Receiv U.S. BUR	A by UCD.S 6/2022 11:51:23 AM . Department of the Interior REAU OF LAND MANAGEMENT		Sundry Print Report
W JA	ell Name: BIG EDDY UNIT DI BB ABBA	Well Location: T20S / R32E / SEC 22 / SWSW / 32.55275 / -103.760677	County or Parish/State: LEA / NM
w	ell Number: 100H	Type of Well: OIL WELL	Allottee or Tribe Name:
Le	ease Number: NMLC065752A, MNM33955	Unit or CA Name: BIG EDDY	Unit or CA Number: NMNM68294X
0	S Well Number: 3002547224	Well Status: Approved Application for Permit to Drill	Operator: XTO PERMIAN OPERATING LLC

Notice of Intent

Sundry ID: 2682658

Type of Submission: Notice of Intent

Date Sundry Submitted: 07/19/2022

Date proposed operation will begin: 08/10/2022

Type of Action: Other Time Sundry Submitted: 05:04

Procedure Description: **Surface Location Move, Casing/Cement, Drilling Variance Changes XTO Permian Operating, LLC requests permission to make the following changes to the original APD: No Additional Surface Disturbance Change SHL fr/470'FSL & 610'FWL to 490'FSL & 610'FWL. Well Stays in the Same Quarter-Quarter as Permitted Total SHL Move: 20'North SHL change requested to optimize well pad layout, drilling efficiencies, and for safety purposes. Casing/Cement design per the attached drilling program. Attachments: C102 Drilling Program Directional Plan Multibowl Diagram

Surface Disturbance

Is any additional surface disturbance proposed?: No

NOI Attachments

Procedure Description

Jabba_100H_Attachments_20220719050359.pdf

County or Parish/State: eived by OCD: 9/6/2022 11:51:23 AM Well Name: BIG EDDY UNIT DI BB Well Location: T20S / R32E / SEC 22 / JABBA SWSW / 32.55275 / -103.760677 NM Well Number: 100H Type of Well: OIL WELL Allottee or Tribe Name: Lease Number: NMLC065752A, Unit or CA Name: BIG EDDY Unit or CA Number: NMNM33955 NMNM68294X **US Well Number: 3002547224 Operator: XTO PERMIAN** Well Status: Approved Application for Permit to Drill OPERATING LLC

Conditions of Approval

Additional

Sec_22_20S_32E_NMP_2682658_Big_Eddy_Unit_DI_BB_Jabba_100H_Lea_NMNM033955_XTO_COAs_2022083113 2331.pdf

Operator

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

Operator Electronic Signature: STEPHANIE RABADUE

Name: XTO PERMIAN OPERATING LLC

Title: Regulatory Coordinator

Street Address: 500 W. Illinois St, Ste 100

City: Midland

Phone: (432) 620-6714

Email address: STEPHANIE.RABADUE@EXXONMOBIL.COM

Field

Representative Name:

Street Address:

Email address:

City:

Phone:

State:

State: TX

Zip:

Signed on: JUL 19, 2022 05:04 AM

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS BLM POC Phone: 5752342234

Disposition: Approved

Signature: Chris Walls

BLM POC Title: Petroleum Engineer BLM POC Email Address: cwalls@blm.gov Disposition Date: 09/02/2022

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

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

AMENDED REPORT

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WELL LOCATION AND ACREAGE DEDICATION PLAT

1	API Number 30-025- 4	r 17224		² Pool Code 53560	ode ³ Pool Name Salt Lake; Bone Spring								
⁴ Property C	ode				⁶ Well Number								
328261						100H							
⁷ OGRID N	No.				⁸ Operator	Name				⁹ Elevation			
373075	5			XT	O PERMIAN OPI	ERATING, LLC.				3,529'			
	¹⁰ Surface Location												
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East	t/West line	County			
М	22	20 S	32 E		490	SOUTH	610	WE	ST	LEA			
			¹¹ Bo	ttom Hol	e Location If	f Different Fror	n Surface						
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	e Feet from the		t/West line	County			
3	19	20 S	32 E		1,980	SOUTH	50	WE	ST	LEA			
¹² Dedicated Acres	¹³ Joint o	r Infill ¹⁴ (Consolidation	Code ¹⁵ Or									
479.64													

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.





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

XTO Energy Inc. Big Eddy Unit Blue Bird Jabba 100H Projected TD: 26091' MD / 9805' TVD SHL: 490' FSL & 610' FWL , Section 22, T20S, R32E BHL: 1980' FSL & 50' FWL , Section 19, T20S, R32E Lea County, NM

1. Geologic Name of Surface Formation Α.

Quaternary

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

Formation	Well Depth (TVD)	Water/Oil/Gas
Rustler	966'	Water
Top of Salt	1338'	Water
Base of Salt	2669'	Water
Capitan Reef	3003'	Water
Delaware	4985'	Water
Brushy Canyon	6126'	Water/Oil/Gas
Bone Spring	7732'	Water
1st Bone Spring Ss	8812'	Water/Oil/Gas
2nd Bone Spring Ss	9451'	Water/Oil/Gas
Target/Land Curve	9805'	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 18.625 inch casing @ 1066' (272' above the salt) and circulating cement back to surface. The salt will be isolated by setting 13.375 inch casing at 2769' and circulating cement to surface. The second intermediate will isolate the Capitan Reef from the salt down to the next casing seat by setting 9.625 inch casing at 5035' and cemented to surface. A 8.5 inch curve and 8.5 inch lateral hole will be drilled to 26091 MD/TD and 5.5 inch production casing will be set at TD and cemented back up to 2nd intermediate (estimated TOC 2928 feet; >50' above the Capitan Reef) per Potash regulations.

3. Casing Design

Hole Size	Depth	OD Csg	Weight	Grade	Collar	New/Used	SF Burst	SF Collapse	SF Tension
24	0' – 1066'	18.625	87.5	J-55	BTC	New	2.71	1.31	14.25
17.5	0' – 2769'	13.375	54.5	J-55	BTC	New	2.19	1.34	5.65
12.25	0' – 2869'	9.625	40	HC P-110	BTC	New	2.94	3.15	6.26
12.25	2869' – 5035'	9.625	40	HC L-80	BTC	New	2.14	3.05	10.57
8.5	0' – 4935'	5.5	20	RY P-110	Semi-Premium	New	1.05	4.55	2.02
8.5	4935' - 26091'	5.5	20	RY P-110	Semi-Flush	New	1.05	2.29	2.29

· XTO requests the option to utilize a spudder rig (Atlas Copco RD20 or Equivalent) to set and cement surface and intermediate 1 casing per this Sundry

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

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

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

• Test on 2M annular & Casing will be limited to 70% burst of the casing or 1500 psi, whichever is less

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

Wellhead:

Permanent Wellhead – Multibowl System A. Starting Head: 13-5/8" 10M top flange x 18-5/8" bottom

- B. Tubing Head: 13-5/8" 10M bottom flange x 7-1/16" 15M top flange
 - · Wellhead will be installed by manufacturer's representatives.
 - · Manufacturer will monitor welding process to ensure appropriate temperature of seal.
 - · Operator will test the 9-5/8" casing per BLM Onshore Order 2

^{· 13.375} Collapse analyzed using 50% evacuation based on regional experience.

 \cdot Wellhead Manufacturer representative will not be present for BOP test plug installation

Surface Casing: 18.625, 87.5 New BTC, J-55 casing to be set at +/- 1066'

Lead: 1340 sxs Class C (mixed at 12.8 ppg, 1.95 ft3/sx, 10.93 gal/sx water) Tail: 550 sxs Class C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water) Top of Cement: Surface Compressives: 12-hr = 250 psi 24 hr = 500 psi

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

1st Intermediate Casing: 13.375, 54.5 New BTC, J-55 casing to be set at +/- 2769'

Lead: 1750 sxs Class C (mixed at 12.9 ppg, 1.95 ft3/sx, 10.93 gal/sx water) Tail: 310 sxs Class C + 2% CaCl (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water) Top of Cement: Surface Compressives: 12-hr = 900 psi 24 hr = 1500 psi

 2nd Intermediate Casing: 9.625, 40 New casing to be set at +/- 5035'

 1st Stage

 Optional Lead: 1250 sxs Class C (mixed at 10.5 ppg, 2.37 ft3/sx, 12.78 gal/sx water)

 TOC: 0

 Tail: 140 sxs Class C (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water)

 TOC: 4735

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

2nd Stage Bradenhead (if needed)

Optional Tail: 1220 sxs Class C (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water) Top of Cement: 0 Compressives: 12-hr = 900 psi 24 hr = 1150 psi

XTO requests the option to pump a two stage cement job on the 9-5/8" intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Capitan Reef (3003') and the second stage performed as a bradenhead squeeze with planned cement from the Capitan Reef to surface. If cement is not visually confirmed to circulate to surface, the final cement top after the second stage job will be verified by Echo-meter. If necessary, a top out consisting of 1,500 sack of Class C cement + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (2.30 yld, 12.91 ppg) will be executed as a contingency. If cement is still unable to circulate to surface, another Echo-meter run will be performed for cement top verification.

