

**OCD - HOBBS**  
**06/02/2020**  
**RECEIVED**

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**APPLICATION FOR PERMIT TO DRILL OR REENTER**

1a. Type of work: <input type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No.
1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator <b>[373075]</b>		8. Lease Name and Well No. <b>[328261]</b>
3a. Address	3b. Phone No. (include area code)	9. API Well No. <b>30-025-47227</b>
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		10. Field and Pool, or Exploratory <b>[53560]</b> <b>XXXXXXXX</b>
14. Distance in miles and direction from nearest town or post office*		11. Sec., T. R. M. or Blk. and Survey or Area
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)		12. County or Parish
16. No of acres in lease		13. State
17. Spacing Unit dedicated to this well		
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.		20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
24. Attachments		

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

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

25. Signature	Name (Printed/Typed)	Date
Title		
Approved by (Signature)	Name (Printed/Typed)	Date
Title		
Office		

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

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

**GCP Rec 06/02/2020**

SL

**APPROVED WITH CONDITIONS**  
**Approval Date: 12/23/2019**

*Kz*  
**06/05/2020**

**PECOS DISTRICT  
DRILLING CONDITIONS OF APPROVAL**

<b>OPERATOR'S NAME:</b>	<b>XTO Permian Operating, LLC.</b>
<b>LEASE NO.:</b>	<b>NMNM-033955</b>
<b>WELL NAME &amp; NO.:</b>	<b>Big Eddy Unit DI BB Jaba 103H</b>
<b>SURFACE HOLE FOOTAGE:</b>	<b>0270' FSL &amp; 0610' FWL</b>
<b>BOTTOM HOLE FOOTAGE:</b>	<b>1980' FNL &amp; 0050 FWL Sec. 30, T.20 S., R.32 E.</b>
<b>LOCATION:</b>	<b>Section 22, T.20 S., R.32 E., NMPM</b>
<b>COUNTY:</b>	<b>Lea County, New Mexico</b>

COA

H2S	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Potash	<input type="radio"/> None	<input type="radio"/> Secretary	<input checked="" type="radio"/> R-111-P
Cave/Karst Potential	<input checked="" type="radio"/> Low	<input type="radio"/> Medium	<input type="radio"/> High
Cave/Karst Potential	<input type="radio"/> Critical		
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both
Other	<input checked="" type="checkbox"/> 4 String Area	<input checked="" type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP
Other	<input checked="" type="checkbox"/> Fluid Filled	<input type="checkbox"/> Cement Squeeze	<input type="checkbox"/> Pilot Hole
Special Requirements	<input type="checkbox"/> Water Disposal	<input type="checkbox"/> COM	<input checked="" type="checkbox"/> Unit

**A. HYDROGEN SULFIDE**

1. 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.

**R-111-P Potash**

**Capitan Reef**

**Possibility of water flows in the Artesia Group and Salado.**

**Possibility of lost circulation in the Rustler, Artesia Group, and Capitan Reef.**

**Abnormal pressures expected to be encountered at the Base of the 3rd Bone Springs/Top of the Wolfcamp**

## 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. **If salt is encountered, set casing at least 25 feet above the salt.**
  - 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 **24 hours in the Potash Area** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **13-3/8** inch 1<sup>st</sup> intermediate casing, which shall be set at approximately **2800** feet, 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 potash.**

**9-5/8'' 2<sup>nd</sup> Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.**

3. The minimum required fill of cement behind the **9-5/8** inch 2<sup>nd</sup> intermediate casing is:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. 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, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Capitan Reef and potash.**
- ❖ In R111 Potash Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
- ❖ In Capitan Reef Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
4. The minimum required fill of cement behind the **5-1/2** inch production casing is:
- Cement should tie-back at least **50 feet** on top of Capitan Reef top (top estimated at 3,248'). If cement does not circulate see B.1.a, c-d above.

### 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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.
3. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the 13-3/8'' 1<sup>st</sup> intermediate casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 1<sup>st</sup> intermediate 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.

## **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)

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 2<sup>nd</sup> 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.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. 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.
4. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
5. 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.

