Form 3160-3
(June 2015)

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☐ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.

2. Name of Operator

9. API Well No.
30-015-55079

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface

At proposed prod. zone

11. Sec., T. R. M. or Blk. and Survey or Area

14. Distance in miles and direction from nearest town or post office*	12. County or Parish	13. State

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature	Name *(Printed/Typed)*	Date

Title

Approved by *(Signature)*	Name *(Printed/Typed)*	Date

Title	Office

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

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.

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 05/23/2024

Additional Operator Remarks

Location of Well

0. SHL: NENW / 531 FNL / 1515 FWL / TWSP: 25S / RANGE: 31E / SECTION: 29 / LAT: 32.107095 / LONG: -103.803945 (TVD: 0 feet, MD: 0 feet)

PPP: SENW / 2115 FNL / 2085 FWL / TWSP: 25S / RANGE: 31E / SECTION: 29 / LAT: 32.102743 / LONG: -103.802146 (TVD: 10139 feet, MD: 11000 feet)

PPP: SESW / 0 FSL / 2085 FWL / TWSP: 25S / RANGE: 31E / SECTION: 20 / LAT: 32.109301 / LONG: -103.802104 (TVD: 10139 feet, MD: 13500 feet)

PPP: SENW / 2648 FNL / 2073 FWL / TWSP: 25S / RANGE: 31E / SECTION: 20 / LAT: 32.11586 / LONG: -103.802062 (TVD: 10139 feet, MD: 16100 feet)

BHL: NESW / 2656 FNL / 2085 FWL / TWSP: 25S / RANGE: 31E / SECTION: 17 / LAT: 32.130456 / LONG: -103.801971 (TVD: 10139 feet, MD: 21066 feet)

BLM Point of Contact

Name: MARIAH HUGHES
Title: Land Law Examiner
Phone: (575) 234-5972
Email: mhughes@blm.gov

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-015- 55079	96654	WC; Big Sinks; Bone Spring

[4] Property Code	[5] Property Name	[6] Well Number
335921	POKER LAKE UNIT 29-20 BS	121H

[7] OGRID No.	[8] Operator Name	[9] Elevation
005380	XTO ENERGY, INC.	3,363'

[10] Surface Location

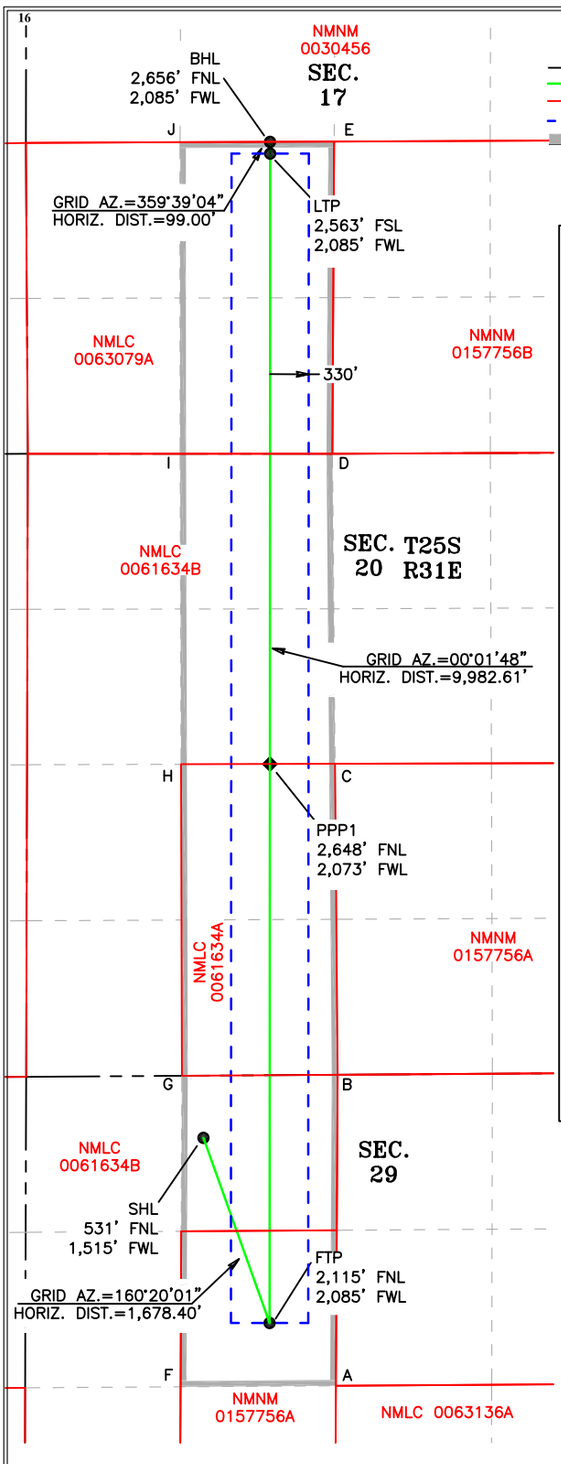
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	29	25 S	31 E		531	NORTH	1,515	WEST	EDDY

[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
K	17	25 S	31 E		2,656	NORTH	2,085	WEST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
320			

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.



LEGEND

- SECTION LINE
- PROPOSED WELLBORE
- NEW MEXICO MINERAL LEASE
- 330' BOX
- DEDICATED ACREAGE BOX

SHL (NAD83 NME)		LTP (NAD83 NME)	
Y =	403,100.1	Y =	411,502.2
X =	705,251.4	X =	705,821.5
LAT. =	32.107095 °N	LAT. =	32.130183 °N
LONG. =	103.803945 °W	LONG. =	103.801971 °W
FTP (NAD83 NME)		**BHL (NAD83 NME)**	
Y =	401,519.6	Y =	411,601.2
X =	705,816.3	X =	705,820.9
LAT. =	32.102743 °N	LAT. =	32.130456 °N
LONG. =	103.802146 °W	LONG. =	103.801971 °W

CORNER COORDINATES (NAD83 NME)

A - Y =	400,984.0	N ,	X =	706,383.3	E
B - Y =	403,638.5	N ,	X =	706,397.9	E
C - Y =	406,293.2	N ,	X =	706,375.6	E
D - Y =	408,939.3	N ,	X =	706,353.5	E
E - Y =	411,604.7	N ,	X =	706,368.1	E
F - Y =	400,975.3	N ,	X =	705,056.4	E
G - Y =	403,629.8	N ,	X =	705,067.8	E
H - Y =	406,289.1	N ,	X =	705,060.8	E
I - Y =	408,939.2	N ,	X =	705,052.8	E
J - Y =	411,598.7	N ,	X =	705,052.0	E

SHL (NAD27 NME)		LTP (NAD27 NME)	
Y =	403,042.2	Y =	411,444.1
X =	664,065.9	X =	664,636.5
LAT. =	32.106971 °N	LAT. =	32.130059 °N
LONG. =	103.803467 °W	LONG. =	103.801490 °W
FTP (NAD27 NME)		**BHL (NAD27 NME)**	
Y =	401,461.7	Y =	411,543.1
X =	664,630.6	X =	664,635.9
LAT. =	32.102618 °N	LAT. =	32.130331 °N
LONG. =	103.801668 °W	LONG. =	103.801490 °W

CORNER COORDINATES (NAD27 NME)

A - Y =	400,926.1	N ,	X =	665,197.6	E
B - Y =	403,580.5	N ,	X =	665,212.3	E
C - Y =	406,235.2	N ,	X =	665,190.2	E
D - Y =	408,881.2	N ,	X =	665,168.1	E
E - Y =	411,546.5	N ,	X =	665,183.1	E
F - Y =	400,917.4	N ,	X =	663,870.8	E
G - Y =	403,571.9	N ,	X =	663,882.3	E
H - Y =	406,231.1	N ,	X =	663,875.3	E
I - Y =	408,881.1	N ,	X =	663,867.4	E
J - Y =	411,540.5	N ,	X =	663,867.0	E

PPP1 (NAD83 NME)		PPP1 (NAD27 NME)	
Y =	406,291.5	Y =	406,233.5
X =	705,818.7	X =	664,633.3
LAT. =	32.115860 °N	LAT. =	32.115736 °N
LONG. =	103.802062 °W	LONG. =	103.801583 °W

[17] OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Richard L Redus 3/39/2024
Signature Date

Richard L Redus
Printed Name

richard.l.redus@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.

3-27-2024
Date of Survey

LM 2019082884

Signatue and Seal of Professional Surveyor:

I, TIM C. PAPPAS, NEW MEXICO PROFESSIONAL SURVEYOR NO. 21209, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

27 MAR 2024

TIM C. PAPPAS
REGISTERED PROFESSIONAL LAND SURVEYOR
STATE OF NEW MEXICO NO. 21209

TIM C. PAPPAS NEW MEXICO 21209 PROFESSIONAL SURVEYOR

TIM C. PAPPAS 21290
Certificate Number

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 Permian Operating LLC_____ **OGRID:** _____373075_____ **Date:** _5/24/2024_

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
Poker Lake Unit 28-21 BS 155H		B-28-25S-31E	549' FNL & 1915' FEL	1848	9240	5544
Poker Lake Unit 29-20 BS 105H		B-29-25S-31E	537' FNL & 1422' FEL	1848	9240	5544
Poker Lake Unit 29-20 BS 121H		C-29-25S-31E	531' FNL & 1515' FWL	1848	9240	5544
Poker Lake Unit 29-20 BS 122H		C-29-25S-31E	531' FNL & 1545 FWL	1848	9240	5544
Poker Lake Unit 29-20 BS 126H		B-29-25S-31E	537' FNL & 1452' FEL	1848	9240	5544

IV. Central Delivery Point Name: _____Cowboy CDP_____ [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
Poker Lake Unit 28-21 BS 155H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 29-20 BS 105H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 29-20 BS 121H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 29-20 BS 122H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 29-20 BS 126H		TBD	TBD	TBD	TBD	TBD

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: Terra Sebastian
Printed Name: Terra Sebastian
Title: Regulatory Coordinator
E-mail Address: terra.b.sebastian@exxonmobil.com
Date: 5/24/2024
Phone: 432-999-3107

OIL CONSERVATION DIVISION **(Only applicable when submitted as a standalone form)**
Approved By:
Title:
Approval Date:
Conditions of Approval:

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

Drilling Plan Data Report
05/24/2024

APD ID: 10400096631
Submission Date: 01/10/2024
Operator Name: XTO ENERGY INCORPORATED
Well Name: POKER LAKE UNIT 29-20 BS
Well Number: 121H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
13482209	QUATERNARY	3363	0	0	ALLUVIUM	USEABLE WATER	N
13482210	RUSTLER	2605	758	758	ANHYDRITE, SANDSTONE	USEABLE WATER	N
13482211	SALADO	2231	1132	1132	SALT	POTASH	N
13482212	BASE OF SALT	-635	3998	3998	SALT	POTASH	N
13482213	DELAWARE	-834	4197	4197	LIMESTONE, SANDSTONE	NATURAL GAS, OIL, USEABLE WATER	N
13482208	BRUSHY CANYON	-3452	6815	6815	SANDSTONE, SHALE, SILTSTONE	NATURAL GAS, OIL, USEABLE WATER	N
13482214	BONE SPRING	-4755	8118	8118	LIMESTONE, SANDSTONE	NATURAL GAS, OIL, USEABLE WATER	N
13482215	BONE SPRING 1ST	-5564	8927	8927	LIMESTONE, SANDSTONE	NATURAL GAS, OIL, USEABLE WATER	N
13482216	BONE SPRING 2ND	-6159	9522	9522	LIMESTONE, SANDSTONE	NATURAL GAS, OIL, USEABLE WATER	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M
Rating Depth: 10139

Equipment: Multi Bowl system: Wellhead will be installed by manufacturer's representative. Manufacturer will monitor welding process to ensure appropriate temperature of seal. Operator will test 9 5/8" casing. Wellhead:

Requesting Variance? YES

Variance request: 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

Operator Name: XTO ENERGY INCORPORATED

Well Name: POKER LAKE UNIT 29-20 BS **Well Number:** 121H

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.