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

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

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

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

Production Casing: 5.5, 20 New Semi-Flush, RY P-110 casing to be set at +/- 26091' <u>1st Stage</u>

 Lead: 310 sxs 50/50 POZ/Class C (mixed at 11.5 ppg, 2.6 ft3/sx, 14.84 gal/sx water) Top of Cement:
 6126 feet

 Tail: 2930 sxs 50/50 POZ/Class H (mixed at 13.2 ppg, 1.51 ft3/sx, 7.21 gal/sx water) Top of Cement:
 9246 feet

 Compressives:
 12-hr =
 1375 psi
 24 hr = 2285 psi

2nd Stage Bradenhead (if needed)

Optional Tail: 1100 sxs Class C (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water) Top of Cement: 2928 Compressives: 12-hr = 900 psi 24 hr = 1150 psi

XTO requests the option to pump a two stage cement job on the 5-1/2" production casing string with the first stage being pumped conventionally with the calculated top of cement at the Brushy Canyon (4985') and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to a depth dictated by the COA or current regulations.

A freshwater spacer will be pumped behind the cement to displace to the desired depth. A bradenhead squeeze will reduce channeling and allow for a more accurate placement of cement, while leaving an un-cemented portion of the annulus for pressure monitoring during completions operations.

XTO requests the ability to conduct the bradenhead squeeze offline.

XTO requests to pump an Optional Lead & Tail, if well conditions dictate, in an attempt to bring top of cement as dictated by the COA or current regulations. If cement reaches this depth, the BLM will be notified and the second stage bradenhead squeeze will be negated.

 Lead: 1410 sxs 50/50 POZ/Class C (mixed at 11.5 ppg, 2.6 ft3/sx, 14.84 gal/sx water) Top of Cement:
 2928 feet

 Tail: 2930 sxs 50/50 POZ/Class H (mixed at 13.2 ppg, 1.51 ft3/sx, 7.21 gal/sx water) Top of Cement:
 2924 feet

 Compressives:
 12-hr =
 1375 psi
 24 hr = 2285 psi

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

5. Pressure Control Equipment

Once the permanent WH is installed on the 18.625 casing, the blow out preventer equipment (BOP) will consist of a 13-5/8" minimum 3M Hydril and a 13-5/8" minimum 3M Double Ram BOP. MASP should not exceed 0 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 nippling up on the 18.625, 3M bradenhead and flange, the BOP test will be limited to 3000 psi. When nippling up on the 13.375, the BOP will be tested to a minimum of 3000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 3M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

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

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

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

6. Proposed Mud Circulation System

		Mard Trans	MW	Viscosity	Fluid Loss
INTERVAL	Hole Size	миа туре	(ppg)	(sec/qt)	(cc)
0' - 1066'	24	FW/Native	8.7-9.2	35-40	NC
1066' - 2769'	17.5	Brine	10-10.5	30-32	NC
2769' to 5035'	12.25	FW / Cut Brine	9-9.5	30-32	NC
5035' to 26091'	8.5	ОВМ	9.5-10	50-60	NC - 20

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

Spud with fresh water/native mud. Drill out from under 18-5/8" surface casing with brine solution. A 10 ppg -10.5 ppg brine mud will be used while drilling through the salt formation. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Pump speed will be recorded on a daily drilling report after mudding up. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

7. Auxiliary Well Control and Monitoring Equipment

- A. A Kelly cock will be in the drill string at all times.
- B. A full opening drill pipe stabbing valve having appropriate connections will be on the rig floor at all times.
- C. H2S monitors will be on location when drilling below the 18.625 casing.

8. Logging, Coring and Testing Program

Mud Logger: Mud Logging Unit (2 man) below intermediate casing.

Open hole logging will not be done on this well.

9. Abnormal Pressures and Temperatures / Potential Hazards

None Anticipated. BHT of 165 to 185 F is anticipated. No H2S is expected but monitors will be in place to detect any H2S occurrences. Should these circumstances be encountered the operator and drilling contractor are prepared to take all necessary steps to ensure safety of all personnel and environment. Lost circulation could occur but is not expected to be a serious problem in this area and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid. The maximum anticipated bottom hole pressure for this well is 4844 psi.

10. Anticipated Starting Date and Duration of Operations

Anticipated spud date will be after Remuda 25 State drilling is completed and BLM approval. Move in operations and drilling is expected to take 40 days.

Well Plan Report - BEU BB JABBA 100H

Measured Depth:	26091.49 ft	
TVD RKB:	9805.00 ft	
Location		
Cartographic Reference System:	New Mexico East - NAD 27	
Northing:	565255.11 ft	
Easting:	676584.39 ft	
RKB:	3543.00 ft	
Ground Level:	3513.00 ft	
North Reference:	Grid	
Convergenc e Angle:	0.31 Deg	
Site:	BlueBird	
Slot:	BEU BB JABBA 100H	

Released to Imaging: 9/7/2022 9:58:39 AM

Plan	BEU BB								
Sections	JABBA 100H								
Measured			TVD			Build	Turn	Dogleg	
Depth	Inclination	Azimuth	RKB	Y Offset	X Offset	Rate	Rate	Rate	
(ft)	(Deg)	(Deg)	(ft)	(ft)	(ft)	(Deg/100ft)	(Deg/100ft)	(Deg/100ft) Target	ċ

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0	0	0	0	0	0	0	0	0	
2750	0	0	2750	0	0	0	0	0	
3368.24	12.36	0.01	3363.45	66.45	0.01	2	0	2	
9246.07	12.36	0.01	9104.94	1325.11	0.18	0	0	0	
10371.56	90	269.83	9805	1476.41	-716.48	6.9	-8.01	8 FTP 2	
26091.49	90	269.83	9805	1428.94	-16436.34	0	0	0 BHL 2	

Position BEU BB

Uncertainty JABBA 100H

Measured			TVD	Highside		Lateral		Vertical		Magnitude	Semi-major	Semi-minor	Semi-minor Tool
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	0	0	0	0	0	0	0	2.297	0	0	0	0	XOM_R2OW SG MWD+IFR1+ MS
100	0	0	100	0.358	0	0.358	0	2.299	0	0	0.358	0.358	XOM_R2OW 0 SG MWD+IFR1+ MS
200	0	0	200	0.717	0	0.717	0	2.307	0	0	0.717	0.717	XOM_R2OW 0 SG MWD+IFR1+ MS
300	0	0	300	1.075	0	1.075	0	2.321	0	0	1.075	1.075	XOM_R2OW 0 SG MWD+IFR1+ MS
400	0	0	400	1.434	0	1.434	0	2.34	0	0	1.434	1.434	XOM_R2OW 0 SG MWD+IFR1+ MS
500	0	0	500	1.792	0	1.792	0	2.364	0	0	1.792	1.792	XOM_R2OW 0 SG MWD+IFR1+ MS
600	0	0	600	2.151	0	2.151	0	2.394	0	0	2.151	2.151	XOM_R2OW 0 SG MWD+IFR1+ MS

													XOM_R2OW
700	0	0	700	2.509	0	2.509	0	2.428	0	0	2.509	2.509	0 ^{SG} MWD+IFR1+ MS XOM_R2OW
800	0	0	800	2.868	0	2.868	0	2.467	0	0	2.868	2.868	0 SG MWD+IFR1+ MS XOM B2OW
900	0	0	900	3.226	0	3.226	0	2.511	0	0	3.226	3.226	0 SG MWD+IFR1+ MS
1000	0	0	1000	3.585	0	3.585	0	2.56	0	0	3.585	3.585	XOM_R2OW 0 SG 0 MWD+IFR1+ MS
1100	0	0	1100	3.943	0	3.943	0	2.613	0	0	3.943	3.943	XOM_R2OW 0 SG MWD+IFR1+ MS
1200	0	0	1200	4.302	0	4.302	0	2.67	0	0	4.302	4.302	XOM_R2OW 0 SG MWD+IFR1+ MS
1300	0	0	1300	4.66	0	4.66	0	2.731	0	0	4.66	4.66	XOM_R2OW 0 SG MWD+IFR1+ MS
1400	0	0	1400	5.019	0	5.019	0	2.797	0	0	5.019	5.019	XOM_R2OW 0 SG MWD+IFR1+ MS
1500	0	0	1500	5.377	0	5.377	0	2.866	0	0	5.377	5.377	XOM_R2OW SG MWD+IFR1+ MS
1600	0	0	1600	5.736	0	5.736	0	2.939	0	0	5.736	5.736	XOM_R2OW SG MWD+IFR1+ MS
1700	0	0	1700	6.094	0	6.094	0	3.016	0	0	6.094	6.094	XOM_R2OW SG MWD+IFR1+ MS
1800	0	0	1800	6.452	0	6.452	0	3.096	0	0	6.452	6.452	XOM_R2OW SG MWD+IFR1+ MS

