

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM APPROVED  
OMB NO. 1004-0137  
Expires: January 31, 2018**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.  
NMLC065750A

6. If Indian, Allottee or Tribe Name

**SUBMIT IN TRIPLICATE - Other instructions on page 2**7. If Unit or CA/Agreement, Name and/or No.  
891000326X

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other8. Well Name and No.  
BIG EDDY UNIT DI BB JABBA 102H

2. Name of Operator

XTO PERMIAN OPERATING LLC

Contact: KELLY KARDOS

E-Mail: kelly\_kardos@xtoenergy.com

9. API Well No.

30-025-47226-00-X1

3a. Address

6401 HOLIDAY HILL ROAD, BLDG 5  
MIDLAND, TX 79707

3b. Phone No. (include area code)

Ph: 432-620-4374

10. Field and Pool or Exploratory Area  
SALT LAKE - BONE SPRING

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

Sec 22 T20S R32E SWSW 470FSL 670FWL  
32.552750 N Lat, 103.760483 W Lon

11. County or Parish, State

LEA COUNTY, NM

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" 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 checked="" type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	Change to Original A
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	PD

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 recompleat 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 performed 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 recompleat 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 determined that the site is ready for final inspection.

XTO Permian Operating, LLC, requests permission to make the following changes to the original APD:

Casing/Cement design per the attached drilling program.

XTO also requests the following variances:

Approval to utilize a spudder rig to pre-set surface casing per the attached Description of Operations.

Batch drill this well if necessary. In doing so, XTO will set each casing string and ensure that the well is cemented properly and the well is static. With floats holding, no pressure on the csg annulus, and the installation of a 10K TA cap as per GE recommendations, XTO will contact the BLM

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #522366 verified by the BLM Well Information System  
For XTO PERMIAN OPERATING LLC, sent to the Hobbs  
Committed to AFMSS for processing by PRISCILLA PEREZ on 07/20/2020 (20PP3072SE)

Name (Printed/Typed) KELLY KARDOS

Title REGULATORY COORDINATOR

Signature (Electronic Submission)

Date 07/20/2020

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved By ALLISON MORENCY

Title PETROLEUM ENGINEER

Date 08/11/2020

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 Hobbs

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)

\*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\*

Accepted - KMS NMOCD

## **Additional data for EC transaction #522366 that would not fit on the form**

### **32. Additional remarks, continued**

to skid the rig to drill the remaining wells on the pad. Once surface and intermediate strings are all completed, XTO will begin drilling the production hole on each of the wells.

ONLY test broken pressure seals on the BOP equipment per the attached procedure.

A variance is requested to cement offline for the surface and intermediate casing strings.

#### Attachments:

Drilling Program

Direction Drill Plan

Spudder Rig Description of Operations

BOP Break Test Procedure

Offline Cement Variance

## Revisions to Operator-Submitted EC Data for Sundry Notice #522366

	Operator Submitted	BLM Revised (AFMSS)
Sundry Type:	APDCH NOI	APDCH NOI
Lease:	NMNM33955	NMLC065750A
Agreement:		891000326X (NMNM68294X)
Operator:	XTO PERMIAN OPERATING, LLC 6401 HOLIDAY HILL RD BLDG 5 MIDLAND, TX 79707 Ph: 432-620-4374	XTO PERMIAN OPERATING LLC 6401 HOLIDAY HILL ROAD, BLDG 5 MIDLAND, TX 79707 Ph: 4326828873
Admin Contact:	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com  Ph: 432-620-4374	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com  Ph: 432-620-4374
Tech Contact:	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com  Ph: 432-620-4374	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com  Ph: 432-620-4374
Location: State: County:	NM LEA	NM LEA
Well/Facility:	BIG EDDY UNIT DI BB JABBA 102H Sec 22 T20S R32E Mer NMP SWSW 470FSL 670FWL	BIG EDDY UNIT DI BB JABBA 102H Sec 22 T20S R32E SWSW 470FSL 670FWL 32.552750 N Lat, 103.760483 W Lon

**Conditions of Approval**  
Big Eddy Unit DI BB Jabba 102H  
30-025-47226

**BOP Break Testing Variance** (Note: Shell testing is not approved for any portion of the hole with a MASP of 5000 psi or greater)

- 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 prior to the commencement of any BOP Break Testing operations.

A full BOP test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOP test will be required.

## 6. Proposed Mud Circulation System

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' - 1080'	24"	FW/Native	8.3 - 9.5	35-40	NC
1080' - 2620'	17-1/2"	Brine	9.8-10.2	30-35	NC
2620' to 4820'	12-1/4"	FW / Cut Brine	8.3-9.0	30-32	NC
4820' to 25958'	8-3/4" x 8-1/2"	FW / Cut Brine / Polymer	9 - 9.3	29-32	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 9.8ppg-10.2ppg 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.

**Big Eddy Unit DI BB 102H**  
 Projected TD: 25958' MD / 9793' TVD  
 SHL: 470' FSL & 670' FWL , Section 22, T20S, R32E  
 BHL: 660' FNL & 50' FWL , Section 30, T20S, R32E  
 Lea County, NM

### Casing Design

The surface fresh water sands will be protected by setting 18-5/8 inch casing @ 1080' (147' above the salt) and circulating cement back to surface. The salt will be isolated by setting 13-3/8 inch casing at 2620' and circulating cement to surface. The Capitan Reef zone will be isolated by setting 9-5/8 inch casing at 4820'. An 8-3/4 inch curve and 8-1/2 inch lateral hole will be drilled to MD/TD and 5-1/2 inch casing will be set at TD and cemented back up to the 13-3/8 inch casing shoe depth.

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
24"	0' – 1080'	18-5/8"	87.5#	STC	H-40	New	2.00	1.27	5.92
17-1/2"	0' – 2620'	13-3/8"	54.5#	STC	J-55	New	2.44	1.37	3.60
12-1/4"	0' – 4820'	9-5/8"	36#	LTC	J-55	New	1.36	1.77	2.61
8-3/4" x 8-1/2"	0' – 25958'	5-1/2"	17#	BTC	P-110	New	1.12	1.58	2.04

XTO requests to not utilize centralizers in the curve and lateral  
 13-3/8 & 9-5/8" Collapse analyzed using 50% evacuation based on regional experience.  
 5-1/2" tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35.

### WELLHEAD:

*Temporary Wellhead*

- 18-5/8" SOW bottom x 21-1/4" 2M top flange.

*Permanent Wellhead – GE RSH Multibowl System*

- Starting Head: 13-5/8" 5M top flange x 13-3/8" SOW bottom
- Tubing Head: 13-5/8" 5M bottom flange x 7-1/16" 10M 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 Onshore Order 2.
  - Wellhead manufacturer representative may not be present for BOP test plug installation

### Cement Program

#### Surface Casing:

Lead: 1040 sxs EconoCem-HLTRRC (mixed at 12.9 ppg, 1.87 ft3/sx, 10.13 gal/sx water)  
 Tail: 550 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)  
 Compressives: 12-hr = 900 psi 24 hr = 1500 psi

#### 1st Intermediate Casing:

Lead: 1510 sxs EconoCem-HLTRRC (mixed at 12.9 ppg, 1.87 ft3/sx, 10.13 gal/sx water)  
 Tail: 590 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)  
 Compressives: 12-hr = 900 psi 24 hr = 1500 psi

#### 2nd Intermediate Casing:

ECP/DV Tool to be set at 3150'

##### 1st Stage

Lead: 220 sxs Halcem-C + 2% CaCl (mixed at 12.9 ppg, 1.88 ft3/sx, 9.61 gal/sx water)  
 Tail: 470 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water)  
 Compressives: 12-hr = 900 psi 24 hr = 1500 psi

##### 2nd Stage

Lead: 170 sxs Halcem-C + 2% CaCl (mixed at 12.9 ppg, 1.88 ft3/sx, 9.61 gal/sx water)  
 Tail: 230 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water)  
 Compressives: 12-hr = 900 psi 24 hr = 1500 psi

#### Production Casing:

Lead: 780 sxs NeoCem (mixed at 10.5 ppg, 2.69 ft3/sx, 12.26 gal/sx water)  
 Tail: 3180 sxs VersaCem (mixed at 13.2 ppg, 1.61 ft3/sx, 8.38 gal/sx water)  
 Compressives: 12-hr = 1375 psi 24 hr = 2285 psi

### Mud Circulation Program

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' - 1080'	24"	FW/Native	8.3 - 9.5	35-40	NC
1080' - 2620'	17-1/2"	Brine	9.8-10.2	30-35	NC
2620' to 4820'	12-1/4"	FW / Cut Brine	8.3-9.0	30-32	NC
4820' to 25958'	8-3/4" x 8-1/2"	FW / Cut Brine / Polymer	9 - 9.3	29-32	NC - 20

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

XTO Energy Inc.  
BEU BB Jabba 102H  
Projected TD: 25958' MD / 9793' TVD  
SHL: 470' FSL & 670' FWL , Section 22, T20S, R32E  
BHL: 660' FNL & 50' FWL , Section 30, T20S, R32E  
Lea 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	952'	Water
Top of Salt	1227'	Water
Base of Salt	2572'	Water
Capitan	3225'	Water
Delaware	4719'	Water
Bone Spring	7722'	Water/Oil/Gas
1st Bone Spring Ss	8802'	Water/Oil/Gas
2nd Bone Spring Ss	9334'	Water/Oil/Gas
2nd Bone Spring Ss B	9704'	Water/Oil/Gas
Target/Land Curve	9793'	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 18-5/8 inch casing @ 1080' (147' above the salt) and circulating cement back to surface. The salt will be isolated by setting 13-3/8 inch casing at 2620' and circulating cement to surface. The Capitan Reef zone will be isolated by setting 9-5/8 inch casing at 4820'. An 8-3/4 inch curve and 8-1/2 inch lateral hole will be drilled to MD/TD and 5-1/2 inch casing will be set at TD and cemented back up to the 13-3/8 inch casing shoe depth.

