

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM 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.
NMLC064894

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 27. If Unit or CA/Agreement, Name and/or No.
891000303X

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other8. Well Name and No.
POKER LAKE UNIT 20 BD 903H

2. Name of Operator

XTO PERMIAN OPERATING LLC

Contact: KELLY KARDOS

E-Mail: kelly_kardos@xtoenergy.com

9. API Well No.

30-015-45493-00-X1

3a. Address

6401 HOLIDAY HILL ROAD BLDG 5
MIDLAND, TX 79707

3b. Phone No. (include area code)

Ph: 432-620-4374

10. Field and Pool or Exploratory Area
WILDCAT

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 20 T25S R30E SESW 955FSL 1945FWL
32.110905 N Lat, 103.905785 W Lon

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 A
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	PD

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 recompleat 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 recompleat 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 respectfully requests permission to make the following changes to the original APD:

Change the formation from Corral Canyon Bone Spring (Oil) to Purple Sage; Wolfcamp (Gas).

Revise the casing/cmt design from 3-string to 4-string.

Attachments:

Updated C102 & Supplement
Drilling Program BOP/CK/FH
Directional Drill Plan

RECEIVED

NOV 25 2019

DISTRICT 7 - ARTESIA O.C.D.

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

Electronic Submission #466708 verified by the BLM Well Information System
For XTO PERMIAN OPERATING LLC, sent to the Carlsbad
Committed to AFMSS for processing by PRISCILLA PEREZ on 05/28/2019 (19PP2243SE)

Name (Printed/Typed) KELLY KARDOS

Title REGULATORY COORDINATOR

Signature (Electronic Submission)

Date 05/28/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By (BLM Approver Not Specified)

Title

Date 06/18/2019

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 ****

1/27/20 KS

Revisions to Operator-Submitted EC Data for Sundry Notice #466708

	Operator Submitted	BLM Revised (AFMSS)
Sundry Type:	APDCH NOI	APDCH NOI
Lease:	NMLC064894	NMLC064894
Agreement:	NMNM71016X	891000303X (NMNM71016X)
Operator:	XTO PERMIAN OPERATING,LLC 6401 HOLIDAY HILL RD BLDG 5 MIDLAND, TX 79707 Ph: 432-620-4374	XTO PERMIAN OPERATING LLC 6401 HOLIDAY HILL ROAD BLDG 5 MIDLAND, TX 79707 Ph: 432.683 2277
Admin Contact:	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com Ph: 432-620-4374	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com Ph: 432-620-4374
Tech Contact:	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com Ph: 432-620-4374	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com Ph: 432-620-4374
Location: State: County:	NM EDDY	NM EDDY
Field/Pool:	CORRAL CANYON BS SOUTH	WILDCAT
Well/Facility:	POKER LAKE UNIT 20 BD 903H Sec 20 T25S R30E Mer NMP SESW 955FSL 1945FWL	POKER LAKE UNIT 20 BD 903H Sec 20 T25S R30E SESW 955FSL 1945FWL 32.110905 N Lat, 103.905785 W Lon

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM 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.
NMLC064894

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 27. If Unit or CA/Agreement, Name and/or No.
891000303X

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other8. Well Name and No.
POKER LAKE UNIT 20 BD 903H

2. Name of Operator

XTO PERMIAN OPERATING LLC

Contact: KELLY KARDOS

E-Mail: kelly_kardos@xtoenergy.com

9. API Well No.
30-015-45493-00-X1

3a. Address

6401 HOLIDAY HILL ROAD BLDG 5
MIDLAND, TX 79707

3b. Phone No. (include area code)

Ph: 432-620-4374

10. Field and Pool or Exploratory Area
WILDCAT

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 20 T25S R30E SESW 955FSL 1945FWL
32.110905 N Lat, 103.905785 W Lon

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 A
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	PD

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 recompleat 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 recompleat 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 respectfully requests permission to make the following changes to the original APD:

Change the formation from Corral Canyon Bone Spring (Oil) to Purple Sage; Wolfcamp (Gas).

Revise the casing/cmt design from 3-string to 4-string.

Attachments:
Updated C102 & Supplement
Drilling Program BOP/CK/FH
Directional Drill Plan

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

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

Electronic Submission #466708 verified by the BLM Well Information System
For XTO PERMIAN OPERATING LLC, sent to the Carlsbad
Committed to AFMS for processing by PRISCILLA PEREZ on 05/28/2019 (19PP2243SE)

Name (Printed/Typed) KELLY KARDOS

Title REGULATORY COORDINATOR

Signature (Electronic Submission)

Date 05/28/2019

APPROVED

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By

Title

JUN 18 2019

Date

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

BUREAU OF LAND MANAGEMENT

ROSWELL FIELD OFFICE

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 ****

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1009 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

RECEIVED

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

DISTRICT IV-ARTESIA O.C.D. ☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015- 45493	² Pool Code 98220	³ Pool Name PURPLE SAGE; WOLFCAMP
⁴ Property Code	⁵ Property Name POKER LAKE UNIT 20 BD	⁶ Well Number 903H
⁷ OGRID No. 373075	⁸ Operator Name XTO PERMIAN OPERATION, LLC.	⁹ Elevation 3,162'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	20	25 S	30 E		955	SOUTH	1,945	WEST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	32	25 S	30 E		200	SOUTH	1,650	WEST	EDDY

¹² Dedicated Acres 640	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
--------------------------------------	-------------------------------	----------------------------------	-------------------------

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

16 GEODEIC COORDINATES NAD 27 NME SURFACE LOCATION Y= 404,287.4 X= 632,528.3 LAT.= 32.110778°N LONG.= 103.906302°W FIRST TAKE POINT NAD 27 NME Y= 402,998.8 X= 632,238.7 LAT.= 32.107240°N LONG.= 103.906253°W CORNER COORDINATES TABLE NAD 27 NME A - Y= 403,340.8 N, X= 633,259.4 E B - Y= 403,323.1 N, X= 631,923.1 E C - Y= 400,683.8 N, X= 633,278.4 E D - Y= 400,669.1 N, X= 631,940.0 E E - Y= 398,025.4 N, X= 633,293.5 E F - Y= 398,011.2 N, X= 631,858.0 E G - Y= 395,366.6 N, X= 633,290.8 E H - Y= 395,354.2 N, X= 631,858.0 E I - Y= 392,708.5 N, X= 633,288.1 E J - Y= 392,697.7 N, X= 631,858.4 E CORNER COORDINATES TABLE NAD 83 NME A - Y= 403,398.9 N, X= 674,444.4 E B - Y= 403,383.2 N, X= 673,108.1 E C - Y= 400,741.8 N, X= 674,461.5 E D - Y= 400,727.1 N, X= 673,125.0 E E - Y= 398,083.4 N, X= 674,478.7 E F - Y= 398,069.2 N, X= 673,143.1 E G - Y= 395,424.5 N, X= 674,478.0 E H - Y= 395,412.1 N, X= 673,143.2 E I - Y= 392,786.4 N, X= 674,473.4 E J - Y= 392,755.6 N, X= 673,143.7 E LAST TAKE POINT NAD 27 NME Y= 393,030.3 X= 632,278.3 LAT.= 32.079836°N LONG.= 103.906253°W BOTTOM HOLE LOCATION NAD 27 NME Y= 392,900.3 X= 632,278.4 LAT.= 32.079478°N LONG.= 103.906254°W	17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Kelly Kardos Signature 5-28-19 Date Kelly Kardos Printed Name kelly_kardos@xtoenergy.com E-mail Address 18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. 4-5-2019 Date of Survey Signature and Seal of Professional Surveyor: MARK DILLON HARP 23786 Certificate Number JC 2017071052
---	--

Intent ☒ As Drilled ☐

API #
30-015-45493

Operator Name:
XTO Permian Operating, LLC

Property Name:
Poker Lake Unit 20 BD

Well Number
903H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
N	20	25S	30E		955	South	1,945	West	Eddy
Latitude					Longitude			NAD	
32.110903					-103.905785			NAD83	

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
C	29	25S	30E		330	North	1,650	West	Eddy
Latitude					Longitude			NAD	
32.107364					-103.906736			NAD83	

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
N	32	25S	30E		330	South	1,650	West	Eddy
Latitude					Longitude			NAD	
32.079961					-103.906735			NAD83	

Is this well the defining well for the Horizontal Spacing Unit?

☐ N

Is this well an infill well?

☐ Y

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #
30-015-45492

Operator Name:
XTO Permian Operating, LLC

Property Name:
Poker Lake Unit 20 BD

Well Number
701H

KZ 06/29/2018

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

XTO Energy Inc.
PLU 20 Brushy Draw 903H (aka 123H)
Projected TD: 22197' MD / 11137' TVD
SHL: 955' FSL & 1945' FWL , Section 20, T25S, R30E
BHL: 200' FSL & 1650' FWL , Section 32, T25S, 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	622'	Water
Top of Salt	814'	Water
Base of Salt	3427'	Water
Delaware	3621'	Water
Bone Spring	7449'	Water
1st Bone Spring Ss	8390'	Water/Oil/Gas
2nd Bone Spring Ss	9208'	Water/Oil/Gas
3rd Bone Spring Ss	10305'	Water/Oil/Gas
Wolfcamp	10696'	Water/Oil/Gas
Target/Land Curve	11137'	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 16" inch casing @ 739' (75' above the salt) and circulating cement back to surface. The salt will be isolated by setting 11-3/4" inch casing at 3477' and circulating cement to surface. The second intermediate will isolate from the salt down to the next casing seat by setting 8-5/8" inch casing at 9593' and cemented "500" into the 11-3/4 inch casing. A 7-7/8" 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 250' into the 8-5/8" casing.

3. Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
18-3/4"	0' - 739'	16"	75	STC	J-55	New	2.52	3.02	12.81
14-3/4"	0' - 3477'	11-3/4"	47	STC	J-55	New	1.17	1.43	2.92
10-5/8"	0' - 9593'	8-5/8"	32	BTC	HCL-80	New	1.19	2.14	2.16
7-7/8"	0' - 22197'	5-1/2"	20	BTC	P-110	New	1.33	1.53	2.18

- XTO requests to utilize centralizers only in the curve after the KOP and only a minimum of one every other joint.
- 11-3/4" Collapse analyzed using 50% evacuation based on regional experience.
- 8-5/8" Collapse analyzed using 33% 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

Wellhead:

Temporary Wellhead

- 16" SOW bottom x 16-3/4" 2M top flange.

