

Well Name: BIG EDDY UNIT 30E REY	Well Location: T20S / R31E / SEC 14 / SWSW / 32.56953 / -103.84714	County or Parish/State: EDDY / NM
Well Number: 103H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMLC063667	Unit or CA Name: BIG EDDY	Unit or CA Number: NMNM68294X
US Well Number: 3001548156	Operator: XTO PERMIAN OPERATING LLC	

Notice of Intent

Sundry ID: 2390606

Type of Submission: Notice of Intent	Type of Action: Other
Date Sundry Submitted: 06/04/2021	Time Sundry Submitted: 01:16
Date proposed operation will begin: 06/30/2021	

Procedure Description: **SHL Change, 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 SHL fr/1265'FSL & 405'FWL to 1065'FSL & 590'FWL Total SHL Move: 200'South & 185'West SHL change requested to optimize drill island space and for safety purposes. Change BHL fr/20'FSL & 50'FEL to 1540'FNL & 50'FEL 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

BEU_30E_Rey_103H_Sundry_20210604131601.pdf

District I

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

District II

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

District III

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

District IV

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

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

Form C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015- 48156	² Pool Code 97650	³ Pool Name Purple Sage; Wolfcamp (Gas)
⁴ Property Code	⁵ Property Name BIG EDDY UNIT 30E REY	⁶ Well Number 103H
⁷ OGRID No. 373075	⁸ Operator Name XTO PERMIAN OPERATING, LLC.	⁹ Elevation 3,448'

¹⁰ Surface Location

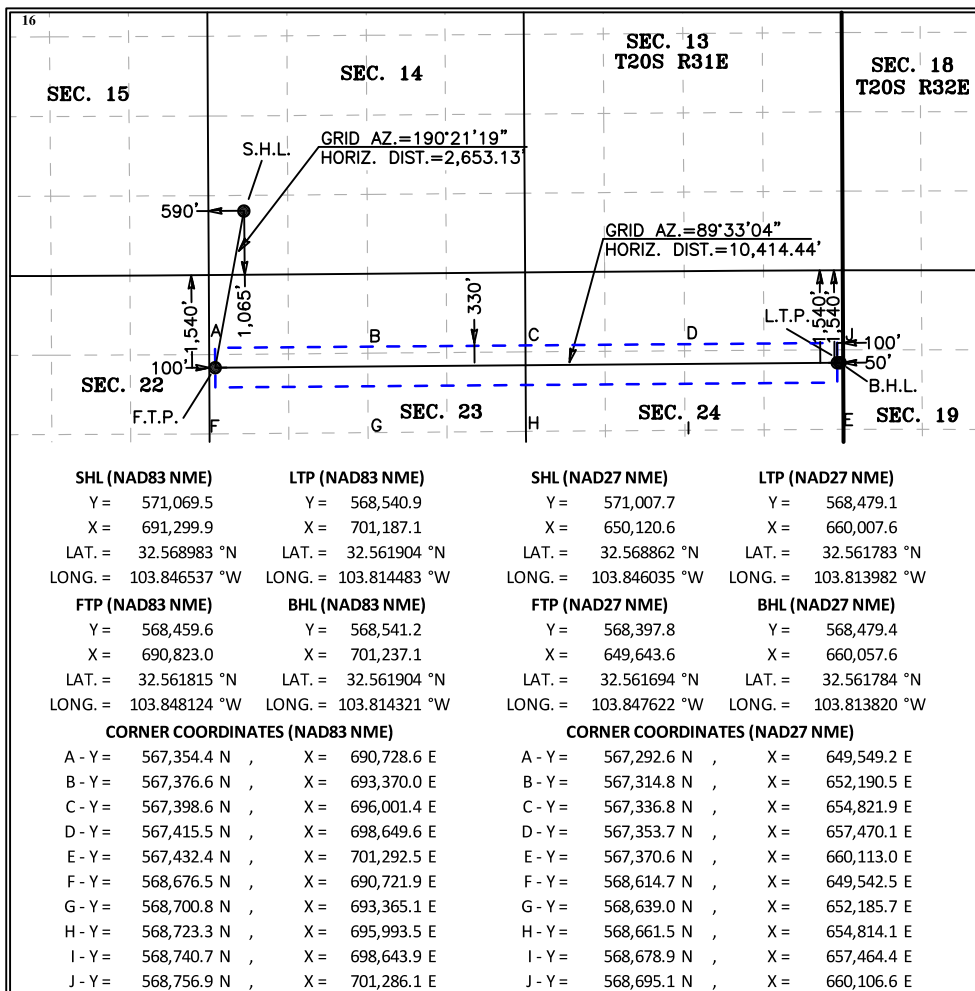
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	14	20 S	31 E		1,065	SOUTH	590	WEST	EDDY

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
H	24	20 S	31 E		1,540	NORTH	50	EAST	EDDY

¹² Dedicated Acres 640	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

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.

Stephanie Rabadue 05/28/2021

Signature

Date

Stephanie Rabadue

Printed Name

stephanie.rabadue@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.

5-26-2021

Date of Survey

Signature and Seal of
Professional Surveyor:

MARK DILLON HARP 23786

Certificate Number



RM

2019030746

Conditions of Approval

BOP Break Testing Variance (Note: Shell 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.

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

XTO Energy Inc.
Big Eddy Unit D130 Rey 103H
Projected TD: 21407' MD / 9896' TVD
SHL: 1065' FSL & 590' FWL , Section 14, T20S, R31E
BHL: 1540' FNL & 50' FEL , Section 24, T22S, R31E
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	693'	Water
Top of Salt	967'	Water
Base of Salt	2318'	Water
Capitan Reef	2604'	Water
Delaware	3921'	Water
Brushy Canyon	5768'	Water/Oil/Gas
Bone Spring	7375'	Water
1st Bone Spring Ss	8581'	Water/Oil/Gas
2nd Bone Spring Ss	9171'	Water/Oil/Gas
Harkey Ss	9881'	Water/Oil/Gas
3rd Bone Spring Ss	9881'	Water/Oil/Gas
Target/Land Curve	9896'	Water/Oil/Gas

*** Hydrocarbons @ Brushy Canyon

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

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 13.375 inch casing @ 793' (174' above the salt) and circulating cement back to surface. The salt will be isolated by setting 9.625 inch casing at 2418' and circulating cement to surface. The second intermediate will isolate the Capitan Reef from the salt down to the next casing seat by setting 7.625 inch casing at 3971' and cemented to surface. A 6.75 inch curve and 6.75 inch lateral hole will be drilled to 21407 MD/TD and 5.5 x 5 inch production casing will be set at TD and cemented back up to 2nd intermediate (estimated TOC 3471 feet) per Potash regulations.

3. Casing Design

Hole Size	Depth	OD Csg	Weight	Grade	Collar	New/Used	SF Burst	SF Collapse	SF Tension
17.5	0' – 793'	13.375	54.5	J-55	BTC	New	3.78	3.15	19.74
12.25	0' – 2418'	9.625	40	J-55	BTC	New	4.01	3.49	6.51
8.75	0' – 2518'	7.625	29.7	RY P-110	Flush Joint	New	3.49	4.54	4.73
8.75	2518' – 3971'	7.625	29.7	HC L-80	Flush Joint	New	2.54	5.77	9.41
6.75	0' – 3871'	5.5	23	RY P-110	Semi-Premium	New	1.21	7.60	2.33
6.75	3871' - 10050'	5.5	23	RY P-110	Semi-Flush	New	1.21	2.93	2.71
6.75	10050' - 21407'	5	18	RY P-110	Semi-Premium	New	1.16	2.76	7.12

- 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
- 9.625 Collapse analyzed using 50% evacuation based on regional experience.
- 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 2M annular & 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 13-3/8" SOW bottom

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

- Wellhead will be installed by manufacturer's representatives.
- Manufacturer will monitor welding process to ensure appropriate temperature of seal.
- Operator will test the 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: 13.375, 54.5 New BTC, J-55 casing to be set at +/- 793'

Lead: 480 sxs Class C (mixed at 12.8 ppg, 1.95 ft3/sx, 10.93 gal/sx water)
 Tail: 300 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 = 250 psi 24 hr = 500 psi

Due to the high probability of not getting cement to surface during conventional top-out jobs in the area, ~10-20 ppb gravel will be added on the backside of the 1" to get cement to surface, if required.

