

Well Name: POKER LAKE UNIT 19 DTD	Well Location: T24S / R30E / SEC 19 / NENE / 32.209568 / -103.915686	County or Parish/State: EDDY / NM
Well Number: 424H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM002860	Unit or CA Name:	Unit or CA Number: NMNM71016X
US Well Number: 3001553844	Operator: XTO PERMIAN OPERATING LLC	

Notice of Intent

Sundry ID: 2778061

Type of Submission: Notice of Intent Type of Action: APD Change

Date Sundry Submitted: 03/05/2024 Time Sundry Submitted: 06:18

Date proposed operation will begin: 04/02/2024

Procedure Description: XTO Permian Operating, LLC. respectfully requests approval to make the following changes to the approved APD. Changes to include SHL, FTP, LTP, BHL, casing sizes, cement, and proposed total depth. FROM: TO: SHL: 275' FNL & 1076' FEL of Section 19-T24S-R30E 275' FNL & 1076' FEL of Section 19-T24S-R30E FTP: 100' FSL & 110' FEL of Section 18-T24S-R30E 100' FNL & 50' FEL of Section 19-T24S-R30E LTP: 2310' FSL & 110' FEL of Section 31-T23S-R30E 330' FSL & 63' FEL of Section 31-T24S-R30E BHL: 2440' FSL & 110' FEL of Section 31-T23S-R30E 230' FSL & 63' FEL of Section 31-T24S-R30E Proposed total depth will change from 29426' MD; 10834' TVD (Wolfcamp) to 25951' MD; TVD 10612' (Wolfcamp). See attached Drilling Plan for updated cement and casing program. Attachments: C-102, Drilling Plan, Directional Drilling Plan, MBS, BOP Variance, Well Control Plan

NOI Attachments

Procedure Description

- POKER_LAKE_UNIT_19_DTD_424H_C_102_FINAL_20240305181726.pdf
- Well_Plan_Report___Poker_Lake_Unit_19_DTD_South_424H_20240305181731.pdf
- 3_String_Slimhole_HBE0000479_4_MBS_20240305181727.pdf
- BOP_Variance_new_Language_BOP_BTV_20240305181725.pdf
- Well_Control_Plan_w_CFR_43_3172_20240305181723.pdf
- PLU_19_DTD_424H_Pad_D_Drilling_Plan_20240305181723.pdf

Received by OCD: 4/29/2024 1:26:30 PM

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Conditions of Approval

Additional

Sec_19_24S_30E_NMP_Sundry_2778061_Poker_Lake_Unit_19_DTD_424H_Eng_Worksheet_20240321150345.pdf

Sec19_24S_30E_NMP_Sundry_2778061_Poker_Lake_Unit_19_DTD_424H_COAs_20240321150345.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: JEAN COOPER

Signed on: MAR 05, 2024 06:17 PM

Name: XTO PERMIAN OPERATING LLC

Title: Regulatory Analyst

Street Address: 6401 HOLIDAY HILL ROAD BLDG 5

City: MIDLANDState: TX

Phone: (432) 620-6700

Email address: JEAN.COOPER@EXXONMOBIL.COM

Field

Representative Name:

Street Address:

City:State:Zip:

Phone:

Email address:

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5752342234

BLM POC Email Address: cwalls@blm.gov

Disposition: Approved

Disposition Date: 04/25/2024

Signature: Chris Walls

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.

5. Lease Serial No.	
6. If Indian, Allottee or Tribe Name	
7. If Unit of CA/Agreement, Name and/or No.	
8. Well Name and No.	
9. API Well No.	
10. Field and Pool or Exploratory Area	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				
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off	
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity	
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other	
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon		
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> 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 recompleate 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 OFFICE 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 of this form to U.S. Department of the Interior, Bureau of Land 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

Additional Remarks

Attachments: C-102, Drilling Plan, Directional Drilling Plan, MBS, BOP Variance, Well Control Plan

Location of Well

- 0. SHL: NENE / 275 FNL / 1076 FEL / TWSP: 24S / RANGE: 30E / SECTION: 19 / LAT: 32.209568 / LONG: -103.915686 (TVD: 0 feet, MD: 0 feet)
- PPP: SESE / 330 FSL / 110 FEL / TWSP: 24S / RANGE: 30E / SECTION: 7 / LAT: 32.21284 / LONG: -103.93849 (TVD: 10834 feet, MD: 16600 feet)
- PPP: SESE / 100 FSL / 110 FEL / TWSP: 24S / RANGE: 30E / SECTION: 18 / LAT: 32.210631 / LONG: -103.912566 (TVD: 10834 feet, MD: 11300 feet)
- BHL: NESE / 2440 FSL / 110 FEL / TWSP: 23S / RANGE: 30E / SECTION: 31 / LAT: 32.260687 / LONG: -103.912542 (TVD: 10834 feet, MD: 29426 feet)

Sec 19-24S-30E-NMP Sundry 2778061 Poker Lake Unit 19 DTD 424H Eng Worksheet

Poker Lake Unit 19 DTD 424H

9 5/8	surface csg in a	12 1/4	inch hole.	Design Factors					Surface		
Segment	#/ft	Grade	Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	40.00	J 55	BTC	19.99	7.05	2.04	788	11	3.75	13.46	31,520
"B"			BTC				0				0
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,500				Tail Cmt	does not	circ to sfc.	Totals:	788			31,520
Comparison of Proposed to Minimum Required Cement Volumes											
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE			Min Dist Hole-Cplg
12 1/4	0.3132	290	475	247	92	8.90	1052	2M			0.81
Site plot (pipe racks S or E) as per O O 1 DED 41, not found.											

7 5/8	casing inside the	9 5/8	Design Factors					Int 1			
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	29.70	RY P 110	Flush Joint	4.70	2.77	1.53	4,000	5	2.33	5.08	118,800
"B"	29.70	HCL 80	Flush Joint	∞	2.99	1.11	5,799	4	1.69	5.49	172,230
w/8.4#/g mud, 30min Sfc Csg Test psig:							Totals:	9,799	291,030		
The cement volume(s) are intended to achieve a top of				0	ft from surface or a		788	overlap.			
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg		
8 3/4	0.1005	670	1359	991	37	9.30	4064	5M	0.56		
Class 'H' tail cmt yld > 1.20											

Tail cmt				Design Factors					Prod 1		
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	20.00	RY P 110	Semi-Premiur	3.30	1.79	2.04	9,699	2	3.11	2.73	193,980
"B"	20.00	RY P 110	Semi-Flush	∞	1.79	2.04	16,253	2	3.11	2.73	325,060
w/8.4#/g mud, 30min Sfc Csg Test psig: 2,134							Totals:	25,952	519,040		
The cement volume(s) are intended to achieve a top of					0	ft from surface or a		9799	overlap.		
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg		
6 3/4	0.0835	1160	1775	2262	-22	12.30			0.23		
Class 'C' tail cmt yld > 1.35											

#N/A											
0	5 1/2			Design Factors				<Choose Casing>			
Segment	#/ft	Grade	Coupling	#N/A	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"			0.00				0				0
"B"			0.00				0				0
w/8.4#/g mud, 30min Sfc Csg Test psig:							Totals:	0			0
Cmt vol calc below includes this csg, TOC intended				#N/A	ft from surface or a		#N/A				overlap.
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE			Min Dist Hole-Cplg
0		#N/A	#N/A	0	#N/A						
#N/A Capitan Reef est top XXXX.											

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO Permian Operating LLC
WELL NAME & NO.:	Poker Lake Unit 19 DTD 424H
LOCATION:	Sec 19-24S-30E-NMP
COUNTY:	Eddy County, New Mexico

*Changes approved through engineering via **Sundry 2778061** on 03/21/2024. Any previous COAs not addressed within the updated COAs still apply.*

COA

H₂S	<input checked="" type="radio"/> No	<input type="radio"/> Yes		
Potash / WIPP	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P	<input type="checkbox"/> WIPP
Cave / Karst	<input type="radio"/> Low	<input checked="" type="radio"/> Medium	<input type="radio"/> High	<input type="radio"/> Critical
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both	<input type="radio"/> Diverter
Cementing	<input type="checkbox"/> Primary Squeeze	<input checked="" type="checkbox"/> Cont. Squeeze	<input checked="" type="checkbox"/> EchoMeter	<input type="checkbox"/> DV Tool
Special Req	<input checked="" type="checkbox"/> Break Testing	<input type="checkbox"/> Water Disposal	<input type="checkbox"/> COM	<input checked="" type="checkbox"/> Unit
Variance	<input checked="" type="checkbox"/> Flex Hose	<input checked="" type="checkbox"/> Casing Clearance	<input type="checkbox"/> Pilot Hole	<input type="checkbox"/> Capitan Reef
Variance	<input type="checkbox"/> Four-String	<input checked="" type="checkbox"/> Offline Cementing	<input type="checkbox"/> Fluid-Filled	<input type="checkbox"/> Open Annulus
<input type="checkbox"/> Batch APD / Sundry				

A. HYDROGEN SULFIDE

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

B. CASING

1. The **9-5/8** inch surface casing shall be set at approximately 430 feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface. ***Set depth adjusted per BLM geologist.***
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead

- cement)
- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:
- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**

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

Operator has proposed to pump down 9-5/8" X 7-5/8" annulus after primary cementing stage. Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus OR operator shall run a CBL from TD of the 7-5/8" casing to surface after the second stage BH to verify TOC.

Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry between second stage BH and top out.

