

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTCarlsbad Field Office
OCD ArtesiaFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**SUNDRY NOTICES AND REPORTS ON WELLS**
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.*5. Lease Serial No.
NMLC063875A

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 27. If Unit or CA/Agreement, Name and/or No.
891000303X8. Well Name and No.
POKER LAKE UNIT 27 BD 103H9. API Well No.
30-015-46291-00-X110. Field and Pool or Exploratory Area
PURPLE SAGE-WOLFCAMP (GAS)11. County or Parish, State
EDDY COUNTY, NM**12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original APD
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

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

XTO Permian Operating, LLC. requests permission to make the following changes to the original APD:

Change casing design from 4-string to 3-string. See attached drilling program.

XTO requests to not utilize centralizers in the curve and lateral.

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

RECEIVED

JAN 09 2020

EMNRD-OCD ARTESIA

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #491864 verified by the BLM Well Information System
For XTO PERMIAN OPERATING LLC, sent to the Carlsbad
Committed to AFMSS for processing by JENNIFER SANCHEZ on 11/12/2019 (20JAS0015SE)

Name (Printed/Typed) KELLY KARDOS

Title REGULATORY COORDINATOR

Signature (Electronic Submission)

Date 11/11/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By DYLAN ROSSMANGO

Title PETROLEUM ENGINEER

Date 11/26/2019

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office Carlsbad

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

(Instructions on page 2)

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

1/29/20 KS

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

XTO Energy Inc.
Poker Lake Unit 27 Brushy Draw 103H
Projected TD: 26858' MD / 11125' TVD
SHL: 2510' FNL & 1923' FWL , Section 27, T25S, R30E
BHL: 2440' FNL & 1590' FWL , Section 10, T26S, R30E
Eddy County, NM

1. Geologic Name of Surface Formation

A. Quaternary

2. Estimated Tops of Geological Markers & Depths of Anticipated Fresh Water, Oil or Gas

Formation	Well Depth (TVD)	Water/Oil/Gas
Rustler	1065'	Water
Top of Salt	1350'	Water
Base of Salt	3670'	Water
Delaware	3883'	Water
Bone Spring	7682'	Water
1st Bone Spring Ss	8622'	Water/Oil/Gas
2nd Bone Spring Ss	9425'	Water/Oil/Gas
3rd Bone Spring Ss	10595'	Water/Oil/Gas
Wolfcamp Shale	10990'	Water/Oil/Gas
Wolfcamp Y	11110'	Water/Oil/Gas
Target/Land Curve	11125'	Water/Oil/Gas

*** Hydrocarbons @ Brushy Canyon

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

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 13 3/8" inch casing @ 1250' (100' above the salt) and circulating cement back to surface. The 9-5/8" intermediate casing will be set at 9900' and bring TOC back 200' inside the previous shoe. An 8-3/4 inch curve and lateral hole will be drilled to MD/TD and 5-1/2 inch casing will be set at TD and cemented back 500' into the 9-5/8" casing shoe.

3. Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17-1/2"	0' – 1250'	13 3/8"	68	STC	J-55	New	1.27	3.45	7.94
12-1/4"	0' – 9900'	9-5/8"	40	BTC	HCL-80	New	1.59	1.41	2.39
8-3/4 - 8-1/2"	0' – 26858'	5-1/2"	20	BTC	P-110	New	1.20	1.83	1.98

- XTO requests to not utilize centralizers in the curve and lateral
- 9-5/8" Collapse analyzed using 50% evacuation based on regional experience.
- 5-1/2" Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35
- Test on Casing will be limited to 70% burst of the casing or 1500 psi, whichever is less

Wellhead:

Permanent Wellhead – GE RSH 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 3/8", 68 New J-55, STC casing to be set at +/- 1250'

Lead: 700 sxs EconoCem-HLTRRC (mixed at 12.9 ppg, 1.87 ft³/sx, 10.13 gal/sx water)

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

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

TOC @ Surface

Intermediate Casing: 9-5/8", 40 New HCL-80, BTC casing to be set at +/- 9900'

ECP/DV Tool to be set at 6000'

1st Stage

Lead: 970 sxs EconoCem-HLTRRC (mixed at 12.9 ppg, 1.87 ft³/sx, 10.13 gal/sx water)

Tail: 460 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft³/sx, 6.39 gal/sx water)

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

2nd Stage

Lead: 1330 sxs EconoCem-HLTRRC (mixed at 12.9 ppg, 1.88 ft³/sx, 10.13 gal/sx water)

Tail: 470 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.33 ft³/sx, 6.39 gal/sx water)

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

TOC @ 1000'

Production Casing: 5-1/2", 20 New P-110, BTC casing to be set at +/- 26858'

Tail: 3260 sxs VersaCem (mixed at 13.2 ppg, 1.61 ft³/sx, 8.38 gal/sx water)

Compressives: 12-hr = 1375 psi 24 hr = 2285 psi

5. Pressure Control Equipment

Once the permanent WH is installed on the 13-3/8 casing, the blow out preventer equipment (BOP) will consist of a 13-5/8" minimum 5M Hydril and a 13-5/8" minimum 5M 3-Ram BOP. MASP should not exceed 3627 psi. In any instance where 10M BOP is required by BLM, XTO requests a variance to utilize 5M annular with 10M ram preventers (a common BOP configuration, which allows use of 10M rams in unlikely event that pressures exceed 5M). Also a variance is requested to test the 5M annular to 70% of working pressure at 3500 psi.

All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 70% of the working pressure. When nipping up on the 13 3/8", 5M bradenhead and flange, the BOP test will be limited to 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 each casing string and ensure that the well is cemented properly and the well is static. With floats holding, no pressure on the csg annulus, and the installation of a 10K TA cap as per GE recommendations, XTO will contact the BLM to skid the rig to drill the remaining wells on the pad. Once surface and intermediate strings are all completed, XTO will begin drilling the production hole on each of the wells.

6. Proposed Mud Circulation System

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' - 1250'	17-1/2"	FW / Native	8.4-8.8	35-40	NC
1250' - 9900'	12-1/4"	Brine / Cut Brine / WBM	8.8-9.8	30-32	NC
9900' to 26858'	8-3/4"	Cut Brine / WBM / OBM	10.0-10.5	32-36	NC

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

Spud with fresh water/native mud and set 13 3/8" surface casing, isolating the fresh water aquifer. Drill out from under 13-3/8" surface casing with a brine/oil direct emulsion water-based mud. 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 3/8" 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

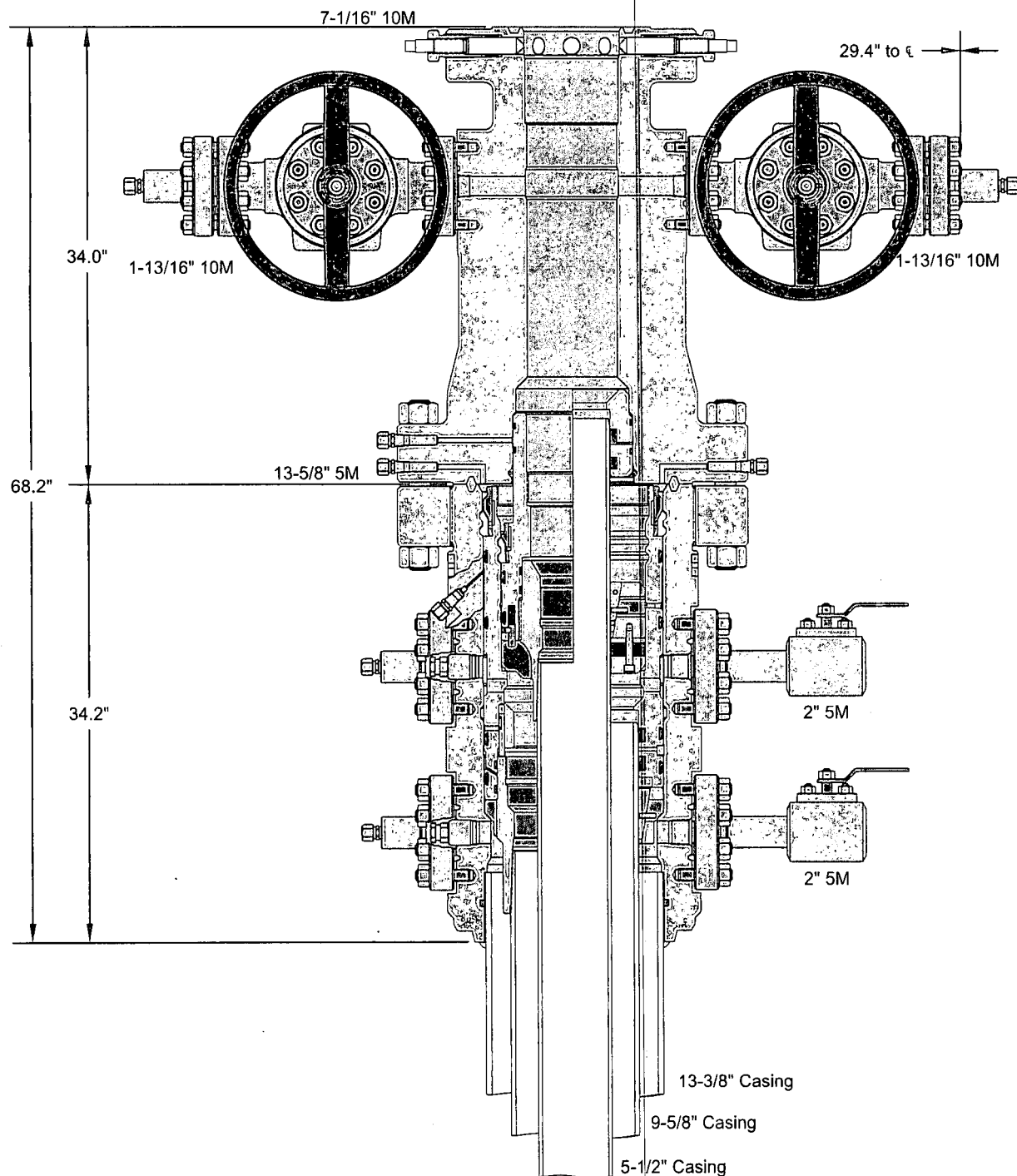
None Anticipated. BHT of 150 to 170 F is anticipated. No H2S is expected but monitors will be in place to detect any H2S occurrences. Should these circumstances be encountered the operator and drilling contractor are prepared to take all necessary steps to ensure safety of all personnel and environment. 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 6074 psi.

