

Sundry Print Reports
04/05/2023

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

Well Name: CORRAL 16-4 STATE FED Well Location: T25S / R29E / SEC 16 / County or Parish/State:

COM SESW /

Well Number: 802H Type of Well: OIL WELL Allottee or Tribe Name:

Lease Number: NMNM136870 Unit or CA Name: Unit or CA Number:

US Well Number: 3001553201 Well Status: Approved Application for Operator: XTO ENERGY

Permit to Drill INCORPORATED

## **Notice of Intent**

**Sundry ID: 2722726** 

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 03/27/2023 Time Sundry Submitted: 10:02

Date proposed operation will begin: 03/31/2023

Procedure Description: \*\* Name Change, Pool Change, First and Last Take Point Changes, and Bottomhole Location Change XTO Energy LLC requests permission to make the following changes to the original APD: No Additional Surface Disturbance Change Well Name from Corral Canyon 16-4 State Fed Com to Corral 16-4 State Fed Com Change Pool from 96217 Willow Lake; Bone Spring, Southeast to 98220 Purple Sage; Wolfcamp SHL: No Change Change FTP: fr/100'FSL & 1210'FWL to 330'FSL & 2010'FWL, V049020001 (State Lease, No Lease Change) PPP1(WB002): fr/100'FSL & 1210'FWL to 0'FNL & 2018'FWL NMNM136870 (No Lease Change) PPP2(WB003): fr/100'FSL & 1210' FWL to 0' FNL & 2004' FWL NMNM015302 (No Lease Change) Change LTP: fr/100'FNL & 1210' FWL to 330' FNL & 2010' FWL, NMNM015302 (No Lease Change) Change BHL: fr/50' FNL & 1210' FWL to 200' FNL & 2010' FWL, NMNM015302 Section 4-T25S-R29E (No Lease Change) Casing/Cement design per the attached drilling program. Attachments: C102 Drilling Program Directional Plan

## **NOI Attachments**

## **Procedure Description**

Corral\_16\_4\_State\_fed\_com\_802H\_Attachments\_20230327100209.pdf

Page 1 of 2

Well Location: T25S / R29E / SEC 16 / Page 2 of County or Parish/State:

COM SESW /

Well Number: 802H Type of Well: OIL WELL **Allottee or Tribe Name:** 

Lease Number: NMNM136870 **Unit or CA Name: Unit or CA Number:** 

**US Well Number: 3001553201** Well Status: Approved Application for **Operator: XTO ENERGY** 

Permit to Drill INCORPORATED

## **Conditions of Approval**

## **Additional**

Sec 16 25S 29E NMP Sundry 2722726 Corral Canyon 16 4 State Fed Com 802H Eddy NMNM136870 XTO \_COAs\_20230404153135.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: JESSICA DOOLING** Signed on: MAR 27, 2023 10:02 AM

Name: XTO ENERGY INCORPORATED

Title: Lead Regulatory Coordinator

Street Address: 6401 HOLIDAY HILL ROAD BLDG 5

City: MIDLAND State: TX

Phone: (970) 769-6048

Email address: JESSICA.DOOLING@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: 04/05/2023

Signature: Chris Walls

Page 2 of 2

<u>District I</u>
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
<u>District II</u>
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

16-4 802H\DWG\C-102\802H.dwg

1

Eddy/Wells/-03

16 - 9

Canyon

Corral

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Eddy\.04

1

Unit

Canyon

Corral

NM\013

1

Energy

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Released to Imaging: 2/29/2024 3:26:49 PM

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

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

☐ AMENDED REPORT

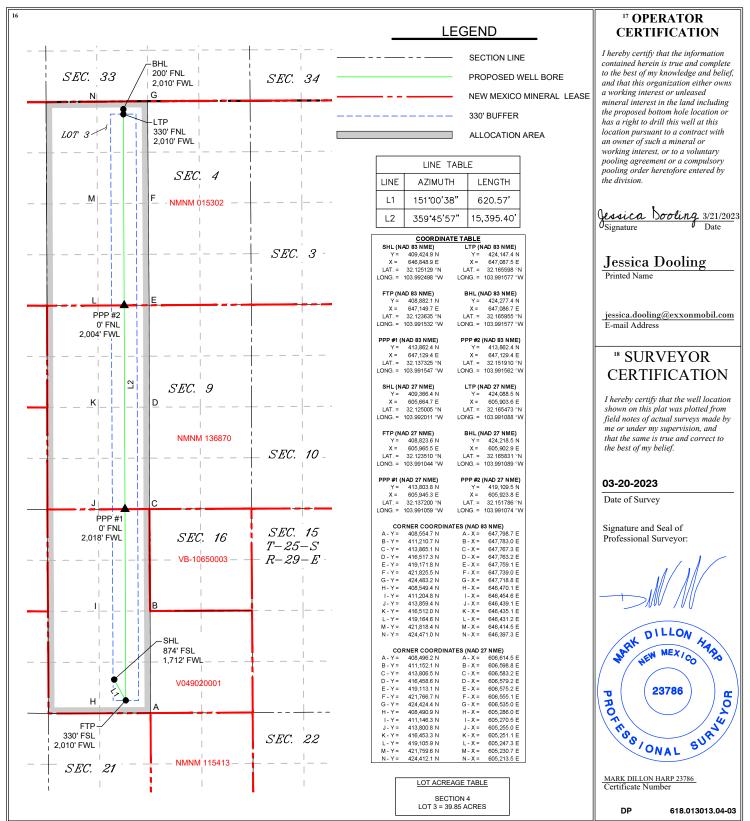
WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Numbe	r	<sup>2</sup> Pool Code	<sup>3</sup> Pool Name				
30-015-	53201	98220	Purple Sage; Wolfcamp				
<sup>4</sup> Property Code		<sup>5</sup> I	Property Name	<sup>6</sup> Well Number			
		CORRAL 10	6-4 STATE FED COM	802H			
<sup>7</sup> OGRID No.		80	Operator Name	<sup>9</sup> Elevation			
005380		3,008'					
	•			-			

<sup>10</sup> Surface Location UL or lot no. Section Township Range North/South line Feet from the East/West line Ν 25 S 29 E SOUTH 1,712 **WEST EDDY** 16 874

