

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTNMOCD
ArtesiaFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**SUNDRY NOTICES AND REPORTS ON WELLS**
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.*5. Lease Serial No.
NMLC061634B.

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.
891000303X8. Well Name and No.
POKER LAKE UNIT 29 BS 102H9. API Well No.
30-015-46175-00-X110. Field and Pool or Exploratory Area
PURPLE SAGE-WOLFCAMP (GAS)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 PERMIAN OPERATING LLC

Contact: KELLY KARDOS

E-Mail: kelly_kardos@xtoenergy.com

3a. Address

6401 HOLIDAY HILL ROAD 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 29 T25S R31E SWNW 2310FNL 720FWL
32.102200 N Lat, 103.806557 W Lon**12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION

- ☒
- Notice of Intent
-
- ☐
- Subsequent Report
-
- ☐
- Final Abandonment Notice

TYPE OF ACTION

- | | | | |
|---|---|--|---|
| ☐ Acidize | ☐ Deepen | ☐ Production (Start/Resume) | ☐ Water Shut-Off |
| ☐ Alter Casing | ☐ Hydraulic Fracturing | ☐ Reclamation | ☐ Well Integrity |
| ☐ 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 recompleate 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 recompletion 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 Operation, LLC requests permission to make the following changes to the original APD:

Change the BHL from 200' FSL & 990' FWL in Sec. 5-T26S-R31E to 200' FSL & 1170' FWL in Sec. 32-T25S-R31E.

Change the casing/cement program per the attached procedure.

XTO requests to not utilize centralizers in the curve and lateral

XTO requests a variance to be able to batch drill this well if necessary. In doing so, XTO will set 72 casing and ensure that the well is cemented properly and the well is static. With floats holding, no pressure on the csg annulus, and the installation of a 10K TA cap as per GE

NOT ATTACHED FOR
CONDITIONS OF APPROVAL
RECEIVED
DEC 23 2019

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

Electronic Submission #493145 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 11/20/2019 (20PP0479SE)

Name (Printed/Typed) KELLY KARDOS

Title REGULATORY COORDINATOR

Signature (Electronic Submission)

Date 11/20/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By

Title

DEC 05 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

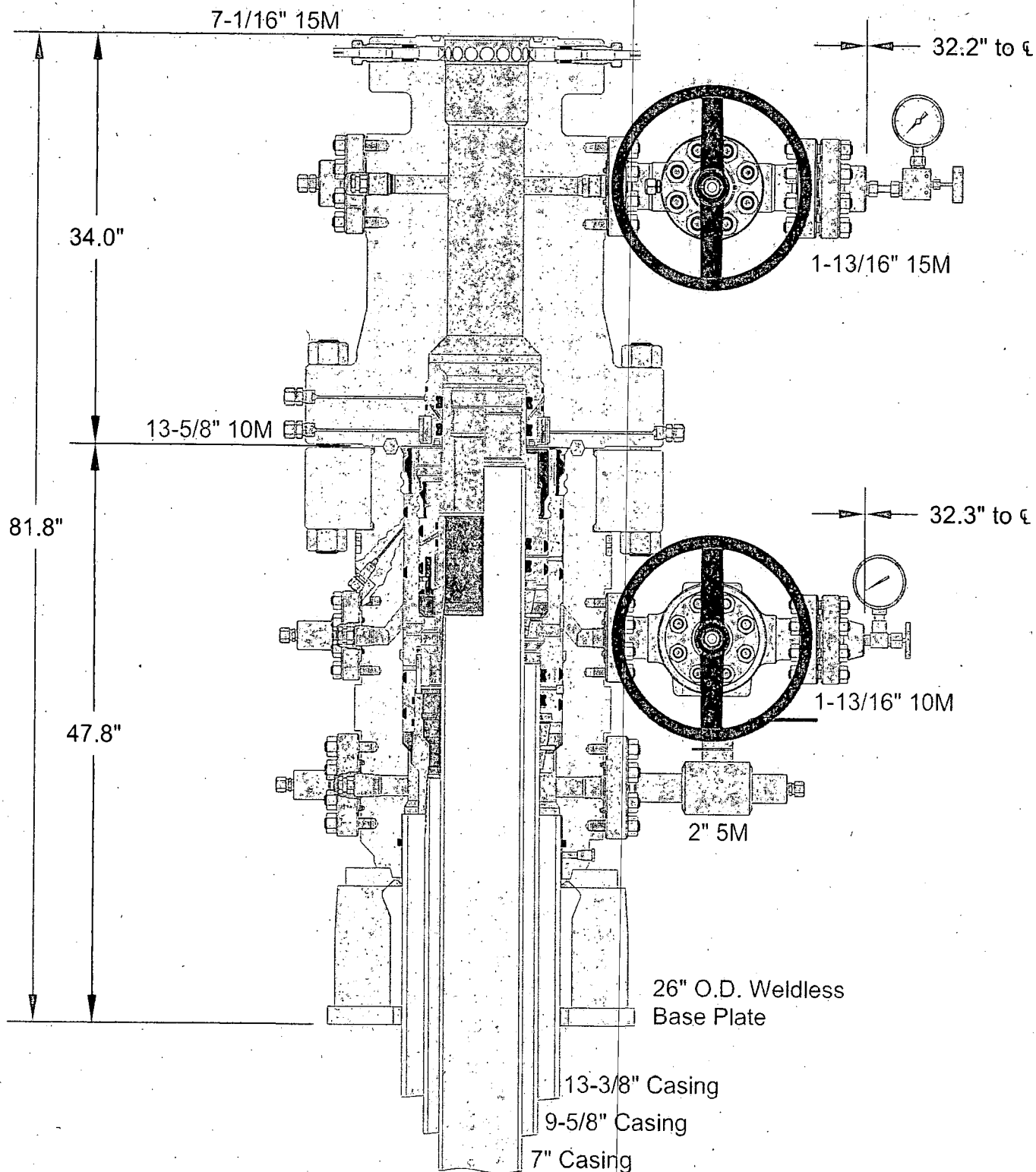
BUREAU OF LAND MANAGEMENT

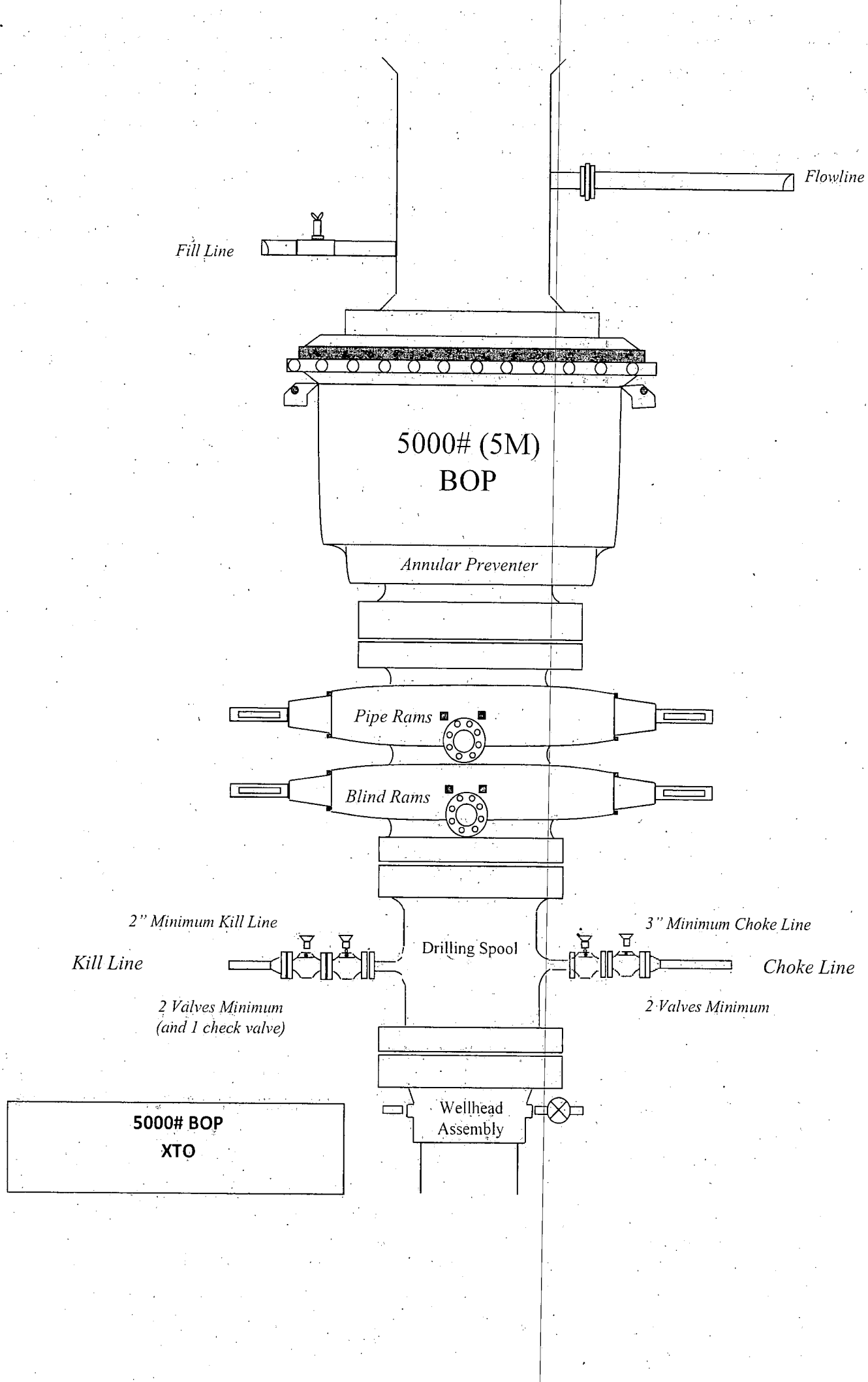
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