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

Operator must use a limited flush fluid volume of 1 bbl following backside cementing procedures.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
- Cement should tie-back at least **300 feet** (due to not meeting the 0.422" clearance requirement per 43 CFR 3172) into previous casing string. Operator shall provide method of verification. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
2. Operator has proposed a multi-bowl wellhead assembly. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M) psi**. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

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

D. SPECIAL REQUIREMENT (S)

Unit Wells

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

Commercial Well Determination

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

BOPE Break Testing Variance

- BOPE Break Testing is ONLY permitted for 5M BOPE or less. (**Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP**)
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer (**575-706-2779**) prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted (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 Onshore Oil and Gas Order No. 2.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

Offline Cementing

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

GENERAL REQUIREMENTS

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

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

Eddy County (API No. / US Well No. contains 30-015-#####)

Email or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
BLM_NM_CFO_DrillingNotifications@blm.gov; (575) 361-2822

Lea County (API No. / US Well No. contains 30-025-#####)

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240; (575) 689-5981

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

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. **Wait on cement (WOC) for Potash Areas:** After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing 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-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

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

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

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

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

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

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

☒ AMENDED REPORT

Intent ☐ As Drilled ☐

API #		
Operator Name:	Property Name:	Well Number

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude			NAD	

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude			NAD	

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude			NAD	

Is this well the defining well for the Horizontal Spacing Unit? ☐Is this well an infill well? ☐

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

API #		
Operator Name:	Property Name:	Well Number

KZ 06/29/2018

Well Plan Report - Poker Lake Unit 19 DTD South 424H

Measured Depth: 25951.98 ft

TVD RKB: 10612.00 ft

Location

Cartographic Reference System: New Mexico East - NAD 27

Northing: 440166.60 ft

Easting: 629324.70 ft

RKB: 3211.00 ft

Ground Level: 3179.00 ft

North Reference: Grid

Convergence Angle: 0.22 Deg

Plan Sections

Poker Lake Unit 19 DTD South 424H

Measured				TVD			Build	Turn	Dogleg		
Depth	Inclination	Azimuth		RKB	Y Offset	X Offset	Rate	Rate	Rate	Target	
(ft)	(Deg)	(Deg)		(ft)	(ft)	(ft)	(Deg/100ft)	(Deg/100ft)	(Deg/100ft)		
0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00		
1100.00	0.00	0.00		1100.00	0.00	0.00	0.00	0.00	0.00		
1687.53	11.75	79.42		1683.42	11.03	59.02	2.00	0.00	2.00		
6215.58	11.75	79.42		6116.58	180.37	965.48	0.00	0.00	0.00		
6803.11	0.00	0.00		6700.00	191.40	1024.50	-2.00	0.00	2.00		
9998.91	0.00	0.00		9895.80	191.40	1024.50	0.00	0.00	0.00		
11123.91	90.00	179.72		10612.00	-524.79	1027.97	8.00	0.00	8.00		
25851.93	90.00	179.72		10612.00	-15252.63	1099.44	0.00	0.00	0.00	LTP 30	
25951.98	90.00	179.72		10612.00	-15352.68	1099.92	0.00	0.00	0.00	BHL 30	

Position Uncertainty

Poker Lake Unit 19 DTD South 424H

Measured	TVD	Highside	Lateral	Vertical	Magnitude	Semi-major	Semi-minor	Semi-minor	Tool
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Depth	Inclination	Azimuth	RKB	Error	Bias	Error	Bias	Error	Bias	of Bias	Error	Error	Azimuth	Used
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	MWD+IFR1+MS
100.000	0.000	0.000	100.000	0.700	0.000	0.350	0.000	2.300	0.000	0.000	0.751	0.220	112.264	MWD+IFR1+MS
200.000	0.000	0.000	200.000	1.112	0.000	0.861	0.000	2.309	0.000	0.000	1.259	0.627	122.711	MWD+IFR1+MS
300.000	0.000	0.000	300.000	1.497	0.000	1.271	0.000	2.325	0.000	0.000	1.698	0.986	125.469	MWD+IFR1+MS
400.000	0.000	0.000	400.000	1.871	0.000	1.658	0.000	2.346	0.000	0.000	2.108	1.344	126.713	MWD+IFR1+MS
500.000	0.000	0.000	500.000	2.240	0.000	2.034	0.000	2.373	0.000	0.000	2.503	1.701	127.419	MWD+IFR1+MS
600.000	0.000	0.000	600.000	2.607	0.000	2.405	0.000	2.405	0.000	0.000	2.888	2.059	127.873	MWD+IFR1+MS
700.000	0.000	0.000	700.000	2.971	0.000	2.773	0.000	2.441	0.000	0.000	3.267	2.417	128.190	MWD+IFR1+MS
800.000	0.000	0.000	800.000	3.334	0.000	3.138	0.000	2.483	0.000	0.000	3.642	2.775	128.423	MWD+IFR1+MS
900.000	0.000	0.000	900.000	3.696	0.000	3.502	0.000	2.528	0.000	0.000	4.014	3.133	128.602	MWD+IFR1+MS
1000.000	0.000	0.000	1000.000	4.058	0.000	3.865	0.000	2.577	0.000	0.000	4.384	3.491	128.744	MWD+IFR1+MS
1100.000	0.000	0.000	1100.000	4.419	0.000	4.228	0.000	2.630	0.000	0.000	4.752	3.849	128.859	MWD+IFR1+MS
1200.000	2.000	79.418	1199.980	4.934	0.000	4.582	0.000	2.686	0.000	0.000	5.178	4.307	-43.527	MWD+IFR1+MS
1300.000	4.000	79.418	1299.838	5.716	0.000	4.944	0.000	2.746	0.000	0.000	5.781	4.879	-25.570	MWD+IFR1+MS
1400.000	6.000	79.418	1399.452	6.416	0.000	5.307	0.000	2.811	0.000	0.000	6.441	5.300	-15.035	MWD+IFR1+MS
1500.000	8.000	79.418	1498.702	7.058	0.000	5.670	0.000	2.883	0.000	0.000	7.091	5.670	-9.585	MWD+IFR1+MS
1600.000	10.000	79.418	1597.465	7.654	0.000	6.035	0.000	2.966	0.000	0.000	7.711	6.025	-6.472	MWD+IFR1+MS
1687.534	11.751	79.418	1683.424	8.079	0.000	6.349	0.000	3.041	0.000	0.000	8.163	6.330	-5.074	MWD+IFR1+MS
1700.000	11.751	79.418	1695.629	8.111	0.000	6.391	0.000	3.045	0.000	0.000	8.197	6.372	-5.081	MWD+IFR1+MS
1800.000	11.751	79.418	1793.533	8.378	0.000	6.741	0.000	3.122	0.000	0.000	8.459	6.722	-4.913	MWD+IFR1+MS
1900.000	11.751	79.418	1891.437	8.667	0.000	7.112	0.000	3.203	0.000	0.000	8.745	7.089	-4.231	MWD+IFR1+MS
2000.000	11.751	79.418	1989.342	8.964	0.000	7.484	0.000	3.288	0.000	0.000	9.039	7.458	-3.550	MWD+IFR1+MS
2100.000	11.751	79.418	2087.246	9.268	0.000	7.857	0.000	3.376	0.000	0.000	9.340	7.827	-2.872	MWD+IFR1+MS
2200.000	11.751	79.418	2185.150	9.577	0.000	8.231	0.000	3.467	0.000	0.000	9.646	8.197	-2.197	MWD+IFR1+MS
2300.000	11.751	79.418	2283.055	9.892	0.000	8.605	0.000	3.560	0.000	0.000	9.958	8.568	-1.524	MWD+IFR1+MS
2400.000	11.751	79.418	2380.959	10.212	0.000	8.980	0.000	3.656	0.000	0.000	10.274	8.940	-0.854	MWD+IFR1+MS
2500.000	11.751	79.418	2478.863	10.536	0.000	9.356	0.000	3.754	0.000	0.000	10.595	9.312	-0.187	MWD+IFR1+MS
2600.000	11.751	79.418	2576.767	10.865	0.000	9.733	0.000	3.855	0.000	0.000	10.920	9.684	0.477	MWD+IFR1+MS
2700.000	11.751	79.418	2674.672	11.197	0.000	10.110	0.000	3.957	0.000	0.000	11.248	10.058	1.138	MWD+IFR1+MS
2800.000	11.751	79.418	2772.576	11.532	0.000	10.487	0.000	4.061	0.000	0.000	11.580	10.431	1.796	MWD+IFR1+MS
2900.000	11.751	79.418	2870.480	11.871	0.000	10.864	0.000	4.168	0.000	0.000	11.915	10.805	2.450	MWD+IFR1+MS