"Bottom Hole Location If Different From Surface UL or lot no. East/West line Section Feet from the County Township Range Lot Idn Feet from the North/South line 4 25 S 29 E 200 **NORTH** 2,010 **WEST EDDY** <sup>5</sup>Order No. Dedicated Acres Joint or Infill Consolidation Code 959.64

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.
Corral 16-4 State Fed Com 802H
Projected TD: 26317.5' MD / 10293' TVD
SHL: 874' FSL & 1712' FWL , Section 16, T25S, R29E
BHL: 200' FNL & 2010' FWL , Section 4, 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	'	Water
Top of Salt	686'	Water
Base of Salt	2786'	Water
Delaware	2988'	Water
Brushy Canyon	5489'	Water/Oil/Gas
Bone Spring	6779'	Water
1st Bone Spring	7670'	Water/Oil/Gas
2nd Bone Spring	8501'	Water/Oil/Gas
3rd Bone Spring	9576'	Water/Oil/Gas
Wolfcamp	9948'	Water/Oil/Gas
Wolfcamp X	9961'	Water/Oil/Gas
Wolfcamp Y	10043'	Water/Oil/Gas
Target/Land Curve	10293'	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 9.625 inch casing @ 636' (50' 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 9597.5' and cemented to surface. A 6.75 inch curve and 6.75 inch lateral hole will be drilled to 26317.5 MD/TD and 5.5 inch production casing will be set at TD and cemented back up in the intermediate shoe (estimated TOC 9297.5 feet).

## 3. Casing Design

Hole Size	Depth	OD Csg	Weight	Grade	Collar	New/Used	SF Burst	SF Collapse	SF Tension
12.25	0' – 636'	9.625	40	J-55	втс	New	1.63	9.36	24.76
8.75	0' – 4000'	7.625	29.7	RY P-110	Flush Joint	New	2.96	2.83	1.96
8.75	4000' – 9597.5'	7.625	29.7	HC L-80	Flush Joint	New	2.15	2.34	2.44
6.75	0' – 9497.5'	5.5	23	RY P-110	Semi-Premium	New	1.21	2.89	1.81
6.75	9497.5' - 26317.5'	5.5	23	RY P-110	Semi-Flush	New	1.21	2.66	1.94

 $<sup>\</sup>cdot$  XTO requests the option to utilize a spudder rig (Atlas Copco RD20 or Equivalent) to set and cement surface casing per this Sundry

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

<sup>·</sup> XTO requests to not utilize centralizers in the curve and lateral

<sup>· 7.625</sup> Collapse analyzed using 50% evacuation based on regional experience.

<sup>• 5.5</sup> Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35

<sup>·</sup> Test on Casing will be limited to 70% burst of the casing or 1500 psi, whichever is less

<sup>·</sup> 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
  - $\cdot \ \text{Wellhead Manufacturer representative will not be present for BOP test plug installation}$

#### 4. Cement Program

#### Surface Casing: 9.625, 40 New BTC, J-55 casing to be set at +/- 636'

Lead: 110 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 +/- 9597.5'

st Stage

Optional Lead: 290 sxs Class C (mixed at 10.5 ppg, 2.77 ft3/sx, 15.59 gal/sx water)

TOC: Surface

Tail: 380 sxs Class C (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)

TOC: Brushy Canyon @ 5489

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: 620 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 (5489') 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 +/- 26317.5'

Lead: 20 sxs NeoCem (mixed at 11.5 ppg, 2.69 ft3/sx, 15.00 gal/sx water) Top of Cement: 9297.5 feet
Tail: 1180 sxs VersaCem (mixed at 13.2 ppg, 1.51 ft3/sx, 8.38 gal/sx water) Top of Cement: 9797.5 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 3195 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	Viscosity	Fluid Loss
INTERVAL	Tible Size	Mud Type	(ppg)	(sec/qt)	(cc)
0' - 636'	12.25	FW/Native	8.3-8.8	35-40	NC
636' - 9597.5'	8.75	FW / Cut Brine / Direct Emulsion	9.1-9.6	30-32	NC
9597.5' - 26317.5'	6.75	ОВМ	10.2-10.7	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 5459 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.

# **ROC**

CORRAL 16-4 STATE FED COM CORRAL 16-4 STATE FED COM Pad B 802H

802H

Plan: 802H

# **Standard Planning Report**

22 March, 2023

## Planning Report

LMRKPROD3 Database:

Company: ROC

Project: CORRAL 16-4 STATE FED COM CORRAL 16-4 STATE FED COM Pad B Site:

Well: 802H Wellbore: 802H 802H Design:

**Local Co-ordinate Reference:** 

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well 802H

RKB(30') @ 3017.0usft RKB(30') @ 3017.0usft

Grid

Minimum Curvature

Project CORRAL 16-4 STATE FED COM

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

New Mexico East 3001 Map Zone:

System Datum:

Mean Sea Level

CORRAL 16-4 STATE FED COM Pad B Site

Northing: 409,391.60 usft Site Position: Latitude: 32° 7' 30.257 N From: Мар Easting: 605,965.10 usft Longitude: 103° 59' 27.744 W **Position Uncertainty:** Slot Radius: 13-3/16 " **Grid Convergence:** 0.18 3.0 usft

Well 802H

**Well Position** +N/-S -25.2 usft Northing: 409,366.40 usft Latitude: 32° 7' 30.017 N +E/-W -300.4 usft Easting: 605,664.70 usft Longitude: 103° 59' 31.238 W

**Position Uncertainty** 0.0 usft Wellhead Elevation: **Ground Level:** 2,987.0 usft

Wellbore 802H Magnetics **Model Name** Sample Date Declination **Dip Angle** Field Strength (°) (°) (nT) 3/17/2023 IGRF2020 6.53 59.69 47.212.64653347