**Casing Design**

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
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12-1/4"	0' – 4820'	9-5/8"	36#	LTC	J-55	New	1.36	1.77	2.61
8-3/4" x 8-1/2"	0' – 25958'	5-1/2"	17#	BTC	P-110	New	1.12	1.58	2.04

- XTO requests to not utilize centralizers in the curve and lateral.
- 13-3/8" & 9-5/8" Collapse analyzed using 50% evacuation based on regional experience.
- 5-1/2" tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35

**WELLHEAD:**

*Temporary Wellhead*

- 18-5/8" SOW bottom x 21-1/4" 2M top flange.

*Permanent Wellhead – GE RSH Multibowl System*

- A. Starting Head: 13-5/8" 5M top flange x 13-3/8" SOW bottom
- B. Tubing Head: 13-5/8" 5M bottom flange x 7-1/16" 10M 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
  - Wellhead manufacturer representative will not be present for BOP test plug installation

#### 4. Cement Program

*Surface Casing: 18-5/8", 87.5# New H-40, STC casing to be set at +/- 1080'*

Lead: 1040 sxs EconoCem-HLTRRC (mixed at 12.9 ppg, 1.87 ft<sup>3</sup>/sx, 10.13 gal/sx water)  
Tail: 550 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft<sup>3</sup>/sx, 6.39 gal/sx water)  
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

*1st Intermediate Casing: 13-3/8", 54.5# New J-55, STC casing to be set at +/- 2620'*

Lead: 1510 sxs EconoCem-HLTRRC (mixed at 12.9 ppg, 1.87 ft<sup>3</sup>/sx, 10.13 gal/sx water)  
Tail: 590 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft<sup>3</sup>/sx, 6.39 gal/sx water)  
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

*2nd Intermediate Casing: 9-5/8", 36# New J-55, LTC casing to be set at +/- 4820'*

*ECP/DV Tool to be set at 3150'*

*1st Stage*

Lead: 220 sxs Halcem-C + 2% CaCl (mixed at 12.9 ppg, 1.88 ft<sup>3</sup>/sx, 9.61 gal/sx water)  
Tail: 470 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.33 ft<sup>3</sup>/sx, 6.39 gal/sx water)  
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

*2nd Stage*

Lead: 170 sxs Halcem-C + 2% CaCl (mixed at 12.9 ppg, 1.88 ft<sup>3</sup>/sx, 9.61 gal/sx water)  
Tail: 230 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.33 ft<sup>3</sup>/sx, 6.39 gal/sx water)  
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

*Production Casing: 5-1/2", 17# New P-110, BTC casing to be set at +/- 25958'*

Lead: 780 sxs NeoCem (mixed at 10.5 ppg, 2.69 ft<sup>3</sup>/sx, 12.26 gal/sx water)  
Tail: 3180 sxs VersaCem (mixed at 13.2 ppg, 1.61 ft<sup>3</sup>/sx, 8.38 gal/sx water)  
Compressives: 12-hr = 1375 psi 24 hr = 2285 psi

#### 5. Pressure Control Equipment

The blow out preventer equipment (BOP) for surf casing / temp. wellhead will consist of a 21-1/4" minimum 2M Hydril. MASP should not exceed 813 psi.

Once the permanent WH is installed on the 13-3/8 casing, the blow out preventer equipment (BOP) will consist of a 13-5/8" minimum 3M Hydril and a 13-5/8" minimum 3M 3-Ram BOP. MASP should not exceed 2581 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 but no greater than casing 70% burst. When nipping up on the 13-5/8" 3M bradenhead and flange, the BOP test will be limited to 3000 psi. When nipping up on the 9-5/8", 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.



Delaware Basin Asset - Clean

T  
↑  
G  
↑  
M

Azimuths to Grid North  
True North: -0.31°  
Magnetic North: 8.37°

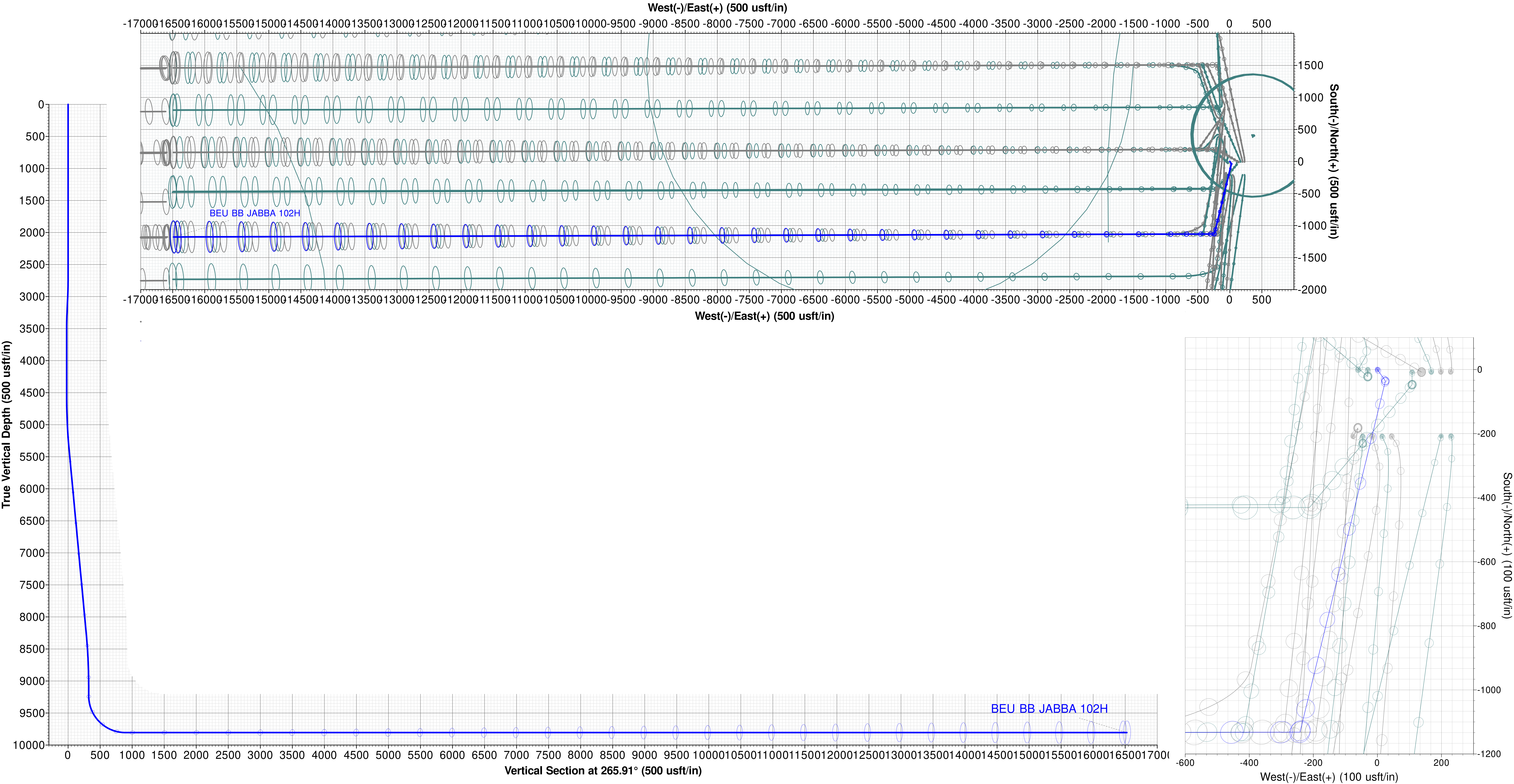
Magnetic Field  
Strength: 49626.5nT  
Dip Angle: 60.71°  
Date: 12/31/2004  
Model: IGRF2000

BEU BB JABBA 102H Default @ 3543.0usft  
Ground Level: 3513.0

WELL DETAILS									
BEU BB JABBA 102H									
Ground Level: 3513.0									
Easting 676661.69    Latittude 32° 33' 9.463 N    Longitude 103° 45' 35.949 W									
BEU BB JABBA 102H									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2750.0	0.00	0.00	2750.0	0.0	0.0	0.00	0.00	0.0	Start Build 2.00
3000.0	5.00	145.00	2999.7	-8.9	6.3	2.00	145.00	-5.6	Start 250.0 hold at 3000.0 MD
3250.0	5.00	145.00	3248.7	-26.8	18.8	0.00	0.00	-16.8	Start Drop -2.00
3500.0	0.00	0.00	3498.4	-35.7	25.0	2.00	180.00	-22.4	Start 1050.0 hold at 3500.0 MD
4550.0	0.00	0.00	4548.4	-35.7	25.0	0.00	0.00	-22.4	Start Build 2.00
5398.5	16.97	193.67	5384.5	-156.9	-4.5	2.00	193.67	15.6	Start 3010.4 hold at 5398.5 MD
8408.9	16.97	193.67	8263.9	-1010.6	-212.1	0.00	0.00	283.6	Start Drop -2.00
9257.4	0.00	0.00	9100.0	-1131.8	-241.6	2.00	180.00	321.7	Start 132.0 hold at 9257.4 MD
9389.4	0.00	0.00	9232.0	-1131.8	-241.6	0.00	0.00	321.7	Start Build 10.00
10289.4	90.00	269.84	9805.0	-1133.4	-814.6	10.00	269.84	893.3	Start DLS 0.00 TFO -90.11
25958.9	90.00	269.83	9805.0	-1177.7	-16484.1	0.00	-90.11	16526.1	TD at 25958.9
Average DLS: 0.52°/100usft									