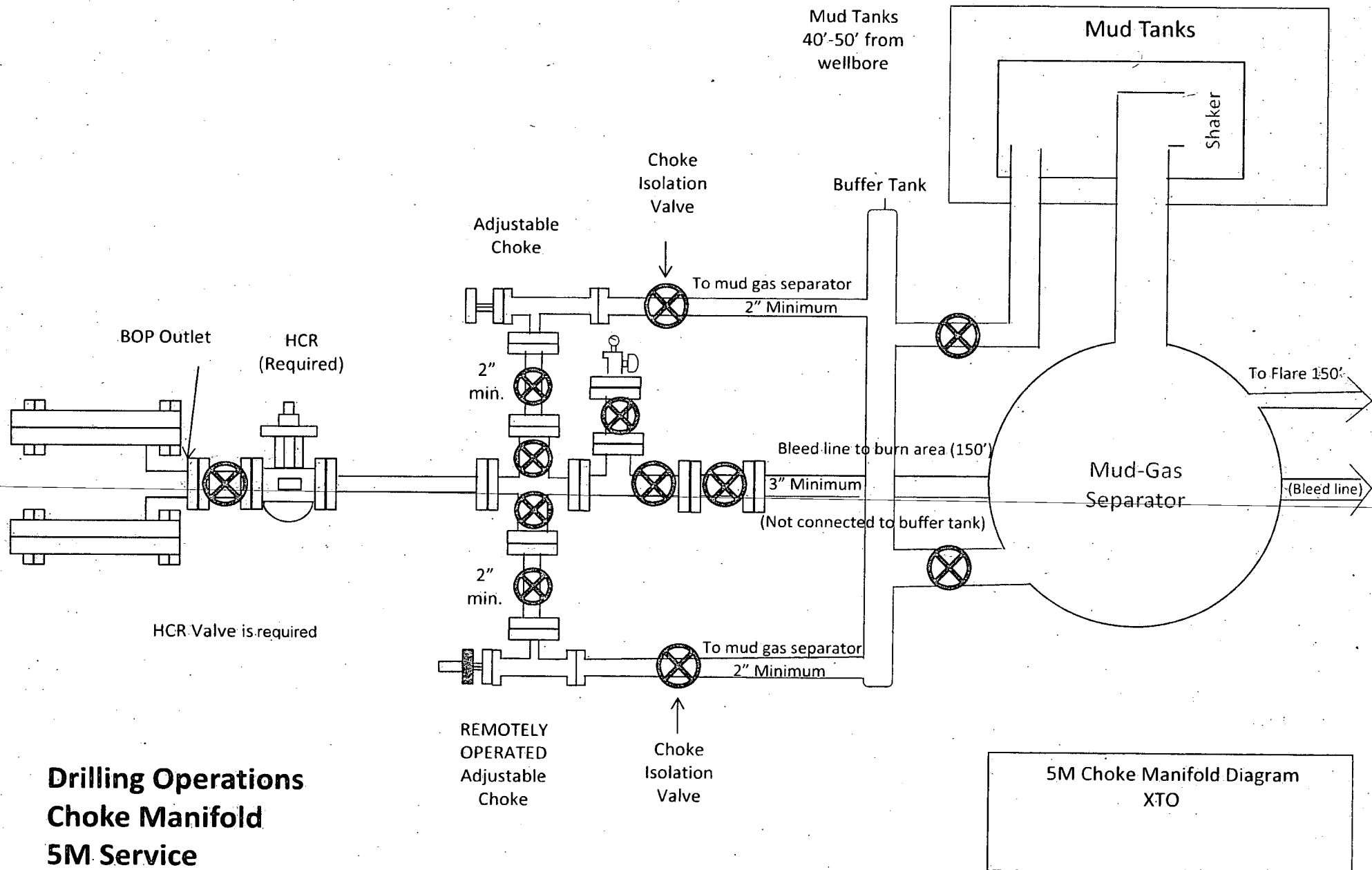
(Instructions on page 2)

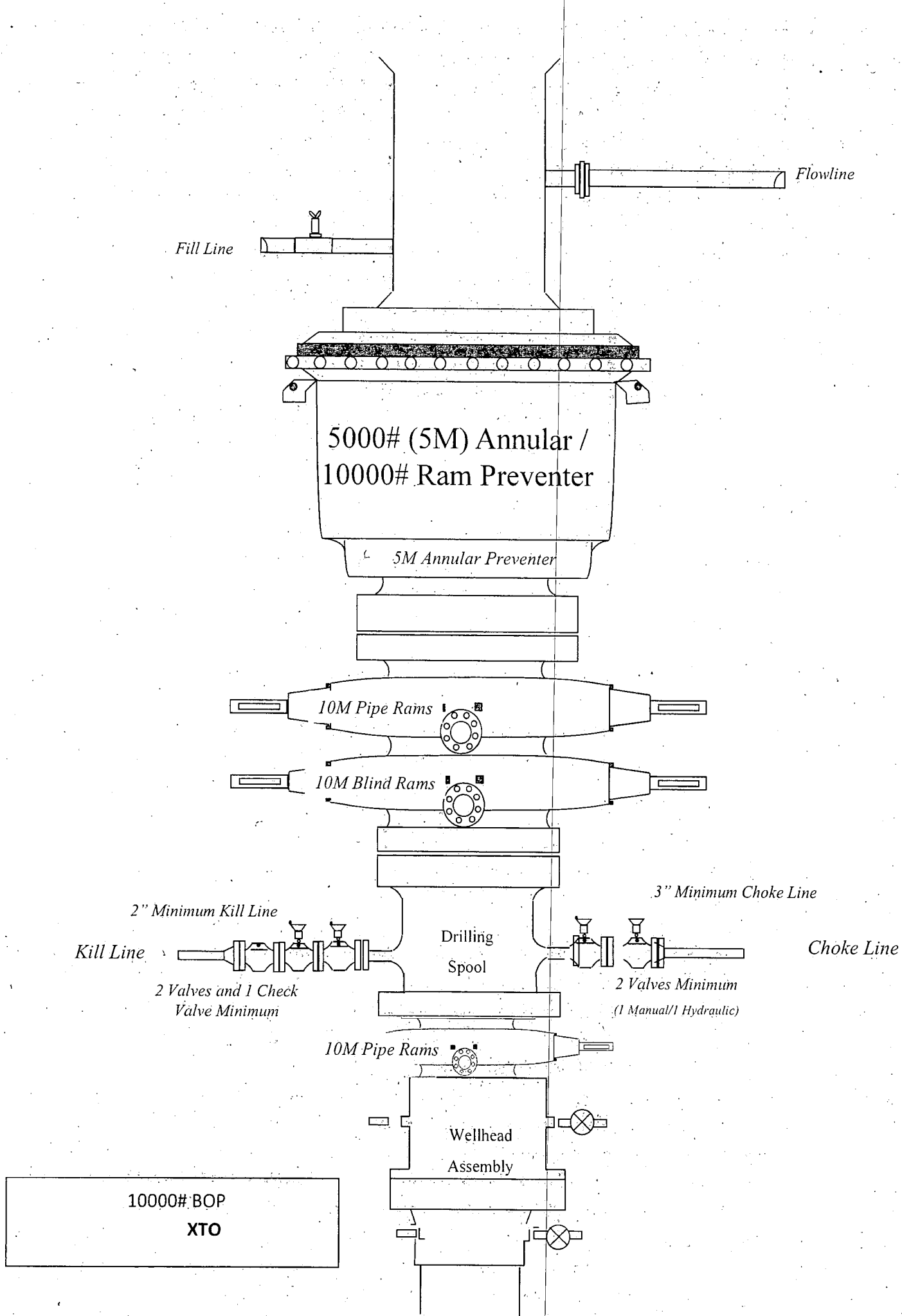
**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