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

Choke Diagram Attachment:

PLU_29_20_BS_5MCM_20240109063608.pdf

BOP Diagram Attachment:

9.625_7.625_5.5_3_String_Slimhole_HBE0000479_4_20240512173721.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	12.25	9.625	NEW	API	N	0	858	0	858	3363	2505	858	J-55	40	OTHER - BTC	7.34	1.49	DRY	18.36	DRY	18.36
2	INTERMEDIATE	8.75	7.625	NEW	API	Y	0	9660	0	9220	3358	-5857	9660	L-80	29.7	OTHER - Flush Joint	2.15	2.08	DRY	2.42	DRY	2.42
3	PRODUCTION	6.75	5.5	NEW	API	Y	0	21066	0	10139	3358	-6776	21066	P-110	20	OTHER - Semi Flush	2.01	1.26	DRY	2.21	DRY	2.21

Casing Attachments

Operator Name: XTO ENERGY INCORPORATED

Well Name: POKER LAKE UNIT 29-20 BS **Well Number:** 121H

Casing Attachments

Casing ID: 1 **String** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

PLU_29_20_BS_121H_csg_20240503101444.pdf

Casing ID: 2 **String** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

PLU_29_20_BS_121H_csg_20240503101655.pdf

Casing Design Assumptions and Worksheet(s):

PLU_29_20_BS_121H_csg_20240503101732.pdf

Casing ID: 3 **String** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

PLU_29_20_BS_121H_csg_20240503101254.pdf

Casing Design Assumptions and Worksheet(s):

PLU_29_20_BS_121H_csg_20240503101328.pdf

Section 4 - Cement

Operator Name: XTO ENERGY INCORPORATED

Well Name: POKER LAKE UNIT 29-20 BS **Well Number:** 121H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	858	180	1.87	10.5	336.6	100	EconoCem-HLTRRC	NA
SURFACE	Tail		0	858	130	1.35	14.8	175.5	100	Class C	2% CaCl
INTERMEDIATE	Lead		0	6815	630	1.35	14.8	850.5	100	Class C	NA
INTERMEDIATE	Tail		6815	9660	770	1.33	14.8	1024.1	100	Class C	NA
PRODUCTION	Lead		9360	9860	20	2.69	11.5	53.8	20	NeoCem	NA
PRODUCTION	Tail		9860	21066	800	1.51	13.2	1208	20	VersaCem	NA

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: The necessary mud products for weight addition and fluid loss control will be on location at all times.

Describe the mud monitoring system utilized: Spud with fresh water/native mud. Drill out from under surface casing with saturated salt solution. Saturated Salt 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.

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
858	4197	SALT SATURATED	10.5	11							

Operator Name: XTO ENERGY INCORPORATED

Well Name: POKER LAKE UNIT 29-20 BS **Well Number:** 121H

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
4197	9660	OTHER : BDE/OBM or FW/Brine	8.6	9.1							
9660	21066	OIL-BASED MUD	10.5	11							
0	858	OTHER : FW/Native	8.4	8.9							

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

Mud Logger: Mud Logging Unit (2 man) below intermediate casing.
Open hole logging will not be done on this well.

List of open and cased hole logs run in the well:

GAMMA RAY LOG,CEMENT BOND LOG,DIRECTIONAL SURVEY,MEASUREMENT WHILE DRILLING,MUD LOG/GEOLOGICAL LITHOLOGY LOG,

Coring operation description for the well:

No coring is planned for the well.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5536 **Anticipated Surface Pressure:** 3305

Anticipated Bottom Hole Temperature(F): 185

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations

PLU_29_20_BS_H2S_Dia_20240109071057.pdf

PLU_29_20_BS_H2S_Plan_20240109071057.pdf

Operator Name: XTO ENERGY INCORPORATED

Well Name: POKER LAKE UNIT 29-20 BS **Well Number:** 121H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

PLU_29_20_BS_121H_DD_20240109135737.pdf

Other proposed operations facets description:

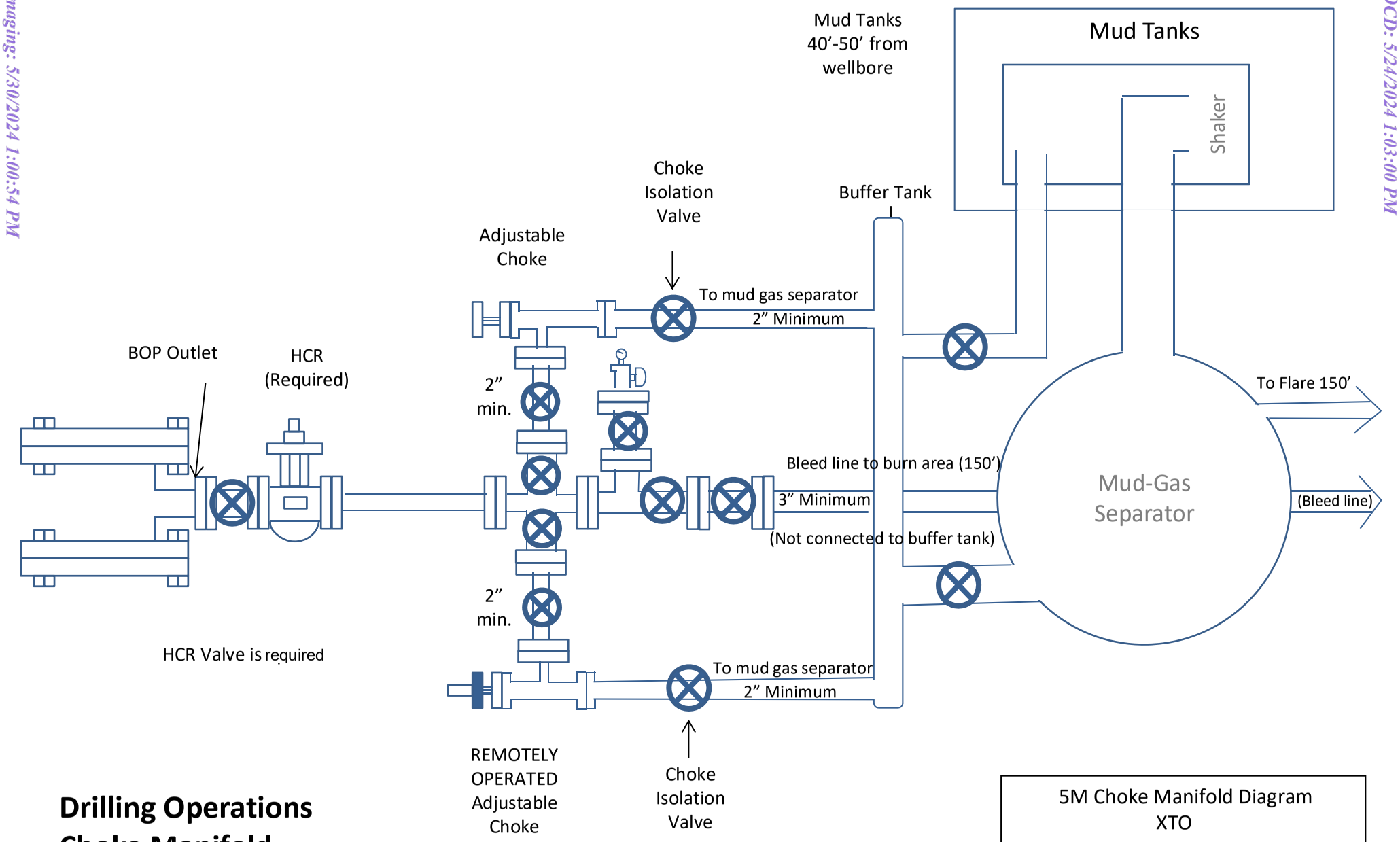
Other proposed operations facets attachment:

PLU_29_20_BS_121H_Cmt_20240503102931.pdf

Other Variance attachment:

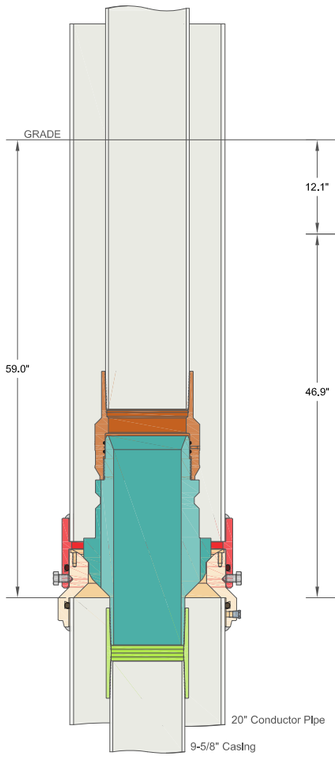
PLU_29_20_BS_BOP_BTV_20240109071504.pdf
PLU_29_20_BS_FH_20240109071504.pdf
PLU_29_20_BS_OLCV_20240109071505.pdf
PLU_29_20_BS_Spud_20240109071503.pdf
PLU_29_20_BS_MBS_20240503110302.pdf

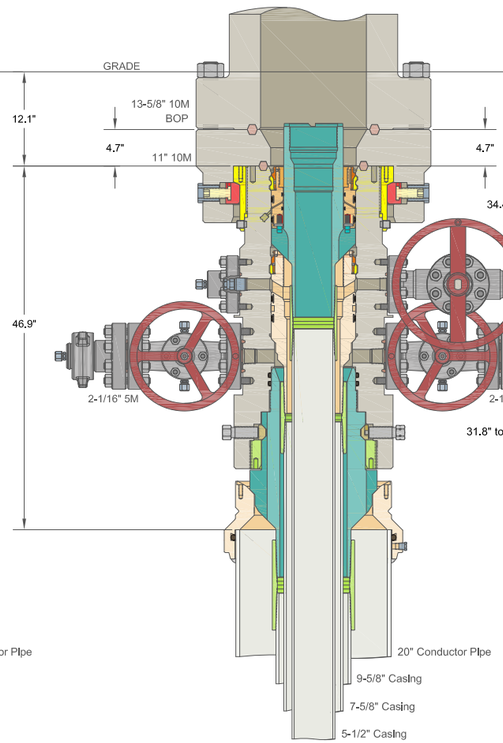
Bleed line will discharge 100' from wellhead for non-H2S situations and 150' from wellhead for H2S situations.

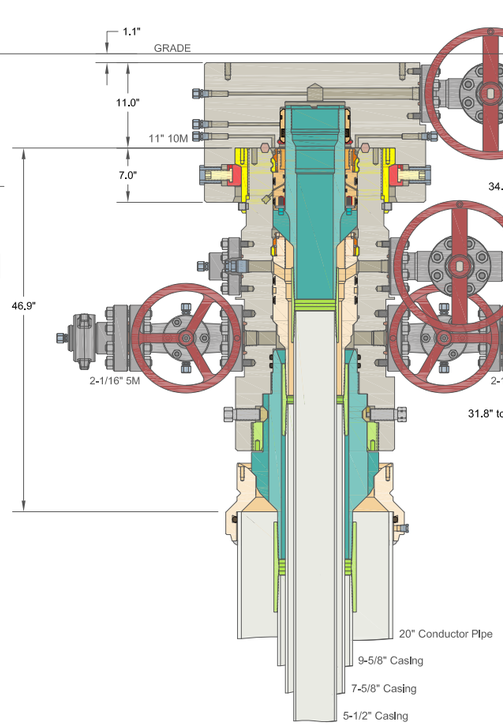


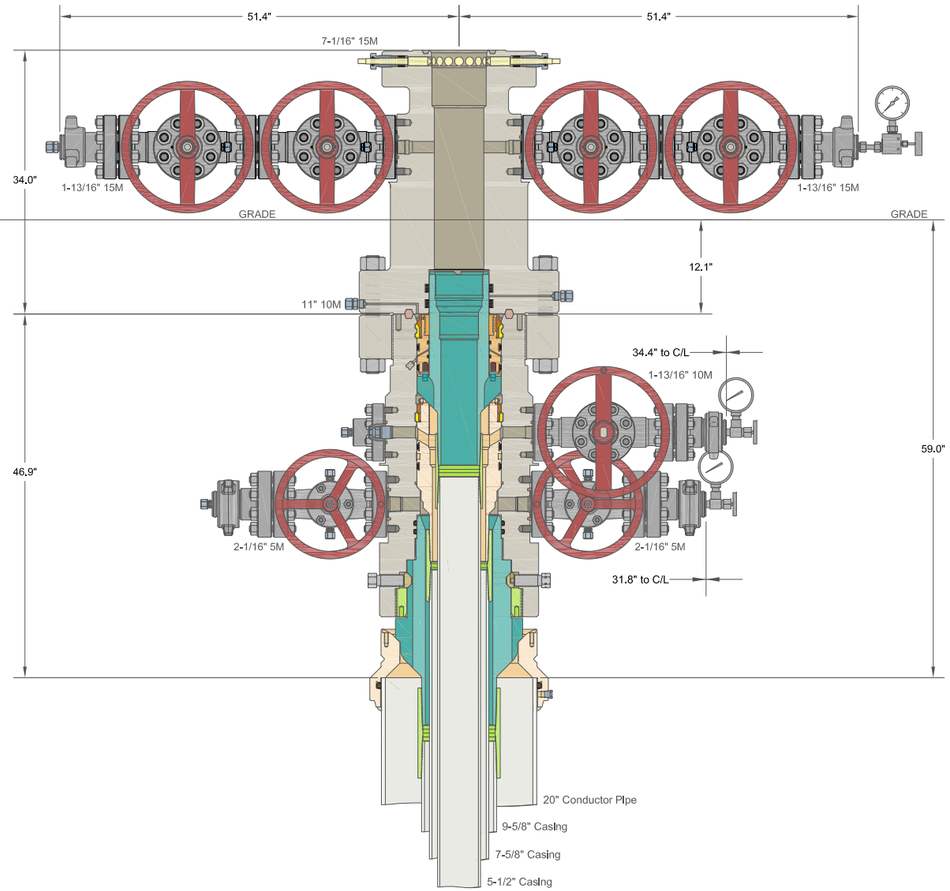
Drilling Operations
Choke Manifold
5M Service

