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

Sundry Print Report

07/12/2021

Well Name: MUY WAYNO 18 FEDERAL

Well Location: T25S / R30E / SEC 18 / NENW / 32.129178 / -103.923072

County or Parish/State: EDDY / NM

Well Number: 124H

Type of Well: CONVENTIONAL GAS WELL

Allottee or Tribe Name:

Lease Number: NMLC0065705B, NMLC065705B

Unit or CA Name:

Unit or CA Number:

US Well Number: 3001544843

Well Status: Approved Application for Permit to Drill

Operator: XTO ENERGY INCORPORATED

Notice of Intent

Type of Submission: Notice of Intent

Type of Action Other

Date Sundry Submitted: 07/09/2021

Time Sundry Submitted: 11:36

Date proposed operation will begin: 07/16/2021

Procedure Description: **Spacing, Casing/Cement, Drilling Variance Changes XTO Permian Operating, LLC requests permission to make the following changes to the original APD: No Additional Surface Disturbance Change BHL fr/200'FNL & 2310'FWL to 200'FNL & 1590'FWL Casing/Cement design per the attached drilling program. XTO also requests the following variances: Approval to utilize a spudder rig to pre-set surface casing per the attached description of operations. Batch drill this well if necessary. In doing so, XTO will set each casing string and ensure that the well is cemented properly and the well is static. With floats holding, no pressure on the csg annulus, and the installation of a 10K TA cap as per recommendations, XTO will contact the BLM to skid the rig to drill the remaining wells on the pad. Once surface and intermediate strings are all completed, XTO will begin drilling the production hole on each of the wells. ONLY test broken pressure seals on the BOP equipment per the attached procedure. A variance is requested to cement offline for the surface and intermediate casing strings. Attachments: C102 Drilling Program Directional Plan Multibowl Diagram 5MBOP/5MCM Spudder Rig Description of Operations BOP Break Test Procedure Offline Cementing Procedure

Surface Disturbance

Is any additional surface disturbance proposed?: No

NOI Attachments

Procedure Description

01_Sundry_Documents_20210709113618.pdf

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Conditions of Approval

Specialist Review

Conditions_of_Approval_20210709145258.pdf

Operator Certification

I certify that the foregoing is true and correct. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. Electronic submission of Sundry Notices through this system satisfies regulations requiring a submission of Form 3160-5 or a Sundry Notice.

Operator Electronic Signature: CASSIE EVANS

Signed on: JUL 09, 2021 11:36 AM

Name: XTO ENERGY INCORPORATED

Title: Regulatory Analyst

Street Address: 6401 Holiday Hill Road, Bldg 5

City: Midland **State:** TX

Phone: (432) 218-3671

Email address: CASSIE.EVANS@EXXONMOBIL.COM

Field Representative

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

BLM Point of Contact

BLM POC Name: JENNIFER SANCHEZ

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5756270237

BLM POC Email Address: j1sanchez@blm.gov

Disposition: Approved

Disposition Date: 07/09/2021

Signature: Jennifer Sanchez

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	[2] Pool Code	[3] Pool Name
30-015-44843	98220	Purple Sage; Wolfcamp

[4] Property Code	[5] Property Name	[6] Well Number
	MUY WAYNO 18 FEDERAL	124H
[7] OGRID No.	**[8] Operator Name**	**[9] Elevation**
005380	XTO ENERGY INC.	3,173'

[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
K	18	25 S	30 E		2,310	SOUTH	1,960	WEST	EDDY

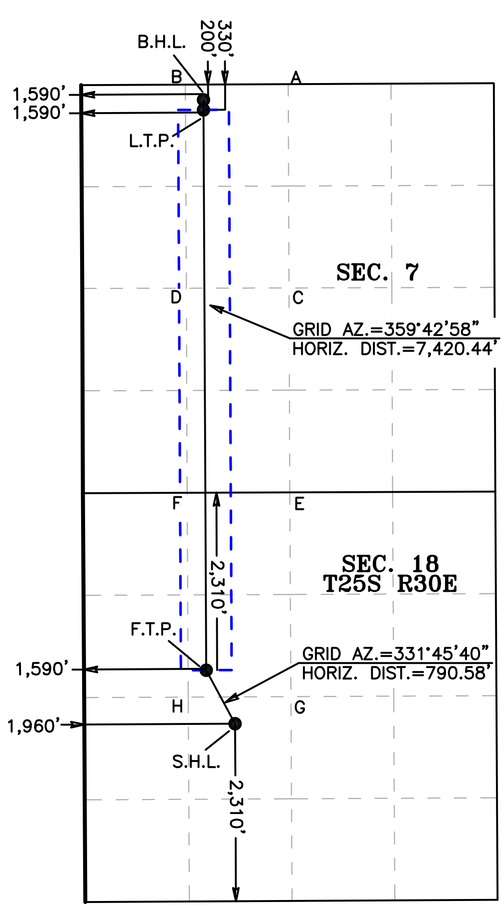
[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	7	25 S	30 E		200	NORTH	1,590	WEST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
480			

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	GEODETIC COORDINATES NAD 83 NME SURFACE LOCATION
Y= 410,914.3	Y= 410,972.6
X= 627,150.8	X= 668,335.5
LAT.= 32.129054°N	LAT.= 32.129178°N
LONG.= 103.922587°W	LONG.= 103.923072°W

FIRST TAKE POINT NAD 27 NME	FIRST TAKE POINT NAD 83 NME
Y= 411,610.5	Y= 411,669.1
X= 626,777.0	X= 667,961.5
LAT.= 32.130971°N	LAT.= 32.131096°N
LONG.= 103.923787°W	LONG.= 103.924272°W

CORNER COORDINATES TABLE
NAD 27 NME

A	Y= 419,236.3 N, X= 627,843.0 E
B	Y= 419,230.0 N, X= 626,505.6 E
C	Y= 416,584.3 N, X= 627,852.8 E
D	Y= 416,580.8 N, X= 626,517.9 E
E	Y= 413,925.0 N, X= 627,862.7 E
F	Y= 413,919.9 N, X= 626,527.4 E
G	Y= 411,266.7 N, X= 627,877.5 E
H	Y= 411,260.6 N, X= 626,542.4 E

CORNER COORDINATES TABLE
NAD 83 NME

A	Y= 419,294.7 N, X= 669,027.4 E
B	Y= 419,288.4 N, X= 667,690.0 E
C	Y= 416,642.7 N, X= 669,037.3 E
D	Y= 416,639.2 N, X= 667,702.4 E
E	Y= 413,983.3 N, X= 669,047.3 E
F	Y= 413,978.2 N, X= 667,712.0 E
G	Y= 411,325.0 N, X= 669,062.2 E
H	Y= 411,318.9 N, X= 667,727.0 E

LAST TAKE POINT NAD 27 NME	LAST TAKE POINT NAD 83 NME
Y= 419,030.7	Y= 419,089.5
X= 626,740.4	X= 667,924.7
LAT.= 32.151370°N	LAT.– 32.151494°N
LONG.= 103.923814°W	LONG.= 103.924299°W

BOTTOM HOLE LOCATION NAD 27 NME	BOTTOM HOLE LOCATION NAD 83 NME
Y= 418,900.8	Y= 418,959.5
X= 626,741.1	X= 667,925.4
LAT.= 32.151012°N	LAT.= 32.151137°N
LONG.= 103.923813°W	LONG.= 103.924299°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.

Cassie Evans 06/08/2021
Signature Date

Cassie Evans
Printed Name

cassie.evans@exxonmobil.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.

6-8-2021
Date of Survey

Signature and Seal of Professional Surveyor:

MARK DILLON HARP NEW MEXICO 23786 PROFESSIONAL SURVEYOR

MARK DILLON HARP 23786
Certificate Number

AW/AI 2017060874

F:\PROJECTS\2017\2017060874-XTO-MUY_WAYNO_18_FEDERAL_103H-EDDY\DWG\2017060874-XTO-MUY_WAYNO_18_FEDERAL_124H_C-102_UPDATED.dwg

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

XTO Energy Inc.
Muy Wayno 18 Federal 124H
Projected TD: 19571' MD / 11560' TVD
SHL: 2310' FSL & 1960' FWL , Section 18, T25S, R30E
BHL: 200' FNL & 1590' FWL , Section 7, T25S, R30E
Eddy County, NM

1. Geologic Name of Surface Formation

A. Quaternary

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

Formation	Well Depth (TVD)	Water/Oil/Gas
Rustler	758'	Water
Top of Salt	1073'	Water
Base of Salt	3333'	Water
Delaware	3533'	Water
Brushy Canyon	6013'	Water/Oil/Gas
Bone Spring	7253'	Water
1st Bone Spring Ss	8238'	Water/Oil/Gas
2nd Bone Spring Ss	9078'	Water/Oil/Gas
3rd Bone Spring Ss	10158'	Water/Oil/Gas
Wolfcamp	10533'	Water/Oil/Gas
Wolfcamp X	10563'	Water/Oil/Gas
Wolfcamp Y	10628'	Water/Oil/Gas
Wolfcamp A	10673'	Water/Oil/Gas
Wolfcamp B	11063'	Water/Oil/Gas
Wolfcamp D	11463'	Water/Oil/Gas
Wolfcamp E	11623'	Water/Oil/Gas
Target/Land Curve	11560'	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 9.625 inch casing @ 973' (100' above the salt) and circulating cement back to surface. The intermediate will isolate from the top of salt down to the next casing seat by setting 7.625 inch casing at 10807' and cemented to surface. A 6.75 inch curve and 6.75 inch lateral hole will be drilled to 19571 MD/TD and 5.5 x 5 inch production casing will be set at TD and cemented back up to 2nd intermediate (estimated TOC 10507 feet).

3. Casing Design

Hole Size	Depth	OD Csg	Weight	Grade	Collar	New/Used	SF Burst	SF Collapse	SF Tension
12.25	0' – 973'	9.625	40	J-55	BTC	New	1.29	5.84	16.19
8.75	0' – 4000'	7.625	29.7	RY P-110	Flush Joint	New	2.16	2.65	1.74
8.75	4000' – 10807'	7.625	29.7	HC L-80	Flush Joint	New	1.57	1.85	2.01
6.75	0' – 10707'	5.5	23	RY P-110	Semi-Premium	New	1.21	2.27	2.28
6.75	10707' - 11300'	5.5	23	RY P-110	Semi-Flush	New	1.21	2.15	8.32
6.75	11300' - 19571'	5	18	RY P-110	Semi-Premium	New	1.16	1.95	9.80

· XTO requests the option to utilize a spudder rig (Atlas Copco RD20 or Equivalent) to set and cement surface and intermediate 1 casing per this Sundry
· XTO requests to not utilize centralizers in the curve and lateral
· 7.625 Collapse analyzed using 50% evacuation based on regional experience.
· 5.5 Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35
· Test on Casing will be limited to 70% burst of the casing or 1500 psi, whichever is less

· XTO requests the option to use 5" BTC Float equipment for the the production casing

Wellhead:

Permanent Wellhead – Multibowl System

A. Starting Head: 13-5/8” 10M top flange x 9-5/8” SOW bottom

B. Tubing Head: 13-5/8” 10M bottom flange x 7-1/16” 15M top flange

· Wellhead will be installed by manufacturer’s representatives.

· Manufacturer will monitor welding process to ensure appropriate temperature of seal.

· Operator will test the 7-5/8" casing per BLM Onshore Order 2

· Wellhead Manufacturer representative will not be present for BOP test plug installation

4. Cement Program

Surface Casing: 9.625, 40 New BTC, J-55 casing to be set at +/- 973'

Lead: 220 sxs EconoCem-HLTRRC (mixed at 12.9 ppg, 1.87 ft3/sx, 10.13 gal/sx water)
Tail: 130 sxs Class C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)
Top of Cement: Surface
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

2nd Intermediate Casing: 7.625, 29.7 New casing to be set at +/- 10807'
1st Stage
Optional Lead: 320 sxs Class C (mixed at 10.5 ppg, 2.77 ft3/sx, 15.59 gal/sx water)
TOC: Surface
Tail: 440 sxs Class C (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)
TOC: Brushy Canyon @ 6013
Compressives: 12-hr = 900 psi 24 hr = 1150 psi

2nd Stage
Lead: 0 sxs Class C (mixed at 12.9 ppg, 2.16 ft3/sx, 9.61 gal/sx water)
Tail: 680 sxs Class C (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water)
Top of Cement: 0
Compressives: 12-hr = 900 psi 24 hr = 1150 psi

XTO requests to pump a two stage cement job on the 7-5/8" intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brush Canyon (6013') and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. If cement is not visually confirmed to circulate to surface, the final cement top after the second stage job will be verified by Echo-meter. If necessary, a top out consisting of 1,500 sack of Class C cement + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (2.30 yld, 12.91 ppg) will be executed as a contingency. If cement is still unable to circulate to surface, another Echo-meter run will be performed for cement top verification.

XTO will include the Echo-meter verified fluid top and the volume of displacement fluid above the cement slurry in the annulus in all post-drill sundries on wells utilizing this cement program.

XTO will report to the BLM the volume of fluid (limited to 5 bbls) used to flush intermediate casing valves following backside cementing procedures.

XTO requests to pump an Optional Lead if well conditions dictate in an attempt to bring cement inside the first intermediate casing. If cement reaches the desired height, the BLM will be notified and the second stage bradenhead squeeze and subsequent TOC verification will be negated.

XTO requests the option to conduct the bradenhead squeeze and TOC verification offline as per standard approval from BLM when unplanned remediation is needed and batch drilling is approved. In the event the bradenhead is conducted, we will ensure the first stage cement job is cemented properly and the well is static with floats holding and no pressure on the csg annulus as with all other casing strings where batch drilling operations occur before moving off the rig. The TA cap will also be installed per Cactus procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops.

Production Casing: 5, 18 New Semi-Premium, RY P-110 casing to be set at +/- 19571'

Lead: 20 sxs NeoCem (mixed at 11.5 ppg, 2.69 ft3/sx, 15.00 gal/sx water) Top of Cement: 10507 feet
Tail: 810 sxs VersaCem (mixed at 13.2 ppg, 1.51 ft3/sx, 8.38 gal/sx water) Top of Cement: 11007 feet
Compressives: 12-hr = 800 psi 24 hr = 1500 psi

XTO requests the option to offline cement and remediate (if needed) surface and intermediate casing strings where batch drilling is approved and if unplanned remediation is needed. XTO will ensure well is static with no pressure on the csg annulus, as with all other casing strings where batch drilling operations occur before moving off the rig. The TA cap will also be installed when applicable per Cactus procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops. Offline cement operations will then be conducted after the rig is moved off the current well to the next well in the batch sequence.

