

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.**SUBMIT IN TRIPLICATE - Other instructions on page 2**

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMNM15302
2. Name of Operator XTO ENERGY INCORPORATED		6. If Indian, Allottee or Tribe Name
Contact: KELLY KARDOS E-Mail: kelly_kardos@xtoenergy.com		7. If Unit or CA/Agreement, Name and/or No.
3a. Address 6401 HOLIDAY HILL ROAD BLDG 5 MIDLAND, TX 79707	3b. Phone No. (include area code) Ph: 432-620-4374	8. Well Name and No. CORRAL CANYON FEDERAL 20H
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 4 T25S R29E SESE 170FSL 560FEL		9. API Well No. 30-015-43711-00-X1
		10. Field and Pool or Exploratory Area CORRAL CANYON
		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 Energy Inc, requests permission to make the following changes to the original APD:

Change BHL from 200'FNL & 610'FEL in Sec. 4, T25S, R29E to 50'FSL & 660'FEL in Sec. 16, T25S, R29E.

Attachments:

C102
Drilling Plan
BOP/CK
Multibowl Diagram
FH
Directional Plan

14. I hereby certify that the foregoing is true and correct. Electronic Submission #456241 verified by the BLM Well Information System For XTO ENERGY INCORPORATED, sent to the Carlsbad Committed to AFMSS for processing by JENNIFER SANCHEZ on 02/28/2019 (19JAS0004SE)	
Name (Printed/Typed) KELLY KARDOS	Title REGULATORY COORDINATOR
Signature (Electronic Submission)	Date 02/28/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By (BLM Approver Not Specified) _____	Title _____	Date 02/28/2019
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 ****

Accepted for Record 03/26/2020 - Kurt Simmons NMOCD

Revisions to Operator-Submitted EC Data for Sundry Notice #456241

	Operator Submitted	BLM Revised (AFMSS)
Sundry Type:	APDCH NOI	APDCH NOI
Lease:	NMNM15302	NMNM15302
Agreement:		
Operator:	XTO ENERGY INC 6401 HOLIDAY HILL RD BLDG 5 MIDLAND, TX 79707 Ph: 432-620-4374	XTO ENERGY INCORPORATED 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:	NM	NM
County:	EDDY	EDDY
Field/Pool:	CORRAL CANYON; DEL, NW	CORRAL CANYON
Well/Facility:	CORRAL CANYON FEDERAL 20H Sec 4 T25S R29E Mer NMP SESE 170FSL 560FEL	CORRAL CANYON FEDERAL 20H Sec 4 T25S R29E SESE 170FSL 560FEL

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OMB NO. 1004-0137
Expires: January 31, 2018

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NMNM15302

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8. Well Name and No.
CORRAL CANYON FEDERAL 20H

9. API Well No.
30-015-43711

10. Field and Pool or Exploratory Area
CORRAL CANYON; DEL, NW

11. County or Parish, State
EDDY COUNTY, NM

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator
XTO ENERGY INC

Contact: KELLY KARDOS
E-Mail: kelly_kardos@xtoenergy.com

3a. Address
6401 HOLIDAY HILL RD BLDG 5
MIDLAND, TX 79707

3b. Phone No. (include area code)
Ph: 432-620-4374

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

Sec 4 T25S R29E Mer NMP SESE 170FSL 560FEL

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Attachments:

C102
Drilling Plan
BOP/CK
Multibowl Diagram
FH
Directional Plan

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

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

Electronic Submission #456241 verified by the BLM Well Information System
For XTO ENERGY INC sent to the Carlsbad
Committed to AFMSS for processing by JENNIFER SANCHEZ on 02/28/2019 ()

Name (Printed/Typed) KELLY KARDOS

Title REGULATORY COORDINATOR

Signature (Electronic Submission)

Date 02/28/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By

Title

FEB 28 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

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(Instructions on page 2)

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

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

District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-43711		² Pool Code 96464	³ Pool Name CORRAL CANYON; DE, NW
⁴ Property Code	⁵ Property Name CORRAL CANYON FEDERAL		⁶ Well Number 20H
⁷ OGRID No. 005380	⁸ Operator Name XTO ENERGY, INC.		⁹ Elevation 2,998'

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
P	4	25 S	29 E		170	SOUTH	560	EAST	EDDY

¹¹ Bottom Hole Location If Different From Surface									
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	16	25 S	29 E		50	SOUTH	660	EAST	EDDY

¹² Dedicated Acres 320	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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 SEC. 4 GRID AZ = 200°05'20" HORIZ. DIST. = 288.04' SEC. 3 S.H.L. 560' 660' F.T.P. SEC. 9 SEC. 10 T25S R29E SEC. 16 GRID AZ = 179°48'00" HORIZ. DIST. = 10,468.00' SEC. 15 330' SEC. 21 L.T.P. SEC. 22 B.H.L. 660'	GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y = 419,294.2 X = 608,673.4 LAT = 32.152269°N LONG = 103.982187°W FIRST TAKE POINT NAD 27 NME Y = 419,023.7 X = 608,574.5 LAT = 32.151527°N LONG = 103.982510°W CORNER COORDINATES TABLE NAD 27 NME A - Y = 419,127.1 N, X = 609,234.4 E B - Y = 419,120.2 N, X = 607,904.7 E C - Y = 416,469.6 N, X = 609,235.0 E D - Y = 416,464.1 N, X = 607,907.0 E E - Y = 413,817.8 N, X = 609,236.8 E F - Y = 413,812.2 N, X = 607,909.9 E G - Y = 411,164.1 N, X = 609,253.6 E H - Y = 411,158.2 N, X = 607,926.1 E I - Y = 408,509.1 N, X = 609,270.8 E J - Y = 408,502.7 N, X = 607,942.5 E CORNER COORDINATES TABLE NAD 83 NME A - Y = 419,185.6 N, X = 650,418.6 E B - Y = 419,178.7 N, X = 649,088.9 E C - Y = 416,528.0 N, X = 650,419.3 E D - Y = 416,522.6 N, X = 649,091.3 E E - Y = 413,876.2 N, X = 650,421.1 E F - Y = 413,870.6 N, X = 649,094.2 E G - Y = 411,222.4 N, X = 650,438.0 E H - Y = 411,218.5 N, X = 649,110.5 E I - Y = 408,567.4 N, X = 650,455.3 E J - Y = 408,561.0 N, X = 649,127.0 E LAST TAKE POINT NAD 27 NME Y = 408,605.9 X = 608,610.1 LAT = 32.122888°N LONG = 103.982504°W BOTTOM HOLE LOCATION NAD 27 NME Y = 408,555.9 X = 608,610.5 LAT = 32.122751°N LONG = 103.982504°W	GEODETIC COORDINATES NAD 83 NME SURFACE LOCATION Y = 419,352.7 X = 649,857.6 LAT = 32.152393°N LONG = 103.982675°W FIRST TAKE POINT NAD 83 NME Y = 419,082.2 X = 649,758.7 LAT = 32.151650°N LONG = 103.982997°W CORNER COORDINATES TABLE NAD 83 NME A - Y = 419,185.6 N, X = 650,418.6 E B - Y = 419,178.7 N, X = 649,088.9 E C - Y = 416,528.0 N, X = 650,419.3 E D - Y = 416,522.6 N, X = 649,091.3 E E - Y = 413,876.2 N, X = 650,421.1 E F - Y = 413,870.6 N, X = 649,094.2 E G - Y = 411,222.4 N, X = 650,438.0 E H - Y = 411,218.5 N, X = 649,110.5 E I - Y = 408,567.4 N, X = 650,455.3 E J - Y = 408,561.0 N, X = 649,127.0 E LAST TAKE POINT NAD 83 NME Y = 408,684.2 X = 649,794.6 LAT = 32.123012°N LONG = 103.982991°W BOTTOM HOLE LOCATION NAD 83 NME Y = 408,614.2 X = 649,795.0 LAT = 32.122875°N LONG = 103.982990°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 2/28/19 Signature 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. 01-30-2019 Date of Survey Signature and Seal of Professional Surveyor: MARK DILLON HARP 23786 Certificate Number		
	MARK DILLON HARP NEW MEXICO 23786 PROFESSIONAL SURVEYOR		
	TM 2017101684		

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

XTO Energy Inc.
Corral Canyon Fed 20H
Projected TD: 19554' MD / 8732' TVD
SHL: 170' FSL & 560' FEL , Section 4, T25S, R29E
BHL: 50' FSL & 660' FEL , Section 4, T25S, R29E
Eddy County, NM

1. Geologic Name of Surface Formation
A. Quaternary

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

Formation	Well Depth (TVD)	Water/Oil/Gas
Rustler	404'	Water
Top of Salt	785'	Water
Base of Salt	2826'	Water
Delaware	3023'	Water
Bone Spring	6810'	Water/Oil/Gas
1st Bone Spring Ss	7726'	Water/Oil/Gas
2nd Bone Spring Ss	8512'	Water/Oil/Gas
Target/Land Curve	8732'	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 @ 680' (105' above the salt) and circulating cement back to surface. The salt will be isolated by setting 9-5/8 inch casing at 3000' and circulating cement to surface. 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 up to the 9-5/8 inch casing shoe.

3. Casing Design

See CDS

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17-1/2"	0' - 680'	13-3/8"	48	STC	H-40	New	1.89	2.47	9.87
12-1/4"	0' - 3000'	9-5/8"	36	LTC	J-55	New	1.53	2.18	4.19
8-3/4"	0' - 19554'	5-1/2"	17	BTC	P-110	New	1.12	1.77	2.52

- XTO requests to utilize centralizers only in the curve after the KOP and only a minimum of one every other joint.
- 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

WELLHEAD:

Permanent Wellhead - GE RSH Multibowl System

A. Starting Head: 13-5/8" 5M top flange x 13-3/8" 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 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", 48 New H-40, STC casing to be set at +/- 680'

Lead: 280 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

Intermediate Casing: 9-5/8", 36 New J-55, LTC casing to be set at +/- 3000'

Lead: 830 sxs Halcem-C + 2% CaCl (mixed at 12.9 ppg, 1.88 ft³/sx, 9.61 gal/sx water)

Tail: 230 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", 17 New P-110, BTC casing to be set at +/- 19554'

Lead: 620 sxs NeoCem (mixed at 10.5 ppg, 2.69 ft³/sx, 12.26 gal/sx water)

Tail: 2440 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) for this well consists of a 13-5/8" minimum 3M Hydril and a 13-5/8" minimum 3M Double Ram BOP. MASP should not exceed 2302 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 nipping up on the 13-5/8" 3M bradenhead and flange, the BOP test will be limited to 3000 psi. When nipping up on the 9-5/8", the BOP will be tested to a minimum of 3000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 3M 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' to 680'	17-1/2"	FW/Native	8.4-8.8	35-40	NC
680' to 3000'	12-1/4"	Brine/Gel Sweeps	9.8-10.2	30-32	NC
3000' to 19554'	8-3/4"	FW / Cut Brine / Polymer	9 - 9.3	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 13-3/8" surface casing with brine solution. A 9.8ppg-10.2ppg brine mud will be used while drilling through the salt formation. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Pump speed will be recorded on a daily drilling report after mudding up. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

7. Auxiliary Well Control and Monitoring Equipment

- A. A Kelly cock will be in the drill string at all times.
- B. A full opening drill pipe stabbing valve having appropriate connections will be on the rig floor at all times.
- C. H2S monitors will be on location when drilling below the 13-3/8" casing.

8. Logging, Coring and Testing Program

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

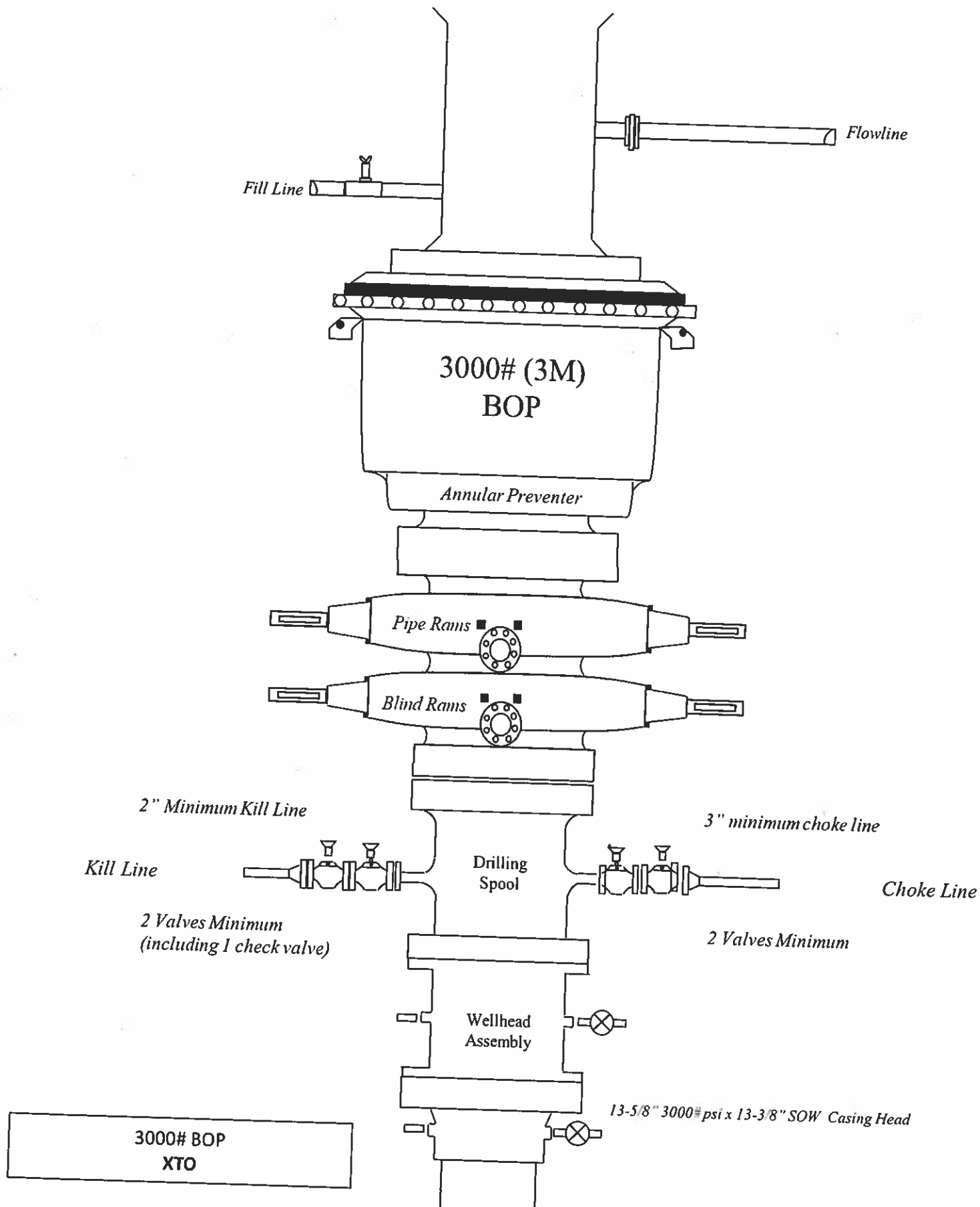
Open hole logging will not be done on this well.