10. Anticipated Starting Date and Duration of Operations

Road and location construction will begin after Santa Fe and BLM have approved the APD. Anticipated spud date will be as soon after Santa Fe and BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 45 days. If production casing is run, an additional 30 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.



GE Oil & Gas



ALL DIMENSIONS ARE APPROXIMATE

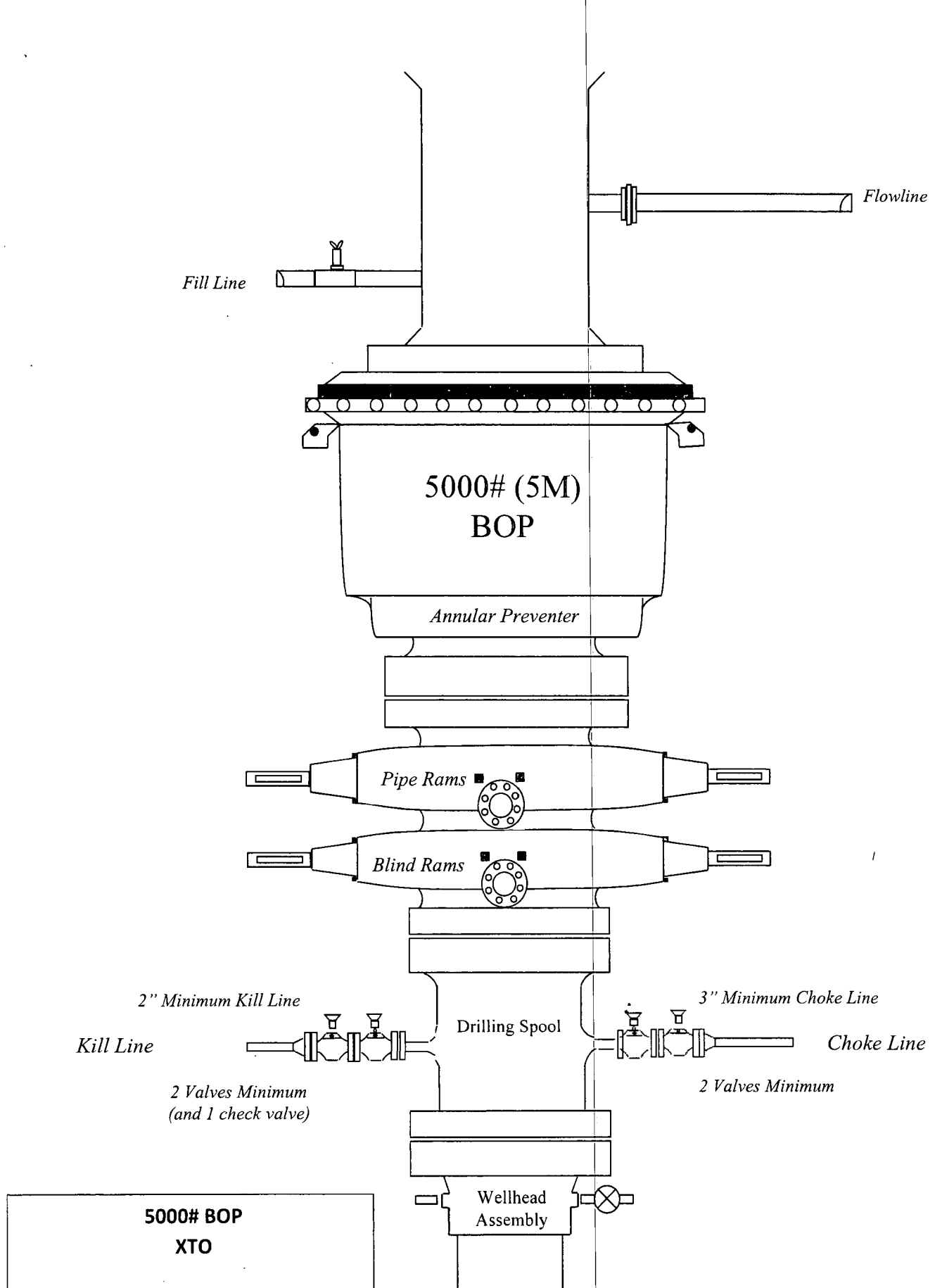
This drawing is the property of GE Oil & Gas Pressure Control LP and is considered confidential. Unless otherwise approved in writing, neither it nor its contents may be used, copied, transmitted or reproduced except for the sole purpose of GE Oil & Gas Pressure Control LP.

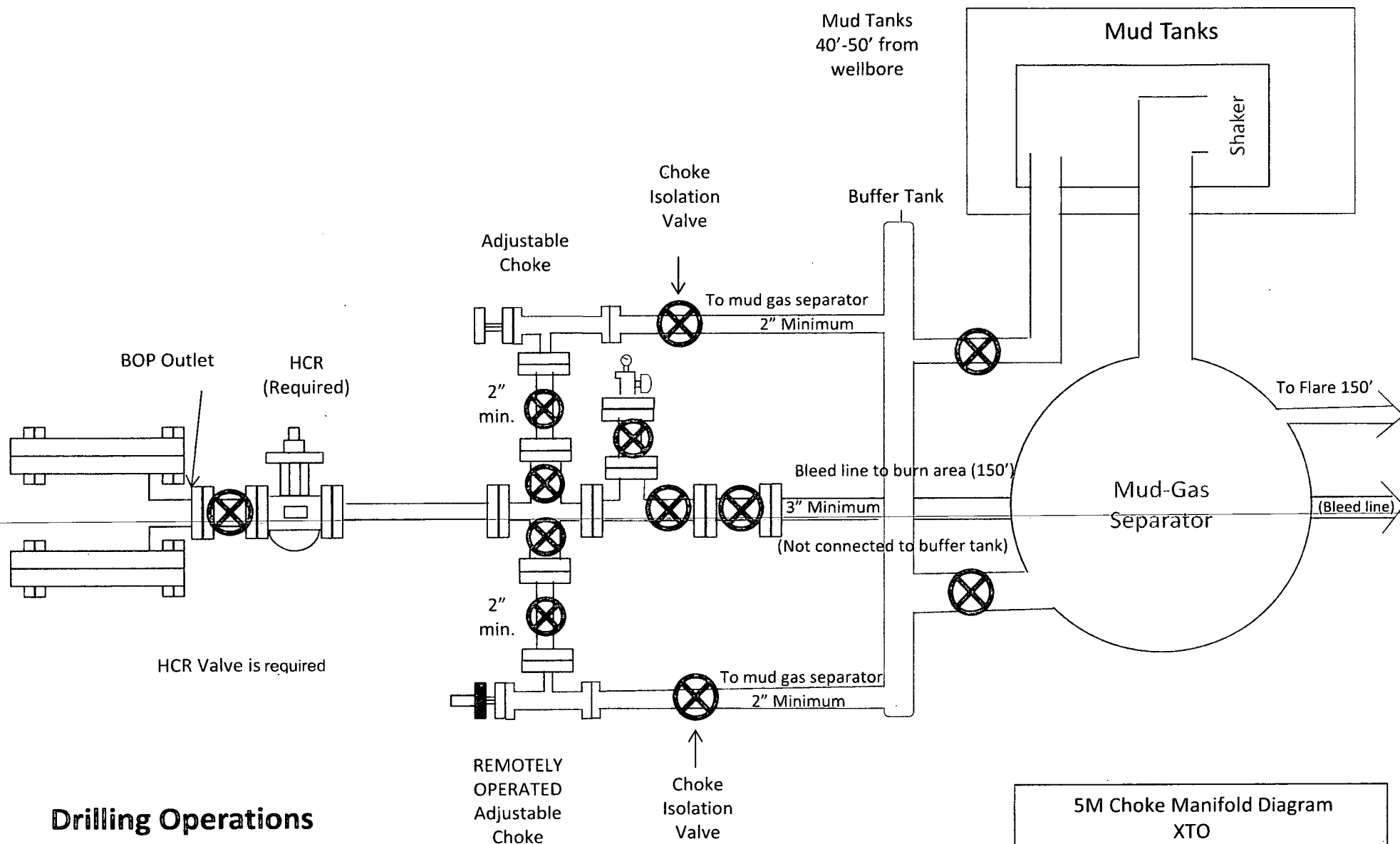
XTO ENERGY, INC.