5. Pressure Control Equipment

Once the permanent WH is installed on the 9.625 casing, the blow out preventer equipment (BOP) will consist of a 13-5/8" minimum 5M Hydril and a 13-5/8" minimum 5M Double Ram BOP. MASP should not exceed 4370 psi. In any instance where 10M BOP is required by BLM, XTO requests a variance to utilize 5M annular with 10M ram preventers (a common BOP configuration, which allows use of 10M rams in unlikely event that pressures exceed 5M).

All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 50% of the working pressure. When nippling up on the 9.625, 5M bradenhead and flange, the BOP test will be limited to 5000 psi. When nippling up on the 7.625, the BOP will be tested to a minimum of 5000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 5M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test chart will be kept on the rig. Attached is an example of a certification and pressure test chart. The manufacturer does not require anchors.

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

hole on each of the wells.

A variance is requested to **ONLY** test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53. API standard 53 states, that for pad drilling operation, moving from one wellhead to another within 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken. Based on discussions with the BLM on February 27th 2020, we will request permission to **ONLY** retest broken pressure seals if the following conditions are met: 1. After a full BOP test is conducted on the first well on the pad 2. When skidding to drill an intermediate section that does not penetrate into the Wolfcamp.

6. Proposed Mud Circulation System

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' - 973'	12.25	FW/Native	8.7-9.2	35-40	NC
973' - 10807'	8.75	FW / Cut Brine / Direct Emulsion	9.7-10.2	30-32	NC
10807' - 19571'	6.75	OBM	11.5-12	50-60	NC - 20

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

Spud with fresh water/native mud. Drill out from under 9-5/8" surface casing with brine solution. A 9.7 ppg - 10.2 ppg cut brine mud will be used while drilling through the salt formation. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Pump speed will be recorded on a daily drilling report after mudding up. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

7. Auxiliary Well Control and Monitoring Equipment

A. A Kelly cock will be in the drill string at all times.
B. A full opening drill pipe stabbing valve having appropriate connections will be on the rig floor at all times.
C. H2S monitors will be on location when drilling below the 9.625 casing.

8. Logging, Coring and Testing Program

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

Open hole logging will not be done on this well.

9. Abnormal Pressures and Temperatures / Potential Hazards

None Anticipated. BHT of 180 to 200 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 6913 psi.

10. Anticipated Starting Date and Duration of Operations

Anticipated spud date will be after BLM approval. Move in operations and drilling is expected to take 40 days.

Well Plan Report - MUY WAYNO 18 FEDERAL # 124H (164H)

Measured Depth:	19570.55 ft
TVD RKB:	11560.00 ft
Location	
Cartographic Reference System:	New Mexico East - NAD 27
Northing:	410914.56 ft
Easting:	627151.01 ft
RKB:	3200.00 ft
Ground Level:	3200.00 ft
North Reference:	Grid
Convergence Angle:	0.22 Deg
Site:	Muy Wayno 18
Slot:	2

Plan Sections — MUY WAYNO 18 FEDERAL # 124H

Measured Depth (ft)	Inclination (Deg)	Azimuth (Deg)	TVD RKB (ft)	Y Offset (ft)	X Offset (ft)	Build Rate (Deg/100ft)	Turn Rate (Deg/100ft)	Dogleg Rate (Deg/100ft)	Target
0	0	0	0	0	0	0	0	0	
2000	0	0	2000	0	0	0	0	0	
2303.28	6.07	252.21	2302.71	-4.9	-15.27	2	0	2	
5716.96	6.07	252.21	5697.29	-115.1	-358.74	0	0	0	
6020.24	0	0	6000	-120	-374.01	-2	0	2	
11007.24	0	0	10987	-120	-374.01	0	0	0	
11907.24	90	0	11559.96	452.96	-374.01	10	0	10	FTP 46
19440.64	90	359.44	11560	7986.24	-410.61	0	-0.01	0.01	LTP 25
19570.55	90	1.44	11560	8116.14	-409.61	0	1.54	1.54	BHL 46

Position Uncertainty — MUY WAYNO 18 FEDERAL # 124H

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD RKB (ft)	Highside Error (ft)	Bias (ft)	Lateral Error (ft)	Bias (ft)	Vertical Error (ft)	Bias (ft)	Magnitude of Bias (ft)	Semi-major Error (ft)	Semi-minor Error (ft)	Semi-minor Azimuth (°)	Tool Used
0	0	0	0	0	0	0	0	2.297	0	0	0	0	0	MWD+IFR1+MS
100	0	0	100	0.468	0	0.468	0	2.299	0	0	0.556	0.358	135	MWD+IFR1+MS
200	0	0	200	0.983	0	0.983	0	2.307	0	0	1.191	0.717	135	MWD+IFR1+MS
300	0	0	300	1.403	0	1.403	0	2.321	0	0	1.668	1.075	135	MWD+IFR1+MS
400	0	0	400	1.797	0	1.797	0	2.34	0	0	2.099	1.434	135	MWD+IFR1+MS
500	0	0	500	2.179	0	2.179	0	2.364	0	0	2.507	1.792	135	MWD+IFR1+MS
600	0	0	600	2.554	0	2.554	0	2.394	0	0	2.902	2.151	135	MWD+IFR1+MS
700	0	0	700	2.925	0	2.925	0	2.428	0	0	3.289	2.509	135	MWD+IFR1+MS
800	0	0	800	3.293	0	3.293	0	2.467	0	0	3.669	2.868	135	MWD+IFR1+MS

900	0	0	900	3.659	0	3.659	0	2.511	0	0	4.046	3.226	135	MWD+IFR1+MS
1000	0	0	1000	4.024	0	4.024	0	2.56	0	0	4.42	3.585	135	MWD+IFR1+MS
1100	0	0	1100	4.388	0	4.388	0	2.613	0	0	4.791	3.943	135	MWD+IFR1+MS
1200	0	0	1200	4.751	0	4.751	0	2.67	0	0	5.161	4.302	135	MWD+IFR1+MS
1300	0	0	1300	5.113	0	5.113	0	2.731	0	0	5.529	4.66	135	MWD+IFR1+MS
1400	0	0	1400	5.475	0	5.475	0	2.797	0	0	5.896	5.019	135	MWD+IFR1+MS
1500	0	0	1500	5.836	0	5.836	0	2.866	0	0	6.262	5.377	135	MWD+IFR1+MS
1600	0	0	1600	6.197	0	6.197	0	2.939	0	0	6.627	5.736	135	MWD+IFR1+MS
1700	0	0	1700	6.558	0	6.558	0	3.016	0	0	6.992	6.094	135	MWD+IFR1+MS
1800	0	0	1800	6.919	0	6.919	0	3.096	0	0	7.356	6.452	135	MWD+IFR1+MS
1900	0	0	1900	7.279	0	7.279	0	3.179	0	0	7.719	6.811	135	MWD+IFR1+MS
2000	0	0	2000	7.639	0	7.639	0	3.266	0	0	8.082	7.169	135	MWD+IFR1+MS
2100	2	252.211	2099.98	8.249	0	7.723	0	3.355	0	0	8.405	7.558	-43.384	MWD+IFR1+MS
2200	4	252.211	2199.838	8.855	0	8.072	0	3.448	0	0	8.93	8.008	-32.644	MWD+IFR1+MS
2303.279	6.066	252.211	2302.713	9.464	0	8.435	0	3.55	0	0	9.515	8.418	-24.624	MWD+IFR1+MS
2400	6.066	252.211	2398.892	9.855	0	8.772	0	3.647	0	0	9.895	8.766	-21.846	MWD+IFR1+MS
2500	6.066	252.211	2498.333	10.168	0	9.123	0	3.749	0	0	10.204	9.119	-20.904	MWD+IFR1+MS
2600	6.066	252.211	2597.773	10.485	0	9.475	0	3.855	0	0	10.518	9.473	-19.924	MWD+IFR1+MS
2700	6.066	252.211	2697.213	10.805	0	9.827	0	3.964	0	0	10.836	9.827	-18.94	MWD+IFR1+MS
2800	6.066	252.211	2796.653	11.128	0	10.181	0	4.075	0	0	11.156	10.181	-17.955	MWD+IFR1+MS
2900	6.066	252.211	2896.093	11.454	0	10.535	0	4.19	0	0	11.48	10.535	-16.971	MWD+IFR1+MS
3000	6.066	252.211	2995.533	11.781	0	10.889	0	4.308	0	0	11.807	10.889	-15.991	MWD+IFR1+MS
3100	6.066	252.211	3094.973	12.112	0	11.245	0	4.428	0	0	12.137	11.243	-15.017	MWD+IFR1+MS
3200	6.066	252.211	3194.414	12.444	0	11.6	0	4.551	0	0	12.469	11.597	-14.053	MWD+IFR1+MS
3300	6.066	252.211	3293.854	12.778	0	11.957	0	4.677	0	0	12.803	11.951	-13.1	MWD+IFR1+MS
3400	6.066	252.211	3393.294	13.114	0	12.313	0	4.805	0	0	13.139	12.305	-12.16	MWD+IFR1+MS
3500	6.066	252.211	3492.734	13.451	0	12.67	0	4.936	0	0	13.477	12.659	-11.236	MWD+IFR1+MS
3600	6.066	252.211	3592.174	13.79	0	13.027	0	5.07	0	0	13.817	13.013	-10.329	MWD+IFR1+MS
3700	6.066	252.211	3691.614	14.13	0	13.385	0	5.207	0	0	14.159	13.368	-9.441	MWD+IFR1+MS
3800	6.066	252.211	3791.055	14.471	0	13.743	0	5.346	0	0	14.501	13.722	-8.574	MWD+IFR1+MS
3900	6.066	252.211	3890.495	14.814	0	14.101	0	5.487	0	0	14.846	14.077	-7.727	MWD+IFR1+MS
4000	6.066	252.211	3989.935	15.158	0	14.459	0	5.632	0	0	15.191	14.432	-6.903	MWD+IFR1+MS
4100	6.066	252.211	4089.375	15.503	0	14.818	0	5.779	0	0	15.538	14.786	-6.102	MWD+IFR1+MS
4200	6.066	252.211	4188.815	15.848	0	15.177	0	5.928	0	0	15.886	15.141	-5.325	MWD+IFR1+MS
4300	6.066	252.211	4288.255	16.195	0	15.536	0	6.08	0	0	16.234	15.496	-4.572	MWD+IFR1+MS
4400	6.066	252.211	4387.696	16.543	0	15.895	0	6.235	0	0	16.584	15.852	-3.842	MWD+IFR1+MS
4500	6.066	252.211	4487.136	16.891	0	16.255	0	6.392	0	0	16.935	16.207	-3.137	MWD+IFR1+MS
4600	6.066	252.211	4586.576	17.24	0	16.614	0	6.552	0	0	17.286	16.562	-2.456	MWD+IFR1+MS
4700	6.066	252.211	4686.016	17.59	0	16.974	0	6.714	0	0	17.638	16.918	-1.799	MWD+IFR1+MS
4800	6.066	252.211	4785.456	17.94	0	17.334	0	6.879	0	0	17.99	17.274	-1.166	MWD+IFR1+MS
4900	6.066	252.211	4884.896	18.291	0	17.694	0	7.046	0	0	18.344	17.63	-0.556	MWD+IFR1+MS
5000	6.066	252.211	4984.337	18.643	0	18.054	0	7.217	0	0	18.698	17.986	0.032	MWD+IFR1+MS
5100	6.066	252.211	5083.777	18.995	0	18.414	0	7.389	0	0	19.052	18.342	0.597	MWD+IFR1+MS
5200	6.066	252.211	5183.217	19.347	0	18.774	0	7.565	0	0	19.407	18.699	1.141	MWD+IFR1+MS
5300	6.066	252.211	5282.657	19.701	0	19.135	0	7.742	0	0	19.762	19.055	1.664	MWD+IFR1+MS
5400	6.066	252.211	5382.097	20.054	0	19.495	0	7.923	0	0	20.118	19.412	2.166	MWD+IFR1+MS