1st Intermediate Casing: 9.625, 40 New BTC, J-55 casing to be set at +/- 2418'

Lead: 680 sxs Class C (mixed at 12.9 ppg, 1.95 ft3/sx, 10.93 gal/sx water)
 Tail: 140 sxs Class C + 2% CaCl (mixed at 14.8 ppg, 1.33 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 +/- 3971'

1st Stage

Optional Lead: 310 sxs Class C (mixed at 10.5 ppg, 2.37 ft3/sx, 12.78 gal/sx water)
 TOC: 0
 Tail: 40 sxs Class C (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water)
 TOC: 3671
 Compressives: 12-hr = 900 psi 24 hr = 1150 psi

2nd Stage Bradenhead (if needed)

Optional Tail: 390 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 the option 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 Capitan Reef (2604') and the second stage performed as a bradenhead squeeze with planned cement from the Capitan Reef 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 to surface. If cement reaches surface, 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 +/- 21407'

Lead: 220 sxs 50/50 POZ/Class C (mixed at 11.5 ppg, 2.6 ft3/sx, 14.84 gal/sx water) Top of Cement: 3471 feet
 Tail: 990 sxs 50/50 POZ/Class H (mixed at 13.2 ppg, 1.51 ft3/sx, 7.21 gal/sx water) Top of Cement: 9627 feet
 Compressives: 12-hr = 1375 psi 24 hr = 2285 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 13.375 casing, the blow out preventer equipment (BOP) will consist of a 13-5/8" minimum 3M Hydral and a 13-5/8" minimum 3M Double Ram BOP. MASP should not exceed 2712 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 nipping up on the 13.375, 3M bradenhead and flange, the BOP test will be limited to 3000 psi. When nipping up on the 7.625, the BOP will be tested to a minimum of 3000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 3M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

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

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' - 793'	17.5	FW/Native	8.7-9.2	35-40	NC
793' - 2418'	12.25	Brine	10-10.5	30-32	NC
2418' to 3971'	8.75	FW / Cut Brine	9-9.5	30-32	NC
3971' to 21407'	6.75	OBM	9.5-10	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 13-3/8" surface casing with brine solution. A 10 ppg -10.5 ppg brine mud will be used while drilling through the salt formation. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Pump speed will be recorded on a daily drilling report after mudding up. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

7. Auxiliary Well Control and Monitoring Equipment

- A. A Kelly cock will be in the drill string at all times.
- B. A full opening drill pipe stabbing valve having appropriate connections will be on the rig floor at all times.
- C. H2S monitors will be on location when drilling below the 13.375 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 165 to 185 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 4889 psi.

10. Anticipated Starting Date and Duration of Operations

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

Well Plan Report - Big Eddy Unit 30E Rey 103H

Measured Depth: 21405.34 ft

TVD RKB: 9896.00 ft

Location

Cartographic Reference System: New Mexico East - NAD 27

Northing: 571007.08 ft

Easting: 650119.07 ft

RKB: 3478.00 ft

Ground Level: 3448.00 ft

North Reference: Grid

Convergence Angle: 0.26 Deg

Site: BEU DI 30, 205-31E-14, A Pad

Slot: Big Eddy Unit 30E Rey 104H

Plan Sections		Big Eddy Unit 30E Rey 103H							
Measured Depth	Inclination	Azimuth	TVD RKB	Y Offset	X Offset	Build Rate	Turn Rate	Dogleg Rate	
(ft)	(Deg)	(Deg)	(ft)	(ft)	(ft)	(Deg/100ft)	(Deg/100ft)	(Deg/100ft)	Target
0	0	0	0	0	0	0	0	0	
2400	0	0	2400	0	0	0	0	0	
3571.21	23.42	208.97	3538.85	-206.55	-114.35	2	0	2	
9626.48	23.42	208.97	9095.09	-2312.55	-1280.23	0	0	0	
10892.23	90	89.55	9896	-2609.28	-575.47	5.26	-9.43	8	
21405.34	90	89.55	9896	-2527.58	9937.33	0	0	0	BHL 20

Position Uncertainty		Big Eddy Unit 30E Rey 103H												
Measured			TVD	Highside	Lateral		Vertical		Magnitude		Semi-major	Semi-minor	Semi-minor Tool	
Depth (ft)	Inclination (°)	Azimuth (°)	RKB (ft)	Error (ft)	Bias (ft)	Error (ft)	Bias (ft)	Error (ft)	Bias (ft)	of Bias (ft)	Error (ft)	Error (ft)	Azimuth Used (°)	
0	0	0	0	0	0	0	0	2.297	0	0	0	0	SDI_Keeper_0 ADK(2)	
100	0	0	100	0.209	0	0.209	0	2.299	0	0	0.209	0.209	SDI_Keeper_0 ADK(2)	
200	0	0	200	0.419	0	0.419	0	2.307	0	0	0.419	0.419	SDI_Keeper_0 ADK(2)	
300	0	0	300	0.628	0	0.628	0	2.321	0	0	0.628	0.628	SDI_Keeper_0 ADK(2)	
400	0	0	400	0.838	0	0.838	0	2.34	0	0	0.838	0.838	SDI_Keeper_0 ADK(2)	
500	0	0	500	1.047	0	1.047	0	2.364	0	0	1.047	1.047	SDI_Keeper_0 ADK(2)	
600	0	0	600	1.257	0	1.257	0	2.394	0	0	1.257	1.257	SDI_Keeper_0 ADK(2)	
700	0	0	700	1.466	0	1.466	0	2.428	0	0	1.466	1.466	SDI_Keeper_0 ADK(2)	
800	0	0	800	1.676	0	1.676	0	2.467	0	0	1.676	1.676	SDI_Keeper_0 ADK(2)	
900	0	0	900	1.885	0	1.885	0	2.511	0	0	1.885	1.885	SDI_Keeper_0 ADK(2)	
1000	0	0	1000	2.094	0	2.094	0	2.56	0	0	2.094	2.094	SDI_Keeper_0 ADK(2)	
1100	0	0	1100	2.304	0	2.304	0	2.613	0	0	2.304	2.304	SDI_Keeper_0 ADK(2)	
1200	0	0	1200	2.513	0	2.513	0	2.67	0	0	2.513	2.513	SDI_Keeper_0 ADK(2)	
1300	0	0	1300	2.723	0	2.723	0	2.731	0	0	2.723	2.723	SDI_Keeper_0 ADK(2)	
1400	0	0	1400	2.932	0	2.932	0	2.797	0	0	2.932	2.932	SDI_Keeper_0 ADK(2)	
1500	0	0	1500	3.142	0	3.142	0	2.866	0	0	3.142	3.142	SDI_Keeper_0 ADK(2)	
1600	0	0	1600	3.351	0	3.351	0	2.939	0	0	3.351	3.351	SDI_Keeper_0 ADK(2)	
1700	0	0	1700	3.56	0	3.56	0	3.016	0	0	3.56	3.56	SDI_Keeper_0 ADK(2)	
1800	0	0	1800	3.77	0	3.77	0	3.096	0	0	3.77	3.77	SDI_Keeper_0 ADK(2)	
1900	0	0	1900	3.979	0	3.979	0	3.179	0	0	3.979	3.979	SDI_Keeper_0 ADK(2)	
2000	0	0	2000	4.189	0	4.189	0	3.266	0	0	4.189	4.189	SDI_Keeper_0 ADK(2)	