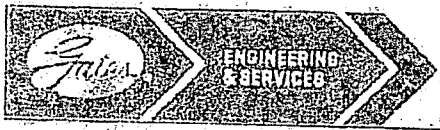
1/27/20 KS











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

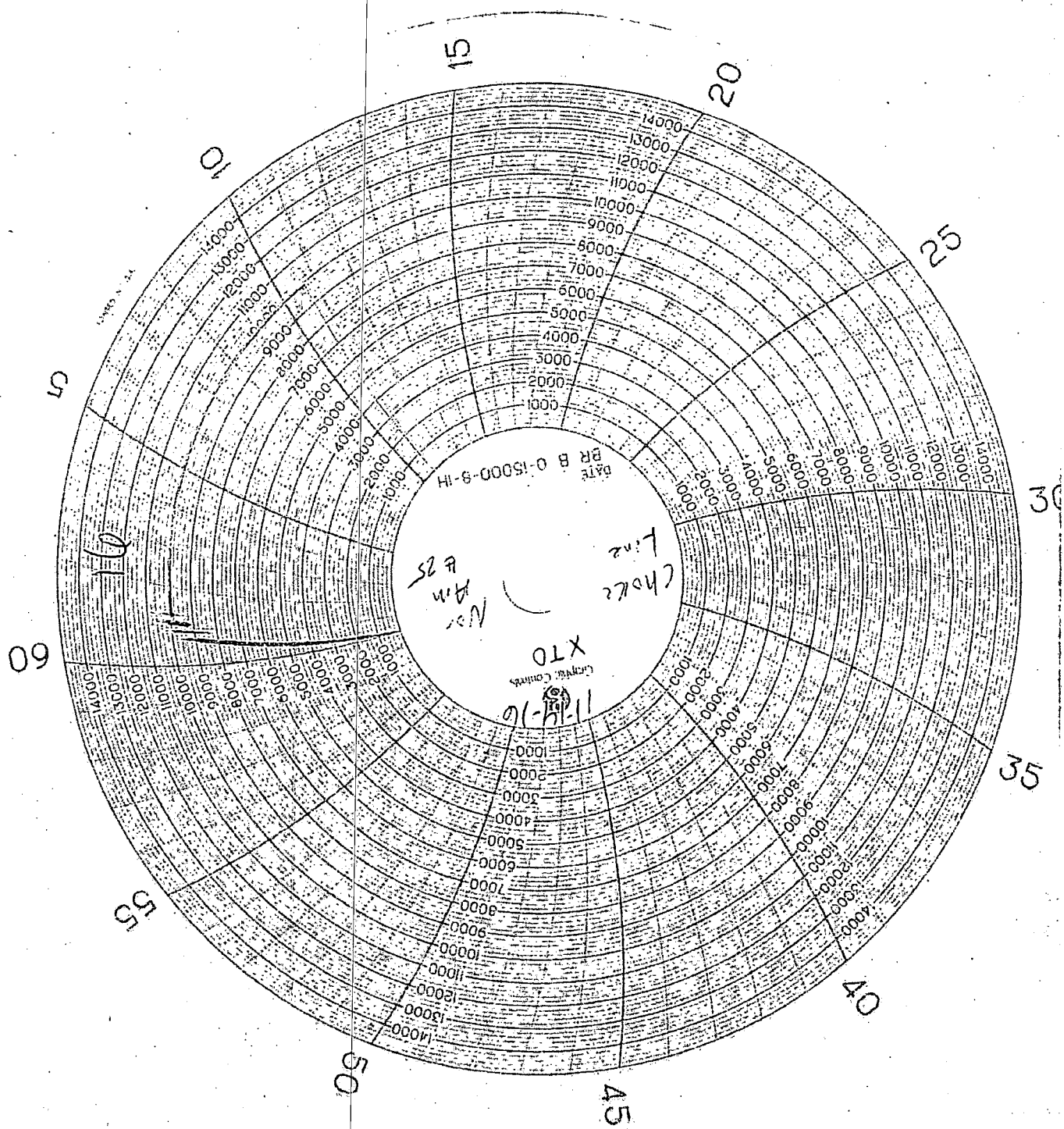
PHONE: 361-887-9807
FAX: 361-887-0812
EMAIL: crpe@s@gates.com
WEB: www.gates.com

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 Fitting 1 :	4 1/16 in. SK FLG	End Fitting 2 :	4 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 :	