Project: Lea County, NM (NAD27)  
Site: Bluebird  
Well: BEU BB JABBA 102H  
Wellbore: BEU BB JABBA 102H  
Design: BEU BB JABBA 102H  
Rig:

Map System: US State Plane 1927 (Exact solution)  
Datum: NAD 1927 (NADCON CONUS)  
Ellipsoid: Clarke 1866  
Zone Name: New Mexico East 3001



# **Delaware Basin Asset - Clean**

**Lea County, NM (NAD27)**

**Bluebird**

**BEU BB JABBA 102H - Slot BEU BB JABBA 102H**

**BEU BB JABBA 102H**

**Plan: BEU BB JABBA 102H**

## **Standard Planning Report**

**19 May, 2020**

# Halliburton

## Planning Report

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well BEU BB JABBA 102H - Slot BEU BB JABBA 102H
<b>Company:</b>	Delaware Basin Asset - Clean	<b>TVD Reference:</b>	BEU BB JABBA 102H Default @ 3543.0usft
<b>Project:</b>	Lea County, NM (NAD27)	<b>MD Reference:</b>	BEU BB JABBA 102H Default @ 3543.0usft
<b>Site:</b>	Bluebird	<b>North Reference:</b>	Grid
<b>Well:</b>	BEU BB JABBA 102H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BEU BB JABBA 102H		
<b>Design:</b>	BEU BB JABBA 102H		

<b>Project</b>	Lea County, NM (NAD27)		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	New Mexico East 3001		

<b>Site</b>	Bluebird		
<b>Site Position:</b>		<b>Northing:</b>	565,233.62 usft
<b>From:</b>	Map	<b>Easting:</b>	676,601.60 usft
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "
		<b>Latitude:</b>	32° 33' 9.463 N
		<b>Longitude:</b>	103° 45' 36.651 W
		<b>Grid Convergence:</b>	0.31 °

<b>Well</b>	BEU BB JABBA 102H - Slot BEU BB JABBA 102H		
<b>Well Position</b>	<b>+N/-S</b>	0.3 usft	<b>Northing:</b> 565,233.94 usft
	<b>+E/-W</b>	60.1 usft	<b>Easting:</b> 676,661.69 usft
<b>Position Uncertainty</b>	0.0 usft	<b>Wellhead Elevation:</b>	<b>Latitude:</b> 32° 33' 9.463 N
			<b>Longitude:</b> 103° 45' 35.949 W
			<b>Ground Level:</b> 3,513.0 usft

<b>Wellbore</b>	BEU BB JABBA 102H				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2000	12/31/2004	8.68	60.71	49,626.51405345

<b>Design</b>	BEU BB JABBA 102H			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	265.91

<b>Plan Survey Tool Program</b>	<b>Date</b>	5/19/2020		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.0	4,000.0	BEU BB JABBA 102H (BEU BB J	ADK 105
				AdK w/ Gyrocompass HS refer
2	4,000.0	25,958.9	BEU BB JABBA 102H (BEU BB J	MWD+IFR1+MS
				OWSG MWD + IFR1 + Multi-St

# Halliburton

## Planning Report

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well BEU BB JABBA 102H - Slot BEU BB JABBA 102H
<b>Company:</b>	Delaware Basin Asset - Clean	<b>TVD Reference:</b>	BEU BB JABBA 102H Default @ 3543.0usft
<b>Project:</b>	Lea County, NM (NAD27)	<b>MD Reference:</b>	BEU BB JABBA 102H Default @ 3543.0usft
<b>Site:</b>	Bluebird	<b>North Reference:</b>	Grid
<b>Well:</b>	BEU BB JABBA 102H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BEU BB JABBA 102H		
<b>Design:</b>	BEU BB JABBA 102H		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,750.0	0.00	0.00	2,750.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,000.0	5.00	145.00	2,999.7	-8.9	6.3	2.00	2.00	0.00	145.00	
3,250.0	5.00	145.00	3,248.7	-26.8	18.8	0.00	0.00	0.00	0.00	
3,500.0	0.00	0.00	3,498.4	-35.7	25.0	2.00	-2.00	0.00	180.00	
4,550.0	0.00	0.00	4,548.4	-35.7	25.0	0.00	0.00	0.00	0.00	
5,398.5	16.97	193.67	5,384.5	-156.9	-4.5	2.00	2.00	0.00	193.67	
8,408.9	16.97	193.67	8,263.9	-1,010.6	-212.1	0.00	0.00	0.00	0.00	
9,257.4	0.00	0.00	9,100.0	-1,131.8	-241.6	2.00	-2.00	0.00	180.00	
9,389.4	0.00	0.00	9,232.0	-1,131.8	-241.6	0.00	0.00	0.00	0.00	
10,289.4	90.00	269.84	9,805.0	-1,133.4	-814.6	10.00	10.00	0.00	269.84 FTP	5-4-1
25,958.9	90.00	269.83	9,805.0	-1,177.7	-16,484.1	0.00	0.00	0.00	-90.11 BHL	5-4-1

# Halliburton

## Planning Report

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well BEU BB JABBA 102H - Slot BEU BB JABBA 102H
<b>Company:</b>	Delaware Basin Asset - Clean	<b>TVD Reference:</b>	BEU BB JABBA 102H Default @ 3543.0usft
<b>Project:</b>	Lea County, NM (NAD27)	<b>MD Reference:</b>	BEU BB JABBA 102H Default @ 3543.0usft
<b>Site:</b>	Bluebird	<b>North Reference:</b>	Grid
<b>Well:</b>	BEU BB JABBA 102H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BEU BB JABBA 102H		
<b>Design:</b>	BEU BB JABBA 102H		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,750.0	0.00	0.00	2,750.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 2.00									
2,800.0	1.00	145.00	2,800.0	-0.4	0.3	-0.2	2.00	2.00	0.00
2,900.0	3.00	145.00	2,899.9	-3.2	2.3	-2.0	2.00	2.00	0.00
3,000.0	5.00	145.00	2,999.7	-8.9	6.3	-5.6	2.00	2.00	0.00
Start 250.0 hold at 3000.0 MD									
3,100.0	5.00	145.00	3,099.3	-16.1	11.3	-10.1	0.00	0.00	0.00
3,200.0	5.00	145.00	3,198.9	-23.2	16.3	-14.6	0.00	0.00	0.00
3,250.0	5.00	145.00	3,248.7	-26.8	18.8	-16.8	0.00	0.00	0.00
Start Drop -2.00									
3,300.0	4.00	145.00	3,298.6	-30.0	21.0	-18.8	2.00	-2.00	0.00
3,400.0	2.00	145.00	3,398.4	-34.3	24.0	-21.5	2.00	-2.00	0.00
3,500.0	0.00	0.00	3,498.4	-35.7	25.0	-22.4	2.00	-2.00	0.00
Start 1050.0 hold at 3500.0 MD									
3,600.0	0.00	0.00	3,598.4	-35.7	25.0	-22.4	0.00	0.00	0.00
3,700.0	0.00	0.00	3,698.4	-35.7	25.0	-22.4	0.00	0.00	0.00
3,800.0	0.00	0.00	3,798.4	-35.7	25.0	-22.4	0.00	0.00	0.00
3,900.0	0.00	0.00	3,898.4	-35.7	25.0	-22.4	0.00	0.00	0.00
4,000.0	0.00	0.00	3,998.4	-35.7	25.0	-22.4	0.00	0.00	0.00
4,100.0	0.00	0.00	4,098.4	-35.7	25.0	-22.4	0.00	0.00	0.00
4,200.0	0.00	0.00	4,198.4	-35.7	25.0	-22.4	0.00	0.00	0.00
4,300.0	0.00	0.00	4,298.4	-35.7	25.0	-22.4	0.00	0.00	0.00
4,400.0	0.00	0.00	4,398.4	-35.7	25.0	-22.4	0.00	0.00	0.00
4,500.0	0.00	0.00	4,498.4	-35.7	25.0	-22.4	0.00	0.00	0.00
4,550.0	0.00	0.00	4,548.4	-35.7	25.0	-22.4	0.00	0.00	0.00