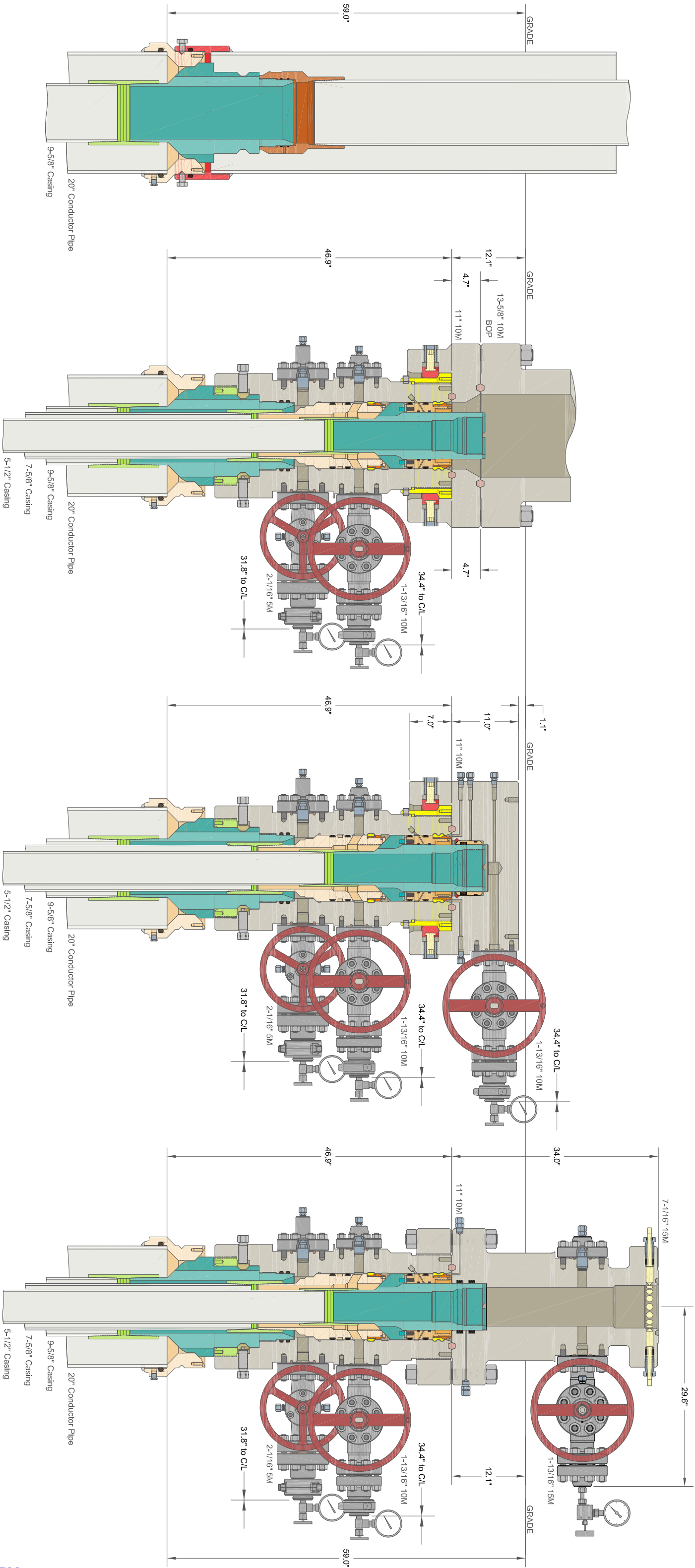
2100	0	0	2100	4.398	0	4.398	0	3.355	0	0	4.398	4.398	SDI_Keeper_0 ADK(2)
2200	0	0	2200	4.608	0	4.608	0	3.448	0	0	4.608	4.608	SDI_Keeper_0 ADK(2)
2300	0	0	2300	4.817	0	4.817	0	3.544	0	0	4.817	4.817	SDI_Keeper_0 ADK(2)
2400	0	0	2400	5.027	0	5.027	0	3.643	0	0	5.027	5.027	SDI_Keeper_0 ADK(2)
2500	2	208.969	2499.98	5.234	0	5.236	0	3.744	0	0	5.236	5.236	118.969 SDI_Keeper_0 ADK(2)
2600	4	208.969	2599.838	5.46	0	5.352	0	3.844	0	0	5.483	5.344	132.817 MS
2700	6	208.969	2699.452	5.947	0	5.41	0	3.953	0	0	6.01	5.369	133.273 MS
2800	8	208.969	2798.702	6.414	0	5.492	0	4.068	0	0	6.512	5.418	133.328 MS
2900	10	208.969	2897.465	6.864	0	5.596	0	4.191	0	0	6.995	5.492	133.355 MS
3000	12	208.969	2995.623	7.302	0	5.724	0	4.322	0	0	7.463	5.59	133.376 MS
3100	14	208.969	3093.055	7.729	0	5.874	0	4.463	0	0	7.918	5.713	133.398 MS
3200	16	208.969	3189.643	8.148	0	6.045	0	4.616	0	0	8.362	5.859	133.422 MS
3300	18	208.969	3285.268	8.56	0	6.238	0	4.781	0	0	8.796	6.029	133.45 MS
3400	20	208.969	3379.816	8.966	0	6.451	0	4.959	0	0	9.223	6.221	133.484 MS
3500	22	208.969	3473.169	9.369	0	6.684	0	5.152	0	0	9.644	6.435	133.524 MS
3571.208	23.424	208.969	3538.854	9.558	0	6.852	0	5.27	0	0	9.854	6.601	133.518 MS
3600	23.424	208.969	3565.273	9.614	0	6.919	0	5.308	0	0	9.907	6.67	133.506 MS
3700	23.424	208.969	3657.031	9.815	0	7.173	0	5.459	0	0	10.088	6.929	133.623 MS
3800	23.424	208.969	3748.79	10.044	0	7.457	0	5.619	0	0	10.297	7.212	133.925 MS
3900	23.424	208.969	3840.549	10.288	0	7.753	0	5.785	0	0	10.519	7.507	134.221 MS
4000	23.424	208.969	3932.307	10.545	0	8.061	0	5.957	0	0	10.753	7.814	134.511 MS
4100	23.424	208.969	4024.066	10.816	0	8.378	0	6.133	0	0	10.999	8.131	134.796 MS
4200	23.424	208.969	4115.825	11.099	0	8.704	0	6.314	0	0	11.255	8.457	-44.926 MS
4300	23.424	208.969	4207.584	11.393	0	9.038	0	6.5	0	0	11.521	8.791	-44.654 MS
4400	23.424	208.969	4299.342	11.698	0	9.379	0	6.69	0	0	11.797	9.132	-44.388 MS
4500	23.424	208.969	4391.101	12.012	0	9.727	0	6.885	0	0	12.081	9.48	-44.128 MS
4600	23.424	208.969	4482.86	12.335	0	10.08	0	7.083	0	0	12.373	9.833	-43.874 MS
4700	23.424	208.969	4574.618	12.666	0	10.438	0	7.284	0	0	12.673	10.192	-43.627 MS
4800	23.424	208.969	4666.377	13.005	0	10.8	0	7.489	0	0	12.98	10.555	-43.386 MS
4900	23.424	208.969	4758.136	13.351	0	11.167	0	7.698	0	0	13.293	10.922	-43.152 MS
5000	23.424	208.969	4849.894	13.703	0	11.538	0	7.91	0	0	13.613	11.293	-42.924 MS
5100	23.424	208.969	4941.653	14.061	0	11.911	0	8.125	0	0	13.938	11.668	-42.703 MS
5200	23.424	208.969	5033.412	14.425	0	12.288	0	8.342	0	0	14.268	12.045	-42.489 MS
5300	23.424	208.969	5125.171	14.794	0	12.668	0	8.563	0	0	14.604	12.426	-42.281 MS
5400	23.424	208.969	5216.929	15.167	0	13.05	0	8.787	0	0	14.944	12.809	-42.08 MS
5500	23.424	208.969	5308.688	15.545	0	13.435	0	9.013	0	0	15.288	13.194	-41.886 MS
5600	23.424	208.969	5400.447	15.927	0	13.822	0	9.241	0	0	15.637	13.582	-41.698 MS
5700	23.424	208.969	5492.205	16.313	0	14.211	0	9.473	0	0	15.989	13.971	-41.518 MS
5800	23.424	208.969	5583.964	16.702	0	14.601	0	9.706	0	0	16.345	14.363	-41.345 MS
5900	23.424	208.969	5675.723	17.095	0	14.993	0	9.942	0	0	16.704	14.756	-41.178 MS
6000	23.424	208.969	5767.482	17.49	0	15.387	0	10.181	0	0	17.066	15.151	-41.019 MS
6100	23.424	208.969	5859.24	17.889	0	15.782	0	10.422	0	0	17.431	15.547	-40.867 MS
6200	23.424	208.969	5950.999	18.29	0	16.179	0	10.665	0	0	17.799	15.944	-40.722 MS
6300	23.424	208.969	6042.758	18.694	0	16.577	0	10.91	0	0	18.17	16.343	-40.584 MS
6400	23.424	208.969	6134.516	19.1	0	16.976	0	11.158	0	0	18.543	16.743	-40.454 MS
6500	23.424	208.969	6226.275	19.508	0	17.375	0	11.407	0	0	18.918	17.144	-40.331 MS
6600	23.424	208.969	6318.034	19.918	0	17.776	0	11.659	0	0	19.295	17.546	-40.215 MS
6700	23.424	208.969	6409.792	20.331	0	18.178	0	11.913	0	0	19.675	17.949	-40.106 MS
6800	23.424	208.969	6501.551	20.745	0	18.581	0	12.169	0	0	20.057	18.353	-40.005 MS
6900	23.424	208.969	6593.31	21.161	0	18.985	0	12.427	0	0	20.44	18.758	-39.912 MS
7000	23.424	208.969	6685.069	21.578	0	19.389	0	12.687	0	0	20.825	19.163	-39.825 MS
7100	23.424	208.969	6776.827	21.997	0	19.794	0	12.95	0	0	21.212	19.57	-39.746 MS
7200	23.424	208.969	6868.586	22.418	0	20.2	0	13.214	0	0	21.601	19.977	-39.675 MS
7300	23.424	208.969	6960.345	22.839	0	20.606	0	13.48	0	0	21.991	20.384	-39.611 MS
7400	23.424	208.969	7052.103	23.262	0	21.013	0	13.748	0	0	22.383	20.793	-39.555 MS
7500	23.424	208.969	7143.862	23.687	0	21.42	0	14.019	0	0	22.775	21.202	-39.506 MS