6. 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.
7. 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.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. 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).
  - b. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer.

- c. 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.
- d. The results of the test shall be reported to the appropriate BLM office.
- e. 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.
- f. 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.
- g. 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.

**JAM 120519**



## Operator Certification

*I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.*

NAME: Stephanie Rabadue

Signed on: 06/15/2018

Title: Regulatory Coordinator

Street Address: 500 W. Illinois St, Ste 100

City: Midland

State: TX

Zip: 79701

Phone: (432)620-6714

Email address: stephanie\_rabadue@xtoenergy.com

## Field Representative

Representative Name:

Street Address:

City:

State:

Zip:

Phone:

Email address:



APD ID: 10400046300

Submission Date: 08/22/2019

Highlighted data reflects the most recent changes

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI BB JABBA

Well Number: 103H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

### Section 1 - General

APD ID: 10400046300

Tie to previous NOS? N

Submission Date: 08/22/2019

BLM Office: CARLSBAD

User: Stephanie Rabadue

Title: Regulatory Coordinator

Federal/Indian APD: FED

Is the first lease penetrated for production Federal or Indian? FED

Lease number: NMNM033955

Lease Acres: 1280

Surface access agreement in place?

Allotted?

Reservation:

Agreement in place? YES

Federal or Indian agreement: FEDERAL

Agreement number: NMNM068294X

Agreement name:

Keep application confidential? NO

Permitting Agent? NO

APD Operator: XTO PERMIAN OPERATING LLC

**Operator letter of designation:**

### Operator Info

Operator Organization Name: XTO PERMIAN OPERATING LLC

Operator Address: 6401 Holiday Hill Road, Bldg 5

Zip: 79707

Operator PO Box:

Operator City: Midland

State: TX

Operator Phone: (432)682-8873

Operator Internet Address:

### Section 2 - Well Information

Well in Master Development Plan? NO

Master Development Plan name:

Well in Master SUPO? NO

Master SUPO name:

Well in Master Drilling Plan? NO

Master Drilling Plan name:

Well Name: BIG EDDY UNIT DI BB JABBA

Well Number: 103H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: GATUNA CANYON; Pool Name: BONE SPRING

Is the proposed well in an area containing other mineral resources? USEABLE WATER,POTASH

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI BB JABBA

Well Number: 103H

Is the proposed well in an area containing other mineral resources? USEABLE WATER,POTASH

Is the proposed well in a Helium production area? N

Use Existing Well Pad? Y

New surface disturbance? N

Type of Well Pad: MULTIPLE WELL

Multiple Well Pad Name: BEU BB Number: 1

Well Class: HORIZONTAL

Number of Legs: 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: DELINEATION

Describe sub-type:

Distance to town: 24.38 Miles

Distance to nearest well: 30 FT

Distance to lease line: 270 FT

Reservoir well spacing assigned acres Measurement: 480 Acres

Well plat: BEU\_BB\_Jabba\_103H\_C102\_20190821165736.pdf

Well work start Date: 05/01/2019

Duration: 90 DAYS

### Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83

Vertical Datum: NAVD88

Survey number:

Reference Datum: GROUND LEVEL

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
SHL Leg #1	270	FSL	610	FW L	20S	32E	22	Aliquot SWS W	32.5522	- 103.7606 77	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 033955	353 0	0	0	N
KOP Leg #1	270	FSL	610	FW L	20S	32E	22	Aliquot SWS W	32.5522	- 103.7606 77	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 033955	153 0	200 0	200 0	N
PPP Leg #1-1	198 0	FNL	330	FW L	20S	32E	28	Aliquot SENW	32.54787	- 103.7755 3	LEA	NEW MEXI CO	NEW MEXI CO	F	NMLC0 065752 A	- 625 6	128 00	978 6	Y