802H Design 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 0.0 359.77

**Plan Survey Tool Program** Date 3/22/2023

**Depth From** Depth To

(usft) (usft) Survey (Wellbore) **Tool Name** Remarks

0.0 26,317.5 802H (802H) XOMR2\_OWSG MWD+IFR1+

OWSG MWD + IFR1 + Multi-St

## Planning Report

Database: LMRKPROD3

Company: ROC

Project: CORRAL 16-4 STATE FED COM
Site: CORRAL 16-4 STATE FED COM Pad B

 Well:
 802H

 Wellbore:
 802H

 Design:
 802H

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well 802H

RKB(30') @ 3017.0usft RKB(30') @ 3017.0usft

Grid

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	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,223.9	20.48	166.44	2,202.2	-176.0	42.5	2.00	2.00	0.00	166.44	
5,304.9	20.48	166.44	5,088.6	-1,223.8	295.2	0.00	0.00	0.00	0.00	
5,509.7	0.00	0.00	5,289.0	-1,259.0	303.7	10.00	-10.00	0.00	180.00	
9,797.5	0.00	0.00	9,576.8	-1,259.0	303.7	0.00	0.00	0.00	0.00	
10,922.5	90.00	359.77	10,293.0	-542.8	300.8	8.00	8.00	0.00	0.00	802H_FTP
15,902.7	90.00	359.77	10,293.0	4,437.4	280.4	0.00	0.00	0.00	0.00	802H_PPP1
21,208.5	90.00	359.77	10,293.0	9,743.1	258.6	0.00	0.00	0.00	0.00	802H_PPP2
26,187.5	90.00	359.77	10,293.0	14,722.1	238.2	0.00	0.00	0.00	0.00	802H_LTP
26,317.5	90.00	359.77	10,293.0	14,852.1	237.7	0.00	0.00	0.00	0.00	802H_BHL

Planning Report

Database: LMRKPROD3

Company: ROC

Project: CORRAL 16-4 STATE FED COM
Site: CORRAL 16-4 STATE FED COM Pad B

 Well:
 802H

 Wellbore:
 802H

 Design:
 802H

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well 802H

RKB(30') @ 3017.0usft RKB(30') @ 3017.0usft

Grid

1.	00211								
ned 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 0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
900.		0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.		0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Buil		0.00	.,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.		166.44	1,300.0	-1.7	0.4	-1.7	2.00	2.00	0.00
1,400.	0 4.00	166.44	1,399.8	-6.8	1.6	-6.8	2.00	2.00	0.00
1,500.	0 6.00	166.44	1,499.5	-15.3	3.7	-15.3	2.00	2.00	0.00
1,600.		166.44	1,598.7	-27.1	6.5	-27.1	2.00	2.00	0.00
1,700.	0 10.00	166.44	1,697.5	-42.3	10.2	-42.3	2.00	2.00	0.00
1,800.		166.44	1,795.6	-60.9	14.7	-60.9	2.00	2.00	0.00
1,847.	3 12.95	166.44	1,841.8	-70.8	17.1	-70.8	2.00	2.00	0.00
Start 3415	5.9 hold at 1847.3 N	/ID							
1,900.	0 14.00	166.44	1,893.1	-82.7	20.0	-82.8	2.00	2.00	0.00
2,000.		166.44	1,989.6	-107.9	26.0	-108.0	2.00	2.00	0.00
2,100.		166.44	2,085.3	-136.3	32.9	-136.4	2.00	2.00	0.00
2,200.	0 20.00	166.44	2,179.8	-167.9	40.5	-168.1	2.00	2.00	0.00
2,223.	9 20.48	166.44	2,202.2	-176.0	42.5	-176.2	2.00	2.00	0.00
Start 3081	1.0 hold at 2223.9 N	<b>ID</b>							
2,300.	0 20.48	166.44	2,273.5	-201.9	48.7	-202.1	0.00	0.00	0.00
2,400.		166.44	2,367.2	-235.9	56.9	-236.1	0.00	0.00	0.00
2,500.	0 20.48	166.44	2,460.9	-269.9	65.1	-270.1	0.00	0.00	0.00
2,600.	0 20.48	166.44	2,554.6	-303.9	73.3	-304.2	0.00	0.00	0.00
2,700.	0 20.48	166.44	2,648.3	-337.9	81.5	-338.2	0.00	0.00	0.00
2,800.	0 20.48	166.44	2,741.9	-371.9	89.7	-372.3	0.00	0.00	0.00
2,900.	0 20.48	166.44	2,835.6	-405.9	97.9	-406.3	0.00	0.00	0.00
3,000.	0 20.48	166.44	2,929.3	-439.9	106.1	-440.3	0.00	0.00	0.00
3,100.		166.44	3,023.0	-473.9	114.3	-474.4	0.00	0.00	0.00
3,200.	0 20.48	166.44	3,116.7	-507.9	122.5	-508.4	0.00	0.00	0.00
3,300.		166.44	3,210.3	-542.0	130.7	-542.5	0.00	0.00	0.00
3,400.	0 20.48	166.44	3,304.0	-576.0	139.0	-576.5	0.00	0.00	0.00
3,500.		166.44	3,397.7	-610.0	147.2	-610.6	0.00	0.00	0.00
3,600.		166.44	3,491.4	-644.0	155.4	-644.6	0.00	0.00	0.00
3,700.	0 20.48	166.44	3,585.1	-678.0	163.6	-678.6	0.00	0.00	0.00
3,800.	0 20.48	166.44	3,678.7	-712.0	171.8	-712.7	0.00	0.00	0.00
3,900.		166.44	3,772.4	-746.0	180.0	-746.7	0.00	0.00	0.00
4,000.		166.44	3,866.1	-780.0	188.2	-780.8	0.00	0.00	0.00
4,100.		166.44	3,959.8	-814.0	196.4	-814.8	0.00	0.00	0.00
4,200.	0 20.48	166.44	4,053.5	-848.0	204.6	-848.8	0.00	0.00	0.00
4,300.		166.44	4,147.1	-882.0	212.8	-882.9	0.00	0.00	0.00
4,400.		166.44	4,240.8	-916.0	221.0	-916.9	0.00	0.00	0.00
4,500.		166.44	4,334.5	-950.1	229.2	-951.0	0.00	0.00	0.00
4,600.		166.44	4,428.2	-984.1	237.4	-985.0	0.00	0.00	0.00
4,700.	0 20.48	166.44	4,521.9	-1,018.1	245.6	-1,019.1	0.00	0.00	0.00
4,800.		166.44	4,615.6	-1,052.1	253.8	-1,053.1	0.00	0.00	0.00
4,900.		166.44	4,709.2	-1,086.1	262.0	-1,087.1	0.00	0.00	0.00
5,000.		166.44	4,802.9	-1,120.1	270.2	-1,121.2	0.00	0.00	0.00
5,100.		166.44	4,896.6	-1,154.1	278.4	-1,155.2	0.00	0.00	0.00
5,200.	0 20.48	166.44	4,990.3	-1,188.1	286.6	-1,189.3	0.00	0.00	0.00
5,263.	2 20.48	166.44	5,049.5	-1,209.6	291.8	-1,210.8	0.00	0.00	0.00
Start Drop	p -10.00								
5,300.	0 20.48	166.44	5,084.0	-1,222.1	294.8	-1,223.3	0.00	0.00	0.00
5,304.	9 20.48	166.44	5,088.6	-1,223.8	295.2	-1,225.0	0.00	0.00	0.00