Received by OCD: 9/6/2022 11:51:23 AM

													XOM_R2OW
1900	0	0	1900	6.811	0	6.811	0	3.179	0	0	6.811	6.811	0 ^{SG} MWD+IFR1+ MS XOM_R2OW
2000	0	0	2000	7.169	0	7.169	0	3.266	0	0	7.169	7.169	0 SG MWD+IFR1+ MS XOM_B2OW
2100	0	0	2100	7.528	0	7.528	0	3.355	0	0	7.528	7.528	0 SG MWD+IFR1+ MS
2200	0	0	2200	7.886	0	7.886	0	3.448	0	0	7.886	7.886	SG 0 MWD+IFR1+ MS
2300	0	0	2300	8.245	0	8.245	0	3.544	0	0	8.245	8.245	XOM_R2OW 0 SG MWD+IFR1+ MS
2400	0	0	2400	8.603	0	8.603	0	3.643	0	0	8.603	8.603	XOM_R2OW 0 SG MWD+IFR1+ MS
2500	0	0	2500	8.962	0	8.962	0	3.745	0	0	8.962	8.962	XOM_R2OW 0 SG MWD+IFR1+ MS
2600	0	0	2600	9.32	0	9.32	0	3.849	0	0	9.32	9.32	XOM_R2OW 0 SG MWD+IFR1+ MS
2700	0	0	2700	9.679	0	9.679	0	3.956	0	0	9.679	9.679	XOM_R2OW 0 SG MWD+IFR1+ MS
2750	0	0	2750	9.858	0	9.858	0	4.011	0	0	9.858	9.858	XOM_R2OW SG MWD+IFR1+ MS
2800	1	0.008	2799.997	10.036	0	10.037	0	4.066	0	0	10.037	10.037	XOM_R2OW SG MWD+IFR1+ MS
2900	3	0.008	2899.931	10.383	0	10.396	0	4.178	0	0	10.396	10.396	-0.007 SG MWD+IFR1+ MS

													XOM_R2OW
3000	5	0.008	2999.683	10.719	0	10.755	0	4.291	0	0	10.755	10.754	-0.005 ^{SG} MWD+IFR1+
													MS XOM_R2OW
3100	7	0.008	3099.13	11.043	0	11.113	0	4.406	0	0	11.113	11.111	-0.001 MWD+IFR1+ MS
2200	0	0.008	2100 152	11 255	0	11 471	0	4 522	0	0	11 471	11 467	XOM_R2OW
3200	9	0.008	3198.152	11.355	0	11.471	0	4.522	0	U	11.4/1	11.407	MWD+IFR1+ MS
3300	11	0.008	3296.628	11.654	0	11.829	0	4.639	0	0	11.829	11.821	XOM_R2OW 0.002 SG
													MS XOM_R2OW
3368.242	12.365	0.008	3363.454	11.851	0	12.074	0	4.72	0	0	12.074	12.062	0.003 SG MWD+IFR1+
													MS XOM_R2OW
3400	12.365	0.008	3394.476	11.964	0	12.187	0	4.758	0	0	12.187	12.174	0.003 MWD+IFR1+ MS
3500	12 365	0.008	3492 156	12 322	0	12 547	0	4 889	0	0	12 547	12 524	XOM_R2OW
5500	12.505	0.000	5152.150	11.522	Ũ	12.5 17	U U	1.005	U U	Ū	12.517	12.521	MWD+IFR1+ MS
3600	12.365	0.008	3589.836	12.682	0	12.907	0	5.023	0	0	12.907	12.876	0.004 0.004 MWD+IFR1+
													MS XOM_R2OW
3700	12.365	0.008	3687.517	13.044	0	13.269	0	5.161	0	0	13.269	13.23	0.005 SG MWD+IFR1+
													MS XOM_R2OW SG
3800	12.365	0.008	3785.197	13.407	0	13.631	0	5.302	0	0	13.631	13.586	0.005 MWD+IFR1+ MS
3900	12.365	0.008	3882.878	13.772	0	13.995	0	5.446	0	0	13.995	13.942	XOM_R2OW 0.005
													MWD+IFR1+ MS XOM_B2OW
4000	12.365	0.008	3980.558	14.138	0	14.359	0	5.594	0	0	14.359	14.3	0.005 SG MWD+IFR1+
													MS

4100	12.365	0.008	4078.238	14.505	0	14.725	0	5.745	0	0	14.725	14.66	XOM_R2OW 0.005 SG MWD+IFR1+ MS
4200	12.365	0.008	4175.919	14.873	0	15.091	0	5.898	0	0	15.091	15.02	XOM_R2OW 0.005 SG MWD+IFR1+ MS
4300	12.365	0.008	4273.599	15.243	0	15.458	0	6.055	0	0	15.458	15.382	0.005 SG MWD+IFR1+ MS XOM_R2OW
4400	12.365	0.008	4371.28	15.613	0	15.825	0	6.215	0	0	15.825	15.744	0.005 SG MWD+IFR1+ MS XOM R2OW
4500	12.365	0.008	4468.96	15.984	0	16.194	0	6.378	0	0	16.194	16.108	0.005 SG MWD+IFR1+ MS XOM_R2OW
4600	12.365	0.008	4566.64	16.357	0	16.562	0	6.543	0	0	16.562	16.472	0.005 SG MWD+IFR1+ MS XOM_R2OW
4700	12.365	0.008	4664.321	16.729	0	16.932	0	6.711	0	0	16.932	16.837	0.005 ^{SG} MWD+IFR1+ MS XOM_R2OW
4800	12.365	0.008	4762.001	17.103	0	17.301	0	6.883	0	0	17.301	17.203	0.005 SG MWD+IFR1+ MS XOM_R2OW
4900	12.365	0.008	4859.681	17.477	0	17.672	0	7.056	0	0	17.672	17.569	0.005 SG MWD+IFR1+ MS XOM_R2OW
5000	12.365	0.008	4957.362	17.852	0	18.042	0	7.233	0	0	18.042	17.937	0.005 SG MWD+IFR1+ MS XOM_R2OW
5100	12.365	0.008	5055.042	18.228	0	18.413	0	7.412	0	0	18.413	18.304	0.005 MWD+IFR1+ MS XOM_R2OW
5200	12.365	0.008	5152.723	18.604	0	18.785	0	7.594	0	0	18.785	18.673	0.005 MWD+IFR1+ MS

5300	12.365	0.008	5250.403	18.981	0	19.157	0	7.779	0	0	19.157	19.042	XOM_R2OW 0.005 MWD+IFR1+ MS
5400	12.365	0.008	5348.083	19.358	0	19.529	0	7.966	0	0	19.529	19.412	XOM_R2OW SG MWD+IFR1+ MS YOM_R2OW
5500	12.365	0.008	5445.764	19.735	0	19.902	0	8.156	0	0	19.902	19.782	0.004 SG MWD+IFR1+ MS XOM_R2OW
5600	12.365	0.008	5543.444	20.114	0	20.274	0	8.349	0	0	20.274	20.152	0.004 SG MWD+IFR1+ MS XOM_R2OW
5700	12.365	0.008	5641.125	20.492	0	20.648	0	8.544	0	0	20.648	20.523	0.004 MWD+IFR1+ MS XOM_R2OW
5800	12.365	0.008	5738.805	20.871	0	21.021	0	8.742	0	0	21.021	20.895	0.004 SG MWD+IFR1+ MS XOM_R2OW
5900	12.365	0.008	5836.485	21.25	0	21.395	0	8.942	0	0	21.395	21.267	0.004 SG MWD+IFR1+ MS XOM_B2OW
6000	12.365	0.008	5934.166	21.63	0	21.769	0	9.145	0	0	21.769	21.639	0.004 SG MWD+IFR1+ MS XOM_B2OW
6100	12.365	0.008	6031.846	22.01	0	22.143	0	9.35	0	0	22.143	22.012	0.004 SG MWD+IFR1+ MS XOM_B2OW
6200	12.365	0.008	6129.526	22.39	0	22.517	0	9.558	0	0	22.517	22.385	0.004 SG MWD+IFR1+ MS XOM_B2OW
6300	12.365	0.008	6227.207	22.771	0	22.892	0	9.769	0	0	22.892	22.759	0.004 SG MWD+IFR1+ MS XOM_B2OW
6400	12.365	0.008	6324.887	23.152	0	23.267	0	9.982	0	0	23.267	23.132	0.004 SG MWD+IFR1+ MS