7600	23.424	208.969	7235.621	24.112	0	21.828	0	14.291	0	0	23.17	21.611	-39.464	MWD+IFR1+ MS
7700	23.424	208.969	7327.379	24.539	0	22.237	0	14.565	0	0	23.565	22.021	-39.43	MWD+IFR1+ MS
7800	23.424	208.969	7419.138	24.966	0	22.646	0	14.841	0	0	23.962	22.432	-39.403	MWD+IFR1+ MS
7900	23.424	208.969	7510.897	25.395	0	23.055	0	15.119	0	0	24.36	22.843	-39.384	MWD+IFR1+ MS
8000	23.424	208.969	7602.656	25.824	0	23.465	0	15.4	0	0	24.759	23.254	-39.373	MWD+IFR1+ MS
8100	23.424	208.969	7694.414	26.255	0	23.875	0	15.682	0	0	25.159	23.666	-39.368	MWD+IFR1+ MS
8200	23.424	208.969	7786.173	26.686	0	24.286	0	15.966	0	0	25.56	24.079	-39.371	MWD+IFR1+ MS
8300	23.424	208.969	7877.932	27.118	0	24.697	0	16.252	0	0	25.963	24.491	-39.381	MWD+IFR1+ MS
8400	23.424	208.969	7969.69	27.551	0	25.108	0	16.54	0	0	26.366	24.904	-39.399	MWD+IFR1+ MS
8500	23.424	208.969	8061.449	27.984	0	25.52	0	16.83	0	0	26.77	25.318	-39.424	MWD+IFR1+ MS
8600	23.424	208.969	8153.208	28.419	0	25.932	0	17.122	0	0	27.175	25.732	-39.456	MWD+IFR1+ MS
8700	23.424	208.969	8244.967	28.853	0	26.344	0	17.415	0	0	27.581	26.146	-39.495	MWD+IFR1+ MS
8800	23.424	208.969	8336.725	29.289	0	26.757	0	17.711	0	0	27.988	26.561	-39.541	MWD+IFR1+ MS
8900	23.424	208.969	8428.484	29.725	0	27.169	0	18.009	0	0	28.395	26.975	-39.595	MWD+IFR1+ MS
9000	23.424	208.969	8520.243	30.162	0	27.582	0	18.309	0	0	28.804	27.391	-39.655	MWD+IFR1+ MS
9100	23.424	208.969	8612.001	30.599	0	27.996	0	18.61	0	0	29.213	27.806	-39.722	MWD+IFR1+ MS
9200	23.424	208.969	8703.76	31.037	0	28.409	0	18.914	0	0	29.623	28.222	-39.795	MWD+IFR1+ MS
9300	23.424	208.969	8795.519	31.475	0	28.823	0	19.219	0	0	30.033	28.637	-39.876	MWD+IFR1+ MS
9400	23.424	208.969	8887.277	31.914	0	29.237	0	19.527	0	0	30.445	29.054	-39.963	MWD+IFR1+ MS
9500	23.424	208.969	8979.036	32.354	0	29.651	0	19.837	0	0	30.857	29.47	-40.056	MWD+IFR1+ MS
9600	23.424	208.969	9070.795	32.793	0	30.066	0	20.148	0	0	31.269	29.887	-40.156	MWD+IFR1+ MS
9626.475	23.424	208.969	9095.088	32.909	0	30.174	0	20.231	0	0	31.377	29.996	-40.227	MWD+IFR1+ MS
9700	21.334	194.48	9163.124	32.896	0	30.843	0	20.461	0	0	31.735	30.328	-38.602	MWD+IFR1+ MS
9800	20.834	172.161	9256.581	32.35	0	32.705	0	20.771	0	0	32.914	30.875	-26.796	MWD+IFR1+ MS
9900	23.137	151.575	9349.441	31.636	0	34.467	0	21.073	0	0	34.468	31.237	-27.343	MWD+IFR1+ MS
10000	27.549	135.888	9439.897	31.067	0	35.669	0	21.43	0	0	35.743	31.822	-35.963	MWD+IFR1+ MS
10100	33.237	124.711	9526.188	30.511	0	36.498	0	21.924	0	0	36.61	32.672	134.702	MWD+IFR1+ MS
10200	39.653	116.635	9606.635	29.883	0	37.106	0	22.607	0	0	37.205	33.549	126.337	MWD+IFR1+ MS
10300	46.493	110.541	9679.672	29.239	0	37.578	0	23.502	0	0	37.648	34.306	119.031	MWD+IFR1+ MS
10400	53.589	105.712	9743.878	28.707	0	37.957	0	24.603	0	0	38.004	34.887	112.841	MWD+IFR1+ MS
10500	60.847	101.702	9798.002	28.435	0	38.265	0	25.884	0	0	38.299	35.288	107.993	MWD+IFR1+ MS
10600	68.208	98.228	9840.991	28.559	0	38.511	0	27.305	0	0	38.548	35.532	104.69	MWD+IFR1+ MS
10700	75.634	95.097	9872.009	29.174	0	38.703	0	28.816	0	0	38.759	35.648	102.944	MWD+IFR1+ MS
10800	83.099	92.168	9890.452	30.308	0	38.842	0	30.365	0	0	38.945	35.672	102.59	MWD+IFR1+ MS
10892.226	90	89.55	9896	31.62	0	38.903	0	31.62	0	0	39.092	35.637	103.405	MWD+IFR1+ MS
10900	90	89.55	9896	31.647	0	38.902	0	31.647	0	0	39.097	35.631	103.565	MWD+IFR1+ MS
11000	90	89.55	9896	31.984	0	38.909	0	31.984	0	0	39.159	35.565	105.191	MWD+IFR1+ MS
11100	90	89.55	9896	32.34	0	38.935	0	32.34	0	0	39.244	35.497	106.614	MWD+IFR1+ MS
11200	90	89.55	9896	32.711	0	38.979	0	32.711	0	0	39.348	35.426	107.847	MWD+IFR1+ MS
11300	90	89.55	9896	33.096	0	39.04	0	33.096	0	0	39.471	35.354	108.896	MWD+IFR1+ MS
11400	90	89.55	9896	33.496	0	39.118	0	33.496	0	0	39.61	35.283	109.779	MWD+IFR1+ MS
11500	90	89.55	9896	33.908	0	39.213	0	33.908	0	0	39.765	35.213	110.506	MWD+IFR1+ MS
11600	90	89.55	9896	34.334	0	39.324	0	34.334	0	0	39.936	35.145	111.093	MWD+IFR1+ MS
11700	90	89.55	9896	34.773	0	39.452	0	34.773	0	0	40.121	35.08	111.557	MWD+IFR1+ MS
11800	90	89.55	9896	35.223	0	39.596	0	35.223	0	0	40.32	35.017	111.911	MWD+IFR1+ MS
11900	90	89.55	9896	35.685	0	39.757	0	35.685	0	0	40.533	34.957	112.17	MWD+IFR1+ MS
12000	90	89.55	9896	36.158	0	39.934	0	36.158	0	0	40.758	34.901	112.345	MWD+IFR1+ MS
12100	90	89.55	9896	36.642	0	40.127	0	36.642	0	0	40.997	34.849	112.447	MWD+IFR1+ MS
12200	90	89.55	9896	37.136	0	40.335	0	37.136	0	0	41.248	34.8	112.487	MWD+IFR1+ MS
12300	90	89.55	9896	37.64	0	40.558	0	37.64	0	0	41.511	34.754	112.473	MWD+IFR1+ MS
12400	90	89.55	9896	38.153	0	40.797	0	38.153	0	0	41.786	34.713	112.412	MWD+IFR1+ MS
12500	90	89.55	9896	38.676	0	41.051	0	38.676	0	0	42.073	34.675	112.311	MWD+IFR1+ MS
12600	90	89.55	9896	39.207	0	41.319	0	39.207	0	0	42.372	34.641	112.176	MWD+IFR1+ MS
12700	90	89.55	9896	39.747	0	41.602	0	39.747	0	0	42.682	34.61	112.012	MWD+IFR1+ MS
12800	90	89.55	9896	40.295	0	41.898	0	40.295	0	0	43.003	34.583	111.823	MWD+IFR1+ MS
12900	90	89.55	9896	40.85	0	42.208	0	40.85	0	0	43.336	34.559	111.613	MWD+IFR1+ MS

