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

Sundry Print Report

04/11/2025

Well Name: JAMES RANCH UNIT APACHE

Well Location: T22S / R30E / SEC 13 / SESE / 32.386074 / -103.828703

County or Parish/State: EDDY / NM

Well Number: 802H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM89051

Unit or CA Name:

Unit or CA Number:

US Well Number: 3001555782

Operator: XTO PERMIAN OPERATING LLC

Notice of Intent

Sundry ID: 2839819

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 03/04/2025

Time Sundry Submitted: 09:02

Date proposed operation will begin: 03/07/2025

Procedure Description: XTO Permian Operating, LLC. respectfully requests approval to make changes to the drilling program in the approved APD & requests permission for a primary and a contingency drilling program for this well. Primary will be a 4-string design with an engineered weak point (R-111-Q: Figure F) & the contingency will be a 3-string design with an open production casing annulus (R-111-Q: Figure B). See attached drilling program for the primary & contingency design with updated casing design, cement program & mud circulation system. There will be no new surface disturbance.

NOI Attachments

Procedure Description

Sundry_Attachments___James_Ranch_Unit_Apache_802H_20250304090037.pdf

Well Name: JAMES RANCH UNIT APACHE

Well Location: T22S / R30E / SEC 13 / SESE / 32.386074 / -103.828703

County or Parish/State: EDDY / NM

Well Number: 802H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM89051

Unit or CA Name:

Unit or CA Number:

US Well Number: 3001555782

Operator: XTO PERMIAN OPERATING LLC

Conditions of Approval

Specialist Review

James_Ranch_Unit_Apache_802H_COA_20250411100928.pdf

Operator

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

Operator Electronic Signature: SRINIVAS LAGHUVARAPU

Signed on: MAR 04, 2025 09:00 AM

Name: XTO PERMIAN OPERATING LLC

Title: REGULATORY ANALYST

Street Address: 22777 SPRINGWOODS VILLAGE PARKWAY

City: SPRING **State:** TX

Phone: (720) 539-1673

Email address: SRINIVAS.N.LAGHUVARAPU@EXXONMOBIL.COM

Field

Representative Name:

Street Address:

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

Phone:

Email address:

BLM Point of Contact

BLM POC Name: ZOTA M STEVENS

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5752345998

BLM POC Email Address: ZSTEVENS@BLM.GOV

Disposition: Approved

Disposition Date: 04/11/2025

Signature: Zota Stevens

Form 3160-5
(June 2019)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2021

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE *- Other instructions on page 2*

5. Lease Serial No.

6. If Indian, Allottee or Tribe Name

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

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

8. Well Name and No.

2. Name of Operator

9. API Well No.

3a. Address

3b. Phone No. *(include area code)*

10. Field and Pool or Exploratory Area

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)*

11. Country or Parish, State

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
☐ Final Abandonment Notice	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be perfonned or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has detennined that the site is ready for final inspection.)

14. I hereby certify that the foregoing is true and correct. Name *(Printed/Typed)*

Title

Signature

Date

THE SPACE FOR FEDERAL OR STATE OFICE USE

Approved by

Title

Date

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

Office

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

(Instructions on page 2)

GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area or regional procedures and practices, are either shown below, will be issued by or may be obtained from the local Federal office.

SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. If the proposal will involve **hydraulic fracturing operations**, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.
PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c)and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.
ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.
EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.
Response to this request is mandatory.
The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect ofthis form to U.S. Department ofthe Interior, Bureau ofLand Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

Additional Information

Location of Well

0. SHL: SESE / 446 FSL / 963 FEL / TWSP: 22S / RANGE: 30E / SECTION: 13 / LAT: 32.386074 / LONG: -103.828703 (TVD: 0 feet, MD: 0 feet)

PPP: SENW / 1646 FNL / 1336 FWL / TWSP: 22S / RANGE: 30E / SECTION: 13 / LAT: 32.394851 / LONG: -103.838572 (TVD: 10452 feet, MD: 15500 feet)

PPP: NESE / 1832 FSL / 330 FEL / TWSP: 22S / RANGE: 30E / SECTION: 13 / LAT: 32.389883 / LONG: -103.826652 (TVD: 10479 feet, MD: 11500 feet)

BHL: NWSW / 1832 FSL / 50 FWL / TWSP: 22S / RANGE: 30E / SECTION: 14 / LAT: 32.389937 / LONG: -103.86008 (TVD: 9698 feet, MD: 19960 feet)

Primary Design

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

JAMES RANCH UNIT APACHE 802H
Projected TD: 19960' MD / 9698' TVD
SHL: 446' FSL & 963' FEL , Section 13, T22S, R30E
BHL: 1832' FSL & 50' FWL , Section 14, T22S, R30E
EDDY County, NM

1. Geologic Name of Surface Formation

A. Quaternary

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

Formation	Well Depth	Water/Oil/Gas
Rustler	474'	Water
Top of Salt	774'	Water
MB 126	1458'	Water
Base of Salt	3626'	Water
Delaware	3887'	Water
Cherry Canyon	5033'	Water/Oil/Gas
Brushy Canyon	6395'	Water/Oil/Gas
Bone Spring Lime	7804'	Water/Oil/Gas
Avalon Shale	7869'	Water/Oil/Gas
Lower Avalon Shale	8395'	Water/Oil/Gas
1st Bone Spring Lime	8651'	Water/Oil/Gas
1st Bone Spirng Sand	8822'	Water/Oil/Gas
2nd Bone Spring shale	9259'	Water/Oil/Gas
2nd Bone Spring A sand	9528'	Water/Oil/Gas
2nd Bone Spring A/B Carb	9692'	Water/Oil/Gas
2nd Bone Spring B sand	9741'	Water/Oil/Gas
Landing	9771'	Water/Oil/Gas
3rd Bone Spring Lime	9875'	Water/Oil/Gas

Section 2 Summary:

*** Deepest Expected Groundwater Depth: 40' (per NM State Engineers Office).

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Surface fresh water sands will be protected by setting 13-3/8" inch casing at 749' and circulating cement back to surface.

3. Casing Design

Primary Casing Design:

Hole Size	MD	Casing TVD	OD Csg	Weight	Grade	Collar	New/Used	SF Burst	SF Collapse	SF Tension
17.5	0' – 749'	749'	13-3/8"	54.5	J55	BTC	New	11.92	3.48	6.30
12.25	0' – 3886'	3819'	9-5/8"	40	L80-IC	BTC	New	4.82	4.60	3.95
8.75	0' – 3986'	3916'	7-5/8"	29.7	P110-ICY	Tenaris Wedge 511	New	6.00	8.53	3.28
8.75	3986' – 9032'	8855'	7-5/8"	29.7	L80-IC	Tenaris Wedge 511	New	3.29	5.40	3.60
6.75	0' – 19960'	9698'	5-1/2"	20	P110-IC	Tenaris Wedge 441	New	1.18	2.91	2.01

Section 3 Summary:

XTO will keep casing fluid filled to meet BLM's collapse requirement.
The planned kick off point is located at: 9232' MD / 9055' TVD.

Wellhead:

A multi-bowl wellhead system will be utilized.The well design chosen is:4-String Slim Potash (Non-Capitan Reef)

Wellhead will be installed by manufacturer's representatives.

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

4. Cement Program

Primary Cementing

Casing	Slurry Type	No. Sacks	Density (ppg)	Yield (ft3/sack)	TOC (ft)	Casing Setting Depth (MD)	Excess (%)	Slurry Description
Surface 1	Lead	296	12.4	2.11	0	749	100%	Surface Class C Lead Cement
Surface 1	Tail	313	14.8	1.33	449	749	100%	Surface Class C Tail Cement
Intermediate 1	Lead	834	12.9	2.02	0	3886	50%	Intermediate Class C Lead Cement
Intermediate 1	Tail	87	14.8	1.45	3586	3886	35%	Intermediate Class C Tail Cement
Intermediate 2	Lead							
Intermediate 2	Tail	247	14.8	1.45	6395	9032	35%	Intermediate Class C Tail Cement
Production 1	Lead							
Production 1	Tail	862	13.2	1.44	8532	19960	30%	Production Class C Tail Cement

Remedial Cementing

Casing	Slurry Type	No. Sacks	Density (ppg)	Yield (ft3/sack)	Cemented Interval	Excess (%)	Slurry Description
Intermediate 2	Bradenhead Squeeze	313	14.8	1.45	3386 - 6395'	50%	Intermediate Class C Bradenhead Squeeze Cement

Remedial Cementing

*Bradenhead Squeeze 2nd Stage Offline

5. Pressure Control Equipment

Section 5 Summary:

Once the permanent WH is installed on the casing, the blow out preventer equipment (BOP) will consist of a minimum 5M Hydril and a minimum 10M triple Ram BOP.

All BOP testing will be done by an independent service company. Operator will Test as per 43CFR-3172

Requested Variances

4A) Offline Cementing Variance
XOM 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. XOM 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. Offline cement operations will then be conducted after the rig is moved off the current well to the next well in the batch sequence. The TA cap will also be installed when applicable per wellhead manufacturer's procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops.

5A) Break Test Variance
A break testing variance is requested to ONLY test broken pressure seals on the BOP equipment when moving from wellhead to wellhead for the intermediate hole sections which is in compliance with API Standard 53.

5B) Flex Hose Variance
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.

8A) Open Hole Logging Variance
Open hole logging will not be done on this well.

10A) Spudder Rig Variance
XOM requests the option to utilize a spudder rig (Atlas Copco RD20 or Equivalent) to set and cement surface casing.

10B) Batch Drilling Variance
XOM requests a variance to be able to batch drill this well. In doing so, XOM will set casing and ensure that the well is cemented properly (unless approval is given for offline cementing) and the well is static. XOM will contact the BLM to skid the rig to drill the remaining wells on the pad. Once surface and intermediate strings are all completed, XOM will begin drilling the production hole on each of the wells.

6. Proposed Mud Circulation System

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)	Comments
0' – 749'	17.5"	FW/Native	8.3 - 8.7	35-40	NC	Fresh Water or Native Water
749' – 3886'	12.25"	BDE/OBM or FW/Brine	9.5 - 10	30-32	NC	Fluid type will be based upon on well conditions. A fully saturated system will be used across the salt interval.
3886' – 3986'	8.75"	BDE/OBM or FW/Brine	9.5 - 10	30-32	NC	Fluid type will be based upon on well conditions. A fully saturated system will be used across the salt interval.
3986' – 9032'	8.75"	BDE/OBM or FW/Brine	9.5 - 10	30-32	NC	Fluid type will be based upon on well conditions. A fully saturated system will be used across the salt interval.
9032' – 19960'	6.75"	OBM	9 - 9.6	NC - 20	OBM	

Section 6 Summary:

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

Spud with fresh water/native mud. Drill out from under surface casing with a fully saturated brine 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. An EDR (Electronic Drilling Recorder) will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

7. Auxiliary Well Control and Monitoring Equipment

Section 7 Summary:

A Kelly cock will be in the drill string at all times.

A full opening drill pipe stabbing valve having appropriate connections will be on the rig floor at all times.

H2S monitors will be on location when drilling below the 13-3/8" casing.

8. Logging, Coring and Testing Program

Section 8 Summary:

Open hole logging will not be done on this well.

9. Abnormal Pressures and Temperatures / Potential Hazards

Section 9 Summary:

The estimated bottom hole temperature of 162F to 182F. No H2S is expected but monitors will be in place to detect any H2S occurrences. Should these circumstances be encountered the operator and drilling contractor are prepared to take all necessary steps to ensure safety of all personnel and environment. Lost circulation is possible throughout the well.

10. Anticipated Starting Date and Duration of Operations

Section 10 Summary:

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

Contingency Design

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

JAMES RANCH UNIT APACHE 802H

Contingency Design

Contingency Casing Design:

Hole Size	MD	Casing TVD	OD Csg	Weight	Grade	Collar	New/Used	SF Burst	SF Collapse	SF Tension
17.5	0' – 749'	749'	13-3/8"	54.5	J55	BTC	New	11.92	3.48	6.30
12.25	0' – 3886'	3819'	9-5/8"	40	L80-IC	BTC	New	5.17	4.60	3.95
8.75" / 6.75"	0' – 19960'	9698'	5-1/2"	20	P110-IC	Tenaris Wedge 441	New	1.18	2.91	2.01

XTO will keep casing fluid filled to meet BLM's collapse requirement.

Wellhead:

A multi-bowl wellhead system will be utilized.The well design chosen is:3-String Potash (Non-Capitan Reef) [2nd BSP or Shallower]

Wellhead will be installed by manufacturer's representatives.

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

Cement Program

Primary Cementing								
Casing	**Slurry Type**	**No. Sacks**	**Density (ppg)**	**Yield (ft3/sack)**	**TOC (ft)**	**Casing Setting Depth (MD)**	**Excess (%)**	**Slurry Description**
Surface 1	Lead	296	12.4	2.11	0	749	100%	Surface Class C Lead Cement
Surface 1	Tail	313	14.8	1.33	449	749	100%	Surface Class C Tail Cement
Intermediate 1	Lead	834	12.9	2.02	0	3886	50%	Intermediate Class C Lead Cement
Intermediate 1	Tail	87	14.8	1.45	3586	3886	35%	Intermediate Class C Tail Cement
Production 1	Lead							
Production 1	Tail	986	13.2	1.44	6886	19960	30%	Production Class C Tail Cement

Proposed Mud Circulation System

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)	Comments
0' – 749'	17.5"	FW/Native	8.3 - 8.7	35-40	NC	Fresh Water or Native Water
749' – 3886'	12.25"	BDE/OBM or FW/Brine	9.5 - 10	30-32	NC	Fluid type will be based upon on well conditions. A fully saturated system will be used across the salt interval.
3886' – 19960'	8.75" / 6.75"	OBM	9 - 9.6	50-60	NC - 20	

Well Plan Report - James Ranch Unit Apache 802H

Measured Depth:	19959.65 ft
TVD RKB:	9697.62 ft
Location	
Cartographic Reference System:	New Mexico East - NAD 27
Northing:	504492.10 ft
Easting:	655927.10 ft
RKB:	3398.00 ft
Ground Level:	3366
North Reference:	Grid
Convergence Angle:	0.27 Deg
Site:	E
Slot:	James Ranch Unit Apache 802H

Plan Sections James Ranch Unit
Apache 802H

Measured Depth (ft)	Inclination (Deg)	Azimuth (Deg)	TVD RKB (ft)	Y Offset (ft)	X Offset (ft)	Build Rate (Deg/100ft)	Turn Rate (Deg/100ft)	Dogleg Rate (Deg/100ft)	Target
0	0	0	0	0	0	0	0	0	
1100	0	0	1100	0	0	0	0	0	
1789.5	13.79	24.29	1782.86	75.26	33.97	2	0	2	
7488.03	13.79	24.29	7317.14	1313.34	592.73	0	0	0	
8177.53	0	0	8000	1388.6	626.7	-2	0	2	
9232.33	0	0	9054.8	1388.6	626.7	0	0	0	
10357.33	90	269.85	9771	1386.69	-89.49	8	0	8	
10379.25	90.44	269.85	9770.91	1386.63	-111.41	2	0	2	
19909.65	90.44	269.85	9698	1361.1	-9641.5	0	0	0	LTP 17
19959.65	90.44	269.85	9697.62	1360.97	-9691.5	0	0	0	BHL 17