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI BB JABBA

Well Number: 103H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
PPP Leg #1-2	1980	FNL	100	FEL	20S	32E	28	Aliquot SWNE	32.546018	-103.762985	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC065750A	-6196	10150	9726	Y
PPP Leg #1-3	330	FNL	1980	FWL	20S	32E	27	Aliquot NENE	32.5504	-103.76189	LEA	NEW MEXICO	NEW MEXICO	F	NMNM015024	730	2800	2800	N
EXIT Leg #1	1980	FNL	100	FWL	20S	32E	30	Lot 2	32.546115	-103.813833	LEA	NEW MEXICO	NEW MEXICO	F	NMLC065751A	-6138	26138	9668	Y
BHL Leg #1	1980	FNL	50	FWL	20S	32E	30	Lot 2	32.546116	-103.813995	LEA	NEW MEXICO	NEW MEXICO	F	NMLC065751A	-6138	26188	9668	Y

APD ID: 10400046300

Submission Date: 08/22/2019

Highlighted data reflects the most recent changes

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI BB JABBA

Well Number: 103H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

## Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
520923	PERMIAN	3530	0	0	OTHER : Alluvium	NONE	N
520914	RUSTLER	2578	952	952	SILTSTONE	USEABLE WATER	N
520915	TOP SALT	2303	1227	1227	SALT	OTHER, POTASH	N
520916	BASE OF SALT	958	2572	2572	SALT	OTHER, POTASH	N
520932	CAPITAN REEF	305	3225	3225	LIMESTONE	USEABLE WATER	N
520912	DELAWARE	-1189	4719	4719	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
520930	BRUSHY CANYON	-2649	6179	6179	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
520913	BONE SPRING	-4192	7722	7722	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
520928	BONE SPRING 1ST	-5272	8802	8802	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
520927	BONE SPRING 2ND	-5586	9116	9116	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	Y

## Section 2 - Blowout Prevention

Pressure Rating (PSI): 2M

Rating Depth: 1177

Equipment: The blow out preventer equipment (BOP) for this well consists of a 21-1/4 minimum 2M Hydril and a 21-1/4 minimum 2M Double Ram BOP.

Requesting Variance? YES

Variance request: A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturers 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. 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 manufacturers 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

Testing Procedure: All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 50% of the working pressure. When nipping up, the BOP test will be limited to 2,000 psi. All BOP tests will include a low

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI BB JABBA

Well Number: 103H

pressure test as per BLM regulations. The 2M BOP diagram is attached. Blind rams will be function tested each trip, pipe rams will be function tested each day.

**Choke Diagram Attachment:**

BEU\_BB\_2MCM\_20190816053523.pdf

**BOP Diagram Attachment:**

BEU\_BB\_2MBOP\_20191204062718.pdf

Pressure Rating (PSI): 3M

Rating Depth: 9668

Equipment: The blow out preventer equipment (BOP) for this well consists of a 13-5/8" minimum 3M Hydril and a 13-5/8" minimum 3M Double Ram BOP.

Requesting Variance? YES

Variance request: A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test chart will be kept on the rig. Attached is an example of a certification and pressure test chart. The manufacturer does not require anchors. XTO requests to utilize centralizers only in the curve after the KOP and only a minimum of one every other joint. 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

Testing Procedure: All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 50% of the working pressure. When nipping up, the BOP test will be limited to 3,000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 3M BOP diagram is attached. Blind rams will be function tested each trip, pipe rams will be function tested each day.

**Choke Diagram Attachment:**

BEU\_BB\_3MCM\_20190816053551.pdf

**BOP Diagram Attachment:**

BEU\_BB\_3MBOP\_20190816053558.pdf

### Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	24	18.625	NEW	API	N	0	1177	0	1177	3530	2353	1177	H-40	87.5	ST&C	1.17	2	DRY	5.43	DRY	5.43
2	INTERMEDIATE	17.5	13.375	NEW	API	N	0	2672	0	2672		858	2672	J-55	68	ST&C	2.36	3.01	DRY	3.71	DRY	3.71
3	INTERMEDIATE	12.25	9.625	NEW	API	N	0	4819	0	4819		-1289	4819	J-55	40	LT&C	3.77	2.37	DRY	3.77	DRY	3.77

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI BB JABBA

Well Number: 103H

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
4	PRODUCTI ON	8.75	5.5	NEW	API	N	0	25933	0	9655		-6125	25933	P- 110	17	BUTT	1.64	1.12	DRY	2.03	DRY	2.03