13000	90	89.55	9896	41.413	0	42.532	0	41.413	0	0	43.679	34.539	111.387	MWD+IFR1+ MS
13100	90	89.55	9896	41.983	0	42.869	0	41.983	0	0	44.033	34.522	111.146	MWD+IFR1+ MS
13200	90	89.55	9896	42.56	0	43.218	0	42.56	0	0	44.398	34.507	110.894	MWD+IFR1+ MS
13300	90	89.55	9896	43.143	0	43.58	0	43.143	0	0	44.773	34.496	110.632	MWD+IFR1+ MS
13400	90	89.55	9896	43.733	0	43.955	0	43.733	0	0	45.159	34.488	110.363	MWD+IFR1+ MS
13500	90	89.55	9896	44.329	0	44.341	0	44.329	0	0	45.554	34.483	110.089	MWD+IFR1+ MS
13600	90	89.55	9896	44.931	0	44.739	0	44.931	0	0	45.96	34.48	109.811	MWD+IFR1+ MS
13700	90	89.55	9896	45.538	0	45.148	0	45.538	0	0	46.375	34.479	109.53	MWD+IFR1+ MS
13800	90	89.55	9896	46.15	0	45.568	0	46.15	0	0	46.799	34.482	109.248	MWD+IFR1+ MS
13900	90	89.55	9896	46.768	0	45.998	0	46.768	0	0	47.233	34.486	108.965	MWD+IFR1+ MS
14000	90	89.55	9896	47.391	0	46.439	0	47.391	0	0	47.676	34.493	108.683	MWD+IFR1+ MS
14100	90	89.55	9896	48.018	0	46.891	0	48.018	0	0	48.128	34.502	108.402	MWD+IFR1+ MS
14200	90	89.55	9896	48.65	0	47.351	0	48.65	0	0	48.588	34.514	108.123	MWD+IFR1+ MS
14300	90	89.55	9896	49.286	0	47.822	0	49.286	0	0	49.057	34.527	107.847	MWD+IFR1+ MS
14400	90	89.55	9896	49.927	0	48.302	0	49.927	0	0	49.535	34.543	107.573	MWD+IFR1+ MS
14500	90	89.55	9896	50.571	0	48.79	0	50.571	0	0	50.02	34.56	107.302	MWD+IFR1+ MS
14600	90	89.55	9896	51.22	0	49.287	0	51.22	0	0	50.514	34.579	107.035	MWD+IFR1+ MS
14700	90	89.55	9896	51.872	0	49.793	0	51.872	0	0	51.015	34.6	106.772	MWD+IFR1+ MS
14800	90	89.55	9896	52.528	0	50.307	0	52.528	0	0	51.524	34.623	106.512	MWD+IFR1+ MS
14900	90	89.55	9896	53.187	0	50.829	0	53.187	0	0	52.04	34.648	106.257	MWD+IFR1+ MS
15000	90	89.55	9896	53.85	0	51.358	0	53.85	0	0	52.563	34.674	106.007	MWD+IFR1+ MS
15100	90	89.55	9896	54.516	0	51.895	0	54.516	0	0	53.094	34.702	105.76	MWD+IFR1+ MS
15200	90	89.55	9896	55.185	0	52.44	0	55.185	0	0	53.631	34.731	105.518	MWD+IFR1+ MS
15300	90	89.55	9896	55.858	0	52.991	0	55.858	0	0	54.175	34.762	105.281	MWD+IFR1+ MS
15400	90	89.55	9896	56.533	0	53.549	0	56.533	0	0	54.725	34.794	105.049	MWD+IFR1+ MS
15500	90	89.55	9896	57.21	0	54.113	0	57.21	0	0	55.282	34.828	104.821	MWD+IFR1+ MS
15600	90	89.55	9896	57.891	0	54.684	0	57.891	0	0	55.845	34.863	104.597	MWD+IFR1+ MS
15700	90	89.55	9896	58.574	0	55.261	0	58.574	0	0	56.413	34.9	104.378	MWD+IFR1+ MS
15800	90	89.55	9896	59.26	0	55.844	0	59.26	0	0	56.988	34.938	104.164	MWD+IFR1+ MS
15900	90	89.55	9896	59.948	0	56.433	0	59.948	0	0	57.568	34.977	103.954	MWD+IFR1+ MS
16000	90	89.55	9896	60.638	0	57.028	0	60.638	0	0	58.153	35.018	103.749	MWD+IFR1+ MS
16100	90	89.55	9896	61.331	0	57.628	0	61.331	0	0	58.744	35.06	103.548	MWD+IFR1+ MS
16200	90	89.55	9896	62.026	0	58.233	0	62.026	0	0	59.341	35.103	103.351	MWD+IFR1+ MS
16300	90	89.55	9896	62.723	0	58.843	0	62.723	0	0	59.942	35.147	103.158	MWD+IFR1+ MS
16400	90	89.55	9896	63.422	0	59.458	0	63.422	0	0	60.548	35.193	102.97	MWD+IFR1+ MS
16500	90	89.55	9896	64.123	0	60.078	0	64.123	0	0	61.159	35.239	102.786	MWD+IFR1+ MS
16600	90	89.55	9896	64.826	0	60.703	0	64.826	0	0	61.774	35.287	102.605	MWD+IFR1+ MS
16700	90	89.55	9896	65.531	0	61.332	0	65.531	0	0	62.394	35.336	102.429	MWD+IFR1+ MS
16800	90	89.55	9896	66.238	0	61.966	0	66.238	0	0	63.018	35.386	102.256	MWD+IFR1+ MS
16900	90	89.55	9896	66.946	0	62.604	0	66.946	0	0	63.647	35.438	102.088	MWD+IFR1+ MS
17000	90	89.55	9896	67.656	0	63.246	0	67.656	0	0	64.28	35.49	101.923	MWD+IFR1+ MS
17100	90	89.55	9896	68.368	0	63.892	0	68.368	0	0	64.916	35.543	101.761	MWD+IFR1+ MS
17200	90	89.55	9896	69.081	0	64.541	0	69.081	0	0	65.557	35.598	101.603	MWD+IFR1+ MS
17300	90	89.55	9896	69.796	0	65.195	0	69.796	0	0	66.202	35.653	101.448	MWD+IFR1+ MS
17400	90	89.55	9896	70.512	0	65.852	0	70.512	0	0	66.85	35.71	101.297	MWD+IFR1+ MS
17500	90	89.55	9896	71.23	0	66.513	0	71.23	0	0	67.501	35.768	101.149	MWD+IFR1+ MS
17600	90	89.55	9896	71.949	0	67.177	0	71.949	0	0	68.157	35.826	101.004	MWD+IFR1+ MS
17700	90	89.55	9896	72.67	0	67.845	0	72.67	0	0	68.815	35.886	100.862	MWD+IFR1+ MS
17800	90	89.55	9896	73.392	0	68.515	0	73.392	0	0	69.477	35.946	100.723	MWD+IFR1+ MS
17900	90	89.55	9896	74.115	0	69.189	0	74.115	0	0	70.142	36.008	100.588	MWD+IFR1+ MS
18000	90	89.55	9896	74.839	0	69.866	0	74.839	0	0	70.811	36.07	100.455	MWD+IFR1+ MS
18100	90	89.55	9896	75.565	0	70.546	0	75.565	0	0	71.482	36.134	100.324	MWD+IFR1+ MS
18200	90	89.55	9896	76.291	0	71.229	0	76.291	0	0	72.156	36.198	100.197	MWD+IFR1+ MS
18300	90	89.55	9896	77.019	0	71.914	0	77.019	0	0	72.834	36.264	100.072	MWD+IFR1+ MS
18400	90	89.55	9896	77.748	0	72.603	0	77.748	0	0	73.513	36.33	99.95	MWD+IFR1+ MS
18500	90	89.55	9896	78.478	0	73.294	0	78.478	0	0	74.196	36.397	99.83	MWD+IFR1+ MS

