

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

Form C-101
August 1, 2011
Permit 308203

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1. Operator Name and Address XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707		2. OGRID Number 5380
4. Property Code 317790		3. API Number 30-015-49293
5. Property Name REMUDA NORTH 25 STATE		6. Well No. 801H

7. Surface Location

UL - Lot K	Section 25	Township 23S	Range 29E	Lot Idn	Feet From 2369	N/S Line S	Feet From 1979	E/W Line W	County Eddy
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8. Proposed Bottom Hole Location

UL - Lot D	Section 24	Township 23S	Range 29E	Lot Idn D	Feet From 200	N/S Line N	Feet From 770	E/W Line W	County Eddy
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9. Pool Information

FORTY NINER RIDGE BONE SPRING, WEST	96526
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Additional Well Information

11. Work Type New Well	12. Well Type OIL	13. Cable/Rotary	14. Lease Type State	15. Ground Level Elevation 3070
16. Multiple N	17. Proposed Depth 17333	18. Formation Bone Spring	19. Contractor	20. Spud Date 4/10/2022
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

We will be using a closed-loop system in lieu of lined pits

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	17.5	13.375	54.5	273	280	0
Int1	12.25	9.625	40	3178	1420	0
Int2	8.75	7.625	29.7	8781	300	0
Int2	8.75	7.625	29.7	3278	440	2678
Prod	6.75	5.5	20	17333	620	8281

Casing/Cement Program: Additional Comments

XTO requests the option to offline cement and remediate (if needed) all 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. 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 wi

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double Ram	2880	3000	Camron

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify I have complied with 19.15.14.9 (A) NMAC <input checked="" type="checkbox"/> and/or 19.15.14.9 (B) NMAC <input checked="" type="checkbox"/> if applicable.	OIL CONSERVATION DIVISION	
Signature:		
Printed Name: Electronically filed by Tiffany Yancey	Approved By: Katherine Pickford	
Title: Production Analyst	Title: Geoscientist	
Email Address: tiffany.yancey@exxonmobil.com	Approved Date: 2/21/2022	Expiration Date: 2/21/2024
Date: 2/15/2022	Phone: 432-215-8939	Conditions of Approval Attached

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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- 49293		² Pool Code 96526		³ Pool Name Forty-Niner Ridge; Bone Spring West	
⁴ Property Code 317790		⁵ Property Name REMUDA NORTH 25 STATE			⁶ Well Number 801H
⁷ OGRID No. 005380		⁸ Operator Name XTO ENERGY, INC.			⁹ Elevation 3,070'

¹⁰ Surface Location

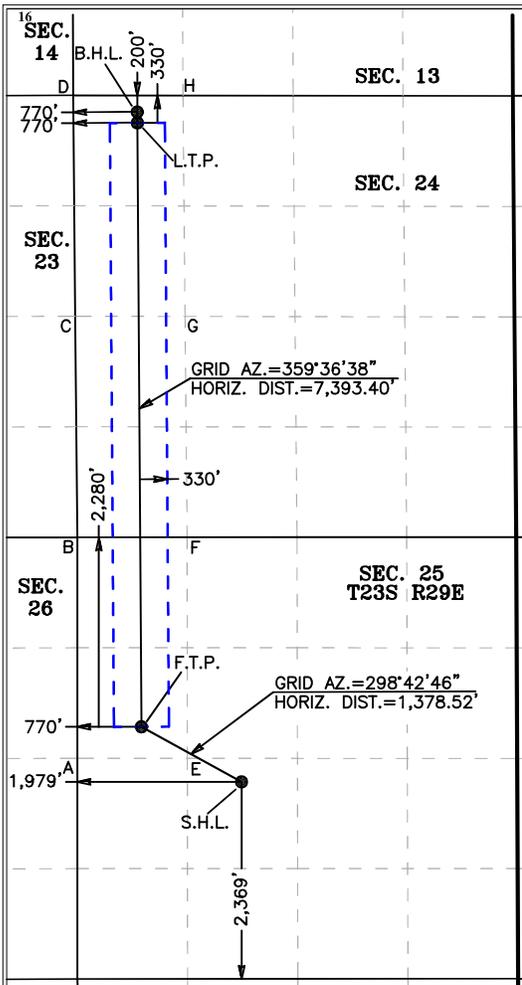
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	25	23 S	29 E		2,369	SOUTH	1,979	WEST	EDDY

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
D	24	23 S	29 E		200	NORTH	770	WEST	EDDY

¹² Dedicated Acres 240	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.



SHL (NAD83 NME) Y = 464,036.3 X = 662,795.9 LAT. = 32.275099 °N LONG. = 103.940341 °W	LTP (NAD83 NME) Y = 471,961.8 X = 661,537.9 LAT. = 32.296897 °N LONG. = 103.944318 °W
FTP (NAD83 NME) Y = 464,698.5 X = 661,586.8 LAT. = 32.276931 °N LONG. = 103.944245 °W	BHL (NAD83 NME) Y = 472,091.8 X = 661,536.6 LAT. = 32.297254 °N LONG. = 103.944320 °W
CORNER COORDINATES (NAD83 NME)	
A - Y = 464,320.4 N ,	X = 660,816.8 E
B - Y = 466,978.2 N ,	X = 660,817.0 E
C - Y = 469,636.2 N ,	X = 660,790.3 E
D - Y = 472,292.9 N ,	X = 660,764.6 E
E - Y = 464,319.7 N ,	X = 662,143.0 E
F - Y = 466,978.8 N ,	X = 662,140.6 E
G - Y = 469,634.0 N ,	X = 662,115.2 E
H - Y = 472,291.0 N ,	X = 662,090.3 E
SHL (NAD27 NME) Y = 463,976.4 X = 621,613.0 LAT. = 32.274975 °N LONG. = 103.939849 °W	LTP (NAD27 NME) Y = 471,901.7 X = 620,355.3 LAT. = 32.296773 °N LONG. = 103.943825 °W
FTP (NAD27 NME) Y = 464,638.6 X = 620,404.1 LAT. = 32.276807 °N LONG. = 103.943753 °W	BHL (NAD27 NME) Y = 472,031.7 X = 620,354.1 LAT. = 32.297131 °N LONG. = 103.943828 °W
CORNER COORDINATES (NAD27 NME)	
A - Y = 464,260.5 N ,	X = 619,634.0 E
B - Y = 466,918.3 N ,	X = 619,634.3 E
C - Y = 469,576.1 N ,	X = 619,607.7 E
D - Y = 472,232.8 N ,	X = 619,582.1 E
E - Y = 464,259.9 N ,	X = 620,960.2 E
F - Y = 466,918.8 N ,	X = 620,957.9 E
G - Y = 469,574.0 N ,	X = 620,932.6 E
H - Y = 472,230.9 N ,	X = 620,907.7 E

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 02/07/2022
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.

1-31-2022
Date of Survey
Professional Surveyor:

Mark Dillon Harp
MARK DILLON HARP 23786
Certificate Number



Intent As Drilled

API #		
Operator Name: XTO ENERGY INC	Property Name: REMUDA NORTH 25 STATE	Well Number 801H

Kick Off Point (KOP)

UL K	Section 25	Township 23S	Range 29E	Lot	Feet 2369	From N/S South	Feet 1979	From E/W WEST	County EDDY
Latitude 32.275099					Longitude -103.940341			NAD NAD83	

First Take Point (FTP)

UL E	Section 25	Township 23S	Range 29E	Lot	Feet 2280	From N/S North	Feet 770	From E/W West	County EDDY
Latitude 32.276931					Longitude -103.944245			NAD NAD83	

Last Take Point (LTP)

UL D	Section 24	Township 23S	Range 29E	Lot	Feet 330	From N/S North	Feet 770	From E/W West	County EDDY
Latitude 32.296897					Longitude -103.944318			NAD NAD83	

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

Is this well an infill well? Y

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

API #		
Operator Name: XTO ENERGY INC	Property Name:	Well Number

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Santa Fe, NM 87505

Form APD Comments

Permit 308203

PERMIT COMMENTS

Operator Name and Address: XTO ENERGY, INC [5380] 6401 Holiday Hill Road Midland, TX 79707	API Number: 30-015-49293
	Well: REMUDA NORTH 25 STATE #801H

Created By	Comment	Comment Date
cevans	XTO requests the option to offline cement and remediate (if needed) all 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. · 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	2/13/2022

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Form APD Conditions

Permit 308203

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address: XTO ENERGY, INC [5380] 6401 Holiday Hill Road Midland, TX 79707	API Number: 30-015-49293
	Well: REMUDA NORTH 25 STATE #801H

OCD Reviewer	Condition
kpickford	Notify OCD 24 hours prior to casing & cement
kpickford	Will require a File As Drilled C-102 and a Directional Survey with the C-104
kpickford	The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud
kpickford	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
kpickford	Cement is required to circulate on both surface and intermediate1 strings of casing
kpickford	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system

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

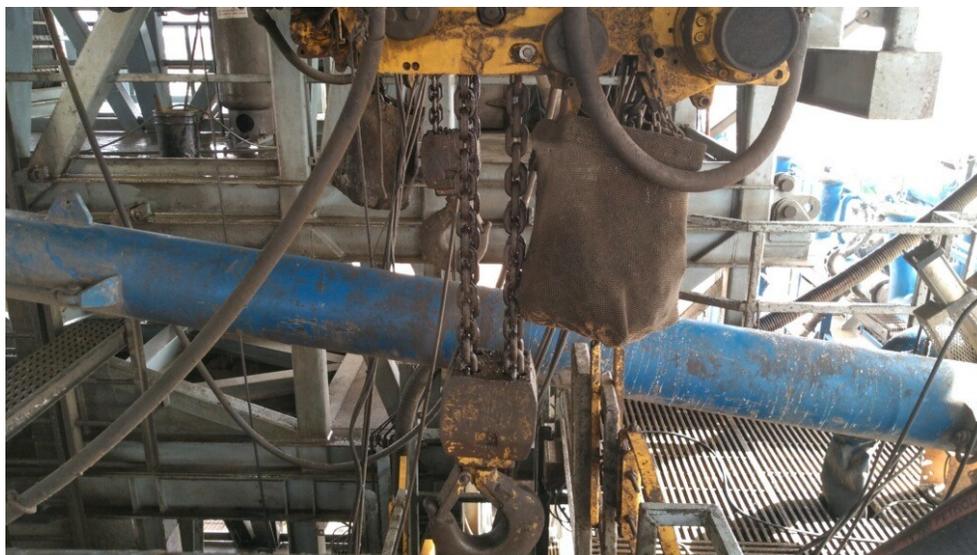


Figure 2: BOP Winch System

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.