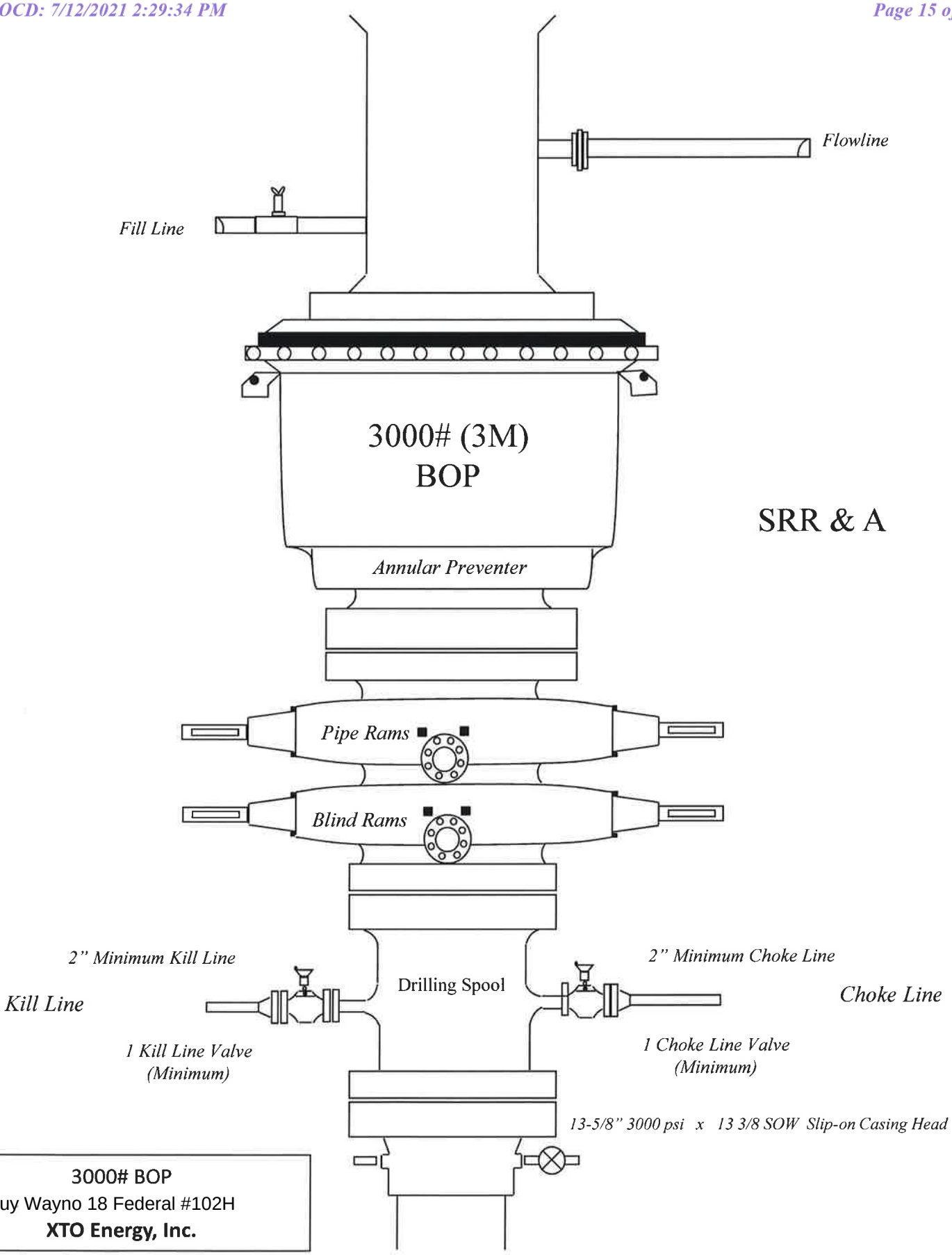
5500	6.066	252.211	5481.537	20.408	0	19.856	0	8.106	0	0	20.474	19.769	2.648	MWD+IFR1+MS
5600	6.066	252.211	5580.977	20.763	0	20.217	0	8.292	0	0	20.831	20.126	3.111	MWD+IFR1+MS
5700	6.066	252.211	5680.418	21.118	0	20.577	0	8.48	0	0	21.188	20.483	3.556	MWD+IFR1+MS
5716.965	6.066	252.211	5697.287	21.177	0	20.637	0	8.512	0	0	21.246	20.543	3.547	MWD+IFR1+MS
5800	4.405	252.211	5779.973	21.494	0	20.931	0	8.671	0	0	21.548	20.837	3.369	MWD+IFR1+MS
5900	2.405	252.211	5879.792	21.937	0	21.288	0	8.865	0	0	21.997	21.19	2.412	MWD+IFR1+MS
6000	0.405	252.211	5979.757	22.371	0	21.645	0	9.059	0	0	22.462	21.541	1.583	MWD+IFR1+MS
6020.244	0	0	6000	21.612	0	22.53	0	9.098	0	0	22.53	21.611	1.593	MWD+IFR1+MS
6100	0	0	6079.756	21.887	0	22.791	0	9.253	0	0	22.792	21.886	1.483	MWD+IFR1+MS
6200	0	0	6179.756	22.234	0	23.125	0	9.449	0	0	23.125	22.234	1.089	MWD+IFR1+MS
6300	0	0	6279.756	22.583	0	23.461	0	9.649	0	0	23.461	22.583	0.595	MWD+IFR1+MS
6400	0	0	6379.756	22.933	0	23.797	0	9.851	0	0	23.797	22.933	0.101	MWD+IFR1+MS
6500	0	0	6479.756	23.283	0	24.134	0	10.057	0	0	24.134	23.283	-0.393	MWD+IFR1+MS
6600	0	0	6579.756	23.633	0	24.472	0	10.265	0	0	24.472	23.633	-0.887	MWD+IFR1+MS
6700	0	0	6679.756	23.983	0	24.81	0	10.475	0	0	24.811	23.983	-1.381	MWD+IFR1+MS
6800	0	0	6779.756	24.334	0	25.149	0	10.689	0	0	25.15	24.333	-1.874	MWD+IFR1+MS
6900	0	0	6879.756	24.685	0	25.489	0	10.906	0	0	25.49	24.683	-2.367	MWD+IFR1+MS
7000	0	0	6979.756	25.036	0	25.829	0	11.125	0	0	25.831	25.034	-2.858	MWD+IFR1+MS
7100	0	0	7079.756	25.387	0	26.169	0	11.347	0	0	26.172	25.384	-3.348	MWD+IFR1+MS
7200	0	0	7179.756	25.738	0	26.51	0	11.572	0	0	26.513	25.735	-3.836	MWD+IFR1+MS
7300	0	0	7279.756	26.09	0	26.851	0	11.8	0	0	26.856	26.085	-4.322	MWD+IFR1+MS
7400	0	0	7379.756	26.442	0	27.193	0	12.031	0	0	27.198	26.436	-4.805	MWD+IFR1+MS
7500	0	0	7479.756	26.794	0	27.535	0	12.265	0	0	27.542	26.787	-5.286	MWD+IFR1+MS
7600	0	0	7579.756	27.146	0	27.878	0	12.502	0	0	27.886	27.138	-5.764	MWD+IFR1+MS
7700	0	0	7679.756	27.498	0	28.221	0	12.741	0	0	28.23	27.489	-6.24	MWD+IFR1+MS
7800	0	0	7779.756	27.851	0	28.565	0	12.983	0	0	28.574	27.84	-6.712	MWD+IFR1+MS
7900	0	0	7879.756	28.203	0	28.908	0	13.229	0	0	28.92	28.192	-7.18	MWD+IFR1+MS
8000	0	0	7979.756	28.556	0	29.252	0	13.477	0	0	29.265	28.543	-7.645	MWD+IFR1+MS
8100	0	0	8079.756	28.909	0	29.597	0	13.728	0	0	29.611	28.895	-8.106	MWD+IFR1+MS
8200	0	0	8179.756	29.262	0	29.942	0	13.982	0	0	29.957	29.246	-8.562	MWD+IFR1+MS
8300	0	0	8279.756	29.615	0	30.287	0	14.239	0	0	30.304	29.598	-9.015	MWD+IFR1+MS
8400	0	0	8379.756	29.968	0	30.632	0	14.499	0	0	30.651	29.949	-9.463	MWD+IFR1+MS
8500	0	0	8479.756	30.322	0	30.978	0	14.761	0	0	30.998	30.301	-9.906	MWD+IFR1+MS
8600	0	0	8579.756	30.675	0	31.324	0	15.027	0	0	31.346	30.653	-10.345	MWD+IFR1+MS
8700	0	0	8679.756	31.029	0	31.67	0	15.296	0	0	31.694	31.005	-10.779	MWD+IFR1+MS
8800	0	0	8779.756	31.383	0	32.017	0	15.567	0	0	32.042	31.357	-11.208	MWD+IFR1+MS
8900	0	0	8879.756	31.737	0	32.364	0	15.842	0	0	32.391	31.709	-11.632	MWD+IFR1+MS
9000	0	0	8979.756	32.091	0	32.711	0	16.119	0	0	32.74	32.061	-12.051	MWD+IFR1+MS
9100	0	0	9079.756	32.445	0	33.058	0	16.399	0	0	33.089	32.413	-12.464	MWD+IFR1+MS
9200	0	0	9179.756	32.799	0	33.406	0	16.683	0	0	33.439	32.765	-12.872	MWD+IFR1+MS
9300	0	0	9279.756	33.153	0	33.753	0	16.969	0	0	33.788	33.117	-13.275	MWD+IFR1+MS
9400	0	0	9379.756	33.508	0	34.101	0	17.258	0	0	34.138	33.47	-13.673	MWD+IFR1+MS
9500	0	0	9479.756	33.862	0	34.45	0	17.55	0	0	34.489	33.822	-14.065	MWD+IFR1+MS
9600	0	0	9579.756	34.216	0	34.798	0	17.845	0	0	34.839	34.175	-14.451	MWD+IFR1+MS
9700	0	0	9679.756	34.571	0	35.147	0	18.143	0	0	35.19	34.527	-14.832	MWD+IFR1+MS
9800	0	0	9779.756	34.926	0	35.495	0	18.444	0	0	35.54	34.88	-15.207	MWD+IFR1+MS

9900	0	0	9879.756	35.281	0	35.844	0	18.748	0	0	35.891	35.233	-15.577	MWD+IFR1+MS
10000	0	0	9979.756	35.635	0	36.194	0	19.055	0	0	36.243	35.585	-15.942	MWD+IFR1+MS
10100	0	0	10079.756	35.99	0	36.543	0	19.364	0	0	36.594	35.938	-16.3	MWD+IFR1+MS
10200	0	0	10179.756	36.345	0	36.892	0	19.677	0	0	36.946	36.291	-16.654	MWD+IFR1+MS
10300	0	0	10279.756	36.7	0	37.242	0	19.993	0	0	37.298	36.644	-17.001	MWD+IFR1+MS
10400	0	0	10379.756	37.055	0	37.592	0	20.312	0	0	37.65	36.997	-17.344	MWD+IFR1+MS
10500	0	0	10479.756	37.411	0	37.942	0	20.633	0	0	38.002	37.35	-17.681	MWD+IFR1+MS
10600	0	0	10579.756	37.766	0	38.292	0	20.958	0	0	38.354	37.703	-18.012	MWD+IFR1+MS
10700	0	0	10679.756	38.121	0	38.643	0	21.286	0	0	38.707	38.056	-18.338	MWD+IFR1+MS
10800	0	0	10779.756	38.476	0	38.993	0	21.616	0	0	39.059	38.409	-18.659	MWD+IFR1+MS
10900	0	0	10879.756	38.832	0	39.344	0	21.95	0	0	39.412	38.763	-18.975	MWD+IFR1+MS
11007.244	0	0	10987	39.214	0	39.721	0	22.311	0	0	39.792	39.142	-19.359	MWD+IFR1+MS
11100	9.276	0	11079.352	39.507	0	40.043	0	22.636	0	0	40.212	39.712	-35.539	MWD+IFR1+MS
11200	19.276	0	11176.141	40.24	0	40.381	0	23.126	0	0	41.711	40.311	102.884	MWD+IFR1+MS
11300	29.276	0	11267.183	40.314	0	40.701	0	23.897	0	0	43.292	40.647	98.125	MWD+IFR1+MS
11400	39.276	0	11349.712	39.721	0	40.995	0	25.018	0	0	44.568	40.942	96.829	MWD+IFR1+MS
11500	49.276	0	11421.22	38.631	0	41.257	0	26.496	0	0	45.515	41.201	96.413	MWD+IFR1+MS
11600	59.276	0	11479.535	37.275	0	41.482	0	28.281	0	0	46.146	41.42	96.388	MWD+IFR1+MS
11700	69.276	0	11522.884	35.941	0	41.665	0	30.28	0	0	46.505	41.597	96.587	MWD+IFR1+MS
11800	79.276	0	11549.95	34.951	0	41.803	0	32.382	0	0	46.66	41.728	96.91	MWD+IFR1+MS
11907.244	90	0	11559.958	34.932	0	41.899	0	34.932	0	0	46.699	41.817	97.27	MWD+IFR1+MS
12000	90	359.993	11559.958	35.54	0	41.961	0	35.54	0	0	46.711	41.873	97.529	MWD+IFR1+MS
12100	90	359.986	11559.958	35.654	0	42.038	0	35.654	0	0	46.724	41.945	97.83	MWD+IFR1+MS
12200	90	359.978	11559.958	35.785	0	42.126	0	35.785	0	0	46.739	42.026	98.153	MWD+IFR1+MS
12300	90	359.971	11559.958	35.934	0	42.225	0	35.934	0	0	46.754	42.117	98.501	MWD+IFR1+MS
12400	90	359.964	11559.958	36.098	0	42.333	0	36.098	0	0	46.772	42.218	98.877	MWD+IFR1+MS
12500	90	359.956	11559.958	36.279	0	42.452	0	36.279	0	0	46.791	42.329	99.285	MWD+IFR1+MS
12600	90	359.949	11559.958	36.476	0	42.581	0	36.476	0	0	46.811	42.449	99.728	MWD+IFR1+MS
12700	90	359.941	11559.958	36.688	0	42.72	0	36.688	0	0	46.833	42.578	100.211	MWD+IFR1+MS
12800	90	359.934	11559.958	36.916	0	42.869	0	36.916	0	0	46.857	42.717	100.741	MWD+IFR1+MS
12900	90	359.927	11559.959	37.16	0	43.028	0	37.16	0	0	46.883	42.864	101.322	MWD+IFR1+MS
13000	90	359.919	11559.959	37.418	0	43.196	0	37.418	0	0	46.911	43.019	101.964	MWD+IFR1+MS
13100	90	359.912	11559.959	37.69	0	43.374	0	37.69	0	0	46.942	43.183	102.676	MWD+IFR1+MS
13200	90	359.904	11559.959	37.977	0	43.562	0	37.977	0	0	46.975	43.355	103.468	MWD+IFR1+MS
13300	90	359.897	11559.959	38.278	0	43.759	0	38.278	0	0	47.011	43.534	104.354	MWD+IFR1+MS
13400	90	359.89	11559.959	38.593	0	43.965	0	38.592	0	0	47.05	43.72	105.349	MWD+IFR1+MS
13500	90	359.882	11559.96	38.92	0	44.18	0	38.92	0	0	47.093	43.912	106.473	MWD+IFR1+MS
13600	90	359.875	11559.96	39.261	0	44.404	0	39.261	0	0	47.14	44.11	107.747	MWD+IFR1+MS
13700	90	359.868	11559.96	39.614	0	44.637	0	39.614	0	0	47.192	44.313	109.198	MWD+IFR1+MS
13800	90	359.86	11559.96	39.98	0	44.879	0	39.98	0	0	47.25	44.519	110.857	MWD+IFR1+MS
13900	90	359.853	11559.961	40.357	0	45.13	0	40.357	0	0	47.315	44.728	112.758	MWD+IFR1+MS
14000	90	359.845	11559.961	40.747	0	45.389	0	40.747	0	0	47.389	44.938	114.936	MWD+IFR1+MS
14100	90	359.838	11559.961	41.147	0	45.656	0	41.147	0	0	47.473	45.147	117.427	MWD+IFR1+MS
14200	90	359.831	11559.962	41.559	0	45.931	0	41.558	0	0	47.569	45.352	120.256	MWD+IFR1+MS
14300	90	359.823	11559.962	41.981	0	46.214	0	41.981	0	0	47.68	45.552	123.431	MWD+IFR1+MS
14400	90	359.816	11559.962	42.413	0	46.505	0	42.413	0	0	47.808	45.743	126.927	MWD+IFR1+MS