18600	90	89.55	9896	79.209	0	73.987	0	79.209	0	0	74.882	36.465	99.712	MWD+IFRI+MS
18700	90	89.55	9896	79.942	0	74.683	0	79.942	0	0	75.569	36.534	99.597	MWD+IFRI+MS
18800	90	89.55	9896	80.675	0	75.381	0	80.675	0	0	76.26	36.604	99.485	MWD+IFRI+MS
18900	90	89.55	9896	81.409	0	76.082	0	81.409	0	0	76.953	36.675	99.374	MWD+IFRI+MS
19000	90	89.55	9896	82.144	0	76.785	0	82.144	0	0	77.648	36.746	99.266	MWD+IFRI+MS
19100	90	89.55	9896	82.88	0	77.491	0	82.88	0	0	78.346	36.819	99.16	MWD+IFRI+MS
19200	90	89.55	9896	83.617	0	78.198	0	83.617	0	0	79.046	36.892	99.056	MWD+IFRI+MS
19300	90	89.55	9896	84.354	0	78.907	0	84.354	0	0	79.748	36.966	98.954	MWD+IFRI+MS
19400	90	89.55	9896	85.093	0	79.619	0	85.093	0	0	80.452	37.041	98.854	MWD+IFRI+MS
19500	90	89.55	9896	85.832	0	80.333	0	85.832	0	0	81.158	37.117	98.756	MWD+IFRI+MS
19600	90	89.55	9896	86.572	0	81.048	0	86.572	0	0	81.866	37.194	98.66	MWD+IFRI+MS
19700	90	89.55	9896	87.313	0	81.766	0	87.313	0	0	82.577	37.271	98.566	MWD+IFRI+MS
19800	90	89.55	9896	88.055	0	82.485	0	88.055	0	0	83.289	37.349	98.473	MWD+IFRI+MS
19900	90	89.55	9896	88.797	0	83.206	0	88.797	0	0	84.003	37.429	98.382	MWD+IFRI+MS
20000	90	89.55	9896	89.54	0	83.929	0	89.54	0	0	84.719	37.508	98.293	MWD+IFRI+MS
20100	90	89.55	9896	90.284	0	84.653	0	90.284	0	0	85.437	37.589	98.205	MWD+IFRI+MS
20200	90	89.55	9896	91.029	0	85.38	0	91.029	0	0	86.157	37.671	98.119	MWD+IFRI+MS
20300	90	89.55	9896	91.774	0	86.107	0	91.774	0	0	86.878	37.753	98.035	MWD+IFRI+MS
20400	90	89.55	9896	92.52	0	86.837	0	92.52	0	0	87.601	37.836	97.952	MWD+IFRI+MS
20500	90	89.55	9896	93.266	0	87.568	0	93.266	0	0	88.325	37.92	97.871	MWD+IFRI+MS
20600	90	89.55	9896	94.013	0	88.3	0	94.013	0	0	89.052	38.004	97.791	MWD+IFRI+MS
20700	90	89.55	9896	94.761	0	89.034	0	94.761	0	0	89.779	38.09	97.712	MWD+IFRI+MS
20800	90	89.55	9896	95.51	0	89.77	0	95.51	0	0	90.508	38.176	97.635	MWD+IFRI+MS
20900	90	89.55	9896	96.258	0	90.506	0	96.258	0	0	91.239	38.262	97.56	MWD+IFRI+MS
21000	90	89.55	9896	97.008	0	91.244	0	97.008	0	0	91.971	38.35	97.485	MWD+IFRI+MS
21100	90	89.55	9896	97.758	0	91.984	0	97.758	0	0	92.705	38.438	97.412	MWD+IFRI+MS
21200	90	89.55	9896	98.509	0	92.725	0	98.509	0	0	93.44	38.527	97.34	MWD+IFRI+MS
21300	90	89.55	9896	99.26	0	93.467	0	99.26	0	0	94.176	38.617	97.27	MWD+IFRI+MS
21405.345	90	89.55	9896	100.052	0	94.25	0	100.052	0	0	94.953	38.712	97.196	MWD+IFRI+MS