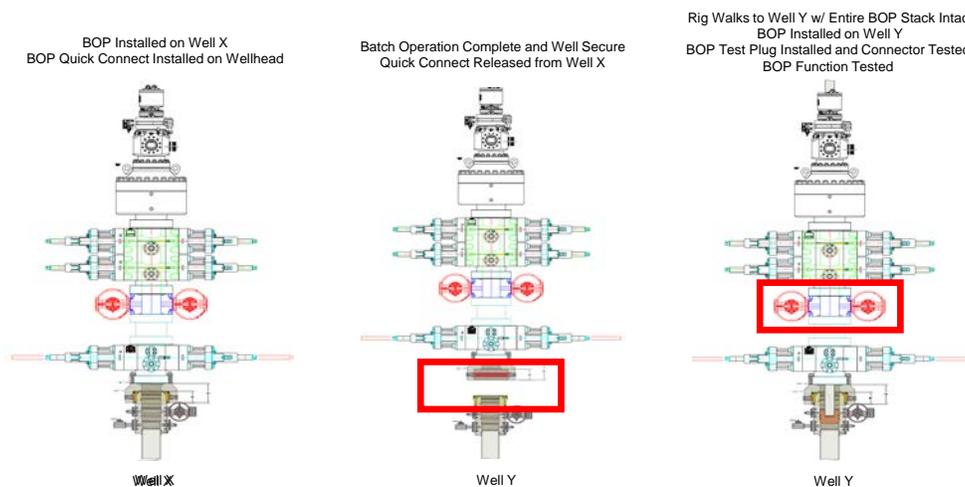
XTO Energy feels break testing and our current procedures meet the intent of OOGO No. 2 and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. XTO Energy's internal standards requires complete BOPE tests more often than that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

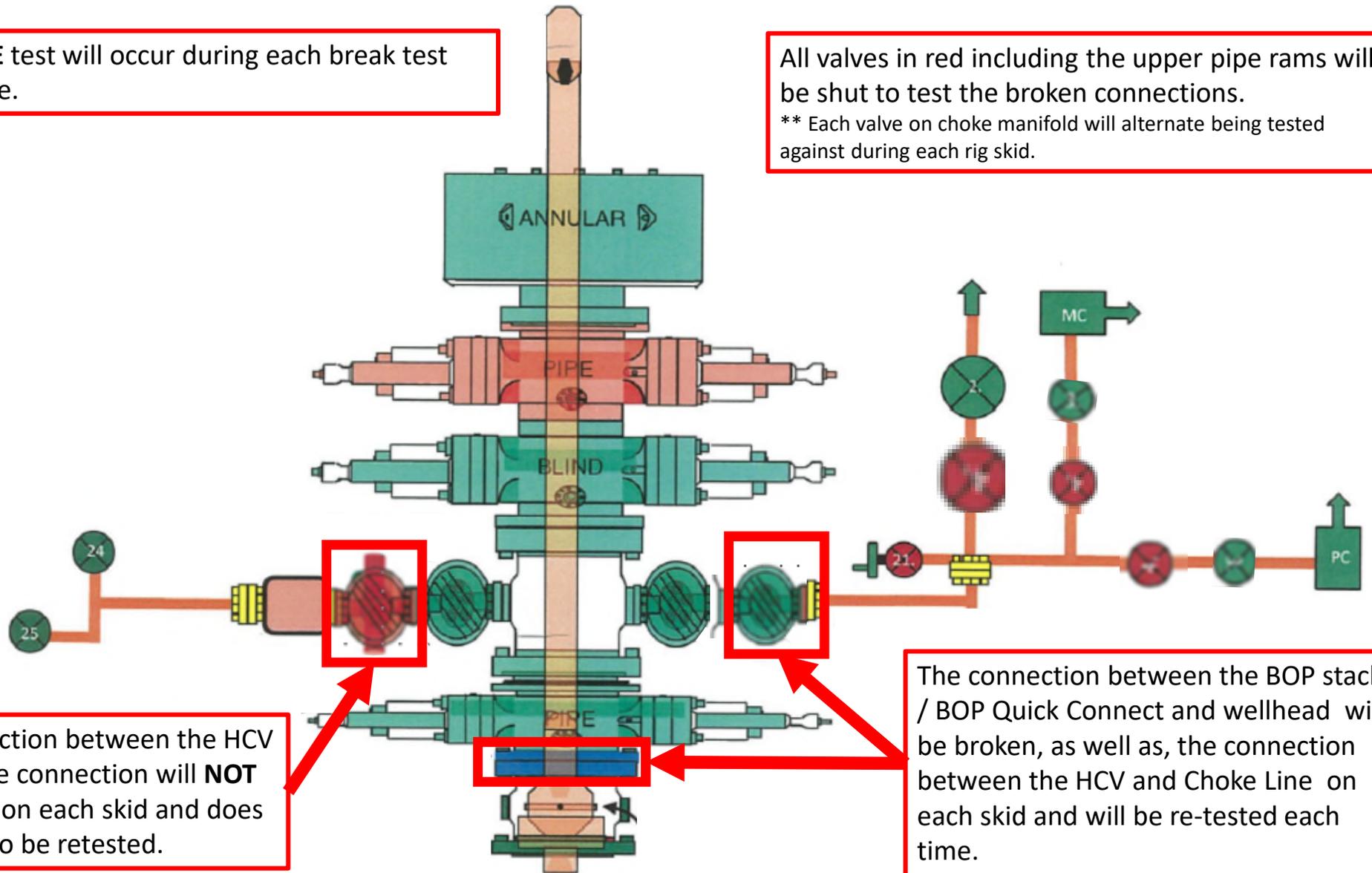
The BOP will be secured by a hydraulic carrier or cradle. The BLM will be contacted if a Well Control event occurs prior to the commencement of a BOPE Break Testing operation.

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.

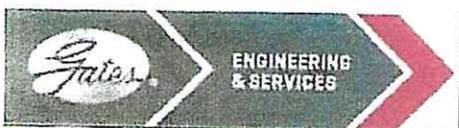
Only **ONE** test will occur during each break test procedure.

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.



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

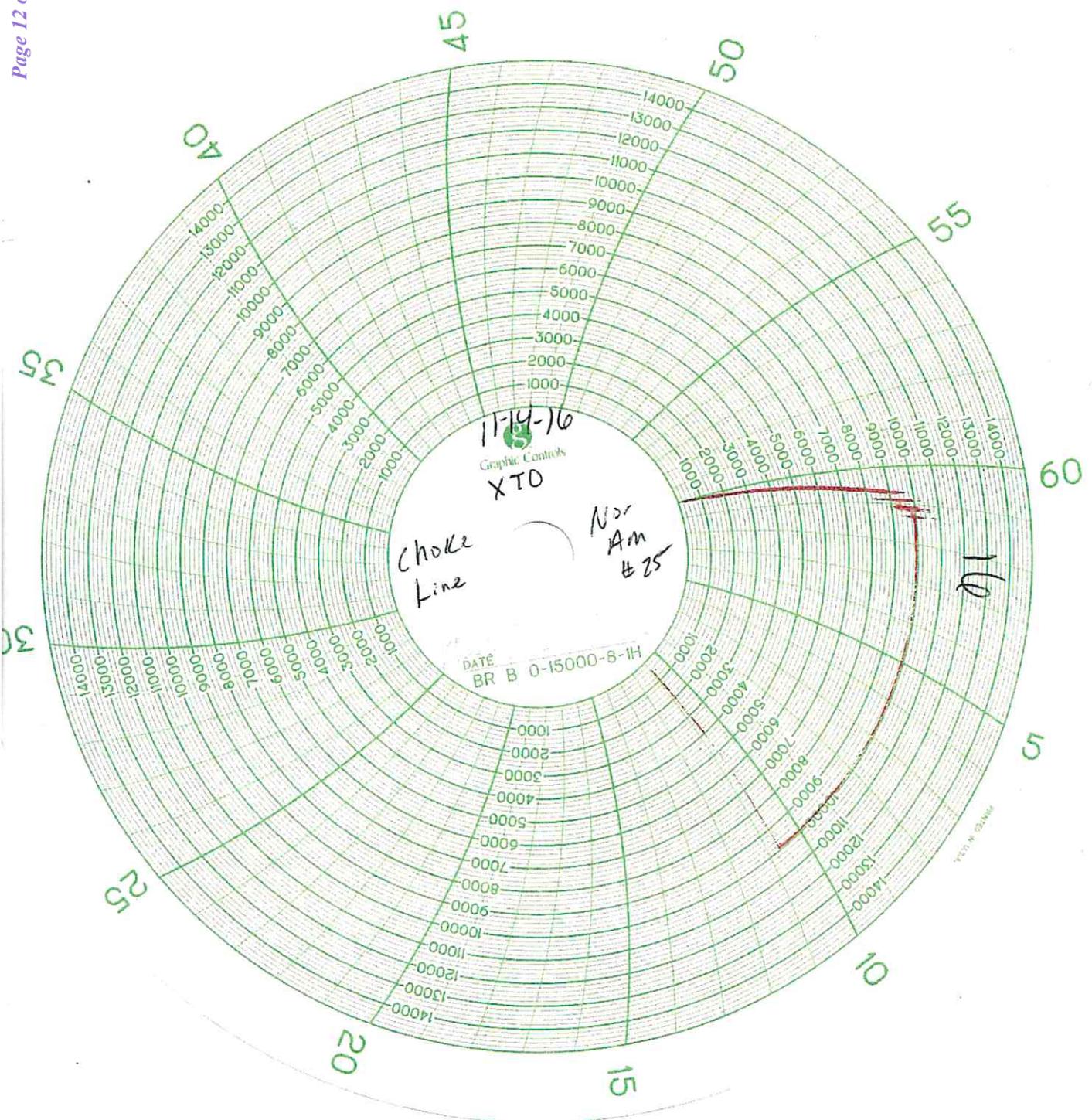
Product Description: FD3.042.0R41/16.5KFLGE/E LE