5M Choke Manifold Diagram
XTO









ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC

XTO ENERGY INC
DELAWARE BASIN

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

DRAWN	VJK	31MAR22
APPRV		
DRAWING NO.	HBE0000479	

Casing Assumptions

Casing Design

Hole Size	Depth	OD Csg	Weight	Grade	Collar	New/Used	SF Burst	SF Collapse	SF Tension
12.25	0' – 858'	9.625	40	J-55	BTC	New	1.49	7.34	18.36
8.75	0' – 4000'	7.625	29.7	RY P-110	Flush Joint	New	2.86	2.71	1.94
8.75	4000' – 9660.04'	7.625	29.7	HC L-80	Flush Joint	New	2.08	2.15	2.42
6.75	0' – 9560.04'	5.5	20	RY P-110	Semi-Premium	New	1.26	2.13	2.21
6.75	9560.04' - 21066.4'	5.5	20	RY P-110	Semi-Flush	New	1.26	2.01	2.21

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

Description of Operations:

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

Cement Variance Request

Intermediate Casing:

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 (6815') and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. If cement is not visually confirmed to circulate to surface, the final cement top after the second stage job will be verified by Echo-meter. If necessary, a top out consisting of 1,500 sack of Class C cement + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (2.30 yld, 12.91 ppg) will be executed as a contingency. If cement is still unable to circulate to surface, another Echo-meter run will be performed for cement top verification.

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

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

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

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

Production Casing:

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.

XTO Permian Operating, LLC Offline Cementing Variance Request

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

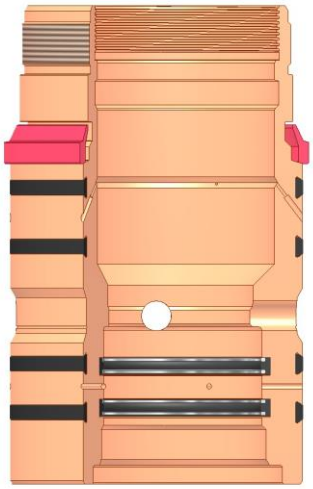
1. Cement Program

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

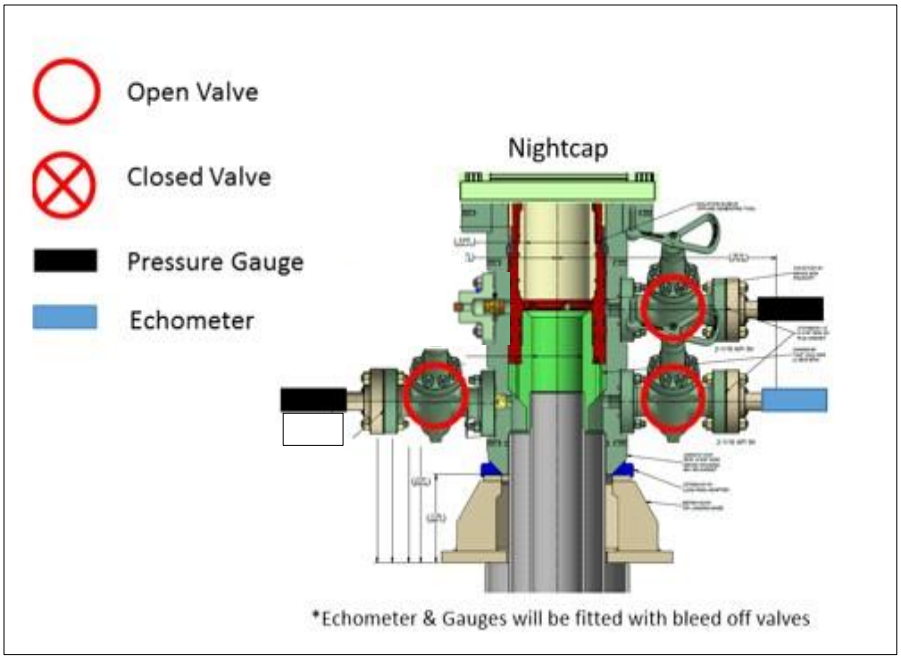
2. Offline Cementing Procedure

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

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



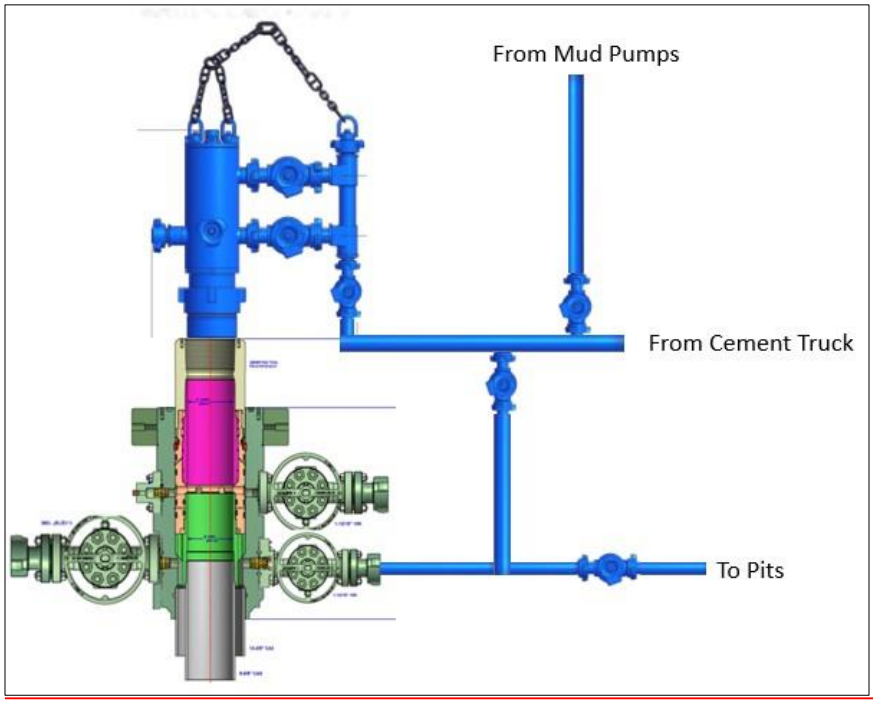
Annular packoff with both external and internal seals



Wellhead diagram during skidding operations

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

XTO Permian Operating, LLC Offline Cementing Variance Request



Wellhead diagram during offline cementing operations

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

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

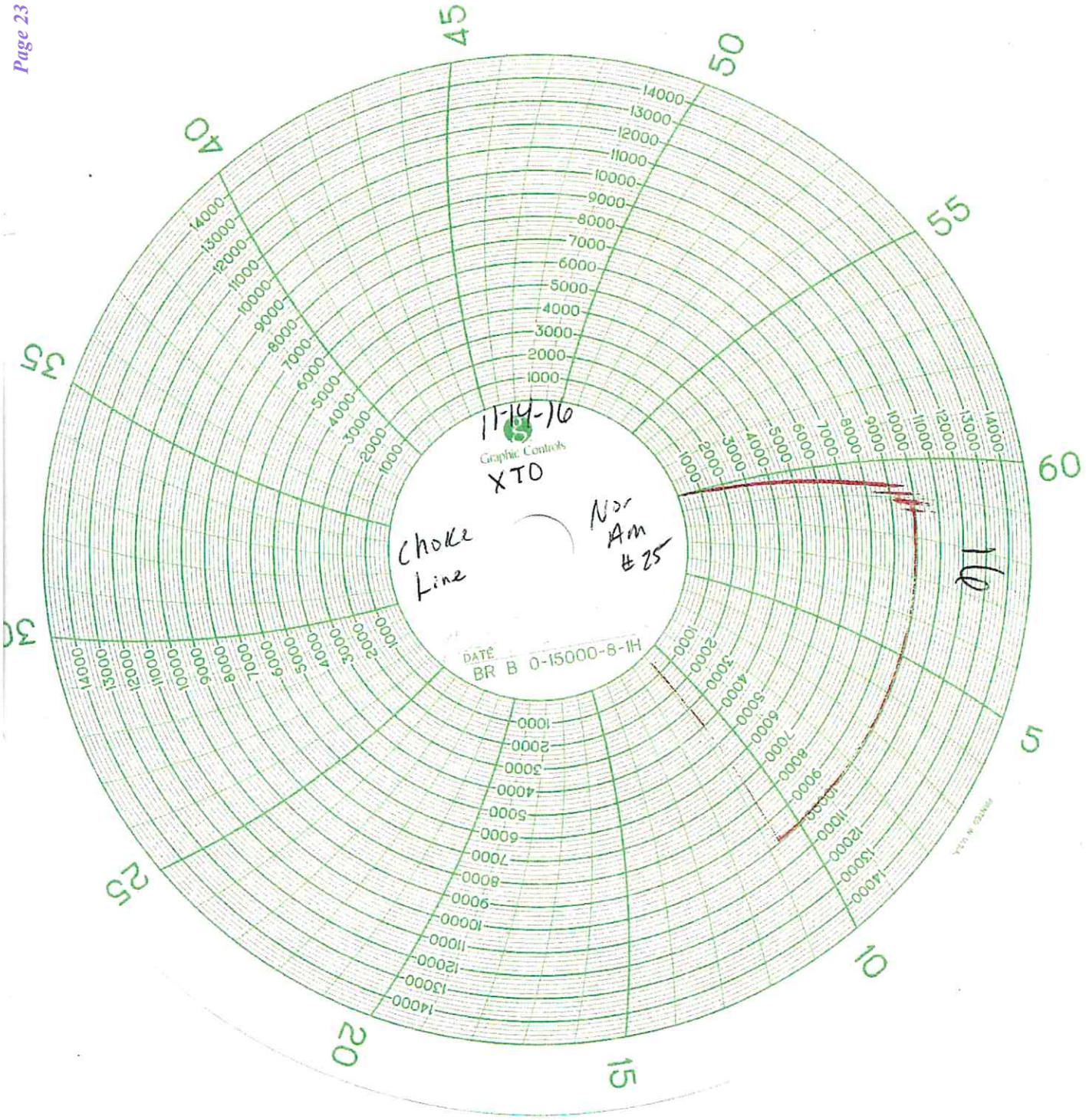
Product Description:	FD3.042.0R41/16.5KFLGE/E LE