13-3/8" x 9-5/8" x 5-1/2" 10M RSH-2 Wellhead
Assembly, With T-EBS-F Tubing Head

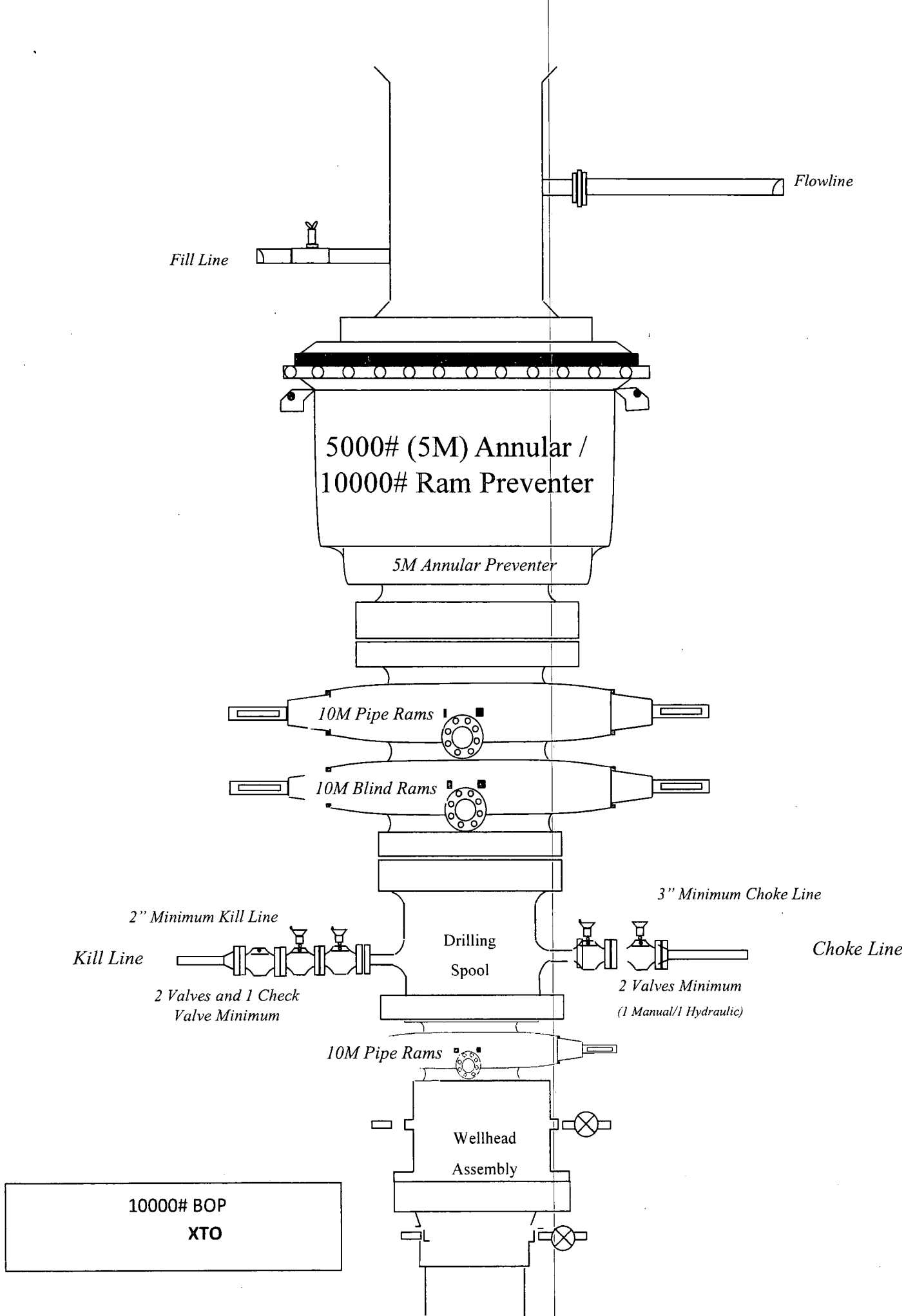
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APPRV	KN	16FEB17

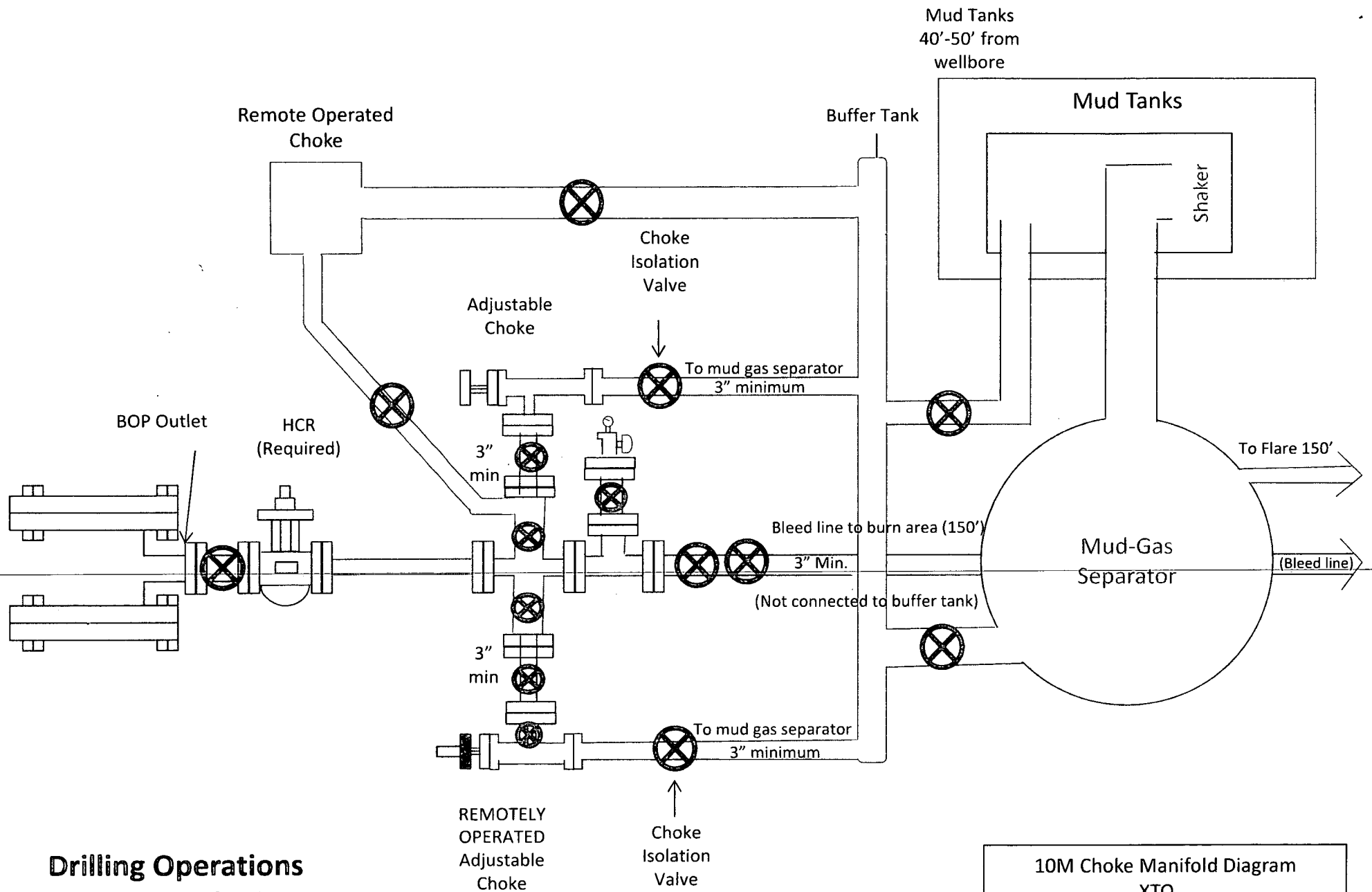
FOR REFERENCE ONLY
DRAWING NO. 10012842





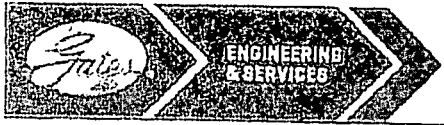
Drilling Operations **Choke Manifold** **5M Service**