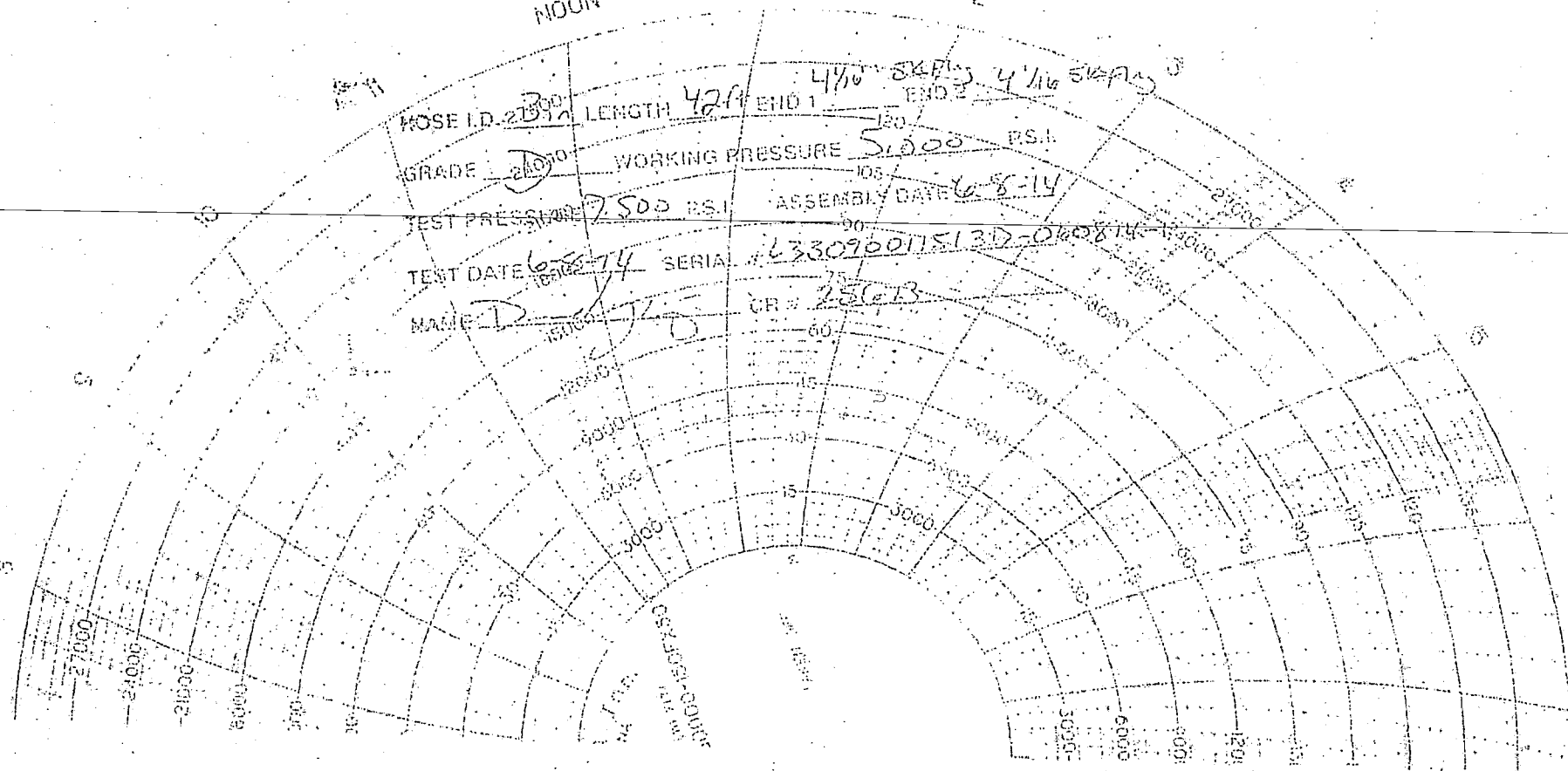
DATE B 0-15000-9-11

Choke
Line
N/A
R 25

XT0
11-11-11
Lump Sum Credits

NOON

HOSE I.D. 2 1/2" LENGTH 42ft END 1 4 1/16" SKP 1/2" END 2 4 1/16" SKP 1/2"
GRADE 24000 WORKING PRESSURE 5,000 P.S.I.
TEST PRESSURE 7,500 P.S.I. ASSEMBLY DATE 6-8-14
TEST DATE 6-8-14 SERIAL # 6330900115132-060814
NAME D. J. CR 25013



XTO Enerav

Project: Eddy County, NM (NAD27) NMEZ Grid
Site: PLU 29 BS
Well: 102H
Wellbore: 102H Lateral
Design: Plan #2

3364+25 @ 3389.00usft (T E101)
NAD 1927 (NADCON CONUS)

To convert a Magnetic Direction to a True Direction, Add 6.79° East
To convert a Magnetic Direction to a Grid Direction, Add 6.51°
Magnetic North is 6.79° East of True North (Magnetic Declination)
Magnetic North is 6.51° East of Grid North (Magnetic Convergence)



SECTION DETAILS

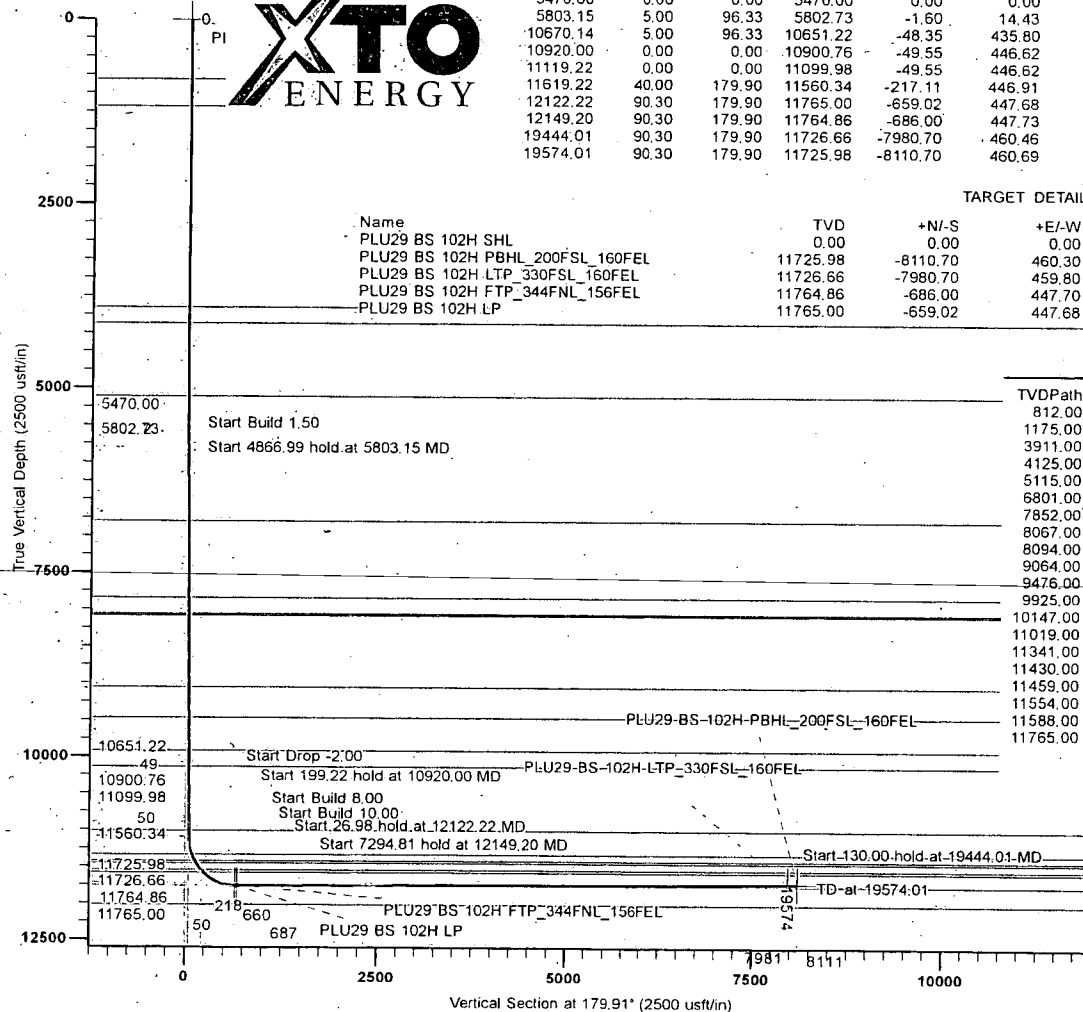
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5470.00	0.00	0.00	5470.00	0.00	0.00	0.00	0.00	0.00
5803.15	5.00	96.33	5802.73	-1.60	14.43	1.50	96.33	1.62
10670.14	5.00	96.33	10651.22	-48.35	435.80	0.00	0.00	49.03
10920.00	0.00	0.00	10900.76	-49.55	446.62	2.00	180.00	50.25
11119.22	0.00	0.00	11099.98	-49.55	446.62	0.00	0.00	50.25
11619.22	40.00	179.90	11560.34	-217.11	446.91	8.00	179.90	217.81
12122.22	90.30	179.90	11765.00	-659.02	447.68	10.00	0.00	659.72
12149.20	90.30	179.90	11764.86	-686.00	447.73	0.00	0.00	686.70
19444.01	90.30	179.90	11726.66	-7980.70	460.46	0.00	0.00	7981.41
19574.01	90.30	179.90	11725.98	-8110.70	460.69	0.00	0.00	8111.41

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PLU29 BS 102H SHL	0.00	0.00	0.00	401257.90	663265.10	Point
PLU29 BS 102H PBHL_200FSL_160FEL	11725.98	-8110.70	460.30	393147.20	663725.40	Point
PLU29 BS 102H LTP_330FSL_160FEL	11726.66	-7980.70	459.80	393277.20	663724.90	Point
PLU29 BS 102H FTP_344FNL_156FEL	11764.86	-686.00	447.70	400571.90	663712.80	Point
PLU29 BS 102H LP	11765.00	-659.02	447.68	400598.88	663712.78	Point