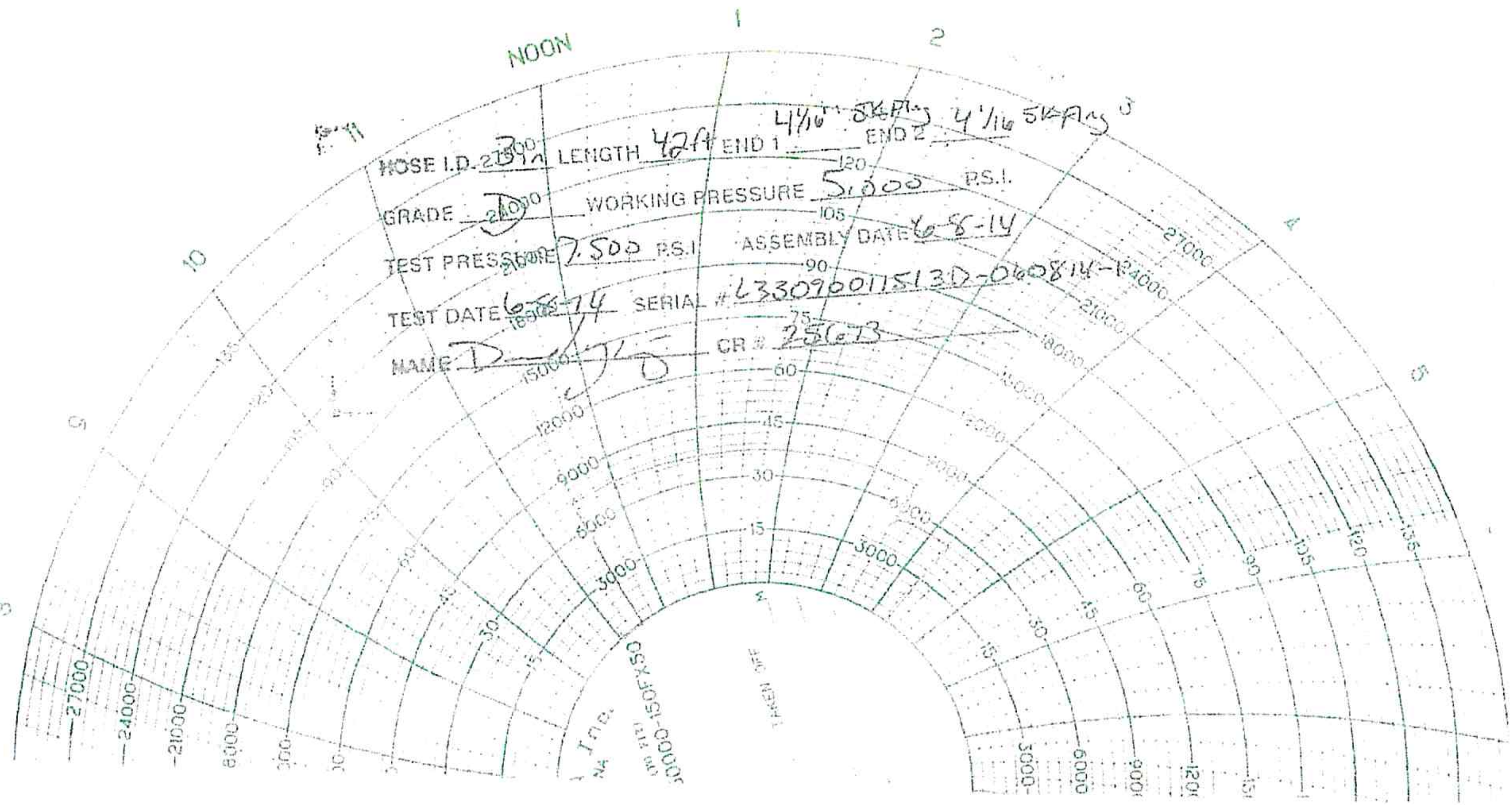
End Fitting 1 :	4 1/16 in.5K FLG	End Fitting 2 :	4 1/16 in.5K FLG
Gates Part No. :	4774-6001	Assembly Code :	L33090011513D-060814-1
Working Pressure :	5,000 PSI	Test Pressure :	7,500 PSI

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





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 CFR Title 43 Part 3170, 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. CFR Title 43 Part 3170 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 CFR Title 43 Part 3170, XTO Energy submits this request for the variance.

Supporting Documentation

CFR Title 43 Part 3170 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 CFR Title 43 Part 3170 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

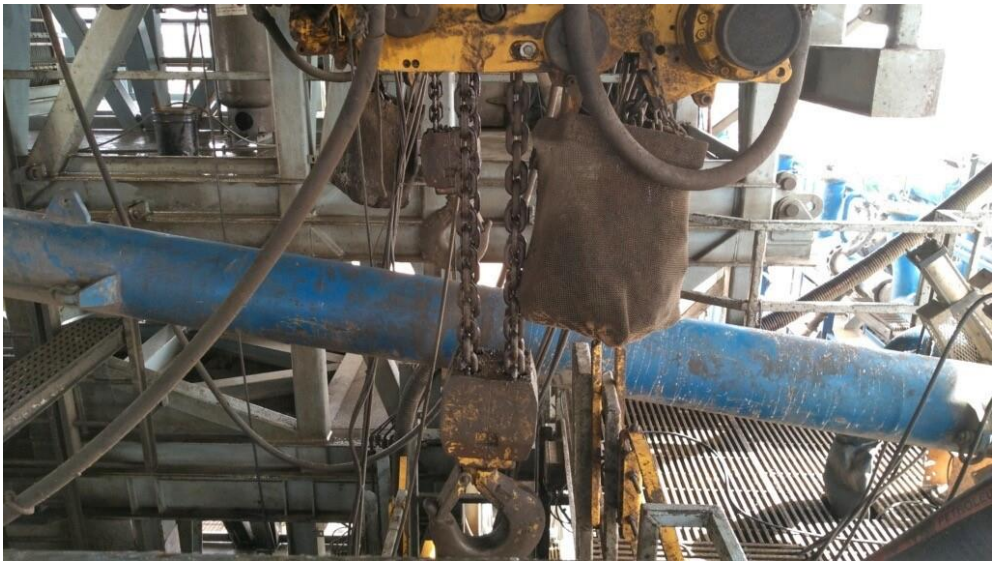


Figure 2: BOP Winch System

American Petroleum Institute (API) standards, specification and recommended practices are considered the industry standard and are consistently utilized and referenced by the industry. CFR Title 43 Part 3170recognizes 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.

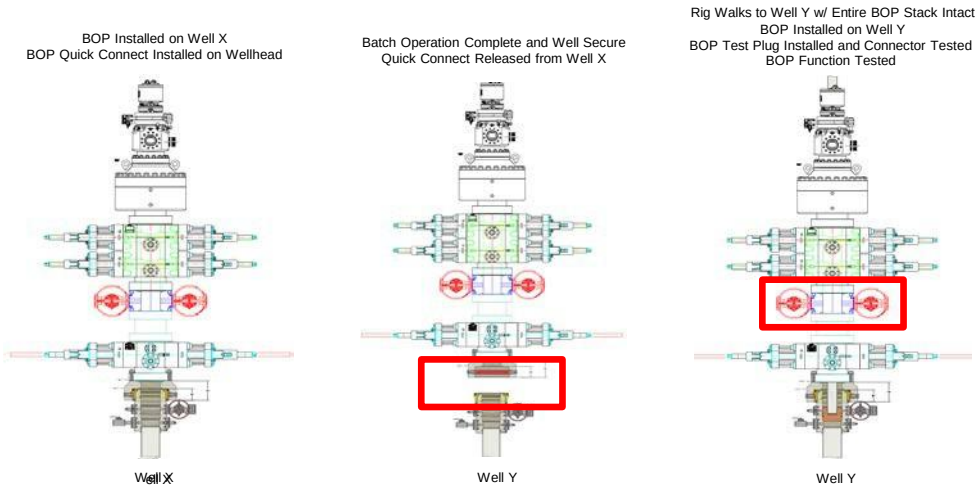
XTO Energy feels break testing and our current procedures meet the intent of CFR Title 43 Part 317 0and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. XTO Energy's internal standards requires complete BOPE tests more often than that of CFR Title 43 Part 3170 (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 CFR Title 43 Part 3170.

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.

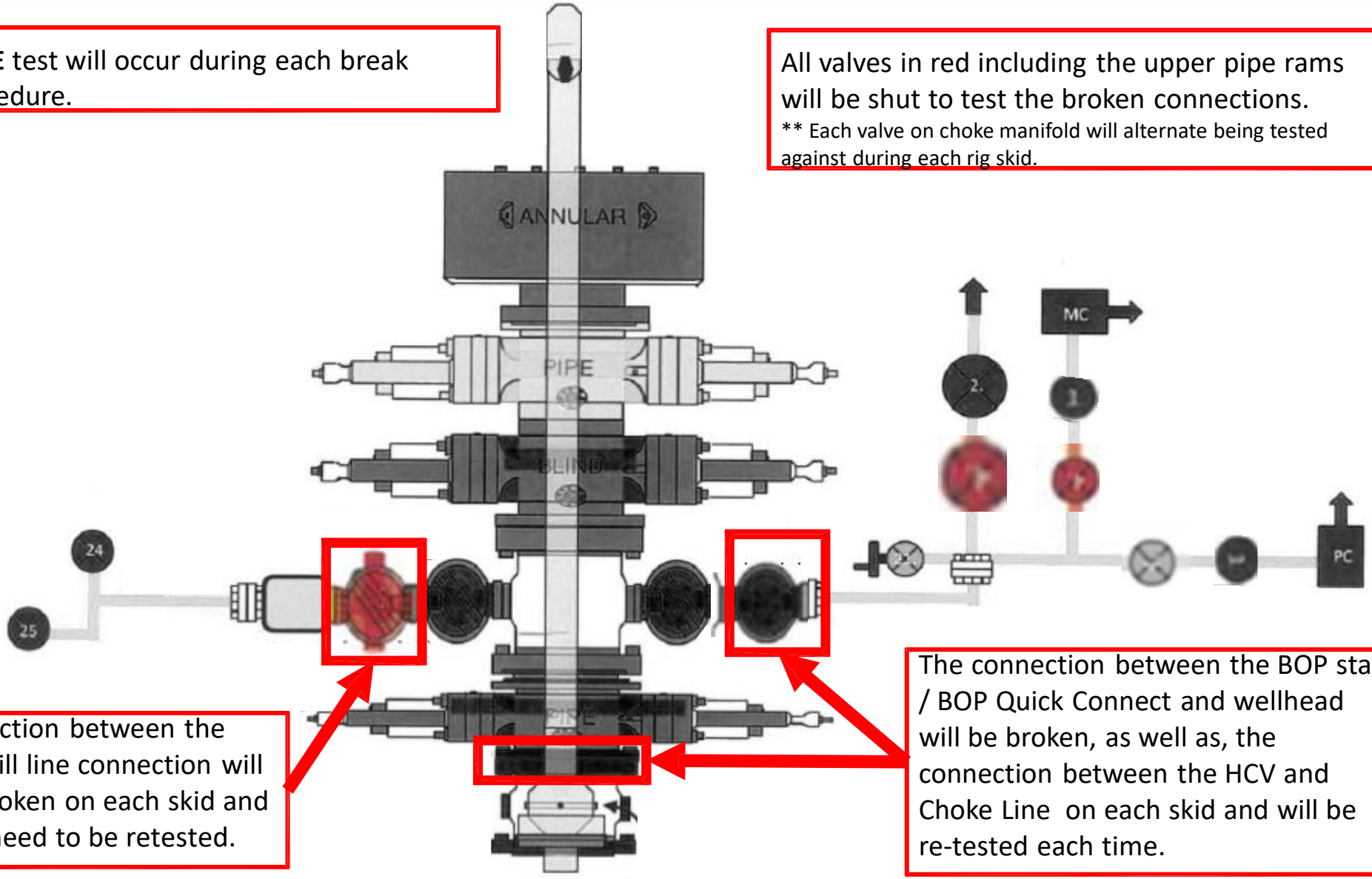
3. Full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.

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 Plan Report - PLU 29-20 121H

Measured Depth:	21066.40 ft	**Site:**	A
TVD RKB:	10139.00 ft	**Slot:**	PLU 29-20 121H

Location

Cartographic Reference System:	New Mexico East - NAD 27
Northing:	403042.20 ft
Easting:	664065.90 ft
RKB:	3395.00 ft
Ground Level:	3363.00 ft
North Reference:	Grid
Convergence Angle:	0.28 Deg

Plan Sections PLU 29-20 121H

Measured Depth (ft)	Inclination (Deg)	Azimuth (Deg)	TVD RKB (ft)	Y Offset (ft)	X Offset (ft)	Build Rate (Deg/100ft)	Turn Rate (Deg/100ft)	Dogleg Rate (Deg/100ft)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1100.00	0.00	0.00	1100.00	0.00	0.00	0.00	0.00	0.00	
2214.10	22.28	166.20	2186.23	-207.74	51.04	2.00	0.00	2.00	
7323.14	22.28	166.20	6913.77	-2088.96	513.24	0.00	0.00	0.00	
8437.24	0.00	0.00	8000.00	-2296.70	564.28	-2.00	0.00	2.00	
9860.04	0.00	0.00	9422.80	-2296.70	564.28	0.00	0.00	0.00	
10985.04	90.00	0.03	10139.00	-1580.50	564.70	8.00	0.00	8.00	FTP 2
20967.44	90.00	0.03	10139.00	8401.90	570.60	0.00	0.00	0.00	LTP 2
21066.40	90.00	0.03	10139.00	8500.86	570.66	0.00	0.00	0.00	BHL 2