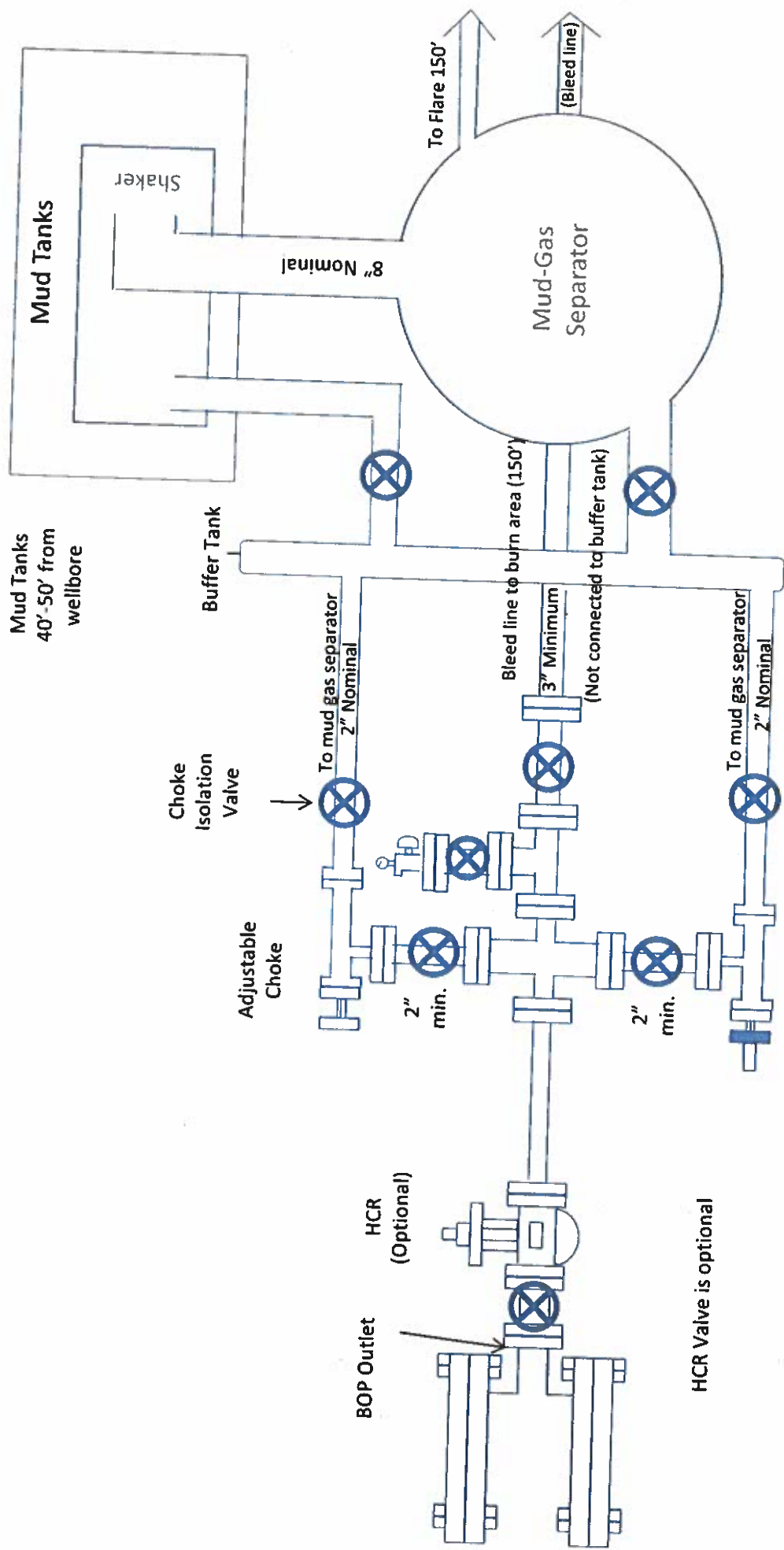
9. Abnormal Pressures and Temperatures / Potential Hazards

None Anticipated. BHT of 135 to 155 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 4223 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.



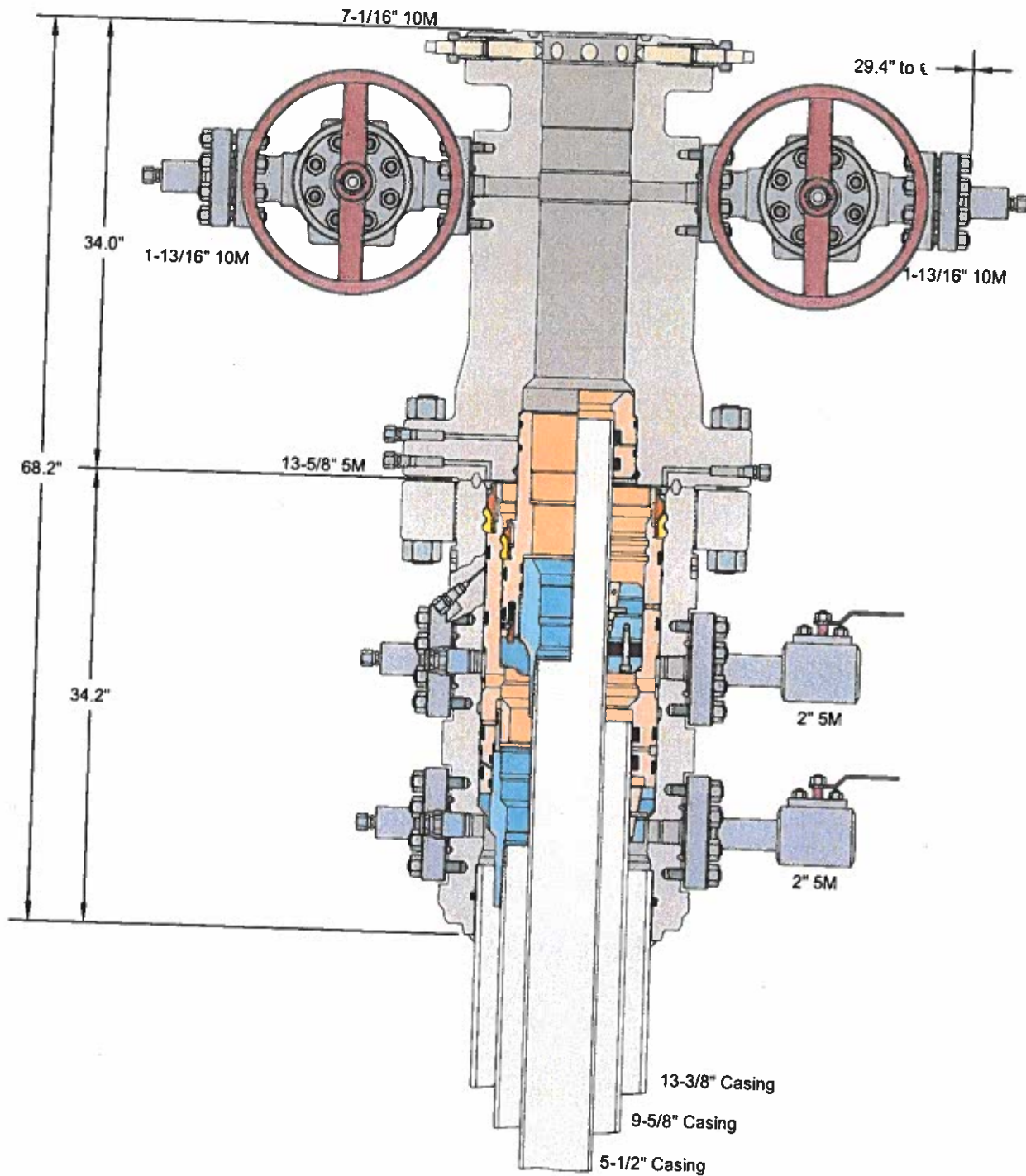


2M & 3M Choke Manifold Diagram
XTO

**Drilling Operations
Choke Manifold
2M & 3M Service**



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.

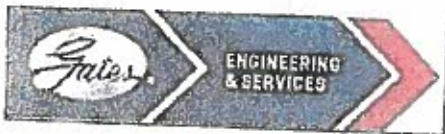
XTO ENERGY, INC.

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

DRAWN	VJK	16FEB17
APPRV	KN	16FEB17

FOR REFERENCE ONLY

DRAWING NO. 10012842



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

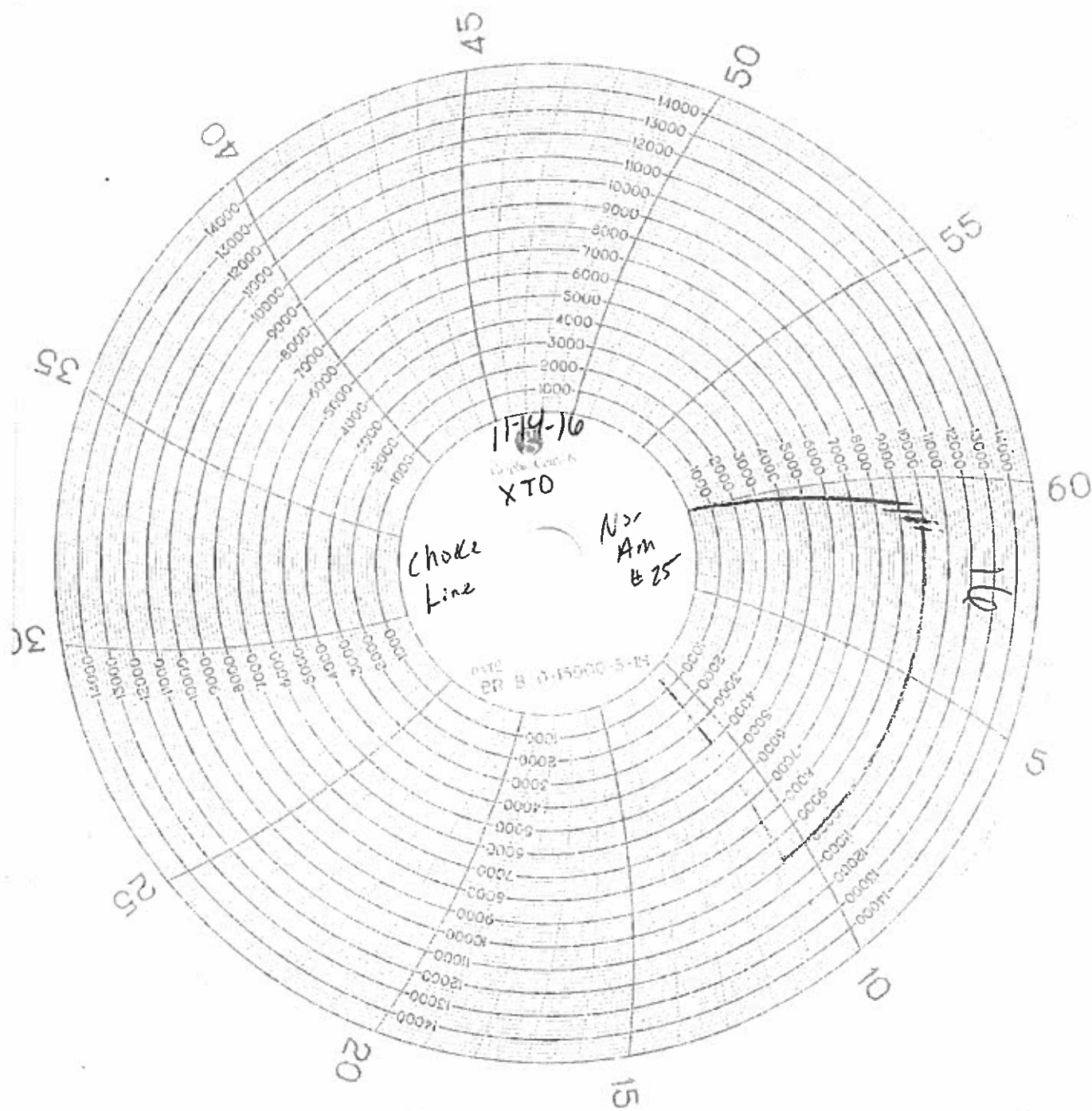
PHONE: 361-887-9807
FAX: 361-887-0812
EMAIL: crpe@s@gates.com
WEB: www.gates.com