### Casing Attachments

---

**Casing ID:** 1      **String Type:** SURFACE

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

BEU\_BB\_Jabba\_103H\_Csg\_20190821165338.pdf

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**Casing ID:** 2      **String Type:** INTERMEDIATE

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

BEU\_BB\_Jabba\_103H\_Csg\_20190821165350.pdf

---

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI BB JABBA

Well Number: 103H

### Casing Attachments

**Casing ID:** 3      **String Type:** INTERMEDIATE

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

BEU\_BB\_Jabba\_103H\_Csg\_20190821165316.pdf

**Casing ID:** 4      **String Type:** PRODUCTION

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

BEU\_BB\_Jabba\_103H\_Csg\_20190821165415.pdf

### Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	1177	1170	1.87	12.9	2187.9	100	EconoCem-HLTRRC	None
SURFACE	Tail				550	1.35	14.8	742.5	100	HalCem-C	2% CaCl
INTERMEDIATE	Lead		0	2672	1760	1.87	12.9	3291.2	100	EconoCem-HLTRRC	None
INTERMEDIATE	Tail				300	1.35	14.8	405	100	HalCem-C	2% CaCl
INTERMEDIATE	Lead	2722	0	2722	530	1.88	12.9	996.4	100	Halcem-C	2% CaCl

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI BB JABBA

Well Number: 103H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Tail				230	1.33	14.8	305.9	100	Halcem-C	2% CaCl
INTERMEDIATE	Lead	2722	4819	2722	740	1.88	12.9	1391.2	100	Halcem-C	2% CaCl
INTERMEDIATE	Tail				230	1.33	14.8	305.9	100	Halcem-C	2% CaCl
PRODUCTION	Lead		0	26188	800	2.69	10.5	2152	30	NeoCem	none
PRODUCTION	Tail				3530	1.61	13.2	5683.3	30	VersaCem	None

### Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

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

Describe the mud monitoring system utilized: A Pason or Totco will be used to detect changes in loss or gain of mud volume.

### Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	1177	OTHER : FW/Native	8.4	8.8							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

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI BB JABBA

Well Number: 103H

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
4819	9668	OTHER : OBM / Cut Brine / Polymer	8.7	9							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
1177	2672	OTHER : Brine/Gel Sweeps	9.8	10.2							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
2672	4819	OTHER : FW/Cut Brine / Poly-Sweeps	8.7	9.4							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

## Section 6 - Test, Logging, Coring

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

Open hole logging to include Density/Neutron/PE/Dual Laterlog/Spectral Gamma from kick-off point to intermediate casing shoe.

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

CEMENT BOND LOG,COMPENSATED NEUTRON LOG,DIRECTIONAL SURVEY,GAMMA RAY LOG,

### Coring operation description for the well:

No coring will take place on this well.

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI BB JABBA

Well Number: 103H

## Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4373

Anticipated Surface Pressure: 2222

Anticipated Bottom Hole Temperature(F): 160

Anticipated abnormal pressures, temperatures, or potential geologic hazards? YES

### Describe:

Potential loss of circulation through the Capitan Reef.