6500	12.365	0.008	6422.568	23.533	0	23.642	0	10.198	0	0	23.642	23.507	XOM_R2OW 0.004 SG MWD+IFR1+ MS
6600	12.365	0.008	6520.248	23.914	0	24.017	0	10.416	0	0	24.017	23.881	XOM_R2OW 0.004 SG MWD+IFR1+ MS
6700	12.365	0.008	6617.928	24.296	0	24.393	0	10.637	0	0	24.393	24.256	0.004 SG MWD+IFR1+ MS XOM_R2OW
6800	12.365	0.008	6715.609	24.678	0	24.768	0	10.861	0	0	24.768	24.631	0.004 SG MWD+IFR1+ MS XOM_R2OW
6900	12.365	0.008	6813.289	25.06	0	25.144	0	11.087	0	0	25.144	25.006	0.004 MWD+IFR1+ MS XOM_R2OW
7000	12.365	0.008	6910.97	25.443	0	25.52	0	11.315	0	0	25.52	25.382	0.004 GG MWD+IFR1+ MS XOM_R2OW
7100	12.365	0.008	7008.65	25.825	0	25.896	0	11.546	0	0	25.896	25.758	0.003 SG MWD+IFR1+ MS XOM_R2OW
7200	12.365	0.008	7106.33	26.208	0	26.272	0	11.78	0	0	26.272	26.134	0.003 SG MWD+IFR1+ MS XOM_R2OW
7300	12.365	0.008	7204.011	26.591	0	26.649	0	12.016	0	0	26.649	26.511	0.003 MWD+IFR1+ MS XOM_R2OW
7400	12.365	0.008	7301.691	26.974	0	27.025	0	12.255	0	0	27.025	26.887	0.003 MWD+IFR1+ MS XOM_R2OW SG
7500	12.365	0.008	7399.371	27.357	0	27.402	0	12.497	0	0	27.402	27.264	0.003 MWD+IFR1+ MS XOM_R2OW SG
7600	12.365	0.008	7497.052	27.741	0	27.778	0	12.741	0	0	27.778	27.641	0.003 MWD+IFR1+ MS

7700	12.365	0.008	7594.732	28.125	0	28.155	0	12.987	0	0	28.155	28.019	0.003 SG MWD+IFR1+ MS
7800	12.365	0.008	7692.413	28.509	0	28.532	0	13.236	0	0	28.532	28.396	XOM_R2OW SG MWD+IFR1+ MS
7900	12.365	0.008	7790.093	28.892	0	28.909	0	13.488	0	0	28.909	28.774	XOM_R2OW 0.003 SG MWD+IFR1+ MS
8000	12.365	0.008	7887.773	29.277	0	29.286	0	13.742	0	0	29.286	29.152	XOM_R2OW 0.003 SG MWD+IFR1+ MS
8100	12.365	0.008	7985.454	29.661	0	29.664	0	13.999	0	0	29.664	29.531	XOM_R2OW 0.002 MWD+IFR1+ MS
8200	12.365	0.008	8083.134	30.045	0	30.041	0	14.259	0	0	30.041	29.909	XOM_R2OW 0.002 MWD+IFR1+ MS
8300	12.365	0.008	8180.815	30.43	0	30.418	0	14.521	0	0	30.418	30.288	XOM_R2OW 0.002 SG MWD+IFR1+ MS
8400	12.365	0.008	8278.495	30.814	0	30.796	0	14.786	0	0	30.796	30.666	XOM_R2OW 0.002 SG MWD+IFR1+ MS
8500	12.365	0.008	8376.175	31.199	0	31.173	0	15.053	0	0	31.173	31.045	XOM_R2OW 0.002 SG MWD+IFR1+ MS
8600	12.365	0.008	8473.856	31.584	0	31.551	0	15.323	0	0	31.551	31.425	XOM_R2OW 0.002 SG MWD+IFR1+ MS
8700	12.365	0.008	8571.536	31.969	0	31.929	0	15.596	0	0	31.929	31.804	XOM_R2OW 0.002 SG MWD+IFR1+ MS
8800	12.365	0.008	8669.217	32.354	0	32.307	0	15.871	0	0	32.307	32.184	XOM_R2OW 0.001 SG MWD+IFR1+ MS

XOM_R2OW 0.001 MWD+IFR1+ MS	32.563	32.685	0	0	16.149	0	32.685	0	32.739	8766.897	0.008	12.365	8900
XOM_R2OW 0.001 SG MWD+IFR1+ MS XOM_R2OW	32.943	33.063	0	0	16.429	0	33.063	0	33.125	8864.577	0.008	12.365	9000
0.001 SG MWD+IFR1+ MS XOM R2OW	33.323	33.441	0	0	16.712	0	33.441	0	33.51	8962.258	0.008	12.365	9100
0.001 SG MWD+IFR1+ MS XOM_R2OW	33.704	33.819	0	0	16.998	0	33.819	0	33.895	9059.938	0.008	12.365	9200
0 SG MWD+IFR1+ MS XOM_R2OW	33.879	33.993	0	0	17.13	0	33.993	0	34.073	9104.944	0.008	12.365	9246.075
0.348 SG MWD+IFR1+ MS XOM_R2OW	34.083	34.196	0	0	17.286	0	34.183	0	34.221	9157.57	340.582	13.072	9300
1.592 SG MWD+IFR1+ MS XOM_R2OW SG	34.454	34.564	0	0	17.571	0	34.505	0	34.126	9254.155	314.369	17.356	9400
3.56 MWD+IFR1+ MS XOM_R2OW	34.808	34.911	0	0	17.849	0	34.829	0	33.516	9347.845	299.926	23.612	9500
^{5.88} MWD+IFR1+ MS XOM_R2OW 8.270 ^{SG}	35.141	35.228	U	0	18.117	0	35.147	0	32.426	9436.816	291.535	30.655	9600
8.279 MWD+IFR1+ MS XOM_R2OW 10.012 SG	35.731	35.751	0	0	18.573	0	35.731	0	29.072	9593.801	280.033	45.622	9800
MWD+IFR1+ MS XOM_R2OW 103.806 SG	35.946	35.988	0	0	18.865	0	35.988	0	27.003	9658.76	279.233	53.296	9900
MWD+IFR1+ MS													

10000	61.031	276.798	9712.948	24.862	0	36.219	0	19.105	0	0	36.222	36.093	XOM_R2OW 105.491 MWD+IFR1+ MS
10100	68.804	274.704	9755.312	22.849	0	36.422	0	19.347	0	0	36.434	36.192	XOM_R2OW SG 107.228 MWD+IFR1+ MS
10200	76.6	272.821	9785.026	21.213	0	36.598	0	19.596	0	0	36.627	36.244	108.871 SG MWD+IFR1+ MS XOM B2OW
10300	84.409	271.057	9801.512	20.225	0	36.743	0	19.853	0	0	36.803	36.256	SG 110.483 MWD+IFR1+ MS XOM R2OW
10371.557	90	269.827	9805	20.042	0	36.827	0	20.042	0	0	36.92	36.242	111.702 MWD+IFR1+ MS XOM R2OW
10400	90	269.827	9805	20.118	0	36.861	0	20.118	0	0	36.966	36.234	SG 112.142 MWD+IFR1+ MS XOM_R2OW
10500	90	269.827	9805	20.406	0	36.994	0	20.406	0	0	37.135	36.206	112.844 MWD+IFR1+ MS XOM_R2OW
10600	90	269.827	9805	20.719	0	37.145	0	20.719	0	0	37.318	36.182	112.982 MWD+IFR1+ MS XOM_R2OW
10700	90	269.827	9805	21.057	0	37.313	0	21.057	0	0	37.516	36.162	112.814 MWD+IFR1+ MS XOM_R2OW
10800	90	269.827	9805	21.418	0	37.498	0	21.418	0	0	37.728	36.146	112.471 SG MWD+IFR1+ MS XOM_R2OW
10900	90	269.827	9805	21.802	0	37.699	0	21.802	0	0	37.954	36.132	112.027 SG MWD+IFR1+ MS XOM_R2OW
11000	90	269.827	9805	22.207	0	37.918	0	22.207	0	0	38.194	36.122	111.526 MWD+IFR1+ MS

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11100	90	269.827	9805	22.631	0	38.152	0	22.631	0	0	38.448	36.115	XOM_R2OW SG MWD+IFR1+ MS
11200	90	269.827	9805	23.075	0	38.403	0	23.075	0	0	38.716	36.111	XOM_R2OW 110.448 G MWD+IFR1+ MS
11300	90	269.827	9805	23.536	0	38.669	0	23.536	0	0	38.998	36.109	XOM_R2OW SG MWD+IFR1+ MS
11400	90	269.827	9805	24.015	0	38.95	0	24.015	0	0	39.293	36.11	109.358 SG MWD+IFR1+ MS YOM B2OW
11500	90	269.827	9805	24.508	0	39.246	0	24.508	0	0	39.601	36.113	108.827 SG MWD+IFR1+ MS YOM B2OW
11600	90	269.827	9805	25.017	0	39.557	0	25.017	0	0	39.923	36.119	108.309 SG MWD+IFR1+ MS XOM B2OW
11700	90	269.827	9805	25.54	0	39.883	0	25.54	0	0	40.258	36.126	107.806 SG MWD+IFR1+ MS XOM_B2OW
11800	90	269.827	9805	26.076	0	40.222	0	26.076	0	0	40.605	36.136	107.32 SG MWD+IFR1+ MS
11900	90	269.827	9805	26.624	0	40.575	0	26.624	0	0	40.965	36.147	106.852 SG MWD+IFR1+ MS
12000	90	269.827	9805	27.184	0	40.941	0	27.184	0	0	41.338	36.16	SG 106.401 SG MWD+IFR1+ MS
12100	90	269.827	9805	27.755	0	41.32	0	27.755	0	0	41.722	36.175	XOM_R2OW SG 105.967 MWD+IFR1+ MS
12200	90	269.827	9805	28.336	0	41.711	0	28.336	0	0	42.118	36.191	XOM_R2OW 105.55 MWD+IFR1+ MS