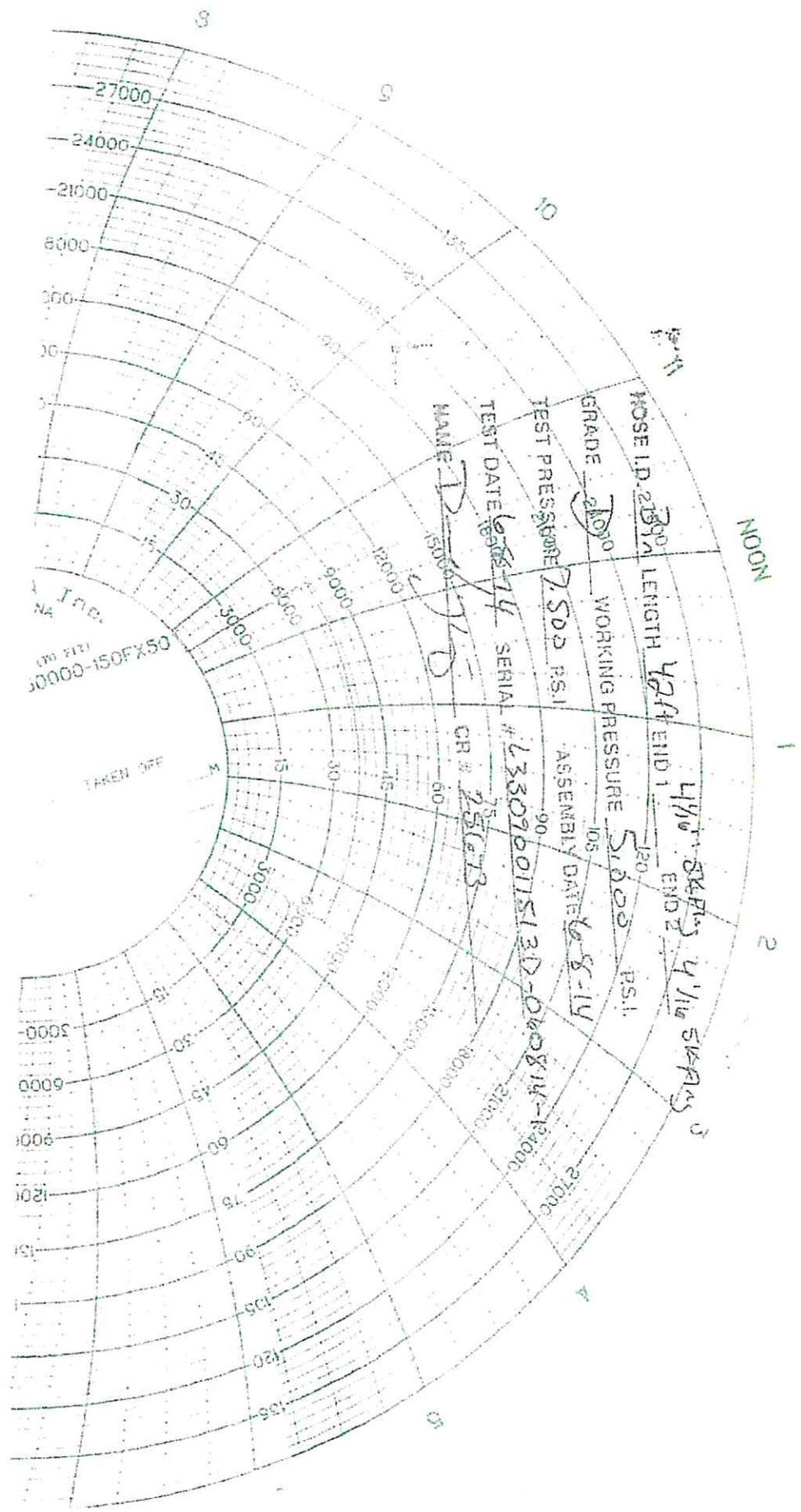
End Fitting 1 :	4 1/16 in.5K FLG	End Fitting 2 :	4 1/16 in.5K FLG
Gates Part No. :	4774-6001	Assembly Code :	L33090011513D-060814-1
Working Pressure :	5,000 PSI	Test Pressure :	7,500 PSI

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





In the
 (70 PSI)
 10000-150FX50

TAKEN OFF

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

XTO Energy Inc.
Remuda North 25 State 801H
Projected TD: 17333' MD / 9600' TVD
SHL: 2369' FSL & 1979' FWL , Section 25, T23S, R29E
BHL: 200' FNL & 770' FWL , Section 24, T23S, R29E
Eddy County, NM

1. Geologic Name of Surface Formation

A. Quaternary

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

Formation	Well Depth (TVD)	Water/Oil/Gas
Rustler	72'	Water
Salado	223'	Water
Top of Salt	420'	Water
Base of Salt	3078'	Water
Delaware	3288'	Water
Brushy Canyon	5733'	Water/Oil/Gas
Bone Spring	6995'	Water
1st Bone Spring Ss	8077'	Water/Oil/Gas
2nd Bone Spring Ss	8884'	Water/Oil/Gas
3rd Bone Spring Sh	9502'	Water/Oil/Gas
Target/Land Curve	9600'	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 @ 273' (50 below the top of the Salado) and circulating cement back to surface. The salt will be isolated by setting 9.625 inch casing at 3178' and circulating cement to surface. The second intermediate will isolate from the salt down to the next casing seat by setting 7.625 inch casing at 8781' and cemented to 200' inside the previous casing string. A 6.75 inch curve and 6.75 inch lateral hole will be drilled to 17333 MD/TD and 5.5 x 5.5 inch production casing will be set at TD and cemented back up to 2nd intermediate (estimated TOC 8281 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' – 273'	13.375	54.5	J-55	BTC	New	2.87	9.48	57.33
12.25	0' – 3178'	9.625	40	J-55	BTC	New	1.67	2.66	4.96
8.75	0' – 3278'	7.625	29.7	RY P-110	Flush Joint	New	3.28	3.34	2.14
8.75	3278' – 8781'	7.625	29.7	HC L-80	Flush Joint	New	2.39	2.41	2.48
6.75	0' – 8681'	5.5	20	RY P-110	Semi-Premium	New	1.05	2.46	2.53
6.75	8681' - 17333'	5.5	20	RY P-110	Semi-Flush	New	1.05	2.22	1.98

- 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" bottom flange

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 NMOCD 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 +/- 273'

Tail: 280 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

1st Intermediate Casing: 9.625, 40 New BTC, J-55 casing to be set at +/- 3178'

Lead: 1290 sxs Class C (mixed at 12.9 ppg, 1.39 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 +/- 8781'

1st Stage

Optional Lead: 160 sxs Class C (mixed at 10.5 ppg, 2.77 ft3/sx, 15.59 gal/sx water)
 TOC: 2678
 Tail: 280 sxs Class C (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)
 TOC: Brushy Canyon @ 5733
 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: 300 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 (5733') 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 NMOCD 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 NMOCD 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 NMOCD 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: 5.5, 20 New Semi-Flush, RY P-110 casing to be set at +/- 17333'

Lead: 20 sxs Class C (mixed at 11.5 ppg, 2.69 ft3/sx, 15.00 gal/sx water) Top of Cement: 8281 feet
 Tail: 600 sxs Class C (mixed at 13.2 ppg, 1.51 ft3/sx, 8.38 gal/sx water) Top of Cement: 8981 feet
 Compressives: 12-hr = 1375 psi 24 hr = 2285 psi

XTO requests the option to offline cement and remediate (if needed) all 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 Hydril and a 13-5/8" minimum 3M Double Ram BOP. MASP should not exceed 2880 psi. In any instance where 10M BOP is required by NMOCD, 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 NMOCD 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 NMOCD 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.

6. Proposed Mud Circulation System

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' - 273'	17.5	FW/Native	8.4-8.9	35-40	NC
273' - 3178'	12.25	Brine	10-10.5	30-32	NC
3178' to 8781'	8.75	BDE/OBM or FW/Brine	9.4-9.9	30-32	NC
8781' to 17333'	6.75	OBM	10-10.5	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 9.8 ppg - 10.2 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 160 to 180 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 4992 psi.

10. Anticipated Starting Date and Duration of Operations

Anticipated spud date will be after NMOCD approval. Move in operations and drilling is expected to take 20 days.