Permanent Wellhead - GE RSH Multibowl System

A. Starting Head: 13-5/8" 5M top flange x 11-3/4" SOW bottom

B. Tubing Head: 13-5/8" 5M bottom flange x 7-1/16" 10M 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 8-5/8" casing per BLM Onshore Order 2
- Wellhead Manufacturer representative will not be present for BOP test plug installation

4. Cement Program

Surface Casing: 16", 75 New J-55, STC casing to be set at +/- 739'

Lead: 240 sxs EconoCem-HLTRRC (mixed at 12.9 ppg, 1.87 ft³/sx, 10.13 gal/sx water)

Tail: 230 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

1st Intermediate Casing: 11-3/4", 47 New J-55, STC casing to be set at +/- 3477'

Lead: 1470 sxs EconoCem-HLTRRC (mixed at 12.9 ppg, 1.87 ft³/sx, 10.13 gal/sx water)

Tail: 190 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 Intermediate Casing: 8-5/8", 32 New HCL-80, BTC casing to be set at +/- 9593'

Lead: 2030 sxs Halcem-C + 2% CaCl (mixed at 12.9 ppg, 1.88 ft³/sx, 9.61 gal/sx water)

Tail: 150 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

Production Casing: 5-1/2", 20 New P-110, BTC casing to be set at +/- 22197'

Lead: 830 sxs NeoCem (mixed at 10.5 ppg, 2.69 ft³/sx, 12.26 gal/sx water)

Tail: 1700 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

The blow out preventer equipment (BOP) on surface casing temporary wellhead will consist of a 21-1/4" minimum 2M Hydril. MASP should not exceed 1043 psi.

Once the permanent WH is installed on the 11-3/4" 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 4789 psi.

All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 50% of the working pressure. When nipples up on the 11-3/4", 5M bradenhead and flange, the BOP test will be limited to 5000 psi. When nipples up on the 8-5/8", 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.

6. Proposed Mud Circulation System

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' - 739'	18-3/4"	FW/Native	8.4-8.8	35-40	NC
739' - 3477'	14-3/4"	Brine	9.8-10.2	30-32	NC
3477' to 9593'	10-5/8"	FW / Cut Brine	8.7-9.4	30-32	NC
9593' to 22197'	7-7/8"	Cut Brine / Polymer / OBM	12.2 - 12.5	29-32	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 18" surface casing with brine solution. A ppg-10.0ppg 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 11-3/4" 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

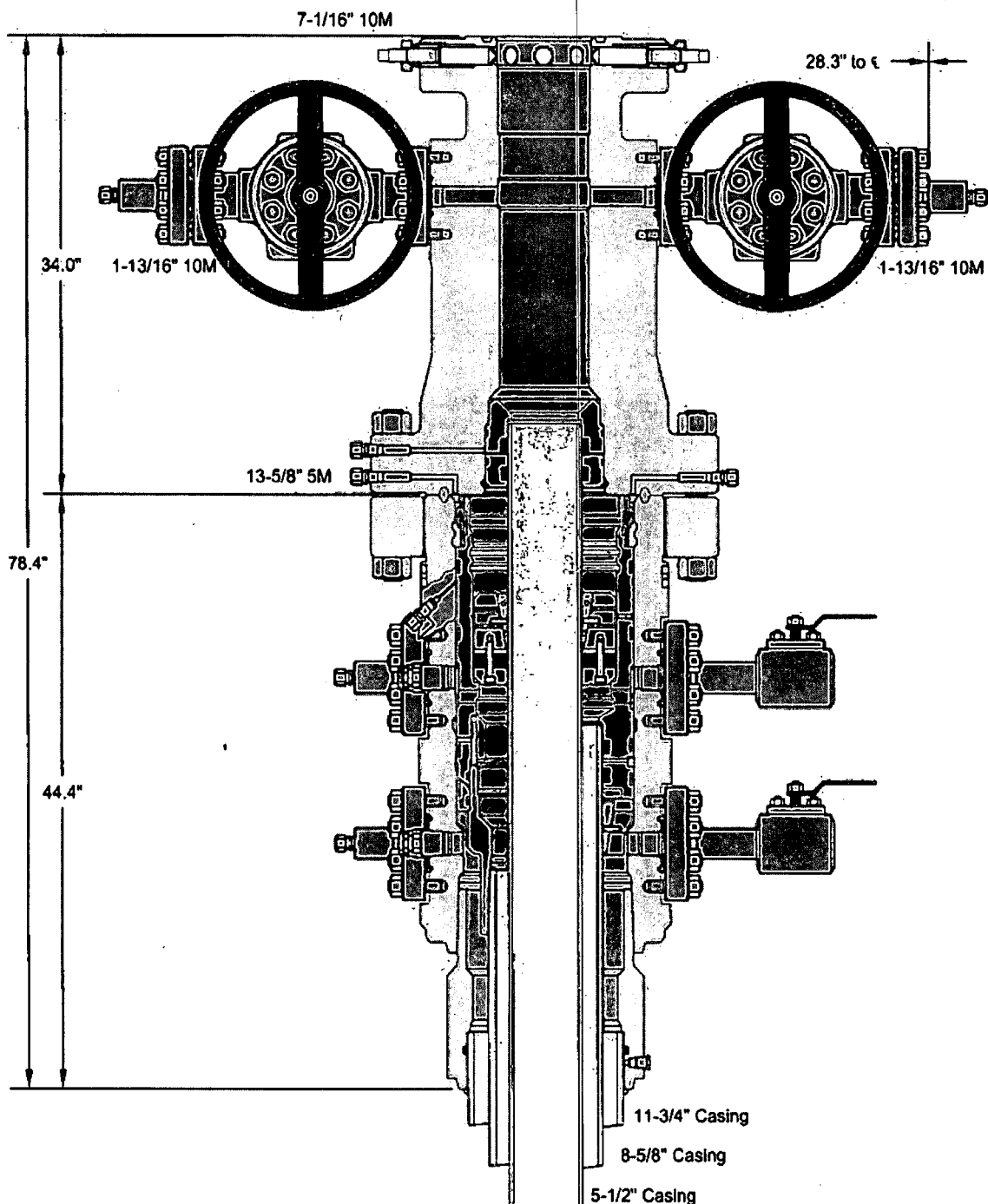
None Anticipated. BHT of 150 to 170 F is anticipated. No H2S is expected but monitors will be in place to detect any H2S occurrences. Should these circumstances be encountered the operator and drilling contractor are prepared to take all necessary steps to ensure safety of all personnel and environment. 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 7239 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 40 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.