3000.000	11.751	79.418	2968.385	12.212	0.000	11.242	0.000	4.276	0.000	0.000	12.252	11.180	3.101	MWD+IFR1+MS
3100.000	11.751	79.418	3066.289	12.556	0.000	11.621	0.000	4.386	0.000	0.000	12.593	11.555	3.749	MWD+IFR1+MS
3200.000	11.751	79.418	3164.193	12.903	0.000	11.999	0.000	4.497	0.000	0.000	12.935	11.930	4.393	MWD+IFR1+MS
3300.000	11.751	79.418	3262.098	13.251	0.000	12.378	0.000	4.611	0.000	0.000	13.280	12.305	5.034	MWD+IFR1+MS
3400.000	11.751	79.418	3360.002	13.602	0.000	12.757	0.000	4.725	0.000	0.000	13.626	12.681	5.671	MWD+IFR1+MS
3500.000	11.751	79.418	3457.906	13.955	0.000	13.136	0.000	4.842	0.000	0.000	13.975	13.056	6.305	MWD+IFR1+MS
3600.000	11.751	79.418	3555.811	14.309	0.000	13.516	0.000	4.960	0.000	0.000	14.325	13.433	6.936	MWD+IFR1+MS
3700.000	11.751	79.418	3653.715	14.665	0.000	13.895	0.000	5.080	0.000	0.000	14.677	13.809	7.564	MWD+IFR1+MS
3800.000	11.751	79.418	3751.619	15.023	0.000	14.275	0.000	5.201	0.000	0.000	15.030	14.185	8.188	MWD+IFR1+MS
3900.000	11.751	79.418	3849.523	15.381	0.000	14.655	0.000	5.324	0.000	0.000	15.384	14.562	8.809	MWD+IFR1+MS
4000.000	11.751	79.418	3947.428	15.742	0.000	15.035	0.000	5.449	0.000	0.000	15.740	14.939	9.428	MWD+IFR1+MS
4100.000	11.751	79.418	4045.332	16.103	0.000	15.415	0.000	5.575	0.000	0.000	16.097	15.316	10.043	MWD+IFR1+MS
4200.000	11.751	79.418	4143.236	16.466	0.000	15.796	0.000	5.703	0.000	0.000	16.455	15.694	10.656	MWD+IFR1+MS
4300.000	11.751	79.418	4241.141	16.829	0.000	16.176	0.000	5.832	0.000	0.000	16.815	16.071	11.266	MWD+IFR1+MS
4400.000	11.751	79.418	4339.045	17.194	0.000	16.557	0.000	5.963	0.000	0.000	17.175	16.449	11.874	MWD+IFR1+MS
4500.000	11.751	79.418	4436.949	17.560	0.000	16.937	0.000	6.095	0.000	0.000	17.536	16.826	12.479	MWD+IFR1+MS
4600.000	11.751	79.418	4534.854	17.926	0.000	17.318	0.000	6.230	0.000	0.000	17.898	17.204	13.082	MWD+IFR1+MS
4700.000	11.751	79.418	4632.758	18.293	0.000	17.699	0.000	6.365	0.000	0.000	18.260	17.582	13.683	MWD+IFR1+MS
4800.000	11.751	79.418	4730.662	18.661	0.000	18.079	0.000	6.503	0.000	0.000	18.624	17.960	14.282	MWD+IFR1+MS
4900.000	11.751	79.418	4828.567	19.030	0.000	18.460	0.000	6.642	0.000	0.000	18.988	18.339	14.879	MWD+IFR1+MS
5000.000	11.751	79.418	4926.471	19.400	0.000	18.841	0.000	6.783	0.000	0.000	19.353	18.717	15.474	MWD+IFR1+MS
5100.000	11.751	79.418	5024.375	19.770	0.000	19.222	0.000	6.925	0.000	0.000	19.718	19.096	16.068	MWD+IFR1+MS
5200.000	11.751	79.418	5122.279	20.140	0.000	19.604	0.000	7.069	0.000	0.000	20.084	19.474	16.661	MWD+IFR1+MS
5300.000	11.751	79.418	5220.184	20.512	0.000	19.985	0.000	7.215	0.000	0.000	20.451	19.853	17.252	MWD+IFR1+MS
5400.000	11.751	79.418	5318.088	20.884	0.000	20.366	0.000	7.363	0.000	0.000	20.818	20.232	17.843	MWD+IFR1+MS
5500.000	11.751	79.418	5415.992	21.256	0.000	20.747	0.000	7.513	0.000	0.000	21.185	20.611	18.432	MWD+IFR1+MS
5600.000	11.751	79.418	5513.897	21.629	0.000	21.129	0.000	7.664	0.000	0.000	21.553	20.990	19.021	MWD+IFR1+MS
5700.000	11.751	79.418	5611.801	22.002	0.000	21.510	0.000	7.817	0.000	0.000	21.922	21.369	19.609	MWD+IFR1+MS
5800.000	11.751	79.418	5709.705	22.376	0.000	21.891	0.000	7.972	0.000	0.000	22.291	21.748	20.197	MWD+IFR1+MS
5900.000	11.751	79.418	5807.610	22.750	0.000	22.273	0.000	8.129	0.000	0.000	22.660	22.127	20.785	MWD+IFR1+MS
6000.000	11.751	79.418	5905.514	23.125	0.000	22.654	0.000	8.288	0.000	0.000	23.030	22.506	21.372	MWD+IFR1+MS
6100.000	11.751	79.418	6003.418	23.500	0.000	23.036	0.000	8.449	0.000	0.000	23.400	22.886	21.959	MWD+IFR1+MS
6200.000	11.751	79.418	6101.323	23.876	0.000	23.417	0.000	8.612	0.000	0.000	23.771	23.265	22.547	MWD+IFR1+MS

6215.580	11.751	79.418	6116.576	23.933	0.000	23.476	0.000	8.637	0.000	0.000	23.826	23.324	22.584	MWD+IFR1+MS
6300.000	10.062	79.418	6199.468	24.275	0.000	23.790	0.000	8.777	0.000	0.000	24.141	23.643	22.246	MWD+IFR1+MS
6400.000	8.062	79.418	6298.215	24.725	0.000	24.162	0.000	8.945	0.000	0.000	24.581	24.021	19.380	MWD+IFR1+MS
6500.000	6.062	79.418	6397.451	25.155	0.000	24.527	0.000	9.107	0.000	0.000	25.032	24.390	16.772	MWD+IFR1+MS
6600.000	4.062	79.418	6497.056	25.546	0.000	24.885	0.000	9.264	0.000	0.000	25.477	24.750	14.804	MWD+IFR1+MS
6700.000	2.062	79.418	6596.908	25.899	0.000	25.236	0.000	9.416	0.000	0.000	25.914	25.101	13.305	MWD+IFR1+MS
6803.114	0.000	0.000	6700.000	25.518	0.000	26.246	0.000	9.568	0.000	0.000	26.273	25.490	10.794	MWD+IFR1+MS
6900.000	0.000	0.000	6796.886	25.878	0.000	26.553	0.000	9.711	0.000	0.000	26.575	25.855	10.306	MWD+IFR1+MS
7000.000	0.000	0.000	6896.886	26.215	0.000	26.870	0.000	9.861	0.000	0.000	26.891	26.194	10.014	MWD+IFR1+MS
7100.000	0.000	0.000	6996.886	26.553	0.000	27.189	0.000	10.014	0.000	0.000	27.208	26.533	9.692	MWD+IFR1+MS
7200.000	0.000	0.000	7096.886	26.891	0.000	27.509	0.000	10.170	0.000	0.000	27.526	26.874	9.357	MWD+IFR1+MS
7300.000	0.000	0.000	7196.886	27.230	0.000	27.830	0.000	10.328	0.000	0.000	27.845	27.214	9.007	MWD+IFR1+MS
7400.000	0.000	0.000	7296.886	27.569	0.000	28.151	0.000	10.490	0.000	0.000	28.165	27.555	8.641	MWD+IFR1+MS
7500.000	0.000	0.000	7396.886	27.909	0.000	28.474	0.000	10.654	0.000	0.000	28.486	27.897	8.259	MWD+IFR1+MS
7600.000	0.000	0.000	7496.886	28.250	0.000	28.797	0.000	10.822	0.000	0.000	28.808	28.239	7.859	MWD+IFR1+MS
7700.000	0.000	0.000	7596.886	28.590	0.000	29.122	0.000	10.992	0.000	0.000	29.131	28.581	7.440	MWD+IFR1+MS
7800.000	0.000	0.000	7696.886	28.931	0.000	29.447	0.000	11.165	0.000	0.000	29.455	28.924	7.002	MWD+IFR1+MS
7900.000	0.000	0.000	7796.886	29.273	0.000	29.773	0.000	11.341	0.000	0.000	29.779	29.266	6.542	MWD+IFR1+MS
8000.000	0.000	0.000	7896.886	29.615	0.000	30.099	0.000	11.520	0.000	0.000	30.105	29.609	6.060	MWD+IFR1+MS
8100.000	0.000	0.000	7996.886	29.957	0.000	30.426	0.000	11.703	0.000	0.000	30.431	29.953	5.555	MWD+IFR1+MS
8200.000	0.000	0.000	8096.886	30.300	0.000	30.754	0.000	11.888	0.000	0.000	30.758	30.297	5.024	MWD+IFR1+MS
8300.000	0.000	0.000	8196.886	30.643	0.000	31.083	0.000	12.076	0.000	0.000	31.086	30.641	4.467	MWD+IFR1+MS
8400.000	0.000	0.000	8296.886	30.987	0.000	31.412	0.000	12.267	0.000	0.000	31.414	30.985	3.881	MWD+IFR1+MS
8500.000	0.000	0.000	8396.886	31.331	0.000	31.742	0.000	12.461	0.000	0.000	31.744	31.329	3.265	MWD+IFR1+MS
8600.000	0.000	0.000	8496.886	31.675	0.000	32.073	0.000	12.659	0.000	0.000	32.074	31.674	2.617	MWD+IFR1+MS
8700.000	0.000	0.000	8596.886	32.019	0.000	32.404	0.000	12.859	0.000	0.000	32.404	32.019	1.936	MWD+IFR1+MS
8800.000	0.000	0.000	8696.886	32.364	0.000	32.736	0.000	13.062	0.000	0.000	32.736	32.364	1.219	MWD+IFR1+MS
8900.000	0.000	0.000	8796.886	32.709	0.000	33.068	0.000	13.269	0.000	0.000	33.068	32.709	0.465	MWD+IFR1+MS
9000.000	0.000	0.000	8896.886	33.054	0.000	33.401	0.000	13.478	0.000	0.000	33.401	33.054	-0.328	MWD+IFR1+MS
9100.000	0.000	0.000	8996.886	33.400	0.000	33.734	0.000	13.691	0.000	0.000	33.734	33.400	-1.162	MWD+IFR1+MS
9200.000	0.000	0.000	9096.886	33.746	0.000	34.068	0.000	13.907	0.000	0.000	34.068	33.745	-2.039	MWD+IFR1+MS
9300.000	0.000	0.000	9196.886	34.092	0.000	34.402	0.000	14.126	0.000	0.000	34.403	34.091	-2.960	MWD+IFR1+MS
9400.000	0.000	0.000	9296.886	34.438	0.000	34.737	0.000	14.348	0.000	0.000	34.738	34.437	-3.927	MWD+IFR1+MS