### Contingency Plans geohazards description:

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

### Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

### Hydrogen sulfide drilling operations plan:

BEU\_BB\_H2S\_Dia\_20190821070715.pdf

BEU\_BB\_H2S\_Plan\_20190821070722.pdf

## Section 8 - Other Information

### Proposed horizontal/directional/multi-lateral plan submission:

BEU\_BB\_Jabba\_103H\_DD\_20190821165645.pdf

### Other proposed operations facets description:

### Other proposed operations facets attachment:

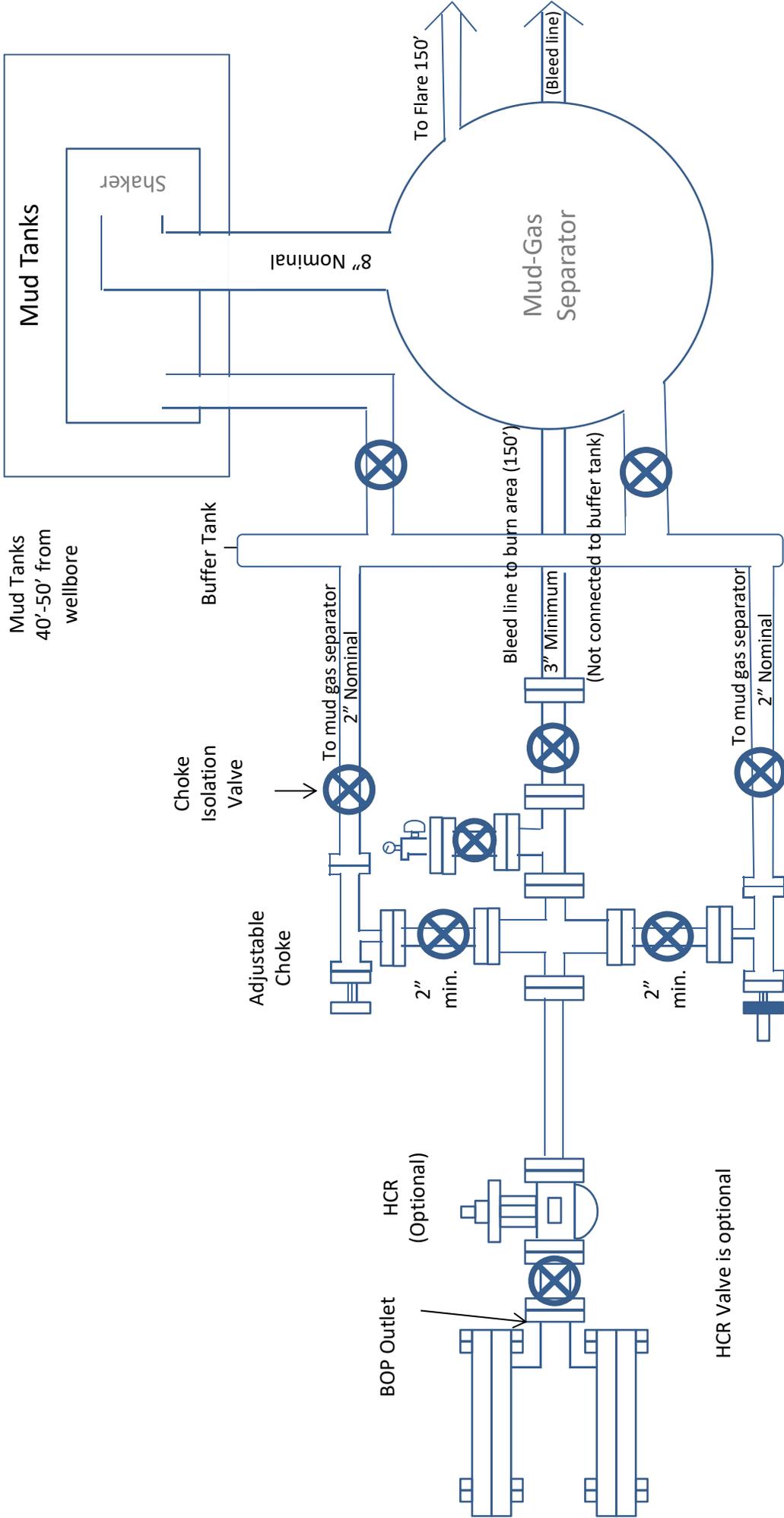
BEU\_BB\_Jabba\_103H\_GCP\_20190821165655.pdf