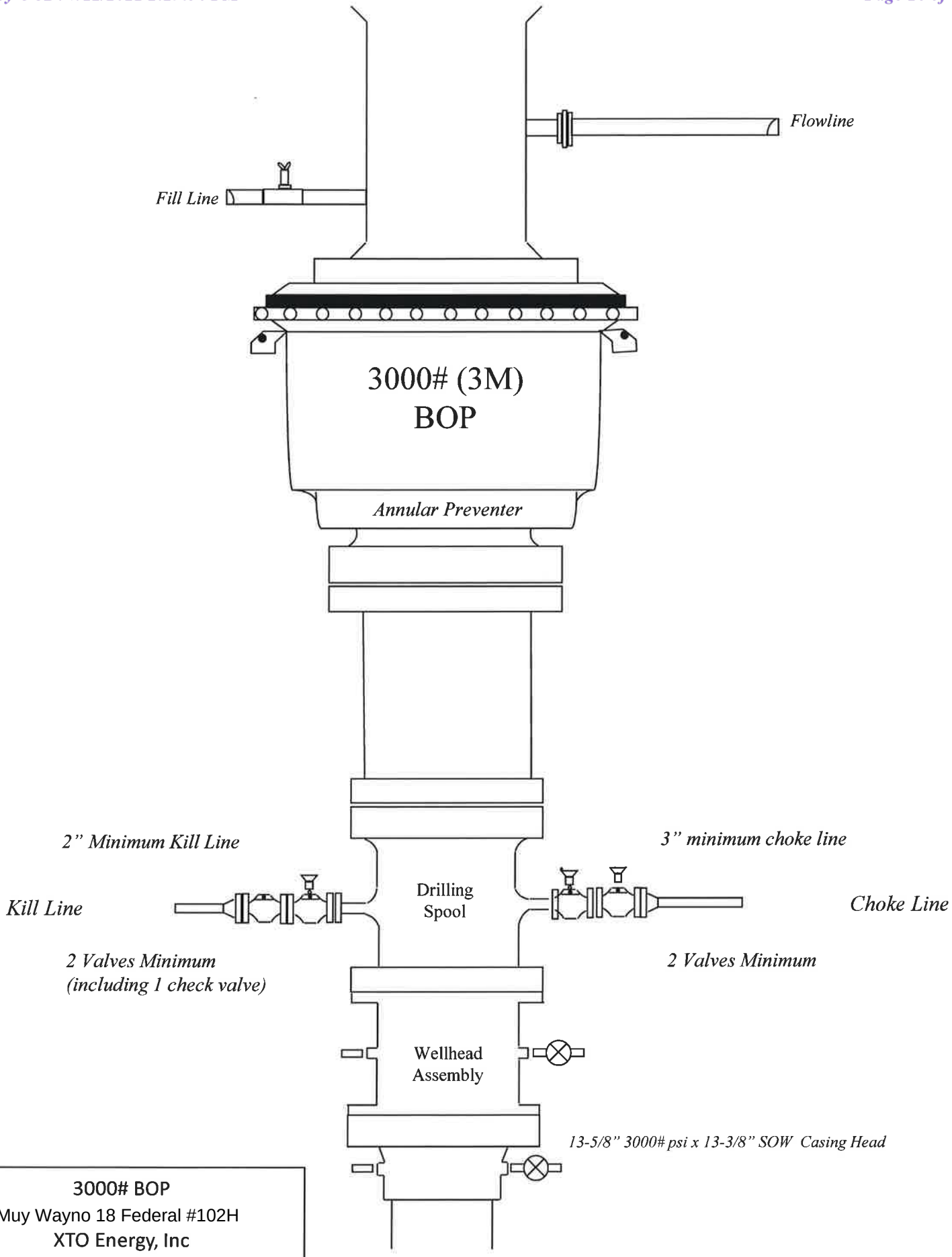
14500	90	359.808	11559.963	42.855	0	46.804	0	42.855	0	0	47.956	45.922	130.677	MWD+IFR1+MS
14600	90	359.801	11559.963	43.307	0	47.11	0	43.307	0	0	48.126	46.089	134.571	MWD+IFR1+MS
14700	90	359.794	11559.964	43.769	0	47.424	0	43.769	0	0	48.319	46.24	-41.53	MWD+IFR1+MS
14800	90	359.786	11559.964	44.24	0	47.745	0	44.24	0	0	48.535	46.377	-37.764	MWD+IFR1+MS
14900	90	359.779	11559.964	44.719	0	48.073	0	44.719	0	0	48.774	46.5	-34.246	MWD+IFR1+MS
15000	90	359.771	11559.965	45.207	0	48.408	0	45.207	0	0	49.032	46.61	-31.045	MWD+IFR1+MS
15100	90	359.764	11559.965	45.703	0	48.75	0	45.703	0	0	49.31	46.709	-28.189	MWD+IFR1+MS
15200	90	359.757	11559.966	46.207	0	49.099	0	46.207	0	0	49.604	46.798	-25.673	MWD+IFR1+MS
15300	90	359.749	11559.966	46.719	0	49.454	0	46.719	0	0	49.913	46.881	-23.473	MWD+IFR1+MS
15400	90	359.742	11559.967	47.239	0	49.816	0	47.239	0	0	50.236	46.957	-21.553	MWD+IFR1+MS
15500	90	359.734	11559.967	47.766	0	50.183	0	47.766	0	0	50.57	47.029	-19.878	MWD+IFR1+MS
15600	90	359.727	11559.968	48.299	0	50.557	0	48.299	0	0	50.915	47.097	-18.413	MWD+IFR1+MS
15700	90	359.72	11559.968	48.84	0	50.937	0	48.84	0	0	51.27	47.162	-17.128	MWD+IFR1+MS
15800	90	359.712	11559.969	49.387	0	51.323	0	49.387	0	0	51.633	47.225	-15.996	MWD+IFR1+MS
15900	90	359.705	11559.97	49.94	0	51.715	0	49.94	0	0	52.006	47.286	-14.994	MWD+IFR1+MS
16000	90	359.698	11559.97	50.5	0	52.112	0	50.5	0	0	52.386	47.346	-14.102	MWD+IFR1+MS
16100	90	359.69	11559.971	51.065	0	52.514	0	51.065	0	0	52.773	47.404	-13.306	MWD+IFR1+MS
16200	90	359.683	11559.971	51.637	0	52.922	0	51.636	0	0	53.167	47.462	-12.592	MWD+IFR1+MS
16300	90	359.675	11559.972	52.213	0	53.336	0	52.213	0	0	53.568	47.52	-11.948	MWD+IFR1+MS
16400	90	359.668	11559.973	52.795	0	53.754	0	52.795	0	0	53.975	47.577	-11.365	MWD+IFR1+MS
16500	90	359.661	11559.973	53.383	0	54.177	0	53.383	0	0	54.388	47.635	-10.836	MWD+IFR1+MS
16600	90	359.653	11559.974	53.975	0	54.605	0	53.975	0	0	54.807	47.692	-10.353	MWD+IFR1+MS
16700	90	359.646	11559.975	54.572	0	55.038	0	54.572	0	0	55.231	47.749	-9.912	MWD+IFR1+MS
16800	90	359.638	11559.976	55.174	0	55.476	0	55.174	0	0	55.661	47.807	-9.507	MWD+IFR1+MS
16900	90	359.631	11559.976	55.78	0	55.918	0	55.78	0	0	56.095	47.864	-9.133	MWD+IFR1+MS
17000	90	359.624	11559.977	56.391	0	56.365	0	56.391	0	0	56.535	47.923	-8.789	MWD+IFR1+MS
17100	90	359.616	11559.978	57.006	0	56.815	0	57.006	0	0	56.98	47.981	-8.47	MWD+IFR1+MS
17200	90	359.609	11559.979	57.626	0	57.27	0	57.626	0	0	57.429	48.04	-8.173	MWD+IFR1+MS
17300	90	359.601	11559.979	58.249	0	57.73	0	58.249	0	0	57.882	48.099	-7.898	MWD+IFR1+MS
17400	90	359.594	11559.98	58.876	0	58.193	0	58.876	0	0	58.34	48.159	-7.641	MWD+IFR1+MS
17500	90	359.587	11559.981	59.507	0	58.66	0	59.507	0	0	58.803	48.22	-7.401	MWD+IFR1+MS
17600	90	359.579	11559.982	60.141	0	59.131	0	60.141	0	0	59.269	48.281	-7.176	MWD+IFR1+MS
17700	90	359.572	11559.983	60.779	0	59.606	0	60.779	0	0	59.74	48.342	-6.965	MWD+IFR1+MS
17800	89.999	359.565	11559.984	61.42	0	60.084	0	61.42	0	0	60.214	48.404	-6.766	MWD+IFR1+MS
17900	89.999	359.557	11559.985	62.065	0	60.566	0	62.065	0	0	60.692	48.467	-6.58	MWD+IFR1+MS
18000	89.999	359.55	11559.985	62.713	0	61.052	0	62.713	0	0	61.174	48.53	-6.404	MWD+IFR1+MS
18100	89.999	359.542	11559.986	63.364	0	61.54	0	63.364	0	0	61.659	48.594	-6.237	MWD+IFR1+MS
18200	89.999	359.535	11559.987	64.018	0	62.033	0	64.018	0	0	62.148	48.659	-6.08	MWD+IFR1+MS
18300	89.999	359.528	11559.988	64.675	0	62.528	0	64.674	0	0	62.64	48.725	-5.931	MWD+IFR1+MS
18400	89.999	359.52	11559.989	65.334	0	63.027	0	65.334	0	0	63.136	48.791	-5.79	MWD+IFR1+MS
18500	89.999	359.513	11559.99	65.997	0	63.528	0	65.997	0	0	63.635	48.857	-5.656	MWD+IFR1+MS
18600	89.999	359.505	11559.991	66.662	0	64.033	0	66.662	0	0	64.136	48.925	-5.529	MWD+IFR1+MS
18700	89.999	359.498	11559.992	67.329	0	64.541	0	67.329	0	0	64.641	48.993	-5.407	MWD+IFR1+MS
18800	89.999	359.491	11559.993	67.999	0	65.051	0	67.999	0	0	65.149	49.062	-5.292	MWD+IFR1+MS
18900	89.999	359.483	11559.994	68.672	0	65.565	0	68.672	0	0	65.66	49.131	-5.182	MWD+IFR1+MS
19000	89.999	359.476	11559.995	69.347	0	66.081	0	69.347	0	0	66.174	49.201	-5.077	MWD+IFR1+MS

19100	89.999	359.468	11559.996	70.024	0	66.6	0	70.024	0	0	66.691	49.272	-4.976 MWD+IFR1+ MS
19200	89.999	359.461	11559.997	70.704	0	67.121	0	70.704	0	0	67.21	49.344	-4.88 MWD+IFR1+ MS
19300	89.999	359.454	11559.998	71.385	0	67.645	0	71.385	0	0	67.732	49.416	-4.788 MWD+IFR1+ MS
19400	89.999	359.446	11560	72.069	0	68.171	0	72.069	0	0	68.256	49.489	-4.7 MWD+IFR1+ MS
19440.644	89.999	359.443	11560	72.347	0	68.385	0	72.347	0	0	68.469	49.519	-4.666 MWD+IFR1+ MS
19500	90	0.355	11560	72.753	0	68.657	0	72.753	0	0	68.781	49.563	-4.613 MWD+IFR1+ MS
19570.555	90.001	1.439	11560	73.236	0	68.974	0	73.236	0	0	69.156	49.616	-4.542 MWD+IFR1+ MS

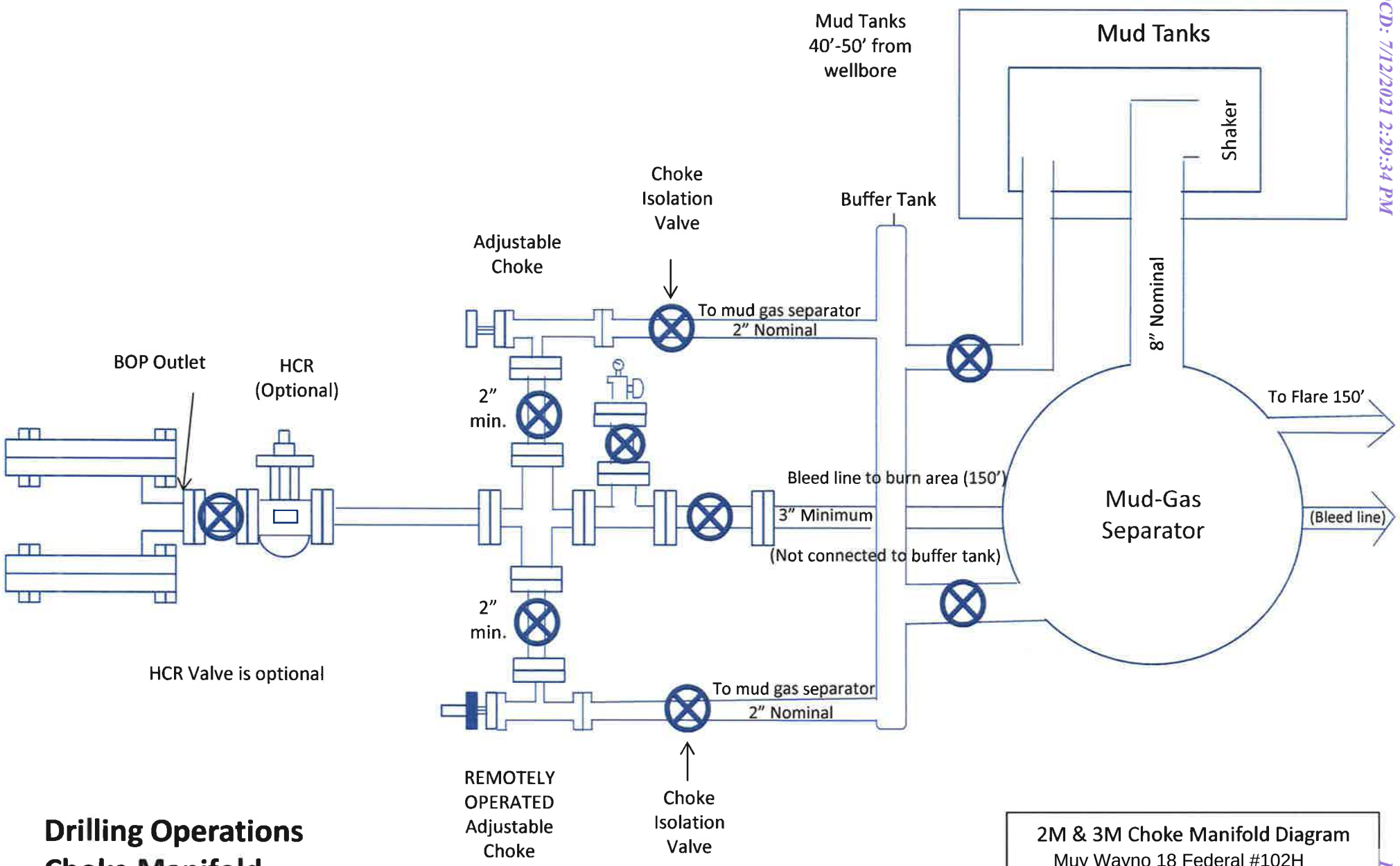
Plan Targets	MUY WAYNO 18 FEDERAL # 124H				
Target Name	Measured Depth (ft)	Grid Northing (ft)	Grid Easting (ft)	TVD MSL (ft)	Target Shape
FTP 46	12150.73	411611	626777	8360	CIRCLE
LTP 25	19440.64	418900.8	626740.4	8360	CIRCLE
BHL 46	19570.55	419030.7	626741.4	8360	CIRCLE



3000# BOP
Muy Wayno 18 Federal #102H
XTO Energy, Inc.