# Halliburton

## Planning Report

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well BEU BB JABBA 102H - Slot BEU BB JABBA 102H
<b>Company:</b>	Delaware Basin Asset - Clean	<b>TVD Reference:</b>	BEU BB JABBA 102H Default @ 3543.0usft
<b>Project:</b>	Lea County, NM (NAD27)	<b>MD Reference:</b>	BEU BB JABBA 102H Default @ 3543.0usft
<b>Site:</b>	Bluebird	<b>North Reference:</b>	Grid
<b>Well:</b>	BEU BB JABBA 102H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BEU BB JABBA 102H		
<b>Design:</b>	BEU BB JABBA 102H		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
<b>Start Build 2.00</b>									
4,600.0	1.00	193.67	4,598.4	-36.1	24.9	-22.3	2.00	2.00	0.00
4,700.0	3.00	193.67	4,698.3	-39.5	24.1	-21.2	2.00	2.00	0.00
4,800.0	5.00	193.67	4,798.1	-46.3	22.4	-19.1	2.00	2.00	0.00
4,900.0	7.00	193.67	4,897.5	-56.5	20.0	-15.9	2.00	2.00	0.00
5,000.0	9.00	193.67	4,996.6	-70.0	16.7	-11.6	2.00	2.00	0.00
5,100.0	11.00	193.67	5,095.0	-86.9	12.6	-6.3	2.00	2.00	0.00
5,200.0	13.00	193.67	5,192.9	-107.1	7.6	0.0	2.00	2.00	0.00
5,300.0	15.00	193.67	5,289.9	-130.6	1.9	7.4	2.00	2.00	0.00
5,398.5	16.97	193.67	5,384.5	-156.9	-4.5	15.6	2.00	2.00	0.00
<b>Start 3010.4 hold at 5398.5 MD</b>									
5,400.0	16.97	193.67	5,386.0	-157.3	-4.6	15.8	0.00	0.00	0.00
5,500.0	16.97	193.67	5,481.6	-185.7	-11.5	24.7	0.00	0.00	0.00
5,600.0	16.97	193.67	5,577.3	-214.1	-18.4	33.6	0.00	0.00	0.00
5,700.0	16.97	193.67	5,672.9	-242.4	-25.3	42.5	0.00	0.00	0.00
5,800.0	16.97	193.67	5,768.6	-270.8	-32.2	51.4	0.00	0.00	0.00
5,900.0	16.97	193.67	5,864.2	-299.1	-39.1	60.3	0.00	0.00	0.00
6,000.0	16.97	193.67	5,959.9	-327.5	-46.0	69.2	0.00	0.00	0.00
6,100.0	16.97	193.67	6,055.5	-355.9	-52.9	78.1	0.00	0.00	0.00
6,200.0	16.97	193.67	6,151.2	-384.2	-59.8	87.0	0.00	0.00	0.00
6,300.0	16.97	193.67	6,246.8	-412.6	-66.7	95.9	0.00	0.00	0.00
6,400.0	16.97	193.67	6,342.5	-440.9	-73.6	104.8	0.00	0.00	0.00
6,500.0	16.97	193.67	6,438.1	-469.3	-80.5	113.7	0.00	0.00	0.00
6,600.0	16.97	193.67	6,533.8	-497.6	-87.4	122.6	0.00	0.00	0.00
6,700.0	16.97	193.67	6,629.4	-526.0	-94.3	131.5	0.00	0.00	0.00
6,800.0	16.97	193.67	6,725.0	-554.4	-101.2	140.4	0.00	0.00	0.00
6,900.0	16.97	193.67	6,820.7	-582.7	-108.1	149.3	0.00	0.00	0.00
7,000.0	16.97	193.67	6,916.3	-611.1	-115.0	158.2	0.00	0.00	0.00
7,100.0	16.97	193.67	7,012.0	-639.4	-121.9	167.1	0.00	0.00	0.00
7,200.0	16.97	193.67	7,107.6	-667.8	-128.8	176.0	0.00	0.00	0.00
7,300.0	16.97	193.67	7,203.3	-696.2	-135.6	184.9	0.00	0.00	0.00
7,400.0	16.97	193.67	7,298.9	-724.5	-142.5	193.8	0.00	0.00	0.00
7,500.0	16.97	193.67	7,394.6	-752.9	-149.4	202.7	0.00	0.00	0.00
7,600.0	16.97	193.67	7,490.2	-781.2	-156.3	211.6	0.00	0.00	0.00
7,700.0	16.97	193.67	7,585.9	-809.6	-163.2	220.5	0.00	0.00	0.00
7,800.0	16.97	193.67	7,681.5	-838.0	-170.1	229.4	0.00	0.00	0.00
7,900.0	16.97	193.67	7,777.2	-866.3	-177.0	238.3	0.00	0.00	0.00
8,000.0	16.97	193.67	7,872.8	-894.7	-183.9	247.2	0.00	0.00	0.00
8,100.0	16.97	193.67	7,968.4	-923.0	-190.8	256.1	0.00	0.00	0.00
8,200.0	16.97	193.67	8,064.1	-951.4	-197.7	265.0	0.00	0.00	0.00
8,300.0	16.97	193.67	8,159.7	-979.7	-204.6	273.9	0.00	0.00	0.00
8,400.0	16.97	193.67	8,255.4	-1,008.1	-211.5	282.8	0.00	0.00	0.00
8,408.9	16.97	193.67	8,263.9	-1,010.6	-212.1	283.6	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
8,500.0	15.15	193.67	8,351.4	-1,035.1	-218.1	291.3	2.00	-2.00	0.00
8,600.0	13.15	193.67	8,448.4	-1,058.9	-223.9	298.8	2.00	-2.00	0.00
8,700.0	11.15	193.67	8,546.2	-1,079.3	-228.8	305.2	2.00	-2.00	0.00
8,800.0	9.15	193.67	8,644.6	-1,096.4	-233.0	310.6	2.00	-2.00	0.00
8,900.0	7.15	193.67	8,743.6	-1,110.2	-236.4	314.9	2.00	-2.00	0.00
9,000.0	5.15	193.67	8,843.0	-1,120.6	-238.9	318.1	2.00	-2.00	0.00
9,100.0	3.15	193.67	8,942.7	-1,127.6	-240.6	320.3	2.00	-2.00	0.00
9,200.0	1.15	193.67	9,042.6	-1,131.3	-241.5	321.5	2.00	-2.00	0.00

# Halliburton

## Planning Report

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well BEU BB JABBA 102H - Slot BEU BB JABBA 102H
<b>Company:</b>	Delaware Basin Asset - Clean	<b>TVD Reference:</b>	BEU BB JABBA 102H Default @ 3543.0usft
<b>Project:</b>	Lea County, NM (NAD27)	<b>MD Reference:</b>	BEU BB JABBA 102H Default @ 3543.0usft
<b>Site:</b>	Bluebird	<b>North Reference:</b>	Grid
<b>Well:</b>	BEU BB JABBA 102H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BEU BB JABBA 102H		
<b>Design:</b>	BEU BB JABBA 102H		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,257.4	0.00	0.00	9,100.0	-1,131.8	-241.6	321.7	2.00	-2.00	0.00
Start 132.0 hold at 9257.4 MD									
9,300.0	0.00	0.00	9,142.6	-1,131.8	-241.6	321.7	0.00	0.00	0.00
9,389.4	0.00	0.00	9,232.0	-1,131.8	-241.6	321.7	0.00	0.00	0.00
Start Build 10.00									
9,400.0	1.06	269.84	9,242.6	-1,131.8	-241.7	321.8	10.00	10.00	0.00
9,500.0	11.06	269.84	9,342.0	-1,131.8	-252.3	332.3	10.00	10.00	0.00
9,600.0	21.06	269.84	9,437.9	-1,131.9	-279.9	359.9	10.00	10.00	0.00
9,700.0	31.06	269.84	9,527.7	-1,132.0	-323.8	403.6	10.00	10.00	0.00
9,800.0	41.06	269.84	9,608.4	-1,132.2	-382.6	462.3	10.00	10.00	0.00
9,900.0	51.06	269.84	9,677.7	-1,132.4	-454.5	534.0	10.00	10.00	0.00
10,000.0	61.06	269.84	9,733.5	-1,132.6	-537.3	616.7	10.00	10.00	0.00
10,100.0	71.06	269.84	9,774.0	-1,132.9	-628.6	707.8	10.00	10.00	0.00
10,200.0	81.06	269.84	9,798.0	-1,133.1	-725.5	804.5	10.00	10.00	0.00
10,289.4	90.00	269.84	9,805.0	-1,133.4	-814.6	893.3	10.00	10.00	0.00
Start DLS 0.00 TFO -90.11									
10,300.0	90.00	269.84	9,805.0	-1,133.4	-825.2	903.9	0.00	0.00	0.00
10,400.0	90.00	269.84	9,805.0	-1,133.7	-925.2	1,003.6	0.00	0.00	0.00
10,500.0	90.00	269.84	9,805.0	-1,133.9	-1,025.2	1,103.4	0.00	0.00	0.00
10,600.0	90.00	269.84	9,805.0	-1,134.2	-1,125.2	1,203.2	0.00	0.00	0.00
10,700.0	90.00	269.84	9,805.0	-1,134.5	-1,225.2	1,302.9	0.00	0.00	0.00
10,800.0	90.00	269.84	9,805.0	-1,134.8	-1,325.2	1,402.7	0.00	0.00	0.00
10,900.0	90.00	269.84	9,805.0	-1,135.0	-1,425.2	1,502.4	0.00	0.00	0.00
11,000.0	90.00	269.84	9,805.0	-1,135.3	-1,525.2	1,602.2	0.00	0.00	0.00
11,100.0	90.00	269.84	9,805.0	-1,135.6	-1,625.2	1,702.0	0.00	0.00	0.00
11,200.0	90.00	269.84	9,805.0	-1,135.9	-1,725.2	1,801.7	0.00	0.00	0.00
11,300.0	90.00	269.84	9,805.0	-1,136.1	-1,825.2	1,901.5	0.00	0.00	0.00
11,400.0	90.00	269.84	9,805.0	-1,136.4	-1,925.2	2,001.3	0.00	0.00	0.00
11,500.0	90.00	269.84	9,805.0	-1,136.7	-2,025.2	2,101.0	0.00	0.00	0.00
11,600.0	90.00	269.84	9,805.0	-1,136.9	-2,125.2	2,200.8	0.00	0.00	0.00
11,700.0	90.00	269.84	9,805.0	-1,137.2	-2,225.2	2,300.6	0.00	0.00	0.00
11,800.0	90.00	269.84	9,805.0	-1,137.5	-2,325.2	2,400.3	0.00	0.00	0.00
11,900.0	90.00	269.84	9,805.0	-1,137.8	-2,425.2	2,500.1	0.00	0.00	0.00
12,000.0	90.00	269.84	9,805.0	-1,138.0	-2,525.2	2,599.9	0.00	0.00	0.00
12,100.0	90.00	269.84	9,805.0	-1,138.3	-2,625.2	2,699.6	0.00	0.00	0.00
12,200.0	90.00	269.84	9,805.0	-1,138.6	-2,725.2	2,799.4	0.00	0.00	0.00
12,300.0	90.00	269.84	9,805.0	-1,138.9	-2,825.2	2,899.2	0.00	0.00	0.00
12,400.0	90.00	269.84	9,805.0	-1,139.1	-2,925.2	2,998.9	0.00	0.00	0.00
12,500.0	90.00	269.84	9,805.0	-1,139.4	-3,025.2	3,098.7	0.00	0.00	0.00
12,600.0	90.00	269.84	9,805.0	-1,139.7	-3,125.2	3,198.4	0.00	0.00	0.00
12,700.0	90.00	269.84	9,805.0	-1,140.0	-3,225.2	3,298.2	0.00	0.00	0.00
12,800.0	90.00	269.84	9,805.0	-1,140.2	-3,325.2	3,398.0	0.00	0.00	0.00
12,900.0	90.00	269.84	9,805.0	-1,140.5	-3,425.2	3,497.7	0.00	0.00	0.00
13,000.0	90.00	269.84	9,805.0	-1,140.8	-3,525.2	3,597.5	0.00	0.00	0.00
13,100.0	90.00	269.84	9,805.0	-1,141.1	-3,625.2	3,697.3	0.00	0.00	0.00
13,200.0	90.00	269.84	9,805.0	-1,141.3	-3,725.2	3,797.0	0.00	0.00	0.00
13,300.0	90.00	269.84	9,805.0	-1,141.6	-3,825.2	3,896.8	0.00	0.00	0.00
13,400.0	90.00	269.84	9,805.0	-1,141.9	-3,925.2	3,996.6	0.00	0.00	0.00
13,500.0	90.00	269.84	9,805.0	-1,142.2	-4,025.2	4,096.3	0.00	0.00	0.00
13,600.0	90.00	269.84	9,805.0	-1,142.4	-4,125.2	4,196.1	0.00	0.00	0.00
13,700.0	90.00	269.84	9,805.0	-1,142.7	-4,225.2	4,295.9	0.00	0.00	0.00
13,800.0	90.00	269.84	9,805.0	-1,143.0	-4,325.2	4,395.6	0.00	0.00	0.00