Position Uncertainty James Ranch Unit
Apache 802H

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD RKB (ft)	Highside Error (ft)	Bias (ft)	Lateral Error (ft)	Bias (ft)	Vertical Error (ft)	Bias (ft)	Magnitude of Bias (ft)	Semi-major Error (ft)	Semi-minor Error (ft)	Semi-minor Azimuth (°)	Tool Used
0	0	0	0	0	0	0	0	0	0	0	0	0	0	MWD+IFR1+MS
100	0	0	100	0.7	0	0.35	0	2.3	0	0	0.751	0.22	112.264	MWD+IFR1+MS
200	0	0	200	1.112	0	0.861	0	2.31	0	0	1.259	0.627	122.711	MWD+IFR1+MS
300	0	0	300	1.497	0	1.271	0	2.325	0	0	1.698	0.986	125.469	MWD+IFR1+MS
400	0	0	400	1.871	0	1.658	0	2.347	0	0	2.108	1.344	126.713	MWD+IFR1+MS
500	0	0	500	2.24	0	2.034	0	2.374	0	0	2.503	1.701	127.419	MWD+IFR1+MS
600	0	0	600	2.607	0	2.405	0	2.407	0	0	2.888	2.059	127.873	MWD+IFR1+MS
700	0	0	700	2.971	0	2.773	0	2.444	0	0	3.267	2.417	128.19	MWD+IFR1+MS
800	0	0	800	3.334	0	3.138	0	2.485	0	0	3.642	2.775	128.423	MWD+IFR1+MS
900	0	0	900	3.696	0	3.502	0	2.531	0	0	4.014	3.133	128.602	MWD+IFR1+MS
1000	0	0	1000	4.058	0	3.865	0	2.581	0	0	4.384	3.491	128.744	MWD+IFR1+MS
1100	0	0	1100	4.419	0	4.228	0	2.634	0	0	4.752	3.849	128.859	MWD+IFR1+MS
1200	2	24.291	1199.98	5.238	0	4.283	0	2.691	0	0	5.303	4.205	128.888	MWD+IFR1+MS
1300	4	24.291	1299.838	5.997	0	4.668	0	2.751	0	0	6.088	4.56	128.59	MWD+IFR1+MS

1400	6	24.291	1399.452	6.681	0	5.047	0	2.816	0	0	6.8	4.915	128.442	MWD+IFR1+MS
1500	8	24.291	1498.702	7.312	0	5.423	0	2.889	0	0	7.458	5.269	128.354	MWD+IFR1+MS
1600	10	24.291	1597.465	7.9	0	5.797	0	2.972	0	0	8.076	5.624	128.299	MWD+IFR1+MS
1700	12	24.291	1695.623	8.452	0	6.169	0	3.067	0	0	8.661	5.98	128.266	MWD+IFR1+MS
1789.498	13.79	24.291	1782.861	8.869	0	6.497	0	3.154	0	0	9.109	6.3	128.23	MWD+IFR1+MS
1800	13.79	24.291	1793.06	8.897	0	6.533	0	3.157	0	0	9.137	6.338	128.208	MWD+IFR1+MS
1900	13.79	24.291	1890.177	9.166	0	6.888	0	3.239	0	0	9.397	6.703	128.235	MWD+IFR1+MS
2000	13.79	24.291	1987.295	9.458	0	7.263	0	3.326	0	0	9.683	7.079	128.546	MWD+IFR1+MS
2100	13.79	24.291	2084.413	9.757	0	7.64	0	3.417	0	0	9.976	7.456	128.85	MWD+IFR1+MS
2200	13.79	24.291	2181.53	10.063	0	8.017	0	3.511	0	0	10.276	7.833	129.148	MWD+IFR1+MS
2300	13.79	24.291	2278.648	10.375	0	8.395	0	3.608	0	0	10.581	8.211	129.439	MWD+IFR1+MS
2400	13.79	24.291	2375.765	10.693	0	8.773	0	3.708	0	0	10.891	8.59	129.723	MWD+IFR1+MS
2500	13.79	24.291	2472.883	11.016	0	9.152	0	3.811	0	0	11.206	8.969	130.001	MWD+IFR1+MS
2600	13.79	24.291	2570.001	11.343	0	9.531	0	3.916	0	0	11.525	9.349	130.273	MWD+IFR1+MS
2700	13.79	24.291	2667.118	11.675	0	9.911	0	4.024	0	0	11.848	9.729	130.538	MWD+IFR1+MS
2800	13.79	24.291	2764.236	12.01	0	10.291	0	4.133	0	0	12.175	10.109	130.797	MWD+IFR1+MS
2900	13.79	24.291	2861.353	12.35	0	10.672	0	4.245	0	0	12.506	10.489	131.05	MWD+IFR1+MS
3000	13.79	24.291	2958.471	12.692	0	11.052	0	4.359	0	0	12.839	10.87	131.297	MWD+IFR1+MS
3100	13.79	24.291	3055.589	13.038	0	11.433	0	4.474	0	0	13.176	11.251	131.538	MWD+IFR1+MS
3200	13.79	24.291	3152.706	13.386	0	11.815	0	4.592	0	0	13.515	11.633	131.772	MWD+IFR1+MS
3300	13.79	24.291	3249.824	13.737	0	12.196	0	4.711	0	0	13.856	12.014	132.001	MWD+IFR1+MS
3400	13.79	24.291	3346.941	14.091	0	12.578	0	4.832	0	0	14.2	12.396	132.224	MWD+IFR1+MS
3500	13.79	24.291	3444.059	14.446	0	12.96	0	4.955	0	0	14.546	12.777	132.442	MWD+IFR1+MS
3600	13.79	24.291	3541.177	14.804	0	13.342	0	5.079	0	0	14.894	13.159	132.654	MWD+IFR1+MS
3700	13.79	24.291	3638.294	15.164	0	13.724	0	5.205	0	0	15.244	13.542	132.86	MWD+IFR1+MS
3800	13.79	24.291	3735.412	15.525	0	14.106	0	5.333	0	0	15.595	13.924	133.061	MWD+IFR1+MS
3900	13.79	24.291	3832.529	15.888	0	14.489	0	5.462	0	0	15.948	14.306	133.256	MWD+IFR1+MS
4000	13.79	24.291	3929.647	16.253	0	14.871	0	5.593	0	0	16.303	14.689	133.446	MWD+IFR1+MS
4100	13.79	24.291	4026.765	16.619	0	15.254	0	5.725	0	0	16.659	15.072	133.631	MWD+IFR1+MS
4200	13.79	24.291	4123.882	16.987	0	15.637	0	5.859	0	0	17.016	15.454	133.811	MWD+IFR1+MS
4300	13.79	24.291	4221	17.355	0	16.019	0	5.994	0	0	17.375	15.837	133.986	MWD+IFR1+MS
4400	13.79	24.291	4318.117	17.725	0	16.402	0	6.131	0	0	17.735	16.22	134.155	MWD+IFR1+MS
4500	13.79	24.291	4415.235	18.096	0	16.785	0	6.269	0	0	18.095	16.603	134.32	MWD+IFR1+MS
4600	13.79	24.291	4512.353	18.468	0	17.168	0	6.409	0	0	18.457	16.987	134.48	MWD+IFR1+MS
4700	13.79	24.291	4609.47	18.841	0	17.552	0	6.55	0	0	18.82	17.37	134.635	MWD+IFR1+MS
4800	13.79	24.291	4706.588	19.216	0	17.935	0	6.693	0	0	19.184	17.753	134.785	MWD+IFR1+MS
4900	13.79	24.291	4803.706	19.59	0	18.318	0	6.838	0	0	19.548	18.137	134.93	MWD+IFR1+MS
5000	13.79	24.291	4900.823	19.966	0	18.701	0	6.984	0	0	19.914	18.52	-44.929	MWD+IFR1+MS

5100	13.79	24.291	4997.941	20.343	0	19.085	0	7.132	0	0	20.28	18.904	-44.793	MWD+IFR1+MS
5200	13.79	24.291	5095.058	20.72	0	19.468	0	7.281	0	0	20.647	19.288	-44.661	MWD+IFR1+MS
5300	13.79	24.291	5192.176	21.098	0	19.852	0	7.432	0	0	21.014	19.671	-44.534	MWD+IFR1+MS
5400	13.79	24.291	5289.294	21.477	0	20.235	0	7.585	0	0	21.383	20.055	-44.412	MWD+IFR1+MS
5500	13.79	24.291	5386.411	21.856	0	20.619	0	7.739	0	0	21.751	20.439	-44.294	MWD+IFR1+MS
5600	13.79	24.291	5483.529	22.236	0	21.002	0	7.895	0	0	22.121	20.823	-44.18	MWD+IFR1+MS
5700	13.79	24.291	5580.646	22.616	0	21.386	0	8.053	0	0	22.491	21.207	-44.07	MWD+IFR1+MS
5800	13.79	24.291	5677.764	22.997	0	21.77	0	8.212	0	0	22.862	21.591	-43.965	MWD+IFR1+MS
5900	13.79	24.291	5774.882	23.379	0	22.153	0	8.374	0	0	23.233	21.975	-43.865	MWD+IFR1+MS
6000	13.79	24.291	5871.999	23.761	0	22.537	0	8.537	0	0	23.604	22.359	-43.768	MWD+IFR1+MS
6100	13.79	24.291	5969.117	24.143	0	22.921	0	8.701	0	0	23.976	22.743	-43.676	MWD+IFR1+MS
6200	13.79	24.291	6066.234	24.526	0	23.305	0	8.868	0	0	24.349	23.128	-43.587	MWD+IFR1+MS
6300	13.79	24.291	6163.352	24.909	0	23.689	0	9.036	0	0	24.722	23.512	-43.503	MWD+IFR1+MS
6400	13.79	24.291	6260.47	25.293	0	24.073	0	9.207	0	0	25.095	23.896	-43.423	MWD+IFR1+MS
6500	13.79	24.291	6357.587	25.677	0	24.456	0	9.379	0	0	25.469	24.281	-43.348	MWD+IFR1+MS
6600	13.79	24.291	6454.705	26.061	0	24.84	0	9.553	0	0	25.843	24.665	-43.276	MWD+IFR1+MS
6700	13.79	24.291	6551.822	26.446	0	25.224	0	9.729	0	0	26.218	25.05	-43.208	MWD+IFR1+MS
6800	13.79	24.291	6648.94	26.831	0	25.608	0	9.907	0	0	26.592	25.434	-43.144	MWD+IFR1+MS
6900	13.79	24.291	6746.058	27.217	0	25.992	0	10.087	0	0	26.968	25.819	-43.085	MWD+IFR1+MS
7000	13.79	24.291	6843.175	27.603	0	26.376	0	10.268	0	0	27.343	26.204	-43.029	MWD+IFR1+MS
7100	13.79	24.291	6940.293	27.989	0	26.76	0	10.452	0	0	27.719	26.588	-42.977	MWD+IFR1+MS
7200	13.79	24.291	7037.41	28.375	0	27.144	0	10.638	0	0	28.095	26.973	-42.929	MWD+IFR1+MS
7300	13.79	24.291	7134.528	28.762	0	27.528	0	10.826	0	0	28.472	27.358	-42.885	MWD+IFR1+MS
7400	13.79	24.291	7231.646	29.149	0	27.912	0	11.016	0	0	28.849	27.743	-42.845	MWD+IFR1+MS
7488.031	13.79	24.291	7317.139	29.488	0	28.249	0	11.185	0	0	29.179	28.081	-42.859	MWD+IFR1+MS
7500	13.551	24.291	7328.769	29.539	0	28.294	0	11.208	0	0	29.222	28.127	-42.88	MWD+IFR1+MS
7600	11.551	24.291	7426.375	29.965	0	28.67	0	11.402	0	0	29.615	28.506	-43.281	MWD+IFR1+MS
7700	9.551	24.291	7524.679	30.411	0	29.044	0	11.598	0	0	30.064	28.88	-44.066	MWD+IFR1+MS
7800	7.551	24.291	7623.562	30.813	0	29.41	0	11.787	0	0	30.507	29.246	-44.748	MWD+IFR1+MS
7900	5.551	24.291	7722.905	31.172	0	29.769	0	11.969	0	0	30.941	29.604	134.667	MWD+IFR1+MS
8000	3.551	24.291	7822.584	31.485	0	30.12	0	12.146	0	0	31.366	29.954	134.169	MWD+IFR1+MS
8100	1.551	24.291	7922.48	31.755	0	30.464	0	12.318	0	0	31.781	30.295	133.751	MWD+IFR1+MS
8177.529	0	0	8000	31.364	0	31.274	0	12.45	0	0	32.063	30.557	133.29	MWD+IFR1+MS
8200	0	0	8022.471	31.437	0	31.346	0	12.488	0	0	32.134	30.631	133.265	MWD+IFR1+MS
8300	0	0	8122.471	31.761	0	31.668	0	12.658	0	0	32.45	30.962	133.211	MWD+IFR1+MS
8400	0	0	8222.471	32.089	0	31.995	0	12.831	0	0	32.773	31.294	133.166	MWD+IFR1+MS
8500	0	0	8322.471	32.418	0	32.322	0	13.008	0	0	33.097	31.626	133.122	MWD+IFR1+MS
8600	0	0	8422.471	32.748	0	32.65	0	13.188	0	0	33.422	31.959	133.078	MWD+IFR1+MS