Position Uncertainty PLU 29-20 121H

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
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	MWD+IFR1+MS
100.000	0.000	0.000	100.000	0.700	0.000	0.350	0.000	2.300	0.000	0.000	0.751	0.220	112.264	MWD+IFR1+MS
200.000	0.000	0.000	200.000	1.112	0.000	0.861	0.000	2.310	0.000	0.000	1.259	0.627	122.711	MWD+IFR1+MS
300.000	0.000	0.000	300.000	1.497	0.000	1.271	0.000	2.325	0.000	0.000	1.698	0.986	125.469	MWD+IFR1+MS
400.000	0.000	0.000	400.000	1.871	0.000	1.658	0.000	2.347	0.000	0.000	2.108	1.344	126.713	MWD+IFR1+MS
500.000	0.000	0.000	500.000	2.240	0.000	2.034	0.000	2.374	0.000	0.000	2.503	1.701	127.419	MWD+IFR1+MS
600.000	0.000	0.000	600.000	2.607	0.000	2.405	0.000	2.406	0.000	0.000	2.888	2.059	127.873	MWD+IFR1+MS
700.000	0.000	0.000	700.000	2.971	0.000	2.773	0.000	2.444	0.000	0.000	3.267	2.417	128.190	MWD+IFR1+MS
800.000	0.000	0.000	800.000	3.334	0.000	3.138	0.000	2.485	0.000	0.000	3.642	2.775	128.423	MWD+IFR1+MS
900.000	0.000	0.000	900.000	3.696	0.000	3.502	0.000	2.531	0.000	0.000	4.014	3.133	128.602	MWD+IFR1+MS
1000.000	0.000	0.000	1000.000	4.058	0.000	3.865	0.000	2.581	0.000	0.000	4.384	3.491	128.744	MWD+IFR1+MS
1100.000	0.000	0.000	1100.000	4.419	0.000	4.228	0.000	2.634	0.000	0.000	4.752	3.849	128.859	MWD+IFR1+MS
1200.000	2.000	166.196	1199.980	4.620	0.000	4.734	-0.000	2.691	0.000	0.000	5.064	4.259	125.210	MWD+IFR1+MS
1300.000	4.000	166.196	1299.838	5.442	0.000	5.056	-0.000	2.751	0.000	0.000	5.760	4.699	110.243	MWD+IFR1+MS
1400.000	6.000	166.196	1399.452	6.169	0.000	5.382	-0.000	2.816	0.000	0.000	6.456	5.056	103.556	MWD+IFR1+MS
1500.000	8.000	166.196	1498.702	6.831	0.000	5.713	-0.000	2.889	0.000	0.000	7.115	5.392	100.182	MWD+IFR1+MS
1600.000	10.000	166.196	1597.465	7.444	0.000	6.049	-0.000	2.972	0.000	0.000	7.739	5.725	98.230	MWD+IFR1+MS
1700.000	12.000	166.196	1695.623	8.017	0.000	6.392	-0.000	3.067	0.000	0.000	8.330	6.061	96.996	MWD+IFR1+MS
1800.000	14.000	166.196	1793.055	8.559	0.000	6.741	-0.000	3.175	0.000	0.000	8.895	6.403	96.176	MWD+IFR1+MS
1900.000	16.000	166.196	1889.643	9.073	0.000	7.099	-0.000	3.298	0.000	0.000	9.437	6.751	95.620	MWD+IFR1+MS
2000.000	18.000	166.196	1985.268	9.565	0.000	7.465	-0.000	3.438	0.000	0.000	9.960	7.109	95.249	MWD+IFR1+MS
2100.000	20.000	166.196	2079.816	10.037	0.000	7.841	-0.000	3.596	0.000	0.000	10.465	7.476	95.016	MWD+IFR1+MS
2200.000	22.000	166.196	2173.169	10.492	0.000	8.227	-0.000	3.773	0.000	0.000	10.956	7.854	94.895	MWD+IFR1+MS
2214.097	22.282	166.196	2186.227	10.520	0.000	8.279	-0.000	3.778	0.000	0.000	10.996	7.908	94.903	MWD+IFR1+MS
2300.000	22.282	166.196	2265.715	10.762	0.000	8.607	-0.000	3.871	0.000	0.000	11.223	8.242	95.178	MWD+IFR1+MS
2400.000	22.282	166.196	2358.248	11.062	0.000	9.010	-0.000	3.990	0.000	0.000	11.507	8.645	95.715	MWD+IFR1+MS
2500.000	22.282	166.196	2450.781	11.374	0.000	9.423	-0.000	4.116	0.000	0.000	11.803	9.056	96.329	MWD+IFR1+MS
2600.000	22.282	166.196	2543.314	11.694	0.000	9.842	-0.000	4.247	0.000	0.000	12.107	9.472	96.986	MWD+IFR1+MS
2700.000	22.282	166.196	2635.847	12.023	0.000	10.267	-0.000	4.383	0.000	0.000	12.419	9.892	97.690	MWD+IFR1+MS
2800.000	22.282	166.196	2728.379	12.359	0.000	10.696	-0.000	4.523	0.000	0.000	12.738	10.315	98.443	MWD+IFR1+MS
2900.000	22.282	166.196	2820.912	12.702	0.000	11.130	-0.000	4.668	0.000	0.000	13.064	10.742	99.250	MWD+IFR1+MS

3000.000	22.282	166.196	2913.445	13.052	0.000	11.567	-0.000	4.817	0.000	0.000	13.396	11.172	100.114	MWD+IFR1+MS
3100.000	22.282	166.196	3005.978	13.407	0.000	12.007	-0.000	4.970	0.000	0.000	13.735	11.604	101.041	MWD+IFR1+MS
3200.000	22.282	166.196	3098.511	13.768	0.000	12.451	-0.000	5.125	0.000	0.000	14.080	12.037	102.035	MWD+IFR1+MS
3300.000	22.282	166.196	3191.044	14.134	0.000	12.897	-0.000	5.284	0.000	0.000	14.430	12.472	103.099	MWD+IFR1+MS
3400.000	22.282	166.196	3283.577	14.504	0.000	13.345	-0.000	5.446	0.000	0.000	14.785	12.907	104.238	MWD+IFR1+MS
3500.000	22.282	166.196	3376.110	14.879	0.000	13.795	-0.000	5.610	0.000	0.000	15.146	13.343	105.457	MWD+IFR1+MS
3600.000	22.282	166.196	3468.643	15.257	0.000	14.248	-0.000	5.777	0.000	0.000	15.512	13.780	106.757	MWD+IFR1+MS
3700.000	22.282	166.196	3561.176	15.640	0.000	14.702	-0.000	5.946	0.000	0.000	15.884	14.216	108.143	MWD+IFR1+MS
3800.000	22.282	166.196	3653.709	16.025	0.000	15.158	-0.000	6.118	0.000	0.000	16.260	14.652	109.614	MWD+IFR1+MS
3900.000	22.282	166.196	3746.242	16.414	0.000	15.615	-0.000	6.292	0.000	0.000	16.641	15.087	111.169	MWD+IFR1+MS
4000.000	22.282	166.196	3838.775	16.806	0.000	16.073	-0.000	6.467	0.000	0.000	17.028	15.522	112.807	MWD+IFR1+MS
4100.000	22.282	166.196	3931.307	17.200	0.000	16.533	-0.000	6.645	0.000	0.000	17.419	15.955	114.522	MWD+IFR1+MS
4200.000	22.282	166.196	4023.840	17.597	0.000	16.994	-0.000	6.824	0.000	0.000	17.815	16.387	116.306	MWD+IFR1+MS
4300.000	22.282	166.196	4116.373	17.997	0.000	17.456	-0.000	7.005	0.000	0.000	18.216	16.817	118.149	MWD+IFR1+MS
4400.000	22.282	166.196	4208.906	18.399	0.000	17.919	-0.000	7.188	0.000	0.000	18.621	17.246	120.037	MWD+IFR1+MS
4500.000	22.282	166.196	4301.439	18.802	0.000	18.383	-0.000	7.373	0.000	0.000	19.032	17.672	121.955	MWD+IFR1+MS
4600.000	22.282	166.196	4393.972	19.208	0.000	18.847	-0.000	7.559	0.000	0.000	19.447	18.097	123.885	MWD+IFR1+MS
4700.000	22.282	166.196	4486.505	19.616	0.000	19.312	-0.000	7.746	0.000	0.000	19.866	18.520	125.810	MWD+IFR1+MS
4800.000	22.282	166.196	4579.038	20.025	0.000	19.778	-0.000	7.936	0.000	0.000	20.290	18.941	127.713	MWD+IFR1+MS
4900.000	22.282	166.196	4671.571	20.436	0.000	20.245	-0.000	8.126	0.000	0.000	20.718	19.360	129.578	MWD+IFR1+MS
5000.000	22.282	166.196	4764.104	20.849	0.000	20.712	-0.000	8.318	0.000	0.000	21.150	19.777	131.390	MWD+IFR1+MS
5100.000	22.282	166.196	4856.637	21.263	0.000	21.180	-0.000	8.512	0.000	0.000	21.585	20.193	133.137	MWD+IFR1+MS
5200.000	22.282	166.196	4949.170	21.678	0.000	21.649	-0.000	8.707	0.000	0.000	22.024	20.607	134.811	MWD+IFR1+MS
5300.000	22.282	166.196	5041.703	22.094	0.000	22.118	-0.000	8.903	0.000	0.000	22.466	21.020	-43.595	MWD+IFR1+MS
5400.000	22.282	166.196	5134.236	22.512	0.000	22.587	-0.000	9.101	0.000	0.000	22.911	21.431	-42.085	MWD+IFR1+MS
5500.000	22.282	166.196	5226.768	22.931	0.000	23.057	-0.000	9.300	0.000	0.000	23.358	21.842	-40.660	MWD+IFR1+MS
5600.000	22.282	166.196	5319.301	23.351	0.000	23.527	-0.000	9.501	0.000	0.000	23.808	22.252	-39.319	MWD+IFR1+MS
5700.000	22.282	166.196	5411.834	23.772	0.000	23.998	-0.000	9.703	0.000	0.000	24.260	22.661	-38.061	MWD+IFR1+MS
5800.000	22.282	166.196	5504.367	24.194	0.000	24.468	-0.000	9.906	0.000	0.000	24.714	23.069	-36.882	MWD+IFR1+MS
5900.000	22.282	166.196	5596.900	24.617	0.000	24.940	-0.000	10.111	0.000	0.000	25.170	23.477	-35.780	MWD+IFR1+MS
6000.000	22.282	166.196	5689.433	25.041	0.000	25.411	-0.000	10.317	0.000	0.000	25.628	23.884	-34.750	MWD+IFR1+MS
6100.000	22.282	166.196	5781.966	25.465	0.000	25.883	-0.000	10.524	0.000	0.000	26.087	24.291	-33.788	MWD+IFR1+MS
6200.000	22.282	166.196	5874.499	25.891	0.000	26.356	-0.000	10.733	0.000	0.000	26.547	24.698	-32.888	MWD+IFR1+MS