## Planning Report

Database: LMRKPROD3

Company: ROC

Project: CORRAL 16-4 STATE FED COM
Site: CORRAL 16-4 STATE FED COM Pad B

 Well:
 802H

 Wellbore:
 802H

 Design:
 802H

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well 802H

RKB(30') @ 3017.0usft RKB(30') @ 3017.0usft

Grid

•••									
ned Survey									
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)
Start Drop	-10.00								
5,400.0		166.44	5,180.0	-1,248.8	301.3	-1,250.0	10.00	-10.00	0.00
5,452.6	5.70	166.44	5,232.1	-1,256.2	303.1	-1,257.4	10.00	-10.00	0.00
Start 4291	.8 hold at 5452.6 M	ИD							
5,500.0	0.97	166.44	5,279.3	-1,258.9	303.7	-1,260.1	10.00	-10.00	0.00
5,500.0		0.00	5,279.3 5,289.0	-1,256.9 -1,259.0	303.7	-1,260.1	10.00	-10.00	0.00
	.8 hold at 5509.7 N		3,209.0	-1,233.0	303.7	-1,200.2	10.00	-10.00	0.00
9,744.4		0.00	9,523.8	-1,259.0	303.7	-1,260.2	0.00	0.00	0.00
Start Build		0.00	0,020.0	1,200.0	000.7	1,200.2	0.00	0.00	0.00
9,797.5		0.00	9,576.8	-1,259.0	303.7	-1,260.2	0.00	0.00	0.00
Start Build		0.00	0,070.0	1,200.0	000.7	1,200.2	0.00	0.00	0.00
9,800.0		359.77	9,579.3	-1,259.0	303.7	-1,260.2	8.00	8.00	0.00
9,900.0		359.77	9,679.0	-1,251.7	303.7	-1,252.9	8.00	8.00	0.00
10,000.0		359.77	9,776.6	-1,230.6	303.6	-1,231.8	8.00	8.00	0.00
10,100.0 10,200.0		359.77 359.77	9,870.4 9,958.5	-1,196.0 -1,148.8	303.5 303.3	-1,197.3 -1,150.0	8.00 8.00	8.00 8.00	0.00 0.00
10,200.0		359.77 359.77	10,039.1	-1,140.0 -1,089.8	303.3	-1,150.0	8.00	8.00	0.00
10,400.0		359.77	10,110.7	-1,020.2	302.8	-1,021.4	8.00	8.00	0.00
10,500.0		359.77	10,172.0 10,221.6	-941.2	302.4	-942.4	8.00	8.00	0.00
10,600.0 10,700.0		359.77 359.77	10,221.6	-854.5 -761.7	302.1 301.7	-855.7 -762.9	8.00 8.00	8.00 8.00	0.00 0.00
10,700.0		359.77	10,282.6	-761.7 -664.7	301.7	-665.9	8.00	8.00	0.00
10,869.4		359.77	10,291.0	-595.8	301.0	-597.0	8.00	8.00	0.00
	.0 hold at 10869.4								
10,900.0		359.77	10,292.6	-565.3	300.9	-566.5	8.00	8.00	0.00
10,922.5		359.77	10,293.0	-542.8	300.8	-544.0	8.00	8.00	0.00
	.2 hold at 10922.5		10.000.0	105.0	200 5	400 5	0.00	0.00	2.22
11,000.0		359.77	10,293.0	-465.3	300.5	-466.5	0.00	0.00	0.00
11,100.0	90.00	359.77	10,293.0	-365.3	300.1	-366.5	0.00	0.00	0.00
11,200.0		359.77	10,293.0	-265.3	299.7	-266.5	0.00	0.00	0.00
11,300.0		359.77	10,293.0	-165.3	299.3	-166.5	0.00	0.00	0.00
11,400.0		359.77	10,293.0	-65.3	298.8	-66.5	0.00	0.00	0.00
11,500.0		359.77	10,293.0	34.7	298.4	33.5	0.00	0.00	0.00
11,600.0	90.00	359.77	10,293.0	134.7	298.0	133.5	0.00	0.00	0.00
11,700.0		359.77	10,293.0	234.7	297.6	233.5	0.00	0.00	0.00
11,800.0		359.77	10,293.0	334.7	297.2	333.5	0.00	0.00	0.00
11,900.0		359.77	10,293.0	434.7	296.8	433.5	0.00	0.00	0.00
12,000.0		359.77	10,293.0	534.7	296.4	533.5	0.00	0.00	0.00
12,100.0	90.00	359.77	10,293.0	634.7	296.0	633.5	0.00	0.00	0.00
12,200.0		359.77	10,293.0	734.7	295.6	733.5	0.00	0.00	0.00
12,300.0		359.77	10,293.0	834.7	295.2	833.5	0.00	0.00	0.00
12,400.0		359.77	10,293.0	934.7	294.7	933.5	0.00	0.00	0.00
12,500.0		359.77	10,293.0	1,034.7	294.3	1,033.5	0.00	0.00	0.00
12,600.0	90.00	359.77	10,293.0	1,134.7	293.9	1,133.5	0.00	0.00	0.00
12,700.0	90.00	359.77	10,293.0	1,234.7	293.5	1,233.5	0.00	0.00	0.00
12,800.0		359.77	10,293.0	1,334.7	293.1	1,333.5	0.00	0.00	0.00
12,900.0		359.77	10,293.0	1,434.7	292.7	1,433.5	0.00	0.00	0.00
13,000.0		359.77	10,293.0	1,534.7	292.3	1,533.5	0.00	0.00	0.00
13,100.0	90.00	359.77	10,293.0	1,634.7	291.9	1,633.5	0.00	0.00	0.00
13,200.0	90.00	359.77	10,293.0	1,734.7	291.5	1,733.5	0.00	0.00	0.00
13,300.0		359.77	10,293.0	1,834.7	291.1	1,833.5	0.00	0.00	0.00
13,400.0		359.77	10,293.0	1,934.7	290.6	1,933.5	0.00	0.00	0.00
13,500.0	90.00	359.77	10,293.0	2,034.7	290.2	2,033.5	0.00	0.00	0.00