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description Effective May 25, 2021

I. Operator: XTO Energy, Inc. **OGRID:** 05380 **Date:** 02 / 18 / 2022

II. Type: Original Amendment due to 19.15.27.9.D(6)(a) NMAC 19.15.27.9.D(6)(b) NMAC Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Remuda South 25 State 801H		K-25-23S-29E	2369'FSL & 1949'FWL	1500	2600	1000
Remuda North 25 State 701H		K-25-23S-29E	2369'FSL & 1949'FWL	1500	2600	1000
Remuda North 25 State 702H		K-25-23S-29E	2369'FSL & 2009'FWL	1500	2600	1000
Remuda North 25 State 703H		K-25-23S-29E	2370'FSL & 2090'FWL	1500	2600	1000
Remuda North 25 State 708H		K-25-23S-29E	2369'FSL & 1979'FWL	1500	2600	1000
Remuda North 25 State 705H		E-30-23S-29E	2370'FNL & 600'FWL	1500	2600	1000
Remuda North 25 State 706H		E-30-23S-29E	2370'FNL & 630'FWL	1500	2600	1000
Remuda North 25 State 707H		E-30-23S-29E	2370'FNL & 660'FWL	1500	2600	1000
Remuda North 25 State 708H		E-30-23S-29E	2370'FNL & 690'FWL	1500	2600	1000
Remuda North 25 State 704H		E-30-23S-29E	2370'FNL & 570'FWL	1500	2600	1000

IV. Central Delivery Point Name: Remuda 500 TB _____ [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Remuda South 25 State 801H		04/09/2022	04/21/22	Not yet Scheduled	Not yet Scheduled	Not yet Scheduled
Remuda North 25 State 701H		04/08/2022	04/20/22	Not yet Scheduled	Not yet Scheduled	Not yet Scheduled
Remuda North 25 State 702H		04/11/2022	05/01/22	Not yet Scheduled	Not yet Scheduled	Not yet Scheduled
Remuda North 25 State 703H		04/12/2022	05/02/22	Not yet Scheduled	Not yet Scheduled	Not yet Scheduled
Remuda North 25 State 708H		04/08/2022	04/20/22	Not yet Scheduled	Not yet Scheduled	Not yet Scheduled
Remuda North 25 State 705H		04/05/2022	04/17/22	Not yet Scheduled	Not yet Scheduled	Not yet Scheduled
Remuda North 25 State 706H		04/06/2022	04/18/22	Not yet Scheduled	Not yet Scheduled	Not yet Scheduled
Remuda North 25 State 707H		04/07/2022	04/19/22	Not yet Scheduled	Not yet Scheduled	Not yet Scheduled
Remuda North 25 State 708H		04/08/2022	04/20/22	Not yet Scheduled	Not yet Scheduled	Not yet Scheduled
Remuda North 25 State 704H		04/04/2022	04/16/22	Not yet Scheduled	Not yet Scheduled	Not yet Scheduled

VI. Separation Equipment:

XTO Permian Operating, LLC. production tank batteries include separation equipment designed to efficiently separate gas from liquid phases to optimize gas capture based on projected and estimated volumes from the targeted pool in conjunction with the total number of wells planned to or existing within the facility. Separation equipment is upgraded prior to well being drilled or completed, if determined to be undersized or needed. The separation equipment is designed and built according to the relevant industry specifications (API Specification 12J and ASME Sec VIII Div I). Other recognized industry publications such as the Gas Processors Suppliers Association (GPSA) are referenced when designing separation equipment to optimize gas capture.

VII. Operational Practices:

1. Subsection B.

- During drilling, flare stacks will be located a minimum of 150 feet from the nearest surface hole location. All gas is captured or combusted. If an emergency or malfunction occurs, gas will be flared or vented for public health, safety and the environment and be properly reported to the NMOCD pursuant to 19.15.27.8.G.
- Measure or estimate the volume of natural gas that is vented, flared or beneficially used during drilling, completion and production operations, regardless of the reason or authorization for such venting or flaring.
- At any point in the well life (drilling, completion, production, inactive) an audio, visual and olfactory (AVO) inspection will be performed weekly (at minimum) to confirm that all production equipment is operating properly and there are no leaks or releases except as allowed in Subsection D of 19.15.27.8 NMAC.

2. Subsection C.

- During completion operations, operator does not produce oil or gas but maintains adequate well control through completion operations.

For emergencies, equipment malfunction, or if the operator decides to produce oil and gas during well completion:

- Flowlines will be routed for flowback fluids into a completion or storage tank and, if feasible under well conditions, flare rather than vent and commence operation of a separator as soon as it is technically feasible for a separator to function.
- Measure or estimate the volume of natural gas that is vented, flared or beneficially used during drilling, completion and production operations, regardless of the reason or authorization for such venting or flaring.
- At any point in the well life (drilling, completion, production, inactive) an audio, visual and olfactory (AVO) inspection will be performed weekly (at minimum) to confirm that all production equipment is operating properly and there are no leaks or releases except as allowed in Subsection D of 19.15.27.8 NMAC.

3. Subsection D.

- At any point in the well life (drilling, completion, production, inactive) an audio, visual and olfactory (AVO) inspection will be performed weekly (at minimum) to confirm that all production equipment is operating properly and there are no leaks or releases except as allowed in Subsection D of 19.15.27.8 NMAC.
- Monitor manual liquid unloading for wells on-site or in close proximity (<30 minutes' drive time), take reasonable actions to achieve a stabilized rate and pressure at the earliest practical time, and take reasonable actions to minimize venting to the maximum extent practicable.

- Measure or estimate the volume of natural gas that is vented, flared or beneficially used during drilling, completion and production operations, regardless of the reason or authorization for such venting or flaring.
4. Subsection E.
- All tanks and separation equipment are designed for maximum throughput and pressure to minimize waste.
 - Flare stack was installed prior to May 25, 2021 but has been designed for proper size and combustion efficiency. Flare currently has a continuous pilot and is located more than 100 feet from any known well and storage tanks.
 - At any point in the well life (drilling, completion, production, inactive) an audio, visual and olfactory (AVO) inspection will be performed weekly (at minimum) to confirm that all production equipment is operating properly and there are no leaks or releases except as allowed in Subsection D of 19.15.27.8 NMAC.
5. Subsection F.
- Measurement equipment is installed to measure the volume of natural gas flared from process piping or a flowline piped from the equipment associated with a well and facility associated with the approved application for permit to drill that has an average daily production greater than 60 mcf of natural gas.
 - Measurement equipment installed is not designed or equipped with a manifold to allow diversion of natural gas around the metering equipment, except for the sole purpose of inspecting and servicing the measurement equipment, as noted in NMAC 19.15.27.8 Subsection G.

VIII. Best Management Practices:

1. During completion operations, operator does not produce oil or gas but maintains adequate well control through completion operations.
2. Operator does not flow well (well shut in) during initial production until all flowlines, tank batteries, and oil/gas takeaway are installed, tested, and determined operational.
3. Operator equips storage tanks with an automatic gauging system to reduce venting of natural gas.
4. Operator reduces the number of blowdowns by looking for opportunities to coordinate repair and maintenance activities.
5. Operator combusts natural gas that would otherwise be vented or flared, when feasible.
6. Operator has a flare stack designed in accordance with need and to handle sufficient volume to ensure proper combustion efficiency. Flare stacks are equipped with continuous pilots and securely anchored at least 100 feet (at minimum) from storage tanks and wells.
7. Operator minimizes venting (when feasible) through pump downs of vessels and reducing time required to purge equipment before returning equipment to service.
8. Operator will shut in wells (when feasible) in the event of a takeaway disruption, emergency situation, or other operations where venting or flaring may occur due to equipment failures.

VI. Separation Equipment: Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: Attach a complete description of Operator’s best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan
EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system will will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator does does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

Attach Operator’s plan to manage production in response to the increased line pressure.

XIV. Confidentiality: Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system.

If Operator checks this box, Operator will select one of the following:

Well Shut-In. Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- (b) power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (f) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (h) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature:
Printed Name: Cassie Evans
Title: Regulatory Analyst
E-mail Address: cassie.evans@exxonmobil.com
Date: 02/18/2022
Phone:432-218-3671
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

Cement Variance Request

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 Brushy Canyon (5733') 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 to surface on the first stage. If cement is brought to surface, the BLM will be notified and the second stage bradenhead squeeze and subsequent TOC verification will be negated.

In the event cement is not circulated to surface on the first stage, whether intentionally or unintentionally, 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 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 GE procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops.