6300.000	22.282	166.196	5967.032	26.317	0.000	26.828	-0.000	10.943	0.000	0.000	27.009	25.105	-32.048	MWD+IFR1+MS
6400.000	22.282	166.196	6059.565	26.744	0.000	27.301	-0.000	11.155	0.000	0.000	27.472	25.511	-31.262	MWD+IFR1+MS
6500.000	22.282	166.196	6152.098	27.171	0.000	27.774	-0.000	11.367	0.000	0.000	27.935	25.918	-30.527	MWD+IFR1+MS
6600.000	22.282	166.196	6244.631	27.600	0.000	28.247	-0.000	11.582	0.000	0.000	28.400	26.325	-29.839	MWD+IFR1+MS
6700.000	22.282	166.196	6337.164	28.028	0.000	28.721	-0.000	11.797	0.000	0.000	28.866	26.731	-29.193	MWD+IFR1+MS
6800.000	22.282	166.196	6429.696	28.458	0.000	29.194	-0.000	12.015	0.000	0.000	29.332	27.138	-28.588	MWD+IFR1+MS
6900.000	22.282	166.196	6522.229	28.888	0.000	29.668	-0.000	12.233	0.000	0.000	29.799	27.545	-28.019	MWD+IFR1+MS
7000.000	22.282	166.196	6614.762	29.318	0.000	30.142	-0.000	12.453	0.000	0.000	30.267	27.952	-27.485	MWD+IFR1+MS
7100.000	22.282	166.196	6707.295	29.749	0.000	30.617	-0.000	12.674	0.000	0.000	30.736	28.360	-26.982	MWD+IFR1+MS
7200.000	22.282	166.196	6799.828	30.181	0.000	31.091	-0.000	12.897	0.000	0.000	31.205	28.767	-26.507	MWD+IFR1+MS
7300.000	22.282	166.196	6892.361	30.613	0.000	31.566	-0.000	13.121	0.000	0.000	31.674	29.175	-26.060	MWD+IFR1+MS
7323.140	22.282	166.196	6913.773	30.712	0.000	31.674	-0.000	13.173	0.000	0.000	31.781	29.269	-25.938	MWD+IFR1+MS
7400.000	20.745	166.196	6985.276	31.088	0.000	32.031	-0.000	13.346	0.000	0.000	32.134	29.584	-25.629	MWD+IFR1+MS
7500.000	18.745	166.196	7079.392	31.593	0.000	32.486	-0.000	13.578	0.000	0.000	32.592	30.034	-25.757	MWD+IFR1+MS
7600.000	16.745	166.196	7174.630	32.069	0.000	32.928	-0.000	13.799	0.000	0.000	33.039	30.492	-26.095	MWD+IFR1+MS
7700.000	14.745	166.196	7270.873	32.495	0.000	33.354	-0.000	14.007	0.000	0.000	33.471	30.942	-26.480	MWD+IFR1+MS
7800.000	12.745	166.196	7368.004	32.872	0.000	33.764	-0.000	14.201	0.000	0.000	33.888	31.382	-26.909	MWD+IFR1+MS
7900.000	10.745	166.196	7465.906	33.199	0.000	34.158	-0.000	14.384	0.000	0.000	34.290	31.812	-27.384	MWD+IFR1+MS
8000.000	8.745	166.196	7564.458	33.475	0.000	34.535	-0.000	14.556	0.000	0.000	34.676	32.229	-27.903	MWD+IFR1+MS
8100.000	6.745	166.196	7663.541	33.701	0.000	34.896	-0.000	14.718	0.000	0.000	35.046	32.635	-28.466	MWD+IFR1+MS
8200.000	4.745	166.196	7763.033	33.877	0.000	35.241	-0.000	14.873	0.000	0.000	35.400	33.026	-29.073	MWD+IFR1+MS
8300.000	2.745	166.196	7862.815	34.003	0.000	35.568	-0.000	15.021	0.000	0.000	35.739	33.403	-29.724	MWD+IFR1+MS
8400.000	0.745	166.196	7962.763	34.078	0.000	35.879	-0.000	15.163	0.000	0.000	36.062	33.765	-30.416	MWD+IFR1+MS
8437.238	0.000	0.000	8000.000	34.471	0.000	35.589	0.000	15.215	0.000	0.000	36.163	33.869	-30.400	MWD+IFR1+MS
8500.000	0.000	0.000	8062.762	34.637	0.000	35.747	0.000	15.303	0.000	0.000	36.321	34.034	-30.470	MWD+IFR1+MS
8600.000	0.000	0.000	8162.762	34.902	0.000	36.002	0.000	15.445	0.000	0.000	36.578	34.298	-30.571	MWD+IFR1+MS
8700.000	0.000	0.000	8262.762	35.171	0.000	36.260	0.000	15.590	0.000	0.000	36.839	34.564	-30.693	MWD+IFR1+MS
8800.000	0.000	0.000	8362.762	35.441	0.000	36.520	0.000	15.739	0.000	0.000	37.103	34.831	-30.813	MWD+IFR1+MS
8900.000	0.000	0.000	8462.762	35.713	0.000	36.782	0.000	15.891	0.000	0.000	37.367	35.100	-30.932	MWD+IFR1+MS
9000.000	0.000	0.000	8562.762	35.986	0.000	37.045	0.000	16.047	0.000	0.000	37.634	35.370	-31.050	MWD+IFR1+MS
9100.000	0.000	0.000	8662.762	36.261	0.000	37.310	0.000	16.206	0.000	0.000	37.902	35.642	-31.166	MWD+IFR1+MS
9200.000	0.000	0.000	8762.762	36.538	0.000	37.577	0.000	16.368	0.000	0.000	38.171	35.916	-31.281	MWD+IFR1+MS
9300.000	0.000	0.000	8862.762	36.816	0.000	37.845	0.000	16.534	0.000	0.000	38.442	36.191	-31.395	MWD+IFR1+MS

9400.000	0.000	0.000	8962.762	37.095	0.000	38.114	0.000	16.704	0.000	0.000	38.715	36.467	-31.507	MWD+IFR1+MS
9500.000	0.000	0.000	9062.762	37.375	0.000	38.385	0.000	16.877	0.000	0.000	38.988	36.745	-31.618	MWD+IFR1+MS
9600.000	0.000	0.000	9162.762	37.657	0.000	38.657	0.000	17.053	0.000	0.000	39.264	37.024	-31.729	MWD+IFR1+MS
9700.000	0.000	0.000	9262.762	37.940	0.000	38.931	0.000	17.233	0.000	0.000	39.540	37.305	-31.837	MWD+IFR1+MS
9800.000	0.000	0.000	9362.762	38.225	0.000	39.206	0.000	17.417	0.000	0.000	39.818	37.587	-31.945	MWD+IFR1+MS
9860.040	0.000	0.000	9422.803	38.394	0.000	39.370	0.000	17.528	0.000	0.000	39.982	37.757	-31.990	MWD+IFR1+MS
9900.000	3.197	0.034	9462.742	37.971	0.000	39.476	0.000	17.602	0.000	0.000	40.092	37.871	-32.099	MWD+IFR1+MS
10000.000	11.197	0.034	9561.873	37.004	0.000	39.731	0.000	17.805	0.000	0.000	40.543	38.437	-38.726	MWD+IFR1+MS
10100.000	19.197	0.034	9658.298	36.083	0.000	39.964	0.000	18.134	0.000	0.000	41.311	39.082	128.602	MWD+IFR1+MS
10200.000	27.197	0.034	9750.139	34.721	0.000	40.171	0.000	18.659	0.000	0.000	42.118	39.486	120.285	MWD+IFR1+MS
10300.000	35.197	0.034	9835.609	33.054	0.000	40.352	0.000	19.433	0.000	0.000	42.843	39.758	115.651	MWD+IFR1+MS
10400.000	43.197	0.034	9913.044	31.258	0.000	40.508	0.000	20.475	0.000	0.000	43.430	39.951	113.185	MWD+IFR1+MS
10500.000	51.197	0.034	9980.937	29.553	0.000	40.640	0.000	21.770	0.000	0.000	43.862	40.093	111.978	MWD+IFR1+MS
10600.000	59.197	0.034	10037.967	28.200	0.000	40.750	0.000	23.278	0.000	0.000	44.149	40.196	111.542	MWD+IFR1+MS
10700.000	67.197	0.034	10083.023	27.459	0.000	40.838	0.000	24.943	0.000	0.000	44.311	40.269	111.585	MWD+IFR1+MS
10800.000	75.197	0.034	10115.229	27.537	0.000	40.907	0.000	26.702	0.000	0.000	44.378	40.320	111.889	MWD+IFR1+MS
10900.000	83.197	0.034	10133.957	28.510	0.000	40.956	0.000	28.489	0.000	0.000	44.387	40.356	112.238	MWD+IFR1+MS
10985.040	90.000	0.034	10139.000	29.652	-0.000	40.982	0.000	29.652	0.000	0.000	44.377	40.380	112.378	MWD+IFR1+MS
11000.000	90.000	0.034	10139.000	29.702	-0.000	40.984	0.000	29.702	0.000	0.000	44.376	40.383	112.375	MWD+IFR1+MS
11100.000	90.000	0.034	10139.000	30.007	-0.000	41.017	0.000	30.007	0.000	0.000	44.368	40.419	112.459	MWD+IFR1+MS
11200.000	90.000	0.034	10139.000	30.334	-0.000	41.073	0.000	30.334	0.000	0.000	44.364	40.474	112.652	MWD+IFR1+MS
11300.000	90.000	0.034	10139.000	30.678	-0.000	41.147	0.000	30.678	0.000	0.000	44.363	40.545	112.946	MWD+IFR1+MS
11400.000	90.000	0.034	10139.000	31.037	-0.000	41.239	0.000	31.037	0.000	0.000	44.366	40.632	113.349	MWD+IFR1+MS
11500.000	90.000	0.034	10139.000	31.412	-0.000	41.350	0.000	31.412	0.000	0.000	44.372	40.734	113.873	MWD+IFR1+MS
11600.000	90.000	0.034	10139.000	31.802	-0.000	41.480	0.000	31.802	0.000	0.000	44.382	40.852	114.531	MWD+IFR1+MS
11700.000	90.000	0.034	10139.000	32.206	-0.000	41.628	0.000	32.206	0.000	0.000	44.396	40.983	115.342	MWD+IFR1+MS
11800.000	90.000	0.034	10139.000	32.624	-0.000	41.794	0.000	32.624	0.000	0.000	44.416	41.128	116.328	MWD+IFR1+MS
11900.000	90.000	0.034	10139.000	33.056	-0.000	41.977	0.000	33.056	0.000	0.000	44.442	41.285	117.517	MWD+IFR1+MS
12000.000	90.000	0.034	10139.000	33.500	-0.000	42.179	0.000	33.500	0.000	0.000	44.475	41.453	118.940	MWD+IFR1+MS
12100.000	90.000	0.034	10139.000	33.956	-0.000	42.397	0.000	33.956	0.000	0.000	44.517	41.630	120.636	MWD+IFR1+MS
12200.000	90.000	0.034	10139.000	34.425	-0.000	42.633	0.000	34.425	0.000	0.000	44.570	41.814	122.646	MWD+IFR1+MS
12300.000	90.000	0.034	10139.000	34.905	-0.000	42.886	0.000	34.905	0.000	0.000	44.636	42.002	125.010	MWD+IFR1+MS
12400.000	90.000	0.034	10139.000	35.395	-0.000	43.155	0.000	35.395	0.000	0.000	44.718	42.192	127.759	MWD+IFR1+MS

12500.000	90.000	0.034	10139.000	35.897	-0.000	43.440	0.000	35.897	0.000	0.000	44.819	42.378	130.903	MWD+IFR1+MS
12600.000	90.000	0.034	10139.000	36.408	-0.000	43.741	0.000	36.408	0.000	0.000	44.944	42.557	134.414	MWD+IFR1+MS
12700.000	90.000	0.034	10139.000	36.929	-0.000	44.058	0.000	36.929	0.000	0.000	45.097	42.725	-41.789	MWD+IFR1+MS
12800.000	90.000	0.034	10139.000	37.459	-0.000	44.390	0.000	37.459	0.000	0.000	45.280	42.878	-37.839	MWD+IFR1+MS
12900.000	90.000	0.034	10139.000	37.997	-0.000	44.737	0.000	37.997	0.000	0.000	45.495	43.014	-33.900	MWD+IFR1+MS
13000.000	90.000	0.034	10139.000	38.545	-0.000	45.098	0.000	38.545	0.000	0.000	45.743	43.133	-30.134	MWD+IFR1+MS
13100.000	90.000	0.034	10139.000	39.100	-0.000	45.474	0.000	39.100	0.000	0.000	46.022	43.234	-26.660	MWD+IFR1+MS
13200.000	90.000	0.034	10139.000	39.663	-0.000	45.863	0.000	39.663	0.000	0.000	46.331	43.321	-23.548	MWD+IFR1+MS
13300.000	90.000	0.034	10139.000	40.234	-0.000	46.266	0.000	40.234	0.000	0.000	46.668	43.394	-20.815	MWD+IFR1+MS
13400.000	90.000	0.034	10139.000	40.811	-0.000	46.682	0.000	40.811	0.000	0.000	47.028	43.457	-18.444	MWD+IFR1+MS
13500.000	90.000	0.034	10139.000	41.396	-0.000	47.111	0.000	41.396	0.000	0.000	47.411	43.511	-16.400	MWD+IFR1+MS
13600.000	90.000	0.034	10139.000	41.987	-0.000	47.552	0.000	41.987	0.000	0.000	47.814	43.558	-14.642	MWD+IFR1+MS
13700.000	90.000	0.034	10139.000	42.584	-0.000	48.006	0.000	42.584	0.000	0.000	48.235	43.599	-13.129	MWD+IFR1+MS
13800.000	90.000	0.034	10139.000	43.187	-0.000	48.471	0.000	43.187	0.000	0.000	48.673	43.635	-11.822	MWD+IFR1+MS
13900.000	90.000	0.034	10139.000	43.796	-0.000	48.947	0.000	43.796	0.000	0.000	49.126	43.668	-10.689	MWD+IFR1+MS
14000.000	90.000	0.034	10139.000	44.411	-0.000	49.435	0.000	44.411	0.000	0.000	49.594	43.699	-9.703	MWD+IFR1+MS
14100.000	90.000	0.034	10139.000	45.031	-0.000	49.934	0.000	45.031	0.000	0.000	50.075	43.726	-8.840	MWD+IFR1+MS
14200.000	90.000	0.034	10139.000	45.656	-0.000	50.443	0.000	45.656	0.000	0.000	50.569	43.753	-8.081	MWD+IFR1+MS
14300.000	90.000	0.034	10139.000	46.285	-0.000	50.962	0.000	46.285	0.000	0.000	51.076	43.777	-7.411	MWD+IFR1+MS
14400.000	90.000	0.034	10139.000	46.920	-0.000	51.491	0.000	46.920	0.000	0.000	51.593	43.801	-6.817	MWD+IFR1+MS
14500.000	90.000	0.034	10139.000	47.559	-0.000	52.029	0.000	47.559	0.000	0.000	52.122	43.824	-6.287	MWD+IFR1+MS
14600.000	90.000	0.034	10139.000	48.202	-0.000	52.577	0.000	48.202	0.000	0.000	52.661	43.846	-5.813	MWD+IFR1+MS
14700.000	90.000	0.034	10139.000	48.849	-0.000	53.134	0.000	48.849	0.000	0.000	53.210	43.867	-5.387	MWD+IFR1+MS
14800.000	90.000	0.034	10139.000	49.501	-0.000	53.699	0.000	49.501	0.000	0.000	53.768	43.888	-5.003	MWD+IFR1+MS
14900.000	90.000	0.034	10139.000	50.156	-0.000	54.273	0.000	50.156	0.000	0.000	54.336	43.909	-4.656	MWD+IFR1+MS
15000.000	90.000	0.034	10139.000	50.815	-0.000	54.855	0.000	50.815	0.000	0.000	54.912	43.930	-4.341	MWD+IFR1+MS
15100.000	90.000	0.034	10139.000	51.477	-0.000	55.445	0.000	51.477	0.000	0.000	55.497	43.951	-4.055	MWD+IFR1+MS
15200.000	90.000	0.034	10139.000	52.143	-0.000	56.042	0.000	52.143	0.000	0.000	56.090	43.972	-3.793	MWD+IFR1+MS
15300.000	90.000	0.034	10139.000	52.812	-0.000	56.647	0.000	52.812	0.000	0.000	56.691	43.993	-3.553	MWD+IFR1+MS
15400.000	90.000	0.034	10139.000	53.484	-0.000	57.259	0.000	53.484	0.000	0.000	57.300	44.014	-3.333	MWD+IFR1+MS
15500.000	90.000	0.034	10139.000	54.159	-0.000	57.878	0.000	54.159	0.000	0.000	57.915	44.035	-3.131	MWD+IFR1+MS
15600.000	90.000	0.034	10139.000	54.837	-0.000	58.504	0.000	54.837	0.000	0.000	58.538	44.056	-2.945	MWD+IFR1+MS
15700.000	90.000	0.034	10139.000	55.518	-0.000	59.136	0.000	55.518	0.000	0.000	59.167	44.077	-2.773	MWD+IFR1+MS