11-3/4" x 8-5/8" x 5-1/2" 10M RSH-2 Wellhead
Assembly, With T-EBS-F Tubing Head

DRAWN	VJK	31OCT16
APPRV	KN	31OCT16
FOR REFERENCE ONLY		
DRAWING NO.		10012358

Fill Line

Flowline

2000# (2M)
BOP

SRR & A

Annular Preventer

Pipe Rams

Blind Rams

2" Minimum Kill Line

Kill Line

1 Kill Line Valve
(Minimum)

Drilling Spool

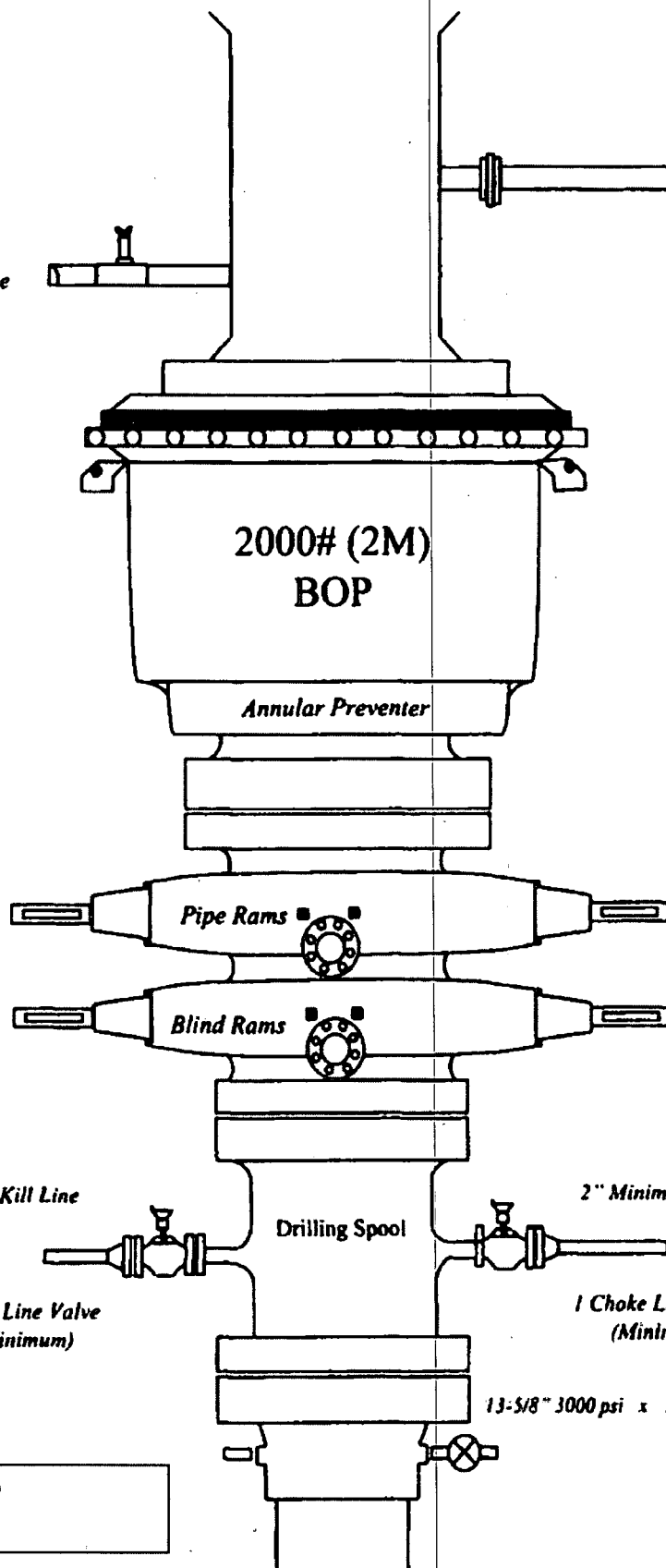
2" Minimum Choke Line

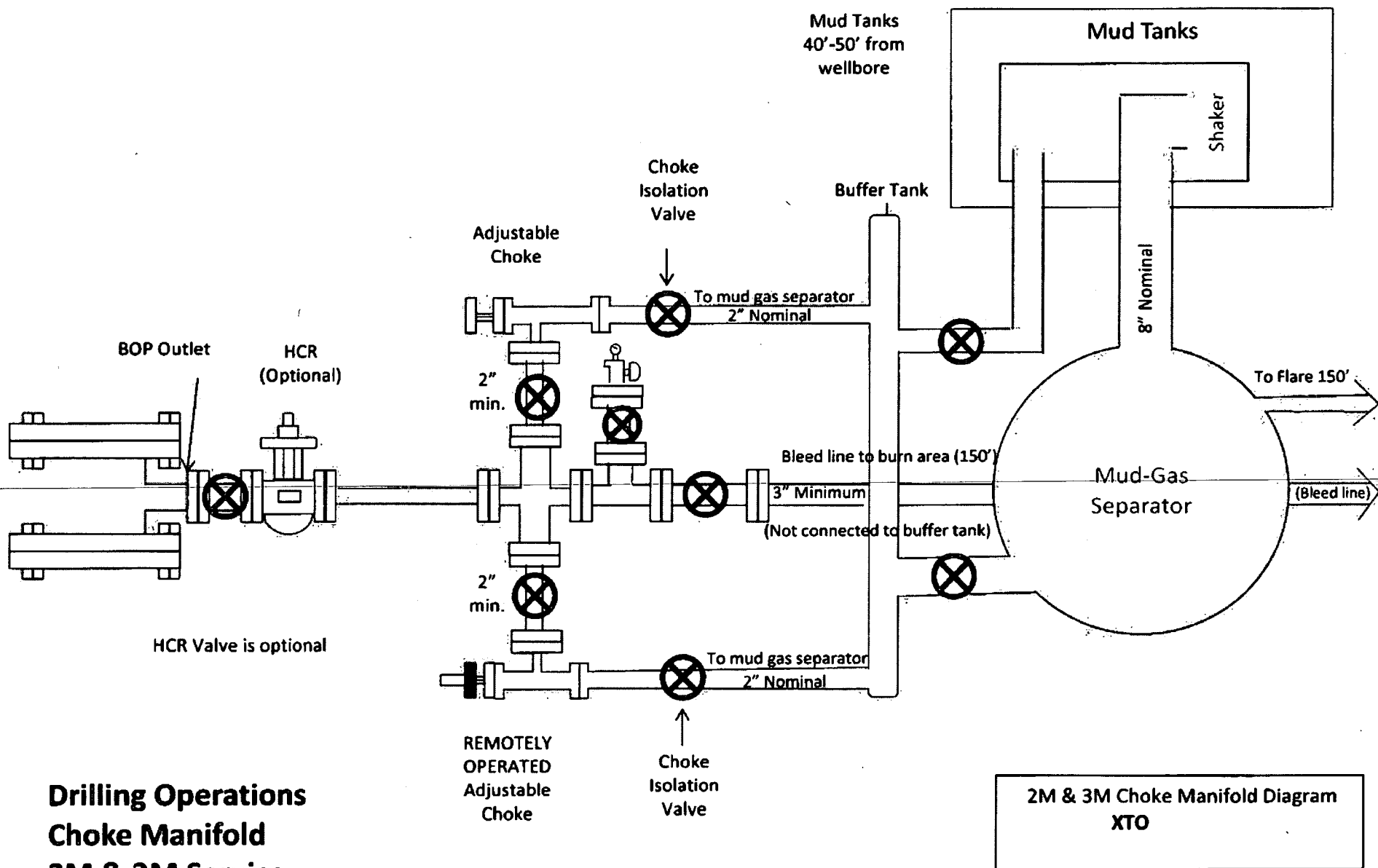
Choke Line

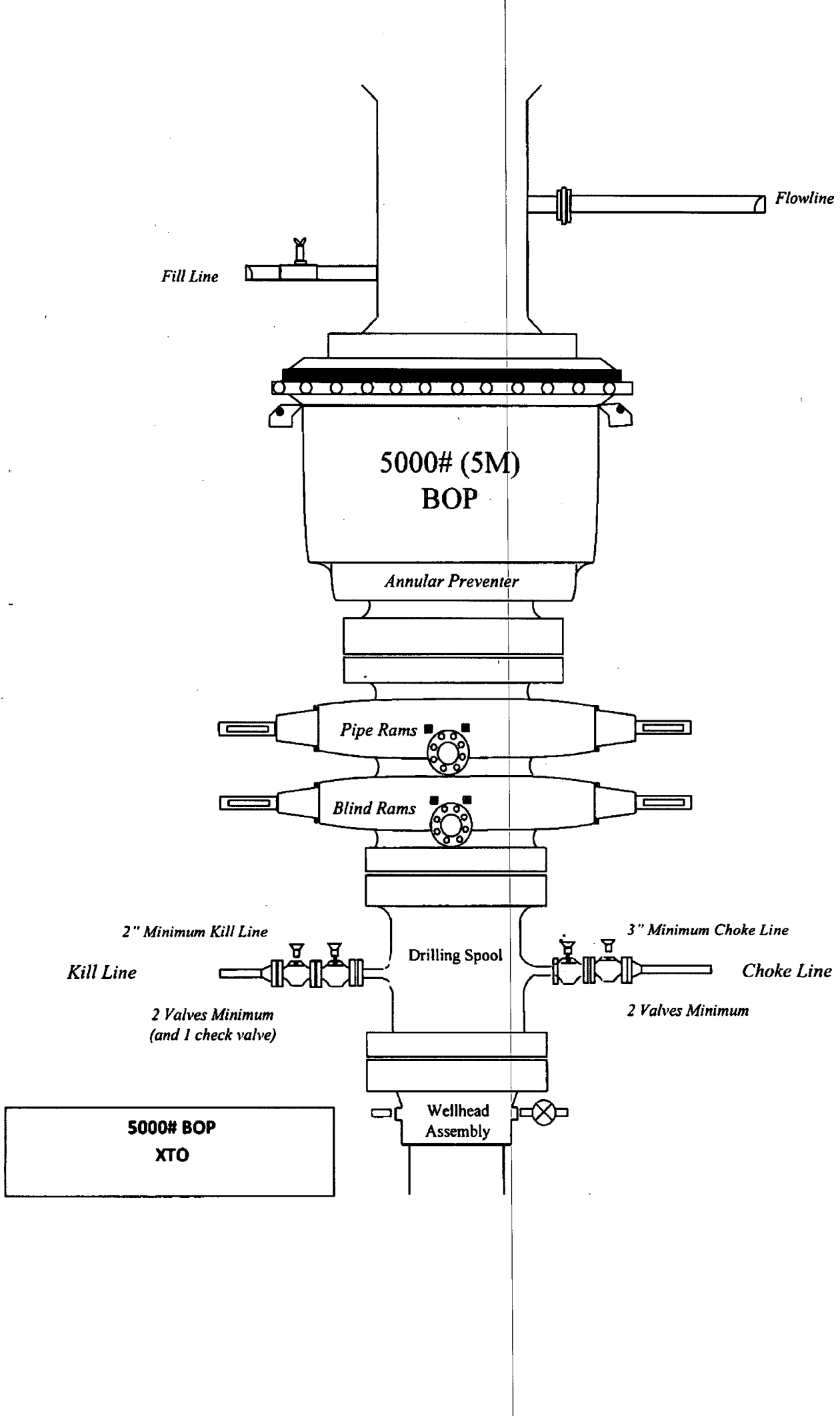
1 Choke Line Valve
(Minimum)

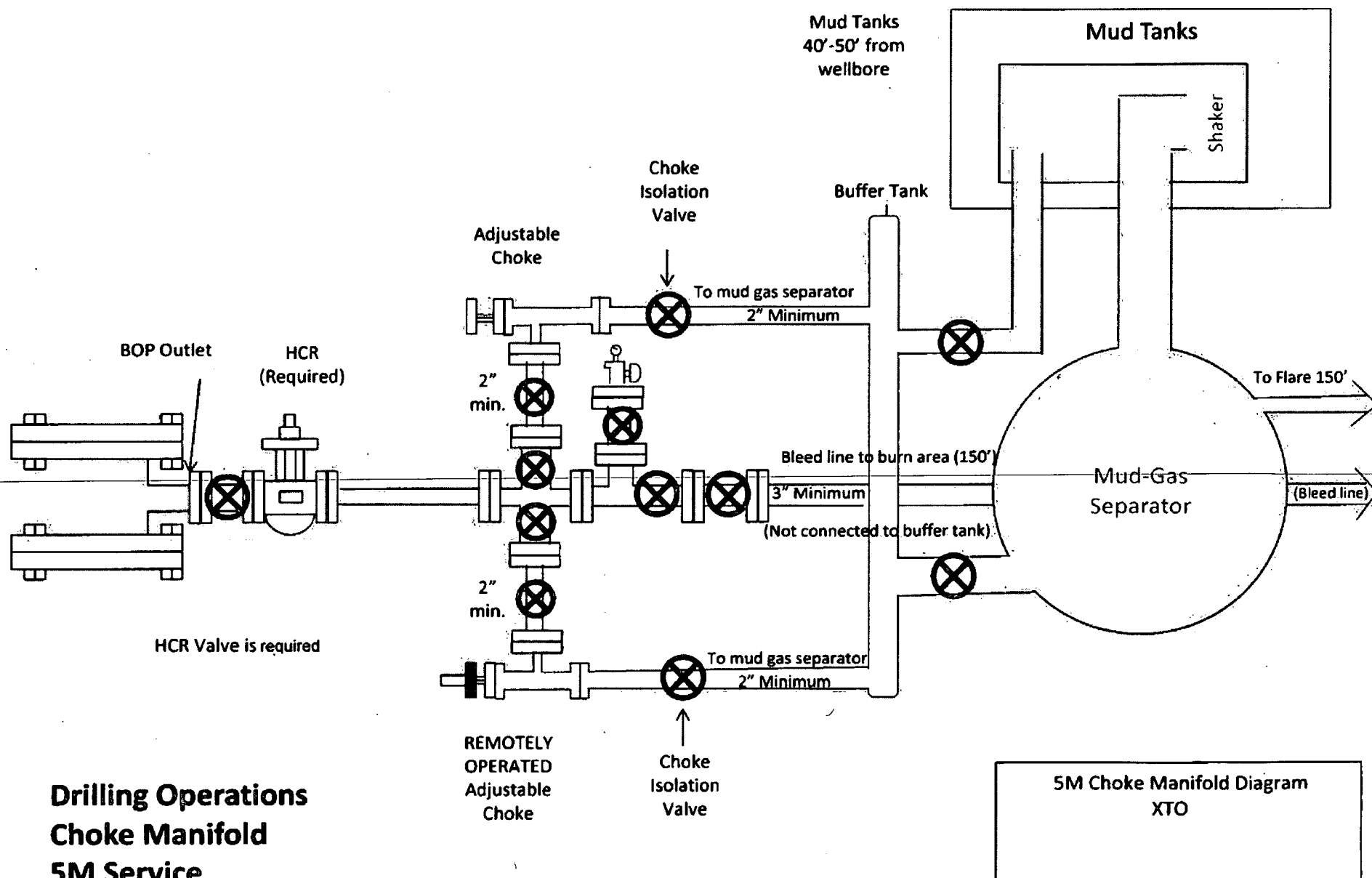
13-5/8" 3000 psi x 13 3/8 SOW Slip-on Casing Head