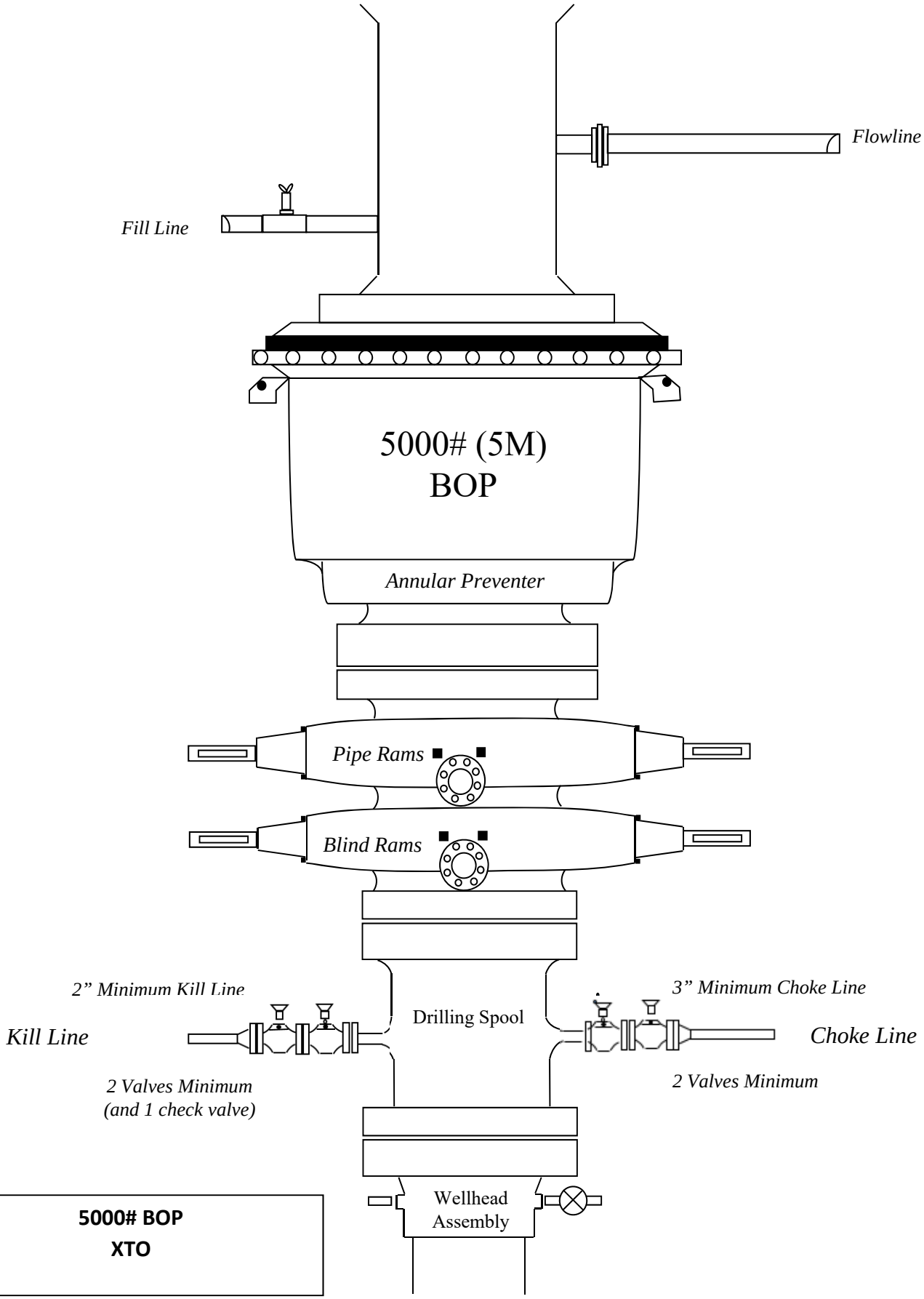


3000# BOP
Muy Wayno 18 Federal #102H
XTO Energy, Inc

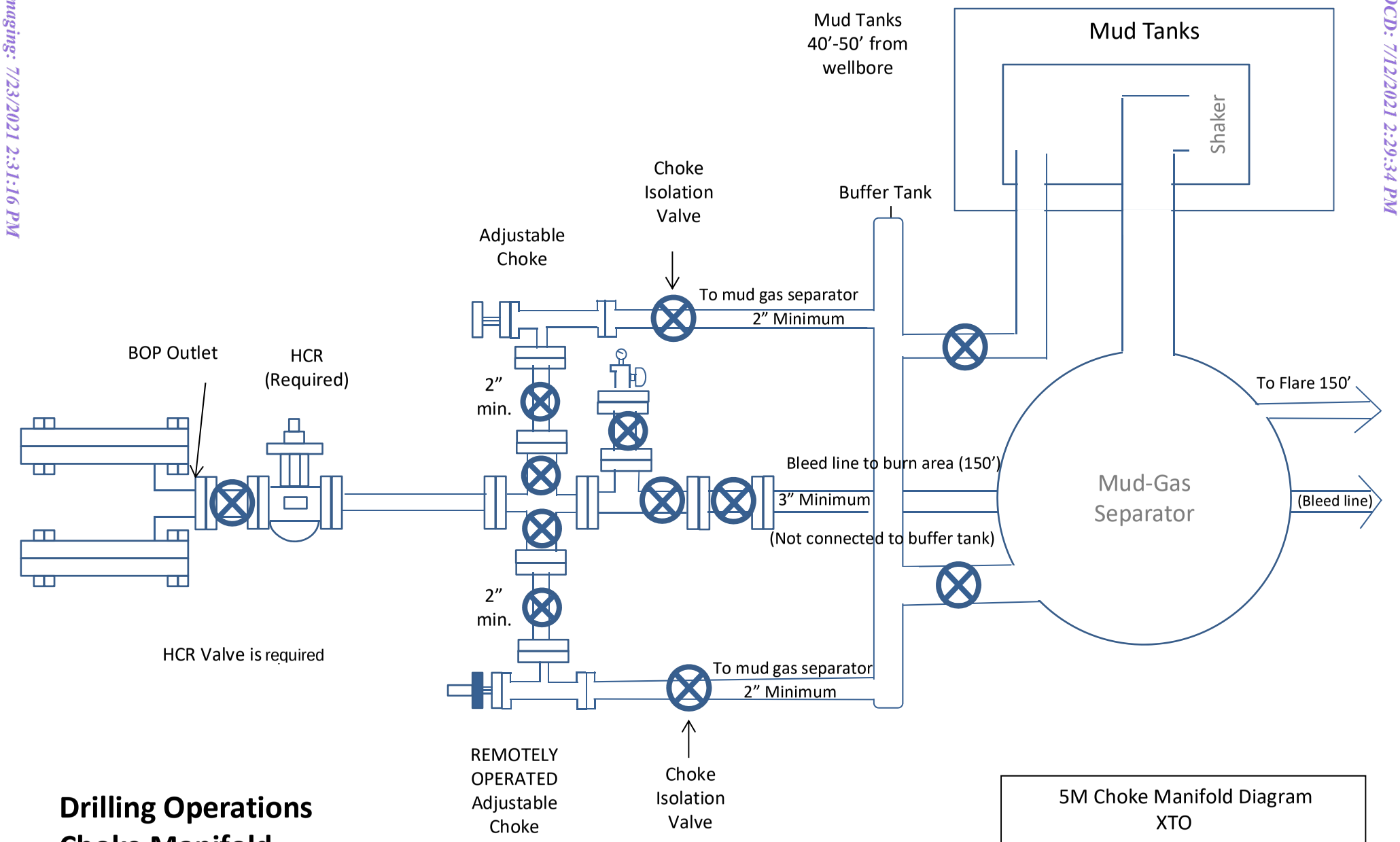


Drilling Operations
Choke Manifold
2M & 3M Service

2M & 3M Choke Manifold Diagram
Muy Wayno 18 Federal #102H
XTO Energy, Inc

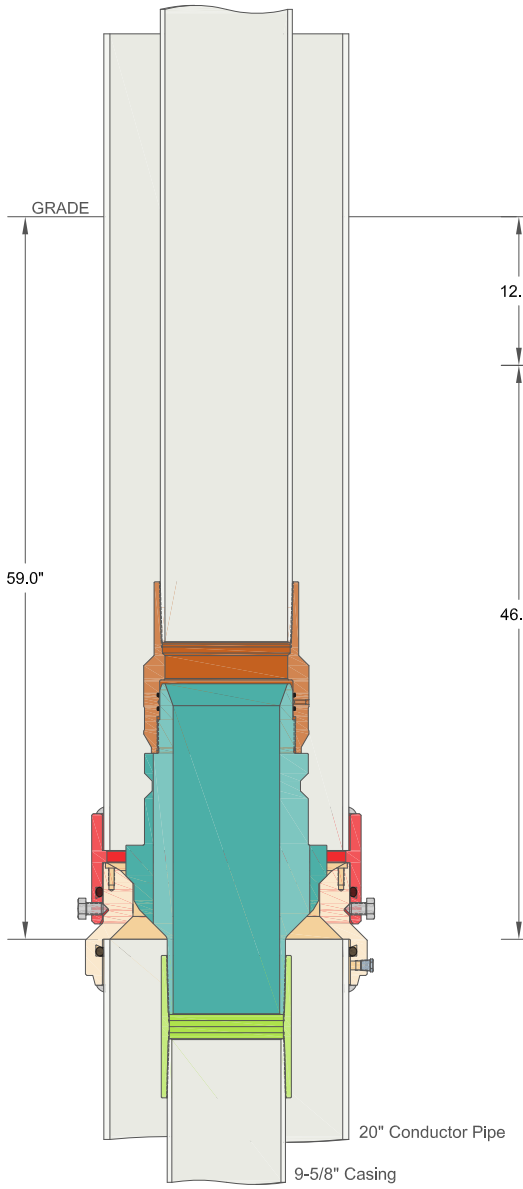

Flowline
Fill Line
5000# (5M)
BOP
Annular Preventer
Pipe Rams
Blind Rams
2" Minimum Kill Line
3" Minimum Choke Line
Kill Line
Drilling Spool
Choke Line
2 Valves Minimum
(and 1 check valve)
2 Valves Minimum
Wellhead
Assembly