9500.000	0.000	0.000	9396.886	34.785	0.000	35.072	0.000	14.573	0.000	0.000	35.074	34.783	-4.941	MWD+IFR1+MS
9600.000	0.000	0.000	9496.886	35.132	0.000	35.408	0.000	14.801	0.000	0.000	35.411	35.129	-6.003	MWD+IFR1+MS
9700.000	0.000	0.000	9596.886	35.479	0.000	35.744	0.000	15.032	0.000	0.000	35.748	35.474	-7.112	MWD+IFR1+MS
9800.000	0.000	0.000	9696.886	35.826	0.000	36.081	0.000	15.267	0.000	0.000	36.086	35.820	-8.269	MWD+IFR1+MS
9900.000	0.000	0.000	9796.886	36.174	0.000	36.418	0.000	15.504	0.000	0.000	36.425	36.167	-9.473	MWD+IFR1+MS
9998.914	0.000	0.000	9895.800	36.517	0.000	36.752	0.000	15.742	0.000	0.000	36.760	36.509	-10.686	MWD+IFR1+MS
10000.000	0.087	179.722	9896.886	36.520	0.000	36.755	-0.000	15.745	0.000	0.000	36.764	36.512	-10.687	MWD+IFR1+MS
10100.000	8.087	179.722	9996.551	36.755	0.000	37.067	-0.000	15.999	0.000	0.000	37.166	37.029	121.419	MWD+IFR1+MS
10200.000	16.087	179.722	10094.254	37.281	0.000	37.372	-0.000	16.350	0.000	0.000	38.530	37.358	95.996	MWD+IFR1+MS
10300.000	24.087	179.722	10188.095	37.239	0.000	37.664	-0.000	16.878	0.000	0.000	39.773	37.647	94.791	MWD+IFR1+MS
10400.000	32.087	179.722	10276.247	36.685	0.000	37.939	-0.000	17.640	0.000	0.000	40.844	37.918	94.478	MWD+IFR1+MS
10500.000	40.087	179.722	10356.994	35.695	0.000	38.193	-0.000	18.657	0.000	0.000	41.728	38.168	94.457	MWD+IFR1+MS
10600.000	48.087	179.722	10428.764	34.373	0.000	38.426	-0.000	19.918	0.000	0.000	42.422	38.395	94.613	MWD+IFR1+MS
10700.000	56.087	179.722	10490.161	32.857	0.000	38.636	-0.000	21.388	0.000	0.000	42.933	38.598	94.917	MWD+IFR1+MS
10800.000	64.087	179.722	10539.989	31.316	0.000	38.820	-0.000	23.012	0.000	0.000	43.278	38.774	95.366	MWD+IFR1+MS
10900.000	72.087	179.722	10577.279	29.951	0.000	38.979	-0.000	24.732	0.000	0.000	43.484	38.922	95.959	MWD+IFR1+MS
11000.000	80.087	179.722	10601.304	28.980	0.000	39.111	-0.000	26.485	0.000	0.000	43.586	39.041	96.682	MWD+IFR1+MS
11100.000	88.087	179.722	10611.598	28.603	0.000	39.215	-0.000	28.214	0.000	0.000	43.625	39.128	97.494	MWD+IFR1+MS
11123.914	90.000	179.722	10611.997	28.287	0.000	39.234	-0.000	28.287	0.000	0.000	43.631	39.143	97.686	MWD+IFR1+MS
11200.000	90.000	179.722	10611.997	28.438	0.000	39.297	-0.000	28.438	0.000	0.000	43.648	39.191	98.323	MWD+IFR1+MS
11300.000	90.000	179.722	10611.997	28.636	0.000	39.396	-0.000	28.636	0.000	0.000	43.672	39.270	99.205	MWD+IFR1+MS
11400.000	90.000	179.722	10611.997	28.855	0.000	39.511	-0.000	28.855	0.000	0.000	43.700	39.361	100.141	MWD+IFR1+MS
11500.000	90.000	179.722	10611.997	29.094	0.000	39.640	-0.000	29.094	0.000	0.000	43.730	39.465	101.135	MWD+IFR1+MS
11600.000	90.000	179.722	10611.997	29.351	0.000	39.784	-0.000	29.351	0.000	0.000	43.765	39.579	102.198	MWD+IFR1+MS
11700.000	90.000	179.722	10611.997	29.628	0.000	39.942	-0.000	29.628	0.000	0.000	43.803	39.704	103.339	MWD+IFR1+MS
11800.000	90.000	179.722	10611.997	29.922	0.000	40.114	-0.000	29.922	0.000	0.000	43.846	39.838	104.570	MWD+IFR1+MS
11900.000	90.000	179.722	10611.997	30.233	0.000	40.300	-0.000	30.233	0.000	0.000	43.895	39.982	105.903	MWD+IFR1+MS
12000.000	90.000	179.722	10611.997	30.562	0.000	40.499	-0.000	30.562	0.000	0.000	43.949	40.134	107.350	MWD+IFR1+MS
12100.000	90.000	179.722	10611.997	30.907	0.000	40.712	-0.000	30.907	0.000	0.000	44.010	40.293	108.925	MWD+IFR1+MS
12200.000	90.000	179.722	10611.997	31.268	0.000	40.938	-0.000	31.268	0.000	0.000	44.079	40.458	110.641	MWD+IFR1+MS
12300.000	90.000	179.722	10611.997	31.645	0.000	41.177	-0.000	31.645	0.000	0.000	44.156	40.628	112.511	MWD+IFR1+MS
12400.000	90.000	179.722	10611.997	32.036	0.000	41.428	-0.000	32.036	0.000	0.000	44.244	40.801	114.544	MWD+IFR1+MS
12500.000	90.000	179.722	10611.997	32.441	0.000	41.692	-0.000	32.441	0.000	0.000	44.343	40.975	116.746	MWD+IFR1+MS

12600.000	90.000	179.722	10611.997	32.861	0.000	41.969	-0.000	32.861	0.000	0.000	44.456	41.149	119.115	MWD+IFR1+MS
12700.000	90.000	179.722	10611.997	33.293	0.000	42.258	-0.000	33.293	0.000	0.000	44.583	41.320	121.642	MWD+IFR1+MS
12800.000	90.000	179.722	10611.997	33.738	0.000	42.558	-0.000	33.738	0.000	0.000	44.728	41.487	124.307	MWD+IFR1+MS
12900.000	90.000	179.722	10611.997	34.195	0.000	42.870	-0.000	34.195	0.000	0.000	44.890	41.648	127.077	MWD+IFR1+MS
13000.000	90.000	179.722	10611.997	34.665	0.000	43.193	-0.000	34.665	0.000	0.000	45.072	41.801	129.911	MWD+IFR1+MS
13100.000	90.000	179.722	10611.997	35.145	0.000	43.528	-0.000	35.145	0.000	0.000	45.274	41.946	132.759	MWD+IFR1+MS
13200.000	90.000	179.722	10611.997	35.636	0.000	43.873	-0.000	35.636	0.000	0.000	45.498	42.081	-44.430	MWD+IFR1+MS
13300.000	90.000	179.722	10611.997	36.138	0.000	44.229	-0.000	36.138	0.000	0.000	45.742	42.206	-41.703	MWD+IFR1+MS
13400.000	90.000	179.722	10611.997	36.649	0.000	44.595	-0.000	36.649	0.000	0.000	46.007	42.320	-39.100	MWD+IFR1+MS
13500.000	90.000	179.722	10611.997	37.170	0.000	44.971	-0.000	37.170	0.000	0.000	46.293	42.426	-36.648	MWD+IFR1+MS
13600.000	90.000	179.722	10611.997	37.700	0.000	45.357	-0.000	37.700	0.000	0.000	46.597	42.523	-34.365	MWD+IFR1+MS
13700.000	90.000	179.722	10611.997	38.239	0.000	45.752	-0.000	38.239	0.000	0.000	46.920	42.611	-32.258	MWD+IFR1+MS
13800.000	90.000	179.722	10611.997	38.786	0.000	46.157	-0.000	38.786	0.000	0.000	47.259	42.693	-30.325	MWD+IFR1+MS
13900.000	90.000	179.722	10611.997	39.342	0.000	46.571	-0.000	39.342	0.000	0.000	47.615	42.768	-28.560	MWD+IFR1+MS
14000.000	90.000	179.722	10611.997	39.905	0.000	46.993	-0.000	39.905	0.000	0.000	47.985	42.838	-26.952	MWD+IFR1+MS
14100.000	90.000	179.722	10611.997	40.475	0.000	47.425	-0.000	40.475	0.000	0.000	48.370	42.903	-25.488	MWD+IFR1+MS
14200.000	90.000	179.722	10611.997	41.053	0.000	47.864	-0.000	41.053	0.000	0.000	48.767	42.964	-24.156	MWD+IFR1+MS
14300.000	90.000	179.722	10611.997	41.637	0.000	48.312	-0.000	41.637	0.000	0.000	49.176	43.021	-22.943	MWD+IFR1+MS
14400.000	90.000	179.722	10611.997	42.228	0.000	48.768	-0.000	42.228	0.000	0.000	49.597	43.076	-21.837	MWD+IFR1+MS
14500.000	90.000	179.722	10611.997	42.825	0.000	49.231	-0.000	42.825	0.000	0.000	50.029	43.128	-20.826	MWD+IFR1+MS
14600.000	90.000	179.722	10611.997	43.428	0.000	49.702	-0.000	43.428	0.000	0.000	50.471	43.178	-19.901	MWD+IFR1+MS
14700.000	90.000	179.722	10611.997	44.037	0.000	50.180	-0.000	44.037	0.000	0.000	50.922	43.226	-19.052	MWD+IFR1+MS
14800.000	90.000	179.722	10611.997	44.651	0.000	50.665	-0.000	44.651	0.000	0.000	51.383	43.273	-18.272	MWD+IFR1+MS
14900.000	90.000	179.722	10611.997	45.270	0.000	51.157	-0.000	45.270	0.000	0.000	51.852	43.319	-17.552	MWD+IFR1+MS
15000.000	90.000	179.722	10611.997	45.895	0.000	51.656	-0.000	45.895	0.000	0.000	52.330	43.363	-16.887	MWD+IFR1+MS
15100.000	90.000	179.722	10611.997	46.524	0.000	52.161	-0.000	46.524	0.000	0.000	52.815	43.407	-16.271	MWD+IFR1+MS
15200.000	90.000	179.722	10611.997	47.158	0.000	52.672	-0.000	47.158	0.000	0.000	53.309	43.449	-15.699	MWD+IFR1+MS
15300.000	90.000	179.722	10611.997	47.797	0.000	53.190	-0.000	47.797	0.000	0.000	53.809	43.492	-15.166	MWD+IFR1+MS
15400.000	90.000	179.722	10611.997	48.440	0.000	53.713	-0.000	48.440	0.000	0.000	54.316	43.533	-14.670	MWD+IFR1+MS
15500.000	90.000	179.722	10611.997	49.087	0.000	54.242	-0.000	49.087	0.000	0.000	54.831	43.575	-14.206	MWD+IFR1+MS
15600.000	90.000	179.722	10611.997	49.738	0.000	54.777	-0.000	49.738	0.000	0.000	55.351	43.616	-13.772	MWD+IFR1+MS
15700.000	90.000	179.722	10611.997	50.392	0.000	55.317	-0.000	50.392	0.000	0.000	55.878	43.657	-13.364	MWD+IFR1+MS
15800.000	90.000	179.722	10611.997	51.051	0.000	55.863	-0.000	51.051	0.000	0.000	56.411	43.698	-12.981	MWD+IFR1+MS