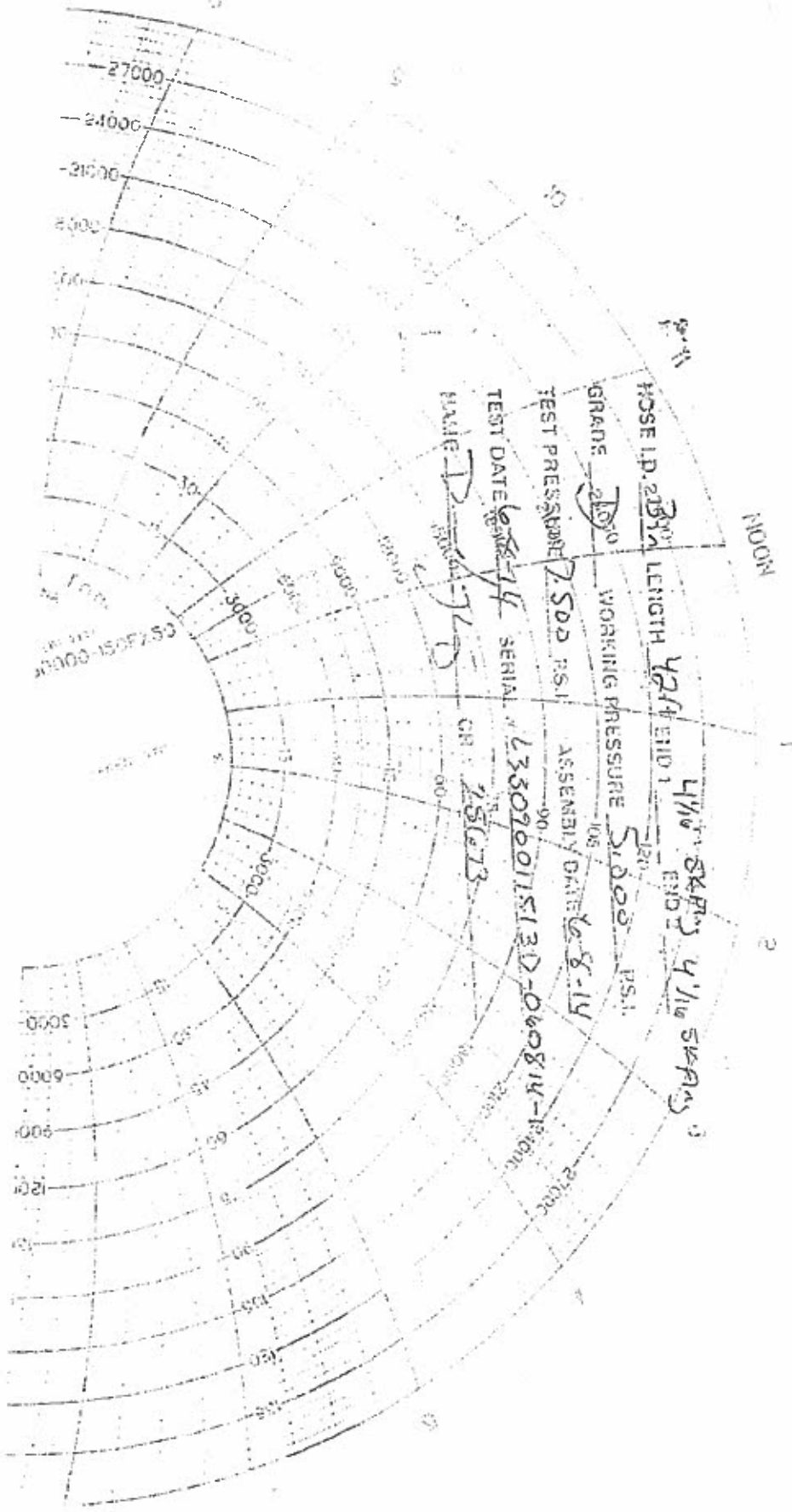
GRADE D PRESSURE TEST CERTIFICATE

Customer :	AUSTIN DISTRIBUTING	Test Date:	6/5/2014
Customer Ref. :	PENDING	Hose Serial No.:	D 060814-1
Invoice No. :	201709	Crafted By:	NORHA
Product Description:	FDJ.042.0R41/16.5KFLGE/E LE		
End Fitting 1 :	1 1/16 in.5K 1 LG	End Fitting 2 :	1 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:	





HOSE I.D. 2 1/2"

LENGTH 424 END 1

END 2 4 1/2 SPRAY

GRADE 2100

WORKING PRESSURE 5000 PSI.

ASSEMBLY DATE 6-8-14

TEST PRESSURE 7500 PSI.

SERIAL 63020015130-060814-1000

CR 25073

TEST DATE 6-8-14

NAME D-710

DATE 6-8-14

CR 25073

ASSEMBLY DATE 6-8-14

SERIAL 63020015130-060814-1000

TEST PRESSURE 7500 PSI.

GRADE 2100



XTO ENERGY, INC.

Eddy County, NM

Sec 4, T25S, R29E

Corral Canyon Federal #20H

Wellbore #1

Plan: Plan #2

QES Well Planning Report

31 January, 2019





Well Planning Report



Database: EDM 5000.1 Single User Db
Company: XTO ENERGY, INC.
Project: Eddy County, NM
Site: Sec 4, T25S, R29E
Well: Corral Canyon Federal #20H
Wellbore: Wellbore #1
Design: Plan #2

Local Co-ordinate Reference: Well Corral Canyon Federal #20H
TVD Reference: RKB (GL+27') @ 3025.0usft (Frontier #27)
MD Reference: RKB (GL+27') @ 3025.0usft (Frontier #27)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project Eddy County, NM

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

System Datum: Mean Sea Level

Site Sec 4, T25S, R29E

Site Position: Northing: 419,294.20 usft Latitude: 32° 9' 8.170 N
From: Map Easting: 608,673.40 usft Longitude: 103° 58' 55.875 W
Position Uncertainty: 0.0 usft Slot Radius: 13-3/16 " Grid Convergence: 0.19 °

Well Corral Canyon Federal #20H

Well Position +N/-S 0.0 usft Northing: 419,294.20 usft Latitude: 32° 9' 8.170 N
 +E/-W 0.0 usft Easting: 608,673.40 usft Longitude: 103° 58' 55.875 W
Position Uncertainty 0.0 usft Wellhead Elevation: 0.0 usft Ground Level: 2,998.0 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	12/31/2015	7.30	59.95	48,004.21622193

Design Plan #2

Audit Notes:

Version: Phase: PLAN Tie On Depth: 0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	179.80

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
6,176.0	0.00	0.00	6,176.0	0.0	0.0	0.00	0.00	0.00	0.00	
6,509.3	10.00	346.09	6,507.6	28.2	-7.0	3.00	3.00	0.00	346.09	
8,088.7	10.00	346.09	8,063.0	294.3	-72.9	0.00	0.00	0.00	0.00	
9,085.8	90.00	179.80	8,732.0	-270.5	-98.9	10.00	8.02	-16.68	-166.09	Corral Canyon Fed
19,553.6	90.00	179.80	8,732.0	-10,738.3	-62.9	0.00	0.00	0.00	0.00	Corral Canyon Fed



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MD Reference: RKB (GL+27') @ 3025.0usft (Frontier #27)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
Rustler									
404.0	0.00	0.00	404.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
Salado (Top of Salt)									
785.0	0.00	0.00	785.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
Base of Salt									
2,826.0	0.00	0.00	2,826.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
Delaware (Bell Canyon)									
3,023.0	0.00	0.00	3,023.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
Cherry Canyon									
3,899.0	0.00	0.00	3,899.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00



Well Planning Report



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 Well: Corral Canyon Federal #20H
 Wellbore: Wellbore #1
 Design: Plan #2

Local Co-ordinate Reference:
 TVD Reference:
 MD Reference:
 North Reference:
 Survey Calculation Method:

Well Corral Canyon Federal #20H
 RKB (GL+27') @ 3025.0usft (Frontier #27)
 RKB (GL+27') @ 3025.0usft (Frontier #27)
 Grid
 Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
Brushy Canyon									
5,511.0	0.00	0.00	5,511.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 3.00									
6,176.0	0.00	0.00	6,176.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.72	346.09	6,200.0	0.1	0.0	-0.1	3.00	3.00	0.00
6,300.0	3.72	346.09	6,299.9	3.9	-1.0	-3.9	3.00	3.00	0.00
6,400.0	6.72	346.09	6,399.5	12.7	-3.2	-12.7	3.00	3.00	0.00
Start 1579.4 hold at 6509.3 MD									
6,509.3	10.00	346.09	6,507.6	28.2	-7.0	-28.2	3.00	3.00	0.00
6,600.0	10.00	346.09	6,596.9	43.4	-10.8	-43.5	0.00	0.00	0.00
6,700.0	10.00	346.09	6,695.4	60.3	-14.9	-60.4	0.00	0.00	0.00
6,800.0	10.00	346.09	6,793.9	77.2	-19.1	-77.2	0.00	0.00	0.00
Bone Spring Lime									
6,816.4	10.00	346.09	6,810.0	79.9	-19.8	-80.0	0.00	0.00	0.00
6,900.0	10.00	346.09	6,892.4	94.0	-23.3	-94.1	0.00	0.00	0.00
7,000.0	10.00	346.09	6,990.9	110.9	-27.5	-111.0	0.00	0.00	0.00
7,100.0	10.00	346.09	7,089.3	127.7	-31.6	-127.8	0.00	0.00	0.00
7,200.0	10.00	346.09	7,187.8	144.6	-35.8	-144.7	0.00	0.00	0.00
7,300.0	10.00	346.09	7,286.3	161.4	-40.0	-161.6	0.00	0.00	0.00
7,400.0	10.00	346.09	7,384.8	178.3	-44.1	-178.4	0.00	0.00	0.00
7,500.0	10.00	346.09	7,483.3	195.1	-48.3	-195.3	0.00	0.00	0.00
7,600.0	10.00	346.09	7,581.7	212.0	-52.5	-212.2	0.00	0.00	0.00
7,700.0	10.00	346.09	7,680.2	228.8	-56.7	-229.0	0.00	0.00	0.00
1st Bone Spring Sand									
7,746.5	10.00	346.09	7,726.0	236.7	-58.6	-236.9	0.00	0.00	0.00
7,800.0	10.00	346.09	7,778.7	245.7	-60.8	-245.9	0.00	0.00	0.00
7,900.0	10.00	346.09	7,877.2	262.5	-65.0	-262.8	0.00	0.00	0.00
8,000.0	10.00	346.09	7,975.7	279.4	-69.2	-279.6	0.00	0.00	0.00
Start DLS 10.00 TFO -166.09									
8,088.7	10.00	346.09	8,063.0	294.3	-72.9	-294.6	0.00	0.00	0.00
8,100.0	8.90	344.33	8,074.2	296.1	-73.4	-296.4	10.00	-9.67	-15.54
2nd Bone Spring Lime									
8,110.9	7.85	342.17	8,085.0	297.7	-73.8	-297.9	10.00	-9.58	-19.75
8,150.0	4.30	326.06	8,123.8	301.4	-75.5	-301.7	10.00	-9.09	-41.24
8,200.0	2.78	239.05	8,173.8	302.4	-77.5	-302.6	10.00	-3.04	-174.03