FORMATION TOP DETAILS

TVDPATH	MDPATH	Formation
812.00	812.00	Rustler
1175.00	1175.00	Salado
3911.00	3911.00	Base of Salt
4125.00	4125.00	Delaware
5115.00	5115.00	Cherry Canyon
6801.00	6805.23	Brushy Canyon
7852.00	7860.24	Basal Brushy Canyon
8067.00	8076.06	Bone Spring
8094.00	8103.16	Bone Spring Lime
9064.00	9076.87	1st Bone Sand
9476.00	9490.44	2nd Bone Lime
9925.00	9941.15	2nd Bone Sand
10147.00	10164.00	3rd Bone Lime
11019.00	11038.24	3rd Bone Sand
11341.00	11365.04	Red Hills
11430.00	11462.20	Wolfcamp
11459.00	11495.28	Wolfcamp X
11554.00	11610.98	Wolfcamp Y
11588.00	11656.36	Wolfcamp A
11765.00	12116.00	LP



Vertical Section at 179.91° (2500 usft/in)



Azimuths to Grid North
True North: -0.28°
Magnetic North: 6.51°

Magnetic Field
Strength: 47596.2nT
Dip Angle: 59.88°
Date: 11/07/2019
Model: IGRF2015

Plan: Plan #2 (102H/102H Lateral)
Created By: Mekka Williams
eSomina Well Design
mekka@esominawelldesign.com
13:32, November 13 2019

STRYKER DIRECTIONAL
6701 FM 307
Midland, Texas 79706 - 432-687-1121



Planning Report

Database:	STRYKER_EDM	Local Co-ordinate Reference:	Well 102H - Slot PLU29 BS 102H SHL
Company:	XTO Energy	TVD Reference:	3364+25 @ 3389.00usft (T E101)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3364+25 @ 3389.00usft (T E101)
Site:	PLU 29 BS	North Reference:	Grid
Well:	102H	Survey Calculation Method:	Minimum Curvature
Wellbore:	102H Lateral		
Design:	Plan #2		

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 29 BS		
Site Position:		Northing:	401,257.20 usft
From:	Map	Easting:	663,145.30 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in
		Latitude:	32° 6' 7.47468126 N
		Longitude:	103° 48' 23.28438096 W
		Grid Convergence:	0.28 °

Well	102H - Slot PLU29 BS 102H SHL		
Well Position	+N/-S	0.70 usft	Northing:
	+E/-W	119.80 usft	Easting:
Position Uncertainty	0.00 usft		Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	102H Lateral		
Magnetics	Model Name	Sample Date	Declination
	IGRF2015	11/07/19	(°)
			Dip Angle
			(°)
			Field Strength
			(nT)

Design	Plan #2		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth:
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	Direction
			(°)

Plan Survey Tool Program	Date 11/13/19		
Depth From	Depth To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
1	0.00	19,574.01 Plan #2 (102H Lateral)	MWD+IFR1+MS
			OWSG MWD + IFR1 + Multi-Si
			Remarks

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Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3364+25 @ 3389.00usft (T E101)
Site:	PLU 29 BS	North Reference:	Grid
Well:	102H	Survey Calculation Method:	Minimum Curvature
Wellbore:	102H Lateral		
Design:	Plan #2		

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	
5,470.00	0.00	0.00	5,470.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,803.15	5.00	96.33	5,802.73	-1.60	14.43	1.50	1.50	0.00	96.33	
10,670.14	5.00	96.33	10,651.22	-48.35	435.80	0.00	0.00	0.00	0.00	
10,920.00	0.00	0.00	10,900.76	-49.55	446.62	2.00	-2.00	0.00	180.00	
11,119.22	0.00	0.00	11,099.98	-49.55	446.62	0.00	0.00	0.00	0.00	
11,619.22	40.00	179.90	11,560.34	-217.11	446.91	8.00	8.00	0.00	179.90	
12,122.22	90.30	179.90	11,765.00	-659.02	447.68	10.00	10.00	0.00	0.00	
12,149.20	90.30	179.90	11,764.86	-686.00	447.73	0.00	0.00	0.00	0.00	PLU29 BS 102H FTP
19,444.01	90.30	179.90	11,726.66	-7,980.70	460.46	0.00	0.00	0.00	0.00	PLU29 BS 102H LTP
19,574.01	90.30	179.90	11,725.98	-8,110.70	460.69	0.00	0.00	0.00	0.00	PLU29 BS 102H PBH

Planning Report

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Company:	XTO Energy	TVD Reference:	3364+25 @ 3389.00usft (T E101)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3364+25 @ 3389.00usft (T E101)
Site:	PLU 29 BS	North Reference:	Grid
Well:	102H	Survey Calculation Method:	Minimum Curvature
Wellbore:	102H Lateral		
Design:	Plan #2		

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
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
812.00	0.00	0.00	812.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
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
1,175.00	0.00	0.00	1,175.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
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	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,911.00	0.00	0.00	3,911.00	0.00	0.00	0.00	0.00	0.00	0.00
Base of Salt									
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,125.00	0.00	0.00	4,125.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware									
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00

Planning Report

Database:	STRYKER_EDM	Local Co-ordinate Reference:	Well 102H - Slot PLU29 BS 102H SHL
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Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3364+25 @ 3389.00usft (T E101)
Site:	PLU 29 BS	North Reference:	Grid
Well:	102H	Survey Calculation Method:	Minimum Curvature
Wellbore:	102H Lateral		
Design:	Plan #2		

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)	
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,115.00	0.00	0.00	5,115.00	0.00	0.00	0.00	0.00	0.00	0.00	
Cherry Canyon										
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,470.00	0.00	0.00	5,470.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,500.00	0.45	96.33	5,500.00	-0.01	0.12	0.01	1.50	1.50	0.00	
5,600.00	1.95	96.33	5,599.98	-0.24	2.20	0.25	1.50	1.50	0.00	
5,700.00	3.45	96.33	5,699.86	-0.76	6.88	0.77	1.50	1.50	0.00	
5,803.15	5.00	96.33	5,802.73	-1.60	14.43	1.62	1.50	1.50	0.00	
5,900.00	5.00	96.33	5,899.21	-2.53	22.82	2.57	0.00	0.00	0.00	
6,000.00	5.00	96.33	5,998.83	-3.49	31.47	3.54	0.00	0.00	0.00	
6,100.00	5.00	96.33	6,098.45	-4.45	40.13	4.52	0.00	0.00	0.00	
6,200.00	5.00	96.33	6,198.07	-5.41	48.79	5.49	0.00	0.00	0.00	
6,300.00	5.00	96.33	6,297.69	-6.37	57.45	6.46	0.00	0.00	0.00	
6,400.00	5.00	96.33	6,397.31	-7.33	66.10	7.44	0.00	0.00	0.00	
6,500.00	5.00	96.33	6,496.93	-8.29	74.76	8.41	0.00	0.00	0.00	
6,600.00	5.00	96.33	6,596.55	-9.25	83.42	9.39	0.00	0.00	0.00	
6,700.00	5.00	96.33	6,696.17	-10.22	92.08	10.36	0.00	0.00	0.00	
6,800.00	5.00	96.33	6,795.79	-11.18	100.73	11.33	0.00	0.00	0.00	
6,805.23	5.00	96.33	6,801.00	-11.23	101.19	11.39	0.00	0.00	0.00	
Brushy Canyon										
6,900.00	5.00	96.33	6,895.41	-12.14	109.39	12.31	0.00	0.00	0.00	
7,000.00	5.00	96.33	6,995.03	-13.10	118.05	13.28	0.00	0.00	0.00	
7,100.00	5.00	96.33	7,094.65	-14.06	126.71	14.26	0.00	0.00	0.00	
7,200.00	5.00	96.33	7,194.27	-15.02	135.36	15.23	0.00	0.00	0.00	
7,300.00	5.00	96.33	7,293.89	-15.98	144.02	16.20	0.00	0.00	0.00	
7,400.00	5.00	96.33	7,393.51	-16.94	152.68	17.18	0.00	0.00	0.00	
7,500.00	5.00	96.33	7,493.13	-17.90	161.34	18.15	0.00	0.00	0.00	
7,600.00	5.00	96.33	7,592.75	-18.86	170.00	19.13	0.00	0.00	0.00	
7,700.00	5.00	96.33	7,692.37	-19.82	178.65	20.10	0.00	0.00	0.00	
7,800.00	5.00	96.33	7,791.99	-20.78	187.31	21.08	0.00	0.00	0.00	
7,860.24	5.00	96.33	7,852.00	-21.36	192.53	21.66	0.00	0.00	0.00	
Basal Brushy Canyon										
7,900.00	5.00	96.33	7,891.61	-21.74	195.97	22.05	0.00	0.00	0.00	
8,000.00	5.00	96.33	7,991.23	-22.70	204.63	23.02	0.00	0.00	0.00	
8,076.06	5.00	96.33	8,067.00	-23.43	211.21	23.76	0.00	0.00	0.00	
Bone Spring										
8,100.00	5.00	96.33	8,090.85	-23.66	213.28	24.00	0.00	0.00	0.00	
8,103.16	5.00	96.33	8,094.00	-23.69	213.56	24.03	0.00	0.00	0.00	
Bone Spring Lime										
8,200.00	5.00	96.33	8,190.47	-24.62	221.94	24.97	0.00	0.00	0.00	
8,300.00	5.00	96.33	8,290.09	-25.58	230.60	25.95	0.00	0.00	0.00	
8,400.00	5.00	96.33	8,389.71	-26.54	239.26	26.92	0.00	0.00	0.00	
8,500.00	5.00	96.33	8,489.33	-27.50	247.91	27.89	0.00	0.00	0.00	
8,600.00	5.00	96.33	8,588.95	-28.47	256.57	28.87	0.00	0.00	0.00	
8,700.00	5.00	96.33	8,688.57	-29.43	265.23	29.84	0.00	0.00	0.00	