15800.000	90.000	0.034	10139.000	56.202	-0.000	59.774	0.000	56.202	0.000	0.000	59.804	44.099	-2.613	MWD+IFR1+MS
15900.000	90.000	0.034	10139.000	56.888	-0.000	60.419	0.000	56.888	0.000	0.000	60.446	44.121	-2.466	MWD+IFR1+MS
16000.000	90.000	0.034	10139.000	57.577	-0.000	61.069	0.000	57.577	0.000	0.000	61.094	44.144	-2.328	MWD+IFR1+MS
16100.000	90.000	0.034	10139.000	58.268	-0.000	61.726	0.000	58.268	0.000	0.000	61.749	44.166	-2.201	MWD+IFR1+MS
16200.000	90.000	0.034	10139.000	58.962	-0.000	62.387	0.000	58.962	0.000	0.000	62.409	44.189	-2.082	MWD+IFR1+MS
16300.000	90.000	0.034	10139.000	59.658	-0.000	63.055	0.000	59.658	0.000	0.000	63.074	44.213	-1.970	MWD+IFR1+MS
16400.000	90.000	0.034	10139.000	60.356	-0.000	63.727	0.000	60.356	0.000	0.000	63.745	44.237	-1.867	MWD+IFR1+MS
16500.000	90.000	0.034	10139.000	61.056	-0.000	64.404	0.000	61.056	0.000	0.000	64.421	44.261	-1.769	MWD+IFR1+MS
16600.000	90.000	0.034	10139.000	61.758	-0.000	65.086	0.000	61.758	0.000	0.000	65.102	44.285	-1.678	MWD+IFR1+MS
16700.000	90.000	0.034	10139.000	62.462	-0.000	65.773	0.000	62.462	0.000	0.000	65.788	44.310	-1.593	MWD+IFR1+MS
16800.000	90.000	0.034	10139.000	63.168	-0.000	66.465	0.000	63.168	0.000	0.000	66.478	44.336	-1.512	MWD+IFR1+MS
16900.000	90.000	0.034	10139.000	63.876	-0.000	67.161	0.000	63.876	0.000	0.000	67.173	44.361	-1.437	MWD+IFR1+MS
17000.000	90.000	0.034	10139.000	64.586	-0.000	67.861	0.000	64.586	0.000	0.000	67.873	44.388	-1.365	MWD+IFR1+MS
17100.000	90.000	0.034	10139.000	65.297	-0.000	68.566	0.000	65.297	0.000	0.000	68.576	44.414	-1.298	MWD+IFR1+MS
17200.000	90.000	0.034	10139.000	66.010	-0.000	69.274	0.000	66.010	0.000	0.000	69.284	44.441	-1.235	MWD+IFR1+MS
17300.000	90.000	0.034	10139.000	66.725	-0.000	69.986	0.000	66.725	0.000	0.000	69.996	44.469	-1.175	MWD+IFR1+MS
17400.000	90.000	0.034	10139.000	67.441	-0.000	70.703	0.000	67.441	0.000	0.000	70.711	44.497	-1.118	MWD+IFR1+MS
17500.000	90.000	0.034	10139.000	68.158	-0.000	71.422	0.000	68.158	0.000	0.000	71.430	44.525	-1.065	MWD+IFR1+MS
17600.000	90.000	0.034	10139.000	68.878	-0.000	72.146	0.000	68.878	0.000	0.000	72.153	44.554	-1.014	MWD+IFR1+MS
17700.000	90.000	0.034	10139.000	69.598	-0.000	72.873	0.000	69.598	0.000	0.000	72.880	44.583	-0.966	MWD+IFR1+MS
17800.000	90.000	0.034	10139.000	70.320	-0.000	73.603	0.000	70.320	0.000	0.000	73.610	44.613	-0.920	MWD+IFR1+MS
17900.000	90.000	0.034	10139.000	71.043	-0.000	74.337	0.000	71.043	0.000	0.000	74.343	44.643	-0.877	MWD+IFR1+MS
18000.000	90.000	0.034	10139.000	71.768	-0.000	75.073	0.000	71.768	0.000	0.000	75.079	44.674	-0.836	MWD+IFR1+MS
18100.000	90.000	0.034	10139.000	72.494	-0.000	75.813	0.000	72.494	0.000	0.000	75.818	44.705	-0.797	MWD+IFR1+MS
18200.000	90.000	0.034	10139.000	73.221	-0.000	76.556	0.000	73.221	0.000	0.000	76.561	44.737	-0.759	MWD+IFR1+MS
18300.000	90.000	0.034	10139.000	73.949	-0.000	77.302	0.000	73.949	0.000	0.000	77.306	44.769	-0.724	MWD+IFR1+MS
18400.000	90.000	0.034	10139.000	74.678	-0.000	78.050	0.000	74.678	0.000	0.000	78.054	44.801	-0.690	MWD+IFR1+MS
18500.000	90.000	0.034	10139.000	75.409	-0.000	78.801	0.000	75.409	0.000	0.000	78.805	44.834	-0.658	MWD+IFR1+MS
18600.000	90.000	0.034	10139.000	76.140	-0.000	79.555	0.000	76.140	0.000	0.000	79.559	44.868	-0.627	MWD+IFR1+MS
18700.000	90.000	0.034	10139.000	76.873	-0.000	80.312	0.000	76.873	0.000	0.000	80.315	44.901	-0.598	MWD+IFR1+MS
18800.000	90.000	0.034	10139.000	77.607	-0.000	81.071	0.000	77.607	0.000	0.000	81.074	44.936	-0.570	MWD+IFR1+MS
18900.000	90.000	0.034	10139.000	78.341	-0.000	81.832	0.000	78.341	0.000	0.000	81.835	44.971	-0.543	MWD+IFR1+MS
19000.000	90.000	0.034	10139.000	79.077	-0.000	82.596	0.000	79.077	0.000	0.000	82.599	45.006	-0.517	MWD+IFR1+MS

19100.000	90.000	0.034	10139.000	79.813	-0.000	83.362	0.000	79.813	0.000	0.000	83.365	45.042	-0.493	MWD+IFR1+MS
19200.000	90.000	0.034	10139.000	80.551	-0.000	84.130	0.000	80.551	0.000	0.000	84.133	45.078	-0.469	MWD+IFR1+MS
19300.000	90.000	0.034	10139.000	81.289	-0.000	84.901	0.000	81.289	0.000	0.000	84.903	45.115	-0.447	MWD+IFR1+MS
19400.000	90.000	0.034	10139.000	82.028	-0.000	85.674	0.000	82.028	0.000	0.000	85.676	45.152	-0.425	MWD+IFR1+MS
19500.000	90.000	0.034	10139.000	82.768	-0.000	86.448	0.000	82.768	0.000	0.000	86.450	45.189	-0.405	MWD+IFR1+MS
19600.000	90.000	0.034	10139.000	83.509	-0.000	87.225	0.000	83.509	0.000	0.000	87.227	45.227	-0.385	MWD+IFR1+MS
19700.000	90.000	0.034	10139.000	84.251	-0.000	88.004	0.000	84.251	0.000	0.000	88.005	45.266	-0.366	MWD+IFR1+MS
19800.000	90.000	0.034	10139.000	84.993	-0.000	88.785	0.000	84.993	0.000	0.000	88.786	45.305	-0.348	MWD+IFR1+MS
19900.000	90.000	0.034	10139.000	85.736	-0.000	89.567	0.000	85.736	0.000	0.000	89.568	45.345	-0.331	MWD+IFR1+MS
20000.000	90.000	0.034	10139.000	86.480	-0.000	90.351	0.000	86.480	0.000	0.000	90.353	45.384	-0.314	MWD+IFR1+MS
20100.000	90.000	0.034	10139.000	87.225	-0.000	91.137	0.000	87.225	0.000	0.000	91.139	45.425	-0.298	MWD+IFR1+MS
20200.000	90.000	0.034	10139.000	87.970	-0.000	91.925	0.000	87.970	0.000	0.000	91.926	45.466	-0.282	MWD+IFR1+MS
20300.000	90.000	0.034	10139.000	88.716	-0.000	92.715	0.000	88.716	0.000	0.000	92.716	45.507	-0.267	MWD+IFR1+MS
20400.000	90.000	0.034	10139.000	89.463	-0.000	93.506	0.000	89.463	0.000	0.000	93.507	45.549	-0.253	MWD+IFR1+MS
20500.000	90.000	0.034	10139.000	90.210	-0.000	94.299	0.000	90.210	0.000	0.000	94.299	45.591	-0.239	MWD+IFR1+MS
20600.000	90.000	0.034	10139.000	90.958	-0.000	95.093	0.000	90.958	0.000	0.000	95.094	45.634	-0.226	MWD+IFR1+MS
20700.000	90.000	0.034	10139.000	91.707	-0.000	95.889	0.000	91.707	0.000	0.000	95.889	45.677	-0.213	MWD+IFR1+MS
20800.000	90.000	0.034	10139.000	92.456	-0.000	96.686	0.000	92.456	0.000	0.000	96.687	45.721	-0.201	MWD+IFR1+MS
20900.000	90.000	0.034	10139.000	93.206	-0.000	97.485	0.000	93.206	0.000	0.000	97.485	45.765	-0.189	MWD+IFR1+MS
20967.442	90.000	0.034	10139.000	93.711	-0.000	98.023	0.000	93.711	0.000	0.000	98.023	45.795	-0.181	MWD+IFR1+MS
21000.000	90.000	0.034	10139.000	93.955	-0.000	98.282	0.000	93.955	0.000	0.000	98.283	45.809	-0.178	MWD+IFR1+MS
21066.397	90.000	0.034	10139.000	94.452	-0.000	98.813	0.000	94.452	0.000	0.000	98.813	45.839	-0.170	MWD+IFR1+MS

Plan Targets PLU 29-20 121H

Target Name	Measured Depth (ft)	Grid Northing (ft)	Grid Easting (ft)	TVD MSL (ft)	Target Shape
FTP 2	10984.99	401461.70	664630.60	6744.00	RECTANGLE
LTP 2	20967.44	411444.10	664636.50	6744.00	RECTANGLE
BHL 2	21067.06	411543.10	664635.90	6744.00	RECTANGLE

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO Energy Incorporated
WELL NAME & NO.:	Poker Lake Unit 29-20 BS 121H
LOCATION:	Sec 29-25S-31E-NMP
COUNTY:	Eddy County, New Mexico

COA

H_2S	◉ No	○ Yes		
Potash / WIPP	◉ None	○ Secretary	○ R-111-P	☐ WIPP
Cave / Karst	○ Low	○ Medium	◉ High	○ Critical
Wellhead	○ Conventional	◉ Multibowl	○ Both	○ Diverter
Cementing	☐ Primary Squeeze	☑ Cont. Squeeze	☑ EchoMeter	☐ DV Tool
Special Req	☑ Break Testing	☐ Water Disposal	☐ COM	☑ Unit
Variance	☑ Flex Hose	☐ Casing Clearance	☐ Pilot Hole	☐ Capitan Reef
Variance	☐ Four-String	☑ Offline Cementing	☐ Fluid-Filled	☐ Open Annulus
☐ **Batch APD / Sundry**				

A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet 43 CFR 3176 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

1. The **9-5/8** inch surface casing shall be set at approximately 1000 feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface. ***Set depth adjusted per BLM geologist.***

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

Approval Date: 05/23/2024

d. If cement falls back, remedial cementing will be done prior to drilling out that string.