12300	90	269.827	9805	28.927	0	42.115	0	28.927	0	0	42.526	36.21	XOM_R2OW SG MWD+IFR1+ MS
12400	90	269.827	9805	29.527	0	42.531	0	29.527	0	0	42.944	36.229	XOM_R2OW 104.766 MWD+IFR1+ MS
12500	90	269.827	9805	30.135	0	42.958	0	30.135	0	0	43.374	36.25	XOM_R2OW 104.398 MWD+IFR1+ MS
12600	90	269.827	9805	30.751	0	43.396	0	30.751	0	0	43.814	36.273	SG 104.044 MWD+IFR1+ MS YOM B2OW
12700	90	269.827	9805	31.375	0	43.845	0	31.375	0	0	44.264	36.297	103.705 SG MWD+IFR1+ MS YOM B2OW
12800	90	269.827	9805	32.006	0	44.305	0	32.006	0	0	44.725	36.322	103.379 SG MWD+IFR1+ MS VOM B2OW
12900	90	269.827	9805	32.643	0	44.775	0	32.643	0	0	45.195	36.349	103.067 SG MWD+IFR1+ MS
13000	90	269.827	9805	33.287	0	45.254	0	33.287	0	0	45.675	36.377	102.766 SG MWD+IFR1+ MS
13100	90	269.827	9805	33.937	0	45.744	0	33.937	0	0	46.164	36.406	102.478 SG MWD+IFR1+ MS YOM B2OW
13200	90	269.827	9805	34.592	0	46.242	0	34.592	0	0	46.662	36.436	102.201 SG MWD+IFR1+ MS YOM P2OW
13300	90	269.827	9805	35.253	0	46.749	0	35.253	0	0	47.169	36.468	101.934 SG MWD+IFR1+ MS YOM B2OW
13400	90	269.827	9805	35.918	0	47.265	0	35.918	0	0	47.684	36.5	101.678 MWD+IFR1+ MS

13500	90	269.827	9805	36.589	0	47.79	0	36.589	0	0	48.207	36.534	XOM_R2OW 101.432 MWD+IFR1+ MS
13600	90	269.827	9805	37.263	0	48.322	0	37.263	0	0	48.738	36.569	XOM_R2OW SG 101.194 MWD+IFR1+ MS
13700	90	269.827	9805	37.942	0	48.863	0	37.942	0	0	49.277	36.606	XOM_R2OW 100.966 MWD+IFR1+ MS
13800	90	269.827	9805	38.625	0	49.411	0	38.625	0	0	49.823	36.643	SG 100.745 MWD+IFR1+ MS
13900	90	269.827	9805	39.312	0	49.966	0	39.312	0	0	50.376	36.681	SG 100.533 SG MWD+IFR1+ MS
14000	90	269.827	9805	40.003	0	50.529	0	40.003	0	0	50.937	36.721	SG 100.328 MWD+IFR1+ MS
14100	90	269.827	9805	40.697	0	51.098	0	40.697	0	0	51.504	36.761	100.13 SG MWD+IFR1+ MS
14200	90	269.827	9805	41.394	0	51.674	0	41.394	0	0	52.077	36.803	99.94 SG MWD+IFR1+ MS
14300	90	269.827	9805	42.094	0	52.256	0	42.094	0	0	52.657	36.845	99.755 SG MWD+IFR1+ MS
14400	90	269.827	9805	42.797	0	52.845	0	42.797	0	0	53.243	36.889	99.577 SG MWD+IFR1+ MS XOM_R2OW
14500	90	269.827	9805	43.503	0	53.439	0	43.503	0	0	53.835	36.933	99.405 SG MWD+IFR1+ MS
14600	90	269.827	9805	44.212	0	54.04	0	44.212	0	0	54.433	36.979	99.238 SG MWD+IFR1+ MS

14700	90	269.827	9805	44.923	0	54.645	0	44.923	0	0	55.036	37.026	XOM_R2OW 99.077 SG MWD+IFR1+ MS
14800	90	269.827	9805	45.636	0	55.257	0	45.636	0	0	55.645	37.073	XOM_R2OW 98.921 SG MWD+IFR1+ MS XOM_R2OW
14900	90	269.827	9805	46.352	0	55.873	0	46.352	0	0	56.259	37.122	98.77 SG MWD+IFR1+ MS XOM_B2OW
15000	90	269.827	9805	47.07	0	56.495	0	47.07	0	0	56.878	37.171	98.624 SG MWD+IFR1+ MS XOM R2OW
15100	90	269.827	9805	47.79	0	57.122	0	47.79	0	0	57.501	37.222	98.482 98.482 MWD+IFR1+ MS XOM_R2OW
15200	90	269.827	9805	48.512	0	57.753	0	48.512	0	0	58.13	37.273	98.345 MWD+IFR1+ MS XOM_R2OW
15300	90	269.827	9805	49.237	0	58.389	0	49.237	0	0	58.763	37.326	98.211 GG MWD+IFR1+ MS XOM_R2OW
15400	90	269.827	9805	49.962	0	59.03	0	49.962	0	0	59.4	37.379	98.082 98.082 MWD+IFR1+ MS XOM_R2OW
15500	90	269.827	9805	50.69	0	59.674	0	50.69	0	0	60.042	37.433	97.956 SG MWD+IFR1+ MS XOM_R2OW
15600	90	269.827	9805	51.419	0	60.323	0	51.419	0	0	60.688	37.488	97.834 SG MWD+IFR1+ MS XOM_R2OW
15700	90	269.827	9805	52.15	0	60.976	0	52.15	0	0	61.338	37.544	97.716 MWD+IFR1+ MS XOM_R2OW
15800	90	269.827	9805	52.883	0	61.633	0	52.883	0	0	61.992	37.601	97.601 97.601 MWD+IFR1+

XOM_R2OW 97.489 G MWD+IFR1+ MS	37.659	62.65	0	0	53.617	0	62.293	0	53.617	9805	269.827	90	15900
XOM_R2OW 97.38 SG MWD+IFR1+ MS	37.718	63.311	0	0	54.352	0	62.958	0	54.352	9805	269.827	90	16000
XOM_R2OW 97.274 G MWD+IFR1+ MS	37.777	63.976	0	0	55.089	0	63.625	0	55.089	9805	269.827	90	16100
XOM_R2OW 97.171 SG MWD+IFR1+ MS	37.838	64.645	0	0	55.827	0	64.297	0	55.827	9805	269.827	90	16200
XOM_R2OW 97.07 ^{SG} MWD+IFR1+ MS	37.899	65.316	0	0	56.566	0	64.971	0	56.566	9805	269.827	90	16300
XOM_R2OW 96.972 SG MWD+IFR1+ MS	37.961	65.991	0	0	57.307	0	65.649	0	57.307	9805	269.827	90	16400
XOM_R2OW 96.877 ^{SG} MWD+IFR1+ MS	38.024	66.67	0	0	58.049	0	66.33	0	58.049	9805	269.827	90	16500
XOM_R2OW 96.784 MWD+IFR1+ MS	38.088	67.351	0	0	58.791	0	67.014	0	58.791	9805	269.827	90	16600
XOM_R2OW 96.694 MWD+IFR1+ MS	38.153	68.035	0	0	59.535	0	67.701	0	59.535	9805	269.827	90	16700
XOM_R2OW 96.606 MWD+IFR1+ MS	38.219	68.722	0	0	60.28	0	68.391	0	60.28	9805	269.827	90	16800
XOM_R2OW 96.52 SG MWD+IFR1+ MS	38.285	69.412	0	0	61.026	0	69.083	0	61.026	9805	269.827	90	16900
XOM_R2OW 96.436 MWD+IFR1+ MS	38.352	70.104	0	0	61.773	0	69.778	0	61.773	9805	269.827	90	17000