8700	0	0	8522.471	33.078	0	32.978	0	13.371	0	0	33.747	32.292	133.035 MWD+IFR1+MS
8800	0	0	8622.471	33.408	0	33.307	0	13.557	0	0	34.074	32.626	132.992 MWD+IFR1+MS
8900	0	0	8722.471	33.74	0	33.637	0	13.746	0	0	34.4	32.96	132.949 MWD+IFR1+MS
9000	0	0	8822.471	34.071	0	33.967	0	13.939	0	0	34.728	33.295	132.907 MWD+IFR1+MS
9100	0	0	8922.471	34.404	0	34.298	0	14.135	0	0	35.056	33.631	132.865 MWD+IFR1+MS
9200	0	0	9022.471	34.737	0	34.629	0	14.334	0	0	35.385	33.967	132.823 MWD+IFR1+MS
9232.329	0	0	9054.8	34.843	0	34.735	0	14.399	0	0	35.488	34.075	132.805 MWD+IFR1+MS
9300	5.414	269.847	9122.37	34.662	0	35.053	0	14.536	0	0	35.716	34.335	133.963 MWD+IFR1+MS
9400	13.414	269.847	9220.943	34.854	0	35.355	0	14.795	0	0	36.455	35.012	-29.088 MWD+IFR1+MS
9500	21.414	269.847	9316.283	34.875	0	35.646	0	15.238	0	0	37.574	35.508	-14.927 MWD+IFR1+MS
9600	29.414	269.847	9406.533	34.409	0	35.922	0	15.925	0	0	38.644	35.856	-8.811 MWD+IFR1+MS
9700	37.414	269.847	9489.936	33.537	0	36.181	0	16.894	0	0	39.557	36.147	-5.736 MWD+IFR1+MS
9800	45.414	269.847	9564.871	32.362	0	36.424	0	18.14	0	0	40.286	36.405	-3.984 MWD+IFR1+MS
9900	53.414	269.847	9629.877	31.02	0	36.65	0	19.628	0	0	40.828	36.64	-2.945 MWD+IFR1+MS
10000	61.414	269.847	9683.691	29.677	0	36.863	0	21.3	0	0	41.197	36.856	-2.378 MWD+IFR1+MS
10100	69.414	269.847	9725.263	28.528	0	37.062	0	23.09	0	0	41.417	37.056	-2.196 MWD+IFR1+MS
10200	77.414	269.847	9753.786	27.773	0	37.249	0	24.933	0	0	41.522	37.242	-2.385 MWD+IFR1+MS
10300	85.414	269.847	9768.704	27.591	0	37.422	0	26.766	0	0	41.556	37.411	-2.966 MWD+IFR1+MS
10357.329	90	269.847	9770.997	27.209	0	37.511	0	27.209	0	0	41.562	37.497	-3.493 MWD+IFR1+MS
10379.247	90.438	269.847	9770.913	27.196	0	37.544	0	27.262	0	0	41.564	37.528	-3.717 MWD+IFR1+MS
10400	90.438	269.847	9770.755	27.24	0	37.578	0	27.306	0	0	41.566	37.559	-3.936 MWD+IFR1+MS
10500	90.438	269.847	9769.99	27.469	0	37.762	0	27.534	0	0	41.579	37.733	-5.061 MWD+IFR1+MS
10600	90.438	269.847	9769.225	27.723	0	37.982	0	27.786	0	0	41.596	37.937	-6.332 MWD+IFR1+MS
10700	90.438	269.847	9768.459	27.996	0	38.233	0	28.057	0	0	41.618	38.17	-7.798 MWD+IFR1+MS
10800	90.438	269.847	9767.694	28.289	0	38.516	0	28.348	0	0	41.645	38.427	-9.525 MWD+IFR1+MS
10900	90.438	269.847	9766.929	28.599	0	38.829	0	28.658	0	0	41.681	38.707	-11.609 MWD+IFR1+MS
11000	90.438	269.847	9766.164	28.928	0	39.171	0	28.985	0	0	41.728	39.006	-14.179 MWD+IFR1+MS
11100	90.438	269.847	9765.399	29.275	0	39.542	0	29.329	0	0	41.79	39.318	-17.412 MWD+IFR1+MS
11200	90.438	269.847	9764.634	29.638	0	39.941	0	29.691	0	0	41.875	39.637	-21.531 MWD+IFR1+MS
11300	90.438	269.847	9763.869	30.017	0	40.368	0	30.068	0	0	41.994	39.949	-26.761 MWD+IFR1+MS
11400	90.438	269.847	9763.104	30.411	0	40.821	0	30.461	0	0	42.159	40.242	-33.18 MWD+IFR1+MS
11500	90.438	269.847	9762.339	30.821	0	41.299	0	30.869	0	0	42.388	40.496	-40.47 MWD+IFR1+MS
11600	90.438	269.847	9761.574	31.245	0	41.802	0	31.292	0	0	42.69	40.703	132.148 MWD+IFR1+MS
11700	90.438	269.847	9760.809	31.682	0	42.328	0	31.728	0	0	43.065	40.861	125.52 MWD+IFR1+MS
11800	90.438	269.847	9760.044	32.133	0	42.878	0	32.177	0	0	43.504	40.979	120.068 MWD+IFR1+MS
11900	90.438	269.847	9759.279	32.597	0	43.449	0	32.639	0	0	43.994	41.067	115.779 MWD+IFR1+MS
12000	90.438	269.847	9758.514	33.073	0	44.042	0	33.114	0	0	44.526	41.135	112.442 MWD+IFR1+MS
12100	90.438	269.847	9757.749	33.56	0	44.655	0	33.599	0	0	45.093	41.19	109.828 MWD+IFR1+MS

12200	90.438	269.847	9756.984	34.058	0	45.287	0	34.096	0	0	45.69	41.234	107.752	MWD+IFR1+MS
12300	90.438	269.847	9756.218	34.567	0	45.938	0	34.604	0	0	46.312	41.272	106.074	MWD+IFR1+MS
12400	90.438	269.847	9755.453	35.086	0	46.607	0	35.122	0	0	46.958	41.305	104.695	MWD+IFR1+MS
12500	90.438	269.847	9754.688	35.615	0	47.293	0	35.649	0	0	47.624	41.335	103.545	MWD+IFR1+MS
12600	90.438	269.847	9753.923	36.154	0	47.996	0	36.186	0	0	48.31	41.363	102.572	MWD+IFR1+MS
12700	90.438	269.847	9753.158	36.701	0	48.714	0	36.732	0	0	49.014	41.388	101.738	MWD+IFR1+MS
12800	90.438	269.847	9752.393	37.256	0	49.447	0	37.287	0	0	49.734	41.413	101.015	MWD+IFR1+MS
12900	90.438	269.847	9751.628	37.82	0	50.195	0	37.849	0	0	50.471	41.436	100.383	MWD+IFR1+MS
13000	90.438	269.847	9750.863	38.391	0	50.956	0	38.419	0	0	51.222	41.459	99.825	MWD+IFR1+MS
13100	90.438	269.847	9750.098	38.97	0	51.73	0	38.997	0	0	51.987	41.481	99.328	MWD+IFR1+MS
13200	90.438	269.847	9749.333	39.556	0	52.517	0	39.582	0	0	52.766	41.504	98.883	MWD+IFR1+MS
13300	90.438	269.847	9748.568	40.149	0	53.316	0	40.174	0	0	53.557	41.526	98.482	MWD+IFR1+MS
13400	90.438	269.847	9747.803	40.749	0	54.126	0	40.772	0	0	54.361	41.548	98.119	MWD+IFR1+MS
13500	90.438	269.847	9747.038	41.354	0	54.947	0	41.377	0	0	55.175	41.57	97.788	MWD+IFR1+MS
13600	90.438	269.847	9746.273	41.965	0	55.779	0	41.987	0	0	56.001	41.592	97.484	MWD+IFR1+MS
13700	90.438	269.847	9745.508	42.583	0	56.62	0	42.603	0	0	56.837	41.614	97.206	MWD+IFR1+MS
13800	90.438	269.847	9744.743	43.205	0	57.472	0	43.225	0	0	57.683	41.636	96.948	MWD+IFR1+MS
13900	90.438	269.847	9743.977	43.833	0	58.332	0	43.852	0	0	58.539	41.659	96.71	MWD+IFR1+MS
14000	90.438	269.847	9743.212	44.466	0	59.201	0	44.483	0	0	59.403	41.682	96.489	MWD+IFR1+MS
14100	90.438	269.847	9742.447	45.103	0	60.078	0	45.12	0	0	60.276	41.705	96.283	MWD+IFR1+MS
14200	90.438	269.847	9741.682	45.745	0	60.964	0	45.761	0	0	61.157	41.729	96.09	MWD+IFR1+MS
14300	90.438	269.847	9740.917	46.392	0	61.857	0	46.407	0	0	62.046	41.753	95.909	MWD+IFR1+MS
14400	90.438	269.847	9740.152	47.042	0	62.757	0	47.057	0	0	62.943	41.777	95.74	MWD+IFR1+MS
14500	90.438	269.847	9739.387	47.697	0	63.664	0	47.711	0	0	63.847	41.802	95.58	MWD+IFR1+MS
14600	90.438	269.847	9738.622	48.356	0	64.579	0	48.369	0	0	64.757	41.827	95.43	MWD+IFR1+MS
14700	90.438	269.847	9737.857	49.018	0	65.499	0	49.03	0	0	65.675	41.852	95.288	MWD+IFR1+MS
14800	90.438	269.847	9737.092	49.684	0	66.426	0	49.695	0	0	66.598	41.878	95.153	MWD+IFR1+MS
14900	90.438	269.847	9736.327	50.353	0	67.358	0	50.364	0	0	67.528	41.904	95.026	MWD+IFR1+MS
15000	90.438	269.847	9735.562	51.026	0	68.297	0	51.036	0	0	68.463	41.931	94.905	MWD+IFR1+MS
15100	90.438	269.847	9734.797	51.702	0	69.24	0	51.711	0	0	69.404	41.958	94.789	MWD+IFR1+MS
15200	90.438	269.847	9734.032	52.381	0	70.189	0	52.389	0	0	70.35	41.986	94.68	MWD+IFR1+MS
15300	90.438	269.847	9733.267	53.062	0	71.143	0	53.07	0	0	71.302	42.014	94.575	MWD+IFR1+MS
15400	90.438	269.847	9732.502	53.747	0	72.102	0	53.754	0	0	72.258	42.042	94.475	MWD+IFR1+MS
15500	90.438	269.847	9731.737	54.434	0	73.066	0	54.441	0	0	73.219	42.071	94.38	MWD+IFR1+MS
15600	90.438	269.847	9730.971	55.124	0	74.033	0	55.13	0	0	74.184	42.101	94.289	MWD+IFR1+MS
15700	90.438	269.847	9730.206	55.816	0	75.006	0	55.822	0	0	75.154	42.13	94.201	MWD+IFR1+MS
15800	90.438	269.847	9729.441	56.511	0	75.982	0	56.516	0	0	76.128	42.161	94.117	MWD+IFR1+MS
15900	90.438	269.847	9728.676	57.208	0	76.962	0	57.212	0	0	77.106	42.191	94.037	MWD+IFR1+MS

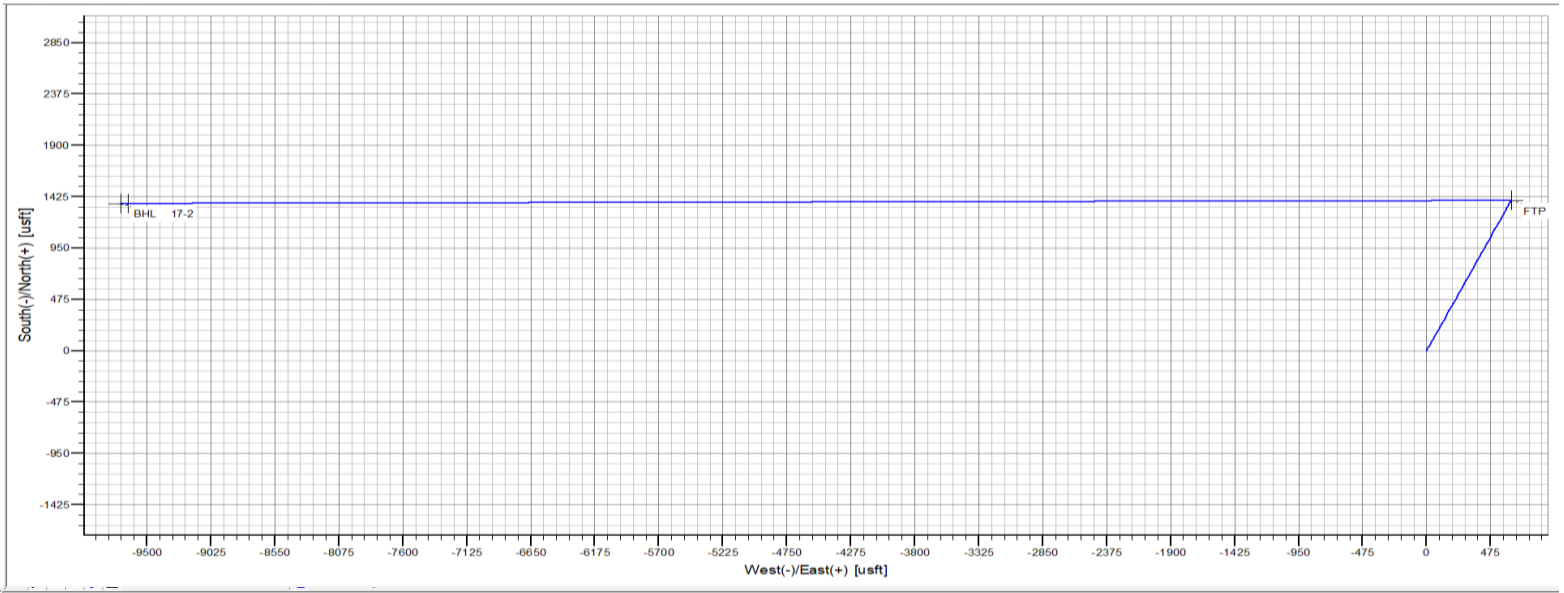
16000	90.438	269.847	9727.911	57.908	0	77.946	0	57.911	0	0	78.088	42.222	93.959	MWD+IFR1+MS
16100	90.438	269.847	9727.146	58.609	0	78.934	0	58.612	0	0	79.074	42.254	93.885	MWD+IFR1+MS
16200	90.438	269.847	9726.381	59.313	0	79.925	0	59.315	0	0	80.063	42.286	93.813	MWD+IFR1+MS
16300	90.438	269.847	9725.616	60.018	0	80.919	0	60.02	0	0	81.056	42.318	93.744	MWD+IFR1+MS
16400	90.438	269.847	9724.851	60.726	0	81.917	0	60.727	0	0	82.052	42.351	93.678	MWD+IFR1+MS
16500	90.438	269.847	9724.086	61.435	0	82.918	0	61.436	0	0	83.051	42.385	93.613	MWD+IFR1+MS
16600	90.438	269.847	9723.321	62.146	0	83.922	0	62.147	0	0	84.053	42.419	93.551	MWD+IFR1+MS
16700	90.438	269.847	9722.556	62.859	0	84.929	0	62.859	0	0	85.058	42.453	93.492	MWD+IFR1+MS
16800	90.438	269.847	9721.791	63.574	0	85.939	0	63.574	0	0	86.067	42.488	93.434	MWD+IFR1+MS
16900	90.438	269.847	9721.026	64.29	0	86.952	0	64.29	0	0	87.077	42.523	93.378	MWD+IFR1+MS
17000	90.438	269.847	9720.261	65.008	0	87.967	0	65.007	0	0	88.091	42.559	93.324	MWD+IFR1+MS
17100	90.438	269.847	9719.496	65.728	0	88.985	0	65.726	0	0	89.107	42.595	93.271	MWD+IFR1+MS
17200	90.438	269.847	9718.73	66.449	0	90.005	0	66.446	0	0	90.126	42.631	93.22	MWD+IFR1+MS
17300	90.438	269.847	9717.965	67.171	0	91.027	0	67.168	0	0	91.147	42.669	93.171	MWD+IFR1+MS
17400	90.438	269.847	9717.2	67.895	0	92.052	0	67.892	0	0	92.17	42.706	93.123	MWD+IFR1+MS
17500	90.438	269.847	9716.435	68.62	0	93.079	0	68.616	0	0	93.196	42.744	93.077	MWD+IFR1+MS
17600	90.438	269.847	9715.67	69.346	0	94.108	0	69.342	0	0	94.224	42.782	93.032	MWD+IFR1+MS
17700	90.438	269.847	9714.905	70.074	0	95.14	0	70.07	0	0	95.254	42.821	92.988	MWD+IFR1+MS
17800	90.438	269.847	9714.14	70.803	0	96.173	0	70.798	0	0	96.286	42.861	92.946	MWD+IFR1+MS
17900	90.438	269.847	9713.375	71.533	0	97.208	0	71.528	0	0	97.32	42.9	92.904	MWD+IFR1+MS
18000	90.438	269.847	9712.61	72.264	0	98.246	0	72.258	0	0	98.356	42.941	92.864	MWD+IFR1+MS
18100	90.438	269.847	9711.845	72.996	0	99.285	0	72.99	0	0	99.394	42.981	92.825	MWD+IFR1+MS
18200	90.438	269.847	9711.08	73.73	0	100.325	0	73.723	0	0	100.433	43.022	92.787	MWD+IFR1+MS
18300	90.438	269.847	9710.315	74.464	0	101.368	0	74.458	0	0	101.475	43.064	92.75	MWD+IFR1+MS
18400	90.438	269.847	9709.55	75.199	0	102.412	0	75.193	0	0	102.518	43.106	92.714	MWD+IFR1+MS
18500	90.438	269.847	9708.785	75.936	0	103.458	0	75.929	0	0	103.562	43.148	92.678	MWD+IFR1+MS
18600	90.438	269.847	9708.02	76.673	0	104.505	0	76.666	0	0	104.608	43.191	92.644	MWD+IFR1+MS
18700	90.438	269.847	9707.255	77.411	0	105.554	0	77.404	0	0	105.656	43.235	92.611	MWD+IFR1+MS
18800	90.438	269.847	9706.489	78.151	0	106.604	0	78.143	0	0	106.705	43.279	92.578	MWD+IFR1+MS
18900	90.438	269.847	9705.724	78.891	0	107.656	0	78.882	0	0	107.756	43.323	92.546	MWD+IFR1+MS
19000	90.438	269.847	9704.959	79.632	0	108.709	0	79.623	0	0	108.808	43.367	92.515	MWD+IFR1+MS
19100	90.438	269.847	9704.194	80.374	0	109.764	0	80.365	0	0	109.862	43.413	92.484	MWD+IFR1+MS
19200	90.438	269.847	9703.429	81.116	0	110.819	0	81.107	0	0	110.917	43.458	92.455	MWD+IFR1+MS
19300	90.438	269.847	9702.664	81.86	0	111.876	0	81.85	0	0	111.973	43.504	92.426	MWD+IFR1+MS
19400	90.438	269.847	9701.899	82.604	0	112.935	0	82.594	0	0	113.03	43.55	92.397	MWD+IFR1+MS
19500	90.438	269.847	9701.134	83.349	0	113.994	0	83.338	0	0	114.089	43.597	92.37	MWD+IFR1+MS
19600	90.438	269.847	9700.369	84.094	0	115.055	0	84.084	0	0	115.148	43.645	92.343	MWD+IFR1+MS
19700	90.438	269.847	9699.604	84.84	0	116.117	0	84.83	0	0	116.209	43.692	92.316	MWD+IFR1+MS