# Halliburton

## Planning Report

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well BEU BB JABBA 102H - Slot BEU BB JABBA 102H
<b>Company:</b>	Delaware Basin Asset - Clean	<b>TVD Reference:</b>	BEU BB JABBA 102H Default @ 3543.0usft
<b>Project:</b>	Lea County, NM (NAD27)	<b>MD Reference:</b>	BEU BB JABBA 102H Default @ 3543.0usft
<b>Site:</b>	Bluebird	<b>North Reference:</b>	Grid
<b>Well:</b>	BEU BB JABBA 102H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BEU BB JABBA 102H		
<b>Design:</b>	BEU BB JABBA 102H		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
13,900.0	90.00	269.84	9,805.0	-1,143.3	-4,425.2	4,495.4	0.00	0.00	0.00	
14,000.0	90.00	269.84	9,805.0	-1,143.5	-4,525.2	4,595.2	0.00	0.00	0.00	
14,100.0	90.00	269.84	9,805.0	-1,143.8	-4,625.2	4,694.9	0.00	0.00	0.00	
14,200.0	90.00	269.84	9,805.0	-1,144.1	-4,725.2	4,794.7	0.00	0.00	0.00	
14,300.0	90.00	269.84	9,805.0	-1,144.4	-4,825.2	4,894.5	0.00	0.00	0.00	
14,400.0	90.00	269.84	9,805.0	-1,144.7	-4,925.2	4,994.2	0.00	0.00	0.00	
14,500.0	90.00	269.84	9,805.0	-1,144.9	-5,025.2	5,094.0	0.00	0.00	0.00	
14,600.0	90.00	269.84	9,805.0	-1,145.2	-5,125.2	5,193.8	0.00	0.00	0.00	
14,700.0	90.00	269.84	9,805.0	-1,145.5	-5,225.2	5,293.5	0.00	0.00	0.00	
14,800.0	90.00	269.84	9,805.0	-1,145.8	-5,325.2	5,393.3	0.00	0.00	0.00	
14,900.0	90.00	269.84	9,805.0	-1,146.0	-5,425.2	5,493.0	0.00	0.00	0.00	
15,000.0	90.00	269.84	9,805.0	-1,146.3	-5,525.2	5,592.8	0.00	0.00	0.00	
15,100.0	90.00	269.84	9,805.0	-1,146.6	-5,625.2	5,692.6	0.00	0.00	0.00	
15,200.0	90.00	269.84	9,805.0	-1,146.9	-5,725.2	5,792.3	0.00	0.00	0.00	
15,300.0	90.00	269.84	9,805.0	-1,147.2	-5,825.2	5,892.1	0.00	0.00	0.00	
15,400.0	90.00	269.84	9,805.0	-1,147.4	-5,925.2	5,991.9	0.00	0.00	0.00	
15,500.0	90.00	269.84	9,805.0	-1,147.7	-6,025.2	6,091.6	0.00	0.00	0.00	
15,600.0	90.00	269.84	9,805.0	-1,148.0	-6,125.2	6,191.4	0.00	0.00	0.00	
15,700.0	90.00	269.84	9,805.0	-1,148.3	-6,225.2	6,291.2	0.00	0.00	0.00	
15,800.0	90.00	269.84	9,805.0	-1,148.6	-6,325.2	6,390.9	0.00	0.00	0.00	
15,900.0	90.00	269.84	9,805.0	-1,148.8	-6,425.2	6,490.7	0.00	0.00	0.00	
16,000.0	90.00	269.84	9,805.0	-1,149.1	-6,525.2	6,590.5	0.00	0.00	0.00	
16,100.0	90.00	269.84	9,805.0	-1,149.4	-6,625.2	6,690.2	0.00	0.00	0.00	
16,200.0	90.00	269.84	9,805.0	-1,149.7	-6,725.2	6,790.0	0.00	0.00	0.00	
16,300.0	90.00	269.84	9,805.0	-1,150.0	-6,825.2	6,889.8	0.00	0.00	0.00	
16,400.0	90.00	269.84	9,805.0	-1,150.2	-6,925.2	6,989.5	0.00	0.00	0.00	
16,500.0	90.00	269.84	9,805.0	-1,150.5	-7,025.2	7,089.3	0.00	0.00	0.00	
16,600.0	90.00	269.84	9,805.0	-1,150.8	-7,125.2	7,189.1	0.00	0.00	0.00	
16,700.0	90.00	269.84	9,805.0	-1,151.1	-7,225.2	7,288.8	0.00	0.00	0.00	
16,800.0	90.00	269.84	9,805.0	-1,151.4	-7,325.2	7,388.6	0.00	0.00	0.00	
16,900.0	90.00	269.84	9,805.0	-1,151.6	-7,425.2	7,488.4	0.00	0.00	0.00	
17,000.0	90.00	269.84	9,805.0	-1,151.9	-7,525.2	7,588.1	0.00	0.00	0.00	
17,100.0	90.00	269.84	9,805.0	-1,152.2	-7,625.2	7,687.9	0.00	0.00	0.00	
17,200.0	90.00	269.84	9,805.0	-1,152.5	-7,725.2	7,787.6	0.00	0.00	0.00	
17,300.0	90.00	269.84	9,805.0	-1,152.8	-7,825.2	7,887.4	0.00	0.00	0.00	
17,400.0	90.00	269.84	9,805.0	-1,153.0	-7,925.2	7,987.2	0.00	0.00	0.00	
17,500.0	90.00	269.84	9,805.0	-1,153.3	-8,025.2	8,086.9	0.00	0.00	0.00	
17,600.0	90.00	269.84	9,805.0	-1,153.6	-8,125.2	8,186.7	0.00	0.00	0.00	
17,700.0	90.00	269.84	9,805.0	-1,153.9	-8,225.2	8,286.5	0.00	0.00	0.00	
17,800.0	90.00	269.84	9,805.0	-1,154.2	-8,325.2	8,386.2	0.00	0.00	0.00	
17,900.0	90.00	269.84	9,805.0	-1,154.5	-8,425.2	8,486.0	0.00	0.00	0.00	
18,000.0	90.00	269.84	9,805.0	-1,154.7	-8,525.2	8,585.8	0.00	0.00	0.00	
18,100.0	90.00	269.84	9,805.0	-1,155.0	-8,625.2	8,685.5	0.00	0.00	0.00	
18,200.0	90.00	269.84	9,805.0	-1,155.3	-8,725.2	8,785.3	0.00	0.00	0.00	
18,300.0	90.00	269.84	9,805.0	-1,155.6	-8,825.2	8,885.1	0.00	0.00	0.00	
18,400.0	90.00	269.84	9,805.0	-1,155.9	-8,925.2	8,984.8	0.00	0.00	0.00	
18,500.0	90.00	269.84	9,805.0	-1,156.2	-9,025.2	9,084.6	0.00	0.00	0.00	
18,600.0	90.00	269.84	9,805.0	-1,156.4	-9,125.2	9,184.4	0.00	0.00	0.00	
18,700.0	90.00	269.84	9,805.0	-1,156.7	-9,225.2	9,284.1	0.00	0.00	0.00	
18,800.0	90.00	269.84	9,805.0	-1,157.0	-9,325.2	9,383.9	0.00	0.00	0.00	
18,900.0	90.00	269.84	9,805.0	-1,157.3	-9,425.2	9,483.7	0.00	0.00	0.00	
19,000.0	90.00	269.84	9,805.0	-1,157.6	-9,525.2	9,583.4	0.00	0.00	0.00	
19,100.0	90.00	269.84	9,805.0	-1,157.9	-9,625.2	9,683.2	0.00	0.00	0.00	