17100	90	269.827	9805	62.521	0	70.476	0	62.521	0	0	70.8	38.42	XOM_R2OW 96.354 SG MWD+IFR1+ MS XOM_R2OW
17200	90	269.827	9805	63.27	0	71.176	0	63.27	0	0	71.497	38.489	96.274 SG MWD+IFR1+ MS
17300	90	269.827	9805	64.019	0	71.879	0	64.019	0	0	72.197	38.559	SG 96.196 MWD+IFR1+ MS
17400	90	269.827	9805	64.77	0	72.584	0	64.77	0	0	72.9	38.629	XOM_R2OW 96.12 SG MWD+IFR1+ MS
17500	90	269.827	9805	65.521	0	73.292	0	65.521	0	0	73.605	38.701	XOM_R2OW 96.045 SG MWD+IFR1+ MS
17600	90	269.827	9805	66.273	0	74.002	0	66.273	0	0	74.312	38.773	XOM_R2OW 95.973 ^{SG} MWD+IFR1+ MS
17700	90	269.827	9805	67.025	0	74.714	0	67.025	0	0	75.022	38.845	XOM_R2OW 95.902 SG MWD+IFR1+ MS
17800	90	269.827	9805	67.779	0	75.428	0	67.779	0	0	75.733	38.919	XOM_R2OW 95.832 MWD+IFR1+ MS
17900	90	269.827	9805	68.533	0	76.144	0	68.533	0	0	76.447	38.994	XOM_R2OW 95.764 MWD+IFR1+ MS
18000	90	269.827	9805	69.288	0	76.862	0	69.288	0	0	77.163	39.069	XOM_R2OW 95.698 MWD+IFR1+ MS
18100	90	269.827	9805	70.043	0	77.582	0	70.043	0	0	77.88	39.145	XOM_R2OW 95.633 MWD+IFR1+ MS
18200	90	269.827	9805	70.8	0	78.304	0	70.8	0	0	78.6	39.221	XOM_R2OW SG MWD+IFR1+ MS

18300	90	269.827	9805	71.556	0	79.028	0	71.556	0	0	79.321	39.299	XOM_R2OW 95.507 SG MWD+IFR1+ MS
18400	90	269.827	9805	72.314	0	79.753	0	72.314	0	0	80.045	39.377	XOM_R2OW 95.446 SG MWD+IFR1+ MS
18500	90	269.827	9805	73.072	0	80.481	0	73.072	0	0	80.77	39.456	SG 95.386 MWD+IFR1+ MS XOM R2OW
18600	90	269.827	9805	73.83	0	81.21	0	73.83	0	0	81.496	39.536	95.328 SG MWD+IFR1+ MS XOM_R2OW
18700	90	269.827	9805	74.589	0	81.94	0	74.589	0	0	82.225	39.616	95.271 SG MWD+IFR1+ MS XOM_R2OW
18800	90	269.827	9805	75.349	0	82.673	0	75.349	0	0	82.955	39.697	95.215 G MWD+IFR1+ MS XOM_R2OW
18900	90	269.827	9805	76.109	0	83.406	0	76.109	0	0	83.687	39.779	95.16 SG MWD+IFR1+ MS XOM_R2OW
19000	90	269.827	9805	76.869	0	84.142	0	76.869	0	0	84.42	39.862	95.106 SG MWD+IFR1+ MS XOM_R2OW
19100	90	269.827	9805	77.631	0	84.879	0	77.631	0	0	85.155	39.945	95.053 MWD+IFR1+ MS XOM_R2OW SG
19200	90	269.827	9805	78.392	0	85.617	0	78.392	0	0	85.891	40.029	95.001 MWD+IFR1+ MS XOM_R2OW
19300	90	269.827	9805	79.154	0	86.357	0	79.154	U	U	85.629	40.114	94.95 MWD+IFR1+ MS XOM_R2OW
19400	90	269.827	9805	/9.916	0	87.098	0	79.916	U	υ	87.368	40.2	94.901 MWD+IFR1+ MS

19500	90	269.827	9805	80.679	0	87.84	0	80.679	0	0	88.108	40.286	XOM_R2OW 94.852 MWD+IFR1+ MS
19600	90	269.827	9805	81.443	0	88.584	0	81.443	0	0	88.85	40.373	XOM_R2OW 94.804 SG MWD+IFR1+ MS XOM_R2OW
19700	90	269.827	9805	82.206	0	89.329	0	82.206	0	0	89.593	40.46	94.757 SG MWD+IFR1+ MS XOM R2OW
19800	90	269.827	9805	82.97	0	90.075	0	82.97	0	0	90.337	40.548	94.711 SG MWD+IFR1+ MS XOM R2OW
19900	90	269.827	9805	83.735	0	90.823	0	83.735	0	0	91.083	40.637	94.665 94.65 MWD+IFR1+ MS XOM_R2OW
20000	90	269.827	9805	84.5	0	91.572	0	84.5	0	0	91.83	40.727	94.621 MWD+IFR1+ MS XOM_R2OW
20100	90	269.827	9805	85.265	0	92.321	0	85.265	0	0	92.578	40.817	94.577 MWD+IFR1+ MS XOM_R2OW
20200	90	269.827	9805	86.03	0	93.072	0	86.03	0	0	93.327	40.908	94.534 SG MWD+IFR1+ MS XOM_R2OW
20300	90	269.827	9805	86.796	0	93.824	0	86.796	0	0	94.077	41	94.492 SG MWD+IFR1+ MS XOM_R2OW
20400	90	269.827	9805	87.562	0	94.578	0	87.562	0	0	94.828	41.092	94.451 MWD+IFR1+ MS XOM_R2OW SG
20500	90	269.827	9805	88.329	0	95.332	0	88.329	0	0	95.58	41.185	94.41 MWD+IFR1+ MS XOM_R2OW SG
20600	90	269.827	9805	89.096	0	96.087	0	89.096	0	0	96.334	41.278	94.37 MWD+IFR1+ MS

20700		260.027	0005	00.000	0	06.042	0	00.000	2	0	07.000	44.070	XOM_R2OW
20700	90	269.827	9805	89.863	U	96.843	0	89.863	U	0	97.088	41.372	94.331 MWD+IFR1+ MS XOM_R2OW
20800	90	269.827	9805	90.631	0	97.6	0	90.631	0	0	97.844	41.467	94.292 MWD+IFR1+ MS
20900	90	269.827	9805	91.398	0	98.358	0	91.398	0	0	98.6	41.562	XOM_R2OW 94.254 SG MWD+IFR1+
21000	90	269.827	9805	92.166	0	99.117	0	92.166	0	0	99.358	41.658	94.217 SG MWD+IFR1+
21100	90	269.827	9805	92.935	0	99.877	0	92.935	0	0	100.116	41.755	MS XOM_R2OW 94.18 G MWD+IFR1+
21200	90	269.827	9805	93.703	0	100.638	0	93.703	0	0	100.875	41.852	MS XOM_R2OW 94.144 SG MWD+IFR1+
21300	90	269.827	9805	94.472	0	101.4	0	94.472	0	0	101.635	41.95	MS XOM_R2OW 94.108 G MWD+IFR1+
21400	90	269.827	9805	95.241	0	102.162	0	95.241	0	0	102.396	42.049	MS XOM_R2OW 94.073 SG MWD+IEB1+
21500	90	269.827	9805	96.011	0	102,926	0	96.011	0	0	103 158	42,148	MS XOM_R2OW 94.039 SG
		200.027		50.011	C C	101.010	Ū	50.011	,	Ū	100.100	1212.10	MWD+IFR1+ MS XOM_R2OW
21600	90	269.827	9805	96.78	0	103.69	0	96.78	0	0	103.92	42.248	94.005 SG MWD+IFR1+ MS
21700	90	269.827	9805	97.55	0	104.455	0	97.55	0	0	104.684	42.348	SG 93.972 MWD+IFR1+
21800	90	269.827	9805	98.32	0	105.221	0	98.32	0	0	105.448	42.449	XOM_R2OW 93.939 MWD+IFR1+ MS

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21900	90	269.827	9805	99.091	0	105.987	0	99.091	0	0	106.213	42.55	XOM_R2OW 93.906 SG MWD+IFR1+ MS
22000	90	269.827	9805	99.861	0	106.755	0	99.861	0	0	106.979	42.652	XOM_R2OW 93.875 SG MWD+IFR1+ MS
22100	90	269.827	9805	100.632	0	107.523	0	100.632	0	0	107.745	42.755	SG 93.843 MWD+IFR1+ MS
22200	90	269.827	9805	101.403	0	108.291	0	101.403	0	0	108.513	42.858	93.813 SG MWD+IFR1+ MS
22300	90	269.827	9805	102.174	0	109.061	0	102.174	0	0	109.281	42.962	93.782 SG MWD+IFR1+ MS
22400	90	269.827	9805	102.946	0	109.831	0	102.946	0	0	110.049	43.066	93.752 SG MWD+IFR1+ MS XOM_R2OW
22500	90	269.827	9805	103.717	0	110.602	0	103.717	0	0	110.819	43.171	93.723 SG MWD+IFR1+ MS XOM_R2OW
22600	90	269.827	9805	104.489	0	111.373	0	104.489	0	0	111.589	43.277	93.694 SG MWD+IFR1+ MS XOM R2OW
22700	90	269.827	9805	105.261	0	112.145	0	105.261	0	0	112.359	43.383	93.665 SG MWD+IFR1+ MS XOM R2OW
22800	90	269.827	9805	106.033	0	112.918	0	106.033	0	0	113.131	43.489	93.637 SG MWD+IFR1+ MS XOM R2OW
22900	90	269.827	9805	106.806	0	113.691	0	106.806	0	0	113.903	43.596	93.609 SG MWD+IFR1+ MS XOM R2OW
23000	90	269.827	9805	107.578	0	114.465	0	107.578	0	0	114.675	43.704	93.582 MWD+IFR1+ MS