Planning Report

Database:	STRYKER_EDM	Local Co-ordinate Reference:	Well 102H - Slot PLU29 BS 102H SHL
Company:	XTO Energy	TVD Reference:	3364+25 @ 3389.00usft (T E101)
Project:	Eddy County: NM (NAD27) NMEZ Grid	MD Reference:	3364+25 @ 3389.00usft (T E101)
Site:	PLU 29 BS	North Reference:	Grid
Well:	102H	Survey Calculation Method:	Minimum Curvature
Wellbore:	102H Lateral		
Design:	Plan #2		

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)	
8,800.00	5.00	96.33	8,788.19	-30.39	273.89	30.82	0.00	0.00	0.00	
8,900.00	5.00	96.33	8,887.81	-31.35	282.54	31.79	0.00	0.00	0.00	
9,000.00	5.00	96.33	8,987.43	-32.31	291.20	32.76	0.00	0.00	0.00	
9,076.87	5.00	96.33	9,064.00	-33.05	297.86	33.51	0.00	0.00	0.00	
1st Bone Sand										
9,100.00	5.00	96.33	9,087.05	-33.27	299.86	33.74	0.00	0.00	0.00	
9,200.00	5.00	96.33	9,186.67	-34.23	308.52	34.71	0.00	0.00	0.00	
9,300.00	5.00	96.33	9,286.29	-35.19	317.18	35.69	0.00	0.00	0.00	
9,400.00	5.00	96.33	9,385.91	-36.15	325.83	36.66	0.00	0.00	0.00	
9,490.44	5.00	96.33	9,476.00	-37.02	333.66	37.54	0.00	0.00	0.00	
2nd Bone Lime										
9,500.00	5.00	96.33	9,485.53	-37.11	334.49	37.64	0.00	0.00	0.00	
9,600.00	5.00	96.33	9,585.15	-38.07	343.15	38.61	0.00	0.00	0.00	
9,700.00	5.00	96.33	9,684.77	-39.03	351.81	39.58	0.00	0.00	0.00	
9,800.00	5.00	96.33	9,784.39	-39.99	360.46	40.56	0.00	0.00	0.00	
9,900.00	5.00	96.33	9,884.01	-40.95	369.12	41.53	0.00	0.00	0.00	
9,941.15	5.00	96.33	9,925.00	-41.35	372.68	41.93	0.00	0.00	0.00	
2nd Bone Sand										
10,000.00	5.00	96.33	9,983.63	-41.91	377.78	42.51	0.00	0.00	0.00	
10,100.00	5.00	96.33	10,083.25	-42.87	386.44	43.48	0.00	0.00	0.00	
10,164.00	5.00	96.33	10,147.00	-43.49	391.98	44.10	0.00	0.00	0.00	
3rd Bone Lime										
10,200.00	5.00	96.33	10,182.87	-43.83	395.09	44.45	0.00	0.00	0.00	
10,300.00	5.00	96.33	10,282.49	-44.79	403.75	45.43	0.00	0.00	0.00	
10,400.00	5.00	96.33	10,382.10	-45.75	412.41	46.40	0.00	0.00	0.00	
10,500.00	5.00	96.33	10,481.72	-46.72	421.07	47.38	0.00	0.00	0.00	
10,600.00	5.00	96.33	10,581.34	-47.68	429.72	48.35	0.00	0.00	0.00	
10,670.14	5.00	96.33	10,651.22	-48.35	435.80	49.03	0.00	0.00	0.00	
10,700.00	4.40	96.33	10,680.98	-48.62	438.23	49.31	2.00	-2.00	0.00	
10,800.00	2.40	96.33	10,780.80	-49.27	444.12	49.97	2.00	-2.00	0.00	
10,900.00	0.40	96.33	10,880.76	-49.54	446.55	50.24	2.00	-2.00	0.00	
10,920.00	0.00	0.00	10,900.76	-49.55	446.62	50.25	2.00	-2.00	0.00	
11,000.00	0.00	0.00	10,980.76	-49.55	446.62	50.25	0.00	0.00	0.00	
11,038.24	0.00	0.00	11,019.00	-49.55	446.62	50.25	0.00	0.00	0.00	
3rd Bone Sand										
11,100.00	0.00	0.00	11,080.76	-49.55	446.62	50.25	0.00	0.00	0.00	
11,119.22	0.00	0.00	11,099.98	-49.55	446.62	50.25	0.00	0.00	0.00	
11,150.00	2.46	179.90	11,130.75	-50.21	446.62	50.91	8.00	8.00	0.00	
11,200.00	6.46	179.90	11,180.59	-54.10	446.63	54.80	8.00	8.00	0.00	
11,250.00	10.46	179.90	11,230.04	-61.46	446.64	62.16	8.00	8.00	0.00	
11,300.00	14.46	179.90	11,278.85	-72.25	446.66	72.95	8.00	8.00	0.00	
11,350.00	18.46	179.90	11,326.79	-86.41	446.68	87.11	8.00	8.00	0.00	
11,365.04	19.67	179.90	11,341.00	-91.32	446.69	92.02	8.00	8.00	0.00	
Red Hills										
11,400.00	22.46	179.90	11,373.62	-103.89	446.71	104.59	8.00	8.00	0.00	
11,450.00	26.46	179.90	11,419.13	-124.59	446.75	125.29	8.00	8.00	0.00	
11,462.20	27.44	179.90	11,430.00	-130.12	446.76	130.82	8.00	8.00	0.00	
Wolfcamp										
11,495.28	30.09	179.90	11,459.00	-146.04	446.79	146.74	8.00	8.00	0.00	
Wolfcamp X										
11,500.00	30.46	179.90	11,463.07	-148.41	446.79	149.11	8.00	8.00	0.00	
11,550.00	34.46	179.90	11,505.25	-175.25	446.84	175.95	8.00	8.00	0.00	
11,600.00	38.46	179.90	11,545.46	-204.95	446.89	205.66	8.00	8.00	0.00	

Planning Report

Database:	STRYKER_EDM	Local Co-ordinate Reference:	Well 102H - Slot PLU29 BS 102H SHL
Company:	XTO Energy	TVD Reference:	3364+25 @ 3389.00usft (T E101)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3364+25 @ 3389.00usft (T E101)
Site:	PLU 29 BS	North Reference:	Grid
Well:	102H	Survey Calculation Method:	Minimum Curvature
Wellbore:	102H Lateral		
Design:	Plan #2		