**Drilling Operations
Choke Manifold
10M Service**

10M Choke Manifold Diagram
XTO



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

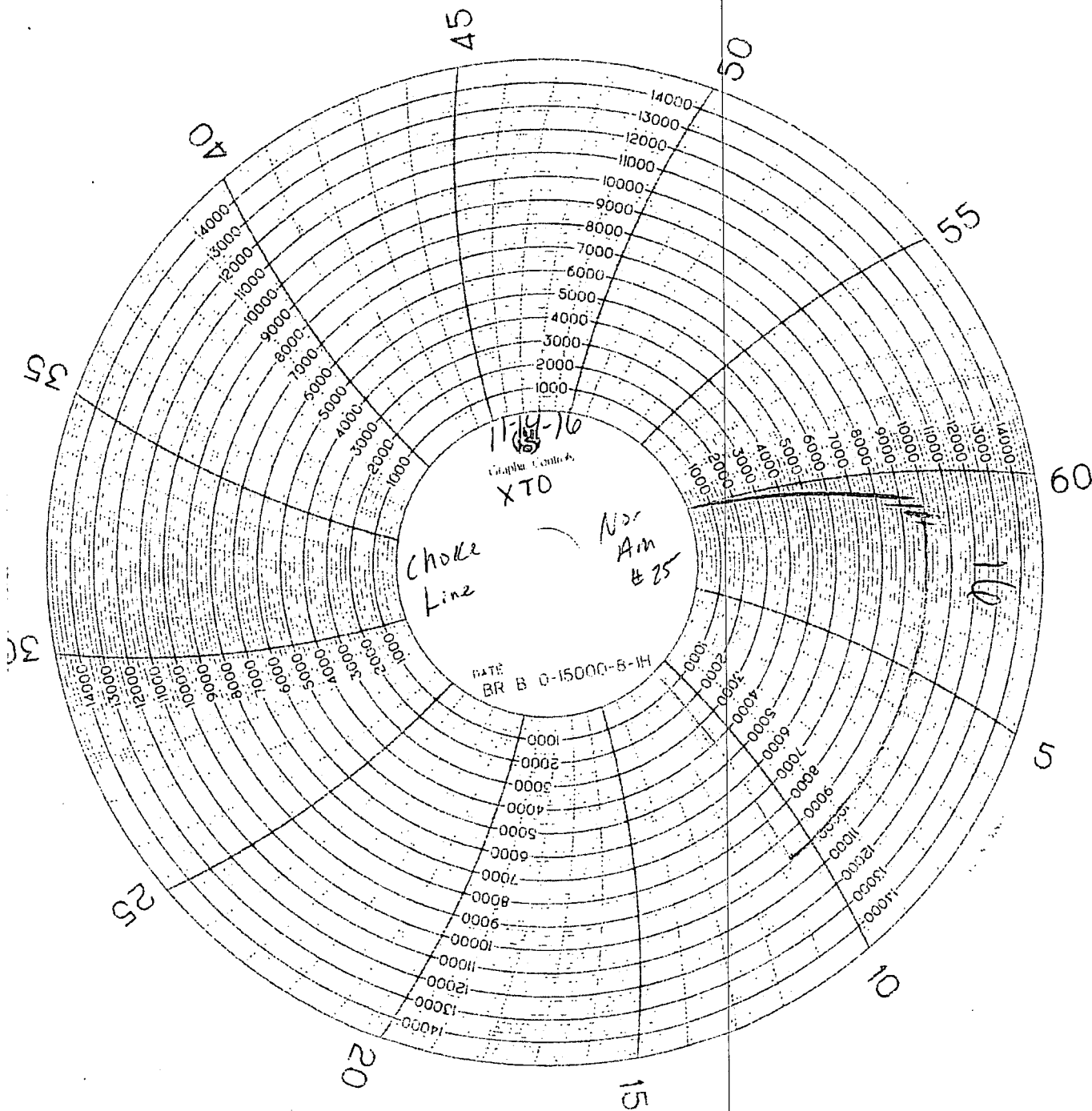
PHONE: 361-887-9807
FAX: 361-887-0812
EMAIL: crpe&s@gates.com
WEB: www.gates.com

GRADE D PRESSURE TEST CERTIFICATE

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

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

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



NOON

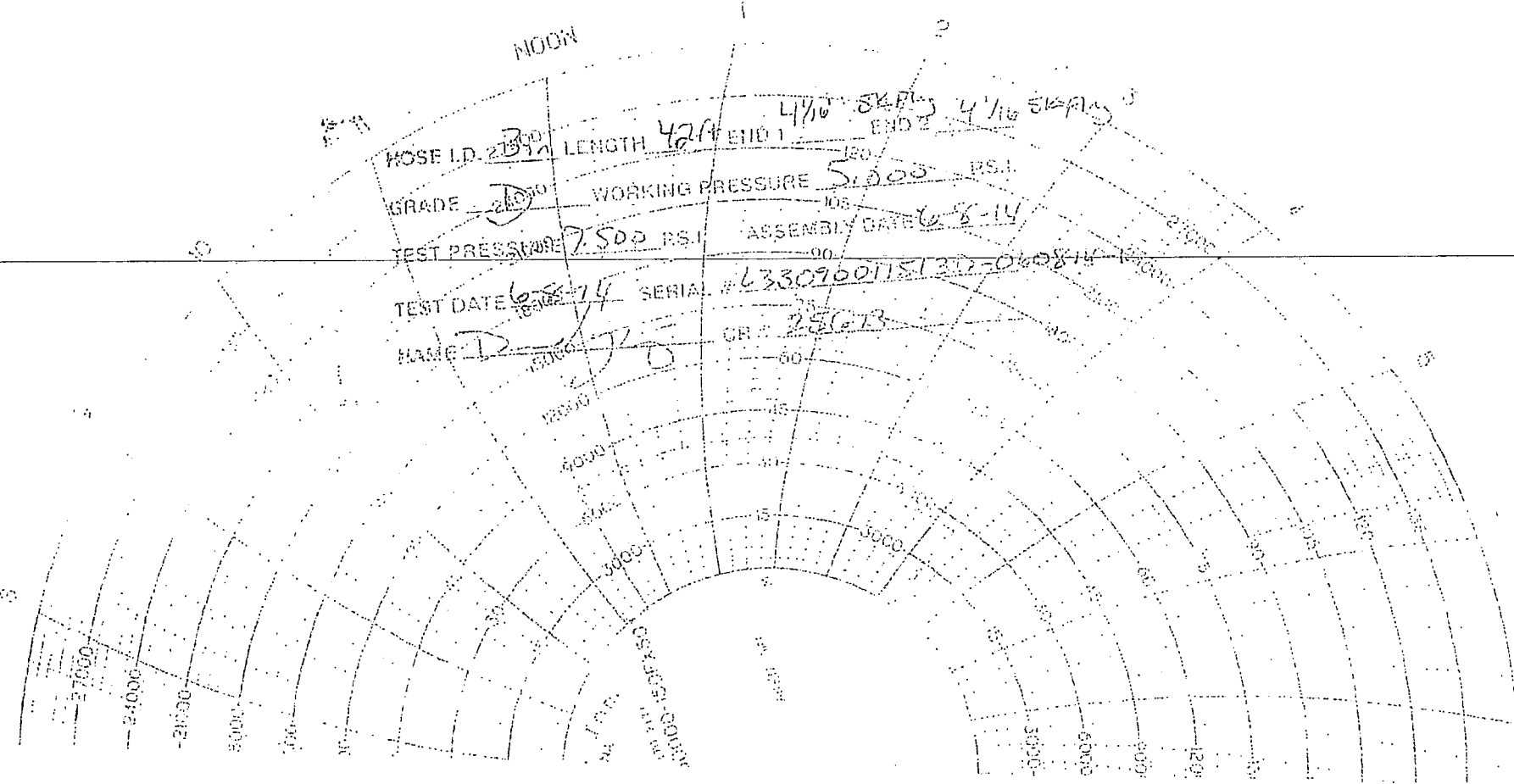
HOSE I.D. $2\frac{1}{2}$ " LENGTH 42' END 1 $4\frac{1}{16}$ " SKIN END 2 $4\frac{1}{16}$ " SKIN

GRADE -2600 WORKING PRESSURE 5,000 P.S.I.

TEST PRESSURE 7,500 P.S.I. ASSEMBLY DATE 6-8-14

TEST DATE 6-8-14 SERIAL # 6330960115130-060814

NAME D-275 CR 25613





XTO Permian Operating, LLC

Eddy Co., NM

Poker Lake Unit 27 BD

103H

Wellbore #1

Plan: Design #1

Standard Planning Report

08 November, 2019



NABORS



Nabors Drilling Solutions Planning Report



Database:	RyanUSA_32Bit	Local Co-ordinate Reference:	Well 103H
Company:	XTO Permian Operating, LLC	TVD Reference:	RT=23 (Nabors M7505) @ 3300.00ft (Nabors M7505)
Project:	Eddy Co., NM	MD Reference:	RT=23 (Nabors M7505) @ 3300.00ft (Nabors M7505)
Site:	Poker Lake Unit 27 BD	North Reference:	Grid
Well:	103H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project:	Eddy Co., NM		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site:	Poker Lake Unit 27 BD		
Site Position:		Northing:	400,930.000 usft
From:	Map	Easting:	643,201.200 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "
		Latitude:	32° 6' 5.142208 N
		Longitude:	103° 52' 15.162455 W
		Grid Convergence:	0.25 °

Well:	103H		
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	2.00 ft		Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore:	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
	HDGM_FILE	11/8/2019	6.73
			Dip Angle
			Field Strength

Design:	Design #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
Vertical Section:	Depth From (TVD)	N/S	E/W
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			Direction
			(°)
			179.89

Plan Survey Tool Program	Date	11/8/2019		
Depth From	Depth To	Survey (Wellbore)	Tool Name	Remarks
(ft)	(ft)			
1	0.00	26,858.22	Design #1 (Wellbore #1)	MWD+HRGM
				OWSG MWD + HRGM



Nabors Drilling Solutions
Planning Report



Database: RyanUSA_32Bit
Company: XTO Permian Operating, LLC
Project: Eddy Co., NM
Site: Poker Lake Unit 27 BD
Well: 103H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well 103H
TVD Reference: RT=23 (Nabors M7505) @ 3300.00ft (Nabors M7505)
MD Reference: RT=23 (Nabors M7505) @ 3300.00ft (Nabors M7505)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	N/S (ft)	E/W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,779.00	4.18	280.15	2,778.75	1.80	-10.03	1.50	1.50	0.00	280.15	
7,093.62	4.18	280.15	7,081.87	57.31	-319.96	0.00	0.00	0.00	0.00	
7,512.12	0.00	280.21	7,500.00	60.00	-335.00	1.00	-1.00	0.00	180.00	
10,565.12	0.00	280.21	10,553.00	60.00	-335.00	0.00	0.00	0.00	0.00	
11,465.16	90.00	179.89	11,125.96	-512.99	-333.85	10.00	10.00	-11.15	179.89	
26,858.43	90.00	179.89	11,125.00	-15,906.23	-303.00	0.00	0.00	0.00	0.00	PLU 27 BD 103H - B+