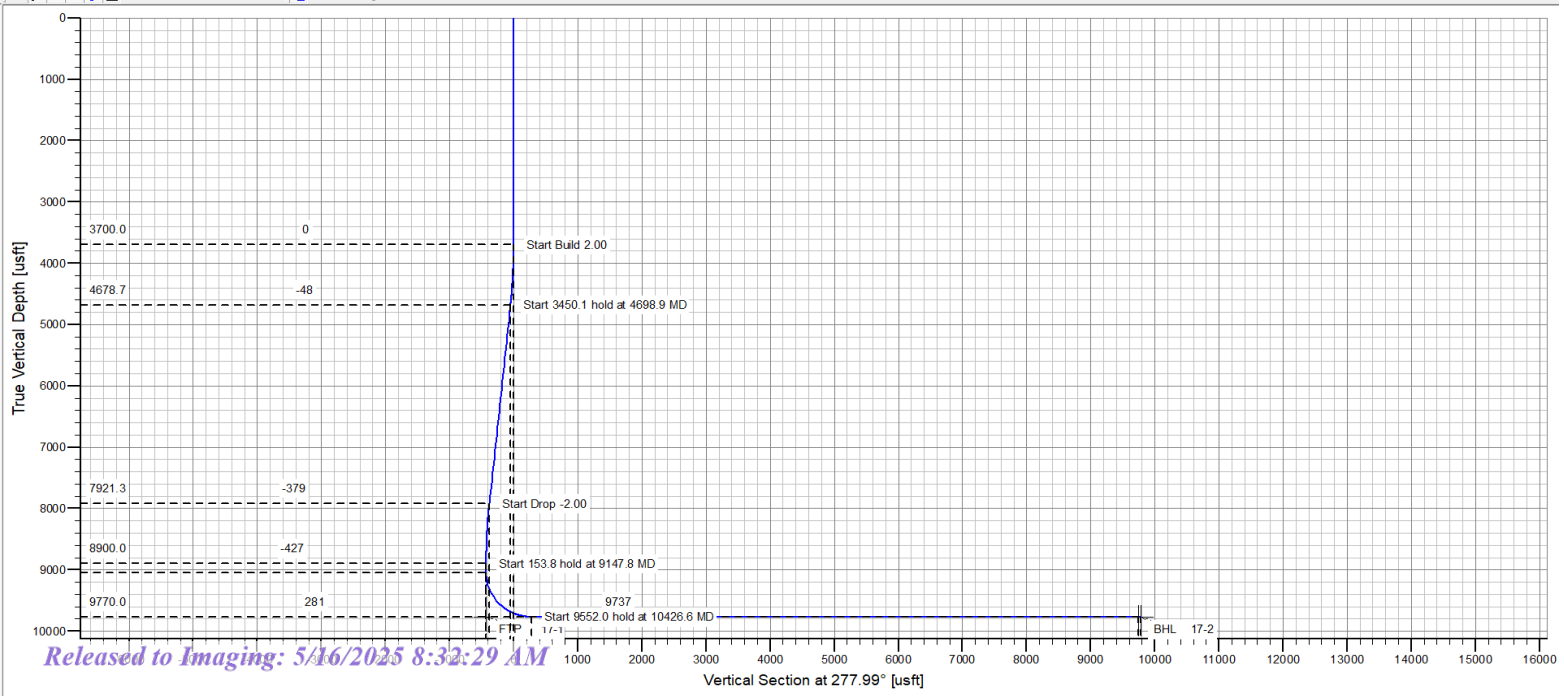
19800	90.438	269.847	9698.839	85.587	0	117.18	0	85.577	0	0	117.272	43.74	92.29	MWD+IFR1+MS
19909.648	90.438	269.847	9698	86.408	0	118.347	0	86.397	0	0	118.438	43.794	92.262	MWD+IFR1+MS
19959.655	90.438	269.847	9697.617	86.781	0	118.879	0	86.77	0	0	118.969	43.818	92.25	MWD+IFR1+MS

Plan Targets	James Ranch Unit Apache 802H

Target Name	**Measured Depth (ft)**	**Grid Northing (ft)**	**Grid Easting (ft)**	**TVD MSL (ft)**	**Target Shape**
FTP 17	10108.42	505880.7	656553.8	6373	CIRCLE
NFTP 17	10142.48	505880.7	656753.8	6373	CIRCLE
LTP 17	20098.76	505853.2	646285.6	6300	CIRCLE
BHL 17	20148.76	505853.1	646235.6	6300	CIRCLE