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)	
11,610.98	39.34	179.90	11,554.00	-211.85	446.90	212.55	8.00	8.00	0.00	
Wolfcamp Y										
11,619.22	40.00	179.90	11,560.34	-217.11	446.91	217.81	8.00	8.00	0.00	
11,650.00	43.08	179.90	11,583.38	-237.52	446.95	238.22	10.00	10.00	0.00	
11,656.36	43.71	179.90	11,588.00	-241.89	446.96	242.59	10.00	10.00	0.00	
Wolfcamp A										
11,700.00	48.08	179.90	11,618.37	-273.22	447.01	273.92	10.00	10.00	0.00	
11,750.00	53.08	179.90	11,650.11	-311.83	447.08	312.53	10.00	10.00	0.00	
11,800.00	58.08	179.90	11,678.36	-353.06	447.15	353.76	10.00	10.00	0.00	
11,850.00	63.08	179.90	11,702.92	-396.60	447.23	397.30	10.00	10.00	0.00	
11,900.00	68.08	179.90	11,723.58	-442.11	447.31	442.81	10.00	10.00	0.00	
11,950.00	73.08	179.90	11,740.20	-489.25	447.39	489.95	10.00	10.00	0.00	
12,000.00	78.08	179.90	11,752.65	-537.66	447.47	538.36	10.00	10.00	0.00	
12,050.00	83.08	179.90	11,760.83	-586.97	447.56	587.67	10.00	10.00	0.00	
12,100.00	88.08	179.90	11,764.69	-636.80	447.64	637.51	10.00	10.00	0.00	
12,116.00	89.68	179.90	11,765.00	-652.80	447.67	653.51	10.00	10.00	0.00	
LP										
12,122.22	90.30	179.90	11,765.00	-659.02	447.68	659.72	10.00	10.00	0.00	
12,149.20	90.30	179.90	11,764.86	-686.00	447.73	686.70	0.00	0.00	0.00	
12,200.00	90.30	179.90	11,764.59	-736.80	447.82	737.50	0.00	0.00	0.00	
12,300.00	90.30	179.90	11,764.07	-836.80	447.99	837.50	0.00	0.00	0.00	
12,400.00	90.30	179.90	11,763.55	-936.80	448.17	937.50	0.00	0.00	0.00	
12,500.00	90.30	179.90	11,763.02	-1,036.79	448.34	1,037.50	0.00	0.00	0.00	
12,600.00	90.30	179.90	11,762.50	-1,136.79	448.52	1,137.50	0.00	0.00	0.00	
12,700.00	90.30	179.90	11,761.98	-1,236.79	448.69	1,237.50	0.00	0.00	0.00	
12,800.00	90.30	179.90	11,761.45	-1,336.79	448.87	1,337.49	0.00	0.00	0.00	
12,900.00	90.30	179.90	11,760.93	-1,436.79	449.04	1,437.49	0.00	0.00	0.00	
13,000.00	90.30	179.90	11,760.41	-1,536.79	449.22	1,537.49	0.00	0.00	0.00	
13,100.00	90.30	179.90	11,759.88	-1,636.79	449.39	1,637.49	0.00	0.00	0.00	
13,200.00	90.30	179.90	11,759.36	-1,736.78	449.56	1,737.49	0.00	0.00	0.00	
13,300.00	90.30	179.90	11,758.83	-1,836.78	449.74	1,837.49	0.00	0.00	0.00	
13,400.00	90.30	179.90	11,758.31	-1,936.78	449.91	1,937.49	0.00	0.00	0.00	
13,500.00	90.30	179.90	11,757.79	-2,036.78	450.09	2,037.48	0.00	0.00	0.00	
13,600.00	90.30	179.90	11,757.26	-2,136.78	450.26	2,137.48	0.00	0.00	0.00	
13,700.00	90.30	179.90	11,756.74	-2,236.78	450.44	2,237.48	0.00	0.00	0.00	
13,800.00	90.30	179.90	11,756.22	-2,336.78	450.61	2,337.48	0.00	0.00	0.00	
13,900.00	90.30	179.90	11,755.69	-2,436.77	450.79	2,437.48	0.00	0.00	0.00	
14,000.00	90.30	179.90	11,755.17	-2,536.77	450.96	2,537.48	0.00	0.00	0.00	
14,100.00	90.30	179.90	11,754.65	-2,636.77	451.14	2,637.48	0.00	0.00	0.00	
14,200.00	90.30	179.90	11,754.12	-2,736.77	451.31	2,737.47	0.00	0.00	0.00	
14,300.00	90.30	179.90	11,753.60	-2,836.77	451.48	2,837.47	0.00	0.00	0.00	
14,400.00	90.30	179.90	11,753.08	-2,936.77	451.66	2,937.47	0.00	0.00	0.00	
14,500.00	90.30	179.90	11,752.55	-3,036.76	451.83	3,037.47	0.00	0.00	0.00	
14,600.00	90.30	179.90	11,752.03	-3,136.76	452.01	3,137.47	0.00	0.00	0.00	
14,700.00	90.30	179.90	11,751.50	-3,236.76	452.18	3,237.47	0.00	0.00	0.00	
14,800.00	90.30	179.90	11,750.98	-3,336.76	452.36	3,337.47	0.00	0.00	0.00	
14,900.00	90.30	179.90	11,750.46	-3,436.76	452.53	3,437.46	0.00	0.00	0.00	
15,000.00	90.30	179.90	11,749.93	-3,536.76	452.71	3,537.46	0.00	0.00	0.00	
15,100.00	90.30	179.90	11,749.41	-3,636.76	452.88	3,637.46	0.00	0.00	0.00	
15,200.00	90.30	179.90	11,748.89	-3,736.75	453.06	3,737.46	0.00	0.00	0.00	
15,300.00	90.30	179.90	11,748.36	-3,836.75	453.23	3,837.46	0.00	0.00	0.00	
15,400.00	90.30	179.90	11,747.84	-3,936.75	453.40	3,937.46	0.00	0.00	0.00	
15,500.00	90.30	179.90	11,747.32	-4,036.75	453.58	4,037.46	0.00	0.00	0.00	

Planning Report

Database:	STRYKER_EDM	Local Co-ordinate Reference:	Well 102H - Slot PLU29 BS 102H SHL
Company:	XTO Energy	TVD Reference:	3364+25 @ 3389.00usft (T E101)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3364+25 @ 3389.00usft (T E101)
Site:	PLU 29 BS	North Reference:	Grid:
Well:	102H	Survey Calculation Method:	Minimum Curvature
Wellbore:	102H Lateral		
Design:	Plan #2		