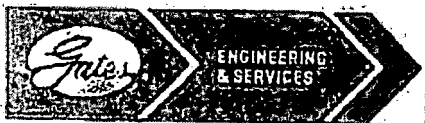
2000# BOP
XTO











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

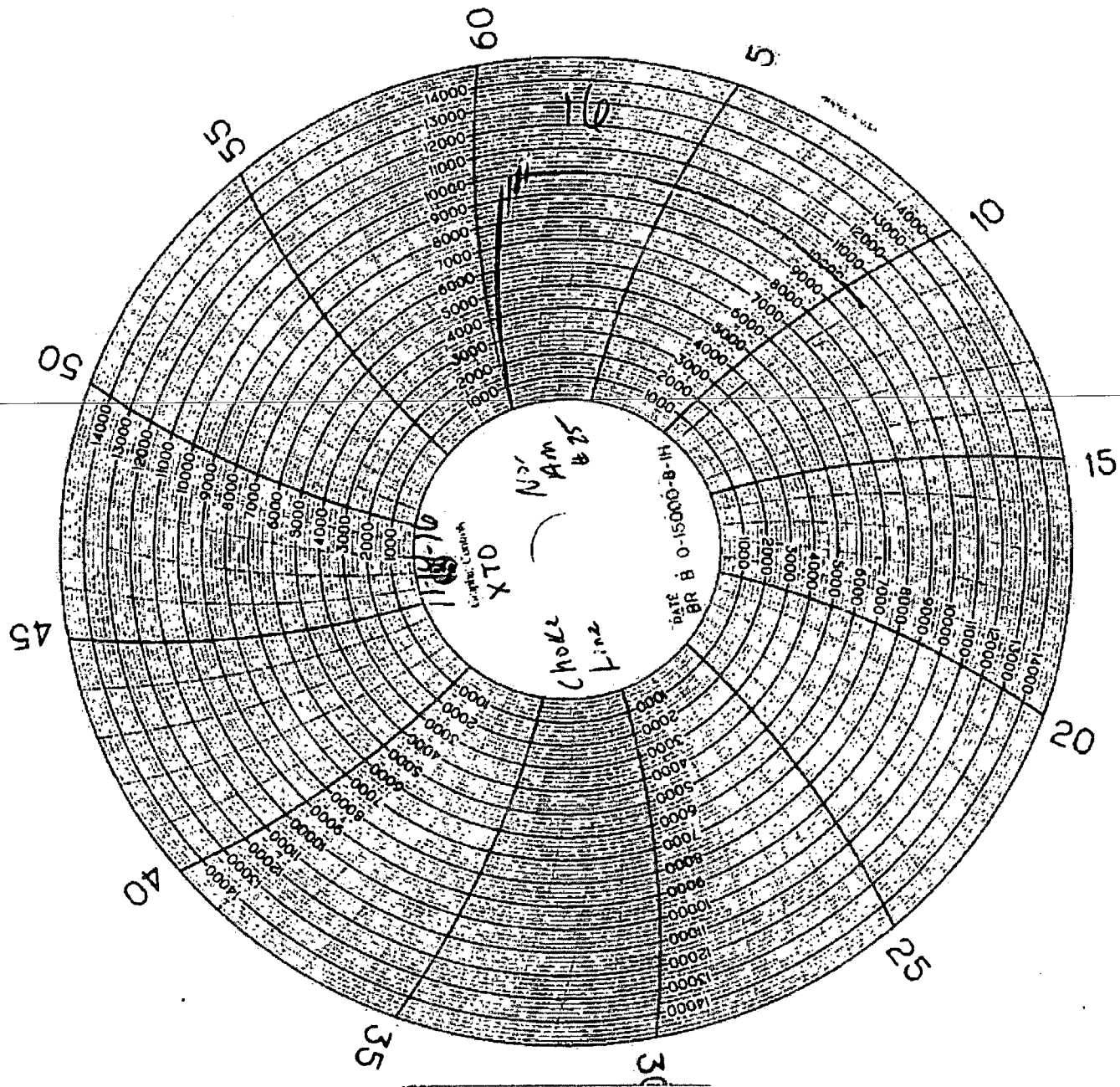
PHONE: 361-887-9807
FAX: 361-887-0812
EMAIL: crpe@s@gates.com
WEB: www.gates.com

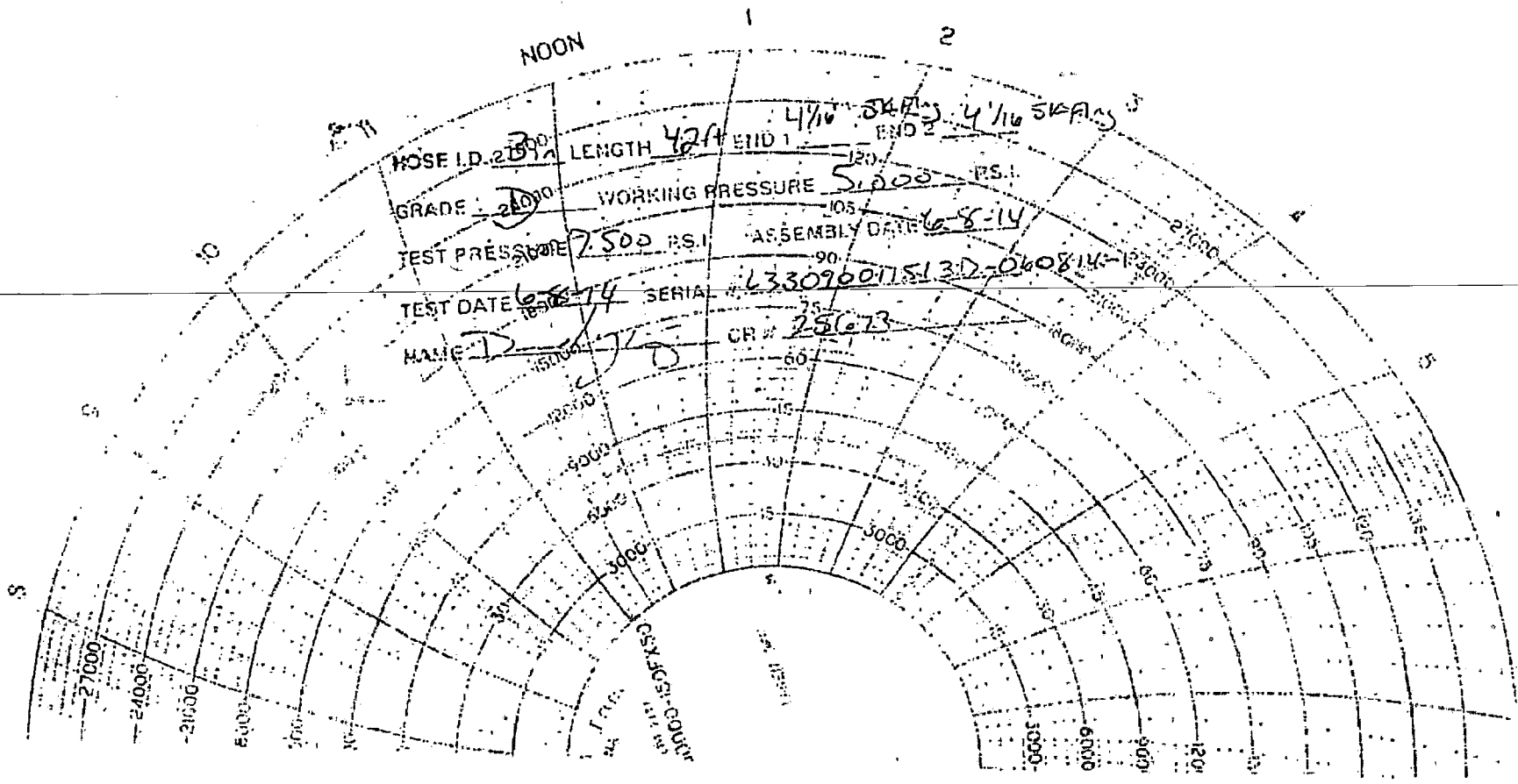
GRADE D PRESSURE TEST CERTIFICATE

Customer:	AUSTIN DISTRIBUTING	Test Date:	6/8/2014
Customer Ref.:	PENDING	Hose Serial No.:	D-060814-1
Invoice No.:	201709	Created By:	NORMA
Product Description:	FD3.0x2.0R41/16.5KFLGE/E LE		
End Fitting 1:	1 1/16 in. SK FLG	End Fitting 2:	1 1/16 in. SK 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:	





ROSE I.D. 2 1/2 LENGTH 42 ft END 1 4 1/16 SKAF END 2 4 1/16 SKAF
GRADE 2000 WORKING PRESSURE 5000 P.S.I.
TEST PRESSURE 7500 P.S.I. ASSEMBLY DATE 6-8-14
TEST DATE 6-8-14 SERIAL # L33090017513D-060814-13000
NAME D CR # 25673

XTO Energy

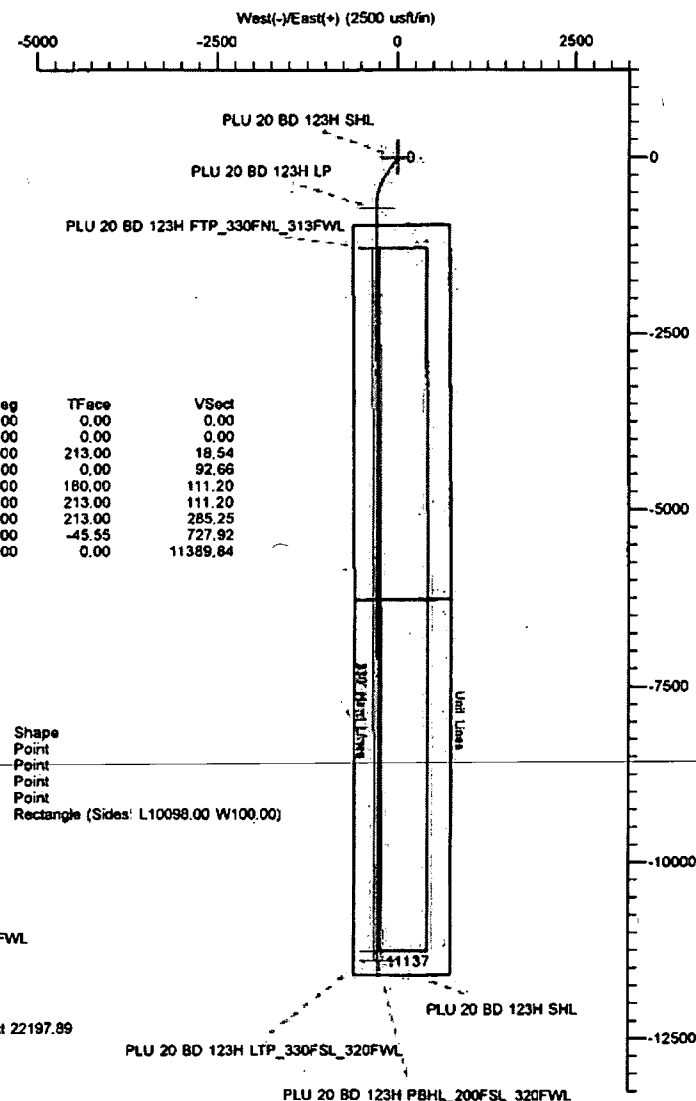
3162+31 @ 3193.00usf (NabF26)
NAD 1927 (NADCON CONUS)