23100	90	269.827	9805	108.351	0	115.239	0	108.351	0	0	115.448	43.812	XOM_R2OW 93.555 SG MWD+IFR1+ MS
23200	90	269.827	9805	109.124	0	116.014	0	109.124	0	0	116.222	43.921	XOM_R2OW SG 93.528 MWD+IFR1+ MS
23300	90	269.827	9805	109.897	0	116.79	0	109.897	0	0	116.997	44.03	XOM_R2OW 93.502 SG MWD+IFR1+ MS
23400	90	269.827	9805	110.67	0	117.566	0	110.67	0	0	117.771	44.14	XOM_R2OW 93.476 SG MWD+IFR1+ MS
23500	90	269.827	9805	111.444	0	118.343	0	111.444	0	0	118.547	44.25	SG 93.451 SG MWD+IFR1+ MS
23600	90	269.827	9805	112.217	0	119.12	0	112.217	0	0	119.323	44.361	SG 93.425 MWD+IFR1+ MS
23700	90	269.827	9805	112.991	0	119.898	0	112.991	0	0	120.1	44.472	SG 93.401 SG MWD+IFR1+ MS
23800	90	269.827	9805	113.765	0	120.676	0	113.765	0	0	120.877	44.584	XOM_R2OW SG MWD+IFR1+ MS
23900	90	269.827	9805	114.539	0	121.455	0	114.539	0	0	121.654	44.696	XOM_R2OW SG MWD+IFR1+ MS
24000	90	269.827	9805	115.313	0	122.234	0	115.313	0	0	122.432	44.809	XOM_R2OW 93.328 MWD+IFR1+ MS
24100	90	269.827	9805	116.087	0	123.014	0	116.087	0	0	123.211	44.922	XOM_R2OW 93.305 93.005 MWD+IFR1+ MS
24200	90	269.827	9805	116.862	0	123.794	0	116.862	0	0	123.99	45.036	XOM_R2OW 93.282 MWD+IFR1+ MS

24300	90	269.827	9805	117.636	0	124.575	0	117.636	0	0	124.77	45.15	XOM_R2OW 93.259 SG MWD+IFR1+ MS XOM_R2OW
24400	90	269.827	9805	118.411	0	125.356	0	118.411	0	0	125.55	45.265	93.236 SG MWD+IFR1+ MS XOM R2OW
24500	90	269.827	9805	119.186	0	126.138	0	119.186	0	0	126.33	45.38	93.214 SG MWD+IFR1+ MS XOM R2OW
24600	90	269.827	9805	119.961	0	126.92	0	119.961	0	0	127.111	45.496	SG 93.192 MWD+IFR1+ MS XOM_R2OW
24700	90	269.827	9805	120.736	0	127.703	0	120.736	0	0	127.893	45.612	93.17 SG MWD+IFR1+ MS XOM_R2OW
24800	90	269.827	9805	121.511	0	128.486	0	121.511	0	0	128.674	45.729	93.149 MWD+IFR1+ MS XOM_R2OW
24900	90	269.827	9805	122.286	0	129.269	0	122.286	0	0	129.457	45.846	93.127 SG MWD+IFR1+ MS XOM_R2OW
25000	90	269.827	9805	123.062	0	130.053	0	123.062	0	0	130.239	45.964	93.107 SG MWD+IFR1+ MS XOM_R2OW
25100	90	269.827	9805	123.837	0	130.837	0	123.837	0	0	131.022	46.082	93.086 MWD+IFR1+ MS XOM_R2OW
25200	90	269.827	9805	124.613	0	131.621	0	124.613	0	0	131.806	46.2	93.066 SG MWD+IFR1+ MS XOM_R2OW
25300	90	269.827	9805	125.389	0	132.406	0	125.389	0	0	132.59	46.319	93.045 SG MWD+IFR1+ MS XOM_R2OW
25400	90	269.827	9805	126.165	0	133.192	0	126.165	0	0	133.374	46.439	93.025 SG MWD+IFR1+ MS

25500	90	269.827	9805	126.941	0	133.977	0	126.941	0	0	134.159	46.559	XOM_R2OW 93.006 SG MWD+IFR1+
25600	90	269.827	9805	127.717	0	134.763	0	127.717	0	0	134.944	46.679	92.986 MWD+IFR1+ MS
25700	90	269.827	9805	128.493	0	135.55	0	128.493	0	0	135.729	46.8	XOM_R2OW 92.967 SG MWD+IFR1+ MS
25800	90	269.827	9805	129.27	0	136.337	0	129.27	0	0	136.515	46.921	XOM_R2OW 92.948 MWD+IFR1+ MS
25900	90	269.827	9805	130.046	0	137.124	0	130.046	0	0	137.301	47.043	XOM_R2OW 92.93 SG MWD+IFR1+ MS
26000	90	269.827	9805	130.823	0	137.911	0	130.823	0	0	138.088	47.165	XOM_R2OW 92.911 SG MWD+IFR1+ MS
26091.489	90	269.827	9805	131.533	0	138.632	0	131.533	0	0	138.808	47.277	XOM_R2OW 92.894 MWD+IFR1+ MS

Plan Targets	BEU BB JABBA 100H				
	Measured Depth	Grid Northing	Grid Easting	TVD MSL Shape	
Target Name	(ft)	(ft)	(ft)	(ft)	
FTP 2	10371.53	566731.52	675867.91	6262 CIRCLE	
LTP 2	26041.55	566684	660197.99	6262 CIRCLE	
BHL 2	26091.49	566684.05	660148.05	6262 CIRCLE	





2" 5M

ALL DIMENSIONS ARE APPROXIMATE			
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13-3/8" x 9-5/8" x 5-1/2" 10M PSH-2 Wellboad	DRAWN	VJK	16FEB17
Accomply, With T EDO E Typing Logd	APPRV	KN	16FEB17
Assembly, with T-EBS-F Tubing Head	FOR REFERENCE	OR REFERENCE ONLY DRAWING NO. 10012842	
Released to Imaging: 9/7/2022 9:58:39 AM			

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

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

Background

Onshore Oil and Gas Order (OOGO) No. 2, Drilling Operations, Sections III.A.2.i.iv.B states that the BOP test must be performed whenever any seal subject to test pressure is broken. The current interpretation of the Bureau of Land Management (BLM) requires a complete BOP test and not just a test of the affected component. OOGO No. 2, Section I.D.2 states, "Some situation may exist either on a well-by-well basis or field-wide basis whereby it is commonly accepted practice to vary a particular minimum standard(s) established in this order. This situation can be resolved by requesting a variance...". XTO Energy feels the break testing the BOPE is such a situation. Therefore, as per OOGO No. 2, Section IV., XTO Energy submits this request for the variance.

Supporting Documentation

OOGO No. 2 became effective on December 19, 1988 and has remained the standard for regulating BLM onshore drilling operations for over 30 years. During this time there have been significant changes in drilling technology. BLM continues to use the variance request process to allow for the use of modern technology and acceptable engineering practices that have arisen since OOGO No. 2 was originally released. The XTO Energy drilling rig fleet has many modern upgrades that allow the intact BOP stack to be moved between well slots on a multi-well pad, as well as, wellhead designs that incorporate quick connects facilitating release of the BOP from the wellhead without breaking any BOP stack components apart. These technologies have been used extensively offshore, and other regulators, API, and many operators around the world have endorsed break testing as safe and reliable.



Figure 1: Winch System attached to BOP Stack



Figure 2: BOP Winch System

American Petroleum Institute (API) standards, specification and recommended practices are considered the industry standard and are consistently utilized and referenced by the industry. OOGO No. 2 recognizes API recommended Practices (RP) 53 in its original development. API Standard 53, *Well Control Equipment Systems for Drilling Wells* (Fifth Edition, December 2018, Annex C, Table C.4) recognizes break testing as an acceptable practice. Specifically, API Standard 53, Section 5.3.7.1 states "A pressure test of the pressure containing component shall be performed following the disconnection or repair, limited to the affected component." See Table C.4 below for reference.