Well Plan Report - Remuda North 25 State 801H

Measured Depth: 17332.00 ft

TVD RKB: 9600.00 ft

Location

Cartographic Reference System: New Mexico East - NAD 27

Northing: 463937.00 ft

Easting: 621583.10 ft

RKB: 3095.00 ft

Ground Level: 3065.00 ft

North Reference: Grid

Convergence Angle: 0.21 Deg

Site: South Pad 2

Slot: 2

Plan Sections		Remuda North 25 State 801H						
Measured Depth (ft)	Inclination (Deg)	Azimuth (Deg)	TVD RKB (ft)	Y Offset (ft)	X Offset (ft)	Build Rate (Deg/100ft)	Turn Rate (Deg/100ft)	
0	0	0	0	0	0	0	0	
1800	0	0	1800	0	0	0	0	
2100	6	330	2099.45	13.59	-7.85	2	0	
2655.86	14	280	2647.25	50.54	-88.85	1.44	-9	
5655.86	14	280	5558.14	176.57	-803.59	0	0	
6355.86	0	0	6251.19	191.35	-887.39	-2	0	
8980.66	0	0	8876	191.35	-887.39	0	0	
9568.16	47	337	9399.79	401	-976.38	8	0	

10125.06	90	350	9599.88	887.44	-1111.16	7.72	2.33
10325.06	90	350	9599.88	1084.4	-1145.89	0	0
10825.06	90	0	9599.88	1581.86	-1189.42	0	2
17332.65	90	359.51	9600	8089.37	-1217.36	0	-0.01

Position Uncertainty

Remuda North 25 State
801H

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD	Highside	Bias (ft)	Lateral	Bias (ft)
			RKB (ft)	Error (ft)		Error (ft)	
0	0	0	0	0	0	0	0
100	0	0	100	0.358	0	0.358	0
200	0	0	200	0.717	0	0.717	0
300	0	0	300	1.075	0	1.075	0
400	0	0	400	1.434	0	1.434	0
500	0	0	500	1.792	0	1.792	0
600	0	0	600	2.151	0	2.151	0
700	0	0	700	2.509	0	2.509	0
800	0	0	800	2.868	0	2.868	0
900	0	0	900	3.225	0	3.225	0
1000	0	0	1000	3.585	0	3.585	0
1100	0	0	1100	3.942	0	3.942	0
1200	0	0	1200	4.301	0	4.301	0

1300	0	0	1300	4.659	0	4.659	0
1400	0	0	1400	5.018	0	5.018	0
1500	0	0	1500	5.377	0	5.377	0
1600	0	0	1600	5.735	0	5.735	0
1700	0	0	1700	6.093	0	6.093	0
1800	0	0	1800	6.452	0	6.452	0
1900	1.999	330	1899.98	6.806	0	6.81	0
2000	4	330	1999.838	7.151	0	7.166	0
2100	6	330	2099.452	7.489	0	7.522	0
2200	6.827	313.6	2198.834	7.834	0	7.876	0
2300	8.074	301.4	2297.993	8.168	0	8.227	0
2400	9.577	292.8	2396.811	8.493	0	8.575	0
2500	11.23	286.6	2495.165	8.807	0	8.922	0
2600	12.99	282	2592.936	9.112	0	9.269	0
2655.8	14	280	2647.251	9.279	0	9.462	0
2700	14	280	2690.083	9.435	0	9.616	0
2800	14	280	2787.112	9.79	0	9.965	0
2900	14	280	2884.142	10.145	0	10.318	0
3000	14	280	2981.171	10.508	0	10.671	0

3100	14	280	3078.201	10.873	0	11.026	0
3200	14	280	3175.231	11.237	0	11.388	0
3300	14	280	3272.26	11.606	0	11.747	0
3400	14	280	3369.29	11.974	0	12.108	0
3500	14	280	3466.319	12.347	0	12.471	0
3600	14	280	3563.349	12.721	0	12.835	0
3700	14	280	3660.378	13.097	0	13.2	0
3800	14	280	3757.408	13.471	0	13.567	0
3900	14	280	3854.438	13.849	0	13.935	0
4000	14	280	3951.467	14.228	0	14.304	0
4100	14	280	4048.497	14.605	0	14.673	0
4200	14	280	4145.526	14.986	0	15.044	0
4300	14	280	4242.556	15.368	0	15.416	0
4400	14	280	4339.585	15.75	0	15.788	0
4500	14	280	4436.615	16.133	0	16.161	0
4600	14	280	4533.645	16.517	0	16.535	0
4700	14	280	4630.674	16.899	0	16.906	0
4800	14	280	4727.704	17.284	0	17.281	0
4900	14	280	4824.733	17.669	0	17.657	0

5000	14	280	4921.763	18.055	0	18.03	0
5100	14	280	5018.793	18.441	0	18.407	0
5200	14	280	5115.822	18.828	0	18.781	0
5300	14	280	5212.852	19.215	0	19.159	0
5400	14	280	5309.881	19.604	0	19.534	0
5500	14	280	5406.911	19.992	0	19.912	0
5600	14	280	5503.94	20.38	0	20.289	0
5655.8	14	280	5558.138	20.596	0	20.5	0
5700	13.11	280	5601.05	20.791	0	20.668	0
5800	11.11	280	5698.817	21.209	0	21.04	0
5900	9.117	280	5797.257	21.602	0	21.41	0
6000	7.117	280	5896.251	21.963	0	21.777	0
6100	5.117	280	5995.676	22.294	0	22.137	0
6200	3.117	279.9	6095.413	22.596	0	22.493	0
6300	1.117	279.9	6195.34	22.868	0	22.842	0
6355.8	0	0	6251.194	23.02	0	23.02	0
6400	0	0	6295.337	23.169	0	23.167	0
6500	0	0	6395.337	23.505	0	23.501	0
6600	0	0	6495.337	23.845	0	23.837	0

6700	0	0	6595.337	24.185	0	24.174	0
6800	0	0	6695.337	24.523	0	24.511	0
6900	0	0	6795.337	24.866	0	24.848	0
7000	0	0	6895.337	25.205	0	25.187	0
7100	0	0	6995.337	25.548	0	25.524	0
7200	0	0	7095.337	25.888	0	25.865	0
7300	0	0	7195.337	26.232	0	26.205	0
7400	0	0	7295.337	26.574	0	26.544	0
7500	0	0	7395.337	26.917	0	26.885	0
7600	0	0	7495.337	27.26	0	27.227	0
7700	0	0	7595.337	27.604	0	27.568	0
7800	0	0	7695.337	27.948	0	27.911	0
7900	0	0	7795.337	28.293	0	28.252	0
8000	0	0	7895.337	28.639	0	28.595	0
8100	0	0	7995.337	28.984	0	28.94	0
8200	0	0	8095.337	29.329	0	29.283	0
8300	0	0	8195.337	29.675	0	29.626	0
8400	0	0	8295.337	30.022	0	29.972	0
8500	0	0	8395.337	30.368	0	30.315	0

8600	0	0	8495.337	30.543	0	30.489	0
8700	0	0	8595.337	30.553	0	30.501	0
8800	0	0	8695.337	30.568	0	30.514	0
8900	0	0	8795.337	30.586	0	30.534	0
8980.6	0	0	8876	30.602	0	30.55	0
9000	1.546	337	8895.335	30.586	0	30.615	0
9100	9.545	337	8994.786	31.057	0	30.642	0
9200	17.54	337	9091.924	31.982	0	30.685	0
9300	25.54	337	9184.861	32.463	0	30.739	0
9400	33.54	337	9271.785	32.552	0	30.806	0
9500	41.54	337	9351.006	32.293	0	30.885	0
9568.1	47	337	9399.794	31.482	0	30.944	0
9600	49.41	338	9421.009	30.911	0	30.959	0
9700	57.06	341	9480.817	29.414	0	31.081	0
9800	64.77	343.4	9529.391	28.652	0	31.284	0
9900	72.51	345.6	9565.786	28.021	0	31.479	0
10000	80.27	347.6	9589.294	27.631	0	31.681	0
10100	88.05	349.5	9599.456	27.568	0	31.881	0
10125	90	350	9599.883	27.276	0	31.917	0
10200	90	350	9599.883	27.399	0	32.024	0
10300	90	350	9599.883	27.563	0	32.183	0
10325	90	350	9599.883	27.606	0	32.219	0
10400	90	351.4	9599.883	27.742	0	32.352	0
10500	90	353.4	9599.883	27.946	0	32.598	0
10600	90	355.4	9599.883	28.174	0	32.861	0
10700	90	357.4	9599.883	28.42	0	33.154	0
10800	90	359.4	9599.883	28.686	0	33.46	0
10825	90	0	9599.883	28.754	0	33.511	0
10900	90	0	9599.883	28.965	0	33.675	0

11000	89.98	359.9	9599.883	29.271	0	33.896	0
11100	89.98	359.9	9599.883	29.59	0	34.132	0
11200	89.98	359.9	9599.883	29.928	0	34.38	0
11300	89.98	359.9	9599.883	30.283	0	34.641	0
11400	89.98	359.9	9599.883	30.653	0	34.914	0
11500	89.98	359.9	9599.884	31.038	0	35.185	0
11600	89.98	359.9	9599.884	31.44	0	35.483	0
11700	89.98	359.9	9599.885	31.846	0	35.778	0
11800	89.98	359.9	9599.885	32.283	0	36.098	0
11900	89.98	359.9	9599.886	32.714	0	36.415	0
12000	89.98	359.9	9599.886	33.169	0	36.743	0
12100	89.98	359.9	9599.887	33.633	0	37.082	0
12200	89.98	359.8	9599.888	34.12	0	37.433	0
12300	89.98	359.8	9599.889	34.615	0	37.792	0
12400	89.98	359.8	9599.889	35.102	0	38.161	0
12500	89.98	359.8	9599.89	35.625	0	38.526	0
12600	89.98	359.8	9599.891	36.141	0	38.914	0
12700	89.98	359.8	9599.892	36.677	0	39.298	0
12800	89.98	359.8	9599.893	37.204	0	39.691	0
12900	89.98	359.8	9599.894	37.751	0	40.092	0
13000	89.98	359.8	9599.896	38.317	0	40.502	0
13100	89.98	359.8	9599.897	38.874	0	40.92	0
13200	89.98	359.8	9599.898	39.448	0	41.346	0
13300	89.98	359.8	9599.9	40.027	0	41.779	0
13400	89.98	359.8	9599.901	40.61	0	42.208	0
13500	89.98	359.7	9599.902	41.209	0	42.659	0
13600	89.98	359.7	9599.904	41.799	0	43.103	0
13700	89.98	359.7	9599.905	42.405	0	43.553	0
13800	89.98	359.7	9599.907	43.014	0	44.01	0