Nabors Drilling Solutions
Planning Report



Database Company	RyanUSA_32Bit XTO Permian Operating, LLC	Local Co-ordinate Reference	Well 103H
Project	Eddy Co., NM	TVD Reference	RT=23 (Nabors M7505) @ 3300.00ft (Nabors M7505)
Site	Poker Lake Unit 27 BD	MD Reference	RT=23 (Nabors M7505) @ 3300.00ft (Nabors M7505)
Well	103H	North Reference	Grid
Wellbore	Wellbore #1	Survey Calculation Method	Minimum Curvature
Design	Design #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	1.50	280.15	2,599.99	0.23	-1.29	-0.23	1.50	1.50	0.00
2,700.00	3.00	280.15	2,699.91	0.92	-5.15	-0.93	1.50	1.50	0.00
2,779.00	4.18	280.15	2,778.75	1.80	-10.03	-1.81	1.50	1.50	0.00
2,800.00	4.18	280.15	2,799.70	2.07	-11.53	-2.09	0.00	0.00	0.00
2,900.00	4.18	280.15	2,899.43	3.35	-18.72	-3.39	0.00	0.00	0.00
3,000.00	4.18	280.15	2,999.16	4.64	-25.90	-4.69	0.00	0.00	0.00
3,100.00	4.18	280.15	3,098.90	5.93	-33.08	-5.99	0.00	0.00	0.00
3,200.00	4.18	280.15	3,198.63	7.21	-40.27	-7.29	0.00	0.00	0.00
3,300.00	4.18	280.15	3,298.36	8.50	-47.45	-8.59	0.00	0.00	0.00
3,400.00	4.18	280.15	3,398.10	9.79	-54.63	-9.89	0.00	0.00	0.00
3,500.00	4.18	280.15	3,497.83	11.07	-61.82	-11.19	0.00	0.00	0.00
3,600.00	4.18	280.15	3,597.56	12.36	-69.00	-12.49	0.00	0.00	0.00
3,700.00	4.18	280.15	3,697.30	13.64	-76.18	-13.79	0.00	0.00	0.00
3,800.00	4.18	280.15	3,797.03	14.93	-83.37	-15.09	0.00	0.00	0.00
3,900.00	4.18	280.15	3,896.76	16.22	-90.55	-16.39	0.00	0.00	0.00
4,000.00	4.18	280.15	3,996.50	17.50	-97.73	-17.69	0.00	0.00	0.00
4,100.00	4.18	280.15	4,096.23	18.79	-104.92	-18.99	0.00	0.00	0.00
4,200.00	4.18	280.15	4,195.96	20.08	-112.10	-20.29	0.00	0.00	0.00
4,300.00	4.18	280.15	4,295.70	21.36	-119.28	-21.59	0.00	0.00	0.00
4,400.00	4.18	280.15	4,395.43	22.65	-126.47	-22.89	0.00	0.00	0.00
4,500.00	4.18	280.15	4,495.16	23.94	-133.65	-24.19	0.00	0.00	0.00
4,600.00	4.18	280.15	4,594.90	25.22	-140.84	-25.49	0.00	0.00	0.00
4,700.00	4.18	280.15	4,694.63	26.51	-148.02	-26.79	0.00	0.00	0.00
4,800.00	4.18	280.15	4,794.36	27.80	-155.20	-28.10	0.00	0.00	0.00
4,900.00	4.18	280.15	4,894.10	29.08	-162.39	-29.40	0.00	0.00	0.00
5,000.00	4.18	280.15	4,993.83	30.37	-169.57	-30.70	0.00	0.00	0.00



Nabors Drilling Solutions
Planning Report



Database:	RyanUSA_32Bit	Local Co-ordinate Reference	Well 103H
Company:	XTO Permian Operating, LLC	RTD Reference:	RT=23 (Nabors M7505) @ 3300.00ft (Nabors M7505)
Project:	Eddy Co., NM	MD Reference:	RT=23 (Nabors M7505) @ 3300.00ft (Nabors M7505)
Site:	Poker Lake Unit 27 BD	North Reference:	Grid
Well:	103H	Survey Calculation Method	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,100.00	4.18	280.15	5,093.56	31.66	-176.75	-32.00	0.00	0.00	0.00
5,200.00	4.18	280.15	5,193.30	32.94	-183.94	-33.30	0.00	0.00	0.00
5,300.00	4.18	280.15	5,293.03	34.23	-191.12	-34.60	0.00	0.00	0.00
5,400.00	4.18	280.15	5,392.76	35.52	-198.30	-35.90	0.00	0.00	0.00
5,500.00	4.18	280.15	5,492.50	36.80	-205.49	-37.20	0.00	0.00	0.00
5,600.00	4.18	280.15	5,592.23	38.09	-212.67	-38.50	0.00	0.00	0.00
5,700.00	4.18	280.15	5,691.96	39.38	-219.85	-39.80	0.00	0.00	0.00
5,800.00	4.18	280.15	5,791.70	40.66	-227.04	-41.10	0.00	0.00	0.00
5,900.00	4.18	280.15	5,891.43	41.95	-234.22	-42.40	0.00	0.00	0.00
6,000.00	4.18	280.15	5,991.16	43.24	-241.40	-43.70	0.00	0.00	0.00
6,100.00	4.18	280.15	6,090.90	44.52	-248.59	-45.00	0.00	0.00	0.00
6,200.00	4.18	280.15	6,190.63	45.81	-255.77	-46.30	0.00	0.00	0.00
6,300.00	4.18	280.15	6,290.36	47.10	-262.95	-47.60	0.00	0.00	0.00
6,400.00	4.18	280.15	6,390.10	48.38	-270.14	-48.90	0.00	0.00	0.00
6,500.00	4.18	280.15	6,489.83	49.67	-277.32	-50.20	0.00	0.00	0.00
6,600.00	4.18	280.15	6,589.56	50.96	-284.50	-51.50	0.00	0.00	0.00
6,700.00	4.18	280.15	6,689.30	52.24	-291.69	-52.80	0.00	0.00	0.00
6,800.00	4.18	280.15	6,789.03	53.53	-298.87	-54.10	0.00	0.00	0.00
6,900.00	4.18	280.15	6,888.76	54.82	-306.05	-55.40	0.00	0.00	0.00
7,000.00	4.18	280.15	6,988.50	56.10	-313.24	-56.70	0.00	0.00	0.00
7,093.62	4.18	280.15	7,081.87	57.31	-319.96	-57.92	0.00	0.00	0.00
7,100.00	4.12	280.15	7,088.23	57.39	-320.42	-58.00	1.00	-1.00	0.00
7,200.00	3.12	280.15	7,188.03	58.50	-326.63	-59.13	1.00	-1.00	0.00
7,300.00	2.12	280.15	7,287.92	59.31	-331.14	-59.94	1.00	-1.00	0.00
7,400.00	1.12	280.15	7,387.88	59.81	-333.92	-60.45	1.00	-1.00	0.00
7,500.00	0.12	280.15	7,487.88	60.00	-334.99	-60.64	1.00	-1.00	0.00
7,512.12	0.00	280.21	7,500.00	60.00	-335.00	-60.64	1.00	-1.00	0.00
7,600.00	0.00	0.00	7,587.88	60.00	-335.00	-60.64	0.00	0.00	0.00
7,700.00	0.00	0.00	7,687.88	60.00	-335.00	-60.64	0.00	0.00	0.00
7,800.00	0.00	0.00	7,787.88	60.00	-335.00	-60.64	0.00	0.00	0.00
7,900.00	0.00	0.00	7,887.88	60.00	-335.00	-60.64	0.00	0.00	0.00
8,000.00	0.00	0.00	7,987.88	60.00	-335.00	-60.64	0.00	0.00	0.00
8,100.00	0.00	0.00	8,087.88	60.00	-335.00	-60.64	0.00	0.00	0.00
8,200.00	0.00	0.00	8,187.88	60.00	-335.00	-60.64	0.00	0.00	0.00
8,300.00	0.00	0.00	8,287.88	60.00	-335.00	-60.64	0.00	0.00	0.00
8,400.00	0.00	0.00	8,387.88	60.00	-335.00	-60.64	0.00	0.00	0.00
8,500.00	0.00	0.00	8,487.88	60.00	-335.00	-60.64	0.00	0.00	0.00
8,600.00	0.00	0.00	8,587.88	60.00	-335.00	-60.64	0.00	0.00	0.00
8,700.00	0.00	0.00	8,687.88	60.00	-335.00	-60.64	0.00	0.00	0.00
8,800.00	0.00	0.00	8,787.88	60.00	-335.00	-60.64	0.00	0.00	0.00
8,900.00	0.00	0.00	8,887.88	60.00	-335.00	-60.64	0.00	0.00	0.00
9,000.00	0.00	0.00	8,987.88	60.00	-335.00	-60.64	0.00	0.00	0.00
9,100.00	0.00	0.00	9,087.88	60.00	-335.00	-60.64	0.00	0.00	0.00
9,200.00	0.00	0.00	9,187.88	60.00	-335.00	-60.64	0.00	0.00	0.00
9,300.00	0.00	0.00	9,287.88	60.00	-335.00	-60.64	0.00	0.00	0.00
9,400.00	0.00	0.00	9,387.88	60.00	-335.00	-60.64	0.00	0.00	0.00
9,500.00	0.00	0.00	9,487.88	60.00	-335.00	-60.64	0.00	0.00	0.00
9,600.00	0.00	0.00	9,587.88	60.00	-335.00	-60.64	0.00	0.00	0.00
9,700.00	0.00	0.00	9,687.88	60.00	-335.00	-60.64	0.00	0.00	0.00
9,800.00	0.00	0.00	9,787.88	60.00	-335.00	-60.64	0.00	0.00	0.00
9,900.00	0.00	0.00	9,887.88	60.00	-335.00	-60.64	0.00	0.00	0.00
10,000.00	0.00	0.00	9,987.88	60.00	-335.00	-60.64	0.00	0.00	0.00