Well Planning Report



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Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,250.0	6.85	200.15	8,223.6	298.9	-79.6	-299.2	10.00	8.14	-77.79
8,300.0	11.67	191.48	8,272.9	291.2	-81.6	-291.5	10.00	9.63	-17.35
8,350.0	16.59	187.87	8,321.4	279.1	-83.6	-279.4	10.00	9.85	-7.23
8,400.0	21.55	185.88	8,368.6	262.9	-85.5	-263.2	10.00	9.92	-3.98
8,450.0	26.52	184.61	8,414.3	242.6	-87.4	-242.9	10.00	9.95	-2.54
8,500.0	31.50	183.71	8,458.0	218.5	-89.1	-218.8	10.00	9.96	-1.79
8,550.0	36.49	183.04	8,499.4	190.6	-90.8	-190.9	10.00	9.97	-1.34
2nd Bone Spring Sand									
8,565.8	38.07	182.86	8,512.0	181.0	-91.3	-181.3	10.00	9.98	-1.14
8,600.0	41.48	182.51	8,538.3	159.2	-92.3	-159.5	10.00	9.98	-1.02
8,650.0	46.47	182.08	8,574.3	124.5	-93.7	-124.8	10.00	9.98	-0.87
8,700.0	51.46	181.71	8,607.1	86.8	-94.9	-87.1	10.00	9.98	-0.74
8,750.0	56.46	181.39	8,636.5	46.4	-96.0	-46.7	10.00	9.99	-0.64
8,800.0	61.45	181.11	8,662.3	3.6	-96.9	-3.9	10.00	9.99	-0.57
8,850.0	66.44	180.85	8,684.2	-41.3	-97.7	41.0	10.00	9.99	-0.52
8,900.0	71.44	180.61	8,702.2	-88.0	-98.3	87.6	10.00	9.99	-0.48
2nd Bone Spring C									
8,909.1	72.35	180.56	8,705.0	-96.6	-98.4	96.3	10.00	9.99	-0.46
8,950.0	76.44	180.38	8,716.0	-136.0	-98.7	135.7	10.00	9.99	-0.45
9,000.0	81.43	180.16	8,725.6	-185.1	-98.9	184.7	10.00	9.99	-0.43
9,050.0	86.43	179.95	8,730.9	-234.8	-99.0	234.4	10.00	9.99	-0.42
Start 10467.9 hold at 9085.8 MD									
9,085.8	90.00	179.80	8,732.0	-270.5	-98.9	270.2	10.00	9.99	-0.42
9,100.0	90.00	179.80	8,732.0	-284.7	-98.9	284.4	0.00	0.00	0.00
9,200.0	90.00	179.80	8,732.0	-384.7	-98.5	384.4	0.00	0.00	0.00
9,300.0	90.00	179.80	8,732.0	-484.7	-98.2	484.4	0.00	0.00	0.00
9,400.0	90.00	179.80	8,732.0	-584.7	-97.8	584.4	0.00	0.00	0.00
9,500.0	90.00	179.80	8,732.0	-684.7	-97.5	684.4	0.00	0.00	0.00
9,600.0	90.00	179.80	8,732.0	-784.7	-97.1	784.4	0.00	0.00	0.00
9,700.0	90.00	179.80	8,732.0	-884.7	-96.8	884.4	0.00	0.00	0.00
9,800.0	90.00	179.80	8,732.0	-984.7	-96.4	984.4	0.00	0.00	0.00
9,900.0	90.00	179.80	8,732.0	-1,084.7	-96.1	1,084.4	0.00	0.00	0.00
10,000.0	90.00	179.80	8,732.0	-1,184.7	-95.8	1,184.4	0.00	0.00	0.00
10,100.0	90.00	179.80	8,732.0	-1,284.7	-95.4	1,284.4	0.00	0.00	0.00
10,200.0	90.00	179.80	8,732.0	-1,384.7	-95.1	1,384.4	0.00	0.00	0.00
10,300.0	90.00	179.80	8,732.0	-1,484.7	-94.7	1,484.4	0.00	0.00	0.00
10,400.0	90.00	179.80	8,732.0	-1,584.7	-94.4	1,584.4	0.00	0.00	0.00
10,500.0	90.00	179.80	8,732.0	-1,684.7	-94.0	1,684.4	0.00	0.00	0.00
10,600.0	90.00	179.80	8,732.0	-1,784.7	-93.7	1,784.4	0.00	0.00	0.00
10,700.0	90.00	179.80	8,732.0	-1,884.7	-93.3	1,884.4	0.00	0.00	0.00
10,800.0	90.00	179.80	8,732.0	-1,984.7	-93.0	1,984.4	0.00	0.00	0.00
10,900.0	90.00	179.80	8,732.0	-2,084.7	-92.7	2,084.4	0.00	0.00	0.00
11,000.0	90.00	179.80	8,732.0	-2,184.7	-92.3	2,184.4	0.00	0.00	0.00
11,100.0	90.00	179.80	8,732.0	-2,284.7	-92.0	2,284.4	0.00	0.00	0.00
11,200.0	90.00	179.80	8,732.0	-2,384.7	-91.6	2,384.4	0.00	0.00	0.00
11,300.0	90.00	179.80	8,732.0	-2,484.7	-91.3	2,484.4	0.00	0.00	0.00
11,400.0	90.00	179.80	8,732.0	-2,584.7	-90.9	2,584.4	0.00	0.00	0.00
11,500.0	90.00	179.80	8,732.0	-2,684.7	-90.6	2,684.4	0.00	0.00	0.00
11,600.0	90.00	179.80	8,732.0	-2,784.7	-90.3	2,784.4	0.00	0.00	0.00
11,700.0	90.00	179.80	8,732.0	-2,884.7	-89.9	2,884.4	0.00	0.00	0.00
11,800.0	90.00	179.80	8,732.0	-2,984.7	-89.6	2,984.4	0.00	0.00	0.00
11,900.0	90.00	179.80	8,732.0	-3,084.7	-89.2	3,084.4	0.00	0.00	0.00
12,000.0	90.00	179.80	8,732.0	-3,184.7	-88.9	3,184.4	0.00	0.00	0.00



Well Planning Report



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Project: Eddy County, NM
Site: Sec 4, T25S, R29E
Well: Corral Canyon Federal #20H
Wellbore: Wellbore #1
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MD Reference: RKB (GL+27') @ 3025.0usft (Frontier #27)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,100.0	90.00	179.80	8,732.0	-3,284.7	-88.5	3,284.4	0.00	0.00	0.00
12,200.0	90.00	179.80	8,732.0	-3,384.7	-88.2	3,384.4	0.00	0.00	0.00
12,300.0	90.00	179.80	8,732.0	-3,484.7	-87.8	3,484.4	0.00	0.00	0.00
12,400.0	90.00	179.80	8,732.0	-3,584.7	-87.5	3,584.4	0.00	0.00	0.00
12,500.0	90.00	179.80	8,732.0	-3,684.7	-87.2	3,684.4	0.00	0.00	0.00
12,600.0	90.00	179.80	8,732.0	-3,784.7	-86.8	3,784.4	0.00	0.00	0.00
12,700.0	90.00	179.80	8,732.0	-3,884.7	-86.5	3,884.4	0.00	0.00	0.00
12,800.0	90.00	179.80	8,732.0	-3,984.7	-86.1	3,984.4	0.00	0.00	0.00
12,900.0	90.00	179.80	8,732.0	-4,084.7	-85.8	4,084.4	0.00	0.00	0.00
13,000.0	90.00	179.80	8,732.0	-4,184.7	-85.4	4,184.4	0.00	0.00	0.00
13,100.0	90.00	179.80	8,732.0	-4,284.7	-85.1	4,284.4	0.00	0.00	0.00
13,200.0	90.00	179.80	8,732.0	-4,384.7	-84.8	4,384.4	0.00	0.00	0.00
13,300.0	90.00	179.80	8,732.0	-4,484.7	-84.4	4,484.4	0.00	0.00	0.00
13,400.0	90.00	179.80	8,732.0	-4,584.7	-84.1	4,584.4	0.00	0.00	0.00
13,500.0	90.00	179.80	8,732.0	-4,684.7	-83.7	4,684.4	0.00	0.00	0.00
13,600.0	90.00	179.80	8,732.0	-4,784.7	-83.4	4,784.4	0.00	0.00	0.00
13,700.0	90.00	179.80	8,732.0	-4,884.7	-83.0	4,884.4	0.00	0.00	0.00
13,800.0	90.00	179.80	8,732.0	-4,984.7	-82.7	4,984.4	0.00	0.00	0.00
13,900.0	90.00	179.80	8,732.0	-5,084.7	-82.3	5,084.4	0.00	0.00	0.00
14,000.0	90.00	179.80	8,732.0	-5,184.7	-82.0	5,184.4	0.00	0.00	0.00
14,100.0	90.00	179.80	8,732.0	-5,284.7	-81.7	5,284.4	0.00	0.00	0.00
14,200.0	90.00	179.80	8,732.0	-5,384.7	-81.3	5,384.4	0.00	0.00	0.00
14,300.0	90.00	179.80	8,732.0	-5,484.7	-81.0	5,484.4	0.00	0.00	0.00
14,400.0	90.00	179.80	8,732.0	-5,584.7	-80.6	5,584.4	0.00	0.00	0.00
14,500.0	90.00	179.80	8,732.0	-5,684.7	-80.3	5,684.4	0.00	0.00	0.00
14,600.0	90.00	179.80	8,732.0	-5,784.7	-79.9	5,784.4	0.00	0.00	0.00
14,700.0	90.00	179.80	8,732.0	-5,884.7	-79.6	5,884.4	0.00	0.00	0.00
14,800.0	90.00	179.80	8,732.0	-5,984.7	-79.2	5,984.4	0.00	0.00	0.00
14,900.0	90.00	179.80	8,732.0	-6,084.7	-78.9	6,084.4	0.00	0.00	0.00
15,000.0	90.00	179.80	8,732.0	-6,184.7	-78.6	6,184.4	0.00	0.00	0.00
15,100.0	90.00	179.80	8,732.0	-6,284.7	-78.2	6,284.4	0.00	0.00	0.00
15,200.0	90.00	179.80	8,732.0	-6,384.7	-77.9	6,384.4	0.00	0.00	0.00
15,300.0	90.00	179.80	8,732.0	-6,484.7	-77.5	6,484.4	0.00	0.00	0.00
15,400.0	90.00	179.80	8,732.0	-6,584.7	-77.2	6,584.4	0.00	0.00	0.00
15,500.0	90.00	179.80	8,732.0	-6,684.7	-76.8	6,684.4	0.00	0.00	0.00
15,600.0	90.00	179.80	8,732.0	-6,784.7	-76.5	6,784.4	0.00	0.00	0.00
15,700.0	90.00	179.80	8,732.0	-6,884.7	-76.2	6,884.4	0.00	0.00	0.00
15,800.0	90.00	179.80	8,732.0	-6,984.7	-75.8	6,984.4	0.00	0.00	0.00
15,900.0	90.00	179.80	8,732.0	-7,084.7	-75.5	7,084.4	0.00	0.00	0.00
16,000.0	90.00	179.80	8,732.0	-7,184.7	-75.1	7,184.4	0.00	0.00	0.00
16,100.0	90.00	179.80	8,732.0	-7,284.7	-74.8	7,284.4	0.00	0.00	0.00
16,200.0	90.00	179.80	8,732.0	-7,384.7	-74.4	7,384.4	0.00	0.00	0.00
16,300.0	90.00	179.80	8,732.0	-7,484.7	-74.1	7,484.4	0.00	0.00	0.00
16,400.0	90.00	179.80	8,732.0	-7,584.7	-73.7	7,584.4	0.00	0.00	0.00
16,500.0	90.00	179.80	8,732.0	-7,684.7	-73.4	7,684.4	0.00	0.00	0.00
16,600.0	90.00	179.80	8,732.0	-7,784.7	-73.1	7,784.4	0.00	0.00	0.00
16,700.0	90.00	179.80	8,732.0	-7,884.7	-72.7	7,884.4	0.00	0.00	0.00
16,800.0	90.00	179.80	8,732.0	-7,984.7	-72.4	7,984.4	0.00	0.00	0.00
16,900.0	90.00	179.80	8,732.0	-8,084.7	-72.0	8,084.4	0.00	0.00	0.00
17,000.0	90.00	179.80	8,732.0	-8,184.7	-71.7	8,184.4	0.00	0.00	0.00
17,100.0	90.00	179.80	8,732.0	-8,284.7	-71.3	8,284.4	0.00	0.00	0.00
17,200.0	90.00	179.80	8,732.0	-8,384.7	-71.0	8,384.4	0.00	0.00	0.00
17,300.0	90.00	179.80	8,732.0	-8,484.7	-70.7	8,484.4	0.00	0.00	0.00
17,400.0	90.00	179.80	8,732.0	-8,584.7	-70.3	8,584.4	0.00	0.00	0.00



Well Planning Report



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 TVD Reference: RKB (GL+27') @ 3025.0usft (Frontier #27)
 MD Reference: RKB (GL+27') @ 3025.0usft (Frontier #27)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
17,500.0	90.00	179.80	8,732.0	-8,684.7	-70.0	8,684.4	0.00	0.00	0.00
17,600.0	90.00	179.80	8,732.0	-8,784.7	-69.6	8,784.4	0.00	0.00	0.00
17,700.0	90.00	179.80	8,732.0	-8,884.7	-69.3	8,884.4	0.00	0.00	0.00
17,800.0	90.00	179.80	8,732.0	-8,984.7	-68.9	8,984.4	0.00	0.00	0.00
17,900.0	90.00	179.80	8,732.0	-9,084.7	-68.6	9,084.4	0.00	0.00	0.00
18,000.0	90.00	179.80	8,732.0	-9,184.7	-68.2	9,184.4	0.00	0.00	0.00
18,100.0	90.00	179.80	8,732.0	-9,284.7	-67.9	9,284.4	0.00	0.00	0.00
18,200.0	90.00	179.80	8,732.0	-9,384.7	-67.6	9,384.4	0.00	0.00	0.00
18,300.0	90.00	179.80	8,732.0	-9,484.7	-67.2	9,484.4	0.00	0.00	0.00
18,400.0	90.00	179.80	8,732.0	-9,584.7	-66.9	9,584.4	0.00	0.00	0.00
18,500.0	90.00	179.80	8,732.0	-9,684.7	-66.5	9,684.4	0.00	0.00	0.00
18,600.0	90.00	179.80	8,732.0	-9,784.7	-66.2	9,784.4	0.00	0.00	0.00
18,700.0	90.00	179.80	8,732.0	-9,884.7	-65.8	9,884.4	0.00	0.00	0.00
18,800.0	90.00	179.80	8,732.0	-9,984.7	-65.5	9,984.4	0.00	0.00	0.00
18,900.0	90.00	179.80	8,732.0	-10,084.7	-65.1	10,084.4	0.00	0.00	0.00
19,000.0	90.00	179.80	8,732.0	-10,184.7	-64.8	10,184.4	0.00	0.00	0.00
19,100.0	90.00	179.80	8,732.0	-10,284.7	-64.5	10,284.4	0.00	0.00	0.00
19,200.0	90.00	179.80	8,732.0	-10,384.7	-64.1	10,384.4	0.00	0.00	0.00
19,300.0	90.00	179.80	8,732.0	-10,484.7	-63.8	10,484.4	0.00	0.00	0.00
19,400.0	90.00	179.80	8,732.0	-10,584.7	-63.4	10,584.4	0.00	0.00	0.00
19,500.0	90.00	179.80	8,732.0	-10,684.7	-63.1	10,684.4	0.00	0.00	0.00
TD at 19553.6									
19,553.6	90.00	179.80	8,732.0	-10,738.3	-62.9	10,738.0	0.00	0.00	0.00

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Corral Canyon Federal	0.00	0.00	0.0	0.0	0.0	419,294.20	608,673.40	32° 9' 8.170 N	103° 58' 55.875 W
- plan hits target center									
- Point									
Corral Canyon Federal	0.00	0.01	8,732.0	-270.5	-98.9	419,023.70	608,574.50	32° 9' 5.496 N	103° 58' 57.035 W
- plan hits target center									
- Point									
Corral Canyon Federal	0.00	359.06	8,732.0	-10,738.3	-62.9	408,555.90	608,610.50	32° 7' 21.902 N	103° 58' 57.013 W
- plan hits target center									
- Point									
Corral Canyon Federal	0.00	0.00	8,732.0	-10,688.3	-63.3	408,605.90	608,610.10	32° 7' 22.397 N	103° 58' 57.016 W
- plan misses target center by 3.6usft at 19500.0usft MD (8732.0 TVD, -10684.7 N, -63.1 E)									
- Point									