15900.000	90.000	179.722	10611.997	51.713	0.000	56.413	-0.000	51.713	0.000	0.000	56.949	43.738	-12.621	MWD+IFR1+MS
16000.000	90.000	179.722	10611.997	52.378	0.000	56.969	-0.000	52.378	0.000	0.000	57.493	43.779	-12.281	MWD+IFR1+MS
16100.000	90.000	179.722	10611.997	53.047	0.000	57.529	-0.000	53.047	0.000	0.000	58.043	43.820	-11.959	MWD+IFR1+MS
16200.000	90.000	179.722	10611.997	53.718	0.000	58.094	-0.000	53.718	0.000	0.000	58.598	43.861	-11.656	MWD+IFR1+MS
16300.000	90.000	179.722	10611.997	54.393	0.000	58.664	-0.000	54.393	0.000	0.000	59.157	43.902	-11.368	MWD+IFR1+MS
16400.000	90.000	179.722	10611.997	55.071	0.000	59.238	-0.000	55.071	0.000	0.000	59.722	43.943	-11.094	MWD+IFR1+MS
16500.000	90.000	179.722	10611.997	55.751	0.000	59.816	-0.000	55.751	0.000	0.000	60.291	43.984	-10.835	MWD+IFR1+MS
16600.000	90.000	179.722	10611.997	56.435	0.000	60.398	-0.000	56.435	0.000	0.000	60.865	44.026	-10.588	MWD+IFR1+MS
16700.000	90.000	179.722	10611.997	57.120	0.000	60.985	-0.000	57.120	0.000	0.000	61.443	44.068	-10.353	MWD+IFR1+MS
16800.000	90.000	179.722	10611.997	57.809	0.000	61.575	-0.000	57.809	0.000	0.000	62.025	44.110	-10.128	MWD+IFR1+MS
16900.000	90.000	179.722	10611.997	58.499	0.000	62.169	-0.000	58.499	0.000	0.000	62.612	44.152	-9.914	MWD+IFR1+MS
17000.000	90.000	179.722	10611.997	59.193	0.000	62.767	-0.000	59.193	0.000	0.000	63.203	44.194	-9.709	MWD+IFR1+MS
17100.000	90.000	179.722	10611.997	59.888	0.000	63.369	-0.000	59.888	0.000	0.000	63.797	44.237	-9.514	MWD+IFR1+MS
17200.000	90.000	179.722	10611.997	60.585	0.000	63.974	-0.000	60.585	0.000	0.000	64.395	44.281	-9.326	MWD+IFR1+MS
17300.000	90.000	179.722	10611.997	61.285	0.000	64.583	-0.000	61.285	0.000	0.000	64.997	44.324	-9.146	MWD+IFR1+MS
17400.000	90.000	179.722	10611.997	61.987	0.000	65.194	-0.000	61.987	0.000	0.000	65.602	44.368	-8.974	MWD+IFR1+MS
17500.000	90.000	179.722	10611.997	62.691	0.000	65.809	-0.000	62.691	0.000	0.000	66.211	44.412	-8.808	MWD+IFR1+MS
17600.000	90.000	179.722	10611.997	63.396	0.000	66.427	-0.000	63.396	0.000	0.000	66.823	44.457	-8.649	MWD+IFR1+MS
17700.000	90.000	179.722	10611.997	64.104	0.000	67.049	-0.000	64.104	0.000	0.000	67.439	44.502	-8.496	MWD+IFR1+MS
17800.000	90.000	179.722	10611.997	64.813	0.000	67.673	-0.000	64.813	0.000	0.000	68.057	44.547	-8.349	MWD+IFR1+MS
17900.000	90.000	179.722	10611.997	65.524	0.000	68.300	-0.000	65.524	0.000	0.000	68.679	44.593	-8.207	MWD+IFR1+MS
18000.000	90.000	179.722	10611.997	66.236	0.000	68.930	-0.000	66.236	0.000	0.000	69.303	44.639	-8.070	MWD+IFR1+MS
18100.000	90.000	179.722	10611.997	66.950	0.000	69.562	-0.000	66.950	0.000	0.000	69.931	44.686	-7.938	MWD+IFR1+MS
18200.000	90.000	179.722	10611.997	67.666	0.000	70.197	-0.000	67.666	0.000	0.000	70.561	44.733	-7.810	MWD+IFR1+MS
18300.000	90.000	179.722	10611.997	68.383	0.000	70.835	-0.000	68.383	0.000	0.000	71.194	44.780	-7.687	MWD+IFR1+MS
18400.000	90.000	179.722	10611.997	69.102	0.000	71.475	-0.000	69.102	0.000	0.000	71.829	44.828	-7.568	MWD+IFR1+MS
18500.000	90.000	179.722	10611.997	69.822	0.000	72.118	-0.000	69.822	0.000	0.000	72.467	44.876	-7.453	MWD+IFR1+MS
18600.000	90.000	179.722	10611.997	70.544	0.000	72.763	-0.000	70.544	0.000	0.000	73.108	44.925	-7.342	MWD+IFR1+MS
18700.000	90.000	179.722	10611.997	71.267	0.000	73.410	-0.000	71.267	0.000	0.000	73.751	44.974	-7.234	MWD+IFR1+MS
18800.000	90.000	179.722	10611.997	71.991	0.000	74.060	-0.000	71.991	0.000	0.000	74.396	45.023	-7.129	MWD+IFR1+MS
18900.000	90.000	179.722	10611.997	72.716	0.000	74.712	-0.000	72.716	0.000	0.000	75.044	45.073	-7.028	MWD+IFR1+MS
19000.000	90.000	179.722	10611.997	73.443	0.000	75.366	-0.000	73.443	0.000	0.000	75.694	45.123	-6.930	MWD+IFR1+MS
19100.000	90.000	179.722	10611.997	74.171	0.000	76.022	-0.000	74.171	0.000	0.000	76.346	45.174	-6.835	MWD+IFR1+MS

19200.000	90.000	179.722	10611.997	74.900	0.000	76.680	-0.000	74.900	0.000	0.000	77.000	45.226	-6.742	MWD+IFR1+MS
19300.000	90.000	179.722	10611.997	75.630	0.000	77.340	-0.000	75.630	0.000	0.000	77.657	45.277	-6.652	MWD+IFR1+MS
19400.000	90.000	179.722	10611.997	76.361	0.000	78.002	-0.000	76.361	0.000	0.000	78.315	45.329	-6.565	MWD+IFR1+MS
19500.000	90.000	179.722	10611.997	77.094	0.000	78.666	-0.000	77.094	0.000	0.000	78.975	45.382	-6.480	MWD+IFR1+MS
19600.000	90.000	179.722	10611.997	77.827	0.000	79.332	-0.000	77.827	0.000	0.000	79.637	45.435	-6.398	MWD+IFR1+MS
19700.000	90.000	179.722	10611.997	78.561	0.000	79.999	-0.000	78.561	0.000	0.000	80.302	45.488	-6.318	MWD+IFR1+MS
19800.000	90.000	179.722	10611.997	79.296	0.000	80.668	-0.000	79.296	0.000	0.000	80.967	45.542	-6.240	MWD+IFR1+MS
19900.000	90.000	179.722	10611.997	80.032	0.000	81.339	-0.000	80.032	0.000	0.000	81.635	45.597	-6.164	MWD+IFR1+MS
20000.000	90.000	179.722	10611.997	80.770	0.000	82.012	-0.000	80.770	0.000	0.000	82.305	45.651	-6.089	MWD+IFR1+MS
20100.000	90.000	179.722	10611.997	81.508	0.000	82.686	-0.000	81.508	0.000	0.000	82.976	45.707	-6.017	MWD+IFR1+MS
20200.000	90.000	179.722	10611.997	82.246	0.000	83.362	-0.000	82.246	0.000	0.000	83.648	45.762	-5.947	MWD+IFR1+MS
20300.000	90.000	179.722	10611.997	82.986	0.000	84.039	-0.000	82.986	0.000	0.000	84.323	45.818	-5.878	MWD+IFR1+MS
20400.000	90.000	179.722	10611.997	83.727	0.000	84.718	-0.000	83.727	0.000	0.000	84.999	45.875	-5.812	MWD+IFR1+MS
20500.000	90.000	179.722	10611.997	84.468	0.000	85.398	-0.000	84.468	0.000	0.000	85.676	45.932	-5.746	MWD+IFR1+MS
20600.000	90.000	179.722	10611.997	85.210	0.000	86.080	-0.000	85.210	0.000	0.000	86.355	45.989	-5.683	MWD+IFR1+MS
20700.000	90.000	179.722	10611.997	85.953	0.000	86.763	-0.000	85.953	0.000	0.000	87.035	46.047	-5.621	MWD+IFR1+MS
20800.000	90.000	179.722	10611.997	86.696	0.000	87.448	-0.000	86.696	0.000	0.000	87.717	46.106	-5.560	MWD+IFR1+MS
20900.000	90.000	179.722	10611.997	87.441	0.000	88.133	-0.000	87.441	0.000	0.000	88.400	46.164	-5.501	MWD+IFR1+MS
21000.000	90.000	179.722	10611.997	88.186	0.000	88.821	-0.000	88.186	0.000	0.000	89.085	46.224	-5.443	MWD+IFR1+MS
21100.000	90.000	179.722	10611.997	88.931	0.000	89.509	-0.000	88.931	0.000	0.000	89.771	46.283	-5.386	MWD+IFR1+MS
21200.000	90.000	179.722	10611.997	89.678	0.000	90.199	-0.000	89.678	0.000	0.000	90.458	46.344	-5.331	MWD+IFR1+MS
21300.000	90.000	179.722	10611.997	90.425	0.000	90.889	-0.000	90.425	0.000	0.000	91.146	46.404	-5.276	MWD+IFR1+MS
21400.000	90.000	179.722	10611.997	91.173	0.000	91.581	-0.000	91.173	0.000	0.000	91.836	46.465	-5.224	MWD+IFR1+MS
21500.000	90.000	179.722	10611.997	91.921	0.000	92.275	-0.000	91.921	0.000	0.000	92.527	46.527	-5.172	MWD+IFR1+MS
21600.000	90.000	179.722	10611.997	92.670	0.000	92.969	-0.000	92.670	0.000	0.000	93.219	46.588	-5.121	MWD+IFR1+MS
21700.000	90.000	179.722	10611.997	93.419	0.000	93.664	-0.000	93.419	0.000	0.000	93.912	46.651	-5.071	MWD+IFR1+MS
21800.000	90.000	179.722	10611.997	94.169	0.000	94.361	-0.000	94.169	0.000	0.000	94.606	46.713	-5.023	MWD+IFR1+MS
21900.000	90.000	179.722	10611.997	94.920	0.000	95.059	-0.000	94.920	0.000	0.000	95.301	46.777	-4.975	MWD+IFR1+MS
22000.000	90.000	179.722	10611.997	95.671	0.000	95.757	-0.000	95.671	0.000	0.000	95.998	46.840	-4.928	MWD+IFR1+MS
22100.000	90.000	179.722	10611.997	96.423	0.000	96.457	-0.000	96.423	0.000	0.000	96.695	46.904	-4.883	MWD+IFR1+MS
22200.000	90.000	179.722	10611.997	97.175	0.000	97.157	-0.000	97.175	0.000	0.000	97.394	46.969	-4.838	MWD+IFR1+MS
22300.000	90.000	179.722	10611.997	97.928	0.000	97.859	-0.000	97.928	0.000	0.000	98.093	47.034	-4.794	MWD+IFR1+MS
22400.000	90.000	179.722	10611.997	98.681	0.000	98.562	-0.000	98.681	0.000	0.000	98.794	47.099	-4.751	MWD+IFR1+MS