Plan Targets		Big Eddy Unit 30E Rey 103H			
	Measured Depth	Grid Northing	Grid Easting	TVD MSL	Target Shape
Target Name	(ft)	(ft)	(ft)	(ft)	
FTP 20	10992.23	568397.8	649643.6	6418	RECTANGLE
BHL 20	21405.35	568479.5	660056.4	6418	RECTANGLE



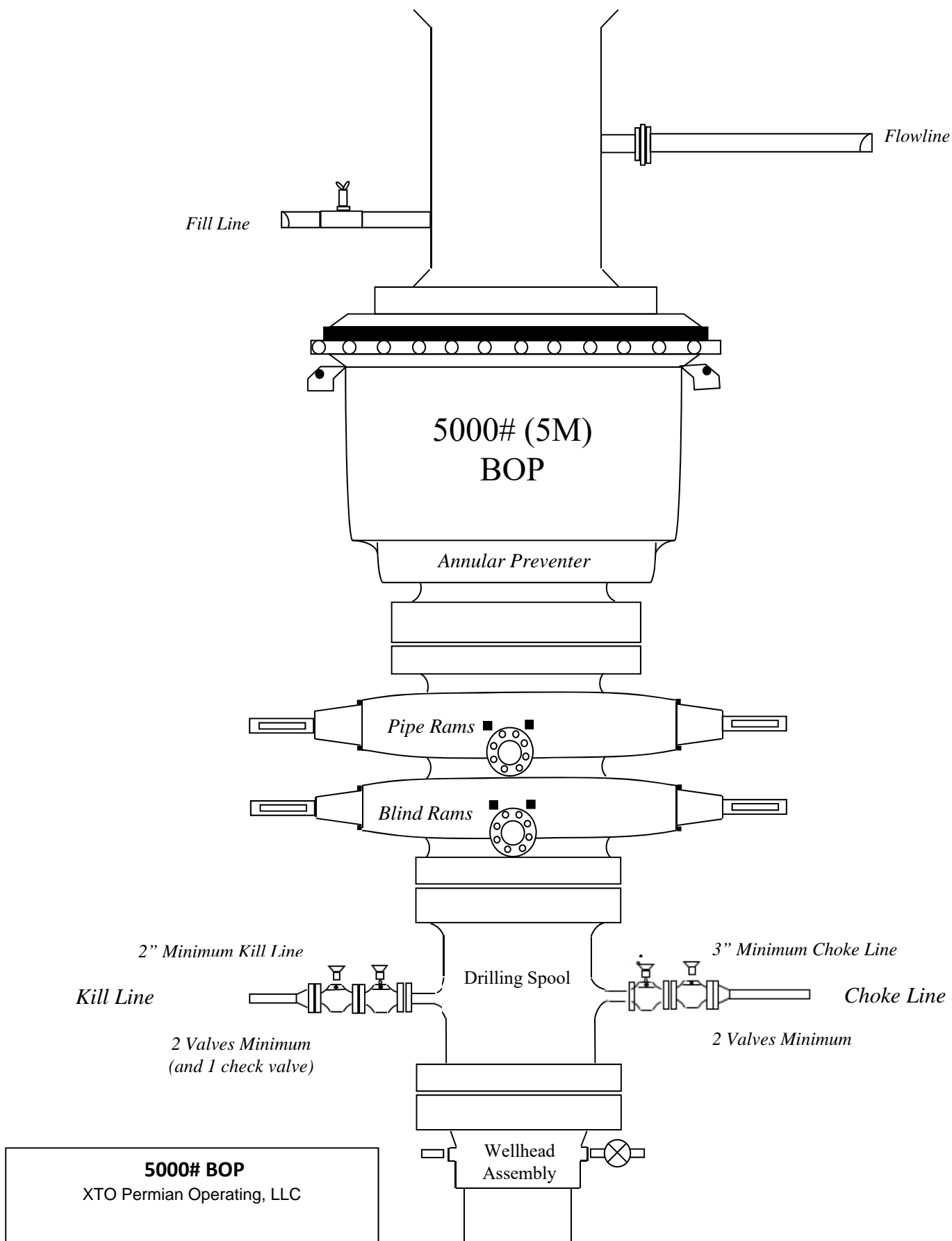
CACTUS WELLHEAD LLC

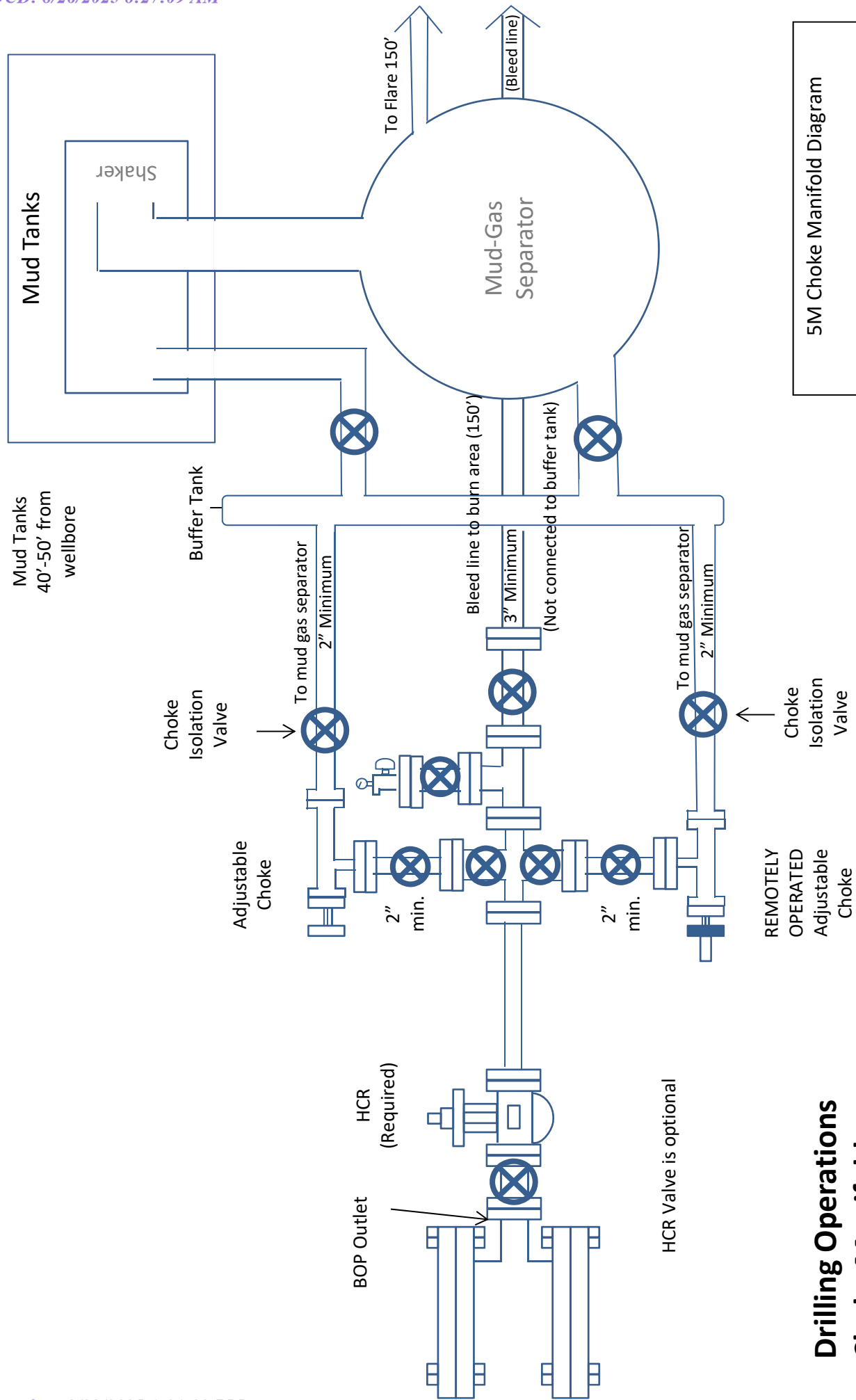
ALL DIMENSIONS
XTO ENERGY INC
ICARUS PAD