Well Planning Report



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TVD Reference: RKB (GL+27') @ 3025.0usft (Frontier #27)
MD Reference: RKB (GL+27') @ 3025.0usft (Frontier #27)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (")	Dip Direction (")
404.0	404.0	Rustler			
785.0	785.0	Salado (Top of Salt)			
2,826.0	2,826.0	Base of Salt			
3,023.0	3,023.0	Delaware (Bell Canyon)			
3,899.0	3,899.0	Cherry Canyon			
5,511.0	5,511.0	Brushy Canyon			
6,816.4	6,810.0	Bone Spring Lime			
7,746.5	7,726.0	1st Bone Spring Sand			
8,110.9	8,085.0	2nd Bone Spring Lime			
8,565.8	8,512.0	2nd Bone Spring Sand			
8,909.1	8,705.0	2nd Bone Spring C			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
6,176.0	6,176.0	0.0	0.0	Start Build 3.00
6,509.3	6,507.6	28.2	-7.0	Start 1579.4 hold at 6509.3 MD
8,088.7	8,063.0	294.3	-72.9	Start DLS 10.00 TFO -166.09
9,085.8	8,732.0	-270.5	-98.9	Start 10467.9 hold at 9085.8 MD
19,553.6	8,732.0	-10,738.3	-62.9	TD at 19553.6

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO Energy Inc.
LEASE NO.:	NMNM-15302
WELL NAME & NO.:	Corral Canyon Federal 20H
SURFACE HOLE FOOTAGE:	0170' FSL & 0560' FEL
BOTTOM HOLE FOOTAGE	0050' FSL & 0660' FEL Sec. 16, T. 25 S., R 29 E.
LOCATION:	Section 04, T. 25 S., R 29 E., NMPM
COUNTY:	Eddy County, New Mexico

The original COAS still stand with the following drilling modifications:

Operator will need to submit a sundry to add "COM" to the well name.

Communitization Agreement

· The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.

· If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.

· In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

A. DRILLING OPERATIONS REQUIREMENTS

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

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

☒ **Eddy County**

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

1. **Hydrogen Sulfide (H₂S) monitors shall be installed prior to drilling out the surface shoe. If H₂S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.**
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.

Medium Cave/Karst

Possibility of water flows in the Salado and Castile.

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

1. The 13-3/8 inch surface casing shall be set at approximately 550 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**
 - 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.
2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:
 - ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.**

If cement does not circulate to surface on the intermediate casing, the cement on the production casing must come to surface.

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

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

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

4. 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. **Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 3000 (3M) 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 intermediate casing integrity test 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.**

4. 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.

D. DRILL STEM TEST

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

E. 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 022819

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

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-43711		² Pool Code	³ Pool Name
⁴ Property Code	⁵ Property Name CORRAL CANYON FEDERAL		⁶ Well Number 20H
⁷ OGRID No. 005380	⁸ Operator Name XTO ENERGY, INC.		⁹ Elevation 2,998'

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
P	4	25 S	29 E		170	SOUTH	560	EAST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	16	25 S	29 E		50	SOUTH	660	EAST	EDDY

¹² Dedicated Acres	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	GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y= 419,294.2 X= 608,673.4 LAT= 32.152269°N LONG= 103.982187°W FIRST TAKE POINT NAD 27 NME Y= 419,023.7 X= 608,574.5 LAT= 32.151527°N LONG= 103.982510°W CORNER COORDINATES TABLE NAD 27 NME A - Y= 419,127.1 N, X= 609,234.4 E B - Y= 419,120.2 N, X= 607,904.7 E C - Y= 416,469.6 N, X= 609,235.0 E D - Y= 416,464.1 N, X= 607,907.0 E E - Y= 413,817.8 N, X= 609,236.8 E F - Y= 413,812.2 N, X= 607,909.9 E G - Y= 411,164.1 N, X= 609,253.6 E H - Y= 411,158.2 N, X= 607,926.1 E I - Y= 408,509.1 N, X= 609,270.8 E J - Y= 408,502.7 N, X= 607,942.5 E CORNER COORDINATES TABLE NAD 83 NME A - Y= 419,185.6 N, X= 650,418.6 E B - Y= 419,178.7 N, X= 649,088.9 E C - Y= 416,528.0 N, X= 650,419.3 E D - Y= 416,522.6 N, X= 649,091.3 E E - Y= 413,876.2 N, X= 650,421.1 E F - Y= 413,870.6 N, X= 649,094.2 E G - Y= 411,222.4 N, X= 650,438.0 E H - Y= 411,216.5 N, X= 649,110.5 E I - Y= 408,567.4 N, X= 650,455.3 E J - Y= 408,561.0 N, X= 649,127.0 E LAST TAKE POINT NAD 27 NME Y= 408,605.9 X= 608,610.1 LAT= 32.122888°N LONG= 103.982504°W BOTTOM HOLE LOCATION NAD 27 NME Y= 408,555.9 X= 608,610.5 LAT= 32.122751°N LONG= 103.982504°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. <i>Kelly Kardos</i> Signature _____ Date _____ Printed Name _____ E-mail Address _____	
	GEODETIC COORDINATES NAD 83 NME SURFACE LOCATION Y= 419,352.7 X= 649,857.6 LAT= 32.152393°N LONG= 103.982675°W FIRST TAKE POINT NAD 83 NME Y= 419,082.2 X= 649,758.7 LAT= 32.151650°N LONG= 103.982997°W CORNER COORDINATES TABLE NAD 83 NME A - Y= 419,185.6 N, X= 650,418.6 E B - Y= 419,178.7 N, X= 649,088.9 E C - Y= 416,528.0 N, X= 650,419.3 E D - Y= 416,522.6 N, X= 649,091.3 E E - Y= 413,876.2 N, X= 650,421.1 E F - Y= 413,870.6 N, X= 649,094.2 E G - Y= 411,222.4 N, X= 650,438.0 E H - Y= 411,216.5 N, X= 649,110.5 E I - Y= 408,567.4 N, X= 650,455.3 E J - Y= 408,561.0 N, X= 649,127.0 E LAST TAKE POINT NAD 83 NME Y= 408,664.2 X= 649,794.6 LAT= 32.123012°N LONG= 103.982991°W BOTTOM HOLE LOCATION NAD 83 NME Y= 408,614.2 X= 649,795.0 LAT= 32.122875°N LONG= 103.982990°W	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. 01-30-2019 Date of Survey Signature and Seal of Professional Surveyor: MARK DILLON HARP 23786 Certificate Number	
			TM
			2017101684

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

XTO Energy Inc.
Corral Canyon Fed 20H
Projected TD: 19554' MD / 8732' TVD
SHL: 170' FSL & 560' FEL , Section 4, T25S, R29E
BHL: 50' FSL & 660' FEL , Section 4, T25S, R29E
Eddy County, NM

1. Geologic Name of Surface Formation

A. Quaternary

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

Formation	Well Depth (TVD)	Water/Oil/Gas
Rustler	404'	Water
Top of Salt	785'	Water
Base of Salt	2826'	Water
Delaware	3023'	Water
Bone Spring	6810'	Water/Oil/Gas
1st Bone Spring Ss	7726'	Water/Oil/Gas
2nd Bone Spring Ss	8512'	Water/Oil/Gas
Target/Land Curve	8732'	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 @ 680' (105' above the salt) and circulating cement back to surface. The salt will be isolated by setting 9-5/8 inch casing at 3000' and circulating cement to surface. 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 up to the 9-5/8 inch 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' – 680'	13-3/8"	48	STC	H-40	New	1.89	2.47	9.87
12-1/4"	0' – 3000'	9-5/8"	36	LTC	J-55	New	1.53	2.18	4.19
8-3/4"	0' – 19554'	5-1/2"	17	BTC	P-110	New	1.12	1.77	2.52

- XTO requests to utilize centralizers only in the curve after the KOP and only a minimum of one every other joint.
- 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

WELLHEAD:

Permanent Wellhead – GE RSH Multibowl System

A. Starting Head: 13-5/8" 5M top flange x 13-3/8" 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 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", 48 New H-40, STC casing to be set at +/- 680'

Lead: 280 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

Intermediate Casing: 9-5/8", 36 New J-55, LTC casing to be set at +/- 3000'

Lead: 830 sxs Halcem-C + 2% CaCl (mixed at 12.9 ppg, 1.88 ft3/sx, 9.61 gal/sx water)

Tail: 230 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", 17 New P-110, BTC casing to be set at +/- 19554'

Lead: 620 sxs NeoCem (mixed at 10.5 ppg, 2.69 ft3/sx, 12.26 gal/sx water)

Tail: 2440 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) for this well consists of a 13-5/8" minimum 3M Hydril and a 13-5/8" minimum 3M Double Ram BOP. MASP should not exceed 2302 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 nipping up on the 13-5/8" 3M bradenhead and flange, the BOP test will be limited to 3000 psi. When nipping up on the 9-5/8", the BOP will be tested to a minimum of 3000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 3M 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' to 680'	17-1/2"	FW/Native	8.4-8.8	35-40	NC
680' to 3000'	12-1/4"	Brine/Gel Sweeps	9.8-10.2	30-32	NC
3000' to 19554'	8-3/4"	FW / Cut Brine / Polymer	9 - 9.3	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 13-3/8" surface casing with brine solution. A 9.8ppg-10.2ppg brine mud will be used while drilling through the salt formation. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Pump speed will be recorded on a daily drilling report after mudding up. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

7. Auxiliary Well Control and Monitoring Equipment

- A. A Kelly cock will be in the drill string at all times.
- B. A full opening drill pipe stabbing valve having appropriate connections will be on the rig floor at all times.
- C. H2S monitors will be on location when drilling below the 13-3/8" casing.

8. Logging, Coring and Testing Program

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

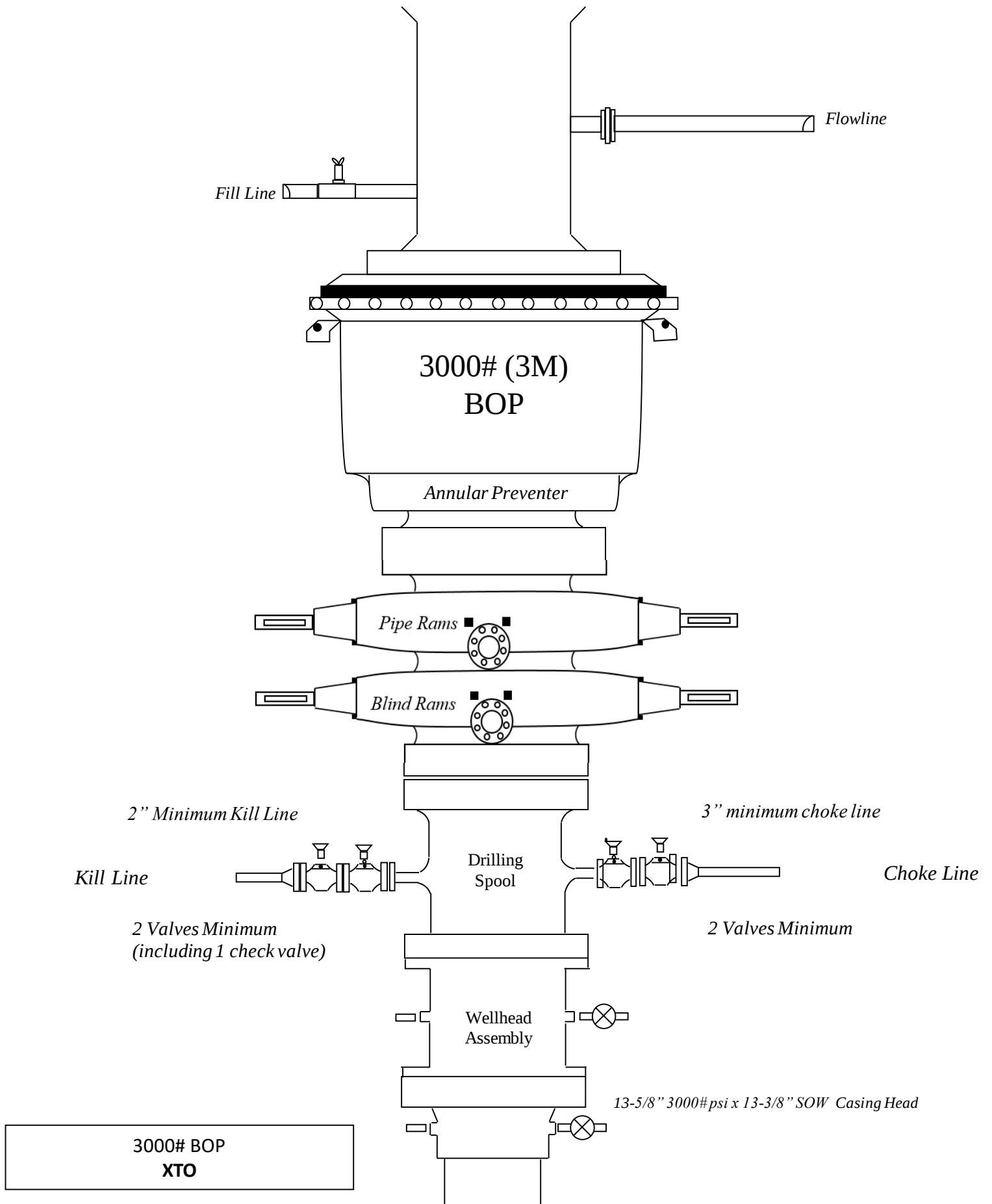
Open hole logging will not be done on this well.