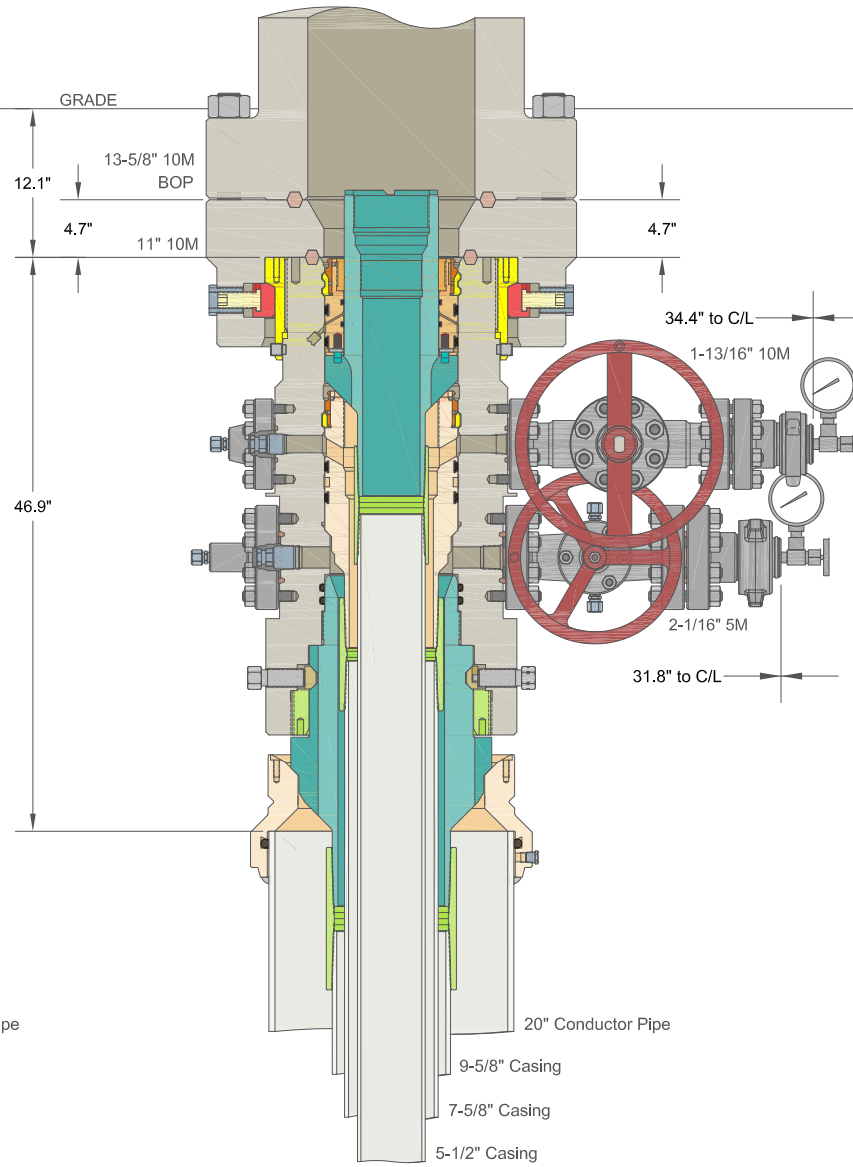
5000# BOP
XTO

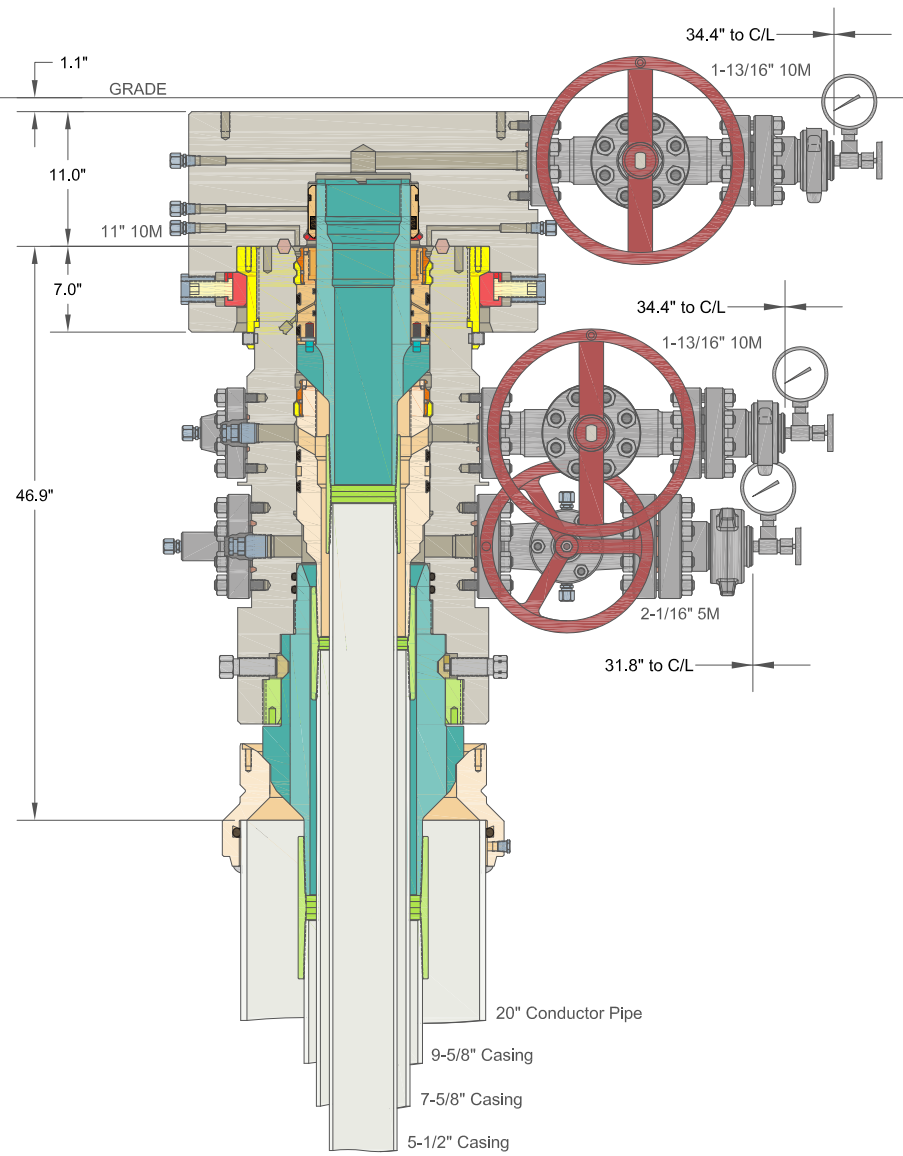


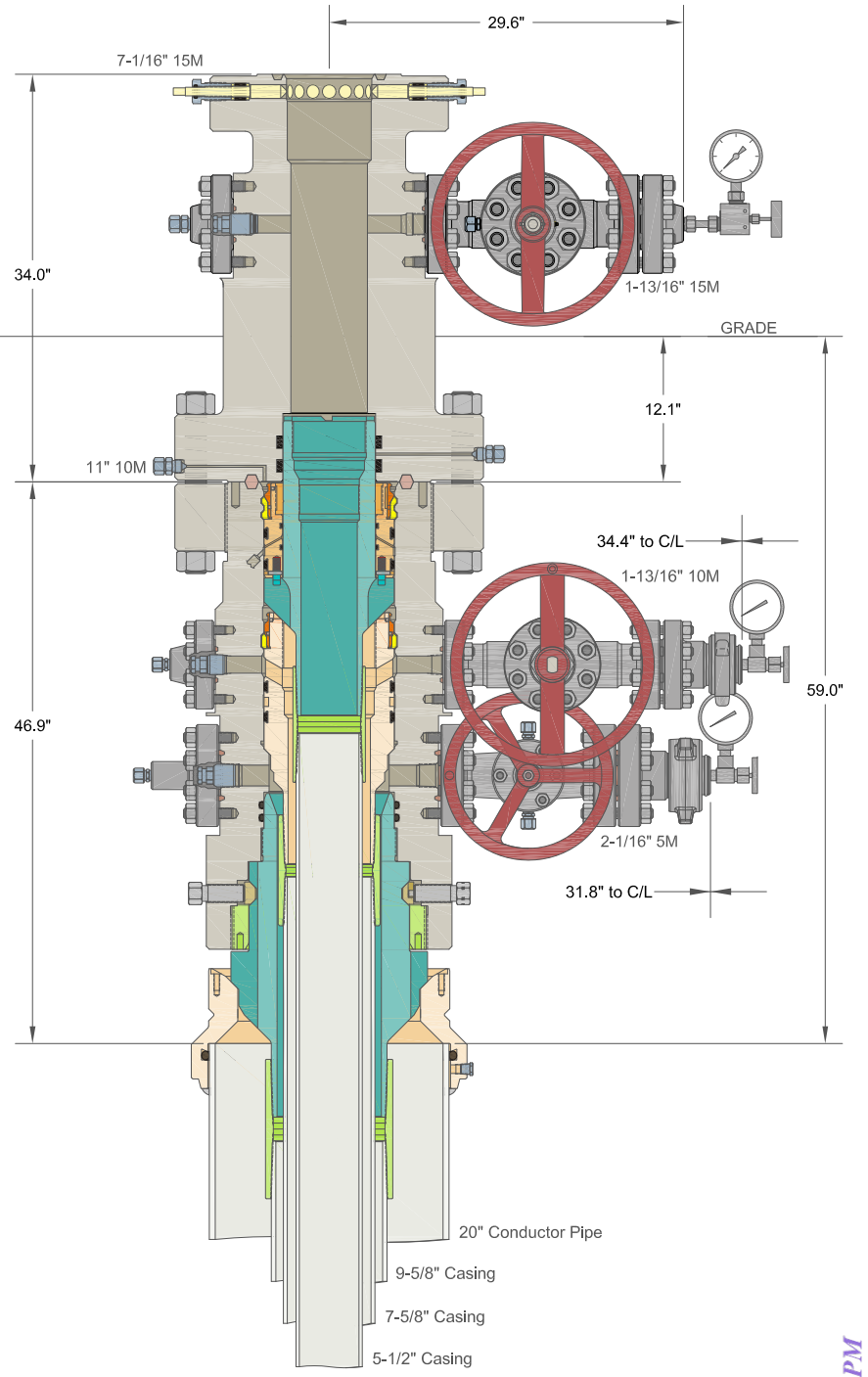
Drilling Operations
Choke Manifold
5M Service

5M Choke Manifold Diagram
XTO









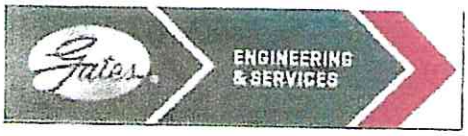
ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC

20" x 9-5/8" x 7-5/8" x 5-1/2" MBU-T-CFL-R-DBLO Wellhead
With 11" 10M x 7-1/16" 15M CTH-DBLHPS Tubing Head
And 9-5/8", 7-5/8" & 5-1/2" Pin Bottom Mandrel Casing Hangers

XTO ENERGY INC
ICARUS PAD

DRAWN	DLE	18JAN21
APPRV		
DRAWING NO.	HBE0000479	



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

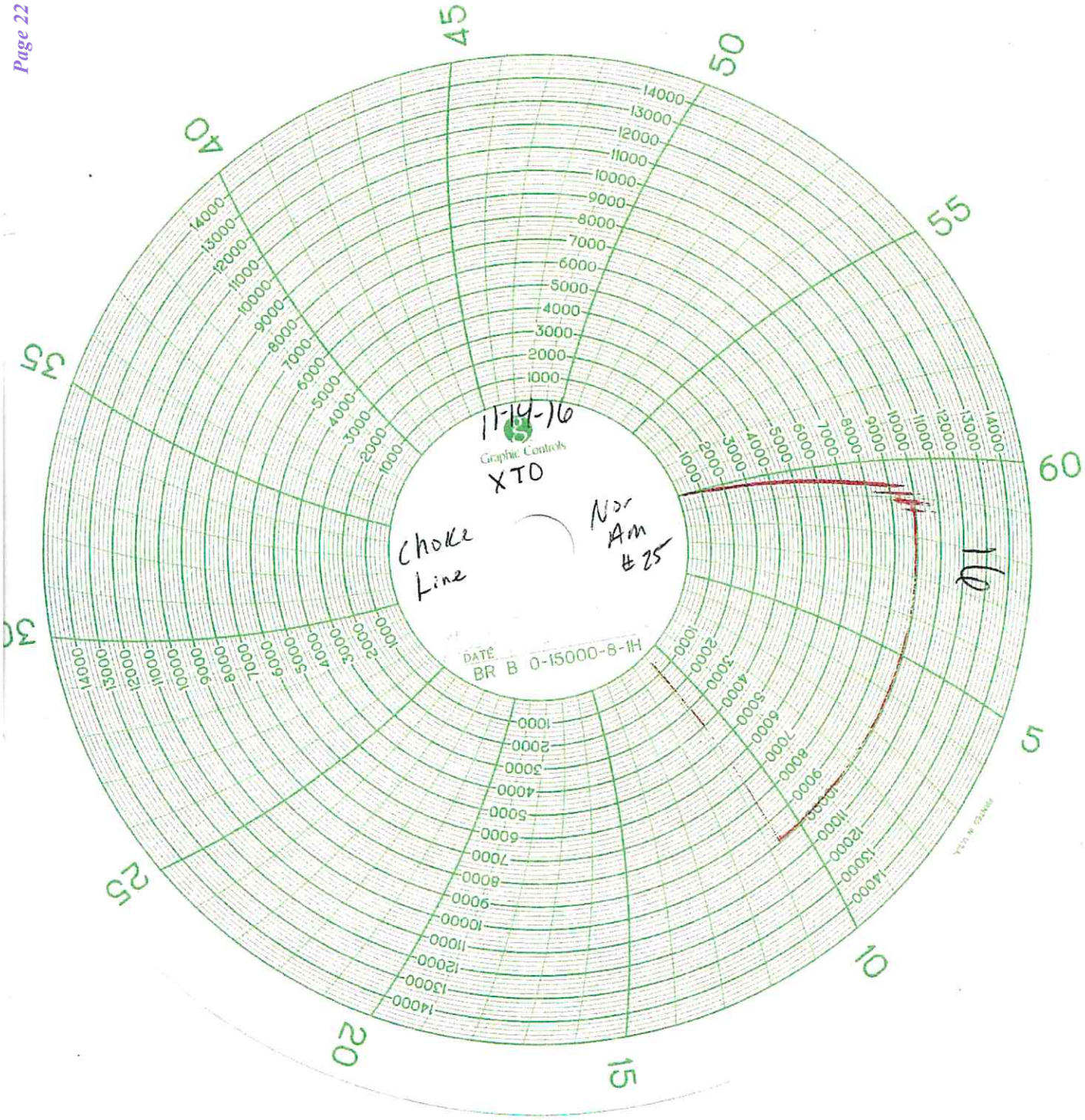
Product Description:	FD3.042.0R41/16.5KFLGE/E LE

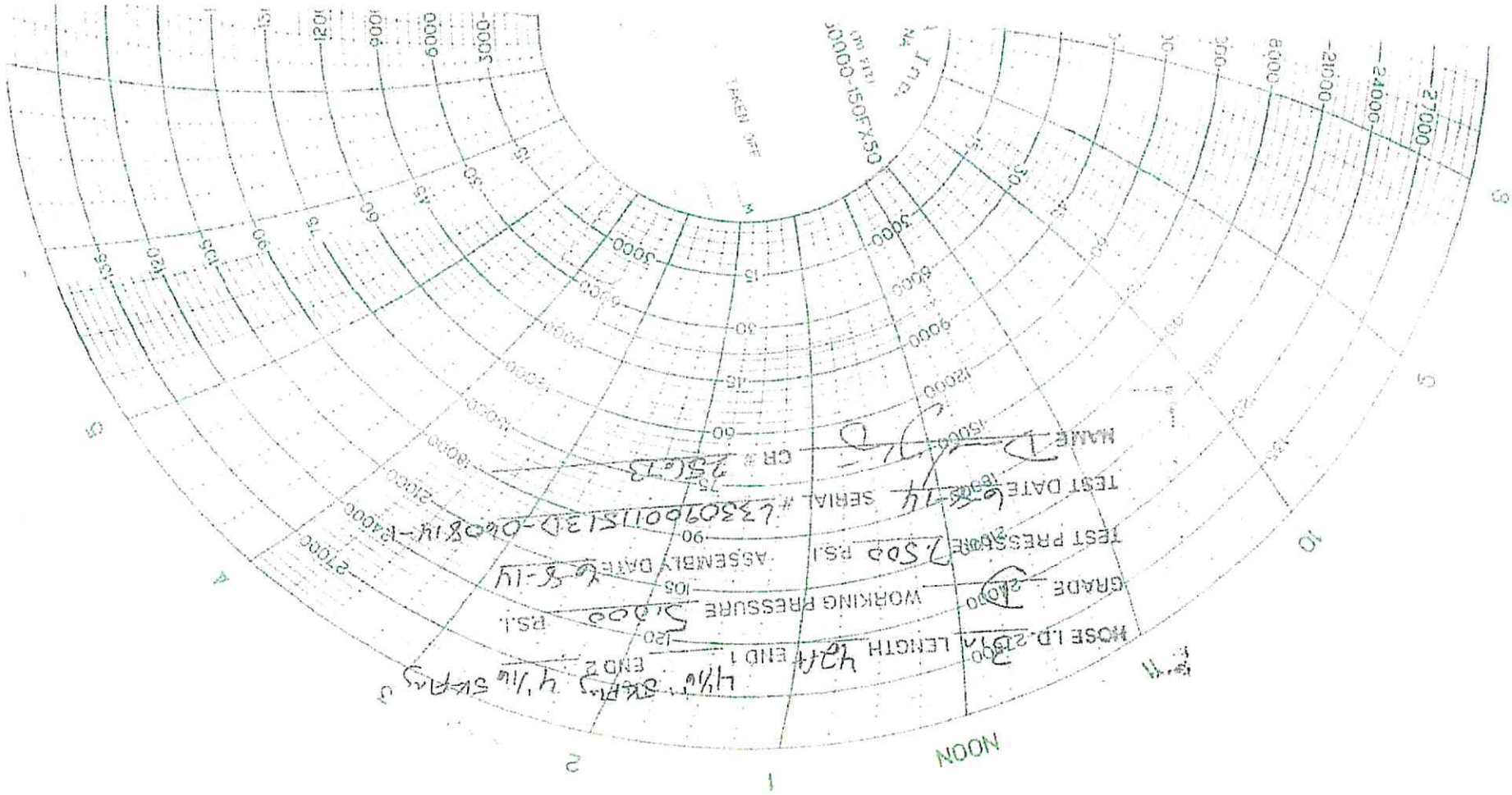
End Fitting 1 :	4 1/16 in.5K FLG	End Fitting 2 :	4 1/16 in.5K FLG
Gates Part No. :	4774-6001	Assembly Code :	L33090011513D-060814-1
Working Pressure :	5,000 PSI	Test Pressure :	7,500 PSI

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

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

Form PTC - 01 Rev.0 2




NOON
1
2
3
4
5
6
MAKE
CR #
SERIAL #
TEST DATE
TEST PRESSURE
ASSEMBLY DATE
WORKING PRESSURE
GRADE
HOSE I.D.
LENGTH
END 1
END 2
P.S.I.