Nabors Drilling Solutions
Planning Report



Database:	RyanUSA_32Bit	Local Co-ordinate Reference:	Well 103H
Company:	XTO Permian Operating, LLC	TVD Reference:	RT=23 (Nabors M7505) @ 3300.00ft (Nabors M7505)
Project:	Eddy Co., NM	MD Reference:	RT=23 (Nabors M7505) @ 3300.00ft (Nabors M7505)
Site:	Poker Lake Unit 27 BD	North Reference:	Grid
Well:	103H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	N/S (ft)	E/W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,100.00	0.00	0.00	10,087.88	60.00	-335.00	-60.64	0.00	0.00	0.00
10,200.00	0.00	0.00	10,187.88	60.00	-335.00	-60.64	0.00	0.00	0.00
10,300.00	0.00	0.00	10,287.88	60.00	-335.00	-60.64	0.00	0.00	0.00
10,400.00	0.00	0.00	10,387.88	60.00	-335.00	-60.64	0.00	0.00	0.00
10,500.00	0.00	0.00	10,487.88	60.00	-335.00	-60.64	0.00	0.00	0.00
10,565.12	0.00	280.21	10,553.00	60.00	-335.00	-60.64	0.00	0.00	0.00
10,600.00	3.49	179.89	10,587.85	58.94	-335.00	-59.58	10.00	10.00	0.00
10,650.00	8.49	179.89	10,637.57	53.72	-334.99	-54.37	10.00	10.00	0.00
10,700.00	13.49	179.89	10,686.63	44.20	-334.97	-44.84	10.00	10.00	0.00
10,750.00	18.49	179.89	10,734.68	30.43	-334.94	-31.07	10.00	10.00	0.00
10,800.00	23.49	179.89	10,781.35	12.53	-334.90	-13.17	10.00	10.00	0.00
10,850.00	28.49	179.89	10,826.28	-9.37	-334.86	8.73	10.00	10.00	0.00
10,900.00	33.49	179.89	10,869.13	-35.11	-334.81	34.46	10.00	10.00	0.00
10,950.00	38.49	179.89	10,909.58	-64.48	-334.75	63.84	10.00	10.00	0.00
11,000.00	43.49	179.89	10,947.31	-97.26	-334.68	96.62	10.00	10.00	0.00
11,050.00	48.49	179.89	10,982.04	-133.21	-334.61	132.57	10.00	10.00	0.00
11,100.00	53.49	179.89	11,013.50	-172.05	-334.53	171.41	10.00	10.00	0.00
11,150.00	58.49	179.89	11,041.46	-213.48	-334.45	212.84	10.00	10.00	0.00
11,200.00	63.49	179.89	11,065.70	-257.19	-334.36	256.55	10.00	10.00	0.00
11,250.00	68.49	179.89	11,086.04	-302.85	-334.27	302.21	10.00	10.00	0.00
11,300.00	73.49	179.89	11,102.33	-350.11	-334.18	349.47	10.00	10.00	0.00
11,350.00	78.49	179.89	11,114.43	-398.61	-334.08	397.96	10.00	10.00	0.00
11,400.00	83.49	179.89	11,122.26	-447.97	-333.98	447.33	10.00	10.00	0.00
11,450.00	88.49	179.89	11,125.76	-497.83	-333.88	497.19	10.00	10.00	0.00
11,462.36	89.72	179.89	11,125.95	-510.19	-333.86	509.55	10.00	10.00	0.00
PLU 27 BD 103H - FTP									
11,465.16	90.00	179.89	11,125.96	-512.99	-333.85	512.35	10.00	10.00	0.00
11,500.00	90.00	179.89	11,125.96	-547.83	-333.78	547.19	0.00	0.00	0.00
11,600.00	90.00	179.89	11,125.95	-647.83	-333.58	647.19	0.00	0.00	0.00
11,700.00	90.00	179.89	11,125.94	-747.83	-333.38	747.19	0.00	0.00	0.00
11,800.00	90.00	179.89	11,125.94	-847.83	-333.18	847.19	0.00	0.00	0.00
11,900.00	90.00	179.89	11,125.93	-947.83	-332.98	947.19	0.00	0.00	0.00
12,000.00	90.00	179.89	11,125.92	-1,047.83	-332.78	1,047.19	0.00	0.00	0.00
12,100.00	90.00	179.89	11,125.92	-1,147.83	-332.58	1,147.19	0.00	0.00	0.00
12,200.00	90.00	179.89	11,125.91	-1,247.83	-332.38	1,247.19	0.00	0.00	0.00
12,300.00	90.00	179.89	11,125.91	-1,347.83	-332.18	1,347.19	0.00	0.00	0.00
12,400.00	90.00	179.89	11,125.90	-1,447.83	-331.98	1,447.19	0.00	0.00	0.00
12,500.00	90.00	179.89	11,125.89	-1,547.83	-331.78	1,547.19	0.00	0.00	0.00
12,600.00	90.00	179.89	11,125.89	-1,647.83	-331.58	1,647.19	0.00	0.00	0.00
12,700.00	90.00	179.89	11,125.88	-1,747.83	-331.38	1,747.19	0.00	0.00	0.00
12,800.00	90.00	179.89	11,125.87	-1,847.83	-331.18	1,847.19	0.00	0.00	0.00
12,900.00	90.00	179.89	11,125.87	-1,947.83	-330.98	1,947.19	0.00	0.00	0.00
13,000.00	90.00	179.89	11,125.86	-2,047.83	-330.78	2,047.19	0.00	0.00	0.00
13,100.00	90.00	179.89	11,125.86	-2,147.83	-330.58	2,147.19	0.00	0.00	0.00
13,200.00	90.00	179.89	11,125.85	-2,247.83	-330.37	2,247.19	0.00	0.00	0.00
13,300.00	90.00	179.89	11,125.84	-2,347.83	-330.17	2,347.19	0.00	0.00	0.00
13,400.00	90.00	179.89	11,125.84	-2,447.83	-329.97	2,447.19	0.00	0.00	0.00
13,500.00	90.00	179.89	11,125.83	-2,547.83	-329.77	2,547.19	0.00	0.00	0.00
13,600.00	90.00	179.89	11,125.83	-2,647.83	-329.57	2,647.19	0.00	0.00	0.00
13,700.00	90.00	179.89	11,125.82	-2,747.83	-329.37	2,747.19	0.00	0.00	0.00
13,800.00	90.00	179.89	11,125.81	-2,847.83	-329.17	2,847.19	0.00	0.00	0.00
13,900.00	90.00	179.89	11,125.81	-2,947.83	-328.97	2,947.19	0.00	0.00	0.00