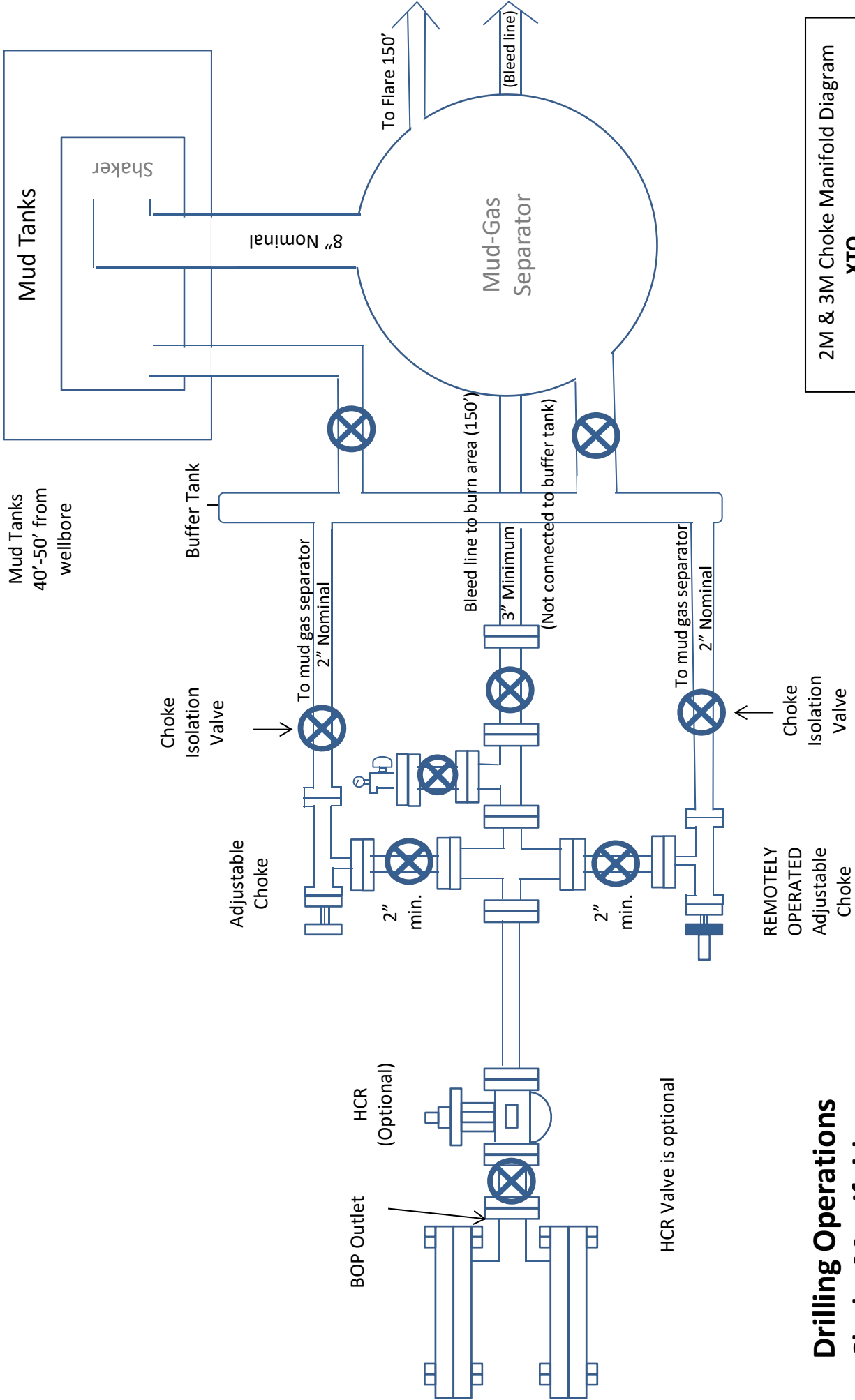
9. Abnormal Pressures and Temperatures / Potential Hazards

None Anticipated. BHT of 135 to 155 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 4223 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.





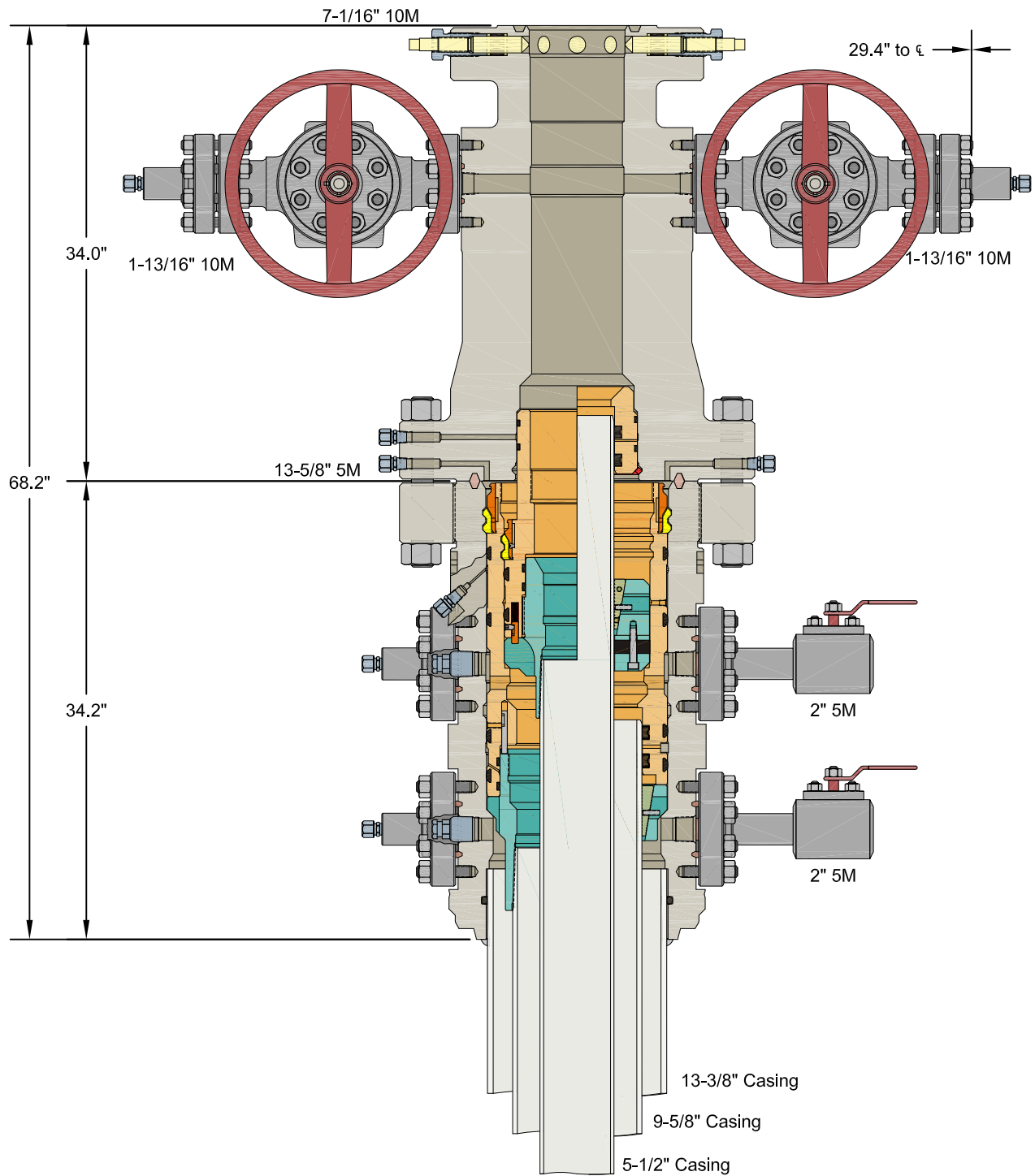
2M & 3M Choke Manifold Diagram
XTO

Drilling Operations
Choke Manifold
2M & 3M Service

HCR Valve is optional



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

DRAWN VJK 16FEB17

APPRV KN 16FEB17

FOR REFERENCE ONLY
DRAWING NO. 10012842



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

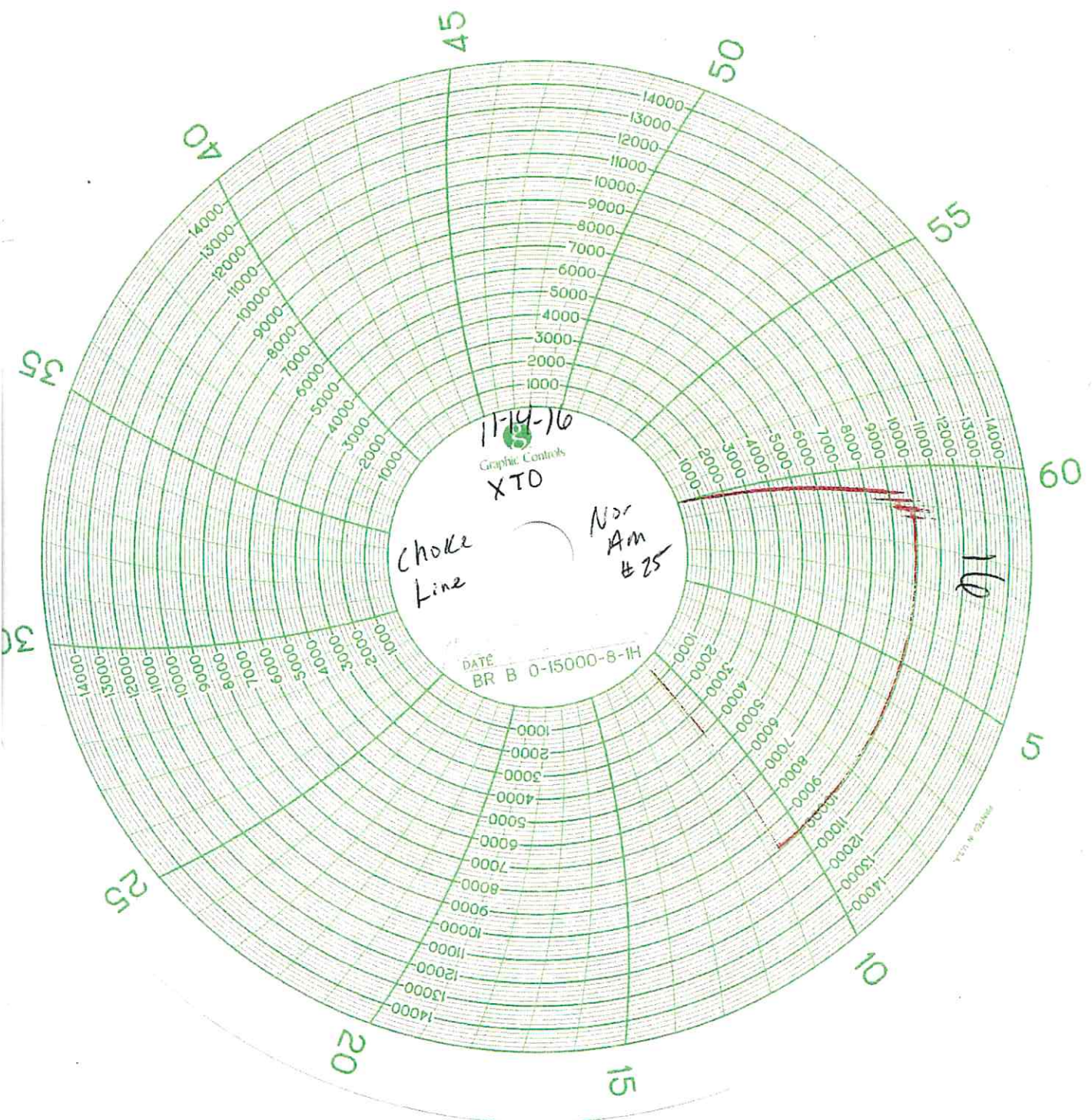
Customer:	AUSTIN DISTRIBUTING	Test Date:	6/8/2014
Customer Ref.:	PENDING	Hose Serial No.:	D-060814-1
Invoice No.:	201709	Created By:	NORMA