Planning Report

Database: LMRKPROD3

Company: ROC

Project: CORRAL 16-4 STATE FED COM
Site: CORRAL 16-4 STATE FED COM Pad B

 Well:
 802H

 Wellbore:
 802H

 Design:
 802H

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well 802H

RKB(30') @ 3017.0usft RKB(30') @ 3017.0usft

Grid

sigii.	00211								
anned 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)
13,600.0	90.00	359.77	10,293.0	2,134.7	289.8	2,133.5	0.00	0.00	0.00
,									
13,700.0	90.00	359.77	10,293.0	2,234.7	289.4	2,233.5	0.00	0.00	0.00
13,800.0	90.00	359.77 359.77	10,293.0 10,293.0	2,334.7 2,434.7	289.0	2,333.5	0.00	0.00 0.00	0.00
13,900.0 14,000.0	90.00 90.00	359.77 359.77	10,293.0	2,434.7 2,534.7	288.6 288.2	2,433.5 2,533.5	0.00 0.00	0.00	0.00 0.00
14,000.0	90.00	359.77	10,293.0	2,634.7	287.8	2,633.5	0.00	0.00	0.00
14,200.0	90.00	359.77	10,293.0	2,734.7	287.4	2,733.5	0.00	0.00	0.00
14,300.0	90.00	359.77	10,293.0	2,834.7	286.9	2,833.5	0.00	0.00	0.00
14,400.0 14,500.0	90.00 90.00	359.77 359.77	10,293.0 10,293.0	2,934.7 3,034.7	286.5 286.1	2,933.5 3,033.5	0.00 0.00	0.00 0.00	0.00 0.00
14,600.0	90.00	359.77	10,293.0	3,034.7	285.7	3,133.5	0.00	0.00	0.00
14,700.0	90.00	359.77	10,293.0	3,234.7	285.3	3,233.5	0.00	0.00	0.00
14,800.0	90.00	359.77	10,293.0	3,334.7	284.9	3,333.5	0.00	0.00	0.00
14,900.0	90.00	359.77	10,293.0	3,434.7	284.5	3,433.5	0.00	0.00	0.00
15,000.0 15,100.0	90.00 90.00	359.77 359.77	10,293.0 10,293.0	3,534.7 3,634.7	284.1 283.7	3,533.5 3,633.5	0.00 0.00	0.00 0.00	0.00 0.00
			•						
15,200.0	90.00	359.77	10,293.0	3,734.7	283.3	3,733.5	0.00	0.00	0.00
15,300.0	90.00	359.77	10,293.0	3,834.7	282.8	3,833.5	0.00	0.00	0.00
15,400.0	90.00	359.77	10,293.0	3,934.7	282.4	3,933.5	0.00	0.00	0.00
15,500.0	90.00	359.77	10,293.0	4,034.7	282.0	4,033.5	0.00	0.00	0.00
15,600.0	90.00	359.77	10,293.0	4,134.7	281.6	4,133.5	0.00	0.00	0.00
15,700.0	90.00	359.77	10,293.0	4,234.7	281.2	4,233.5	0.00	0.00	0.00
15,800.0	90.00	359.77	10,293.0	4,334.7	280.8	4,333.5	0.00	0.00	0.00
15,849.4	90.00	359.77	10,293.0	4,384.1	280.6	4,382.9	0.00	0.00	0.00
	hold at 15849.4								
15,900.0	90.00	359.77	10,293.0	4,434.7	280.4	4,433.5	0.00	0.00	0.00
15,902.7	90.00	359.77	10,293.0	4,437.4	280.4	4,436.2	0.00	0.00	0.00
Start 5305.7	7 hold at 15902.7	MD							
16,000.0	90.00	359.77	10,293.0	4,534.7	280.0	4,533.5	0.00	0.00	0.00
16,100.0	90.00	359.77	10,293.0	4,634.7	279.6	4,633.5	0.00	0.00	0.00
16,200.0	90.00	359.77	10,293.0	4,734.7	279.2	4,733.5	0.00	0.00	0.00
16,300.0	90.00	359.77	10,293.0	4,834.7	278.7	4,833.5	0.00	0.00	0.00
16,400.0	90.00	359.77	10,293.0	4,934.7	278.3	4,933.5	0.00	0.00	0.00
16,500.0	90.00	359.77	10,293.0	5,034.7	277.9	5,033.5	0.00	0.00	0.00
16,600.0	90.00	359.77	10,293.0	5,134.7	277.5	5,133.5	0.00	0.00	0.00
16,700.0	90.00	359.77	10,293.0	5,234.7	277.1	5,233.5	0.00	0.00	0.00
16,800.0	90.00	359.77	10,293.0	5,334.7	276.7	5,333.5	0.00	0.00	0.00
16,900.0	90.00	359.77	10,293.0	5,434.7	276.3	5,433.5	0.00	0.00	0.00
17,000.0	90.00	359.77	10,293.0	5,534.7	275.9	5,533.5	0.00	0.00	0.00
17,100.0	90.00	359.77	10,293.0	5,634.7	275.5	5,633.5	0.00	0.00	0.00
17,200.0	90.00	359.77	10,293.0	5,734.7	275.1	5,733.5	0.00	0.00	0.00
17,300.0	90.00	359.77	10,293.0	5,834.7	274.6	5,833.5	0.00	0.00	0.00
17,400.0	90.00	359.77	10,293.0	5,934.7	274.2	5,933.5	0.00	0.00	0.00
17,500.0	90.00	359.77	10,293.0	6,034.7	273.8	6,033.5	0.00	0.00	0.00
17,600.0	90.00	359.77	10,293.0	6,134.7	273.4	6,133.5	0.00	0.00	0.00
17,700.0	90.00	359.77	10,293.0	6,234.7	273.0	6,233.5	0.00	0.00	0.00
17,800.0	90.00	359.77	10,293.0	6,334.7	272.6	6,333.5	0.00	0.00	0.00
17,900.0	90.00	359.77	10,293.0	6,434.7	272.2	6,433.5	0.00	0.00	0.00
18,000.0	90.00	359.77	10,293.0	6,534.7	271.8	6,533.5	0.00	0.00	0.00
18,100.0	90.00	359.77	10,293.0	6,634.7	271.4	6,633.5	0.00	0.00	0.00
18,200.0	90.00	359.77	10,293.0	6,734.6	271.0	6,733.5	0.00	0.00	0.00
18,300.0	90.00	359.77	10,293.0	6,834.6	270.5	6,833.5	0.00	0.00	0.00
18,400.0	90.00	359.77	10,293.0	6,934.6	270.1	6,933.5	0.00	0.00	0.00