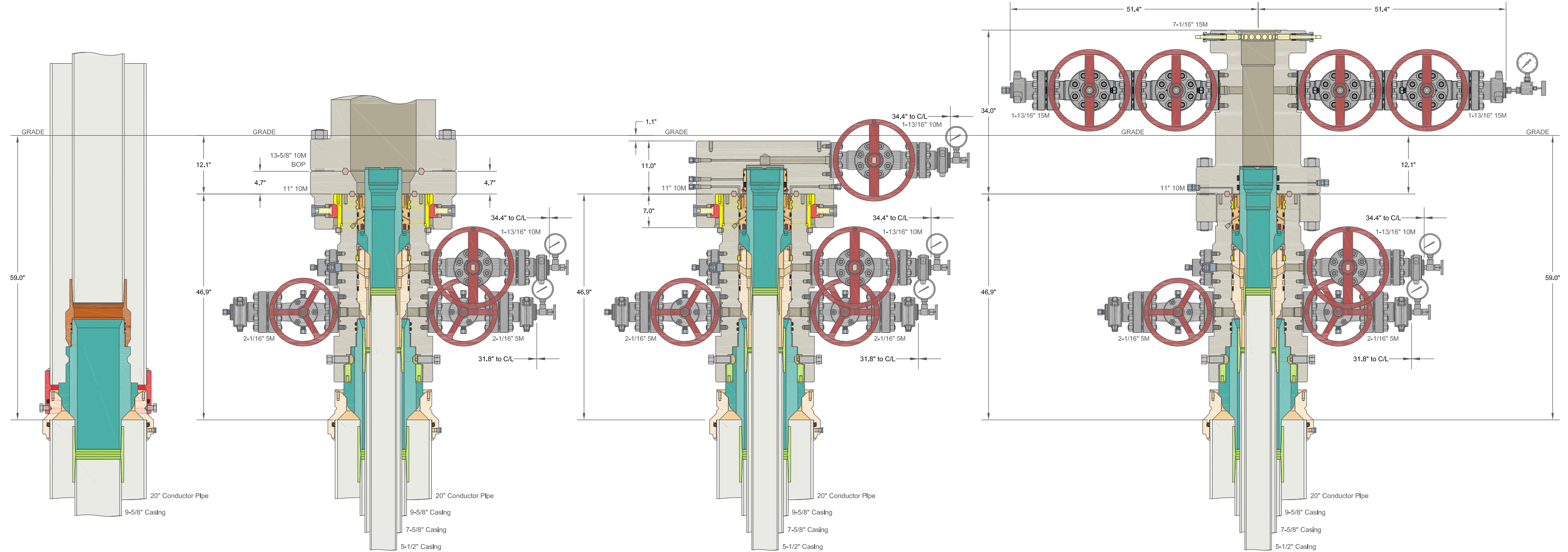
22500.000	90.000	179.722	10611.997	99.434	0.000	99.265	-0.000	99.434	0.000	0.000	99.496	47.165	-4.709	MWD+IFR1+MS
22600.000	90.000	179.722	10611.997	100.189	0.000	99.969	-0.000	100.189	0.000	0.000	100.198	47.231	-4.667	MWD+IFR1+MS
22700.000	90.000	179.722	10611.997	100.943	0.000	100.675	-0.000	100.943	0.000	0.000	100.901	47.298	-4.627	MWD+IFR1+MS
22800.000	90.000	179.722	10611.997	101.698	0.000	101.381	-0.000	101.698	0.000	0.000	101.606	47.365	-4.587	MWD+IFR1+MS
22900.000	90.000	179.722	10611.997	102.454	0.000	102.088	-0.000	102.454	0.000	0.000	102.311	47.432	-4.548	MWD+IFR1+MS
23000.000	90.000	179.722	10611.997	103.210	0.000	102.796	-0.000	103.210	0.000	0.000	103.017	47.500	-4.510	MWD+IFR1+MS
23100.000	90.000	179.722	10611.997	103.966	0.000	103.504	-0.000	103.966	0.000	0.000	103.724	47.569	-4.472	MWD+IFR1+MS
23200.000	90.000	179.722	10611.997	104.723	0.000	104.214	-0.000	104.723	0.000	0.000	104.431	47.637	-4.435	MWD+IFR1+MS
23300.000	90.000	179.722	10611.997	105.480	0.000	104.924	-0.000	105.480	0.000	0.000	105.140	47.707	-4.399	MWD+IFR1+MS
23400.000	90.000	179.722	10611.997	106.238	0.000	105.635	-0.000	106.238	0.000	0.000	105.849	47.776	-4.363	MWD+IFR1+MS
23500.000	90.000	179.722	10611.997	106.996	0.000	106.347	-0.000	106.996	0.000	0.000	106.559	47.846	-4.328	MWD+IFR1+MS
23600.000	90.000	179.722	10611.997	107.755	0.000	107.060	-0.000	107.755	0.000	0.000	107.270	47.917	-4.293	MWD+IFR1+MS
23700.000	90.000	179.722	10611.997	108.513	0.000	107.773	-0.000	108.513	0.000	0.000	107.982	47.987	-4.259	MWD+IFR1+MS
23800.000	90.000	179.722	10611.997	109.272	0.000	108.487	-0.000	109.272	0.000	0.000	108.694	48.059	-4.226	MWD+IFR1+MS
23900.000	90.000	179.722	10611.997	110.032	0.000	109.202	-0.000	110.032	0.000	0.000	109.407	48.130	-4.193	MWD+IFR1+MS
24000.000	90.000	179.722	10611.997	110.792	0.000	109.917	-0.000	110.792	0.000	0.000	110.121	48.202	-4.161	MWD+IFR1+MS
24100.000	90.000	179.722	10611.997	111.552	0.000	110.633	-0.000	111.552	0.000	0.000	110.836	48.275	-4.130	MWD+IFR1+MS
24200.000	90.000	179.722	10611.997	112.313	0.000	111.350	-0.000	112.313	0.000	0.000	111.551	48.348	-4.098	MWD+IFR1+MS
24300.000	90.000	179.722	10611.997	113.073	0.000	112.067	-0.000	113.073	0.000	0.000	112.267	48.421	-4.068	MWD+IFR1+MS
24400.000	90.000	179.722	10611.997	113.835	0.000	112.785	-0.000	113.835	0.000	0.000	112.983	48.495	-4.038	MWD+IFR1+MS
24500.000	90.000	179.722	10611.997	114.596	0.000	113.504	-0.000	114.596	0.000	0.000	113.700	48.569	-4.008	MWD+IFR1+MS
24600.000	90.000	179.722	10611.997	115.358	0.000	114.223	-0.000	115.358	0.000	0.000	114.418	48.643	-3.979	MWD+IFR1+MS
24700.000	90.000	179.722	10611.997	116.120	0.000	114.943	-0.000	116.120	0.000	0.000	115.137	48.718	-3.950	MWD+IFR1+MS
24800.000	90.000	179.722	10611.997	116.883	0.000	115.663	-0.000	116.883	0.000	0.000	115.856	48.793	-3.922	MWD+IFR1+MS
24900.000	90.000	179.722	10611.997	117.645	0.000	116.384	-0.000	117.645	0.000	0.000	116.575	48.869	-3.894	MWD+IFR1+MS
25000.000	90.000	179.722	10611.997	118.408	0.000	117.105	-0.000	118.408	0.000	0.000	117.295	48.945	-3.867	MWD+IFR1+MS
25100.000	90.000	179.722	10611.997	119.172	0.000	117.827	-0.000	119.172	0.000	0.000	118.016	49.021	-3.840	MWD+IFR1+MS
25200.000	90.000	179.722	10611.997	119.935	0.000	118.550	-0.000	119.935	0.000	0.000	118.737	49.098	-3.813	MWD+IFR1+MS
25300.000	90.000	179.722	10611.997	120.699	0.000	119.273	-0.000	120.699	0.000	0.000	119.459	49.175	-3.787	MWD+IFR1+MS
25400.000	90.000	179.722	10611.997	121.463	0.000	119.997	-0.000	121.463	0.000	0.000	120.182	49.253	-3.761	MWD+IFR1+MS
25500.000	90.000	179.722	10611.997	122.228	0.000	120.721	-0.000	122.228	0.000	0.000	120.905	49.331	-3.736	MWD+IFR1+MS
25600.000	90.000	179.722	10611.997	122.992	0.000	121.446	-0.000	122.992	0.000	0.000	121.628	49.409	-3.711	MWD+IFR1+MS
25700.000	90.000	179.722	10611.997	123.757	0.000	122.171	-0.000	123.757	0.000	0.000	122.352	49.488	-3.686	MWD+IFR1+MS

25800.000	90.000	179.722	10611.997	124.522	0.000	122.897	-0.000	124.522	0.000	0.000	123.077	49.567	-3.662	MWD+IFR1+MS
25851.929	90.000	179.722	10611.997	124.919	0.000	123.273	-0.000	124.919	0.000	0.000	123.452	49.608	-3.650	MWD+IFR1+MS
25900.000	90.000	179.722	10611.997	125.287	0.000	123.621	-0.000	125.287	0.000	0.000	123.800	49.647	-3.638	MWD+IFR1+MS
25951.984	90.000	179.722	10611.997	125.684	0.000	123.998	-0.000	125.684	0.000	0.000	124.176	49.688	-3.626	MWD+IFR1+MS

Plan Targets

Poker Lake Unit 19 DTD South 424H

Target Name	Measured Depth (ft)	Grid Northing (ft)	Grid Easting (ft)	TVD MSL (ft)	Target Shape
FTP 30	10900.19	440358.00	630349.20	7401.00	RECTANGLE
SHL 32	3561.62	440162.50	629335.16	0.00	RECTANGLE
LTP 30	25852.01	424913.90	630424.10	7401.00	RECTANGLE
BHL 30	25952.21	424813.90	630424.40	7401.00	RECTANGLE



ALL DIMENSIONS APPROXIMATE			
CACTUS WELLHEAD LLC		XTO ENERGY INC DELAWARE BASIN	
20" x 9-5/8" x 7-5/8" x 5-1/2" MBU-T-CFL-R-DBLO Wellhead With 11" 10M x 7-1/16" 15M CTH-DBLHPS Tubing Head And 9-5/8", 7-5/8" & 5-1/2" Pin Bottom Mandrel Casing Hangers		DRAWN	VJK
		APPRV	31MAR22
		DRAWING NO.	HBE0000479

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 3170 recognizes API recommended Practices (RP) 53 in its original development. API Standard 53, *Well Control Equipment Systems for Drilling Wells* (Fifth Edition, December 2018, Annex C, Table C.4) recognizes break testing as an acceptable practice. Specifically, API Standard 53, Section 5.3.7.1 states “A pressure test of the pressure containing component shall be performed following the disconnection or repair, limited to the affected component.” See Table C.4 below for reference.