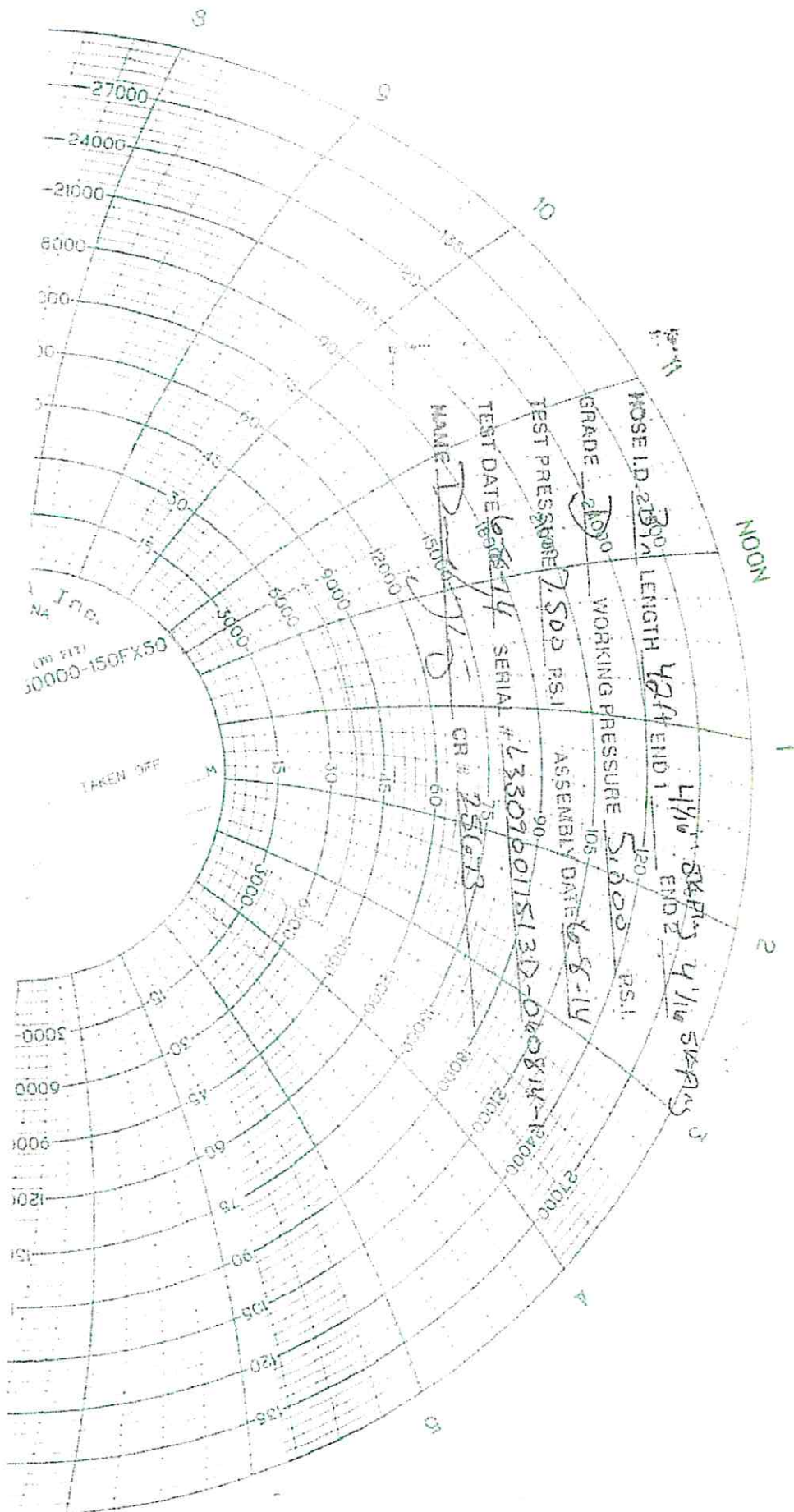
Product Description:	FD3-042.0R41/16.5KFLGE/E LE
----------------------	-----------------------------

End Filling 1:	4 1/16 in.5K FLG	End Filling 2:	4 1/16 in.5K FLG
Gates Part No.:	4274-6001	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 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:	Signature:	Technical Supervisor:	Signature:
Date:	Date:	Date:	Date:
6/8/2014	6/8/2014	6/8/2014	6/8/2014
QUALITY		PRODUCTION	







XTO ENERGY, INC.

Eddy County, NM

Sec 4, T25S, R29E

Corral Canyon Federal #20H

Wellbore #1

Plan: Plan #2

QES Well Planning Report

31 January, 2019



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Corral Canyon Federal #20H
Company:	XTO ENERGY, INC.	TVD Reference:	RKB (GL+27') @ 3025.0usft (Frontier #27)
Project:	Eddy County, NM	MD Reference:	RKB (GL+27') @ 3025.0usft (Frontier #27)
Site:	Sec 4, T25S, R29E	North Reference:	Grid
Well:	Corral Canyon Federal #20H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

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

Site	Sec 4, T25S, R29E		
Site Position:		Northing:	419,294.20 usft
From:	Map	Easting:	608,673.40 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 9' 8.170 N
		Longitude:	103° 58' 55.875 W
		Grid Convergence:	0.19 °

Well	Corral Canyon Federal #20H		
Well Position	+N/-S	0.0 usft	Northing: 419,294.20 usft
	+E/-W	0.0 usft	Easting: 608,673.40 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Latitude:	32° 9' 8.170 N
		Longitude:	103° 58' 55.875 W
		Ground Level:	2,998.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	12/31/2015	7.30	59.95	48,004.21622193

Design	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	179.80

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
6,176.0	0.00	0.00	6,176.0	0.0	0.0	0.00	0.00	0.00	0.00	
6,509.3	10.00	346.09	6,507.6	28.2	-7.0	3.00	3.00	0.00	346.09	
8,088.7	10.00	346.09	8,063.0	294.3	-72.9	0.00	0.00	0.00	0.00	
9,085.8	90.00	179.80	8,732.0	-270.5	-98.9	10.00	8.02	-16.68	-166.09	Corral Canyon Fed
19,553.6	90.00	179.80	8,732.0	-10,738.3	-62.9	0.00	0.00	0.00	0.00	Corral Canyon Fed

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Corral Canyon Federal #20H
Company:	XTO ENERGY, INC.	TVD Reference:	RKB (GL+27') @ 3025.0usft (Frontier #27)
Project:	Eddy County, NM	MD Reference:	RKB (GL+27') @ 3025.0usft (Frontier #27)
Site:	Sec 4, T25S, R29E	North Reference:	Grid
Well:	Corral Canyon Federal #20H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
Rustler									
404.0	0.00	0.00	404.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
Salado (Top of Salt)									
785.0	0.00	0.00	785.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
Base of Salt									
2,826.0	0.00	0.00	2,826.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
Delaware (Bell Canyon)									
3,023.0	0.00	0.00	3,023.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
Cherry Canyon									
3,899.0	0.00	0.00	3,899.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Corral Canyon Federal #20H
Company:	XTO ENERGY, INC.	TVD Reference:	RKB (GL+27') @ 3025.0usft (Frontier #27)
Project:	Eddy County, NM	MD Reference:	RKB (GL+27') @ 3025.0usft (Frontier #27)
Site:	Sec 4, T25S, R29E	North Reference:	Grid
Well:	Corral Canyon Federal #20H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
Brushy Canyon									
5,511.0	0.00	0.00	5,511.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 3.00									
6,176.0	0.00	0.00	6,176.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.72	346.09	6,200.0	0.1	0.0	-0.1	3.00	3.00	0.00
6,300.0	3.72	346.09	6,299.9	3.9	-1.0	-3.9	3.00	3.00	0.00
6,400.0	6.72	346.09	6,399.5	12.7	-3.2	-12.7	3.00	3.00	0.00
Start 1579.4 hold at 6509.3 MD									
6,509.3	10.00	346.09	6,507.6	28.2	-7.0	-28.2	3.00	3.00	0.00
6,600.0	10.00	346.09	6,596.9	43.4	-10.8	-43.5	0.00	0.00	0.00
6,700.0	10.00	346.09	6,695.4	60.3	-14.9	-60.4	0.00	0.00	0.00
6,800.0	10.00	346.09	6,793.9	77.2	-19.1	-77.2	0.00	0.00	0.00
Bone Spring Lime									
6,816.4	10.00	346.09	6,810.0	79.9	-19.8	-80.0	0.00	0.00	0.00
6,900.0	10.00	346.09	6,892.4	94.0	-23.3	-94.1	0.00	0.00	0.00
7,000.0	10.00	346.09	6,990.9	110.9	-27.5	-111.0	0.00	0.00	0.00
7,100.0	10.00	346.09	7,089.3	127.7	-31.6	-127.8	0.00	0.00	0.00
7,200.0	10.00	346.09	7,187.8	144.6	-35.8	-144.7	0.00	0.00	0.00
7,300.0	10.00	346.09	7,286.3	161.4	-40.0	-161.6	0.00	0.00	0.00
7,400.0	10.00	346.09	7,384.8	178.3	-44.1	-178.4	0.00	0.00	0.00
7,500.0	10.00	346.09	7,483.3	195.1	-48.3	-195.3	0.00	0.00	0.00
7,600.0	10.00	346.09	7,581.7	212.0	-52.5	-212.2	0.00	0.00	0.00
7,700.0	10.00	346.09	7,680.2	228.8	-56.7	-229.0	0.00	0.00	0.00
1st Bone Spring Sand									
7,746.5	10.00	346.09	7,726.0	236.7	-58.6	-236.9	0.00	0.00	0.00
7,800.0	10.00	346.09	7,778.7	245.7	-60.8	-245.9	0.00	0.00	0.00
7,900.0	10.00	346.09	7,877.2	262.5	-65.0	-262.8	0.00	0.00	0.00
8,000.0	10.00	346.09	7,975.7	279.4	-69.2	-279.6	0.00	0.00	0.00
Start DLS 10.00 TFO -166.09									
8,088.7	10.00	346.09	8,063.0	294.3	-72.9	-294.6	0.00	0.00	0.00
8,100.0	8.90	344.33	8,074.2	296.1	-73.4	-296.4	10.00	-9.67	-15.54
2nd Bone Spring Lime									
8,110.9	7.85	342.17	8,085.0	297.7	-73.8	-297.9	10.00	-9.58	-19.75
8,150.0	4.30	326.06	8,123.8	301.4	-75.5	-301.7	10.00	-9.09	-41.24
8,200.0	2.78	239.05	8,173.8	302.4	-77.5	-302.6	10.00	-3.04	-174.03



Well Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Corral Canyon Federal #20H
Company:	XTO ENERGY, INC.	TVD Reference:	RKB (GL+27') @ 3025.0usft (Frontier #27)
Project:	Eddy County, NM	MD Reference:	RKB (GL+27') @ 3025.0usft (Frontier #27)
Site:	Sec 4, T25S, R29E	North Reference:	Grid
Well:	Corral Canyon Federal #20H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,250.0	6.85	200.15	8,223.6	298.9	-79.6	-299.2	10.00	8.14	-77.79
8,300.0	11.67	191.48	8,272.9	291.2	-81.6	-291.5	10.00	9.63	-17.35
8,350.0	16.59	187.87	8,321.4	279.1	-83.6	-279.4	10.00	9.85	-7.23
8,400.0	21.55	185.88	8,368.6	262.9	-85.5	-263.2	10.00	9.92	-3.98
8,450.0	26.52	184.61	8,414.3	242.6	-87.4	-242.9	10.00	9.95	-2.54
8,500.0	31.50	183.71	8,458.0	218.5	-89.1	-218.8	10.00	9.96	-1.79
8,550.0	36.49	183.04	8,499.4	190.6	-90.8	-190.9	10.00	9.97	-1.34
2nd Bone Spring Sand									
8,565.8	38.07	182.86	8,512.0	181.0	-91.3	-181.3	10.00	9.98	-1.14
8,600.0	41.48	182.51	8,538.3	159.2	-92.3	-159.5	10.00	9.98	-1.02
8,650.0	46.47	182.08	8,574.3	124.5	-93.7	-124.8	10.00	9.98	-0.87
8,700.0	51.46	181.71	8,607.1	86.8	-94.9	-87.1	10.00	9.98	-0.74
8,750.0	56.46	181.39	8,636.5	46.4	-96.0	-46.7	10.00	9.99	-0.64
8,800.0	61.45	181.11	8,662.3	3.6	-96.9	-3.9	10.00	9.99	-0.57
8,850.0	66.44	180.85	8,684.2	-41.3	-97.7	41.0	10.00	9.99	-0.52
8,900.0	71.44	180.61	8,702.2	-88.0	-98.3	87.6	10.00	9.99	-0.48
2nd Bone Spring C									
8,909.1	72.35	180.56	8,705.0	-96.6	-98.4	96.3	10.00	9.99	-0.46
8,950.0	76.44	180.38	8,716.0	-136.0	-98.7	135.7	10.00	9.99	-0.45
9,000.0	81.43	180.16	8,725.6	-185.1	-98.9	184.7	10.00	9.99	-0.43
9,050.0	86.43	179.95	8,730.9	-234.8	-99.0	234.4	10.00	9.99	-0.42
Start 10467.9 hold at 9085.8 MD									
9,085.8	90.00	179.80	8,732.0	-270.5	-98.9	270.2	10.00	9.99	-0.42
9,100.0	90.00	179.80	8,732.0	-284.7	-98.9	284.4	0.00	0.00	0.00
9,200.0	90.00	179.80	8,732.0	-384.7	-98.5	384.4	0.00	0.00	0.00
9,300.0	90.00	179.80	8,732.0	-484.7	-98.2	484.4	0.00	0.00	0.00
9,400.0	90.00	179.80	8,732.0	-584.7	-97.8	584.4	0.00	0.00	0.00
9,500.0	90.00	179.80	8,732.0	-684.7	-97.5	684.4	0.00	0.00	0.00
9,600.0	90.00	179.80	8,732.0	-784.7	-97.1	784.4	0.00	0.00	0.00
9,700.0	90.00	179.80	8,732.0	-884.7	-96.8	884.4	0.00	0.00	0.00
9,800.0	90.00	179.80	8,732.0	-984.7	-96.4	984.4	0.00	0.00	0.00
9,900.0	90.00	179.80	8,732.0	-1,084.7	-96.1	1,084.4	0.00	0.00	0.00
10,000.0	90.00	179.80	8,732.0	-1,184.7	-95.8	1,184.4	0.00	0.00	0.00
10,100.0	90.00	179.80	8,732.0	-1,284.7	-95.4	1,284.4	0.00	0.00	0.00
10,200.0	90.00	179.80	8,732.0	-1,384.7	-95.1	1,384.4	0.00	0.00	0.00
10,300.0	90.00	179.80	8,732.0	-1,484.7	-94.7	1,484.4	0.00	0.00	0.00
10,400.0	90.00	179.80	8,732.0	-1,584.7	-94.4	1,584.4	0.00	0.00	0.00
10,500.0	90.00	179.80	8,732.0	-1,684.7	-94.0	1,684.4	0.00	0.00	0.00
10,600.0	90.00	179.80	8,732.0	-1,784.7	-93.7	1,784.4	0.00	0.00	0.00
10,700.0	90.00	179.80	8,732.0	-1,884.7	-93.3	1,884.4	0.00	0.00	0.00
10,800.0	90.00	179.80	8,732.0	-1,984.7	-93.0	1,984.4	0.00	0.00	0.00
10,900.0	90.00	179.80	8,732.0	-2,084.7	-92.7	2,084.4	0.00	0.00	0.00
11,000.0	90.00	179.80	8,732.0	-2,184.7	-92.3	2,184.4	0.00	0.00	0.00
11,100.0	90.00	179.80	8,732.0	-2,284.7	-92.0	2,284.4	0.00	0.00	0.00
11,200.0	90.00	179.80	8,732.0	-2,384.7	-91.6	2,384.4	0.00	0.00	0.00
11,300.0	90.00	179.80	8,732.0	-2,484.7	-91.3	2,484.4	0.00	0.00	0.00
11,400.0	90.00	179.80	8,732.0	-2,584.7	-90.9	2,584.4	0.00	0.00	0.00
11,500.0	90.00	179.80	8,732.0	-2,684.7	-90.6	2,684.4	0.00	0.00	0.00
11,600.0	90.00	179.80	8,732.0	-2,784.7	-90.3	2,784.4	0.00	0.00	0.00
11,700.0	90.00	179.80	8,732.0	-2,884.7	-89.9	2,884.4	0.00	0.00	0.00
11,800.0	90.00	179.80	8,732.0	-2,984.7	-89.6	2,984.4	0.00	0.00	0.00
11,900.0	90.00	179.80	8,732.0	-3,084.7	-89.2	3,084.4	0.00	0.00	0.00
12,000.0	90.00	179.80	8,732.0	-3,184.7	-88.9	3,184.4	0.00	0.00	0.00