Project: Eddy County, NM (NAD27) NMEZ Grid
Site: PLU 20 Brushy Draw
Well: PLU 20 BD 123H SHL
Wellbore: 123H Lateral
Design: Plan #1



Azimuths to Grid North
True North: -0.23°
Magnetic North: 6.67°

Magnetic Field
Strength: 47549.2nT
Dip Angle: 59.88°
Date: 04/18/2019
Model: IGRF2015

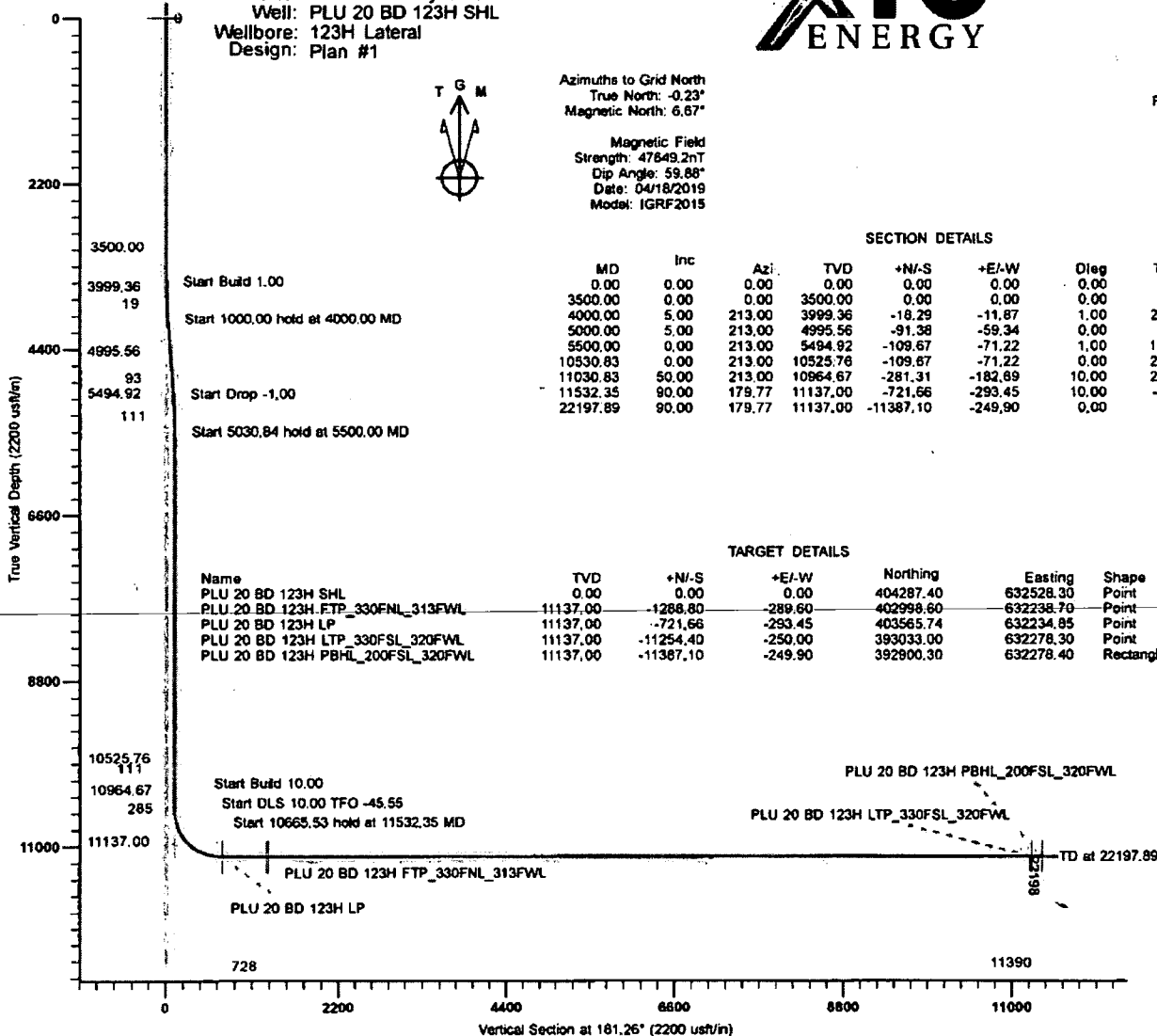


SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSed
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3500.00	0.00	0.00	3500.00	0.00	0.00	0.00	0.00	0.00
4000.00	5.00	213.00	3999.36	-18.29	-11.87	1.00	213.00	18.54
5000.00	5.00	213.00	4995.56	-91.38	-59.34	0.00	0.00	92.66
5500.00	0.00	213.00	5494.92	-109.67	-71.22	1.00	180.00	111.20
10530.83	0.00	213.00	10525.76	-109.67	-71.22	0.00	213.00	111.20
11030.83	50.00	213.00	10964.67	-281.31	-182.89	10.00	213.00	285.25
11532.35	90.00	179.77	11137.00	-721.66	-293.45	10.00	-45.55	727.92
22197.89	90.00	179.77	11137.00	-11387.10	-249.90	0.00	0.00	11389.84

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	North	Easting	Shape
PLU 20 BD 123H SHL	0.00	0.00	0.00	404287.40	632528.30	Point
PLU 20 BD 123H FTP_330FNL_313FWL	11137.00	-1288.80	-289.60	402998.60	632238.70	Point
PLU 20 BD 123H LP	11137.00	-721.66	-293.45	403565.74	632234.85	Point
PLU 20 BD 123H LTP_330FSL_320FWL	11137.00	-11254.40	-250.00	393033.00	632278.30	Point
PLU 20 BD 123H PBHL_200FSL_320FWL	11137.00	-11387.10	-249.90	392800.30	632278.40	Rectangle (Sides: L10098.00 W100.00)



To convert a Magnetic Direction to a Grid Direction, Add 6.67°
To convert a Magnetic Direction to a True Direction, Add 6.90° East
Magnetic North is 6.67° East of Grid North (Magnetic Convergence)
Magnetic North is 6.90° East of True North (Magnetic Declination)

Plan: Plan #1 (PLU 20 BD 123H SHL/123H Lateral)
Created By: Mekka Williams
eSomina Well Design
mekka@esominawell.com
17:39, April 25 2019

PREDATOR DIRECTIONAL
11323 MONARCHS WAY
Montgomery, Texas 77316



Planning Report

Database:	PREDATOR_EDM	Local Co-ordinate Reference:	Well PLU 20 BD 123H SHL - Slot PLU 20 BD 123H SHL
Company:	XTO Energy	TVD Reference:	3162+31 @ 3193.00usft (NabF28)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3162+31 @ 3193.00usft (NabF26)
Site:	PLU 20 Brushy Draw	North Reference:	Grid
Well:	PLU 20 BD 123H SHL	Survey Calculation Method:	Minimum Curvature
Wellbore:	123H Lateral		
Design:	Plan #1		

Project	Eddy County, NM (NAD27) NMEZ Grid		
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	PLU 20 Brushy Draw		
Site Position:	Northing:	404,287.80 usft	Latitude: 32.11077971
From: Map	Easting:	632,558.20 usft	Longitude: -103.90520511
Position Uncertainty: 0.00 usft	Slot Radius: 13.20 in	Grid Convergence: 0.23 °	

Well	PLU 20 BD 123H SHL - Slot PLU 20 BD 123H SHL		
Well Position	+N/-S	-0.40 usft	Northing: 404,287.40 usft
	+E/-W	-29.90 usft	Easting: 632,528.30 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	Ground Level: 3,162.00 usft

Wellbore	123H Lateral		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2015	04/18/19	6.90
			Dip Angle (°)
			59.88
			Field Strength (nT)
			47,649.18854610

Design	Plan #1		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.00	0.00	Direction (°)
			181.26

Plan Survey Tool Program	Date 04/25/19		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name
1	0.00	22,197.13 Plan #1 (123H Lateral)	MWD+IFR1+MS
			OWSG MWD + IFR1 + Multi-SI
			Remarks

Planning Report

Database:	PREDATOR_EDM	Local Co-ordinate Reference:	Well PLU 20 BD 123H SHL - Slot PLU 20 BD 123H SHL
Company:	XTO Energy	TVD Reference:	3162+31 @ 3193.00usft (NabF26)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3162+31 @ 3193.00usft (NabF26)
Site:	PLU 20 Brushy Draw	North Reference:	Grid
Well:	PLU 20 BD 123H SHL	Survey Calculation Method:	Minimum Curvature
Wellbore:	123H Lateral		
Design:	Plan #1		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	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	
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,000.00	5.00	213.00	3,999.36	-18.29	-11.87	1.00	1.00	0.00	213.00	
5,000.00	5.00	213.00	4,995.56	-91.38	-59.34	0.00	0.00	0.00	0.00	
5,500.00	0.00	213.00	5,494.92	-109.67	-71.22	1.00	-1.00	0.00	180.00	
10,530.83	0.00	213.00	10,525.76	-109.67	-71.22	0.00	0.00	0.00	213.00	
11,030.83	50.00	213.00	10,964.67	-281.31	-182.69	10.00	10.00	0.00	213.00	
11,532.35	90.00	179.77	11,137.00	-721.66	-293.45	10.00	7.98	-6.63	-45.55	
22,197.89	90.00	179.77	11,137.00	-11,387.10	-249.90	0.00	0.00	0.00	0.00	PLU 20 BD 123H PB