# Halliburton

## Planning Report

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well BEU BB JABBA 102H - Slot BEU BB JABBA 102H
<b>Company:</b>	Delaware Basin Asset - Clean	<b>TVD Reference:</b>	BEU BB JABBA 102H Default @ 3543.0usft
<b>Project:</b>	Lea County, NM (NAD27)	<b>MD Reference:</b>	BEU BB JABBA 102H Default @ 3543.0usft
<b>Site:</b>	Bluebird	<b>North Reference:</b>	Grid
<b>Well:</b>	BEU BB JABBA 102H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BEU BB JABBA 102H		
<b>Design:</b>	BEU BB JABBA 102H		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
19,200.0	90.00	269.84	9,805.0	-1,158.1	-9,725.2	9,783.0	0.00	0.00	0.00	
19,300.0	90.00	269.84	9,805.0	-1,158.4	-9,825.2	9,882.7	0.00	0.00	0.00	
19,400.0	90.00	269.84	9,805.0	-1,158.7	-9,925.2	9,982.5	0.00	0.00	0.00	
19,500.0	90.00	269.84	9,805.0	-1,159.0	-10,025.2	10,082.3	0.00	0.00	0.00	
19,600.0	90.00	269.84	9,805.0	-1,159.3	-10,125.1	10,182.0	0.00	0.00	0.00	
19,700.0	90.00	269.84	9,805.0	-1,159.6	-10,225.1	10,281.8	0.00	0.00	0.00	
19,800.0	90.00	269.84	9,805.0	-1,159.8	-10,325.1	10,381.6	0.00	0.00	0.00	
19,900.0	90.00	269.84	9,805.0	-1,160.1	-10,425.1	10,481.3	0.00	0.00	0.00	
20,000.0	90.00	269.84	9,805.0	-1,160.4	-10,525.1	10,581.1	0.00	0.00	0.00	
20,100.0	90.00	269.84	9,805.0	-1,160.7	-10,625.1	10,680.8	0.00	0.00	0.00	
20,200.0	90.00	269.84	9,805.0	-1,161.0	-10,725.1	10,780.6	0.00	0.00	0.00	
20,300.0	90.00	269.84	9,805.0	-1,161.3	-10,825.1	10,880.4	0.00	0.00	0.00	
20,400.0	90.00	269.84	9,805.0	-1,161.6	-10,925.1	10,980.1	0.00	0.00	0.00	
20,500.0	90.00	269.84	9,805.0	-1,161.9	-11,025.1	11,079.9	0.00	0.00	0.00	
20,600.0	90.00	269.84	9,805.0	-1,162.1	-11,125.1	11,179.7	0.00	0.00	0.00	
20,700.0	90.00	269.84	9,805.0	-1,162.4	-11,225.1	11,279.4	0.00	0.00	0.00	
20,800.0	90.00	269.84	9,805.0	-1,162.7	-11,325.1	11,379.2	0.00	0.00	0.00	
20,900.0	90.00	269.84	9,805.0	-1,163.0	-11,425.1	11,479.0	0.00	0.00	0.00	
21,000.0	90.00	269.84	9,805.0	-1,163.3	-11,525.1	11,578.7	0.00	0.00	0.00	
21,100.0	90.00	269.84	9,805.0	-1,163.6	-11,625.1	11,678.5	0.00	0.00	0.00	
21,200.0	90.00	269.84	9,805.0	-1,163.9	-11,725.1	11,778.3	0.00	0.00	0.00	
21,300.0	90.00	269.84	9,805.0	-1,164.1	-11,825.1	11,878.0	0.00	0.00	0.00	
21,400.0	90.00	269.84	9,805.0	-1,164.4	-11,925.1	11,977.8	0.00	0.00	0.00	
21,500.0	90.00	269.84	9,805.0	-1,164.7	-12,025.1	12,077.6	0.00	0.00	0.00	
21,600.0	90.00	269.83	9,805.0	-1,165.0	-12,125.1	12,177.3	0.00	0.00	0.00	
21,700.0	90.00	269.83	9,805.0	-1,165.3	-12,225.1	12,277.1	0.00	0.00	0.00	
21,800.0	90.00	269.83	9,805.0	-1,165.6	-12,325.1	12,376.9	0.00	0.00	0.00	
21,900.0	90.00	269.83	9,805.0	-1,165.9	-12,425.1	12,476.6	0.00	0.00	0.00	
22,000.0	90.00	269.83	9,805.0	-1,166.2	-12,525.1	12,576.4	0.00	0.00	0.00	
22,100.0	90.00	269.83	9,805.0	-1,166.5	-12,625.1	12,676.2	0.00	0.00	0.00	
22,200.0	90.00	269.83	9,805.0	-1,166.7	-12,725.1	12,775.9	0.00	0.00	0.00	
22,300.0	90.00	269.83	9,805.0	-1,167.0	-12,825.1	12,875.7	0.00	0.00	0.00	
22,400.0	90.00	269.83	9,805.0	-1,167.3	-12,925.1	12,975.5	0.00	0.00	0.00	
22,500.0	90.00	269.83	9,805.0	-1,167.6	-13,025.1	13,075.2	0.00	0.00	0.00	
22,600.0	90.00	269.83	9,805.0	-1,167.9	-13,125.1	13,175.0	0.00	0.00	0.00	
22,700.0	90.00	269.83	9,805.0	-1,168.2	-13,225.1	13,274.8	0.00	0.00	0.00	
22,800.0	90.00	269.83	9,805.0	-1,168.5	-13,325.1	13,374.5	0.00	0.00	0.00	
22,900.0	90.00	269.83	9,805.0	-1,168.8	-13,425.1	13,474.3	0.00	0.00	0.00	
23,000.0	90.00	269.83	9,805.0	-1,169.1	-13,525.1	13,574.1	0.00	0.00	0.00	
23,100.0	90.00	269.83	9,805.0	-1,169.3	-13,625.1	13,673.8	0.00	0.00	0.00	
23,200.0	90.00	269.83	9,805.0	-1,169.6	-13,725.1	13,773.6	0.00	0.00	0.00	
23,300.0	90.00	269.83	9,805.0	-1,169.9	-13,825.1	13,873.4	0.00	0.00	0.00	
23,400.0	90.00	269.83	9,805.0	-1,170.2	-13,925.1	13,973.1	0.00	0.00	0.00	
23,500.0	90.00	269.83	9,805.0	-1,170.5	-14,025.1	14,072.9	0.00	0.00	0.00	
23,600.0	90.00	269.83	9,805.0	-1,170.8	-14,125.1	14,172.7	0.00	0.00	0.00	
23,700.0	90.00	269.83	9,805.0	-1,171.1	-14,225.1	14,272.4	0.00	0.00	0.00	
23,800.0	90.00	269.83	9,805.0	-1,171.4	-14,325.1	14,372.2	0.00	0.00	0.00	
23,900.0	90.00	269.83	9,805.0	-1,171.7	-14,425.1	14,472.0	0.00	0.00	0.00	
24,000.0	90.00	269.83	9,805.0	-1,172.0	-14,525.1	14,571.7	0.00	0.00	0.00	
24,100.0	90.00	269.83	9,805.0	-1,172.3	-14,625.1	14,671.5	0.00	0.00	0.00	
24,200.0	90.00	269.83	9,805.0	-1,172.6	-14,725.1	14,771.3	0.00	0.00	0.00	
24,300.0	90.00	269.83	9,805.0	-1,172.8	-14,825.1	14,871.0	0.00	0.00	0.00	
24,400.0	90.00	269.83	9,805.0	-1,173.1	-14,925.1	14,970.8	0.00	0.00	0.00	