### Other Variance attachment:

BEU\_BB\_FH\_20190821070830.pdf

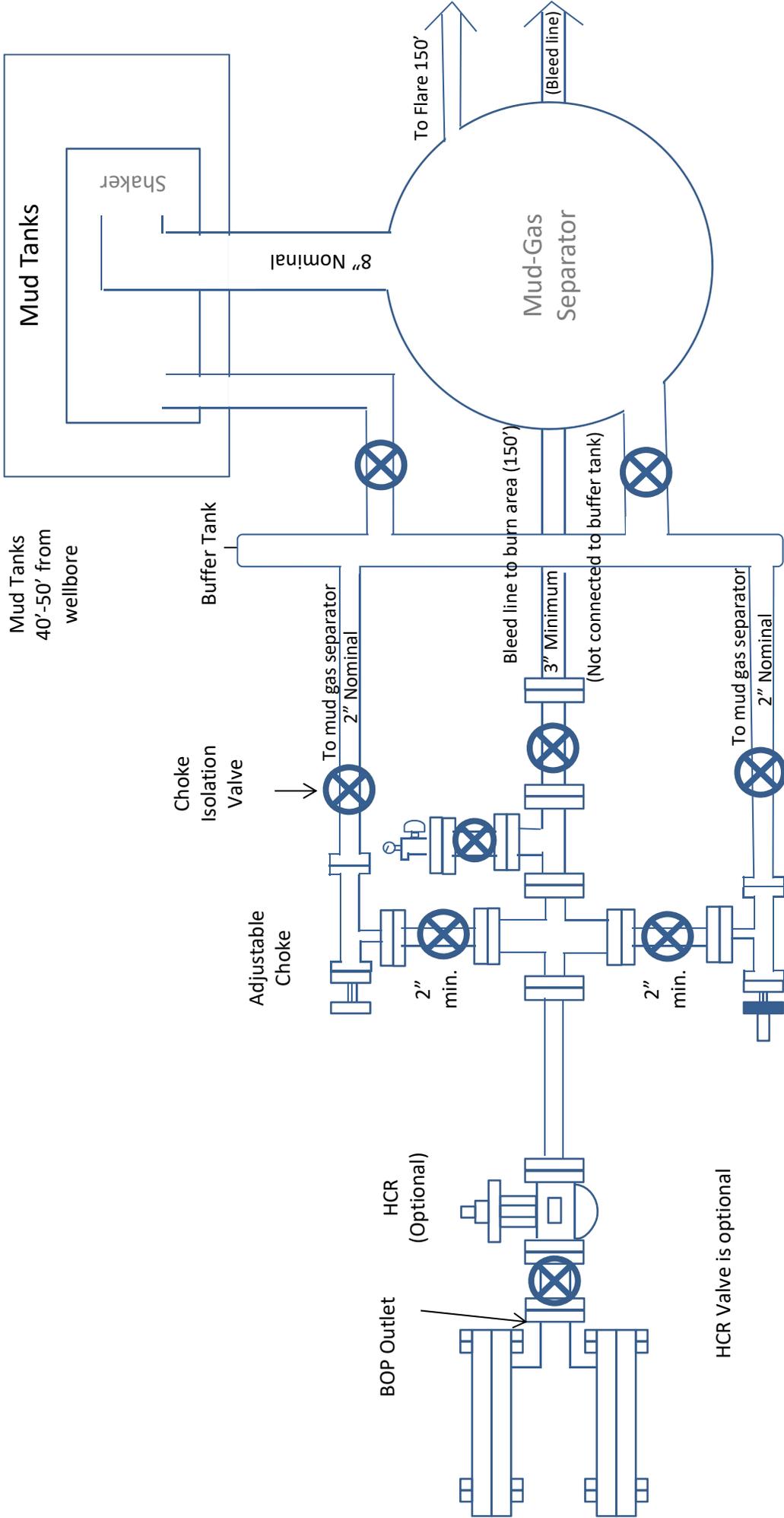
BEU\_BB\_MBS\_20190821070837.pdf





2M & 3M Choke Manifold Diagram  
XTO

**Drilling Operations  
Choke Manifold  
2M & 3M Service**



2M & 3M Choke Manifold Diagram  
XTO

**Drilling Operations  
Choke Manifold  
2M & 3M Service**

REMOTELY  
OPERATED  
Adjustable  
Choke

HCR Valve is optional

BOP Outlet

HCR  
(Optional)

Adjustable  
Choke

Choke  
Isolation  
Valve

Mud Tanks  
40'-50' from  
wellbore

Mud Tanks

Shaker

8" Nominal

To Flare 150'