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API STANDARD 53

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

Component to be Pressure Tested	Pressure Test—Low Pressure ^{ac} psig (MPa)	Pressure Test—High Pressure ^{ac}	
		Change Out of Component, Elastomer, or Ring Gasket	No Change Out of Component, Elastomer, or Ring Gasket
Annular preventer ^b	250 to 350 (1.72 to 2.41)	RWP of annular preventer	MASP or 70% annular RWP, whichever is lower.
Fixed pipe, variable bore, blind, and BSR preventers ^{bd}	250 to 350 (1.72 to 2.41)	RWP of ram preventer or wellhead system, whichever is lower	ITP
Choke and kill line and BOP side outlet valves below ram preventers (both sides)	250 to 350 (1.72 to 2.41)	RWP of side outlet valve or wellhead system, whichever is lower	ITP
Choke manifold—upstream of chokes ^a	250 to 350 (1.72 to 2.41)	RWP of ram preventers or wellhead system, whichever is lower	ITP
Choke manifold—downstream of chokes ^a	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

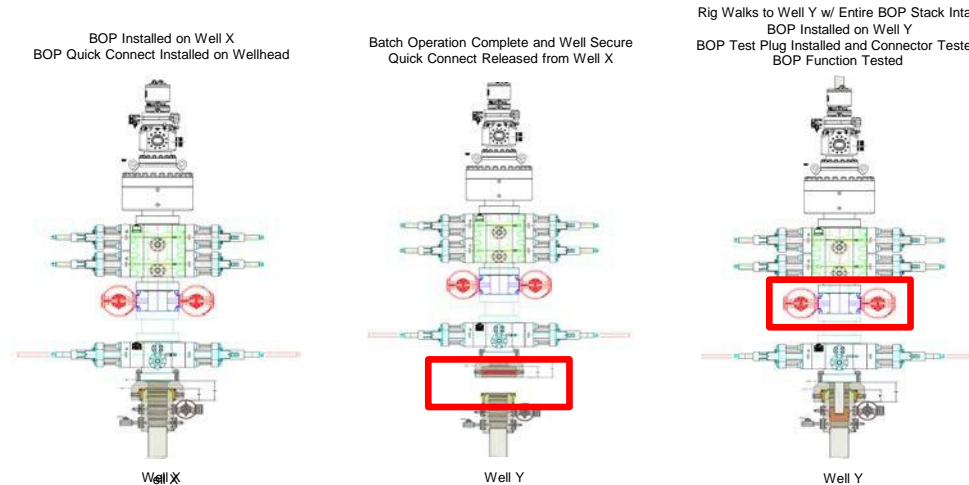
each BOP nipple up, XTO Energy performs a choke drill with the rig crew prior to drilling out every casing shoe. This is additional training for the rig crew that exceeds the requirements of the CFR Title 43 Part 3170.

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.

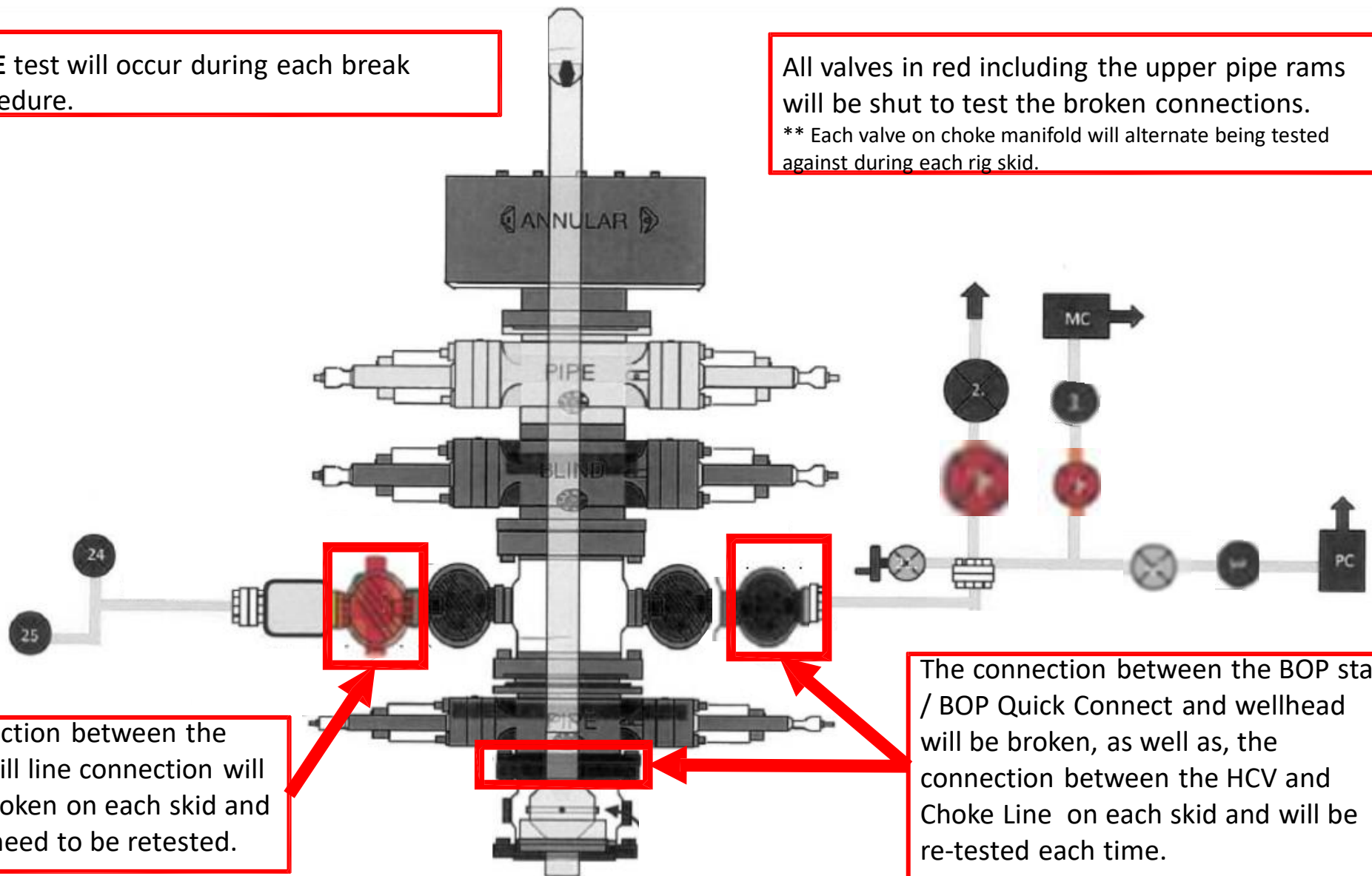
The BOP will be secured by a hydraulic carrier or cradle. The BLM will be contacted if a Well Control event occurs prior to the commencement of a BOPE Break Testing operation.

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.

10,000 PSI Annular BOP Variance Request

XTO Energy/XTO Permian Op. request a variance to use a 5000 psi annular BOP with a 10,000 psi BOP stack. The component and compatibility tables along with the general well control plans demonstrate how the 5000 psi annular BOP will be protected from pressures that exceed its rated working pressure (RWP). The pressure at which the control of the wellbore is transferred from the annular preventer to another available preventer will not exceed 3500 psi (70% of the RWP of the 5000 psi annular BOPL).

1. Component and Preventer Compatibility Tables

The tables below outline the tubulars and the compatible preventers in use. This table, combined with the drilling fluid, documents that two barriers to flow will be maintained at all times.

8-1/2" Production Hole Section 10M psi Requirement					
Component	OD	Primary Preventer	RWP	Alternate Preventer(s)	RWP
Drillpipe	5.000" or 4.500"	Annular	5M	Upper 3.5"-5.5" VBR Lower 3.5"-5.5" VBR	10M 10M
HWDP	5.000" or 4.500"	Annular	5M	Upper 3.5"-5.5" VBR Lower 3.5"-5.5" VBR	10M 10M
Jars	6.500"	Annular	5M	-	-
DCs and MWD tools	6.500"-8.000"	Annular	5M	-	-
Mud Motor	6.750"-8.000"	Annular	5M	-	-
Production Casing	5-1/2"	Annular	5M	-	-
Open-Hole	-	Blind Rams	10M	-	-

2. Well Control Procedures

Below are the minimal high-level tasks prescribed to assure a proper shut-in while drilling, tripping, running casing, pipe out of the hole (open hole), and moving the BHA through the BOPs. At least one well control drill will be performed weekly per crew to demonstrate compliance with the procedure and well control plan. The well control drill will be recorded in the daily drilling log. The type of drill will be determined by the ongoing operations, but reasonable attempts will be made to vary the type of drill conducted (pit, trip, open hole, choke, etc.). This well control plan will be available for review by rig personnel in the XTO Energy/Permian Operating drilling supervisor's office on location and on the rig floor. All BOP equipment will be tested as per 43.CFR.3172 with the exception of the 5000 psi annular which will be tested to 70% of its RWP.