Well Planning Report



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Company:	XTO ENERGY, INC.	TVD Reference:	RKB (GL+27') @ 3025.0usft (Frontier #27)
Project:	Eddy County, NM	MD Reference:	RKB (GL+27') @ 3025.0usft (Frontier #27)
Site:	Sec 4, T25S, R29E	North Reference:	Grid
Well:	Corral Canyon Federal #20H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
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Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,100.0	90.00	179.80	8,732.0	-3,284.7	-88.5	3,284.4	0.00	0.00	0.00
12,200.0	90.00	179.80	8,732.0	-3,384.7	-88.2	3,384.4	0.00	0.00	0.00
12,300.0	90.00	179.80	8,732.0	-3,484.7	-87.8	3,484.4	0.00	0.00	0.00
12,400.0	90.00	179.80	8,732.0	-3,584.7	-87.5	3,584.4	0.00	0.00	0.00
12,500.0	90.00	179.80	8,732.0	-3,684.7	-87.2	3,684.4	0.00	0.00	0.00
12,600.0	90.00	179.80	8,732.0	-3,784.7	-86.8	3,784.4	0.00	0.00	0.00
12,700.0	90.00	179.80	8,732.0	-3,884.7	-86.5	3,884.4	0.00	0.00	0.00
12,800.0	90.00	179.80	8,732.0	-3,984.7	-86.1	3,984.4	0.00	0.00	0.00
12,900.0	90.00	179.80	8,732.0	-4,084.7	-85.8	4,084.4	0.00	0.00	0.00
13,000.0	90.00	179.80	8,732.0	-4,184.7	-85.4	4,184.4	0.00	0.00	0.00
13,100.0	90.00	179.80	8,732.0	-4,284.7	-85.1	4,284.4	0.00	0.00	0.00
13,200.0	90.00	179.80	8,732.0	-4,384.7	-84.8	4,384.4	0.00	0.00	0.00
13,300.0	90.00	179.80	8,732.0	-4,484.7	-84.4	4,484.4	0.00	0.00	0.00
13,400.0	90.00	179.80	8,732.0	-4,584.7	-84.1	4,584.4	0.00	0.00	0.00
13,500.0	90.00	179.80	8,732.0	-4,684.7	-83.7	4,684.4	0.00	0.00	0.00
13,600.0	90.00	179.80	8,732.0	-4,784.7	-83.4	4,784.4	0.00	0.00	0.00
13,700.0	90.00	179.80	8,732.0	-4,884.7	-83.0	4,884.4	0.00	0.00	0.00
13,800.0	90.00	179.80	8,732.0	-4,984.7	-82.7	4,984.4	0.00	0.00	0.00
13,900.0	90.00	179.80	8,732.0	-5,084.7	-82.3	5,084.4	0.00	0.00	0.00
14,000.0	90.00	179.80	8,732.0	-5,184.7	-82.0	5,184.4	0.00	0.00	0.00
14,100.0	90.00	179.80	8,732.0	-5,284.7	-81.7	5,284.4	0.00	0.00	0.00
14,200.0	90.00	179.80	8,732.0	-5,384.7	-81.3	5,384.4	0.00	0.00	0.00
14,300.0	90.00	179.80	8,732.0	-5,484.7	-81.0	5,484.4	0.00	0.00	0.00
14,400.0	90.00	179.80	8,732.0	-5,584.7	-80.6	5,584.4	0.00	0.00	0.00
14,500.0	90.00	179.80	8,732.0	-5,684.7	-80.3	5,684.4	0.00	0.00	0.00
14,600.0	90.00	179.80	8,732.0	-5,784.7	-79.9	5,784.4	0.00	0.00	0.00
14,700.0	90.00	179.80	8,732.0	-5,884.7	-79.6	5,884.4	0.00	0.00	0.00
14,800.0	90.00	179.80	8,732.0	-5,984.7	-79.2	5,984.4	0.00	0.00	0.00
14,900.0	90.00	179.80	8,732.0	-6,084.7	-78.9	6,084.4	0.00	0.00	0.00
15,000.0	90.00	179.80	8,732.0	-6,184.7	-78.6	6,184.4	0.00	0.00	0.00
15,100.0	90.00	179.80	8,732.0	-6,284.7	-78.2	6,284.4	0.00	0.00	0.00
15,200.0	90.00	179.80	8,732.0	-6,384.7	-77.9	6,384.4	0.00	0.00	0.00
15,300.0	90.00	179.80	8,732.0	-6,484.7	-77.5	6,484.4	0.00	0.00	0.00
15,400.0	90.00	179.80	8,732.0	-6,584.7	-77.2	6,584.4	0.00	0.00	0.00
15,500.0	90.00	179.80	8,732.0	-6,684.7	-76.8	6,684.4	0.00	0.00	0.00
15,600.0	90.00	179.80	8,732.0	-6,784.7	-76.5	6,784.4	0.00	0.00	0.00
15,700.0	90.00	179.80	8,732.0	-6,884.7	-76.2	6,884.4	0.00	0.00	0.00
15,800.0	90.00	179.80	8,732.0	-6,984.7	-75.8	6,984.4	0.00	0.00	0.00
15,900.0	90.00	179.80	8,732.0	-7,084.7	-75.5	7,084.4	0.00	0.00	0.00
16,000.0	90.00	179.80	8,732.0	-7,184.7	-75.1	7,184.4	0.00	0.00	0.00
16,100.0	90.00	179.80	8,732.0	-7,284.7	-74.8	7,284.4	0.00	0.00	0.00
16,200.0	90.00	179.80	8,732.0	-7,384.7	-74.4	7,384.4	0.00	0.00	0.00
16,300.0	90.00	179.80	8,732.0	-7,484.7	-74.1	7,484.4	0.00	0.00	0.00
16,400.0	90.00	179.80	8,732.0	-7,584.7	-73.7	7,584.4	0.00	0.00	0.00
16,500.0	90.00	179.80	8,732.0	-7,684.7	-73.4	7,684.4	0.00	0.00	0.00
16,600.0	90.00	179.80	8,732.0	-7,784.7	-73.1	7,784.4	0.00	0.00	0.00
16,700.0	90.00	179.80	8,732.0	-7,884.7	-72.7	7,884.4	0.00	0.00	0.00
16,800.0	90.00	179.80	8,732.0	-7,984.7	-72.4	7,984.4	0.00	0.00	0.00
16,900.0	90.00	179.80	8,732.0	-8,084.7	-72.0	8,084.4	0.00	0.00	0.00
17,000.0	90.00	179.80	8,732.0	-8,184.7	-71.7	8,184.4	0.00	0.00	0.00
17,100.0	90.00	179.80	8,732.0	-8,284.7	-71.3	8,284.4	0.00	0.00	0.00
17,200.0	90.00	179.80	8,732.0	-8,384.7	-71.0	8,384.4	0.00	0.00	0.00
17,300.0	90.00	179.80	8,732.0	-8,484.7	-70.7	8,484.4	0.00	0.00	0.00
17,400.0	90.00	179.80	8,732.0	-8,584.7	-70.3	8,584.4	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Corral Canyon Federal #20H
Company:	XTO ENERGY, INC.	TVD Reference:	RKB (GL+27') @ 3025.0usft (Frontier #27)
Project:	Eddy County, NM	MD Reference:	RKB (GL+27') @ 3025.0usft (Frontier #27)
Site:	Sec 4, T25S, R29E	North Reference:	Grid
Well:	Corral Canyon Federal #20H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
17,500.0	90.00	179.80	8,732.0	-8,684.7	-70.0	8,684.4	0.00	0.00	0.00
17,600.0	90.00	179.80	8,732.0	-8,784.7	-69.6	8,784.4	0.00	0.00	0.00
17,700.0	90.00	179.80	8,732.0	-8,884.7	-69.3	8,884.4	0.00	0.00	0.00
17,800.0	90.00	179.80	8,732.0	-8,984.7	-68.9	8,984.4	0.00	0.00	0.00
17,900.0	90.00	179.80	8,732.0	-9,084.7	-68.6	9,084.4	0.00	0.00	0.00
18,000.0	90.00	179.80	8,732.0	-9,184.7	-68.2	9,184.4	0.00	0.00	0.00
18,100.0	90.00	179.80	8,732.0	-9,284.7	-67.9	9,284.4	0.00	0.00	0.00
18,200.0	90.00	179.80	8,732.0	-9,384.7	-67.6	9,384.4	0.00	0.00	0.00
18,300.0	90.00	179.80	8,732.0	-9,484.7	-67.2	9,484.4	0.00	0.00	0.00
18,400.0	90.00	179.80	8,732.0	-9,584.7	-66.9	9,584.4	0.00	0.00	0.00
18,500.0	90.00	179.80	8,732.0	-9,684.7	-66.5	9,684.4	0.00	0.00	0.00
18,600.0	90.00	179.80	8,732.0	-9,784.7	-66.2	9,784.4	0.00	0.00	0.00
18,700.0	90.00	179.80	8,732.0	-9,884.7	-65.8	9,884.4	0.00	0.00	0.00
18,800.0	90.00	179.80	8,732.0	-9,984.7	-65.5	9,984.4	0.00	0.00	0.00
18,900.0	90.00	179.80	8,732.0	-10,084.7	-65.1	10,084.4	0.00	0.00	0.00
19,000.0	90.00	179.80	8,732.0	-10,184.7	-64.8	10,184.4	0.00	0.00	0.00
19,100.0	90.00	179.80	8,732.0	-10,284.7	-64.5	10,284.4	0.00	0.00	0.00
19,200.0	90.00	179.80	8,732.0	-10,384.7	-64.1	10,384.4	0.00	0.00	0.00
19,300.0	90.00	179.80	8,732.0	-10,484.7	-63.8	10,484.4	0.00	0.00	0.00
19,400.0	90.00	179.80	8,732.0	-10,584.7	-63.4	10,584.4	0.00	0.00	0.00
19,500.0	90.00	179.80	8,732.0	-10,684.7	-63.1	10,684.4	0.00	0.00	0.00
TD at 19553.6									
19,553.6	90.00	179.80	8,732.0	-10,738.3	-62.9	10,738.0	0.00	0.00	0.00

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Corral Canyon Federal #20H	0.00	0.00	0.0	0.0	0.0	419,294.20	608,673.40	32° 9' 8.170 N	103° 58' 55.875 W
- plan hits target center									
- Point									
Corral Canyon Federal #20H	0.00	0.01	8,732.0	-270.5	-98.9	419,023.70	608,574.50	32° 9' 5.496 N	103° 58' 57.035 W
- plan hits target center									
- Point									
Corral Canyon Federal #20H	0.00	359.06	8,732.0	-10,738.3	-62.9	408,555.90	608,610.50	32° 7' 21.902 N	103° 58' 57.013 W
- plan hits target center									
- Point									
Corral Canyon Federal #20H	0.00	0.00	8,732.0	-10,688.3	-63.3	408,605.90	608,610.10	32° 7' 22.397 N	103° 58' 57.016 W
- plan misses target center by 3.6usft at 19500.0usft MD (8732.0 TVD, -10684.7 N, -63.1 E)									
- Point									

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Corral Canyon Federal #20H
Company:	XTO ENERGY, INC.	TVD Reference:	RKB (GL+27') @ 3025.0usft (Frontier #27)
Project:	Eddy County, NM	MD Reference:	RKB (GL+27') @ 3025.0usft (Frontier #27)
Site:	Sec 4, T25S, R29E	North Reference:	Grid
Well:	Corral Canyon Federal #20H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
404.0	404.0	Rustler			
785.0	785.0	Salado (Top of Salt)			
2,826.0	2,826.0	Base of Salt			
3,023.0	3,023.0	Delaware (Bell Canyon)			
3,899.0	3,899.0	Cherry Canyon			
5,511.0	5,511.0	Brushy Canyon			
6,816.4	6,810.0	Bone Spring Lime			
7,746.5	7,726.0	1st Bone Spring Sand			
8,110.9	8,085.0	2nd Bone Spring Lime			
8,565.8	8,512.0	2nd Bone Spring Sand			
8,909.1	8,705.0	2nd Bone Spring C			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,176.0	6,176.0	0.0	0.0	Start Build 3.00
6,509.3	6,507.6	28.2	-7.0	Start 1579.4 hold at 6509.3 MD
8,088.7	8,063.0	294.3	-72.9	Start DLS 10.00 TFO -166.09
9,085.8	8,732.0	-270.5	-98.9	Start 10467.9 hold at 9085.8 MD
19,553.6	8,732.0	-10,738.3	-62.9	TD at 19553.6