13900	89.98	359.7	9599.909	43.637	0	44.485	0
14000	89.98	359.7	9599.911	44.251	0	44.944	0
14100	89.98	359.7	9599.912	44.879	0	45.421	0
14200	89.98	359.7	9599.914	45.51	0	45.903	0
14300	89.98	359.7	9599.916	46.143	0	46.391	0
14400	89.98	359.7	9599.918	46.788	0	46.874	0
14500	89.98	359.7	9599.92	47.436	0	47.362	0
14600	89.98	359.7	9599.922	48.085	0	47.867	0
14700	89.98	359.7	9599.924	48.736	0	48.366	0
14800	89.98	359.6	9599.926	49.388	0	48.875	0
14900	89.98	359.6	9599.929	50.052	0	49.384	0
15000	89.98	359.6	9599.931	50.716	0	49.898	0
15100	89.98	359.6	9599.933	51.382	0	50.407	0
15200	89.98	359.6	9599.936	52.05	0	50.931	0
15300	89.98	359.6	9599.938	52.727	0	51.449	0
15400	89.98	359.6	9599.941	53.406	0	51.981	0
15500	89.98	359.6	9599.943	54.085	0	52.508	0
15600	89.98	359.6	9599.946	54.764	0	53.039	0
15700	89.98	359.6	9599.948	55.454	0	53.574	0
15800	89.98	359.6	9599.951	56.144	0	54.113	0
15900	89.98	359.6	9599.954	56.834	0	54.656	0
16000	89.98	359.6	9599.957	57.525	0	55.203	0
16100	89.98	359.6	9599.96	58.216	0	55.744	0
16200	89.98	359.5	9599.963	58.916	0	56.303	0
16300	89.98	359.5	9599.966	59.617	0	56.851	0
16400	89.98	359.5	9599.969	60.317	0	57.412	0
16500	89.98	359.5	9599.972	61.018	0	57.967	0
16600	89.98	359.5	9599.975	61.726	0	58.526	0
16700	89.98	359.5	9599.978	62.435	0	59.088	0

16800	89.98	359.5	9599.982	63.144	0	59.652	0
16900	89.98	359.5	9599.985	63.852	0	60.212	0
17000	89.98	359.5	9599.988	64.569	0	60.783	0
17100	89.98	359.5	9599.992	65.285	0	61.356	0
17200	89.98	359.5	9599.995	66.001	0	61.925	0
17300	89.98	359.5	9599.999	66.717	0	62.496	0
17332	89.98	359.5	9600	66.949	0	62.688	0

Plan Targets		Remuda North 25 State 801H			
Target Name	Measured Depth (ft)	Grid Northing (ft)	Grid Easting (ft)	TVD MSL (ft)	Target Shape
FTP 14	10106.6	464634.51	620414.53	6505	CIRCLE
LTP 9	17202.44	471896.14	620367.14	6505	CIRCLE
BHL 14	17332.65	472026.37	620365.74	6505	CIRCLE

Dogleg Rate (Deg/100ft) Target
0
0
2
2
0
2
0
8

8
0
2
0.01 BHL 14

Vertical Error (ft)	Bias (ft)	Magnitude of Bias (ft)	Semi-major Error (ft)	Semi-minor Error (ft)	Semi-minor Azimuth Used (°)	Tool Used
2.297	0	0	0	0	0	OWSG MWD+IFR1+ MS
2.299	0	0	0.358	0.358	0	OWSG MWD+IFR1+ MS
2.307	0	0	0.717	0.717	0	OWSG MWD+IFR1+ MS
2.321	0	0	1.075	1.075	0	OWSG MWD+IFR1+ MS
2.34	0	0	1.434	1.434	0	OWSG MWD+IFR1+ MS
2.364	0	0	1.792	1.792	0	OWSG MWD+IFR1+ MS
2.393	0	0	2.151	2.151	0	OWSG MWD+IFR1+ MS
2.428	0	0	2.509	2.509	0	OWSG MWD+IFR1+ MS
2.467	0	0	2.868	2.868	0	OWSG MWD+IFR1+ MS
2.511	0	0	3.225	3.225	0	OWSG MWD+IFR1+ MS
2.559	0	0	3.585	3.585	0	OWSG MWD+IFR1+ MS
2.613	0	0	3.942	3.942	0	OWSG MWD+IFR1+ MS
2.67	0	0	4.301	4.301	0	OWSG MWD+IFR1+ MS

2.731	0	0	4.659	4.659	OWSG 0 MWD+IFR1+ MS
2.797	0	0	5.018	5.018	OWSG 0 MWD+IFR1+ MS
2.866	0	0	5.377	5.377	OWSG 0 MWD+IFR1+ MS
2.939	0	0	5.735	5.735	OWSG 0 MWD+IFR1+ MS
3.015	0	0	6.093	6.093	OWSG 0 MWD+IFR1+ MS
3.095	0	0	6.452	6.452	OWSG 0 MWD+IFR1+ MS
3.178	0	0	6.81	6.81	OWSG 0 MWD+IFR1+ MS
3.262	0	0	7.166	7.165	OWSG 45 MWD+IFR1+ MS
3.348	0	0	7.523	7.522	OWSG 32.548 MWD+IFR1+ MS
3.438	0	0	7.879	7.875	OWSG 12.104 MWD+IFR1+ MS
3.531	0	0	8.232	8.225	OWSG 0 MWD+IFR1+ MS
3.626	0	0	8.583	8.573	OWSG -6.248 MWD+IFR1+ MS
3.724	0	0	8.932	8.919	OWSG -10.731 MWD+IFR1+ MS
3.825	0	0	9.28	9.266	OWSG -16.735 MWD+IFR1+ MS
3.881	0	0	9.474	9.459	OWSG -18.562 MWD+IFR1+ MS
3.928	0	0	9.628	9.612	OWSG -19.945 MWD+IFR1+ MS
4.046	0	0	9.975	9.959	OWSG -29.206 MWD+IFR1+ MS
4.167	0	0	10.323	10.307	OWSG 135 MWD+IFR1+ MS
4.293	0	0	10.677	10.659	OWSG 135 MWD+IFR1+ MS

4.422	0	0	11.033	11.012	135	OWSG MWD+IFR1+ MS
4.555	0	0	11.392	11.367	124.663	OWSG MWD+IFR1+ MS
4.691	0	0	11.752	11.725	125.854	OWSG MWD+IFR1+ MS
4.831	0	0	12.113	12.082	123.147	OWSG MWD+IFR1+ MS
4.974	0	0	12.476	12.443	124.283	OWSG MWD+IFR1+ MS
5.121	0	0	12.841	12.806	125.259	OWSG MWD+IFR1+ MS
5.27	0	0	13.208	13.17	126.104	OWSG MWD+IFR1+ MS
5.422	0	0	13.574	13.533	124.335	OWSG MWD+IFR1+ MS
5.578	0	0	13.942	13.9	125.147	OWSG MWD+IFR1+ MS
5.735	0	0	14.312	14.268	125.868	OWSG MWD+IFR1+ MS
5.896	0	0	14.682	14.634	124.553	OWSG MWD+IFR1+ MS
6.06	0	0	15.053	15.003	125.24	OWSG MWD+IFR1+ MS
6.226	0	0	15.426	15.374	125.86	OWSG MWD+IFR1+ MS
6.395	0	0	15.799	15.745	126.421	OWSG MWD+IFR1+ MS
6.566	0	0	16.172	16.117	126.929	OWSG MWD+IFR1+ MS
6.739	0	0	16.547	16.489	127.392	OWSG MWD+IFR1+ MS
6.916	0	0	16.919	16.859	127.815	OWSG MWD+IFR1+ MS
7.095	0	0	17.295	17.233	128.198	OWSG MWD+IFR1+ MS
7.276	0	0	17.671	17.608	128.553	OWSG MWD+IFR1+ MS

						OWSG
7.46	0	0	18.046	17.981	130.075	MWD+IFR1+ MS
						OWSG
7.647	0	0	18.424	18.357	130.319	MWD+IFR1+ MS
						OWSG
7.835	0	0	18.8	18.731	131.648	MWD+IFR1+ MS
						OWSG
8.026	0	0	19.178	19.108	131.804	MWD+IFR1+ MS
						OWSG
8.219	0	0	19.556	19.484	133.98	MWD+IFR1+ MS
						OWSG
8.415	0	0	19.935	19.862	134.025	MWD+IFR1+ MS
						OWSG
8.614	0	0	20.313	20.238	135	MWD+IFR1+ MS
						OWSG
8.726	0	0	20.525	20.448	135	MWD+IFR1+ MS
						OWSG
8.815	0	0	20.693	20.615	135	MWD+IFR1+ MS
						OWSG
9.017	0	0	21.067	20.988	-44.143	MWD+IFR1+ MS
						OWSG
9.218	0	0	21.439	21.358	-43.348	MWD+IFR1+ MS
						OWSG
9.417	0	0	21.806	21.723	-43.401	MWD+IFR1+ MS
						OWSG
9.614	0	0	22.166	22.083	-43.451	MWD+IFR1+ MS
						OWSG
9.808	0	0	22.522	22.437	-44.25	MWD+IFR1+ MS
						OWSG
10	0	0	22.872	22.785	-44.277	MWD+IFR1+ MS
						OWSG
10.104	0	0	23.063	22.976	135	MWD+IFR1+ MS
						OWSG
10.188	0	0	23.212	23.124	134.298	MWD+IFR1+ MS
						OWSG
10.383	0	0	23.548	23.459	133.632	MWD+IFR1+ MS
						OWSG
10.578	0	0	23.886	23.796	132.337	MWD+IFR1+ MS