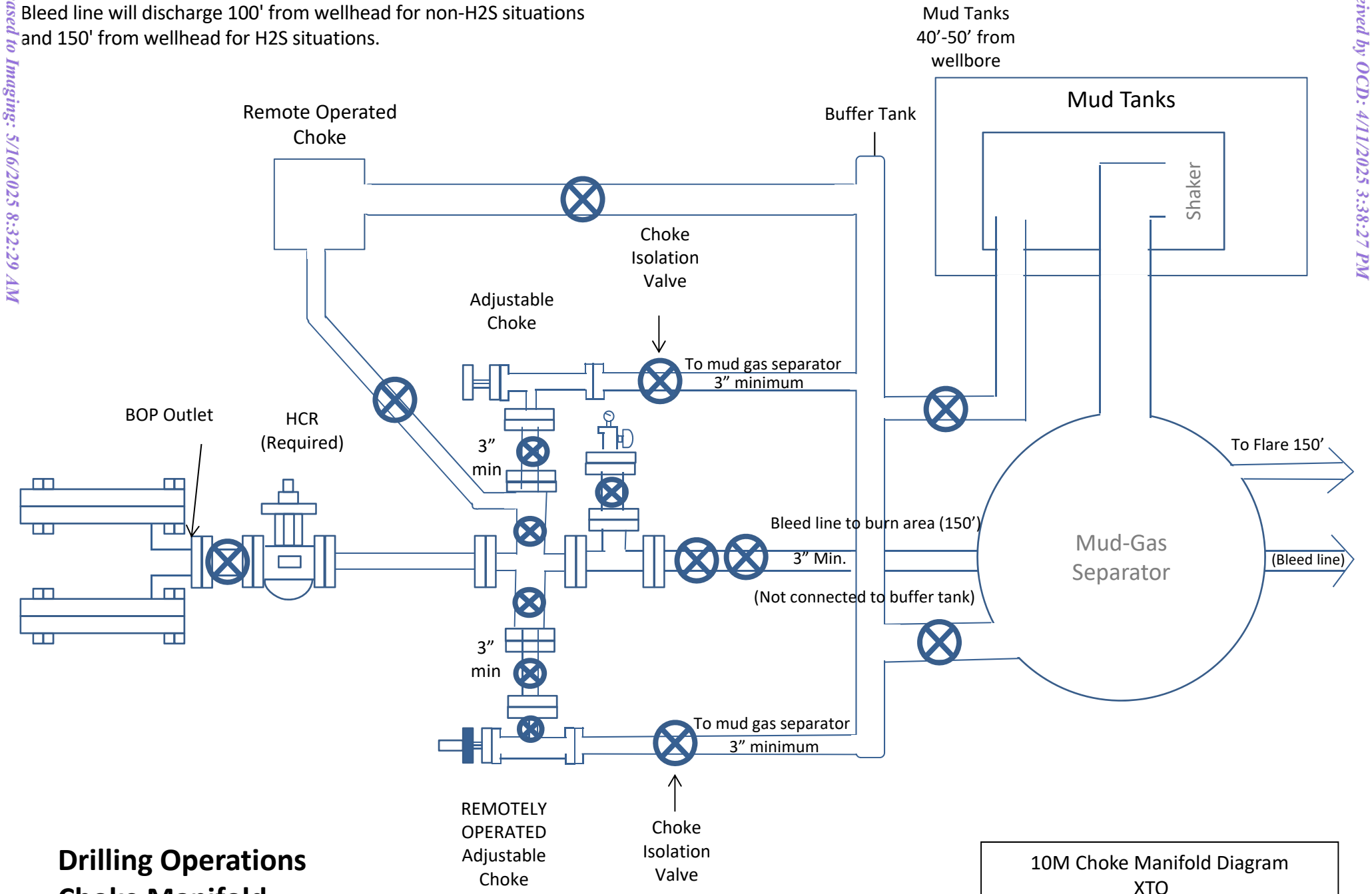
JAMES RANCH UNIT APACHE 802H





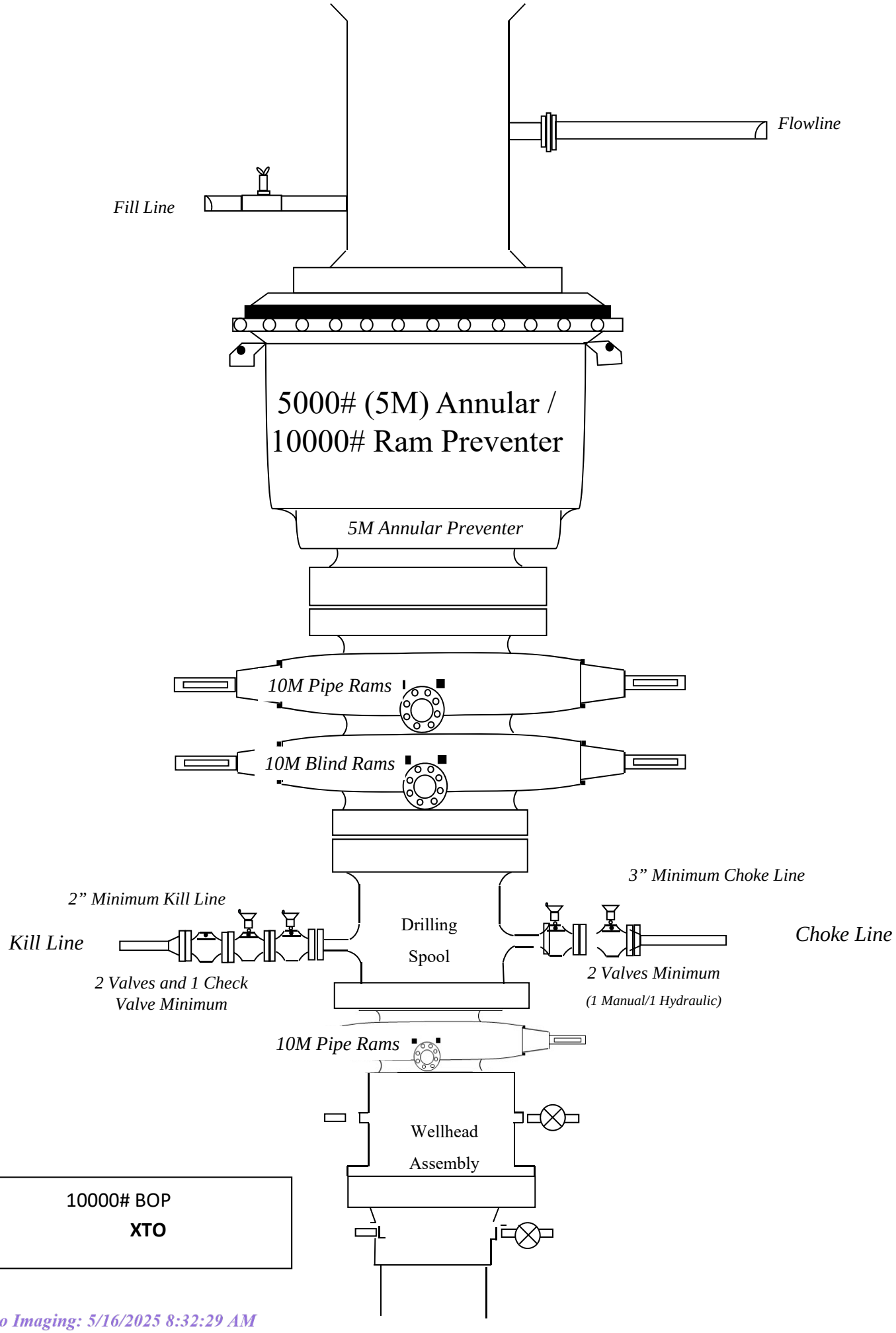
Formation	TVDSS (feet)	MD TVD (feet)
Alluvium	surface	surface
Rustler	2,924'	473'
Salado/Top of Salt	2,624'	773'
MB 126	1,940'	1,457'
Castile Anhydrite 1 Top	880'	2,517'
Castile Anhydrite 1 Base	455'	2,942'
Castile Anhydrite 2 Top	219'	3,178'
Castile Anhydrite 2 Base	124'	3,273'
Base Salt	-228'	3,625'
Delaware/Lamar	-489'	3,886'
Bell Canyon	-530'	3,927'
Cherry Canyon	-1,635'	5,032'
Brushy Canyon Ss.	-2,997'	6,394'
Bone Spring Lm.	-4,406'	7,803'
Avalon Ss.	-4,471'	7,868'
Upper Avalon Carb.	-4,694'	8,091'
Upper Avalon Sh.	-4,779'	8,176'
Middle Avalon Carb.	-4,923'	8,320'
Lw. Avalon Sh.	-4,997'	8,394'
First Bone Spring Carb.	-5,253'	8,650'
First Bone Spring Ss.	-5,424'	8,821'
Second Bone Spring Carb.	-5,861'	9,258'
Second Bone Spring A Ss.	-6,130'	9,527'
Second Bone Spring A/B Carb.	-6,294'	9,691'
Second Bone Spring B Ss.	-6,343'	9,740'
Landing Point	-6,373'	9,770'
TD	-6,300'	9,697'
Third Bone Spring Carb.	-6,477'	9,874'

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



Drilling Operations
Choke Manifold
10M Service

10M Choke Manifold Diagram
XTO



10000# BOP

XTO

Tenaris

TenarisHydril Wedge 511

Coupling	Pipe Body
Grade: **P110-ICY**	Grade: **P110-ICY**
Body: **White**	1st Band: **White**
1st Band: **Pale Green**	2nd Band: **Pale Green**
2nd Band: **-**	3rd Band: **Pale Green**
3rd Band: **-**	4th Band: **-**
	5th Band: **-**
	6th Band: **-**

Outside Diameter	7.625 in.	**Wall Thickness**	0.375 in.	**Grade**	P110-ICY
Min. Wall Thickness	90.00 %	**Pipe Body Drift**	API Standard	**Type**	Casing
Connection OD Option	REGULAR				

Pipe Body Data

Geometry				Performance	
Nominal OD	7.625 in.	**Wall Thickness**	0.375 in.	**Body Yield Strength**	1068 x1000 lb
Nominal Weight	29.70 lb/ft	**Plain End Weight**	29.06 lb/ft	**Min. Internal Yield Pressure**	11,070 psi
Drift	6.750 in.	**OD Tolerance**	API	**SMYS**	125,000 psi
Nominal ID	6.875 in.			**Collapse Pressure**	7360 psi

Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	7.625 in.	**Tension Efficiency**	61.10 %	**Minimum**	5900 ft-lb
Connection ID	6.787 in.	**Joint Yield Strength**	653 x1000 lb	**Optimum**	7100 ft-lb
Make-up Loss	3.704 in.	**Internal Pressure Capacity**	11,070 psi	**Maximum**	10,300 ft-lb
Threads per inch	3.28	**Compression Efficiency**	73.80 %	**Operation Limit Torques**	
Connection OD Option	Regular	**Compression Strength**	788 x1000 lb	**Operating Torque**	55,000 ft-lb
		Max. Allowable Bending	45.83 °/100 ft	**Yield Torque**	82,000 ft-lb
		External Pressure Capacity	7360 psi		

Notes

For the lastest performance data, always visit our website: www.tenaris.com
For further information on concepts indicated in this datasheet, download the Datasheet Manual from www.tenaris.com

Printed on: 4/11/2025

Tenaris

TenarisHydril Wedge 511

Coupling	Pipe Body
Grade: **L80-IC**	Grade: **L80-IC**
Body: **Red**	1st Band: **Red**
1st Band: **Brown**	2nd Band: **Brown**
2nd Band: **-**	3rd Band: **Pale Green**
3rd Band: **-**	4th Band: **-**
	5th Band: **-**
	6th Band: **-**

Outside Diameter	7.625 in.	**Wall Thickness**	0.375 in.	**Grade**	L80-IC
Min. Wall Thickness	87.50 %	**Pipe Body Drift**	API Standard	**Type**	Casing
Connection OD Option	REGULAR				

Pipe Body Data

Geometry				Performance	
Nominal OD	7.625 in.	**Wall Thickness**	0.375 in.	**Body Yield Strength**	683 x1000 lb
Nominal Weight	29.70 lb/ft	**Plain End Weight**	29.06 lb/ft	**Min. Internal Yield Pressure**	6890 psi
Drift	6.750 in.	**OD Tolerance**	API	**SMYS**	80,000 psi
Nominal ID	6.875 in.			**Collapse Pressure**	5900 psi

Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	7.625 in.	**Tension Efficiency**	61.10 %	**Minimum**	5900 ft-lb
Connection ID	6.787 in.	**Joint Yield Strength**	417 x1000 lb	**Optimum**	7100 ft-lb
Make-up Loss	3.704 in.	**Internal Pressure Capacity**	6890 psi	**Maximum**	10,300 ft-lb
Threads per inch	3.28	**Compression Efficiency**	73.80 %		
Connection OD Option	Regular	**Compression Strength**	504 x1000 lb	**Operation Limit Torques**	
		Max. Allowable Bending	29.33 °/100 ft	**Operating Torque**	35,000 ft-lb
		External Pressure Capacity	5900 psi	**Yield Torque**	52,000 ft-lb

Notes

For the lastest performance data, always visit our website: www.tenaris.com
For further information on concepts indicated in this datasheet, download the Datasheet Manual from www.tenaris.com

Tenaris

TenarisHydril Wedge 441®

Coupling	Pipe Body
Grade: **P110-IC**	Grade: **P110-IC**
Body: **White**	1st Band: **White**
1st Band: **-**	2nd Band: **Pale Green**
2nd Band: **-**	3rd Band: **-**
3rd Band: **-**	4th Band: **-**
	5th Band: **-**
	6th Band: **-**

Outside Diameter	5.500 in.	**Wall Thickness**	0.361 in.	**Grade**	P110-IC
Min. Wall Thickness	87.50 %	**Pipe Body Drift**	API Standard	**Type**	Casing
Connection OD Option	REGULAR				

Pipe Body Data

Geometry				Performance	
Nominal OD	5.500 in.	**Wall Thickness**	0.361 in.	**Body Yield Strength**	641 x1000 lb
Nominal Weight	20.00 lb/ft	**Plain End Weight**	19.83 lb/ft	**Min. Internal Yield Pressure**	12,640 psi
Drift	4.653 in.	**OD Tolerance**	API	**SMYS**	110,000 psi
Nominal ID	4.778 in.			**Collapse Pressure**	12,300 psi

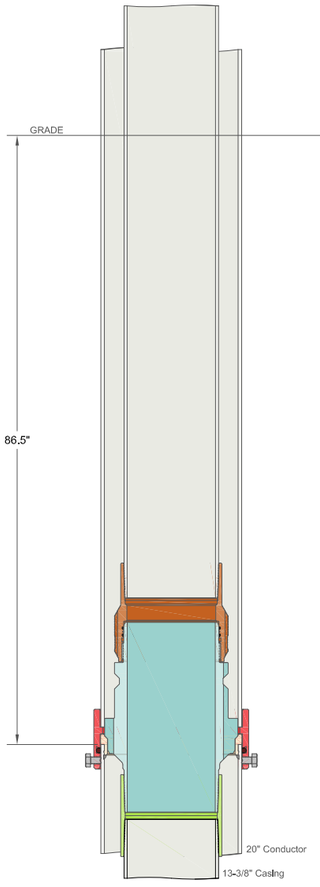
Connection Data

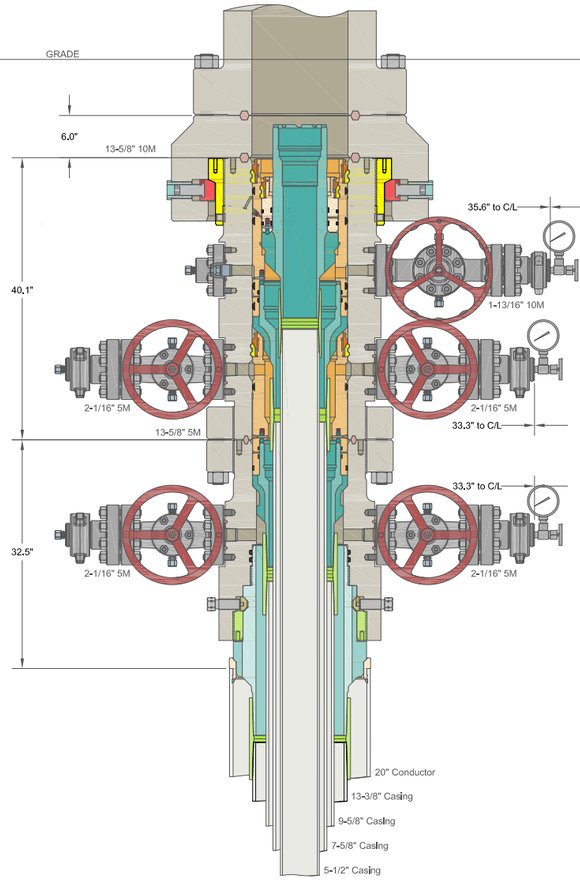
Geometry		Performance		Make-Up Torques	
Connection OD	5.852 in.	**Tension Efficiency**	81.50 %	**Minimum**	15,000 ft-lb
Coupling Length	8.714 in.	**Joint Yield Strength**	522 x1000 lb	**Optimum**	16,000 ft-lb
Connection ID	4.778 in.	**Internal Pressure Capacity**	12,640 psi	**Maximum**	19,200 ft-lb
Make-up Loss	3.780 in.	**Compression Efficiency**	81.50 %		
Threads per inch	3.40	**Compression Strength**	522 x1000 lb	**Operation Limit Torques**	
Connection OD Option	Regular	**Max. Allowable Bending**	74.98 °/100 ft	**Operating Torque**	32,000 ft-lb
		External Pressure Capacity	12,300 psi	**Yield Torque**	38,000 ft-lb
				Buck-On	
				Minimum	19,200 ft-lb
				Maximum	20,700 ft-lb

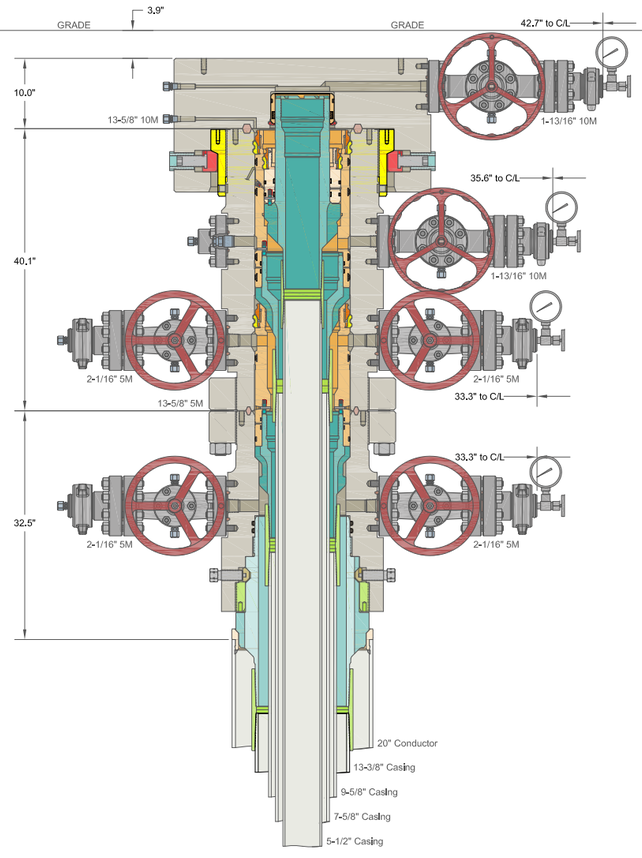
Notes

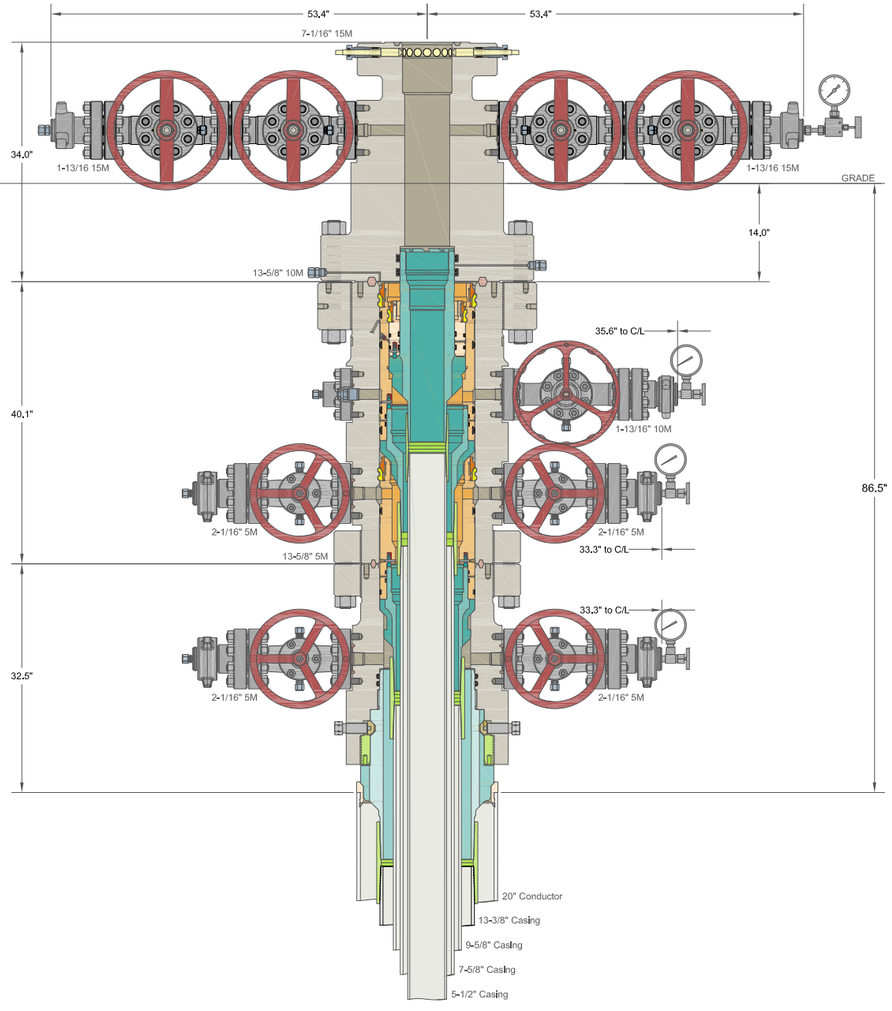
This connection is fully interchangeable with:
Wedge 441® - 5.5 in. - 0.304 (17.00) in. (lb/ft)
Wedge 461® - 5.5 in. - 0.304 (17.00) / 0.361 (20.00) / 0.415 (23.00) in. (lb/ft)
Connections with Dopeless® Technology are fully compatible with the same connection in its doped version
Connection performance values are related to structural capabilities. For sealability-related performance information, request the Connection Service Envelope from your local Tenaris Representative.