XTO respectfully requests approval to utilize a spudder rig to pre-set surface casing.

Description of Operations:

1. Spudder rig will move in to drill the surface hole and pre-set surface casing on the well.
    a. After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
    b. The spudder rig will utilize fresh water-based mud to drill the surface hole to TD. Solids control will be handled entirely on a closed loop basis. No earth pits will be used.
2. The wellhead will be installed and tested as soon as the surface casing is cut off and WOC time has been reached.
3. A blind flange at the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on two wing valves.
    a. A means for intervention will be maintained while the drilling rig is not over the well.
4. Spudder rig operations are expected to take 2-3 days per well on the pad.
5. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.
6. Drilling Operations will begin with a larger rig and a BOP stack equal to or greater than the pressure rating that was permitted will be nippled up and tested on the wellhead before drilling operations resume on each well.
    a. The larger rig will move back onto the location within 180 days from the point at which the wells are secured and the spudder rig is moved off location.
    b. The BLM will be notified 24 hours before the larger rig moves back on the pre-set locations
7. XTO will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.
8. Once the rig is removed, XTO will secure the wellhead area by placing a guard rail around the cellar area.

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XTO Permian Operating, LLC Offline Cementing Variance Request

XTO requests the option to cement the surface and intermediate casing strings offline as a prudent batch drilling efficiency of acreage development.

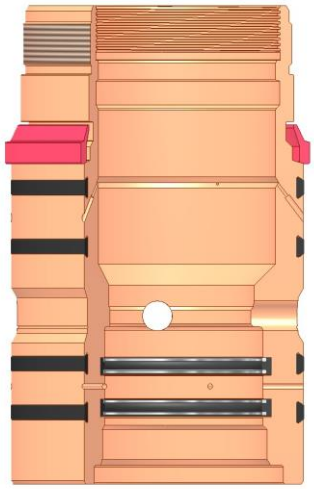
1. Cement Program

No changes to the cement program will take place for offline cementing.

2. Offline Cementing Procedure

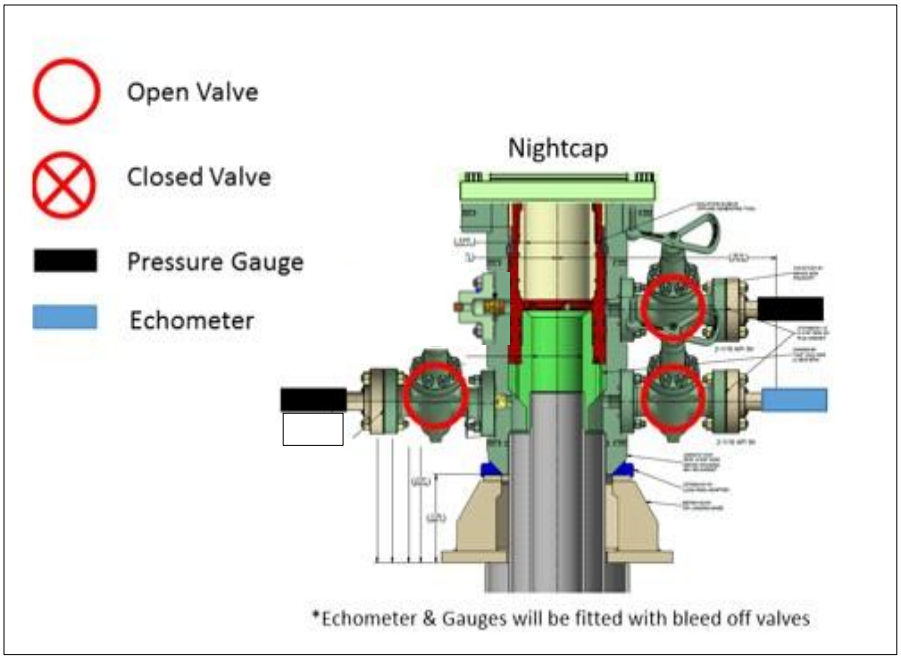
The operational sequence will be as follows. If a well control event occurs, the BLM will be contacted for approval prior to conducting offline cementing operations.

1. Run casing as per normal operations. While running casing, conduct negative pressure test and confirm integrity of the float equipment (float collar and shoe)
2. Land casing with mandrel
3. Fill pipe with kill weight fluid, do not circulate through floats and confirm well is static
4. Set annular packoff shown below and pressure test to confirm integrity of the seal. Pressure ratings of wellhead components and valves is 5,000 psi.
5. After confirmation of both annular barriers and internal barriers, nipple down BOP and install cap flange.
    a. If any barrier fails to test, the BOP stack will not be nippled down until after the cement job is completed with cement 500ft above the highest formation capable of flow with kill weight mud above or after it has achieved 50-psi compressive strength if kill weight fluid cannot be verified.



Annular packoff with both external and internal seals

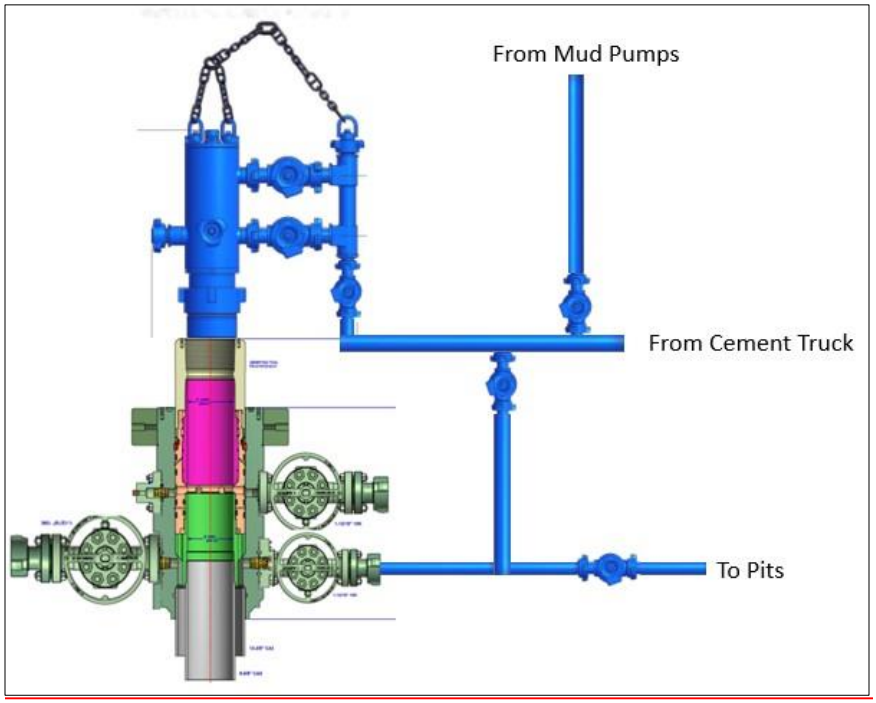
XTO Permian Operating, LLC Offline Cementing Variance Request



Wellhead diagram during skidding operations

6. Skid rig to next well on pad.
7. Confirm well is static before removing cap flange, flange will not be removed and offline cementing operations will not commence until well is under control. If well is not static, casing outlet valves will provide access to both the casing ID and annulus. Rig or third party pump truck will kill well prior to cementing or nippling up for further remediation.
    a. Well Control Plan
        i. The Drillers Method will be the primary well control method to regain control of the wellbore prior to cementing, if wellbore conditions do not permit the drillers method other methods of well control may be used
        ii. Rig pumps or a 3rd party pump will be tied into the upper casing valve to pump down the casing ID
        iii. A high pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
        iv. Once influx is circulated out of the hole, kill weight mud will be circulated
        v. Well will be confirmed static
        vi. Once confirmed static, cap flange will be removed to allow for offline cementing operations to commence
8. Install offline cement tool
9. Rig up cement equipment

XTO Permian Operating, LLC Offline Cementing Variance Request



Wellhead diagram during offline cementing operations

10. Circulate bottoms up with cement truck
    a. If gas is present on bottoms up, well will be shut in and returns rerouted through gas buster to handle entrained gas
    b. Max anticipated time before circulating with cement truck is 6 hrs
11. Perform cement job taking returns from the annulus wellhead valve
12. Confirm well is static and floats are holding after cement job
13. Remove cement equipment, offline cement tools and install night cap with pressure gauge for monitoring.

XTO Permian Operating, LLC Offline Cementing Variance Request

XTO requests the option to cement the surface and intermediate casing strings offline as a prudent batch drilling efficiency of acreage development.

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3. Fill pipe with kill weight fluid, do not circulate through floats and confirm well is static
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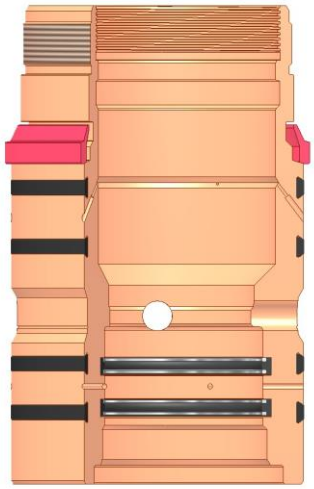
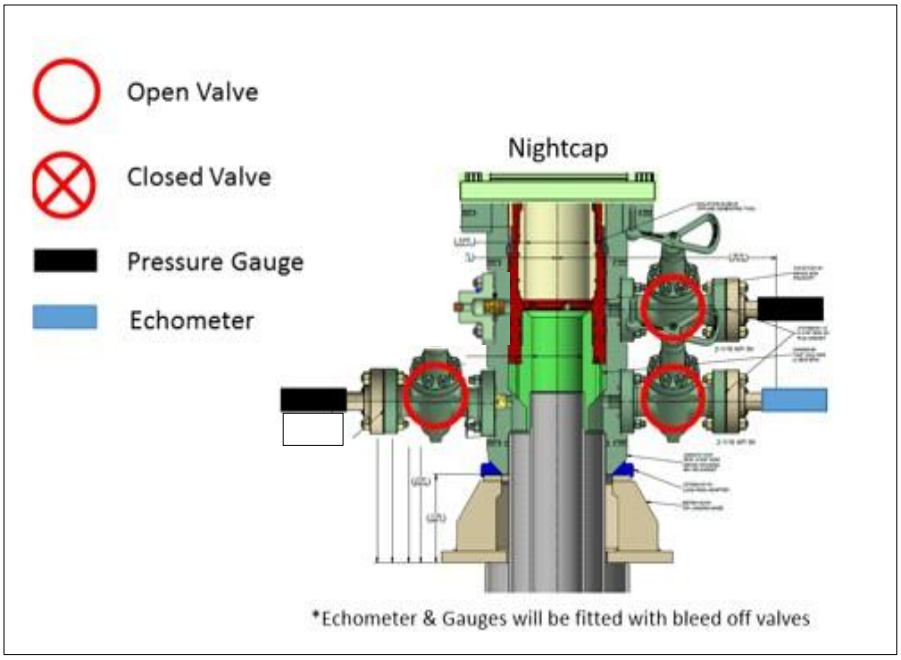
5. After confirmation of both annular barriers and internal barriers, nipple down BOP and install cap flange.
    a. If any barrier fails to test, the BOP stack will not be nippled down until after the cement job is completed with cement 500ft above the highest formation capable of flow with kill weight mud above or after it has achieved 50-psi compressive strength if kill weight fluid cannot be verified.



Annular packoff with both external and internal seals

XTO Permian Operating, LLC Offline Cementing Variance Request



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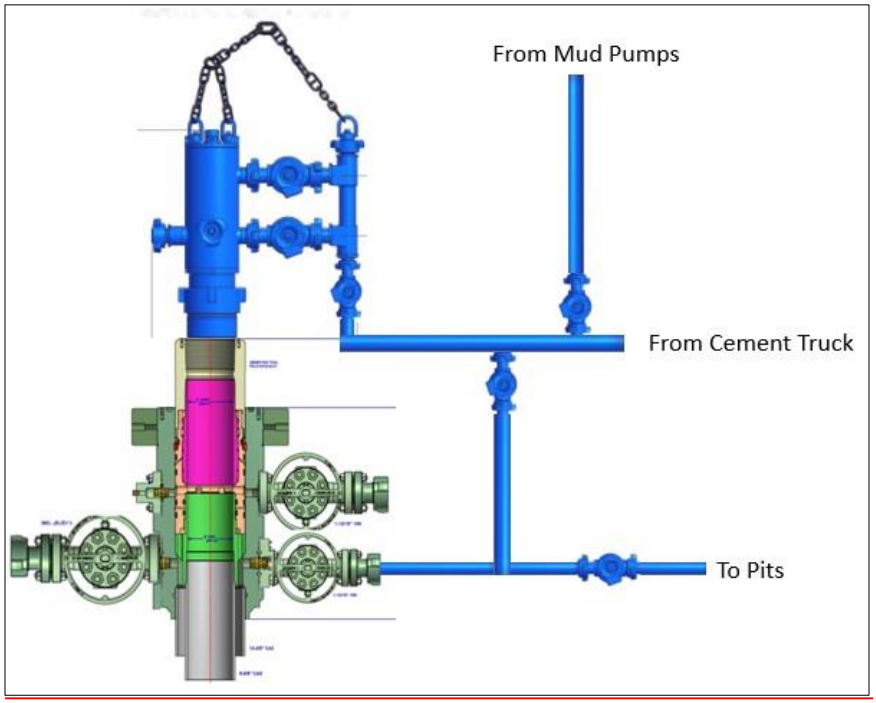
        i. The Drillers Method will be the primary well control method to regain control of the wellbore prior to cementing, if wellbore conditions do not permit the drillers method other methods of well control may be used
        ii. Rig pumps or a 3rd party pump will be tied into the upper casing valve to pump down the casing ID
        iii. A high pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
        iv. Once influx is circulated out of the hole, kill weight mud will be circulated
        v. Well will be confirmed static
        vi. Once confirmed static, cap flange will be removed to allow for offline cementing operations to commence
8. Install offline cement tool
9. Rig up cement equipment

XTO Permian Operating, LLC Offline Cementing Variance Request



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    a. If gas is present on bottoms up, well will be shut in and returns rerouted through gas buster to handle entrained gas
    b. Max anticipated time before circulating with cement truck is 6 hrs
11. Perform cement job taking returns from the annulus wellhead valve
12. Confirm well is static and floats are holding after cement job
13. Remove cement equipment, offline cement tools and install night cap with pressure gauge for monitoring.

Subject: Request for a Variance Allowing break Testing of the Blowout Preventer Equipment (BOPE)

XTO Energy requests a variance to ONLY test broken pressure seals on the BOPE and function test BOP when skidding a drilling rig between multiple wells on a pad.