ALL DIMENSIONS APPROXIMATE

20" x 9-5/8" x 7-5/8" x 5-1/2" MBU-T-CFL-R-DBLO Wellhead
With 1" 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

DRAWN	DLE	18JAN21
APPRV		
DRAWING NO. HBE0000479		





5M Choke Manifold Diagram

XTO Permian Operating, LLC

**Drilling Operations
Choke Manifold
5M Service**



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

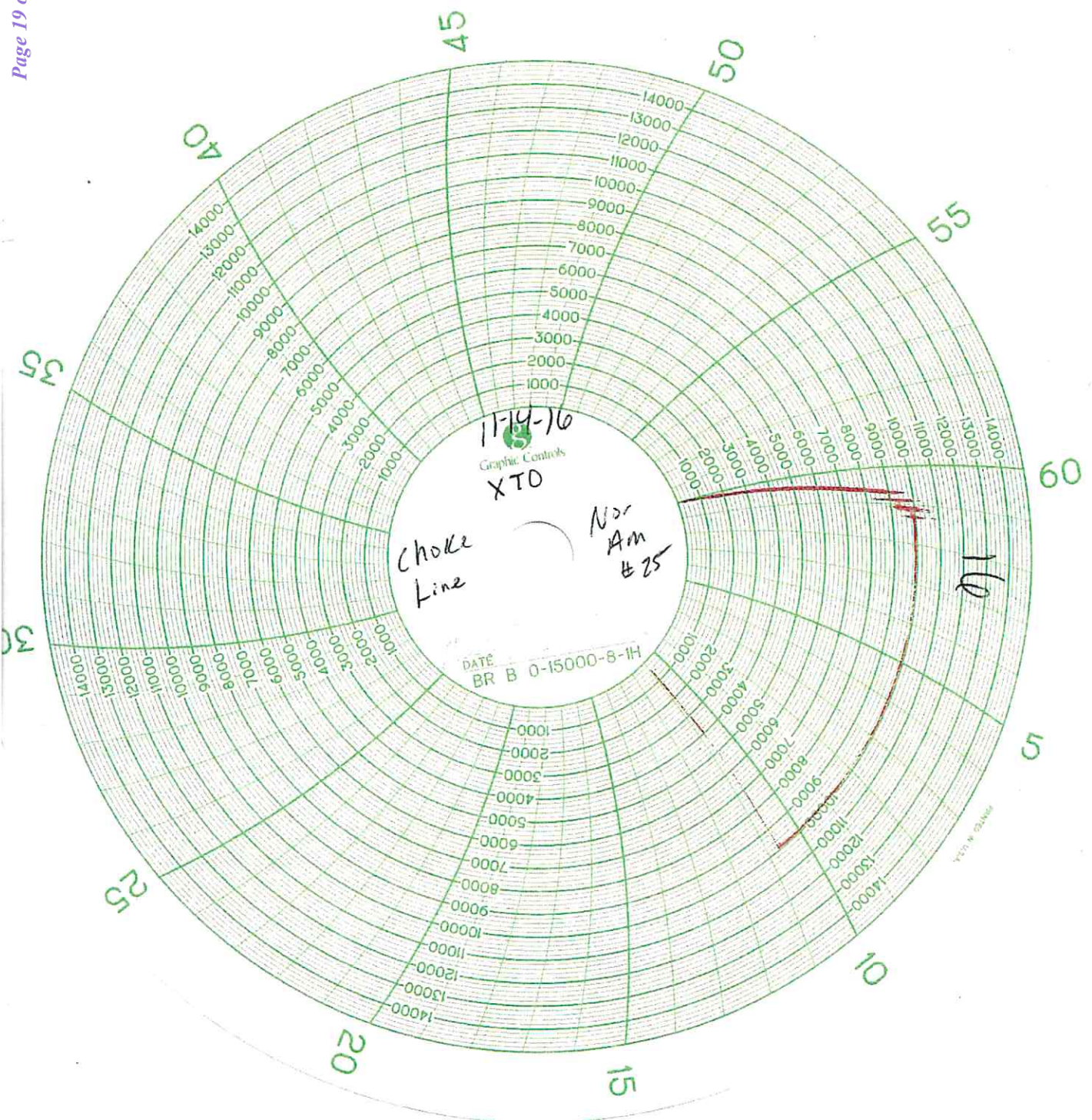
GRADE D PRESSURE TEST CERTIFICATE

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





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 nipped 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 nipping 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 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 nipped 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.

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.

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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.

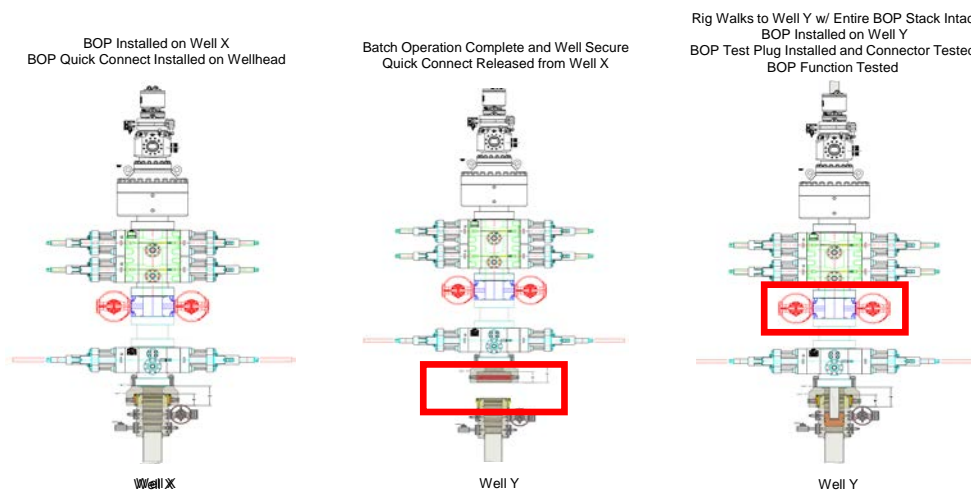
XTO Energy feels break testing and our current procedures meet the intent of OOGO No. 2 and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. XTO Energy's internal standards requires complete BOPE tests more often than that 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.

Well Name: BIG EDDY UNIT 30E REY	Well Location: T20S / R31E / SEC 14 / SWSW / 32.56953 / -103.84714	County or Parish/State: EDDY / NM
Well Number: 103H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMLC063667	Unit or CA Name: BIG EDDY	Unit or CA Number: NMNM68294X
US Well Number: 3001548156	Operator: XTO PERMIAN OPERATING LLC	

Conditions of Approval

Authorized

Break_Testing_Conditions_of_Approval_20210805150328.pdf

Operator

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

Operator Electronic Signature: STEPHANIE RABADUE	Signed on: JUN 04, 2021 01:16 PM
Name: XTO PERMIAN OPERATING LLC	
Title: Regulatory Coordinator	
Street Address: 500 W. Illinois St, Ste 100	
City: Midland	State: TX
Phone: (432) 620-6714	
Email address: STEPHANIE.RABADUE@EXXONMOBIL.COM	

Field

Representative Name:		
Street Address:		
City:	State:	Zip:
Phone:		
Email address:		

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS	BLM POC Title: Petroleum Engineer
BLM POC Phone: 5752342234	BLM POC Email Address: cwalls@blm.gov
Disposition: Approved	Disposition Date: 08/05/2021
Signature: Chris Walls	

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

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

CONDITIONS

Action 499237

CONDITIONS

Operator: XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	OGRID: 373075
	Action Number: 499237
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Work was performed without OCD approval.	8/28/2025