Planning Report

Database: LMRKPROD3

Company: ROC

Project: CORRAL 16-4 STATE FED COM
Site: CORRAL 16-4 STATE FED COM Pad B

 Well:
 802H

 Wellbore:
 802H

 Design:
 802H

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well 802H

RKB(30') @ 3017.0usft RKB(30') @ 3017.0usft

Grid

esign:		002FI								
Planned Surve	ev									
	•									
Measu	ured			Vertical			Vertical	Dogleg	Build	Turn
Dep	th	Inclination	Azimuth	Depth	+N/-S	+E/-W	Section	Rate	Rate	Rate
(usf		(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)
10	,500.0	90.00	359.77	10,293.0	7,034.6	269.7	7,033.5	0.00	0.00	0.00
									0.00	
	,600.0	90.00	359.77	10,293.0	7,134.6	269.3	7,133.5	0.00	0.00	0.00
18,	,700.0	90.00	359.77	10,293.0	7,234.6	268.9	7,233.5	0.00	0.00	0.00
18,	0.008,	90.00	359.77	10,293.0	7,334.6	268.5	7,333.5	0.00	0.00	0.00
18.	,900.0	90.00	359.77	10,293.0	7,434.6	268.1	7,433.5	0.00	0.00	0.00
	,000.0	90.00	359.77	10,293.0	7,534.6	267.7	7,533.5	0.00	0.00	0.00
19,	,100.0	90.00	359.77	10,293.0	7,634.6	267.3	7,633.5	0.00	0.00	0.00
19.	,200.0	90.00	359.77	10,293.0	7,734.6	266.9	7,733.5	0.00	0.00	0.00
	,300.0	90.00	359.77	10,293.0	7,834.6	266.4	7,833.5	0.00	0.00	0.00
	,400.0	90.00	359.77	10,293.0	7,934.6	266.0	7,933.5	0.00	0.00	0.00
19,	,400.0	90.00	339.11	10,293.0	7,954.0	200.0	1,933.3	0.00	0.00	0.00
19,	,500.0	90.00	359.77	10,293.0	8,034.6	265.6	8,033.5	0.00	0.00	0.00
	,600.0	90.00	359.77	10,293.0	8,134.6	265.2	8,133.5	0.00	0.00	0.00
	,700.0	90.00	359.77	10,293.0	8,234.6	264.8	8,233.5	0.00	0.00	0.00
	,800.0	90.00	359.77	10,293.0	8,334.6	264.4	8,333.5	0.00	0.00	0.00
19,	,900.0	90.00	359.77	10,293.0	8,434.6	264.0	8,433.5	0.00	0.00	0.00
20	,000.0	90.00	359.77	10,293.0	8,534.6	263.6	8,533.5	0.00	0.00	0.00
	,100.0	90.00	359.77	10,293.0	8,634.6	263.2	8,633.5	0.00	0.00	0.00
20,	,200.0	90.00	359.77	10,293.0	8,734.6	262.8	8,733.5	0.00	0.00	0.00
20,	,300.0	90.00	359.77	10,293.0	8,834.6	262.3	8,833.5	0.00	0.00	0.00
	,400.0	90.00	359.77	10,293.0	8,934.6	261.9	8,933.5	0.00	0.00	0.00
_0,	,			.0,200.0			0,000.0		0.00	
20,	,500.0	90.00	359.77	10,293.0	9,034.6	261.5	9,033.5	0.00	0.00	0.00
20.	,600.0	90.00	359.77	10,293.0	9,134.6	261.1	9,133.5	0.00	0.00	0.00
	,700.0	90.00	359.77	10,293.0	9,234.6	260.7	9,233.5	0.00	0.00	0.00
	,800.0	90.00	359.77	10,293.0	9,334.6	260.3	9,333.5	0.00	0.00	0.00
20,	,900.0	90.00	359.77	10,293.0	9,434.6	259.9	9,433.5	0.00	0.00	0.00
21	0.000,	90.00	359.77	10,293.0	9,534.6	259.5	9,533.5	0.00	0.00	0.00
	,100.0	90.00	359.77	10,293.0	9,634.6	259.1	9,633.5	0.00	0.00	0.00
21,	,155.4	90.00	359.77	10,293.0	9,690.0	258.8	9,688.9	0.00	0.00	0.00
Start	4978.9 h	old at 21155.4	MD							
21,	,200.0	90.00	359.77	10,293.0	9,734.6	258.7	9,733.5	0.00	0.00	0.00
	,208.5	90.00	359.77	10,293.0	9,743.1	258.6	9,742.0	0.00	0.00	0.00
		old at 21208.5		,	-,		-,			
Start	49/9.0 11	olu at 2 1200.5	MID							
21,	,300.0	90.00	359.77	10,293.0	9,834.6	258.2	9,833.5	0.00	0.00	0.00
	,400.0	90.00	359.77	10,293.0	9,934.6	257.8	9,933.5	0.00	0.00	0.00
	,500.0	90.00	359.77	10,293.0	10,034.6	257.4	10,033.5	0.00	0.00	0.00
				,						
	,600.0	90.00	359.77	10,293.0	10,134.6	257.0	10,133.5	0.00	0.00	0.00
21,	,700.0	90.00	359.77	10,293.0	10,234.6	256.6	10,233.5	0.00	0.00	0.00
24	.800.0	90.00	359.77	10,293.0	10.334.6	256.2	10,333.5	0.00	0.00	0.00
	,900.0	90.00	359.77	10,293.0	10,434.6	255.8	10,433.5	0.00	0.00	0.00
	,000.0	90.00	359.77	10,293.0	10,534.6	255.4	10,533.5	0.00	0.00	0.00
22,	,100.0	90.00	359.77	10,293.0	10,634.6	255.0	10,633.5	0.00	0.00	0.00
	,200.0	90.00	359.77	10,293.0	10,734.6	254.6	10,733.5	0.00	0.00	0.00
	,300.0	90.00	359.77	10,293.0	10,834.6	254.1	10,833.5	0.00	0.00	0.00
22,	,400.0	90.00	359.77	10,293.0	10,934.6	253.7	10,933.5	0.00	0.00	0.00
22.	500.0	90.00	359.77	10,293.0	11,034.6	253.3	11,033.5	0.00	0.00	0.00
,	,600.0	90.00	359.77	10,293.0	11,134.6	252.9	11,133.5	0.00	0.00	0.00
	,700.0	90.00	359.77	10,293.0	11,234.6	252.5	11,233.5	0.00	0.00	0.00
22,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	90.00	558.11	10,293.0				0.00	0.00	
22.	,800.0	90.00	359.77	10,293.0	11,334.6	252.1	11,333.5	0.00	0.00	0.00
,	,900.0	90.00	359.77	10,293.0	11,434.6	251.7	11,433.5	0.00	0.00	0.00
	,000.0	90.00	359.77	10,293.0	11,534.6	251.7	11,533.5	0.00	0.00	0.00
	,100.0	90.00	359.77	10,293.0	11,634.6	250.9	11,633.5	0.00	0.00	0.00
23,	,200.0	90.00	359.77	10,293.0	11,734.6	250.5	11,733.5	0.00	0.00	0.00
20	200.0	00.00	250.77	10 202 0	11 024 6	250.0	11 000 5	0.00	0.00	0.00
23.	,300.0	90.00	359.77	10,293.0	11,834.6	250.0	11,833.5	0.00	0.00	0.00
,	400.0	90.00	359.77	10,293.0	11,934.6	249.6	11,933.5	0.00	0.00	0.00