For the lastest performance data, always visit our website: www.tenaris.com
For further information on concepts indicated in this datasheet, download the Datasheet Manual from www.tenaris.com









ALL DIMENSIONS APPROXIMATE

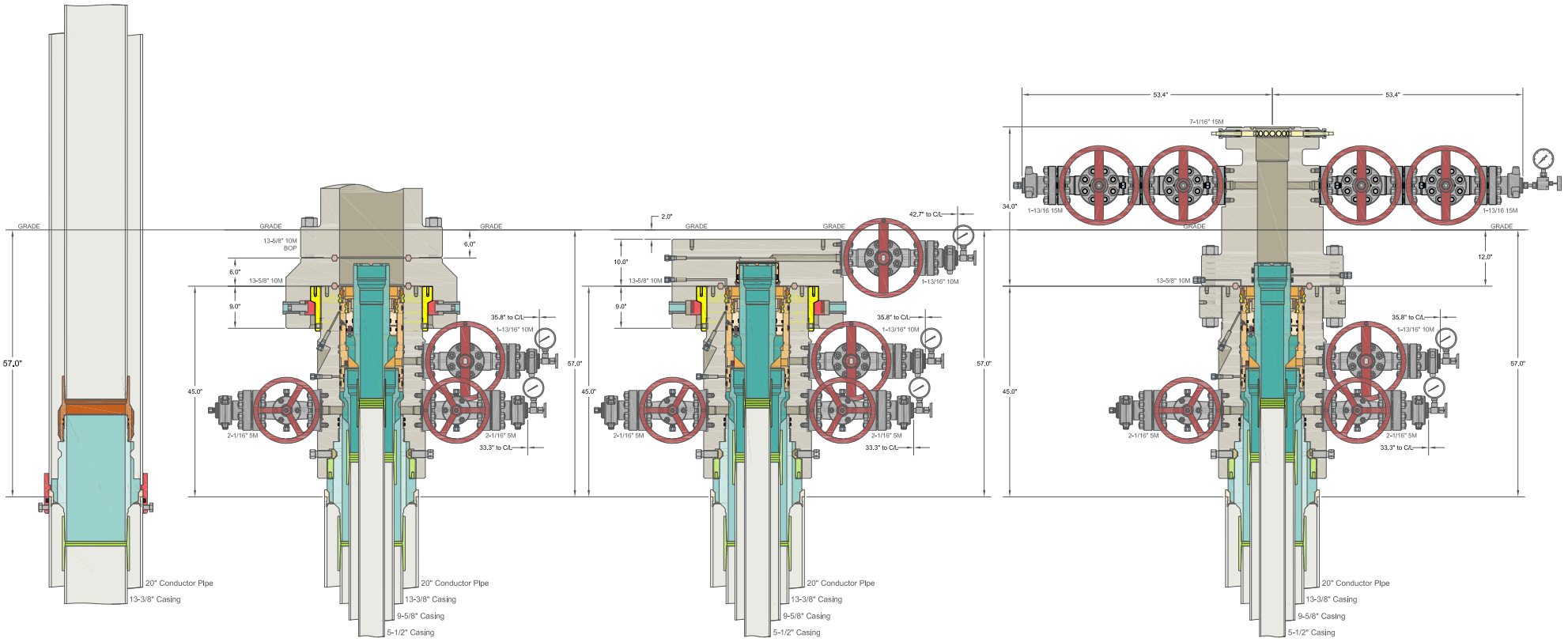
CACTUS WELLHEAD LLC

(20") x 13-3/8" x 9-5/8" x 7-5/8" x 5-1/2" MBU-4T-CFL-R-DBLO
With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS-SB Tubing Head
And Drilling & Skid Configurations

XTO ENERGY INC
DELAWARE BASIN

DRAWN	VJK	31MAR22
APPRV		

DRAWING NO. SDT-3301



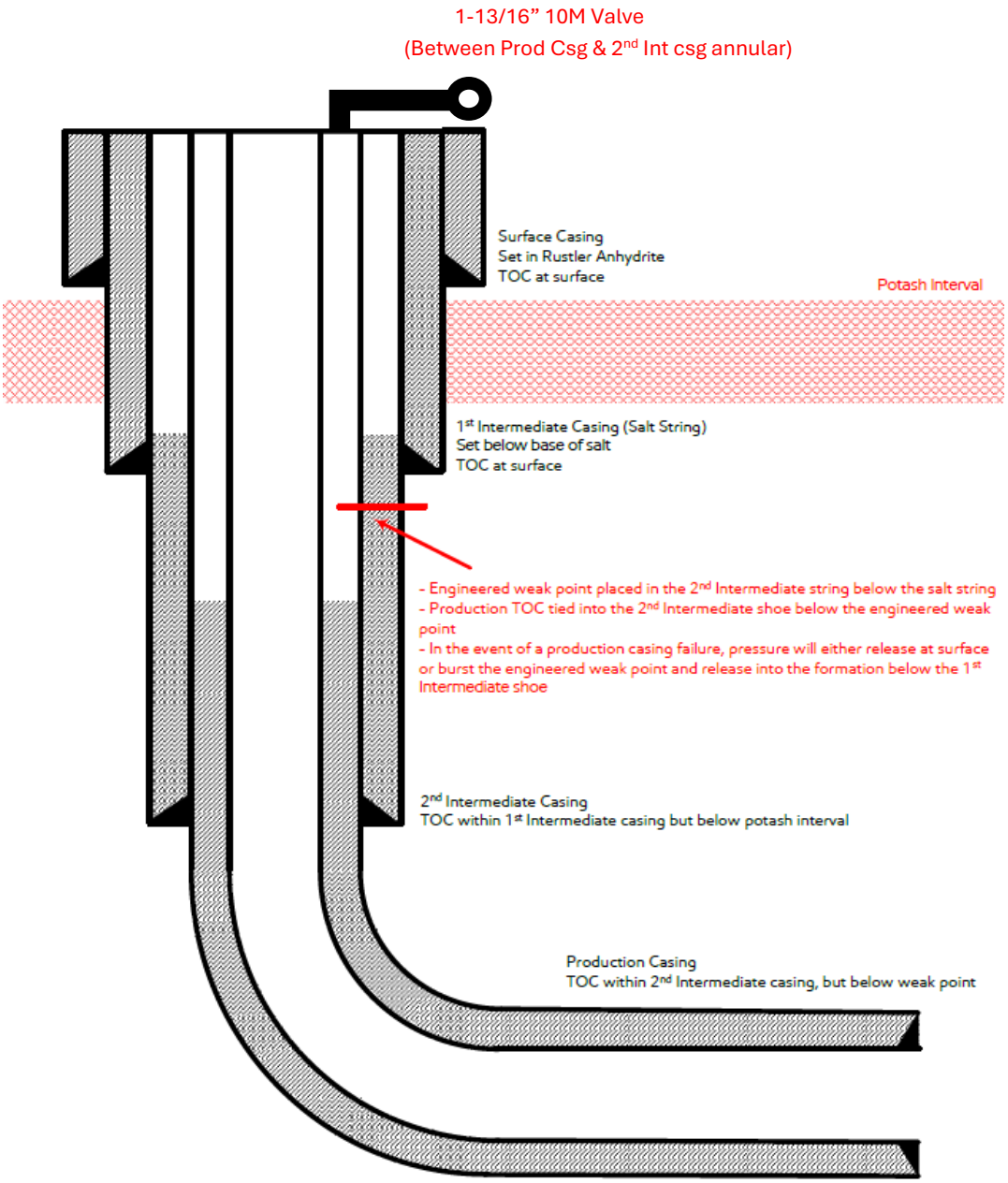
ALL DIMENSIONS APPROXIMA

CACTUS WELLHEAD LLC

XTO ENERGY INC
DELAWARE BASIN

(20") x 13-3/8" x 9-5/8" x 5-1/2" MBU-3T-CFL-R-DBLO-SF Wellhead
With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS-SB Tubing Head
And Drilling & Skid Configurations

DRAWN	VJK	31MAR22
APPRV		
DRAWING NO.	SDT-2856	



[Figure F] 4 String – 2nd Intermediate casing engineered weak point

Update May 2024:
XTO is aware of R-111-Q update and will comply with these requirements including (but not limited to):

1) Alignment with KPLA requirements per schematic below, with engineering weak point casing design and utilizing new casing that meets API standards.
2) Contingency plans in place to divert fluids away from salt interval in event of production casing failure.
3) Intermediate 2 casing will consist of a primary cement job with TOC at the top of the Brushy Canyon formation within the Delaware Mountain Group.
    a. Bradenhead squeeze to be completed after primary cement job to tie back TOC to intermediate 1 "Salt string" & below Marker Bed 126 "Potash Interval".
4) Production cement to be tied back no less than 500' inside previous casing shoe (intermediate 2 casing) and below the engineered weak point.

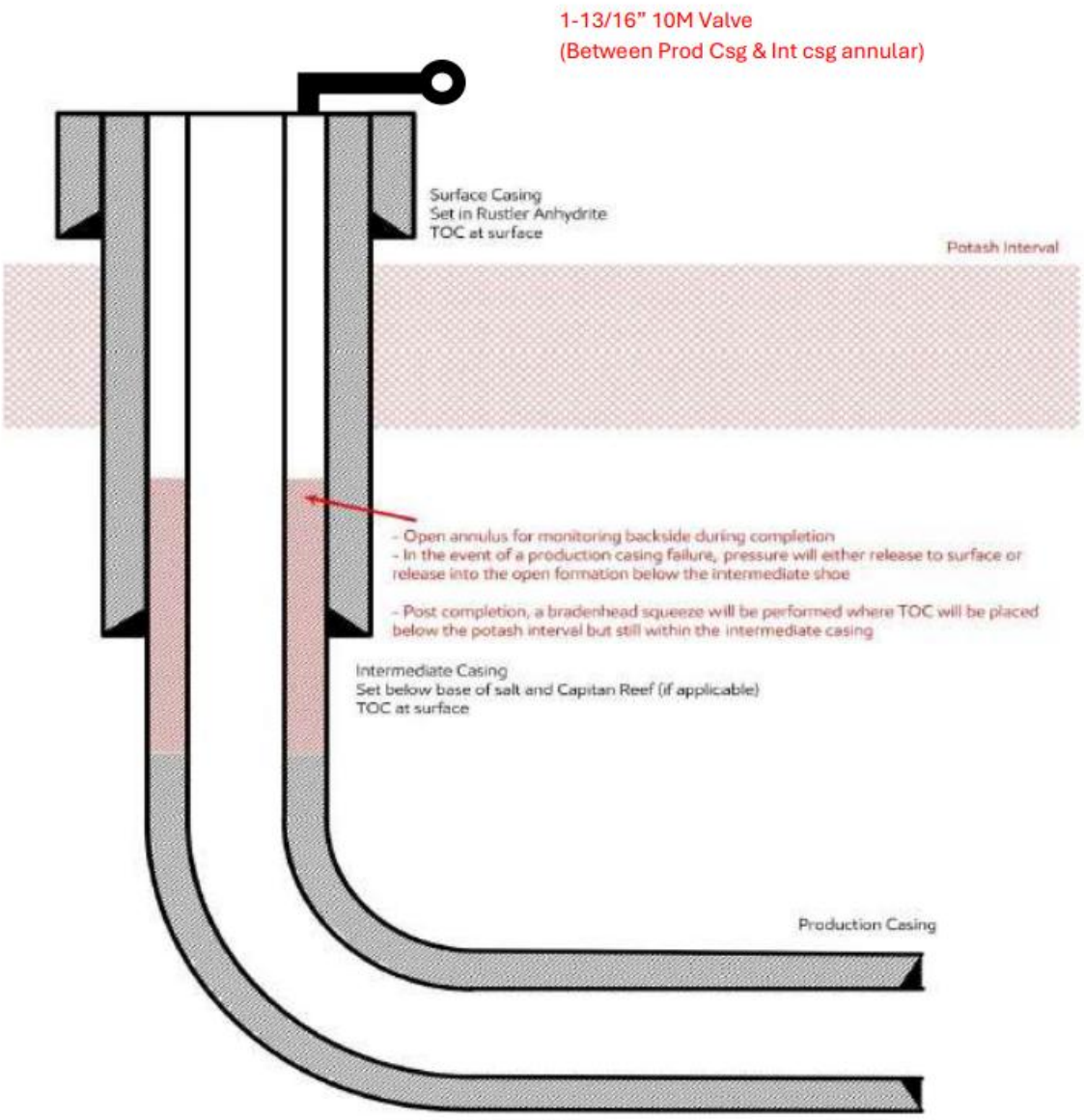


Figure B – 3 String Design – Open Production Casing Annulus (Updated May 2024):

XTO is aware of the R-111-Q update & will comply with these requirements including (but not limited to):

1. Alignment with KPLA requirements per schematic above, leaving open annulus for pressure monitoring during frac and utilizing new casing that meets API standards
2. Contingency plans in place to divert formation fluids away from salt interval in event of production casing failure
3. TOC in the annulus between intermediate & production casing string shall stand uncemented at least 500 feet below the intermediate casing shoe
4. Bradenhead squeeze to be completed within 180 days after hydraulic frac operations have been concluded to ensure at least a 500 feet tie-back has been established inside salt string but with top below MB 126

BLACK GOLD®

GATES ENGINEERING & SERVICES NORTH AMERICA
7603 Prairie Oak Dr.
Houston, TX. 77086

PHONE: +1 (281) 602-4100
FAX: +1 (281) 602-4147
EMAIL: gesna.quality@gates.com
WEB: www.gates.com/oilandgas

NEW CHOKE HOSE
INSTALLED 02-10-2024

CERTIFICATE OF CONFORMANCE

This is to verify that the items detailed below meet the requirements of the Customer's Purchase Order referenced herein, and are in Conformance with applicable specifications, and that Records of Required Tests are on file and subject to examination. The following items were inspected and hydrostatically tested at **Gates Engineering & Services North America** facilities in Houston, TX, USA.