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

Operator has proposed to cement in two stages by conventionally cementing the first stage and performing a bradenhead squeeze on the second stage, contingent upon no returns to surface.

a. First stage: Operator will cement with intent to reach the top of the **Brushy Canyon at 6885'**

b. Second stage:

- Operator will perform bradenhead squeeze and top-out. Cement to surface. If cement does not reach surface, the appropriate BLM office shall be notified. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**

❖ In High Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

Operator has proposed to pump down 9-5/8" X 7-5/8" annulus after primary cementing stage. Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus OR operator shall run a CBL from TD of the 7-5/8" casing to surface after the second stage BH to verify TOC. Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry between second stage BH and top out.

If cement does not reach surface, the next casing string must come to surface. Operator must use a limited flush fluid volume of 1 bbl following backside cementing procedures.

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

- Cement should tie-back at least **300 feet** into previous casing string (tieback increased due to not meeting 0.422" clearance requirement.) Operator shall provide method of verification. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'

2. Operator has proposed a multi-bowl wellhead assembly. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
    e. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172 must be followed.

D. SPECIAL REQUIREMENT (S)

Unit Wells

The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.

Commercial Well Determination

A commercial well determination shall be submitted after production has been established for at least six months.

BOPE Break Testing Variance

- BOPE Break Testing is ONLY permitted for 5M BOPE or less. **(Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP)**
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- 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 **(575-706-2779)** prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted Choose an item. 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per Onshore Oil and Gas Order No. 2.

- If in the event break testing is not utilized, then a full BOPE test would be conducted.

Offline Cementing
Contact the BLM prior to the commencement of any offline cementing procedure.

GENERAL REQUIREMENTS

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

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

Eddy County (API No. / US Well No. contains 30-015-#####)
Email **or** call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
BLM_NM_CFO_DrillingNotifications@blm.gov; (575) 361-2822

Lea County (API No. / US Well No. contains 30-025-#####)
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240; (575) 689-5981

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per **43 CFR part 3170 Subpart 3172** as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. **Wait on cement (WOC) for Potash Areas:** After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. **Wait on cement (WOC) for Water Basin:** After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR part 3170 Subpart 3172** and **API STD 53 Sec. 5.3**.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. Whenever any seal subject to test pressure is broken, all the tests in **43 CFR part 3170 Subpart 3172** must be followed.
    e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
    b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For

all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR part 3170 Subpart 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
e. The results of the test shall be reported to the appropriate BLM office.
f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **43 CFR part 3170 Subpart 3172**.

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

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

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

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 H_2S, 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 H_2S 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
    - Detection of H_2S, and
    - Measures for protection against the gas,
    - 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 (SO_2). 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 H_2S and SO_2

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H_2S	1.189 Air = I	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO_2	2.21 Air = I	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: 911

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

HOSPITALS: 911

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

AGENT NOTIFICATIONS:

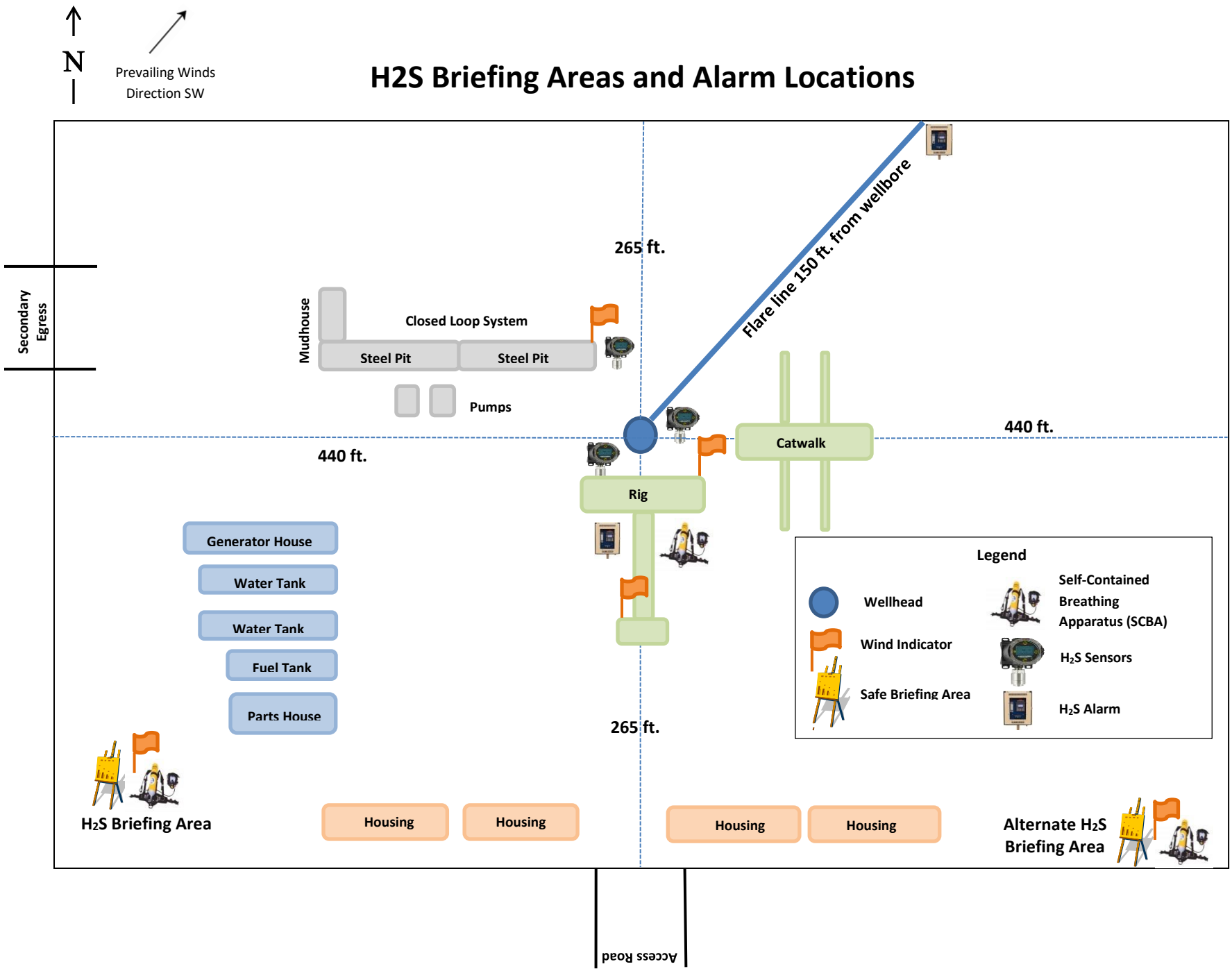
For Lea County:

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

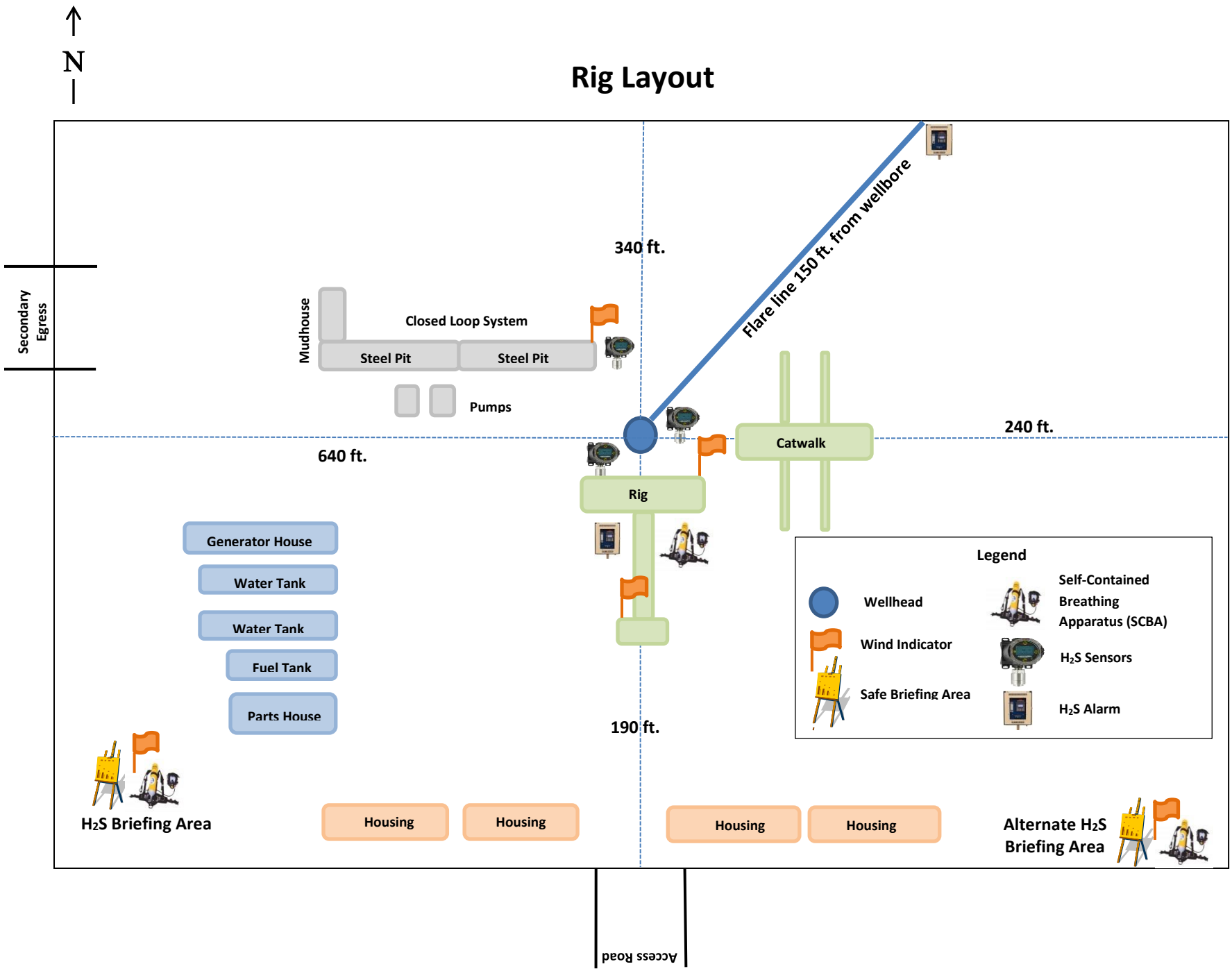
For Eddy County:

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

H2S Briefing Areas and Alarm Locations



Rig Layout


N
Secondary Egress
340 ft.
Flare line 150 ft. from wellbore
Mudhouse
Closed Loop System
Steel Pit
Steel Pit
Pumps
640 ft.
240 ft.
Catwalk
Rig
Generator House
Water Tank
Water Tank
Fuel Tank
Parts House
190 ft.
Legend
Wellhead
Wind Indicator
Safe Briefing Area
Self-Contained Breathing Apparatus (SCBA)
H2S Sensors
H2S Alarm
H2S Briefing Area
Housing
Housing
Housing
Housing
Alternate H2S Briefing Area
Access Road

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

CONDITIONS

Action 347820

CONDITIONS

Operator: XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	OGRID: 373075
	Action Number: 347820
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Notify OCD 24 hours prior to casing & cement	5/30/2024
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104	5/30/2024
ward.rikala	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	5/30/2024
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing	5/30/2024
ward.rikala	If cement does not circulate on any string, a CBL is required for that string of casing	5/30/2024
ward.rikala	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	5/30/2024