General Procedure While Drilling

1. Sound alarm (alert crew)
2. Space out drill string
3. Shut down pumps (stop pumps and rotary)
4. Shut-in well (uppermost applicable BOP, typically annular preventer, first. HCR & choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
 - a. SIDPP & SICP
 - b. Pit gain
 - c. Time
8. Regroup and identify forward plan

9. If pressure has built or is anticipated during the kill to reach 70% or greater of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

General Procedure While Tripping

1. Sound alarm (alert crew)
2. Stab full-opening safety valve & close
3. Space out drill string
4. Shut-in well (uppermost applicable BOP, typically annular preventer, first. HCR & choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
 - a. SIDPP & SICP
 - b. Pit gain
 - c. Time
8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach 70% of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

General Procedure While Running Production Casing

- a. Sound alarm (alert crew)
- b. Stab crossover and full-opening safety valve and close
- c. Space out string
- d. Shut-in well (uppermost applicable BOP, typically annular preventer, first. HCR & choke will already be in the closed position.)
- e. Confirm shut-in
- f. Notify toolpusher/company representative
- g. Read and record the following:
 - a. SIDPP & SICP
 - b. Pit gain
 - c. Time
- h. Regroup and identify forward plan
- i. If pressure has built or is anticipated during the kill to reach 70% or greater of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

General Procedure With No Pipe In Hole (Open Hole)

1. Sound alarm (alert crew)
2. Shut-in with blind rams (HCR & choke will already be in the closed position)
3. Confirm shut-in
4. Notify toolpusher/company representative
5. Read and record the following:
 - a. SICP
 - b. Pit gain
 - c. Time
6. Regroup and identify forward plan

General Procedures While Pulling BHA Through Stack

1. PRIOR to pulling last joint of drillpipe through stack:
 - a. Perform flow check. If flowing, continue to (b).
 - b. Sound alarm (alert crew)
 - c. Stab full-opening safety valve and close
 - d. Space out drill string with tool joint just beneath the upper variable bore rams
 - e. Shut-in using upper variable bore rams (HCR & choke will already be in the closed position)
 - f. Confirm shut-in
 - g. Notify toolpusher/company representative
 - h. Read and record the following:
 - i. SIDPP & SICP
 - ii. Pit gain
 - iii. Time
 - i. Regroup and identify forward plan
2. With BHA in the stack and compatible ram preventer and pipe combination immediately available:
 - a. Sound alarm (alert crew)
 - b. Stab crossover and full-opening safety valve and close
 - c. Space out drill string with upset just beneath the upper variable bore rams
 - d. Shut-in using upper variable bore rams (HCR & choke will already be in the closed position)
 - e. Confirm shut-in
 - f. Notify toolpusher/company representative
 - g. Read and record the following:
 - i. SIDPP & SICP
 - ii. Pit gain
 - iii. Time

- h. Regroup and identify forward plan
 - 3. With BHA in the stack and NO compatible ram preventer and pipe combination immediately available:
 - a. Sound alarm (alert crew)
 - b. If possible, pull string clear of the stack and follow "Open Hole" procedure.
 - c. If impossible to pull string clear of the stack:
 - d. Stab crossover, make up one joint/stand of drillpipe and full-opening safety valve and close
 - e. Space out drill string with tooljoint just beneath the upper variable bore ram
 - f. Shut-in using upper variable bore ram (HCR & choke will already be in the closed position)
 - g. Confirm shut-in
 - h. Notify toolpusher/company representative
 - i. Read and record the following:
 - i. SIDPP & SICP
 - ii. Pit gain
 - iii. Time
 - j. Regroup and identify forward plan

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

XTO Energy Inc.
PLU 19 Dog Town Draw 424H
Projected TD: 25951.98' MD / 10612' TVD
SHL: 275' FNL & 1076' FEL , Section 19, T24S, R30E
BHL: 230' FSL & 63' FEL , Section 31, T24S, R30E
Eddy County, NM

1. Geologic Name of Surface Formation

A. Quaternary

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

Formation	Well Depth (TVD)	Water/Oil/Gas
Rustler	688'	Water
Top of Salt	1091'	Water
Base of Salt	3284'	Water
Delaware	3478'	Water
Brushy Canyon	5976'	Water/Oil/Gas
Bone Spring	7272'	Water
Avalon	7442'	Water/Oil/Gas
1st Bone Spring	8258'	Water/Oil/Gas
2nd Bone Spring	9076'	Water/Oil/Gas
3rd Bone Spring	10170'	Water/Oil/Gas
Wolfcamp	10561'	Water/Oil/Gas
Wolfcamp X	10582'	Water/Oil/Gas
Wolfcamp Y	10618'	Water/Oil/Gas
Wolfcamp A	10660'	Water/Oil/Gas
Target/Land Curve	10612'	Water/Oil/Gas

*** Hydrocarbons @ Brushy Canyon

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

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 9.625 inch casing @ 788' (303' above the salt) and circulating cement back to surface. The intermediate will isolate from the top of salt down to the next casing seat by setting 7.625 inch casing at 9798.91' and cemented to surface. A 6.75 inch curve and 6.75 inch lateral hole will be drilled to 25951.98 MD/TD and 5.5 inch production casing will be set at TD and cemented back up in the intermediate shoe (estimated TOC 9498.91 feet).

3. Casing Design

Hole Size	Depth	OD Csg	Weight	Grade	Collar	New/Used	SF Burst	SF Collapse	SF Tension
12.25	0' – 788'	9.625	40	J-55	BTC	New	1.70	7.99	19.99
8.75	0' – 4000'	7.625	29.7	RY P-110	Flush Joint	New	2.26	2.92	1.92
8.75	4000' – 9798.91'	7.625	29.7	HC L-80	Flush Joint	New	1.65	2.44	2.36
6.75	0' – 9698.91'	5.5	20	RY P-110	Semi-Premium	New	1.05	1.87	1.96
6.75	9698.91' - 25951.98'	5.5	20	RY P-110	Semi-Flush	New	1.05	1.70	1.96

· XTO requests the option to utilize a spudder rig (Atlas Copco RD20 or Equivalent) to set and cement surface casing per this Sundry

· XTO requests to not utilize centralizers in the curve and lateral

· 7.625 Collapse analyzed using 50% evacuation based on regional experience.

· 5.5 Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35

· Test on Casing will be limited to 70% burst of the casing or 1500 psi, whichever is less

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

Wellhead:

Permanent Wellhead – Multibowl System

A. Starting Head: 11" 10M top flange x 9-5/8" bottom

B. Tubing Head: 11" 10M bottom flange x 7-1/16" 15M top flange

- Wellhead will be installed by manufacturer's representatives.
- Manufacturer will monitor welding process to ensure appropriate temperature of seal.
- Operator will test the 7-5/8" casing per BLM Onshore Order 2
- Wellhead Manufacturer representative will not be present for BOP test plug installation

4. Cement Program

Surface Casing: 9.625, 40 New BTC, J-55 casing to be set at +/- 788'

Lead: 160 sxs EconoCem-HLTRRC (mixed at 10.5 ppg, 1.87 ft³/sx, 10.13 gal/sx water)

Tail: 130 sxs Class C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft³/sx, 6.39 gal/sx water)

Top of Cement: Surface

Compressives: 12-hr = 900 psi 24 hr = 1500 psi

2nd Intermediate Casing: 7.625, 29.7 New casing to be set at +/- 9798.91'

1st Stage

Optional Lead: 320 sxs Class C (mixed at 10.5 ppg, 2.77 ft³/sx, 15.59 gal/sx water)

TOC: Surface

Tail: 350 sxs Class C (mixed at 14.8 ppg, 1.35 ft³/sx, 6.39 gal/sx water)

TOC: Brushy Canyon @ 5976

Compressives: 12-hr = 900 psi 24 hr = 1150 psi

2nd Stage

Lead: 0 sxs Class C (mixed at 12.9 ppg, 2.16 ft³/sx, 9.61 gal/sx water)

Tail: 670 sxs Class C (mixed at 14.8 ppg, 1.33 ft³/sx, 6.39 gal/sx water)

Top of Cement: 0

Compressives: 12-hr = 900 psi 24 hr = 1150 psi

XTO requests to pump a two stage cement job on the 7-5/8" intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brush Canyon (5976') and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. If cement is not visually confirmed to circulate to surface, the final cement top after the second stage job will be verified by Echo-meter. If necessary, a top out consisting of 1,500 sack of Class C cement + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (2.30 yld, 12.91 ppg) will be executed as a contingency. If cement is still unable to circulate to surface, another Echo-meter run will be performed for cement top verification.

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

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

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

Production Casing: 5.5, 20 New Semi-Flush, RY P-110 casing to be set at +/- 25951.98'

Lead: 20 sxs NeoCem (mixed at 11.5 ppg, 2.69 ft³/sx, 15.00 gal/sx water) Top of Cement: 9498.91 feet

Tail: 1140 sxs VersaCem (mixed at 13.2 ppg, 1.51 ft³/sx, 8.38 gal/sx water) Top of Cement: 9998.91 feet

Compressives: 12-hr = 800 psi 24 hr = 1500 psi

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

5. Pressure Control Equipment

Once the permanent WH is installed on the 9.625 casing, the blow out preventer equipment (BOP) will consist of a 13-5/8" minimum 5M Hydril and a 13-5/8" minimum 10M Double Ram BOP. MASP should not exceed 4177 psi. In any instance where 10M BOP is required by BLM, XTO requests a variance to utilize 5M annular with 10M ram preventers (a common BOP configuration, which allows use of 10M rams in unlikely event that pressures exceed 5M).

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

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

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

on each of the wells.

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

6. Proposed Mud Circulation System

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' - 788'	12.25	FW/Native	8.4-8.9	35-40	NC
788' - 9798.91'	8.75	FW / Cut Brine / Direct Emulsion	8.8-9.3	30-32	NC
9798.91' - 25951.98'	6.75	OBM	11.8-12.3	50-60	NC - 20

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

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

7. Auxiliary Well Control and Monitoring Equipment

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

8. Logging, Coring and Testing Program

Open hole logging will not be done on this well.

9. Abnormal Pressures and Temperatures / Potential Hazards

None Anticipated. BHT of 170 to 190 F is anticipated. No H2S is expected but monitors will be in place to detect any H2S occurrences. Should these circumstances be encountered the operator and drilling contractor are prepared to take all necessary steps to ensure safety of all personnel and environment. Lost circulation could occur but is not expected to be a serious problem in this area and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid. The maximum anticipated bottom hole pressure for this well is 6512 psi.

10. Anticipated Starting Date and Duration of Operations

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

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 338630

CONDITIONS

Operator: XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	OGRID: 373075
	Action Number: 338630
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	All original COA's still apply. Additionally, if cement is not circulated to surface during cementing operations, then a CBL is required.	5/8/2024