Background

Onshore Oil and Gas Order (OOGO) No. 2, Drilling Operations, Sections III.A.2.i.iv.B states that the BOP test must be performed whenever any seal subject to test pressure is broken. The current interpretation of the Bureau of Land Management (BLM) requires a complete BOP test and not just a test of the affected component. OOGO No. 2, Section I.D.2 states, "Some situation may exist either on a well-by-well basis or field-wide basis whereby it is commonly accepted practice to vary a particular minimum standard(s) established in this order. This situation can be resolved by requesting a variance…". XTO Energy feels the break testing the BOPE is such a situation. Therefore, as per OOGO No. 2, Section IV., XTO Energy submits this request for the variance.

Supporting Documentation

OOGO No. 2 became effective on December 19, 1988 and has remained the standard for regulating BLM onshore drilling operations for over 30 years. During this time there have been significant changes in drilling technology. BLM continues to use the variance request process to allow for the use of modern technology and acceptable engineering practices that have arisen since OOGO No. 2 was originally released. The XTO Energy drilling rig fleet has many modern upgrades that allow the intact BOP stack to be moved between well slots on a multi-well pad, as well as, wellhead designs that incorporate quick connects facilitating release of the BOP from the wellhead without breaking any BOP stack components apart. These technologies have been used extensively offshore, and other regulators, API, and many operators around the world have endorsed break testing as safe and reliable.

Figure 1: Winch System attached to BOP Stack

Figure 2: BOP Winch System

American Petroleum Institute (API) standards, specification and recommended practices are considered the industry standard and are consistently utilized and referenced by the industry. OOGO No. 2 recognizes API recommended Practices (RP) 53 in its original development. API Standard 53, *Well Control Equipment Systems for Drilling Wells* (Fifth Edition, December 2018, Annex C, Table C.4) recognizes break testing as an acceptable practice. Specifically, API Standard 53, Section 5.3.7.1 states "A pressure test of the pressure containing component shall be performed following the disconnection or repair, limited to the affected component." See Table C.4 below for reference.

62 API STANDARD 53

Table C.4—Initial Pressure Testing, Surface BOP Stacks

Component to be Pressure Tested	Pressure Test—Low Pressure[ac] psig (MPa)	Pressure Test—High Pressure[ac]	
		Change Out of Component, Elastomer, or Ring Gasket	No Change Out of Component, Elastomer, or Ring Gasket
Annular preventer[b]	250 to 350 (1.72 to 2.41)	RWP of annular preventer	MASP or 70% annular RWP, whichever is lower.
Fixed pipe, variable bore, blind, and BSR preventers[bd]	250 to 350 (1.72 to 2.41)	RWP of ram preventer or wellhead system, whichever is lower	ITP
Choke and kill line and BOP side outlet valves below ram preventers (both sides)	250 to 350 (1.72 to 2.41)	RWP of side outlet valve or wellhead system, whichever is lower	ITP
Choke manifold—upstream of chokes[e]	250 to 350 (1.72 to 2.41)	RWP of ram preventers or wellhead system, whichever is lower	ITP
Choke manifold—downstream of chokes[e]	250 to 350 (1.72 to 2.41)	RWP of valve(s), line(s), or MASP for the well program, whichever is lower	
Kelly, kelly valves, drill pipe safety valves, IBOPs	250 to 350 (1.72 to 2.41)	MASP for the well program	

[a] Pressure test evaluation periods shall be a minimum of five minutes.
No visible leaks.
The pressure shall remain stable during the evaluation period. The pressure shall not decrease below the intended test pressure.

[b] Annular(s) and VBR(s) shall be pressure tested on the largest and smallest OD drill pipe to be used in well program.

[c] For pad drilling operations, moving from one wellhead to another within the 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

[d] For surface offshore operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented during the initial test. For land operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented at commissioning and annually.

[e] Adjustable chokes are not required to be full sealing devices. Pressure testing against a closed choke is not required.

The Bureau of Safety and Environmental Enforcement (BSEE), Department of Interior, has also utilized the API standards, specification and best practices in the development of its offshore oil and gas regulations and incorporates them by reference within its regulations.

Break testing has been approved by the BLM in the past with other operators based on the detailed information provided in this document.

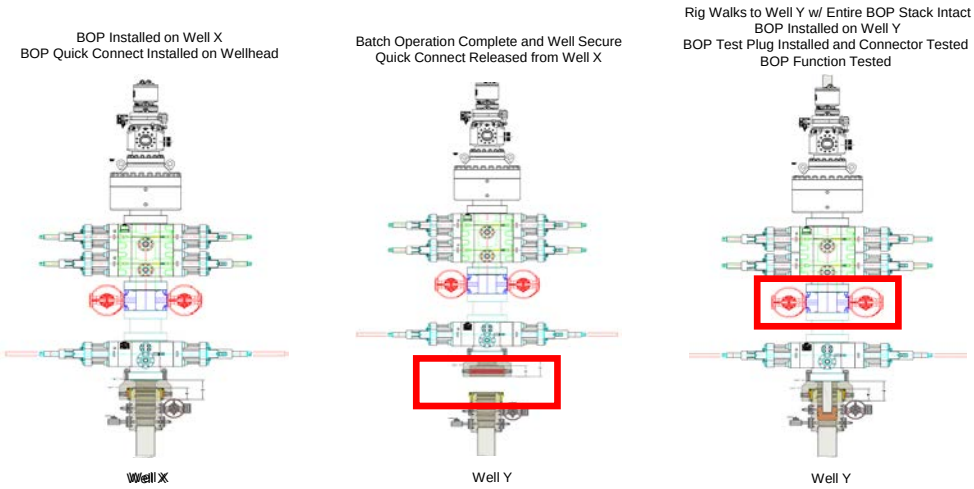
XTO Energy feels break testing and our current procedures meet the intent of OOGO No. 2 and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. XTO Energy's internal standards requires complete BOPE tests more often than that of OOGO No. 2 (Every 21 days). In addition to function testing the annular, pipe rams and blind rams after each BOP nipple up, XTO Energy performs a choke drill with the rig crew prior to drilling out every casing shoe. This is additional training for the rig crew that exceeds the requirements of the OOGO No.2.

Procedures

1. XTO Energy will use this document for our break testing plan for New Mexico Delaware basin. The summary below will be referenced in the APD or Sundry Notice and receive approval prior to implementing this variance.
2. XTO Energy will perform BOP break testing on multi-wells pads where multiple intermediate sections can be drilled and cased within the 21-day BOP test window.
    a. A full BOP test will be conducted on the first well on the pad.
    b. The first intermediate hole section drilled on the pad will be the deepest. All of the remaining hole sections will be the same depth or shallower.
        i. Our Lower WC targets set the intermediate casing shoe no deeper than the Wolfcamp B.
        ii. Our Upper WC targets set the intermediate casing shoe shallower than the Wolfcamp B.
    c. A Full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
    d. A full BOP test will be required prior to drilling any production hole.
3. After performing a complete BOP test on the first well, the intermediate hole section will be drilled and cased, two breaks would be made on the BOP equipment.
    a. Between the HCV valve and choke line connection
    b. Between the BOP quick connect and the wellhead
4. The BOP is then lifted and removed from the wellhead by a hydraulic system.
5. After skidding to the next well, the BOP is moved to the wellhead by the same hydraulic system and installed.
6. The connections mentioned in 3a and 3b will then be reconnected.
7. Install test plug into the wellhead using test joint or drill pipe.
8. A shell test is performed against the upper pipe rams testing the two breaks.
9. The shell test will consist of a 250 psi low test and a high test to the value submitted in the APD or Sundry (e.g. 5,000 psi or 10,000psi).
10. Function test will be performed on the following components: lower pipe rams, blind rams, and annular.

11. For a multi-well pad the same two breaks on the BOP would be made and on the next wells and steps 4 through 10 would be repeated.
12. A second break test would only be done if the intermediate hole section being drilled could not be completed within the 21 day BOP test window.

Note: Picture below highlights BOP components that will be tested during batch operations



Summary

A variance is requested to **ONLY** test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53. API Standard 53 states, that for pad drilling operation, moving from one wellhead to another within 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

The BOP will be secured by a hydraulic carrier or cradle. The BLM will be contacted if a Well Control event occurs prior to the commencement of a BOPE Break Testing operation.

Based on discussions with the BLM on February 27th 2020 and the supporting documentation submitted to the BLM, we will request permission to ONLY retest broken pressure seals if the following conditions are met:

1. After a full BOP test is conducted on the first well on the pad.

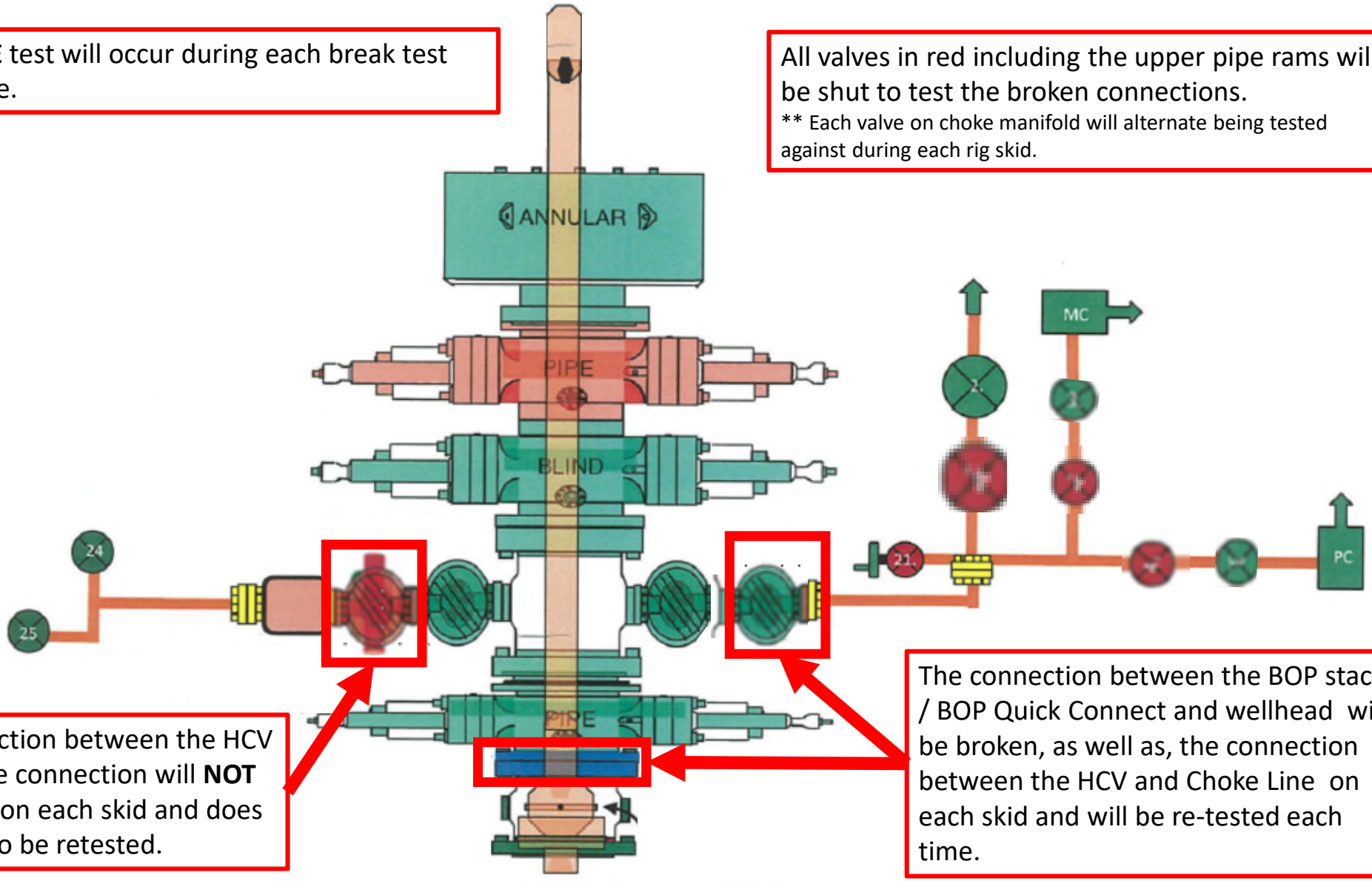
2. The first intermediate hole section drilled on the pad will be the deepest. All of the remaining hole sections will be the same depth or shallower.

3. Full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.

4. Full BOP test will be required prior to drilling the production hole.

Only **ONE** test will occur during each break test procedure.

All valves in red including the upper pipe rams will be shut to test the broken connections.
** Each valve on choke manifold will alternate being tested against during each rig skid.



The connection between the HCV and kill line connection will **NOT** be broken on each skid and does not need to be retested.

The connection between the BOP stack / BOP Quick Connect and wellhead will be broken, as well as, the connection between the HCV and Choke Line on each skid and will be re-tested each time.

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**BOPCO, L.P.**
LEASE NO.:	**NMLC-065705B**
WELL NAME & NO.:	**Muy Wayno 18 Federal 124H**
SURFACE HOLE FOOTAGE:	**2310' FSL & 1960' FWL**
BOTTOM HOLE FOOTAGE	**0200' FNL & 1590' FWL Sec. 07, T. 25 S., R 30 E.**
LOCATION:	**Section 18, T. 25 S., R 30 E., NMPM**
COUNTY:	**Eddy County, New Mexico**

COA

H2S	○ Yes	◉ No	
Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	◉ Low	○ Medium	○ High
Cave/Karst Potential	○ Critical		
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	◉ Multibowl	○ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☑ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☑ COM	☐ Unit

Possibility of water flows in the Castile and Salado.
Possibility of lost circulation in the Red beds, Rustler, and Delaware.
Abnormal pressures may be encountered when penetrating the 3rd Bone Spring Formation and all subsequent formations.

A. HYDROGEN SULFIDE

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

B. CASING

1. The **9-5/8** inch surface casing shall be set at approximately **835** feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

    Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

2. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:

    - Cement as proposed. Report Echo meter results on subsequent sundry.

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

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

C. PRESSURE CONTROL

1. 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. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
    e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

BOP Break Testing Variance

- Shelll testing is not approved for any portion of the hole with a MASP of 5000 psi or greater.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer prior to the commencement of any BOP Break Testing operations.
- A full BOP test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOP test will be required.

D. SPECIAL REQUIREMENT (S)

Operator to submit a sundry notice 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.

GENERAL REQUIREMENTS

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

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

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

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. 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.

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

5. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

6. 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.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as

possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

    b. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

    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.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

JAM 07092021

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 Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

COMMENTS

Action 36048

COMMENTS

Operator: XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	OGRID: 373075
	Action Number: 36048
	Action Type: [C-103] NOI Change of Plans (C-103A)

COMMENTS

Created By	Comment	Comment Date
jagarcia	Accepted for record	7/23/2021

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

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	Action Number: 36048
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Created By	Condition	Condition Date
jagarcia	None	7/23/2021