Planning Report

Database:	PREDATOR_EDM	Local Co-ordinate Reference:	Well PLU 20 BD 123H SHL - Slot PLU 20 BD 123H SHL
Company:	XTO Energy	TVD Reference:	3162+31 @ 3193.00usft (NabF26)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3162+31 @ 3193.00usft (NabF26)
Site:	PLU 20 Brushy Draw	North Reference:	Grid
Well:	PLU 20 BD 123H SHL	Survey Calculation Method:	Minimum Curvature
Wellbore:	123H Lateral		
Design:	Plan #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	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	
PLU 20 BD 123H SHL - PLU 20 BD 154H SHL - PLU 20 BD 124H SHL - PLU 20 BD 163H SHL										
1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	
PLU 20 BD 104H SHL										
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	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,600.00	1.00	213.00	3,600.00	-0.73	-0.48	0.74	1.00	1.00	0.00	
3,700.00	2.00	213.00	3,699.96	-2.93	-1.90	2.97	1.00	1.00	0.00	
3,800.00	3.00	213.00	3,799.86	-6.59	-4.28	6.68	1.00	1.00	0.00	
3,900.00	4.00	213.00	3,899.68	-11.71	-7.60	11.87	1.00	1.00	0.00	
4,000.00	5.00	213.00	3,999.36	-18.29	-11.87	18.54	1.00	1.00	0.00	
4,100.00	5.00	213.00	4,098.99	-25.59	-16.62	25.95	0.00	0.00	0.00	
4,200.00	5.00	213.00	4,198.60	-32.90	-21.37	33.37	0.00	0.00	0.00	
4,300.00	5.00	213.00	4,298.22	-40.21	-26.12	40.78	0.00	0.00	0.00	
4,400.00	5.00	213.00	4,397.84	-47.52	-30.86	48.19	0.00	0.00	0.00	
4,500.00	5.00	213.00	4,497.46	-54.83	-35.61	55.60	0.00	0.00	0.00	
4,600.00	5.00	213.00	4,597.08	-62.14	-40.38	63.01	0.00	0.00	0.00	
4,700.00	5.00	213.00	4,696.70	-69.45	-45.10	70.42	0.00	0.00	0.00	
4,800.00	5.00	213.00	4,796.32	-76.76	-49.85	77.84	0.00	0.00	0.00	
4,900.00	5.00	213.00	4,895.94	-84.07	-54.60	85.25	0.00	0.00	0.00	

Planning Report

Database:	PREDATOR_EDM	Local Co-ordinate Reference:	Well PLU 20 BD 123H SHL - Skt PLU 20 BD 123H SHL
Company:	XTO Energy	TVD Reference:	3162+31 @ 3193.00usft (NabF26)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3162+31 @ 3193.00usft (NabF26)
Site:	PLU 20 Brushy Draw	North Reference:	Grid
Well:	PLU 20 BD 123H SHL	Survey Calculation Method:	Minimum Curvature
Wellbore:	123H Lateral		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Buidl Rate (°/100ft)	Turn Rate (°/100ft)
5,000.00	5.00	213.00	4,995.56	-91.38	-59.34	92.66	0.00	0.00	0.00
5,100.00	4.00	213.00	5,095.25	-97.96	-63.62	99.33	1.00	-1.00	0.00
5,200.00	3.00	213.00	5,195.06	-103.08	-66.94	104.52	1.00	-1.00	0.00
5,300.00	2.00	213.00	5,294.87	-106.74	-69.32	108.23	1.00	-1.00	0.00
5,400.00	1.00	213.00	5,394.93	-108.93	-70.74	110.46	1.00	-1.00	0.00
5,500.00	0.00	213.00	5,494.92	-109.67	-71.22	111.20	1.00	-1.00	0.00
5,600.00	0.00	213.00	5,594.93	-109.67	-71.22	111.20	0.00	0.00	0.00
5,700.00	0.00	213.00	5,694.93	-109.67	-71.22	111.20	0.00	0.00	0.00
5,800.00	0.00	213.00	5,794.93	-109.67	-71.22	111.20	0.00	0.00	0.00
5,900.00	0.00	213.00	5,894.93	-109.67	-71.22	111.20	0.00	0.00	0.00
6,000.00	0.00	213.00	5,994.93	-109.67	-71.22	111.20	0.00	0.00	0.00
6,100.00	0.00	213.00	6,094.93	-109.67	-71.22	111.20	0.00	0.00	0.00
6,200.00	0.00	213.00	6,194.93	-109.67	-71.22	111.20	0.00	0.00	0.00
6,300.00	0.00	213.00	6,294.93	-109.67	-71.22	111.20	0.00	0.00	0.00
6,400.00	0.00	213.00	6,394.93	-109.67	-71.22	111.20	0.00	0.00	0.00
6,500.00	0.00	213.00	6,494.93	-109.67	-71.22	111.20	0.00	0.00	0.00
6,600.00	0.00	213.00	6,594.93	-109.67	-71.22	111.20	0.00	0.00	0.00
6,700.00	0.00	213.00	6,694.93	-109.67	-71.22	111.20	0.00	0.00	0.00
6,800.00	0.00	213.00	6,794.93	-109.67	-71.22	111.20	0.00	0.00	0.00
6,900.00	0.00	213.00	6,894.93	-109.67	-71.22	111.20	0.00	0.00	0.00
7,000.00	0.00	213.00	6,994.93	-109.67	-71.22	111.20	0.00	0.00	0.00
7,100.00	0.00	213.00	7,094.93	-109.67	-71.22	111.20	0.00	0.00	0.00
7,200.00	0.00	213.00	7,194.93	-109.67	-71.22	111.20	0.00	0.00	0.00
7,300.00	0.00	213.00	7,294.93	-109.67	-71.22	111.20	0.00	0.00	0.00
7,400.00	0.00	213.00	7,394.93	-109.67	-71.22	111.20	0.00	0.00	0.00
7,500.00	0.00	213.00	7,494.93	-109.67	-71.22	111.20	0.00	0.00	0.00
7,600.00	0.00	213.00	7,594.93	-109.67	-71.22	111.20	0.00	0.00	0.00
7,700.00	0.00	213.00	7,694.93	-109.67	-71.22	111.20	0.00	0.00	0.00
7,800.00	0.00	213.00	7,794.93	-109.67	-71.22	111.20	0.00	0.00	0.00
7,900.00	0.00	213.00	7,894.93	-109.67	-71.22	111.20	0.00	0.00	0.00
8,000.00	0.00	213.00	7,994.93	-109.67	-71.22	111.20	0.00	0.00	0.00
8,100.00	0.00	213.00	8,094.93	-109.67	-71.22	111.20	0.00	0.00	0.00
8,200.00	0.00	213.00	8,194.93	-109.67	-71.22	111.20	0.00	0.00	0.00
8,300.00	0.00	213.00	8,294.93	-109.67	-71.22	111.20	0.00	0.00	0.00
8,400.00	0.00	213.00	8,394.93	-109.67	-71.22	111.20	0.00	0.00	0.00
8,500.00	0.00	213.00	8,494.93	-109.67	-71.22	111.20	0.00	0.00	0.00
8,600.00	0.00	213.00	8,594.93	-109.67	-71.22	111.20	0.00	0.00	0.00
8,700.00	0.00	213.00	8,694.93	-109.67	-71.22	111.20	0.00	0.00	0.00
8,800.00	0.00	213.00	8,794.93	-109.67	-71.22	111.20	0.00	0.00	0.00
8,900.00	0.00	213.00	8,894.93	-109.67	-71.22	111.20	0.00	0.00	0.00
9,000.00	0.00	213.00	8,994.93	-109.67	-71.22	111.20	0.00	0.00	0.00
9,100.00	0.00	213.00	9,094.93	-109.67	-71.22	111.20	0.00	0.00	0.00
9,200.00	0.00	213.00	9,194.93	-109.67	-71.22	111.20	0.00	0.00	0.00
9,300.00	0.00	213.00	9,294.93	-109.67	-71.22	111.20	0.00	0.00	0.00
9,400.00	0.00	213.00	9,394.93	-109.67	-71.22	111.20	0.00	0.00	0.00
9,500.00	0.00	213.00	9,494.93	-109.67	-71.22	111.20	0.00	0.00	0.00
9,600.00	0.00	213.00	9,594.93	-109.67	-71.22	111.20	0.00	0.00	0.00
9,700.00	0.00	213.00	9,694.93	-109.67	-71.22	111.20	0.00	0.00	0.00
9,800.00	0.00	213.00	9,794.93	-109.67	-71.22	111.20	0.00	0.00	0.00
9,900.00	0.00	213.00	9,894.93	-109.67	-71.22	111.20	0.00	0.00	0.00
10,000.00	0.00	213.00	9,994.93	-109.67	-71.22	111.20	0.00	0.00	0.00
10,100.00	0.00	213.00	10,094.93	-109.67	-71.22	111.20	0.00	0.00	0.00
10,200.00	0.00	213.00	10,194.93	-109.67	-71.22	111.20	0.00	0.00	0.00