CUSTOMER:	NABORS DRILLING TECHNOLOGIES USA DBA NABORS DRILLING USA
CUSTOMER P.O.#:	15582803 (TAG NABORS PO #15582803 SN 74621 ASSET 66-1531)
CUSTOMER P/N:	IMR RETEST SN 74621 ASSET #66-1531
PART DESCRIPTION:	RETEST OF CUSTOMER 3" X 45 FT 16C CHOKE & KILL HOSE ASSEMBLY C/W 4 1/16" 10K FLANGES
SALES ORDER #:	529480
QUANTITY:	1
SERIAL #:	74621 H3-012524-1

SIGNATURE: F. OSPINOS

TITLE: QUALITY ASSURANCE

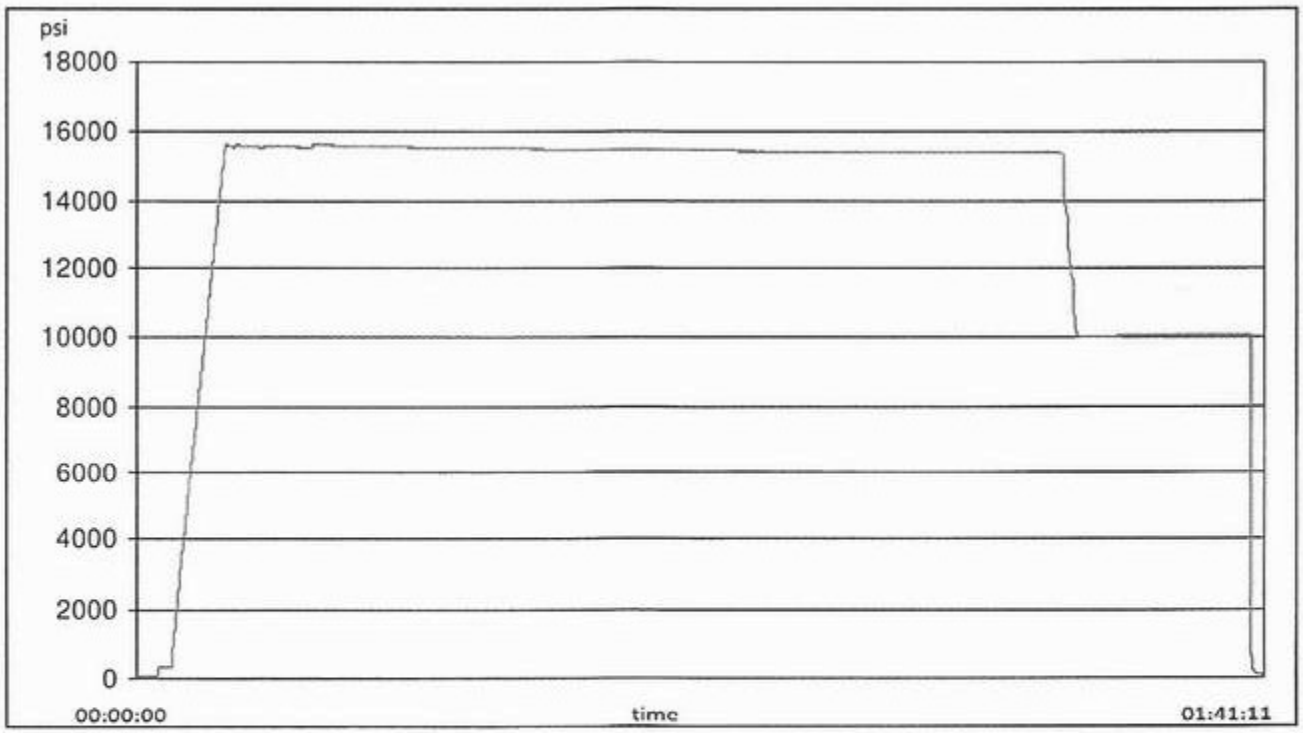
DATE: 1/25/2024

H3-15716

1/25/2024 11:48:06 AM

TEST REPORT

CUSTOMER			TEST OBJECT		
Company:	Nabors Industries Inc.		Serial number:	H3-012524-1	
			Lot number:		
Production description:	74621/66-1531		Description:	74621/66-1531	
Sales order #:	529480				
Customer reference:	FG1213		Hose ID:	3" 16C CK	
			Part number:		
TEST INFORMATION					
Test procedure:	GTS-04-053		Fitting 1:	3.0 x 4-1/16 10K	
Test pressure:	15000.00	psi	Part number:		
Test pressure hold:	3600.00	sec	Description:		
Work pressure:	10000.00	psi			
Work pressure hold:	900.00	sec	Fitting 2:	3.0 x 4-1/16 10K	
Length difference:	0.00	%	Part number:		
Length difference:	0.00	inch	Description:		
Visual check:			Length:	45	feet
Pressure test result:	PASS				
Length measurement result:					
Test operator:	Travis				



H3-15/16

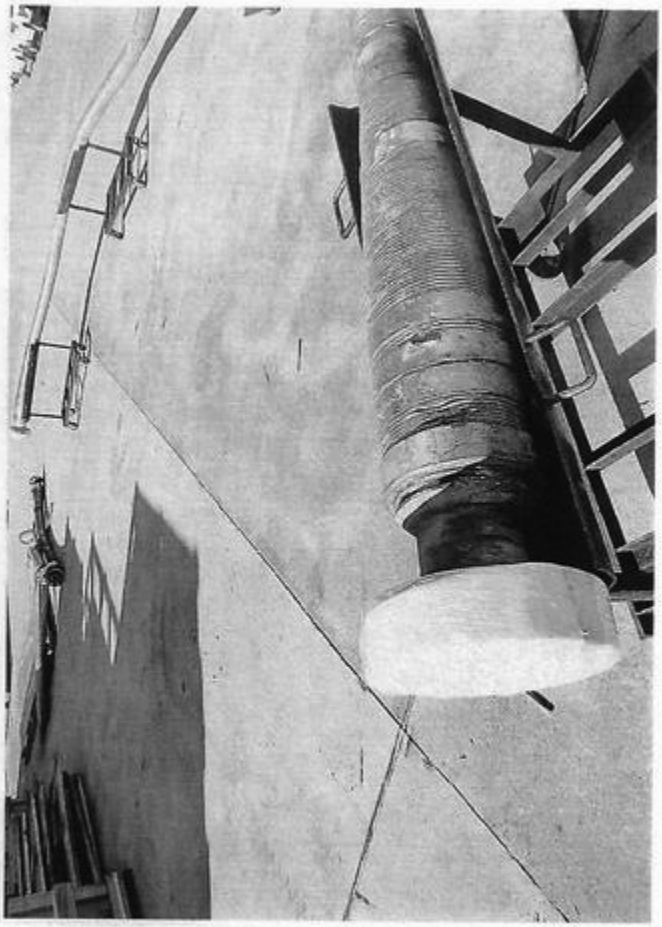
1/25/2024 11:48:06 AM

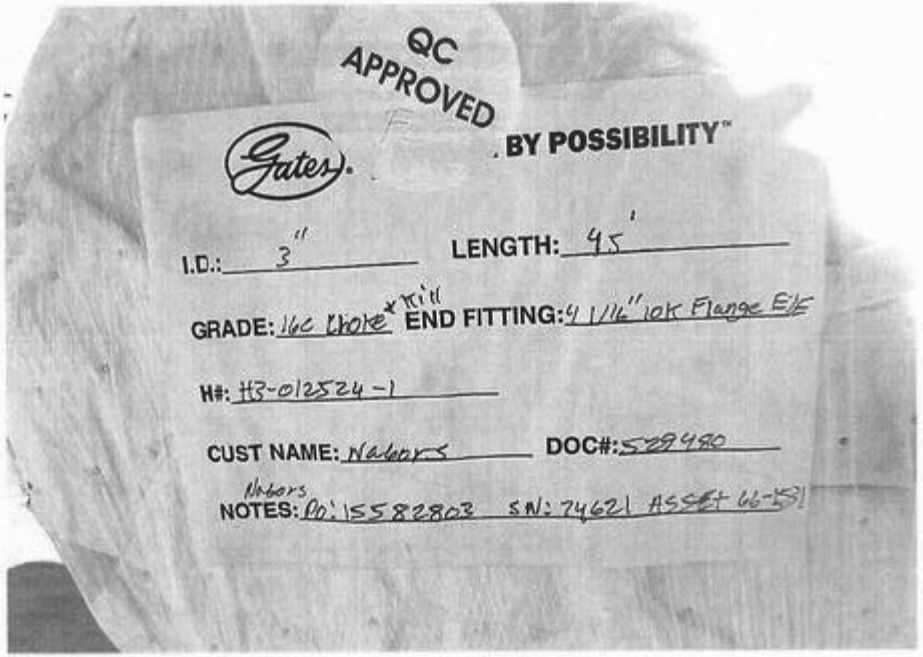
TEST REPORT

GAUGE TRACEABILITY

Description	Serial number	Calibration date	Calibration due date
S-25-A-W	110D3PHO	2023-06-06	2024-06-06
S-25-A-W	110IQWDG	2023-05-16	2024-05-16

Comment





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 90 days from the point at which the wells are secured and the spudder rig is moved off location.
    b. The BLM will be notified 24 hours before the larger rig moves back on the pre-set locations
7. XTO will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.
8. Once the rig is removed, XTO will secure the wellhead area by placing a guard rail around the cellar area.

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

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

Background

Onshore Oil and Gas Order 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

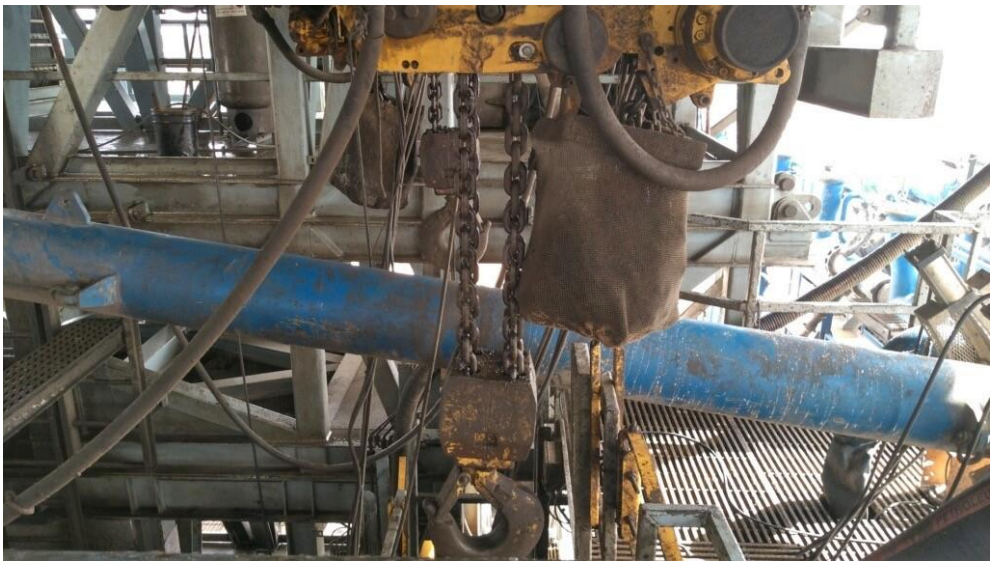


Figure 2: BOP Winch System

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.

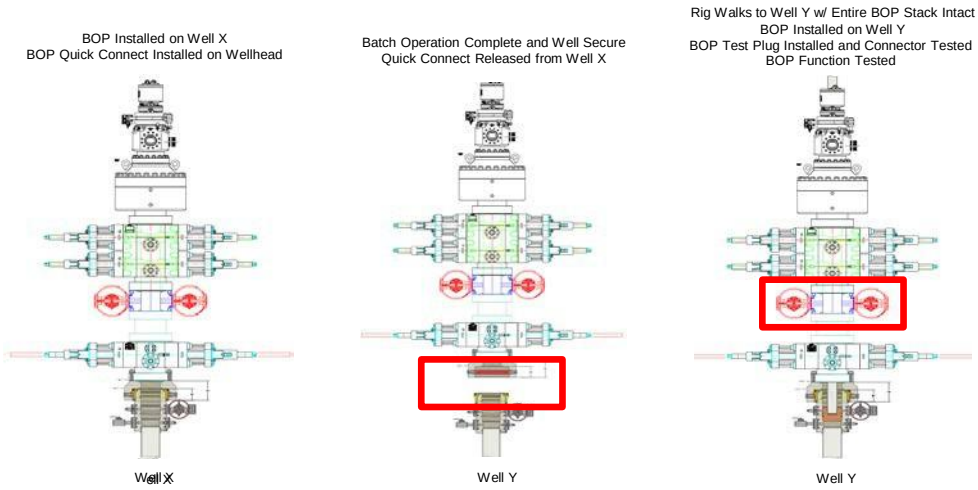
XTO Energy feels break testing and our current procedures meet the intent of CFR Title 43 Part 317 0and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. XTO Energy's internal standards requires complete BOPE tests more often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