## Planning Report

Database: LMRKPROD3

Company: ROC

Project: CORRAL 16-4 STATE FED COM
Site: CORRAL 16-4 STATE FED COM Pad B

 Well:
 802H

 Wellbore:
 802H

 Design:
 802H

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well 802H

RKB(30') @ 3017.0usft RKB(30') @ 3017.0usft

Grid

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)
23,500.0	90.00	359.77	10,293.0	12,034.6	249.2	12,033.5	0.00	0.00	0.00
23,600.0	90.00	359.77	10,293.0	12,134.6	248.8	12,133.5	0.00	0.00	0.00
23,700.0	90.00	359.77	10,293.0	12,234.6	248.4	12,233.5	0.00	0.00	0.00
23,800.0	90.00	359.77	10,293.0	12,334.6	248.0	12,333.5	0.00	0.00	0.00
23,900.0	90.00	359.77	10,293.0	12,434.6	247.6	12,433.5	0.00	0.00	0.00
24,000.0	90.00	359.77	10,293.0	12,534.6	247.2	12,533.5	0.00	0.00	0.00
24,100.0	90.00	359.77	10,293.0	12,634.6	246.8	12,633.5	0.00	0.00	0.00
24,200.0	90.00	359.77	10,293.0	12,734.6	246.4	12,733.5	0.00	0.00	0.00
24,300.0	90.00	359.77	10,293.0	12,834.6	245.9	12,833.5	0.00	0.00	0.00
24,400.0	90.00	359.77	10,293.0	12,934.6	245.5	12,933.5	0.00	0.00	0.00
24,500.0	90.00	359.77	10,293.0	13,034.6	245.1	13,033.5	0.00	0.00	0.00
24,600.0	90.00	359.77	10,293.0	13,134.6	244.7	13,133.5	0.00	0.00	0.00
24,700.0	90.00	359.77	10,293.0	13,234.6	244.3	13,233.5	0.00	0.00	0.00
24,800.0	90.00	359.77	10,293.0	13,334.6	243.9	13,333.5	0.00	0.00	0.00
24,900.0	90.00	359.77	10,293.0	13,434.6	243.5	13,433.5	0.00	0.00	0.00
25,000.0	90.00	359.77	10,293.0	13,534.6	243.1	13,533.5	0.00	0.00	0.00
25,100.0	90.00	359.77	10,293.0	13,634.6	242.7	13,633.5	0.00	0.00	0.00
25,200.0	90.00	359.77	10,293.0	13,734.6	242.3	13,733.5	0.00	0.00	0.00
25,300.0	90.00	359.77	10,293.0	13,834.6	241.8	13,833.5	0.00	0.00	0.00
25,400.0	90.00	359.77	10,293.0	13,934.6	241.4	13,933.5	0.00	0.00	0.00
25,500.0	90.00	359.77	10,293.0	14,034.6	241.0	14,033.5	0.00	0.00	0.00
25,600.0	90.00	359.77	10,293.0	14,134.6	240.6	14,133.5	0.00	0.00	0.00
25,700.0	90.00	359.77	10,293.0	14,234.6	240.2	14,233.5	0.00	0.00	0.00
25,800.0	90.00	359.77	10,293.0	14,334.6	239.8	14,333.5	0.00	0.00	0.00
25,900.0	90.00	359.77	10,293.0	14,434.6	239.4	14,433.5	0.00	0.00	0.00
26,000.0	90.00	359.77	10,293.0	14,534.6	239.0	14,533.5	0.00	0.00	0.00
26,100.0	90.00	359.77	10,293.0	14,634.6	238.6	14,633.5	0.00	0.00	0.00
26,134.3	90.00	359.77	10,293.0	14,668.9	238.4	14,667.8	0.00	0.00	0.00
Start 130.2 ho	old at 26134.3 N	ID							
26,187.5	90.00	359.77	10,293.0	14,722.1	238.2	14,721.0	0.00	0.00	0.00
	old at 26187.5 N								
26,200.0	90.00	359.77	10,293.0	14,734.6	238.2	14,733.5	0.00	0.00	0.00
26,264.4	90.00	359.77	10,293.0	14,799.0	237.9	14,797.9	0.00	0.00	0.00
TD at 26264.5		055	10.555.5	44.65.5		44.000			
26,300.0 26,317.5	90.00 90.00	359.77 359.77	10,293.0 10,293.0	14,834.6 14,852.1	237.7 237.7	14,833.5 14,851.0	0.00 0.00	0.00 0.00	0.00 0.00
TD at 26317.5		000.11	10,200.0	17,002.1	201.1	14,001.0	0.00	0.00	0.00