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)	
15,600.00	90.30	179.90	11,746.79	-4,136.75	453.75	4,137.46	0.00	0.00	0.00	
15,700.00	90.30	179.90	11,746.27	-4,236.75	453.93	4,237.45	0.00	0.00	0.00	
15,800.00	90.30	179.90	11,745.74	-4,336.74	454.10	4,337.45	0.00	0.00	0.00	
15,900.00	90.30	179.90	11,745.22	-4,436.74	454.28	4,437.45	0.00	0.00	0.00	
16,000.00	90.30	179.90	11,744.70	-4,536.74	454.45	4,537.45	0.00	0.00	0.00	
16,100.00	90.30	179.90	11,744.17	-4,636.74	454.63	4,637.45	0.00	0.00	0.00	
16,200.00	90.30	179.90	11,743.65	-4,736.74	454.80	4,737.45	0.00	0.00	0.00	
16,300.00	90.30	179.90	11,743.13	-4,836.74	454.98	4,837.45	0.00	0.00	0.00	
16,400.00	90.30	179.90	11,742.60	-4,936.74	455.15	4,937.44	0.00	0.00	0.00	
16,500.00	90.30	179.90	11,742.08	-5,036.73	455.32	5,037.44	0.00	0.00	0.00	
16,600.00	90.30	179.90	11,741.56	-5,136.73	455.50	5,137.44	0.00	0.00	0.00	
16,700.00	90.30	179.90	11,741.03	-5,236.73	455.67	5,237.44	0.00	0.00	0.00	
16,800.00	90.30	179.90	11,740.51	-5,336.73	455.85	5,337.44	0.00	0.00	0.00	
16,900.00	90.30	179.90	11,739.99	-5,436.73	456.02	5,437.44	0.00	0.00	0.00	
17,000.00	90.30	179.90	11,739.46	-5,536.73	456.20	5,537.44	0.00	0.00	0.00	
17,100.00	90.30	179.90	11,738.94	-5,636.72	456.37	5,637.43	0.00	0.00	0.00	
17,200.00	90.30	179.90	11,738.41	-5,736.72	456.55	5,737.43	0.00	0.00	0.00	
17,300.00	90.30	179.90	11,737.89	-5,836.72	456.72	5,837.43	0.00	0.00	0.00	
17,400.00	90.30	179.90	11,737.37	-5,936.72	456.90	5,937.43	0.00	0.00	0.00	
17,500.00	90.30	179.90	11,736.84	-6,036.72	457.07	6,037.43	0.00	0.00	0.00	
17,600.00	90.30	179.90	11,736.32	-6,136.72	457.24	6,137.43	0.00	0.00	0.00	
17,700.00	90.30	179.90	11,735.80	-6,236.72	457.42	6,237.43	0.00	0.00	0.00	
17,800.00	90.30	179.90	11,735.27	-6,336.71	457.59	6,337.43	0.00	0.00	0.00	
17,900.00	90.30	179.90	11,734.75	-6,436.71	457.77	6,437.42	0.00	0.00	0.00	
18,000.00	90.30	179.90	11,734.23	-6,536.71	457.94	6,537.42	0.00	0.00	0.00	
18,100.00	90.30	179.90	11,733.70	-6,636.71	458.12	6,637.42	0.00	0.00	0.00	
18,200.00	90.30	179.90	11,733.18	-6,736.71	458.29	6,737.42	0.00	0.00	0.00	
18,300.00	90.30	179.90	11,732.65	-6,836.71	458.47	6,837.42	0.00	0.00	0.00	
18,400.00	90.30	179.90	11,732.13	-6,936.71	458.64	6,937.42	0.00	0.00	0.00	
18,500.00	90.30	179.90	11,731.61	-7,036.70	458.81	7,037.42	0.00	0.00	0.00	
18,600.00	90.30	179.90	11,731.08	-7,136.70	458.99	7,137.41	0.00	0.00	0.00	
18,700.00	90.30	179.90	11,730.56	-7,236.70	459.16	7,237.41	0.00	0.00	0.00	
18,800.00	90.30	179.90	11,730.04	-7,336.70	459.34	7,337.41	0.00	0.00	0.00	
18,900.00	90.30	179.90	11,729.51	-7,436.70	459.51	7,437.41	0.00	0.00	0.00	
19,000.00	90.30	179.90	11,728.99	-7,536.70	459.69	7,537.41	0.00	0.00	0.00	
19,100.00	90.30	179.90	11,728.47	-7,636.69	459.86	7,637.41	0.00	0.00	0.00	
19,200.00	90.30	179.90	11,727.94	-7,736.69	460.04	7,737.41	0.00	0.00	0.00	
19,300.00	90.30	179.90	11,727.42	-7,836.69	460.21	7,837.40	0.00	0.00	0.00	
19,400.00	90.30	179.90	11,726.90	-7,936.69	460.39	7,937.40	0.00	0.00	0.00	
19,444.01	90.30	179.90	11,726.66	-7,980.70	460.46	7,981.41	0.00	0.00	0.00	
19,500.00	90.30	179.90	11,726.37	-8,036.69	460.56	8,037.40	0.00	0.00	0.00	
19,574.01	90.30	179.90	11,725.98	-8,110.70	460.69	8,111.41	0.00	0.00	0.00	

Planning Report

Database:	STRYKER_EDM	Local Co-ordinate Reference:	Well 102H - Slot PLU29 BS 102H SHL
Company:	XTO Energy	TVD Reference:	3364+25 @ 3389.00usft (T E101)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3364+25 @ 3389.00usft (T E101)
Site:	PLU 29 BS	North Reference:	Grid
Well:	102H	Survey Calculation Method:	Minimum Curvature
Wellbore:	102H Lateral		
Design:	Plan #2		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
PLU29 BS 102H SHL	0.00	0.00	0.00	0.00	0.00	401,257.90	663,265.10	32° 6' 7.47581271 N	3° 48' 21.89160545 W
- plan hits target center									
- Point									
PLU29 BS 102H PBHL_	0.00	0.00	11,725.98	-8,110.70	460.30	393,147.20	663,725.40	32° 4' 47.18862708 N	3° 48' 17.00256043 W
- plan misses target center by 0.39usft at 19574.01usft MD (11725.98 TVD, -8110.70 N, 460.69 E)									
- Rectangle (sides W100.00-H7,425.00 D0.00)									
PLU29 BS 102H LTP_3	0.00	0.00	11,726.66	-7,980.70	459.80	393,277.20	663,724.90	32° 4' 48.47515588 N	3° 48' 17.00096799 W
- plan misses target center by 0.66usft at 19444.01usft MD (11726.66 TVD, -7980.70 N, 460.46 E)									
- Point									
PLU29 BS 102H FTP_3	0.00	0.00	11,764.86	-686.00	447.70	400,571.90	663,712.80	32° 6' 0.66535313 N	3° 48' 16.72597428 W
- plan misses target center by 0.03usft at 12149.20usft MD (11764.86 TVD, -686.00 N, 447.73 E)									
- Point									
PLU29 BS 102H LP	0.00	0.00	11,765.00	-659.02	447.68	400,598.88	663,712.78	32° 6' 0.93235240 N	3° 48' 16.72466879 W
- plan hits target center									
- Point									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
812.00	812.00	Rustler				
1,175.00	1,175.00	Salado				
3,911.00	3,911.00	Base of Salt				
4,125.00	4,125.00	Delaware				
5,115.00	5,115.00	Cherry Canyon				
6,805.23	6,801.00	Brushy Canyon				
7,860.24	7,852.00	Basal Brushy Canyon				
8,076.06	8,067.00	Bone Spring				
8,103.16	8,094.00	Bone Spring Lime				
9,076.87	9,064.00	1st Bone Sand				
9,490.44	9,476.00	2nd Bone Lime				
9,941.15	9,925.00	2nd Bone Sand				
10,164.00	10,147.00	3rd Bone Lime				
11,038.24	11,019.00	3rd Bone Sand				
11,365.04	11,341.00	Red Hills				
11,462.20	11,430.00	Wolfcamp				
11,495.28	11,459.00	Wolfcamp X				
11,610.98	11,554.00	Wolfcamp Y				
11,656.36	11,588.00	Wolfcamp A				
12,116.00	11,765.00	LP				

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO Permian Operating, LLC
LEASE NO.:	NMLC-0061634B
WELL NAME & NO.:	Poker Lake Unit 29 BS 102H
SURFACE HOLE FOOTAGE:	2310' FNL & 0720' FWL
BOTTOM HOLE FOOTAGE:	0200' FSL & 1170' FWL Sec. 32, T. 25 S., R 31 E.
LOCATION:	Section 29, T. 25 S., R 31 E., NMPPM
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. 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. The operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well.
4. 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.
5. 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.

Abnormal pressure may be encountered in the 3rd Bone Spring and all subsequent formations.

1. The 13-3/8 inch surface casing shall be set at approximately 1050 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.

Formation below the 13-3/8" 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 and the mud weight for the bottom of the hole. Report results to BLM office.

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.

Formation below the 9-5/8" 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 through the curve and a minimum of one every other joint.

3. The minimum required fill of cement behind the 7 inch production casing is:

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

Formation below the 7" 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.

4. The minimum required fill of cement behind the 4-1/2 inch production Liner is:

- ☒ Cement as proposed. 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. 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 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 9-5/8" and 7" 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.

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.
- 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.

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