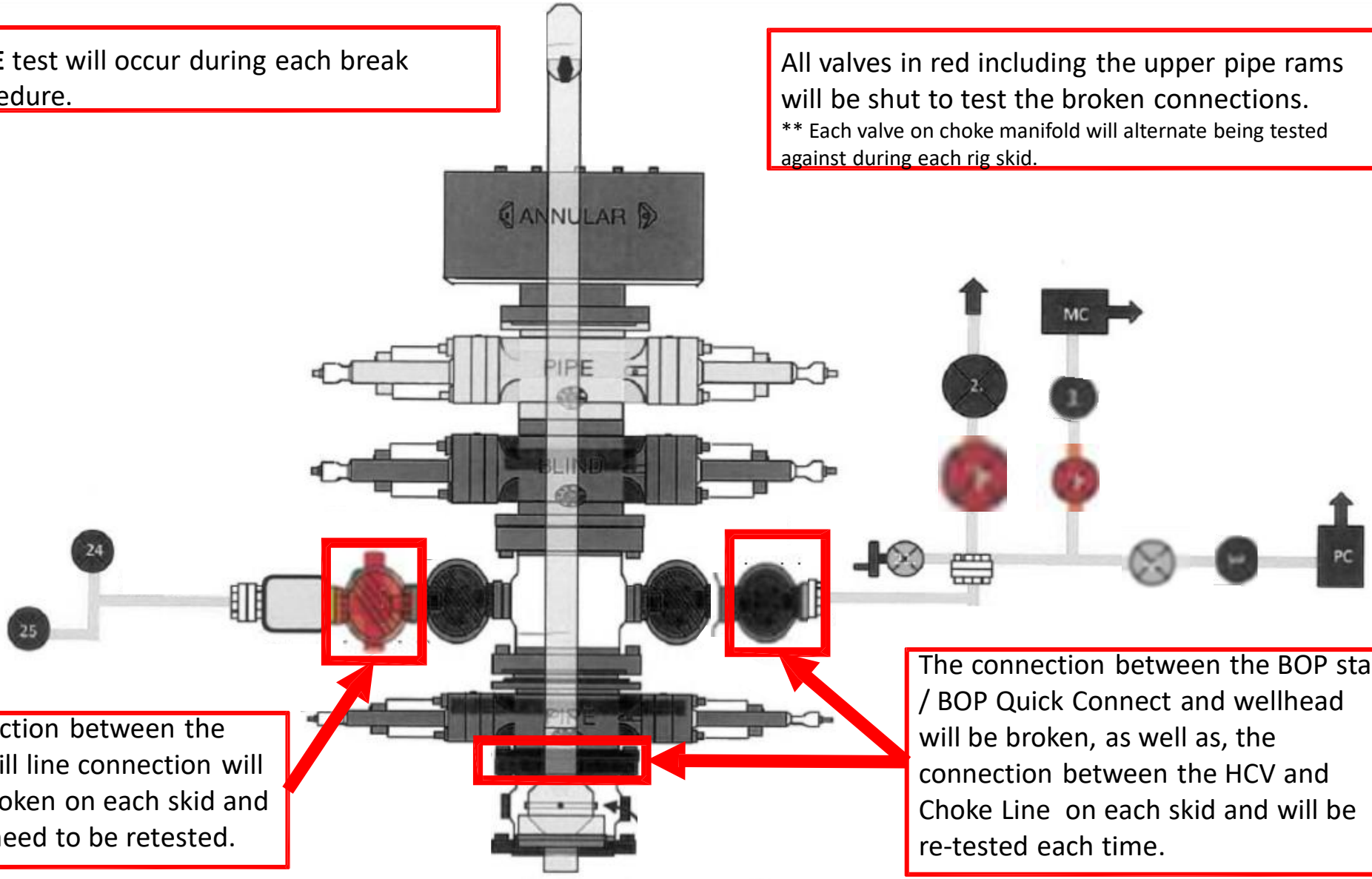
3. Full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.

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.

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.

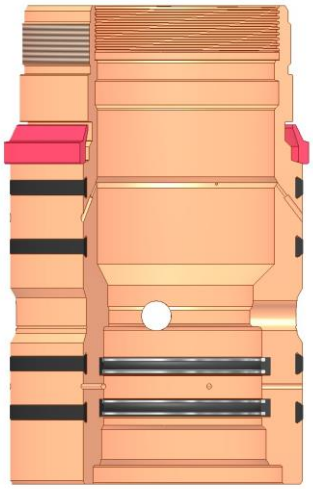
1. Cement Program

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

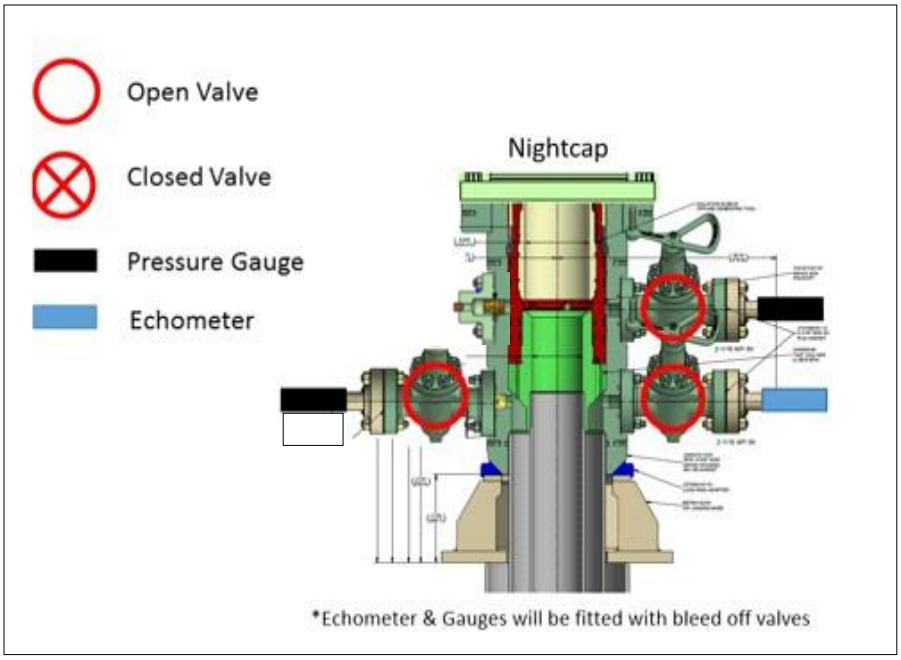
2. Offline Cementing Procedure

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.



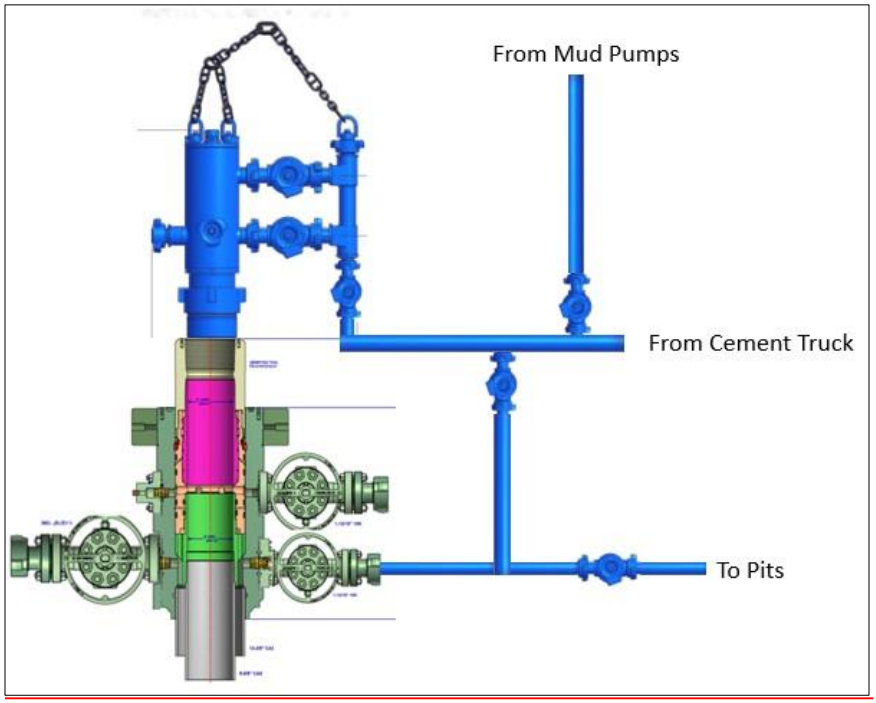
Annular packoff with both external and internal seals



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.

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO
LEASE NO.:	**NMNM89051**
LOCATION:	Sec.13, T.22 S, R 30 E
COUNTY:	Eddy County, New Mexico
WELL NAME & NO.:	JRU Apache Fed Com 802H
SURFACE HOLE FOOTAGE:	446'/S & 963'/E
BOTTOM HOLE FOOTAGE:	1832'/N & 50'/W

*Changes approved through engineering via **Sundry 2839819** on 4-11-2024_. Any previous COAs not addressed within the updated COAs still apply.*

COA

H_2S	○ No		○ Yes	
Potash / WIPP	○ None	○ Secretary	◉ R-111-Q	☑ Open Annulus
	Choose an option (including blank option.)			☑ WIPP
Cave / Karst	◉ Low	○ Medium	○ High	○ Critical
Wellhead	○ Conventional	◉ Multibowl	○ Both	○ Diverter
Cementing	☑ Primary Squeeze	☐ Cont. Squeeze	☑ EchoMeter	☐ DV Tool
Special Req	☐ Capitan Reef	☐ Water Disposal	☑ COM	☐ Unit
Waste Prev.	○ Self-Certification	◉ Waste Min. Plan	○ APD Submitted prior to 06/10/2024	
Additional Language	☑ Flex Hose	☑ Casing Clearance	☐ Pilot Hole	☑ Break Testing
	☑ Four-String	☑ Offline Cementing	☐ Fluid-Filled	

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.

APD is within the R-111-Q defined boundary. Operator must follow all procedures and requirements listed within the updated order.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **722** 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.

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

2. The minimum required fill of cement behind the **9-5/8** 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 6395'.**

    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.**

Operator has proposed to pump down Surface X Intermediate 1 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 Surface casing to tieback requirements listed above 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. Operator must use a limited flush fluid volume of 1 bbl following backside cementing procedures.

If cement does not reach surface, the next casing string must come to surface.

- **A monitored open annulus will be incorporated during completion by leaving the Intermediate Casing x Production Casing annulus un-cemented and monitored inside the Intermediate String.** Operator must follow monitoring requirements listed within R-111-Q. Tieback requirements shall be met within **180 days.**

Operator has proposed to pump down **intermediate x production** annulus post completion. **Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus OR operator shall run a CBL from TD of the production 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 during second stage bradenhead when running Echo-meter if cement is required to surface. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.

Operator has proposed an open annulus completion in R-111-Q. Operator shall provide a method of verification pre-completion top of cement. **Submit results to the BLM. Pressure monitoring device and Pressure Safety Valves must be installed at surface on both the intermediate annulus and the production annulus for the life of the well.**

In the event of a casing failure during completion, the operator must contact the BLM at (575-706-2779) and (575-361-2822 Eddy County).

3. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:
   - Cement should tie-back **500 feet** into the previous casing but not higher than USGS Marker Bed No. 126. **Operator must verify top of cement per R-111-Q requirements.** Submit results to the BLM. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.**

   ❖ **A monitored open annulus will be incorporated during completion by leaving the Intermediate Casing x Production Casing annulus un-cemented and monitored inside the Intermediate String.** Operator must follow monitoring requirements listed within R-111-Q. Tieback requirements shall be met within **180 days.**

4. The minimum required fill of cement behind the **5-1/2** inch production casing is:
   - Cement should tie-back **500 feet** into the previous casing but not higher than USGS Marker Bed No. 126. **Operator must verify top of cement per R-111-Q requirements.** Submit results to the BLM. If cement does not circulate, contact the appropriate BLM office.

Operator is approved for a 3-string casing plan Contingency Plan.

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).

    1. 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)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in 43 CFR 3171 and 3172.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

WIPP Requirements

The proposed surface well or bottom hole is located within 330 feet of the WIPP Land Withdrawal Area boundary. As a result, the operator is required to submit daily drilling reports, logs and deviation survey information to the Bureau of Land Management Engineering Department and the U.S. Department of Energy per requirements of the Joint Powers Agreement until a total vertical depth of 7,000 feet is reached. These reports will have at a minimum, the depth of any excess mud returns (brine flows), the rate of penetration and a clearly marked

section showing the deviation for each 500-foot interval. Operator may be required to do more frequent deviation surveys based on the daily information submitted and may be required to take other corrective measures. Information will also be provided to the New Mexico Oil Conservation Division after drilling activities have been completed. Upon completion of the well, the operator shall submit a complete directional survey. Any future entry into the well for purposes of completing additional drilling will require supplemental information.

Any oil and gas well operator drilling within one mile of the WIPP Boundary must notify WIPP as soon as possible if any of the following conditions are encountered during oil and gas operations: R-111-Q Amendment - Notification to Operators (Potash)

a) Indication of any well collision event,

b) Suspected well fluid flow (oil, gas, or produced water) outside of casing,

c) Sustained annulus pressure between the 1st intermediate and next innermost casing string in excess of 500 psi above the baseline pressure of the well, or above 1500 psi total,

d) Increasing pressure buildup rates (psi/day) across multiple successive bleed-off cycles on the annulus between the 1st intermediate and next innermost casing during well production, or

e) Sustained losses in excess of 50% through the salt formation during drilling.

The operator can email the required information to OilGasReports@wipp.ws. Attached files must not be greater than 20 MB. Call WIPP Tech Support at 575-234-7422, during the hours 7:00am to 4:30pm, if there are any issues sending to this address.

BOPE Break Testing Variance

- BOPE Break Testing is ONLY permitted for intervals utilizing a 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 (575-361-2822 Eddy County) 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 **43 CFR 3172**.
- 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.

Engineer may elect to vary this language. Speak with Chris about implementing changes and whether that change seems reasonable.

Casing Clearance
String does not meet 0.422” clearance requirement per 43 CFR 3172. Cement tieback requirement increased 100’ for Production casing tieback. Operator may contact approving engineer to discuss changing casing set depth or grade to meet clearance requirement.

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)

Contact Eddy County Petroleum Engineering Inspection Staff:
Email or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220; **BLM_NM_CFO_DrillingNotifications@BLM.GOV**; (575) 361-2822

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
    a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
    b. When the operator proposes to set surface casing with Spudder Rig
        i. Notify the BLM when moving in and removing the Spudder Rig.
        ii. 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.
        iii. BOP/BOPE test to be conducted per **43 CFR 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. For intervals in which cement to surface is required, cement to surface should be verified with a visual check and density or pH check to differentiate cement from spacer and drilling mud. The results should be documented in the driller's log and daily reports.

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 of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity 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-Q 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 3172**.
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:
    i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    ii. 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.
    iii. Manufacturer representative shall install the test plug for the initial BOP test.
    iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
    v. 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.
    i. 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).
    ii. 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.)

iii. 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 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 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

iv. 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.

v. The results of the test shall be reported to the appropriate BLM office.

vi. 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.

vii. 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.

viii. 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 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.

Approved by Zota Stevens on 4/11/2025
575-234-5998 / zstevens@blm.gov

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

General Information
Phone: (505) 629-6116

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

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

CONDITIONS

Action 451239

CONDITIONS

Operator: XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	OGRID: 373075
	Action Number: 451239
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Operator must comply with all of the R-111-Q requirements.	5/16/2025
ward.rikala	Any previous COA's not addressed within the updated COA's still apply.	5/16/2025