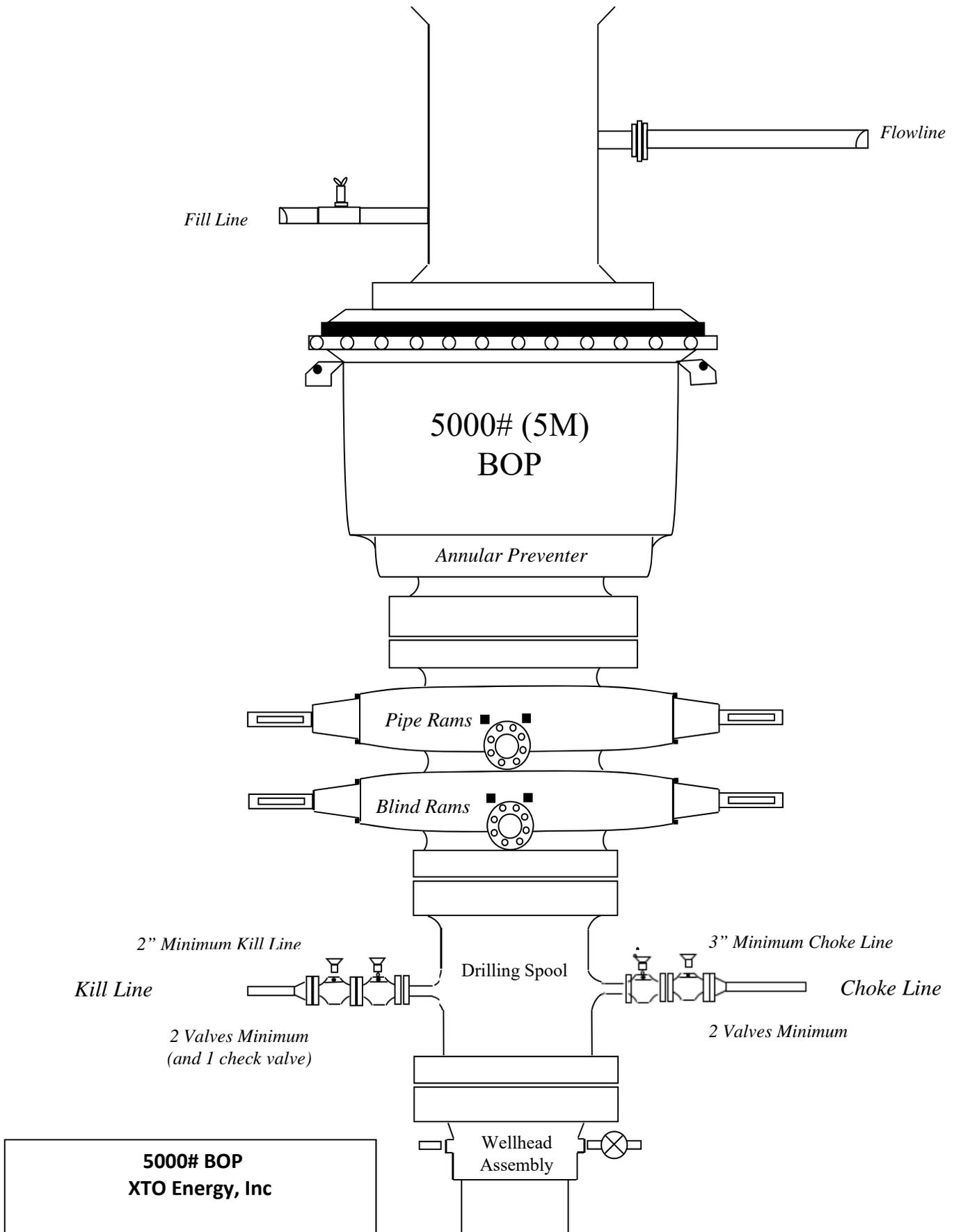
10.78	0	0	24.225	24.134	131.756	OWSG MWD+IFR1+ MS
10.982	0	0	24.564	24.471	131.203	OWSG MWD+IFR1+ MS
11.185	0	0	24.904	24.809	129.47	OWSG MWD+IFR1+ MS
11.393	0	0	25.244	25.149	129.589	OWSG MWD+IFR1+ MS
11.606	0	0	25.585	25.488	128.001	OWSG MWD+IFR1+ MS
11.819	0	0	25.925	25.828	128.144	OWSG MWD+IFR1+ MS
12.037	0	0	26.268	26.169	127.211	OWSG MWD+IFR1+ MS
12.26	0	0	26.61	26.509	126.336	OWSG MWD+IFR1+ MS
12.486	0	0	26.952	26.85	126	OWSG MWD+IFR1+ MS
12.712	0	0	27.295	27.192	125.68	OWSG MWD+IFR1+ MS
12.942	0	0	27.639	27.534	124.907	OWSG MWD+IFR1+ MS
13.176	0	0	27.982	27.876	124.63	OWSG MWD+IFR1+ MS
13.413	0	0	28.327	28.219	123.925	OWSG MWD+IFR1+ MS
13.653	0	0	28.672	28.562	123.258	OWSG MWD+IFR1+ MS
13.892	0	0	29.017	28.907	123.037	OWSG MWD+IFR1+ MS
14.139	0	0	29.362	29.25	122.821	OWSG MWD+IFR1+ MS
14.387	0	0	29.707	29.594	122.228	OWSG MWD+IFR1+ MS
14.639	0	0	30.054	29.939	122.039	OWSG MWD+IFR1+ MS
14.896	0	0	30.399	30.283	121.496	OWSG MWD+IFR1+ MS

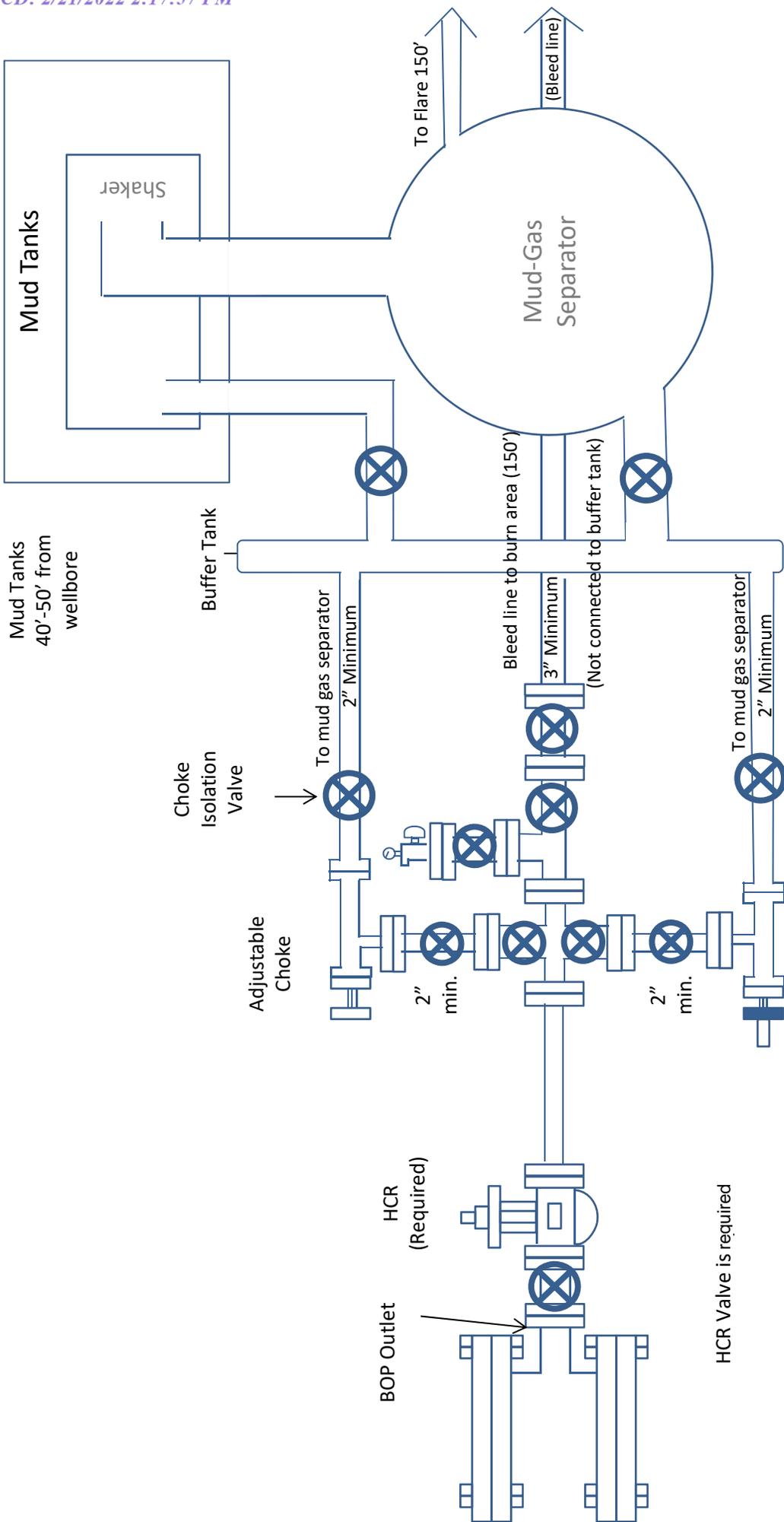
15.228	0	0	30.576	30.457	121.559	MWD+IFR1+ MS
15.489	0	0	30.592	30.462	123.069	MWD+IFR1+ MS
15.751	0	0	30.611	30.47	123.736	MWD+IFR1+ MS
16.019	0	0	30.635	30.484	124.881	MWD+IFR1+ MS
16.236	0	0	30.655	30.497	125.275	MWD+IFR1+ MS
16.288	0	0	30.659	30.501	125.001	MWD+IFR1+ MS
16.577	0	0	31.084	30.617	80.4	MWD+IFR1+ MS
16.974	0	0	32.401	30.662	73.519	MWD+IFR1+ MS
17.55	0	0	33.575	30.71	72.69	MWD+IFR1+ MS
18.349	0	0	34.59	30.768	72.559	MWD+IFR1+ MS
19.388	0	0	35.414	30.838	72.596	MWD+IFR1+ MS
19.847	0	0	35.664	30.892	72.763	MWD+IFR1+ MS
19.922	0	0	35.701	30.922	72.891	MWD+IFR1+ MS
20.649	0	0	35.915	31.063	74.276	MWD+IFR1+ MS
22.213	0	0	36.237	31.268	76.563	MWD+IFR1+ MS
23.864	0	0	36.439	31.467	78.332	MWD+IFR1+ MS
25.548	0	0	36.547	31.675	79.658	MWD+IFR1+ MS
27.207	0	0	36.575	31.88	80.533	MWD+IFR1+ MS
27.276	0	0	36.584	31.916	80.687	MWD+IFR1+ MS
27.399	0	0	36.586	32.023	81.063	MWD+IFR1+ MS
27.563	0	0	36.599	32.179	81.603	MWD+IFR1+ MS
27.606	0	0	36.609	32.215	81.765	MWD+IFR1+ MS
27.742	0	0	36.612	32.351	82.185	MWD+IFR1+ MS
27.946	0	0	36.625	32.598	82.783	MWD+IFR1+ MS
28.174	0	0	36.64	32.856	83.411	MWD+IFR1+ MS
28.42	0	0	36.656	33.141	84.004	MWD+IFR1+ MS
28.686	0	0	36.661	33.436	84.549	MWD+IFR1+ MS
28.754	0	0	36.659	33.483	84.739	MWD+IFR1+ MS
28.965	0	0	36.667	33.653	85.22	MWD+IFR1+ MS