Planning Report

Database:	PREDATOR_EDM	Local Co-ordinate Reference:	Well PLU 20 BD 123H SHL - Slot PLU 20 BD 123H SHL
Company:	XTO Energy	TVD Reference:	3162+31 @ 3193.00usft (NabF26)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3162+31 @ 3193.00usft (NabF26)
Site:	PLU 20 Brushy Draw	North Reference:	Grid
Well:	PLU 20 BD 123H SHL	Survey Calculation Method:	Minimum Curvature
Wellbore:	123H Lateral		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,300.00	0.00	213.00	10,294.93	-109.67	-71.22	111.20	0.00	0.00	0.00
10,400.00	0.00	213.00	10,394.93	-109.67	-71.22	111.20	0.00	0.00	0.00
10,500.00	0.00	213.00	10,494.93	-109.67	-71.22	111.20	0.00	0.00	0.00
10,530.83	0.00	213.00	10,525.76	-109.67	-71.22	111.20	0.00	0.00	0.00
10,550.00	1.92	213.00	10,544.82	-109.93	-71.39	111.47	10.00	10.00	0.00
10,600.00	6.92	213.00	10,594.76	-113.16	-73.49	114.75	10.00	10.00	0.00
10,650.00	11.92	213.00	10,644.07	-120.02	-77.94	121.70	10.00	10.00	0.00
10,700.00	16.82	213.00	10,692.48	-130.46	-84.72	132.29	10.00	10.00	0.00
10,750.00	21.92	213.00	10,739.62	-144.39	-93.77	146.42	10.00	10.00	0.00
10,800.00	26.92	213.00	10,785.13	-161.72	-105.02	163.99	10.00	10.00	0.00
10,850.00	31.92	213.00	10,828.67	-182.31	-118.39	184.87	10.00	10.00	0.00
10,900.00	36.92	213.00	10,869.91	-206.01	-133.78	208.89	10.00	10.00	0.00
10,950.00	41.92	213.00	10,908.52	-232.62	-151.07	235.88	10.00	10.00	0.00
11,000.00	46.92	213.00	10,944.23	-261.96	-170.12	265.63	10.00	10.00	0.00
11,030.83	50.00	213.00	10,964.67	-281.31	-182.89	285.25	10.00	10.00	0.00
11,050.00	51.36	211.25	10,976.82	-293.87	-190.57	297.98	10.00	7.07	-9.14
11,100.00	55.00	206.98	11,006.79	-328.84	-210.00	333.37	10.00	7.30	-8.54
11,150.00	58.79	203.08	11,034.09	-366.79	-227.68	371.69	10.00	7.57	-7.80
11,200.00	62.69	199.48	11,058.54	-407.42	-243.48	412.67	10.00	7.79	-7.19
11,250.00	66.67	196.13	11,079.92	-450.44	-257.28	455.98	10.00	7.96	-6.70
11,300.00	70.71	192.98	11,098.09	-495.52	-268.96	501.30	10.00	8.09	-6.30
11,350.00	74.81	189.98	11,112.91	-542.30	-278.45	548.28	10.00	8.20	-6.00
11,400.00	78.95	187.10	11,124.26	-590.44	-285.66	596.57	10.00	8.27	-5.77
11,450.00	83.11	184.29	11,132.06	-639.57	-290.55	645.79	10.00	8.33	-5.61
11,500.00	87.29	181.54	11,136.24	-689.32	-293.08	695.58	10.00	8.36	-5.51
11,532.36	90.00	179.77	11,137.00	-721.66	-293.45	727.92	10.00	8.37	-5.47
PLU 20 BD 123H LP									
11,600.00	90.00	179.77	11,137.00	-789.30	-293.17	795.54	0.00	0.00	0.00
11,700.00	90.00	179.77	11,137.00	-889.30	-292.76	895.51	0.00	0.00	0.00
11,800.00	90.00	179.77	11,137.00	-989.30	-292.36	995.48	0.00	0.00	0.00
11,900.00	90.00	179.77	11,137.00	-1,089.30	-291.95	1,095.44	0.00	0.00	0.00
12,000.00	90.00	179.77	11,137.00	-1,189.30	-291.54	1,195.41	0.00	0.00	0.00
12,094.20	90.00	179.77	11,137.00	-1,283.50	-291.16	1,289.58	0.00	0.00	0.00
PLU 20 BD 154H FTP_330FNL_363FEL - PLU 20 BD 124H FTP_330FNL_363FEL									
12,096.76	90.00	179.77	11,137.00	-1,286.05	-291.14	1,292.13	0.00	0.00	0.00
PLU 20 BD 104H FTP_330FNL_644FWL									
12,099.51	90.00	179.77	11,137.00	-1,288.81	-291.13	1,294.88	0.00	0.00	0.00
PLU 20 BD 163H FTP_330FNL_313FWL - PLU 20 BD 123H FTP_330FNL_313FWL									
12,100.00	90.00	179.77	11,137.00	-1,289.30	-291.13	1,295.38	0.00	0.00	0.00
12,200.00	90.00	179.77	11,137.00	-1,389.30	-290.72	1,395.34	0.00	0.00	0.00
12,300.00	90.00	179.77	11,137.00	-1,489.30	-290.31	1,495.31	0.00	0.00	0.00
12,400.00	90.00	179.77	11,137.00	-1,589.30	-289.91	1,595.27	0.00	0.00	0.00
12,500.00	90.00	179.77	11,137.00	-1,689.29	-289.50	1,695.24	0.00	0.00	0.00
12,600.00	90.00	179.77	11,137.00	-1,789.29	-289.09	1,795.21	0.00	0.00	0.00
12,700.00	90.00	179.77	11,137.00	-1,889.29	-288.68	1,895.17	0.00	0.00	0.00
12,800.00	90.00	179.77	11,137.00	-1,989.29	-288.27	1,995.14	0.00	0.00	0.00
12,900.00	90.00	179.77	11,137.00	-2,089.29	-287.87	2,095.10	0.00	0.00	0.00
13,000.00	90.00	179.77	11,137.00	-2,189.29	-287.46	2,195.07	0.00	0.00	0.00
13,100.00	90.00	179.77	11,137.00	-2,289.29	-287.05	2,295.04	0.00	0.00	0.00
13,200.00	90.00	179.77	11,137.00	-2,389.29	-286.64	2,395.00	0.00	0.00	0.00
13,300.00	90.00	179.77	11,137.00	-2,489.29	-286.23	2,494.97	0.00	0.00	0.00
13,400.00	90.00	179.77	11,137.00	-2,589.29	-285.82	2,594.94	0.00	0.00	0.00

Planning Report

Database:	PREDATOR_EDM	Local Co-ordinate Reference:	Well PLU 20 BD 123H SHL - Slot PLU 20 BD 123H SHL
Company:	XTO Energy	TVD Reference:	3162+31 @ 3193.00usft (NabF26)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3162+31 @ 3193.00usft (NabF26)
Site:	PLU 20 Brushy Draw	North Reference:	Grid
Well:	PLU 20 BD 123H SHL	Survey Calculation Method:	Minimum Curvature
Wellbore:	123H Lateral		
Design:	Plan #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Buid Rate (°/100ft)	Turn Rate (°/100ft)	
13,500.00	90.00	179.77	11,137.00	-2,689.29	-285.42	2,694.90	0.00	0.00	0.00	
13,600.00	90.00	179.77	11,137.00	-2,789.29	-285.01	2,794.87	0.00	0.00	0.00	
13,700.00	90.00	179.77	11,137.00	-2,889.28	-284.60	2,894.83	0.00	0.00	0.00	
13,800.00	90.00	179.77	11,137.00	-2,989.28	-284.19	2,994.80	0.00	0.00	0.00	
13,900.00	90.00	179.77	11,137.00	-3,089.28	-283.78	3,094.77	0.00	0.00	0.00	
14,000.00	90.00	179.77	11,137.00	-3,189.28	-283.37	3,194.73	0.00	0.00	0.00	
14,100.00	90.00	179.77	11,137.00	-3,289.28	-282.97	3,294.70	0.00	0.00	0.00	
14,200.00	90.00	179.77	11,137.00	-3,389.28	-282.56	3,394.66	0.00	0.00	0.00	
14,300.00	90.00	179.77	11,137.00	-3,489.28	-282.15	3,494.63	0.00	0.00	0.00	
14,400.00	90.00	179.77	11,137.00	-3,589.28	-281.74	3,594.60	0.00	0.00	0.00	
14,500.00	90.00	179.77	11,137.00	-3,689.28	-281.33	3,694.56	0.00	0.00	0.00	
14,600.00	90.00	179.77	11,137.00	-3,789.28	-280.92	3,794.53	0.00	0.00	0.00	
14,700.00	90.00	179.77	11,137.00	-3,889.28	-280.52	3,894.49	0.00	0.00	0.00	
14,800.00	90.00	179.77	11,137.00	-3,989.28	-280.11	3,994.46	0.00	0.00	0.00	
14,900.00	90.00	179.77	11,137.00	-4,089.27	-279.70	4,094.43	0.00	0.00	0.00	
15,000.00	90.00	179.77	11,137.00	-4,189.27	-279.29	4,194.39	0.00	0.00	0.00	
15,100.00	90.00	179.77	11,137.00	-4,289.27	-278.88	4,294.36	0.00	0.00	0.00	
15,200.00	90.00	179.77	11,137.00	-4,389.27	-278.47	4,394.33	0.00	0.00	0.00	
15,300.00	90.00	179.77	11,137.00	-4,489.27	-278.07	4,494.29	0.00	0.00	0.00	
15,400.00	90.00	179.77	11,137.00	-4,589.27	-277.66	4,594.26	0.00	0.00	0.00	
15,500.00	90.00	179.77	11,137.00	-4,689.27	-277.25	4,694.22	0.00	0.00	0.00	
15,600.00	90.00	179.77	11,137.00	-4,789.27	-276.84	4,794.19	0.00	0.00	0.00	
15,700.00	90.00	179.77	11,137.00	-4,889.27	-276.43	4,894.16	0.00	0.00	0.00	
15,800.00	90.00	179.77	11,137.00	-4,989.27	-276.02	4,994.12	0.00	0.00	0.00	
15,900.00	90.00	179.77	11,137.00	-5,089.27	-275.62	5,094.09	0.00	0.00	0.00	
16,000.00	90.00	179.77	11,137.00	-5,189.27	-275.21	5,194.05	0.00	0.00	0.00	
16,100.00	90.00	179.77	11,137.00	-5,289.26	-274.80	5,294.02	0.00	0.00	0.00	
16,200.00	90.00	179.77	11,137.00	-5,389.26	-274.39	5,393.99	0.00	0.00	0.00	
16,300.00	90.00	179.77	11,137.00	-5,489.26	-273.98	5,493.95	0.00	0.00	0.00	
16,400.00	90.00	179.77	11,137.00	-5,589.26	-273.57	5,593.92	0.00	0.00	0.00	
16,500.00	90.00	179.77	11,137.00	-5,689.26	-273.17	5,693.89	0.00	0.00	0.00	
16,600.00	90.00	179.77	11,137.00	-5,789.26	-272.76	5,793.85	0.00	0.00	0.00	
16,700.00	90.00	179.77	11,137.00	-5,889.26	-272.35	5,893.82	0.00	0.00	0.00	
16,800.00	90.00	179.77	11,137.00	-5,989.26	-271.94	5,993.78	0.00	0.00	0.00	
16,900.00	90.00	179.77	11,137.00	-6,089.26	-271.53	6,093.75	0.00	0.00	0.00	
17,000.00	90.00	179.77	11,137.00	-6,189.26	-271.12	6,193.72	0.00	0.00	0.00	
17,100.00	90.00	179.77	11,137.00	-6,289.26	-270.72	6,293.68	0.00	0.00	0.00	
17,200.00	90.00	179.77	11,137.00	-6,389.26	-270.31	6,393.65	0.00	0.00	0.00	
17,300.00	90.00	179.77	11,137.00	-6,489.25	-269.90	6,493.61	0.00	0.00	0.00	
17,400.00	90.00	179.77	11,137.00	-6,589.25	-269.49	6,593.58	0.00	0.00	0.00	
17,500.00	90.00	179.77	11,137.00	-6,689.25	-269.08	6,693.55	0.00	0.00	0.00	
17,600.00	90.00	179.77	11,137.00	-6,789.25	-268.67	6,793.51	0.00	0.00	0.00	
17,700.00	90.00	179.77	11,137.00	-6,889.25	-268.27	6,893.48	0.00	0.00	0.00	
17,800.00	90.00	179.77	11,137.00	-6,989.25	-267.86	6,993.45	0.00	0.00	0.00	
17,900.00	90.00	179.77	11,137.00	-7,089.25	-267.45	7,093.41	0.00	0.00	0.00	
18,000.00	90.00	179.77	11,137.00	-7,189.25	-267.04	7,193.38	0.00	0.00	0.00	
18,100.00	90.00	179.77	11,137.00	-7,289.25	-266.63	7,293.34	0.00	0.00	0.00	
18,200.00	90.00	179.77	11,137.00	-7,389.25	-266.22	7,393.31	0.00	0.00	0.00	
18,300.00	90.00	179.77	11,137.00	-7,489.25	-265.82	7,493.28	0.00	0.00	0.00	
18,400.00	90.00	179.77	11,137.00	-7,589.25	-265.41	7,593.24	0.00	0.00	0.00	
18,500.00	90.00	179.77	11,137.00	-7,689.24	-265.00	7,693.21	0.00	0.00	0.00	
18,600.00	90.00	179.77	11,137.00	-7,789.24	-264.59	7,793.17	0.00	0.00	0.00	
18,700.00	90.00	179.77	11,137.00	-7,889.24	-264.18	7,893.14	0.00	0.00	0.00	