# Halliburton

## Planning Report

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well BEU BB JABBA 102H - Slot BEU BB JABBA 102H
<b>Company:</b>	Delaware Basin Asset - Clean	<b>TVD Reference:</b>	BEU BB JABBA 102H Default @ 3543.0usft
<b>Project:</b>	Lea County, NM (NAD27)	<b>MD Reference:</b>	BEU BB JABBA 102H Default @ 3543.0usft
<b>Site:</b>	Bluebird	<b>North Reference:</b>	Grid
<b>Well:</b>	BEU BB JABBA 102H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BEU BB JABBA 102H		
<b>Design:</b>	BEU BB JABBA 102H		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
24,500.0	90.00	269.83	9,805.0	-1,173.4	-15,025.1	15,070.6	0.00	0.00	0.00	
24,600.0	90.00	269.83	9,805.0	-1,173.7	-15,125.1	15,170.3	0.00	0.00	0.00	
24,700.0	90.00	269.83	9,805.0	-1,174.0	-15,225.1	15,270.1	0.00	0.00	0.00	
24,800.0	90.00	269.83	9,805.0	-1,174.3	-15,325.1	15,369.8	0.00	0.00	0.00	
24,900.0	90.00	269.83	9,805.0	-1,174.6	-15,425.1	15,469.6	0.00	0.00	0.00	
25,000.0	90.00	269.83	9,805.0	-1,174.9	-15,525.1	15,569.4	0.00	0.00	0.00	
25,100.0	90.00	269.83	9,805.0	-1,175.2	-15,625.1	15,669.1	0.00	0.00	0.00	
25,200.0	90.00	269.83	9,805.0	-1,175.5	-15,725.1	15,768.9	0.00	0.00	0.00	
25,300.0	90.00	269.83	9,805.0	-1,175.8	-15,825.1	15,868.7	0.00	0.00	0.00	
25,400.0	90.00	269.83	9,805.0	-1,176.1	-15,925.1	15,968.4	0.00	0.00	0.00	
25,500.0	90.00	269.83	9,805.0	-1,176.4	-16,025.1	16,068.2	0.00	0.00	0.00	
25,600.0	90.00	269.83	9,805.0	-1,176.7	-16,125.1	16,168.0	0.00	0.00	0.00	
25,700.0	90.00	269.83	9,805.0	-1,176.9	-16,225.1	16,267.7	0.00	0.00	0.00	
25,800.0	90.00	269.83	9,805.0	-1,177.2	-16,325.1	16,367.5	0.00	0.00	0.00	
25,900.0	90.00	269.83	9,805.0	-1,177.5	-16,425.1	16,467.3	0.00	0.00	0.00	
25,958.9	90.00	269.83	9,805.0	-1,177.7	-16,484.1	16,526.1	0.00	0.00	0.00	
TD at 25958.9										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
FTP 5-4-1 - hit/miss target - Shape - plan hits target center - Rectangle (sides W200.0 H50.0 D0.0)	90.00	31.26	9,805.0	-1,133.4	-819.6	564,100.56	675,842.12	32° 32' 58.291 N	103° 45' 45.595 W	
BHL 5-4-1 - plan hits target center - Rectangle (sides W200.0 H50.0 D0.0)	90.00	85.34	9,805.0	-1,177.7	-16,484.1	564,056.23	660,177.63	32° 32' 58.646 N	103° 48' 48.603 W	

Casing Points						Casing Diameter (")	Hole Diameter (")
Measured Depth (usft)	Vertical Depth (usft)	Name					
1,100.0	1,100.0	18.75				18-3/4	18-3/4

# Halliburton

## Planning Report

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well BEU BB JABBA 102H - Slot BEU BB JABBA 102H
<b>Company:</b>	Delaware Basin Asset - Clean	<b>TVD Reference:</b>	BEU BB JABBA 102H Default @ 3543.0usft
<b>Project:</b>	Lea County, NM (NAD27)	<b>MD Reference:</b>	BEU BB JABBA 102H Default @ 3543.0usft
<b>Site:</b>	Bluebird	<b>North Reference:</b>	Grid
<b>Well:</b>	BEU BB JABBA 102H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BEU BB JABBA 102H		
<b>Design:</b>	BEU BB JABBA 102H		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,750.0	2,750.0	0.0	0.0	Start Build 2.00
3,000.0	2,999.7	-8.9	6.3	Start 250.0 hold at 3000.0 MD
3,250.0	3,248.7	-26.8	18.8	Start Drop -2.00
3,500.0	3,498.4	-35.7	25.0	Start 1050.0 hold at 3500.0 MD
4,550.0	4,548.4	-35.7	25.0	Start Build 2.00
5,398.5	5,384.5	-156.9	-4.5	Start 3010.4 hold at 5398.5 MD
8,408.9	8,263.9	-1,010.6	-212.1	Start Drop -2.00
9,257.4	9,100.0	-1,131.8	-241.6	Start 132.0 hold at 9257.4 MD
9,389.4	9,232.0	-1,131.8	-241.6	Start Build 10.00
10,289.4	9,805.0	-1,133.4	-814.6	Start DLS 0.00 TFO -90.11
25,958.9	9,805.0	-1,177.7	-16,484.1	TD at 25958.9

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

Description of Operations:

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

**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.

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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 <sup>ac</sup> psig (MPa)	Pressure Test—High Pressure <sup>ac</sup>	
		Change Out of Component, Elastomer, or Ring Gasket	No Change Out of Component, Elastomer, or Ring Gasket
Annular preventer <sup>b</sup>	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 <sup>bd</sup>	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 <sup>e</sup>	250 to 350 (1.72 to 2.41)	RWP of ram preventers or wellhead system, whichever is lower	ITP
Choke manifold—downstream of chokes <sup>e</sup>	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	

<sup>a</sup> 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.

<sup>b</sup> Annular(s) and VBR(s) shall be pressure tested on the largest and smallest OD drill pipe to be used in well program.

<sup>c</sup> 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.

<sup>d</sup> 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.

<sup>e</sup> Adjustable chokes are not required to be full sealing devices. Pressure testing against a closed choke is not required.

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

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

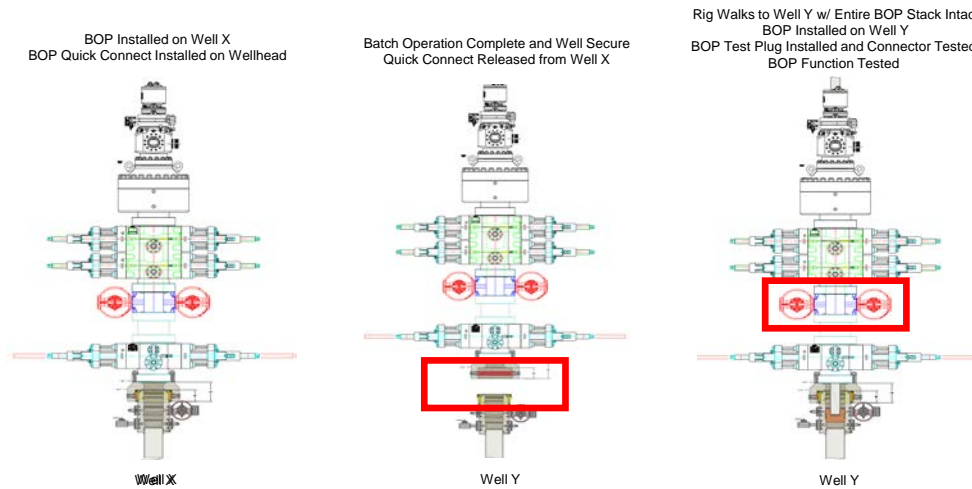
XTO Energy feels break testing and our current procedures meet the intent of OOGO No. 2 and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. XTO Energy's internal standards requires complete BOPE tests more often than that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

### **Procedures**

1. XTO Energy will use this document for our break testing plan for New Mexico Delaware basin. The summary below will be referenced in the APD or Sundry Notice and receive approval prior to implementing this variance.
2. XTO Energy will perform BOP break testing on multi-wells pads where multiple intermediate sections can be drilled and cased within the 21-day BOP test window.
  - a. A full BOP test will be conducted on the first well on the pad.
  - b. The first intermediate hole section drilled on the pad will be the deepest. All of the remaining hole sections will be the same depth or shallower.
    - i. Our Lower WC targets set the intermediate casing shoe no deeper than the Wolfcamp B.
    - ii. Our Upper WC targets set the intermediate casing shoe shallower than the Wolfcamp B.
  - c. A Full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
  - d. A full BOP test will be required prior to drilling any production hole.
3. After performing a complete BOP test on the first well, the intermediate hole section will be drilled and cased, two breaks would be made on the BOP equipment.
  - a. Between the HCV valve and choke line connection
  - b. Between the BOP quick connect and the wellhead
4. The BOP is then lifted and removed from the wellhead by a hydraulic system.
5. After skidding to the next well, the BOP is moved to the wellhead by the same hydraulic system and installed.
6. The connections mentioned in 3a and 3b will then be reconnected.
7. Install test plug into the wellhead using test joint or drill pipe.
8. A shell test is performed against the upper pipe rams testing the two breaks.
9. The shell test will consist of a 250 psi low test and a high test to the value submitted in the APD or Sundry (e.g. 5,000 psi or 10,000psi).
10. Function test will be performed on the following components: lower pipe rams, blind rams, and annular.

11. For a multi-well pad the same two breaks on the BOP would be made and on the next wells and steps 4 through 10 would be repeated.
12. A second break test would only be done if the intermediate hole section being drilled could not be completed within the 21 day BOP test window.