12	API STANDARD	53	
Tal	ble C.4—Initial Pressure Te	esting, Surface BOP Stacks	
	Pressure Test_1 ow	Pressure Test-	-High Pressure ^{ac}
Component to be Pressure Tested	Pressure Test—Low Pressure ^{ac} psig (MPa)	Change Out of Component, Elastomer, or Ring Gasket	No Change Out of Component, Elastomer, or Ring Gasket
Annular preventer ^b	250 to 350 (1.72 to 2.41)	RWP of annular preventer	MASP or 70% annular RWP, whichever is lower.
Fixed pipe, variable bore, blind, and BSR preventers ^{bd}	250 to 350 (1.72 to 2.41)	RWP of ram preventer or wellhead system, whichever is lower	ITP
Choke and kill line and BOP side outlet valves below ram preventers (both sides)	250 to 350 (1.72 to 2.41)	RWP of side outlet valve or wellhead system, whichever is lower	ITP
Choke manifold—upstream of chokes ^e	250 to 350 (1.72 to 2.41)	RWP of ram preventers or wellhead system, whichever is lower	ITP
Choke manifold—downstream of chokes ^e	250 to 350 (1.72 to 2.41)	RWP of valve(s), line(s), or M whichever is lower	MASP for the well program,
Kelly, kelly valves, drill pipe safety valves, IBOPs	250 to 350 (1.72 to 2.41)	MASP for the well program	
 Pressure test evaluation periods a No visible leaks. The pressure shall remain stable Annular(s) and VBR(s) shall be pressure shall be	shall be a minimum of five minutes. e during the evaluation period. The p essure tested on the largest and sm	pressure shall not decrease below the allest OD drill pipe to be used in well	e intended test pressure. program.
^c For pad drilling operations, moving pressure-controlling connections	from one wellhead to another within when the integrity of a pressure se	n the 21 days, pressure testing is req al is broken.	uired for pressure-containing an
^d For surface offshore operations, the vented during the initial test. For locking pressure vented at communication.	he ram BOPs shall be pressure tes land operations, the ram BOPs sha hissioning and annually.	ted with the ram locks engaged and all be pressure tested with the ram lo	the closing and locking pressur cks engaged and the closing an
e Adjustable chokes are not required	to be full sealing devices. Pressure	e testing against a closed choke is no	t required.

The Bureau of Safety and Environmental Enforcement (BSEE), Department of Interior, has also utilized the API standards, specification and best practices in the development of its offshore oil and gas regulations and incorporates them by reference within its regulations.

Break testing has been approved by the BLM in the past with other operators based on the detailed information provided in this document.

XTO Energy feels break testing and our current procedures meet the intent of OOGO No. 2 and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. XTO Energy's internal standards requires complete BOPE tests more often than that of OOGO No. 2 (Every 21 days). In addition to function testing the annular, pipe rams and blind rams after each BOP nipple up, XTO Energy performs a choke drill with the rig crew prior to drilling out every casing shoe. This is additional training for the rig crew that exceeds the requirements of the OOGO No.2.

Procedures

- 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.



XTO Permian Operating, LLC Offline Cementing Variance Request

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

1. Cement Program

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

2. Offline Cementing Procedure

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

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



Annular packoff with both external and internal seals



XTO Permian Operating, LLC Offline Cementing Variance Request

Wellhead diagram during skidding operations

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





Wellhead diagram during offline cementing operations

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

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

Description of Operations:

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

Received by OCD: 9/6/2022 11:51:23 AM

Sec 22-20S-32E-NMP 2682661 Big Eddy Unit DI BB Jabba 100H Lea NMNM033955 XTO 13-22 44804 Allison Morency

Big Eddy Unit DI BB Jabba 100H

18 5/8	surface o	sg in a	24	inch hole.		Design	Factors			Surface		
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	87.50	J	55	BTC	14.25	1.24	1.49	1,066	5	2.50	2.29	93,275
"B"				BTC				0				0
w/8.4#	/g mud, 30min Sfo	: Csg Test psig:	1,110	Tail Cmt	does not	circ to sfc.	Totals:	1,066	-			93,275
Comparison of	of Proposed to	Minimum R	equired Ceme	ent Volumes								
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd				Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE				Hole-Cplg
24	1.2496	1890	3356	1332	152	9.20	901	2M				12.00
í												
					Site plat (pip	e racks S or E)	as per 0.0.1.	III.D.4.i. not f	ound.			
133/8	casing ins	ido tho	185/8			Design	Factors		-	Int 1		
Segment	#/ft	Grade	10 5/0	Coupling	Body	Collanse	Burst	l enath	B@s	a-B	a-C	Weight
"A"	54 50	J	55	BTC	5.65	0.75	1.93	2 769	2	3.48	1 25	150 911
"B"	54.50	0	55	ыо	0.00	0.75	1.00	2,700	2	0.40	1.20	0
w/8.4#	/g mud 30min Sfr	· Csa Test nsia·					Totals	2 769				150 911
	The cement vo	lume(s) are	intended to a	chieve a top of	0	ft from su	rface or a	1066				overlap.
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Rea'd				Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE				Hole-Cpla
17 1/2	0.6946	2060	3825	1976	94	10.50	785	2M				1.56
9 5/8	casing ins	ide the	13 3/8			Design Fa	ctors		a a	Int 2		
Segment	#/ft	Grade		Coupling	Body	Collapse	Burst	Lenath	B@s	a-B	a-C	Weight
"A"	40.00	HCP	110	BTC	10.98	2.99	3.08	2.869	6	5.35	5.39	114,760
"B"	40.00	HCL	80	BTC	∞	2.99	2.24	2,166	4	3.89	5.39	86,640
w/8.4#	/g mud, 30min Sfo	: Csg Test psig:	1,500				Totals:	5,035				201,400
Í	The cement vo	lume(s) are	intended to a	chieve a top of	0	ft from su	rface or a	2769				overlap.
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd				Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE				Hole-Cplg
12 1/4	0.3132	1390	3149	1714	84	9.50	1478	2M				0.81
Class 'C' tail cn	nt yld > 1.35											
									a			·_·_·_
5 1/2	casing ins	ide the	9 5/8			<u>Design</u>	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	6.49	4.33	4.93	4,935	5	8.55	7.51	98,700
"B"	20.00	RY P	110	Semi-Flush	00	4.33	4.93	21,938	5	8.55	7.51	438,760
w/8.4#	/g mud, 30min Sfo	Csg Test psig:	1,500				Totals:	26,873				537,460
	The cement vo	lume(s) are	intended to a	chieve a top of	4400	ft from su	rface or a	635				overlap.
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd				Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE				Hole-Cplg
8 1/2	0.2291	3320	5438	5168	5	10.00						1.30
					U U	10.00						

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PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO Permian Operating LLC
WELL NAME & NO.:	Big Eddy Unit DI BB Jabba 100H
LOCATION:	Sec 22-20S-32E-NMP
COUNTY:	Lea County, New Mexico

Updated COAs per Sundry 2682658 approved through engineering on 08/31/2022.



H2S	C Yes	🖸 No	
Potash	C None	C Secretary	🖸 R-111-P
Cave/Karst Potential	• Low	C Medium	C High
Cave/Karst Potential	Critical		
Variance	C None	• Flex Hose	C Other
Wellhead	Conventional	Multibowl	C Both
Other	4 String Area	Capitan Reef	□ WIPP
Other	Fluid Filled	Cement Squeeze	Pilot Hole
Special Requirements	U Water Disposal	COM	✓ Unit

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 Onshore Order 6 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 **18 5/8** inch surface casing shall be set at approximately 1177 feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **<u>24 hours in the Potash Area</u>** 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.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

- 2. The minimum required fill of cement behind the **13-3/8** inch intermediate casing set at 2,800 ft 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 or potash.
 - In <u>R111 Potash Areas</u> if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
 - In <u>Capitan Reef Areas</u> if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
 - Special Capitan Reef requirements. If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:
 - Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.
- 3. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is: Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.
 - a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
 - b. Second stage above DV tool:
 - 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 or potash.

- 4. The minimum required fill of cement behind the **5-1/2** inch production casing is: Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.
 - a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
 - b. Second stage above DV tool:
 - Cement should tie-back at least **50 feet** on top of Capitan Reef top. 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 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. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000** (**3M**) 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 OOGO2.III.A.2.i 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. (This is not necessary for secondary recovery unit wells)

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

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

- Lea County
 Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612
- 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 Onshore Oil and Gas Order No. 2 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.
- <u>Wait on cement (WOC) for Potash Areas:</u> 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 <u>24 hours</u>. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.
- 3. <u>Wait on cement (WOC) for Water Basin:</u> 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 <u>8 hours</u>. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity 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 Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
- 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 OOGO2.III.A.2.i 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 when specified), 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 plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 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 Onshore Order No. 2.

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.

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

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[C-103] NOI Change of Plans (C-103A)
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CONDITIONS

Created By	Condition	Condition Date
pkautz	None	9/7/2022

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