Planning Report

Database:	PREDATOR_EDM	Local Co-ordinate Reference:	Well PLU 20 BD 123H SHL - Slot PLU 20 BD 123H SHL
Company:	XTO Energy	TVD Reference:	3162+31 @ 3193.00usft (NabF26)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3162+31 @ 3193.00usft (NabF26)
Site:	PLU 20 Brushy Draw	North Reference:	Grid
Well:	PLU 20 BD 123H SHL	Survey Calculation Method:	Minimum Curvature
Wellbore:	123H Lateral		
Design:	Plan #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E/W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
18,800.00	90.00	179.77	11,137.00	-7,989.24	-263.77	7,993.11	0.00	0.00	0.00	
18,900.00	90.00	179.77	11,137.00	-8,089.24	-263.37	8,093.07	0.00	0.00	0.00	
19,000.00	90.00	179.77	11,137.00	-8,189.24	-262.96	8,193.04	0.00	0.00	0.00	
19,100.00	90.00	179.77	11,137.00	-8,289.24	-262.55	8,293.00	0.00	0.00	0.00	
19,200.00	90.00	179.77	11,137.00	-8,389.24	-262.14	8,392.97	0.00	0.00	0.00	
19,300.00	90.00	179.77	11,137.00	-8,489.24	-261.73	8,492.94	0.00	0.00	0.00	
19,400.00	90.00	179.77	11,137.00	-8,589.24	-261.32	8,592.90	0.00	0.00	0.00	
19,500.00	90.00	179.77	11,137.00	-8,689.24	-260.92	8,692.87	0.00	0.00	0.00	
19,600.00	90.00	179.77	11,137.00	-8,789.24	-260.51	8,792.84	0.00	0.00	0.00	
19,700.00	90.00	179.77	11,137.00	-8,889.23	-260.10	8,892.80	0.00	0.00	0.00	
19,800.00	90.00	179.77	11,137.00	-8,989.23	-259.69	8,992.77	0.00	0.00	0.00	
19,900.00	90.00	179.77	11,137.00	-9,089.23	-259.28	9,092.73	0.00	0.00	0.00	
20,000.00	90.00	179.77	11,137.00	-9,189.23	-258.87	9,192.70	0.00	0.00	0.00	
20,100.00	90.00	179.77	11,137.00	-9,289.23	-258.47	9,292.67	0.00	0.00	0.00	
20,200.00	90.00	179.77	11,137.00	-9,389.23	-258.06	9,392.63	0.00	0.00	0.00	
20,300.00	90.00	179.77	11,137.00	-9,489.23	-257.65	9,492.60	0.00	0.00	0.00	
20,400.00	90.00	179.77	11,137.00	-9,589.23	-257.24	9,592.56	0.00	0.00	0.00	
20,500.00	90.00	179.77	11,137.00	-9,689.23	-256.83	9,692.53	0.00	0.00	0.00	
20,600.00	90.00	179.77	11,137.00	-9,789.23	-256.42	9,792.50	0.00	0.00	0.00	
20,700.00	90.00	179.77	11,137.00	-9,889.23	-256.02	9,892.46	0.00	0.00	0.00	
20,800.00	90.00	179.77	11,137.00	-9,989.23	-255.61	9,992.43	0.00	0.00	0.00	
20,900.00	90.00	179.77	11,137.00	-10,089.22	-255.20	10,092.40	0.00	0.00	0.00	
21,000.00	90.00	179.77	11,137.00	-10,189.22	-254.79	10,192.36	0.00	0.00	0.00	
21,100.00	90.00	179.77	11,137.00	-10,289.22	-254.38	10,292.33	0.00	0.00	0.00	
21,200.00	90.00	179.77	11,137.00	-10,389.22	-253.97	10,392.29	0.00	0.00	0.00	
21,300.00	90.00	179.77	11,137.00	-10,489.22	-253.57	10,492.26	0.00	0.00	0.00	
21,400.00	90.00	179.77	11,137.00	-10,589.22	-253.16	10,592.23	0.00	0.00	0.00	
21,500.00	90.00	179.77	11,137.00	-10,689.22	-252.75	10,692.19	0.00	0.00	0.00	
21,600.00	90.00	179.77	11,137.00	-10,789.22	-252.34	10,792.16	0.00	0.00	0.00	
21,700.00	90.00	179.77	11,137.00	-10,889.22	-251.93	10,892.12	0.00	0.00	0.00	
21,800.00	90.00	179.77	11,137.00	-10,989.22	-251.52	10,992.09	0.00	0.00	0.00	
21,900.00	90.00	179.77	11,137.00	-11,089.22	-251.12	11,092.06	0.00	0.00	0.00	
22,000.00	90.00	179.77	11,137.00	-11,189.22	-250.71	11,192.02	0.00	0.00	0.00	
22,065.18	90.00	179.77	11,137.00	-11,254.40	-250.44	11,257.18	0.00	0.00	0.00	
PLU 20 BD 154H LTP_330FSL_350FEL - PLU 20 BD 124H LTP_330FSL_350FEL										
22,065.19	90.00	179.77	11,137.00	-11,254.40	-250.44	11,257.19	0.02	0.00	0.00	
PLU 20 BD 123H LTP_330FSL_320FWL										
22,066.53	90.00	179.77	11,137.00	-11,255.75	-250.44	11,258.53	0.00	0.00	0.00	
PLU 20 BD 104H LTP_330FSL_650FWL										
22,067.89	90.00	179.77	11,137.00	-11,257.10	-250.43	11,259.89	0.00	0.00	0.00	
PLU 20 BD 163H LTP_330FSL_320FWL										
22,100.00	90.00	179.77	11,137.00	-11,289.21	-250.30	11,291.99	0.00	0.00	0.00	
22,195.18	90.00	179.77	11,137.00	-11,384.40	-249.91	11,387.14	0.00	0.00	0.00	
PLU 20 BD 124H PBHL_200FSL_350FEL - PLU 20 BD 154H PBHL_200FSL_350FEL										
22,196.53	90.00	179.77	11,137.00	-11,385.75	-249.91	11,388.49	0.00	0.00	0.00	
PLU 20 BD 104H PBHL_200FSL_650FWL										
22,197.89	90.00	179.77	11,137.00	-11,387.10	-249.90	11,389.84	0.00	0.00	0.00	
PLU 20 BD 163H PBHL_200FSL_320FWL - PLU 20 BD 123H PBHL_200FSL_320FWL										

Planning Report

Database:	PREDATOR_EDM	Local Co-ordinate Reference:	Well PLU 20 BD 123H SHL - Slot PLU 20 BD 123H SHL
Company:	XTO Energy	TVD Reference:	3162+31 @ 3193.00usft (NabF26)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3162+31 @ 3193.00usft (NabF26)
Site:	PLU 20 Brushy Draw	North Reference:	Grid
Well:	PLU 20 BD 123H SHL	Survey Calculation Method:	Minimum Curvature
Wellbore:	123H Lateral		
Design:	Plan #1		

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
PLU 20 BD 123H SHL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	404,287.40	632,528.30	32.11077894	-103.90530169
PLU 20 BD 123H LP - plan hits target center - Point	0.00	0.00	11,137.00	-721.66	-293.45	403,585.74	632,234.85	32.10879832	-103.90625866
PLU 20 BD 123H LTP_3 - plan misses target center by 0.44usft at 22065.19usft MD (11137.00 TVD, -11254.40 N, -250.44 E) - Point	0.00	0.00	11,137.00	-11,254.40	-250.00	393,033.00	632,278.30	32.07984361	-103.90625306
PLU 20 BD 123H PBHL - plan hits target center - Rectangle (sides W100.00 H10,098.00 D0.00)	0.00	0.00	11,137.00	-11,387.10	-249.90	392,900.30	632,278.40	32.07947881	-103.90625443
PLU 20 BD 123H FTP_3 - plan misses target center by 1.53usft at 12099.51usft MD (11137.00 TVD, -1288.81 N, -291.13 E) - Point	0.00	0.00	11,137.00	-1,288.80	-289.60	402,998.60	632,238.70	32.10723922	-103.90625349

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO Permian Operation, LLC
LEASE NO.:	NMLC-0064894
WELL NAME & NO.:	Poker Lake Unit 20 BD 903H
SURFACE HOLE FOOTAGE:	0955' FSL & 1945' FWL
BOTTOM HOLE FOOTAGE	0200' FSL & 1650' FWL Sec. 32, T. 25 S., R 30 E.
LOCATION:	Section 20, T. 25 S., R 30 E., NMPM
COUNTY:	Eddy County, New Mexico

Commercial Well Determination

A commercial well determination shall be submitted after production has been established for at least six months.

Unit Wells

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 when the sign is replaced.

A. DRILLING OPERATIONS REQUIREMENTS

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

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

☒ **Eddy County**

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

1. A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the Delaware formation. **As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.**
2. 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. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**

3. 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 is located, this does not include the dog house or stairway area.
4. 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.

B. CASING

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.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

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.

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.

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

Possibility of water flows in the Salado and Castile.

Possibility of lost circulation in the Red beds, Rustler, and Delaware.

Abnormal pressures may be encountered upon penetrating the 3rd Bone Spring Sandstone and all subsequent formations.

1. The 16 inch surface casing shall be set at approximately 739 feet (in a competent bed below the Magenta Dolomite, which is a Member of the Rustler, and if salt is encountered, set casing at least 25 feet above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.
 - 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.

11-3/4" 1st Intermediate casing shall be kept fluid filled while running into hole to meet BLM minimum collapse requirements.

2. The minimum required fill of cement behind the 11-3/4 inch 1st intermediate casing is (ensure casing is 25 feet below the base of the salt):

☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.

Formation below the 11-3/4" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.

8-5/8" 2nd Intermediate casing shall be kept fluid filled while running into hole to meet BLM minimum collapse requirements.

3. The minimum required fill of cement behind the 8-5/8 inch 2nd intermediate casing is:

☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.

Formation below the 8-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

4. 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.
5. 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.

C. 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 53.
2. Variance approved to use flex line from BOP to choke manifold. 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.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M) psi.**

4. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the 11-3/4 inch 1" intermediate casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 11-3/4 inch 1" intermediate 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. Operator shall perform the 8-5/8" casing integrity tests to 70% of the casing burst. This will test the multi-bowl seals.
 - 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.

5M 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.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
- a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.
 - c. 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.
 - d. The results of the test shall be reported to the appropriate BLM office.

- e. 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.**
- f. 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.
- g. 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.

D. 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.

E. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

F. 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.

JAM 061819