Nabors Drilling Solutions

Planning Report



Database: RyanUSA_32Bit
Company: XTO Permian Operating, LLC
Project: Eddy Co., NM
Site: Poker Lake Unit 27 BD
Well: 103H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well 103H
TVD Reference: RT=23 (Nabors M7505) @ 3300.00ft (Nabors M7505)
MD Reference: RT=23 (Nabors M7505) @ 3300.00ft (Nabors M7505)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	N/S (ft)	E/W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
14,000.00	90.00	179.89	11,125.80	-3,047.83	-328.77	3,047.19	0.00	0.00	0.00
14,100.00	90.00	179.89	11,125.79	-3,147.83	-328.57	3,147.19	0.00	0.00	0.00
14,200.00	90.00	179.89	11,125.79	-3,247.83	-328.37	3,247.19	0.00	0.00	0.00
14,300.00	90.00	179.89	11,125.78	-3,347.83	-328.17	3,347.19	0.00	0.00	0.00
14,400.00	90.00	179.89	11,125.78	-3,447.83	-327.97	3,447.19	0.00	0.00	0.00
14,500.00	90.00	179.89	11,125.77	-3,547.83	-327.77	3,547.19	0.00	0.00	0.00
14,600.00	90.00	179.89	11,125.76	-3,647.83	-327.57	3,647.19	0.00	0.00	0.00
14,700.00	90.00	179.89	11,125.76	-3,747.83	-327.37	3,747.19	0.00	0.00	0.00
14,800.00	90.00	179.89	11,125.75	-3,847.83	-327.17	3,847.19	0.00	0.00	0.00
14,900.00	90.00	179.89	11,125.74	-3,947.83	-326.97	3,947.19	0.00	0.00	0.00
15,000.00	90.00	179.89	11,125.74	-4,047.83	-326.77	4,047.19	0.00	0.00	0.00
15,100.00	90.00	179.89	11,125.73	-4,147.82	-326.57	4,147.19	0.00	0.00	0.00
15,200.00	90.00	179.89	11,125.73	-4,247.82	-326.37	4,247.19	0.00	0.00	0.00
15,300.00	90.00	179.89	11,125.72	-4,347.82	-326.17	4,347.19	0.00	0.00	0.00
15,400.00	90.00	179.89	11,125.71	-4,447.82	-325.97	4,447.19	0.00	0.00	0.00
15,500.00	90.00	179.89	11,125.71	-4,547.82	-325.77	4,547.19	0.00	0.00	0.00
15,600.00	90.00	179.89	11,125.70	-4,647.82	-325.56	4,647.19	0.00	0.00	0.00
15,700.00	90.00	179.89	11,125.69	-4,747.82	-325.36	4,747.19	0.00	0.00	0.00
15,800.00	90.00	179.89	11,125.69	-4,847.82	-325.16	4,847.19	0.00	0.00	0.00
15,900.00	90.00	179.89	11,125.68	-4,947.82	-324.96	4,947.19	0.00	0.00	0.00
16,000.00	90.00	179.89	11,125.68	-5,047.82	-324.76	5,047.19	0.00	0.00	0.00
16,100.00	90.00	179.89	11,125.67	-5,147.82	-324.56	5,147.19	0.00	0.00	0.00
16,200.00	90.00	179.89	11,125.66	-5,247.82	-324.36	5,247.19	0.00	0.00	0.00
16,300.00	90.00	179.89	11,125.66	-5,347.82	-324.16	5,347.19	0.00	0.00	0.00
16,400.00	90.00	179.89	11,125.65	-5,447.82	-323.96	5,447.19	0.00	0.00	0.00
16,500.00	90.00	179.89	11,125.64	-5,547.82	-323.76	5,547.19	0.00	0.00	0.00
16,600.00	90.00	179.89	11,125.64	-5,647.82	-323.56	5,647.19	0.00	0.00	0.00
16,700.00	90.00	179.89	11,125.63	-5,747.82	-323.36	5,747.19	0.00	0.00	0.00
16,800.00	90.00	179.89	11,125.63	-5,847.82	-323.16	5,847.19	0.00	0.00	0.00
16,900.00	90.00	179.89	11,125.62	-5,947.82	-322.96	5,947.19	0.00	0.00	0.00
17,000.00	90.00	179.89	11,125.61	-6,047.82	-322.76	6,047.19	0.00	0.00	0.00
17,100.00	90.00	179.89	11,125.61	-6,147.82	-322.56	6,147.19	0.00	0.00	0.00
17,200.00	90.00	179.89	11,125.60	-6,247.82	-322.36	6,247.19	0.00	0.00	0.00
17,300.00	90.00	179.89	11,125.59	-6,347.82	-322.16	6,347.19	0.00	0.00	0.00
17,400.00	90.00	179.89	11,125.59	-6,447.82	-321.96	6,447.19	0.00	0.00	0.00
17,500.00	90.00	179.89	11,125.58	-6,547.82	-321.76	6,547.19	0.00	0.00	0.00
17,600.00	90.00	179.89	11,125.58	-6,647.82	-321.56	6,647.19	0.00	0.00	0.00
17,700.00	90.00	179.89	11,125.57	-6,747.82	-321.36	6,747.19	0.00	0.00	0.00
17,800.00	90.00	179.89	11,125.56	-6,847.82	-321.16	6,847.19	0.00	0.00	0.00
17,900.00	90.00	179.89	11,125.56	-6,947.82	-320.95	6,947.19	0.00	0.00	0.00
18,000.00	90.00	179.89	11,125.55	-7,047.82	-320.75	7,047.19	0.00	0.00	0.00
18,100.00	90.00	179.89	11,125.55	-7,147.82	-320.55	7,147.19	0.00	0.00	0.00
18,200.00	90.00	179.89	11,125.54	-7,247.82	-320.35	7,247.19	0.00	0.00	0.00
18,300.00	90.00	179.89	11,125.53	-7,347.82	-320.15	7,347.19	0.00	0.00	0.00
18,400.00	90.00	179.89	11,125.53	-7,447.82	-319.95	7,447.19	0.00	0.00	0.00
18,500.00	90.00	179.89	11,125.52	-7,547.82	-319.75	7,547.19	0.00	0.00	0.00
18,600.00	90.00	179.89	11,125.51	-7,647.82	-319.55	7,647.19	0.00	0.00	0.00
18,700.00	90.00	179.89	11,125.51	-7,747.82	-319.35	7,747.19	0.00	0.00	0.00
18,800.00	90.00	179.89	11,125.50	-7,847.82	-319.15	7,847.19	0.00	0.00	0.00
18,900.00	90.00	179.89	11,125.50	-7,947.82	-318.95	7,947.19	0.00	0.00	0.00
19,000.00	90.00	179.89	11,125.49	-8,047.82	-318.75	8,047.19	0.00	0.00	0.00
19,100.00	90.00	179.89	11,125.48	-8,147.82	-318.55	8,147.19	0.00	0.00	0.00



Nabors Drilling Solutions
Planning Report



Database:	RyanUSA_32Bit	Local Co-ordinate Reference:	Well 103H
Company:	XTO Permian Operating, LLC	TVD Reference:	RT=23 (Nabors M7505) @ 3300.00ft (Nabors M7505)
Project:	Eddy Co., NM	MD Reference:	RT=23 (Nabors M7505) @ 3300.00ft (Nabors M7505)
Site:	Poker Lake Unit 27 BD	North Reference:	Grid
Well:	103H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	N/S (ft)	E/W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
19,200.00	90.00	179.89	11,125.48	-8,247.82	-318.35	8,247.19	0.00	0.00	0.00
19,300.00	90.00	179.89	11,125.47	-8,347.82	-318.15	8,347.19	0.00	0.00	0.00
19,400.00	90.00	179.89	11,125.46	-8,447.82	-317.95	8,447.19	0.00	0.00	0.00
19,500.00	90.00	179.89	11,125.46	-8,547.82	-317.75	8,547.19	0.00	0.00	0.00
19,600.00	90.00	179.89	11,125.45	-8,647.82	-317.55	8,647.19	0.00	0.00	0.00
19,700.00	90.00	179.89	11,125.45	-8,747.82	-317.35	8,747.19	0.00	0.00	0.00
19,800.00	90.00	179.89	11,125.44	-8,847.82	-317.15	8,847.19	0.00	0.00	0.00
19,900.00	90.00	179.89	11,125.43	-8,947.82	-316.95	8,947.19	0.00	0.00	0.00
20,000.00	90.00	179.89	11,125.43	-9,047.82	-316.75	9,047.19	0.00	0.00	0.00
20,100.00	90.00	179.89	11,125.42	-9,147.81	-316.55	9,147.19	0.00	0.00	0.00
20,200.00	90.00	179.89	11,125.41	-9,247.81	-316.35	9,247.19	0.00	0.00	0.00
20,300.00	90.00	179.89	11,125.41	-9,347.81	-316.14	9,347.19	0.00	0.00	0.00
20,400.00	90.00	179.89	11,125.40	-9,447.81	-315.94	9,447.19	0.00	0.00	0.00
20,500.00	90.00	179.89	11,125.40	-9,547.81	-315.74	9,547.19	0.00	0.00	0.00
20,600.00	90.00	179.89	11,125.39	-9,647.81	-315.54	9,647.19	0.00	0.00	0.00
20,700.00	90.00	179.89	11,125.38	-9,747.81	-315.34	9,747.19	0.00	0.00	0.00
20,800.00	90.00	179.89	11,125.38	-9,847.81	-315.14	9,847.19	0.00	0.00	0.00
20,900.00	90.00	179.89	11,125.37	-9,947.81	-314.94	9,947.19	0.00	0.00	0.00
21,000.00	90.00	179.89	11,125.36	-10,047.81	-314.74	10,047.19	0.00	0.00	0.00
21,100.00	90.00	179.89	11,125.36	-10,147.81	-314.54	10,147.19	0.00	0.00	0.00
21,200.00	90.00	179.89	11,125.35	-10,247.81	-314.34	10,247.19	0.00	0.00	0.00
21,300.00	90.00	179.89	11,125.35	-10,347.81	-314.14	10,347.19	0.00	0.00	0.00
21,400.00	90.00	179.89	11,125.34	-10,447.81	-313.94	10,447.19	0.00	0.00	0.00
21,500.00	90.00	179.89	11,125.33	-10,547.81	-313.74	10,547.19	0.00	0.00	0.00
21,600.00	90.00	179.89	11,125.33	-10,647.81	-313.54	10,647.19	0.00	0.00	0.00
21,700.00	90.00	179.89	11,125.32	-10,747.81	-313.34	10,747.19	0.00	0.00	0.00
21,800.00	90.00	179.89	11,125.31	-10,847.81	-313.14	10,847.19	0.00	0.00	0.00
21,900.00	90.00	179.89	11,125.31	-10,947.81	-312.94	10,947.19	0.00	0.00	0.00
22,000.00	90.00	179.89	11,125.30	-11,047.81	-312.74	11,047.19	0.00	0.00	0.00
22,100.00	90.00	179.89	11,125.30	-11,147.81	-312.54	11,147.19	0.00	0.00	0.00
22,200.00	90.00	179.89	11,125.29	-11,247.81	-312.34	11,247.19	0.00	0.00	0.00
22,300.00	90.00	179.89	11,125.28	-11,347.81	-312.14	11,347.19	0.00	0.00	0.00
22,400.00	90.00	179.89	11,125.28	-11,447.81	-311.94	11,447.19	0.00	0.00	0.00
22,500.00	90.00	179.89	11,125.27	-11,547.81	-311.74	11,547.19	0.00	0.00	0.00
22,600.00	90.00	179.89	11,125.27	-11,647.81	-311.54	11,647.19	0.00	0.00	0.00
22,700.00	90.00	179.89	11,125.26	-11,747.81	-311.33	11,747.19	0.00	0.00	0.00
22,800.00	90.00	179.89	11,125.25	-11,847.81	-311.13	11,847.19	0.00	0.00	0.00
22,900.00	90.00	179.89	11,125.25	-11,947.81	-310.93	11,947.19	0.00	0.00	0.00
23,000.00	90.00	179.89	11,125.24	-12,047.81	-310.73	12,047.19	0.00	0.00	0.00
23,100.00	90.00	179.89	11,125.23	-12,147.81	-310.53	12,147.19	0.00	0.00	0.00
23,200.00	90.00	179.89	11,125.23	-12,247.81	-310.33	12,247.19	0.00	0.00	0.00
23,300.00	90.00	179.89	11,125.22	-12,347.81	-310.13	12,347.19	0.00	0.00	0.00
23,400.00	90.00	179.89	11,125.22	-12,447.81	-309.93	12,447.19	0.00	0.00	0.00
23,500.00	90.00	179.89	11,125.21	-12,547.81	-309.73	12,547.19	0.00	0.00	0.00
23,600.00	90.00	179.89	11,125.20	-12,647.81	-309.53	12,647.19	0.00	0.00	0.00
23,700.00	90.00	179.89	11,125.20	-12,747.81	-309.33	12,747.19	0.00	0.00	0.00
23,800.00	90.00	179.89	11,125.19	-12,847.81	-309.13	12,847.19	0.00	0.00	0.00
23,900.00	90.00	179.89	11,125.18	-12,947.81	-308.93	12,947.19	0.00	0.00	0.00
24,000.00	90.00	179.89	11,125.18	-13,047.81	-308.73	13,047.19	0.00	0.00	0.00
24,100.00	90.00	179.89	11,125.17	-13,147.81	-308.53	13,147.19	0.00	0.00	0.00
24,200.00	90.00	179.89	11,125.17	-13,247.81	-308.33	13,247.19	0.00	0.00	0.00
24,300.00	90.00	179.89	11,125.16	-13,347.81	-308.13	13,347.19	0.00	0.00	0.00