*Note: Picture below highlights BOP components that will be tested during batch operations*



## Summary

A variance is requested to **ONLY** test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53. API Standard 53 states, that for pad drilling operation, moving from one wellhead to another within 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

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

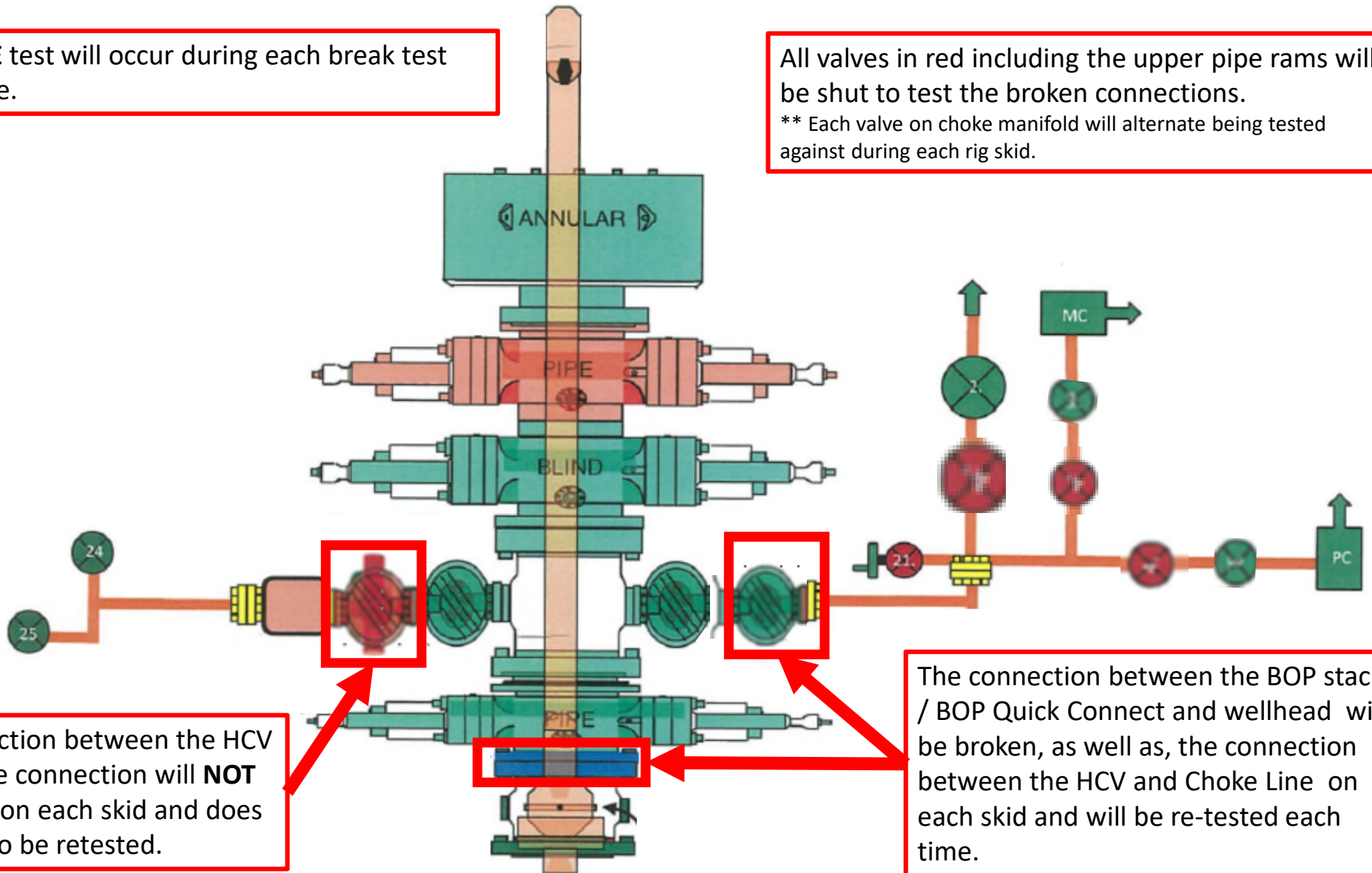
Based on discussions with the BLM on February 27th 2020 and the supporting documentation submitted to the BLM, we will request permission to **ONLY** retest broken pressure seals if the following conditions are met:

1. After a full BOP test is conducted on the first well on the pad.
2. The first intermediate hole section drilled on the pad will be the deepest. All of the remaining hole sections will be the same depth or shallower.
3. Full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
4. Full BOP test will be required prior to drilling the production hole.

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

All valves in red including the upper pipe rams will be shut to test the broken connections.

\*\* Each valve on choke manifold will alternate being tested against during each rig skid.



The connection between the HCV and kill line connection will **NOT** be broken on each skid and does not need to be retested.

The connection between the BOP stack / BOP Quick Connect and wellhead will be broken, as well as, the connection between the HCV and Choke Line on each skid and will be re-tested each time.

## **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.

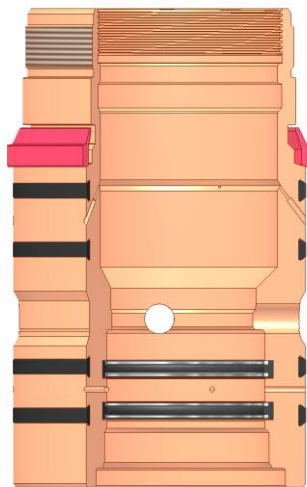
### **1. Cement Program**

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

### **2. Offline Cementing Procedure**

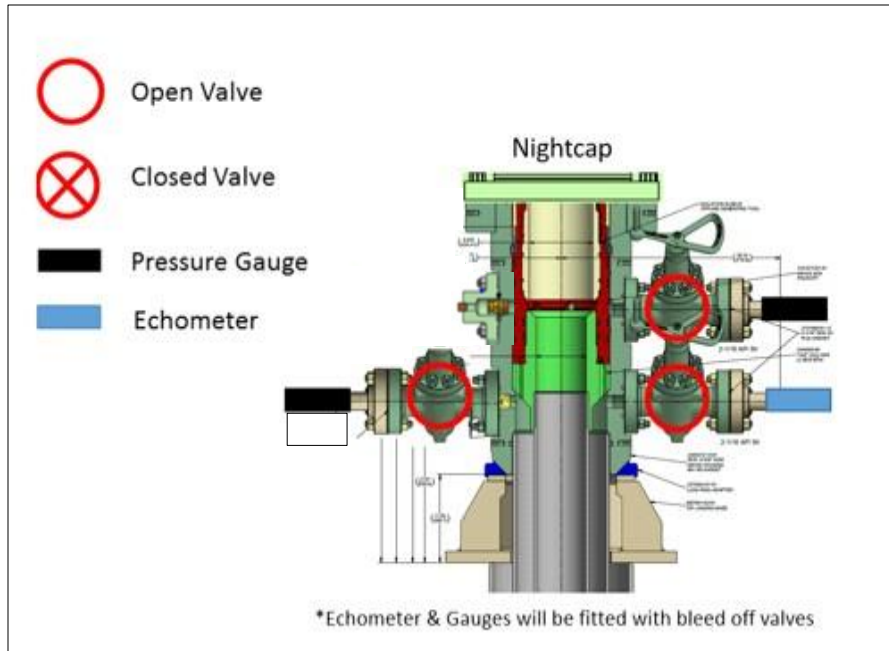
The operational sequence will be as follows. If a well control event occurs, the BLM will be contacted for approval prior to conducting offline cementing operations.

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 nipped 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

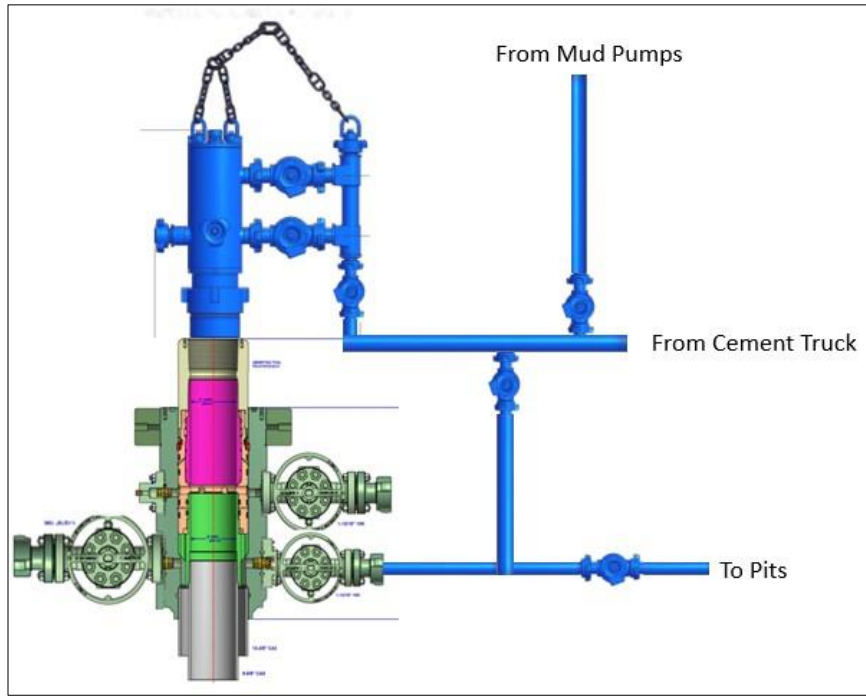
## XTO Permian Operating, LLC Offline Cementing Variance Request



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 nipping 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 3<sup>rd</sup> party pump will be tied into the upper casing valve to pump down the casing ID
    - iii. A high pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
    - iv. Once influx is circulated out of the hole, kill weight mud will be circulated
    - v. Well will be confirmed static
    - vi. Once confirmed static, cap flange will be removed to allow for offline cementing operations to commence
8. Install offline cement tool
9. Rig up cement equipment

## XTO Permian Operating, LLC Offline Cementing Variance Request



Wellhead diagram during offline cementing operations

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