## Planning Report

Database: LMRKPROD3

Company: ROC

Project: CORRAL 16-4 STATE FED COM
Site: CORRAL 16-4 STATE FED COM Pad B

 Well:
 802H

 Wellbore:
 802H

 Design:
 802H

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well 802H

RKB(30') @ 3017.0usft RKB(30') @ 3017.0usft

Grid

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
802H_PPP1 - plan misses target of Point	0.00 center by 0.2u	0.01 sft at 15902	10,293.0 .7usft MD (1	4,437.4 0293.0 TVD, 4	280.6 4437.4 N, 280	413,803.80 4 E)	605,945.30	32° 8′ 13.922 N	103° 59' 27.811 W
802H_BHL - plan misses target of Point	0.00 center by 0.5u	0.00 sft at 26317	10,293.0 .5usft MD (1	14,852.1 0293.0 TVD,	238.2 14852.1 N, 23	424,218.50 7.7 E)	605,902.90	32° 9′ 56.990 N	103° 59' 27.919 W
802H_PPP2 - plan misses target of Point	0.00 center by 0.5u	0.00 sft at 21208	10,293.0 .5usft MD (1	9,743.1 0293.0 TVD, 9	259.1 9743.1 N, 258	419,109.50 6 E)	605,923.80	32° 9' 6.430 N	103° 59' 27.865 W
802H_FTP - plan hits target cent - Point	0.00 er	0.00	10,293.0	-542.8	300.8	408,823.60	605,965.50	32° 7′ 24.635 N	103° 59' 27.760 W
802H_LTP - plan misses target of Point	0.00 center by 0.7u	0.01 sft at 26187	10,293.0 .5usft MD (1	14,722.1 0293.0 TVD,	238.9 14722.1 N, 23	424,088.50 3.2 E)	605,903.60	32° 9′ 55.704 N	103° 59' 27.916 W

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coord +N/-S (usft)	dinates +E/-W (usft)	Comment
900.0	900.0	0.0	0.0	Start Build 2.00
1,200.0		0.0	0.0	Start Build 2.00
1,847.3		-70.8	17.1	Start 3415.9 hold at 1847.3 MD
2,223.9	,	-176.0	42.5	Start 3081.0 hold at 2223.9 MD
5,263.2		-1,209.6	291.8	Start Drop -10.00
5,304.9	,	-1,223.8	295.2	Start Drop -10.00
5,452.6		-1,256.2	303.1	Start 4291.8 hold at 5452.6 MD
5,509.7		-1,259.0	303.7	Start 4287.8 hold at 5509.7 MD
9,744.4		-1,259.0	303.7	Start Build 8.00
9,797.5		-1,259.0	303.7	Start Build 8.00
10,869.4	10,291.0	-595.8	301.0	Start 4980.0 hold at 10869.4 MD
10,922.5	10,293.0	-542.8	300.8	Start 4980.2 hold at 10922.5 MD
15,849.4	10,293.0	4,384.1	280.6	Start 5305.9 hold at 15849.4 MD
15,902.7	10,293.0	4,437.4	280.4	Start 5305.7 hold at 15902.7 MD
21,155.4	10,293.0	9,690.0	258.8	Start 4978.9 hold at 21155.4 MD
21,208.5	10,293.0	9,743.1	258.6	Start 4979.0 hold at 21208.5 MD
26,134.3	10,293.0	14,668.9	238.4	Start 130.2 hold at 26134.3 MD
26,187.5	10,293.0	14,722.1	238.2	Start 130.0 hold at 26187.5 MD
26,264.4	10,293.0	14,799.0	237.9	TD at 26264.5
26,317.5	10,293.0	14,852.1	237.7	TD at 26317.5

# PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

**OPERATOR'S NAME:** | XTO Energy Inc

WELL NAME & NO.: | Corral Canyon 16-4 State Fed Com 802H

LOCATION: Sec 16-25S-29E-NMP COUNTY: Eddy County, New Mexico

Changes approved through engineering via **Sundry 2722726** on 04/04/2023. Any previous COAs not addressed within the updated COAs still apply.

COA

H2S	O Yes	⊙ No	
Potash	None	Secretary	© R-111-P
Cave/Karst Potential	C Low	Medium	• High
Cave/Karst Potential	Critical		
Variance	O None	© Flex Hose	Other
Wellhead	Conventional	• Multibowl	O Both
Wellhead Variance	O Diverter		
Other	□ 4 String	☐ Capitan Reef	□WIPP
Other	☐ Fluid Filled	☐ Pilot Hole	☐ Open Annulus
Cementing	☐ Contingency	▼ EchoMeter	Primary Cement
	Cement Squeeze		Squeeze
Special Requirements	☐ Water Disposal	<b>▼</b> COM	□ Unit
Special Requirements	☐ Batch Sundry		
Special Requirements	☐ Break Testing	□ Offline	□ Casing
Variance		Cementing	Clearance

## 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 **9-5/8** inch surface casing shall be set at approximately 635 feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall

be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

- b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8** hours or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
- d. If cement falls back, remedial cementing will be done prior to drilling out that string.
- 2. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:

Operator has proposed to cement in two stages by conventionally cementing the first stage and performing a bradenhead squeeze on the second stage, contingent upon no returns to surface.

- a. First stage: Operator will cement with intent to reach the top of the **Brushy** Canyon
- b. Second stage: Operator will perform bradenhead squeeze and top-out. Cement to surface. If cement does not reach surface, the appropriate BLM office shall be notified. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.
- ❖ In <u>High Cave/Karst Areas</u> if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

If cement does not tie-back into the previous casing shoe, a third stage remediation BH may be performed. The appropriate BLM office shall be notified.

Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus Or operator shall run a CBL from TD of the 7-5/8" casing to surface after the second stage BH to verify TOC.

Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry between second stage BH and top out.

If cement does not reach surface, the next 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. 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)

## **Communitization Agreement**

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in Onshore Order 1 and 2.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

## 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 CountyCall 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
  - 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 cement), whichever is greater. However, if the float does not hold, cut-

- off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
- 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 cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)
- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to 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.

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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 205246

## **CONDITIONS**

Operator:	OGRID:
XTO ENERGY, INC	5380
6401 Holiday Hill Road	Action Number:
Midland, TX 79707	205246
	Action Type:
	[C-103] NOI Change of Plans (C-103A)

#### CONDITIONS

Created By		Condition Date
ward.rikala	None	2/29/2024