Nabors Drilling Solutions

Planning Report



Database: RyanUSA_32Bit
Company: XTO Permian Operating, LLC
Project: Eddy Co., NM
Site: Poker Lake Unit 27 BD
Well: 103H
Wellbore: Wellbore #1
Design: Design #1

Local/Co-ordinate Reference: Well 103H
TVD Reference: RT=23 (Nabors M7505) @ 3300.00ft (Nabors M7505)
MD Reference: RT=23 (Nabors M7505) @ 3300.00ft (Nabors M7505)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
24,400.00	90.00	179.89	11,125.15	-13,447.81	-307.93	13,447.19	0.00	0.00	0.00
24,500.00	90.00	179.89	11,125.15	-13,547.81	-307.73	13,547.19	0.00	0.00	0.00
24,600.00	90.00	179.89	11,125.14	-13,647.81	-307.53	13,647.19	0.00	0.00	0.00
24,700.00	90.00	179.89	11,125.13	-13,747.81	-307.33	13,747.19	0.00	0.00	0.00
24,800.00	90.00	179.89	11,125.13	-13,847.81	-307.13	13,847.19	0.00	0.00	0.00
24,900.00	90.00	179.89	11,125.12	-13,947.81	-306.93	13,947.19	0.00	0.00	0.00
25,000.00	90.00	179.89	11,125.12	-14,047.81	-306.73	14,047.19	0.00	0.00	0.00
25,100.00	90.00	179.89	11,125.11	-14,147.81	-306.52	14,147.19	0.00	0.00	0.00
25,200.00	90.00	179.89	11,125.10	-14,247.80	-306.32	14,247.19	0.00	0.00	0.00
25,300.00	90.00	179.89	11,125.10	-14,347.80	-306.12	14,347.19	0.00	0.00	0.00
25,400.00	90.00	179.89	11,125.09	-14,447.80	-305.92	14,447.19	0.00	0.00	0.00
25,500.00	90.00	179.89	11,125.08	-14,547.80	-305.72	14,547.19	0.00	0.00	0.00
25,600.00	90.00	179.89	11,125.08	-14,647.80	-305.52	14,647.19	0.00	0.00	0.00
25,700.00	90.00	179.89	11,125.07	-14,747.80	-305.32	14,747.19	0.00	0.00	0.00
25,800.00	90.00	179.89	11,125.07	-14,847.80	-305.12	14,847.19	0.00	0.00	0.00
25,900.00	90.00	179.89	11,125.06	-14,947.80	-304.92	14,947.19	0.00	0.00	0.00
26,000.00	90.00	179.89	11,125.05	-15,047.80	-304.72	15,047.19	0.00	0.00	0.00
26,100.00	90.00	179.89	11,125.05	-15,147.80	-304.52	15,147.19	0.00	0.00	0.00
26,200.00	90.00	179.89	11,125.04	-15,247.80	-304.32	15,247.19	0.00	0.00	0.00
26,300.00	90.00	179.89	11,125.03	-15,347.80	-304.12	15,347.19	0.00	0.00	0.00
26,400.00	90.00	179.89	11,125.03	-15,447.80	-303.92	15,447.19	0.00	0.00	0.00
26,500.00	90.00	179.89	11,125.02	-15,547.80	-303.72	15,547.19	0.00	0.00	0.00
26,600.00	90.00	179.89	11,125.02	-15,647.80	-303.52	15,647.19	0.00	0.00	0.00
26,700.00	90.00	179.89	11,125.01	-15,747.80	-303.32	15,747.19	0.00	0.00	0.00
26,728.43	90.00	179.89	11,125.01	-15,776.23	-303.26	15,775.62	0.00	0.00	0.00
PLU 27 BD 103H - LTP									
26,800.00	90.00	179.89	11,125.00	-15,847.80	-303.12	15,847.19	0.00	0.00	0.00
26,858.43	90.00	179.89	11,125.00	-15,906.23	-303.00	15,905.62	0.00	0.00	0.00
PLU 27 BD 103H - BHL									

Design Targets

Target Name	hit/miss target	Dip Angle (°)	Dip Dir (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PLU 27 BD 103H - FTP	- plan misses target center by 1.28ft at 11462.37ft MD (11125.95 TVD, -510.20 N, -333.86 E) - Rectangle (sides W100.00 H15,393.27 D0.00)	0.00	179.89	11,125.00	-510.20	-333.00	400,419.800	642,868.200	32° 6' 0.107257 N	103° 52' 19.059142 W
PLU 27 BD 103H - BHL	- plan hits target center - Point	0.00	0.00	11,125.00	-15,906.23	-303.00	385,023.800	642,898.200	32° 3' 27.742687 N	103° 52' 19.475641 W
PLU 27 BD 103H - LTP	- plan misses target center by 0.64ft at 26728.43ft MD (11125.01 TVD, -15776.23 N, -303.26 E) - Point	0.00	0.00	11,125.00	-15,776.23	-303.90	385,153.800	642,897.300	32° 3' 29.029247 N	103° 52' 19.479644 W



Nabors Drilling Solutions
Planning Report



Database: RyanUSA_32Bit
Company: XTO Permian Operating, LLC
Project: Eddy Co., NM
Site: Poker Lake Unit 27 BD
Well: 103H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well 103H
TVD Reference: RT=23 (Nabors M7505) @ 3300.00ft (Nabors M7505)
MD Reference: RT=23 (Nabors M7505) @ 3300.00ft (Nabors M7505)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,065.00	1,065.00	RSLR			
1,350.00	1,350.00	Top Salt			
2,350.00	2,350.00	CSTL			
3,672.63	3,670.00	Salt_B			
3,886.20	3,883.00	DLWR			
4,810.67	4,805.00	CRCN			
6,354.78	6,345.00	BYCN			
7,694.12	7,682.00	BSPG			
7,818.12	7,806.00	BSPG_AVLN_SS			
7,833.12	7,821.00	BSPG_U_AVLN_SH			
8,230.12	8,218.00	BSPG_L_AVLN_SH			
8,634.12	8,622.00	BSPG1			
9,069.12	9,057.00	BSPG2_LM			
9,437.12	9,425.00	BSPG2			
9,816.12	9,804.00	BSPG3_LM			
10,185.12	10,173.00	BSPG_HRKY			
10,607.16	10,595.00	BSPG3			
11,062.16	10,990.00	WFMP			
11,107.63	11,018.00	WFMP_X			
11,329.58	11,110.00	WFMP_Y			
11,431.99	11,125.00	LP (WFMP_X/Y)			

PECOS DISTRICT DRILLING OPERATIONS CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO Permian Operating, LLC
LEASE NO.:	NMLC063875A
WELL NAME & NO.:	Poker Lake Unit 27 BD 103H
SURFACE HOLE FOOTAGE:	2510' FNL & 1923' FWL
BOTTOM HOLE FOOTAGE:	2440' FNL & 1590' FWL
LOCATION:	Section 27, T 25S, R 30E, NMPM
COUNTY:	Eddy County, New Mexico

Potash	☒ None	☐ Secretary	☐ R-111-P
Cave/Karst Potential	☒ Low	☐ Medium	☐ High
Wellhead	☐ Conventional	☒ Multibowl	☐ Both
Other	☒ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☐ COM	☒ Unit

All other previous Conditions of Approval still apply.

A. CASING

1. The **13-3/8"** surface casing shall be set at approximately **1250'** (a minimum of 75' into the Rustler Anhydrite and above the salt) and cemented to surface.
 - a. **If cement does not circulate to 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 **6 hours** after pumping cement, ideally between 8-10 hours after.
 - b. WOC time for a primary cement job will be a minimum of **8 hours** or **500 psi** compressive strength, whichever is greater. This is to include the lead cement.
 - c. If cement falls back, remedial cementing will be done prior to drilling out the shoe.
 - d. WOC time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 psi compressive strength, whichever is greater.
2. The **9-5/8"** intermediate casing shall be cemented to surface.
 - a. **If cement does not circulate to surface**, see A.1.a, c & d.
 - b. 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.
 - i. 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 the second stage.

- ii. Second stage via DV tool: Cement to surface. If cement does not circulate, contact the appropriate BLM office.
- c. This casing must be kept at least 1/3 full at all times in order to meet BLM collapse requirements.
- 3. The **5-1/2"** production casing shall be cemented with at least **200' tie-back** into the previous casing. Operator shall provide method of verification.

B. PRESSURE CONTROL

- 1. 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**. The 5M annular may be tested to 70% of working pressure (3500psi) because this is a 5M well, a variance is not required.
- 2. 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.

C. SPECIAL REQUIREMENTS

- 1. The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number once it has been established.
 - a. A commercial well determination shall be submit after production has been established for at least six months. Secondary recovery unit wells are exempt from this requirement.
- 2. 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).
 - a. When the operator proposes to set surface casing with Spudder Rig:
 - i. Notify the BLM when moving in and removing the Spudder Rig.
 - ii. Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.

BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

DR 11/26/2019