29.268	0	0	36.688	33.882	85.944	MWD+IFR1+ MS
29.587	0	0	36.696	34.123	86.744	MWD+IFR1+ MS
29.925	0	0	36.705	34.376	87.678	MWD+IFR1+ MS
30.28	0	0	36.73	34.64	88.822	MWD+IFR1+ MS
30.65	0	0	36.742	34.914	90.251	MWD+IFR1+ MS
31.035	0	0	36.772	35.183	92.115	MWD+IFR1+ MS
31.437	0	0	36.792	35.473	94.746	MWD+IFR1+ MS
31.843	0	0	36.834	35.753	98.525	MWD+IFR1+ MS
32.28	0	0	36.891	36.042	104.649	MWD+IFR1+ MS
32.711	0	0	36.98	36.297	114.364	MWD+IFR1+ MS
33.166	0	0	37.13	36.502	128.117	MWD+IFR1+ MS
33.63	0	0	37.36	36.636	-38.527	MWD+IFR1+ MS
34.117	0	0	37.653	36.718	-29.416	MWD+IFR1+ MS
34.612	0	0	37.983	36.773	-23.808	MWD+IFR1+ MS
35.1	0	0	38.336	36.815	-20.226	MWD+IFR1+ MS
35.623	0	0	38.693	36.849	-17.904	MWD+IFR1+ MS
36.139	0	0	39.076	36.893	-16.202	MWD+IFR1+ MS
36.674	0	0	39.456	36.922	-14.898	MWD+IFR1+ MS
37.202	0	0	39.847	36.949	-13.865	MWD+IFR1+ MS
37.749	0	0	40.248	36.988	-13.073	MWD+IFR1+ MS
38.314	0	0	40.657	37.027	-12.401	MWD+IFR1+ MS
38.872	0	0	41.075	37.052	-11.79	MWD+IFR1+ MS
39.446	0	0	41.5	37.091	-11.291	MWD+IFR1+ MS
40.025	0	0	41.934	37.129	-10.852	MWD+IFR1+ MS
40.608	0	0	42.364	37.166	-10.482	MWD+IFR1+ MS
41.207	0	0	42.812	37.204	-10.125	MWD+IFR1+ MS
41.797	0	0	43.256	37.241	-9.821	MWD+IFR1+ MS
42.403	0	0	43.707	37.279	-9.54	MWD+IFR1+ MS
43.012	0	0	44.165	37.316	-9.282	MWD+IFR1+ MS

43.635	0	0	44.64	37.354	-9.026	MWD+IFR1+ MS
44.249	0	0	45.099	37.404	-8.83	MWD+IFR1+ MS
44.878	0	0	45.576	37.441	-8.614	MWD+IFR1+ MS
45.508	0	0	46.058	37.478	-8.419	MWD+IFR1+ MS
46.141	0	0	46.546	37.529	-8.237	MWD+IFR1+ MS
46.787	0	0	47.03	37.566	-8.072	MWD+IFR1+ MS
47.434	0	0	47.519	37.616	-7.923	MWD+IFR1+ MS
48.083	0	0	48.023	37.667	-7.765	MWD+IFR1+ MS
48.734	0	0	48.522	37.717	-7.628	MWD+IFR1+ MS
49.386	0	0	49.027	37.754	-7.488	MWD+IFR1+ MS
50.05	0	0	49.536	37.804	-7.361	MWD+IFR1+ MS
50.715	0	0	50.05	37.855	-7.238	MWD+IFR1+ MS
51.381	0	0	50.559	37.905	-7.126	MWD+IFR1+ MS
52.048	0	0	51.083	37.968	-7.022	MWD+IFR1+ MS
52.726	0	0	51.601	38.018	-6.915	MWD+IFR1+ MS
53.404	0	0	52.133	38.068	-6.807	MWD+IFR1+ MS
54.083	0	0	52.66	38.118	-6.711	MWD+IFR1+ MS
54.763	0	0	53.19	38.181	-6.618	MWD+IFR1+ MS
55.453	0	0	53.725	38.231	-6.527	MWD+IFR1+ MS
56.143	0	0	54.264	38.294	-6.442	MWD+IFR1+ MS
56.833	0	0	54.807	38.343	-6.355	MWD+IFR1+ MS
57.524	0	0	55.353	38.406	-6.27	MWD+IFR1+ MS
58.215	0	0	55.894	38.469	-6.198	MWD+IFR1+ MS
58.915	0	0	56.448	38.531	-6.121	MWD+IFR1+ MS
59.615	0	0	56.996	38.594	-6.048	MWD+IFR1+ MS
60.316	0	0	57.556	38.656	-5.973	MWD+IFR1+ MS
61.016	0	0	58.111	38.718	-5.906	MWD+IFR1+ MS
61.725	0	0	58.669	38.781	-5.838	MWD+IFR1+ MS
62.434	0	0	59.23	38.843	-5.773	MWD+IFR1+ MS

63.143	0	0	59.795	38.905	-5.707	MWD+IFR1+ MS
63.851	0	0	60.354	38.967	-5.647	MWD+IFR1+ MS
64.568	0	0	60.924	39.042	-5.588	MWD+IFR1+ MS
65.284	0	0	61.497	39.104	-5.528	MWD+IFR1+ MS
66	0	0	62.065	39.178	-5.473	MWD+IFR1+ MS
66.716	0	0	62.636	39.24	-5.419	MWD+IFR1+ MS
66.948	0	0	62.828	39.264	-5.4	MWD+IFR1+ MS





5M Choke Manifold Diagram XTO

Drilling Operations Choke Manifold 5M Service



HYDROGEN SULFIDE (H₂S) CONTINGENCY PLAN

Assumed 100 ppm ROE = 3000'

100 ppm H₂S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing H₂S, the first responder(s) must

- Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- Evacuate any public places encompassed by the 100 ppm ROE.
- Be equipped with H₂S monitors and air packs in order to control the release.
- Use the "buddy system" to ensure no injuries occur during the response
- Take precautions to avoid personal injury during this operation.
- Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- Have received training in the
 - o Detection of H₂S, and
 - o Measures for protection against the gas,
 - o Equipment used for protection and emergency response.

Ignition of Gas source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO₂). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever this is an ignition of the gas.

Characteristics of H₂S and SO₂

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H ₂ S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO ₂	2.21 Air = 1	2 ppm	N/A	1000 ppm

Contacting Authorities

All XTO location personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available including directions to site. The following call list of essential and potential responders has been prepared for use during a release. (Operator Name)'s response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER).

CARLSBAD OFFICE – EDDY & LEA COUNTIES

3104 E. Greene St., Carlsbad, NM 88220
Carlsbad, NM

575-887-7329

XTO PERSONNEL:

Kendall Decker, Drilling Manager	903-521-6477
Milton Turman, Drilling Superintendent	817-524-5107
Jeff Raines, Construction Foreman	432-557-3159
Toady Sanders, EH & S Manager	903-520-1601
Wes McSpadden, Production Foreman	575-441-1147

SHERIFF DEPARTMENTS:

Eddy County	575-887-7551
Lea County	575-396-3611

NEW MEXICO STATE POLICE:

575-392-5588

FIRE DEPARTMENTS:

Carlsbad	911
Eunice	575-885-2111
Hobbs	575-394-2111
Jal	575-397-9308
Lovington	575-395-2221
	575-396-2359

HOSPITALS:

Carlsbad Medical Emergency	911
Eunice Medical Emergency	575-885-2111
Hobbs Medical Emergency	575-394-2112
Jal Medical Emergency	575-397-9308
Lovington Medical Emergency	575-395-2221
	575-396-2359

AGENT NOTIFICATIONS:

For Lea County:

Bureau of Land Management – Hobbs	575-393-3612
New Mexico Oil Conservation Division – Hobbs	575-393-6161

For Eddy County:

Bureau of Land Management - Carlsbad	575-234-5972
New Mexico Oil Conservation Division - Artesia	575-748-1283

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.