Ft         % Excess         Mud Wt         MASP         BOPE         Hole-C           8 1/2         0.2291         3250         4967         3872         28         13.50         1.50		are intended to achieve	o achieve a top of	of 10000	ft from s	surface or a	400				overlap.
Hole Annular 1 Stage 1 Stage Min 1 Stage Drilling Calc Reg'd Mi	<b>8 1/2</b> 0.2291 <b>3250</b> 4967 <b>3872</b> 28 <b>13.50</b> 1.50	Size Volume Cmt Sx	ige 1 Stage	e Min	4.04	D ''''	Calc	Reg'd				Min Dis
Size Volume Cmt Sx CuFt Cmt Cu Ft % Excess Mud Wt MASP BOPE Hol	<b>8 1/2</b> 0.2291 <b>3250</b> 4967 <b>3872</b> 28 <b>13.50</b> 1.50		Sx CuFt Cmt C	nt Cu Ft	1 Stage	Drilling	MASP	BOPE				Hole-Cp
	lass 'C' tail cmt yld > 1.35	<b>8 1/2</b> 0.2291 <b>3250</b>	<b>50</b> 4967 <b>3</b>		_	•						1.50
class 'C' tail cmt yld > 1.35		Class 'C' tail cmt yld > 1.35			% Excess	ss Mud Wt						
					% Excess	ss Mud Wt					4	
#N/A	#NIA				% Excess	ss Mud Wt			<(	Choose Ca	sing>	
#N/A 0 5 1/2 Design Factors <choose casing=""></choose>			5 1/2		% Excess	Mud Wt 13.50	Factors				a-C	Weigh
0 5 1/2 <u>Design Factors</u> <choose casing=""></choose>	0 5 1/2 <u>Design Factors</u> <choose casing=""></choose>	0		3872	% Excess 28	Mud Wt 13.50 Design		Lenath	B@s	a-B		_
0 5 1/2 <u>Design Factors</u> <choose casing=""></choose>	0 5 1/2 <u>Design Factors</u> <choose casing=""> Segment #/ft Grade Coupling #N/A Collapse Burst Length B@s a-B a-C Weig</choose>	0 Segment #/ft Grade	de Co	3872 Coupling	% Excess 28	Mud Wt 13.50 Design			B@s	a-B		0
0 5 1/2 <u>Design Factors</u> <choose casing=""> Segment #/ft Grade Coupling #N/A Collapse Burst Length B@s a-B a-C W</choose>	0     5 1/2     Design Factors <choose casing="">       Segment     #/ft     Grade     Coupling     #N/A     Collapse     Burst     Length     B@s     a-B     a-C     Weig       "A"     0.00     0     0     0</choose>	0 Segment #/ft Grade "A"	de Co	Coupling 0.00	% Excess 28	Mud Wt 13.50 Design		0	B@s	a- <b>B</b>		
0         5 1/2         Design Factors <choose casing="">           Segment         #/ft         Grade         Coupling         #N/A         Collapse         Burst         Length         B@s         a-B         a-C         We           "A"         0.00         0<!--</td--><td>0         5 1/2         Design Factors         <choose casing="">           Segment         #/ft         Grade         Coupling         #N/A         Collapse         Burst         Length         B@s         a-B         a-C         Weig           "A"         0.00         0         0         0         0           "B"         0.00         0         0         0         0</choose></td><td>0 Segment #/ft Grade "A" "B"</td><td>de Co</td><td>Coupling 0.00</td><td>% Excess 28</td><td>Mud Wt 13.50 Design</td><td>Burst</td><td>0 <b>0</b></td><td>B@s</td><td>a<b>-</b>B</td><td></td><td>0</td></choose>	0         5 1/2         Design Factors <choose casing="">           Segment         #/ft         Grade         Coupling         #N/A         Collapse         Burst         Length         B@s         a-B         a-C         Weig           "A"         0.00         0         0         0         0           "B"         0.00         0         0         0         0</choose>	0 Segment #/ft Grade "A" "B"	de Co	Coupling 0.00	% Excess 28	Mud Wt 13.50 Design	Burst	0 <b>0</b>	B@s	a <b>-</b> B		0
O     5 1/2     Design Factors <choose casing="">       Segment     #/ft     Grade     Coupling     #N/A     Collapse     Burst     Length     B@s     a-B     a-C     We a-B       "A"     0.00     0     0       "B"     0.00     0     0       w/8.4#/g mud, 30min Sfc Csg Test psig:     Totals:     0</choose>	O         5 1/2         Design Factors <choose casing="">           Segment         #/ft         Grade         Coupling         #N/A         Collapse         Burst         Length         B@s         a-B         a-C         Weig           "A"         0.00         0</choose>	0 Segment #/ft Grade "A" "B" w/8.4#/g mud, 30min Sfc Csg Test psig:	de Co ( ( : psig:	3872 Coupling 0.00 0.00	% Excess 28	Mud Wt 13.50 Design Collapse	Burst  Totals:	0 <b>0</b> 0	B@s	а-в		<b>0</b>
0 5 1/2	0 5 1/2 <u>Design Factors</u> <choose casing="">  Segment #/ft Grade Coupling #N/A Collapse Burst Length B@s a-B a-C Weig  "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</choose>	O Segment #/ft Grade "A" "B"  w/8.4#/g mud, 30min Sfc Csg Test psig: Cmt vol calc below inclu	de Co ( ( : psig: : includes this csg, TOC	Coupling 0.00 0.00	% Excess 28 g #N/A	Mud Wt 13.50  Design Collapse	Totals:	0 0 0 #N/A	B@s	a-B		0 0 overlap.
Totals:   Compose Called the Conting	Totals:   Control of the length   Stage   Stage   Min   Stage	O Segment #/ft Grade "A" "B"  w/8.4#/g mud, 30min Sfc Csg Test psig: Cmt vol calc below inclu Hole Annular 1 Stage	de Con (Control of the control of th	Coupling 0.00 0.00 csg, TOC intended	% Excess 28 g #N/A led #N/A 1 Stage	Mud Wt 13.50  Design Collapse  ft from s Drilling	Totals: surface or a Calc	0 0 0 #N/A Req'd	B@s	a-B		<b>0</b>

Carlsbad Field Office 11/16/2022

Capitan Reef est top XXXX.

#N/A

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

CONDITIONS

Action 166182

### **CONDITIONS**

Operator:	OGRID:
XTO ENERGY, INC	5380
6401 Holiday Hill Road	Action Number:
Midland, TX 79707	166182
	Action Type:
	[C-103] NOI Change of Plans (C-103A)

### CONDITIONS

Created By	Condition	Condition Date
kpickford	Adhere to previous NMOCD Conditions of Approval	12/15/2022