(Bleed line)

Mud-Gas  
Separator

150'

Bleed line to burn area (150')

3" Minimum

(Not connected to buffer tank)

Buffer Tank

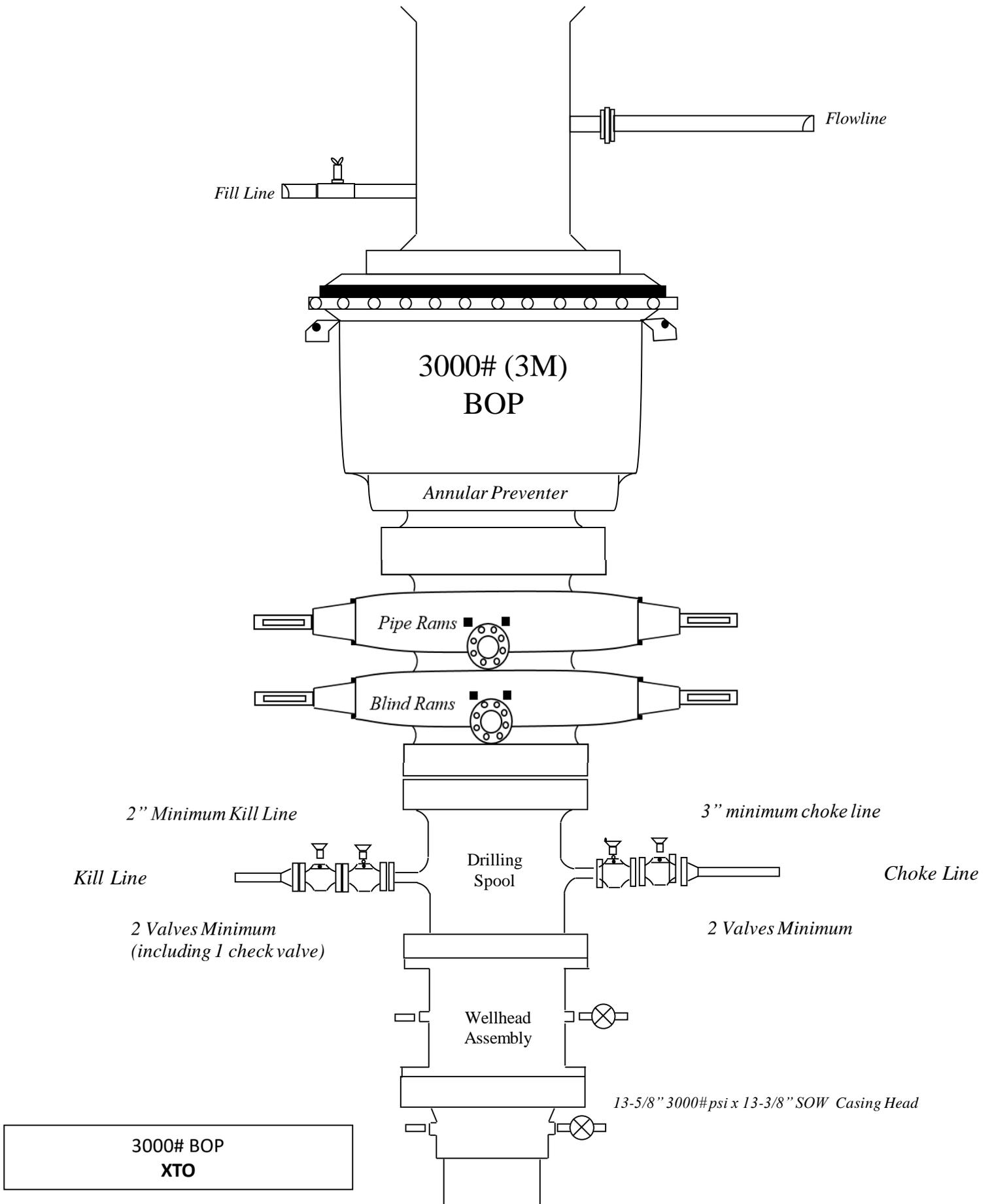
To mud gas separator

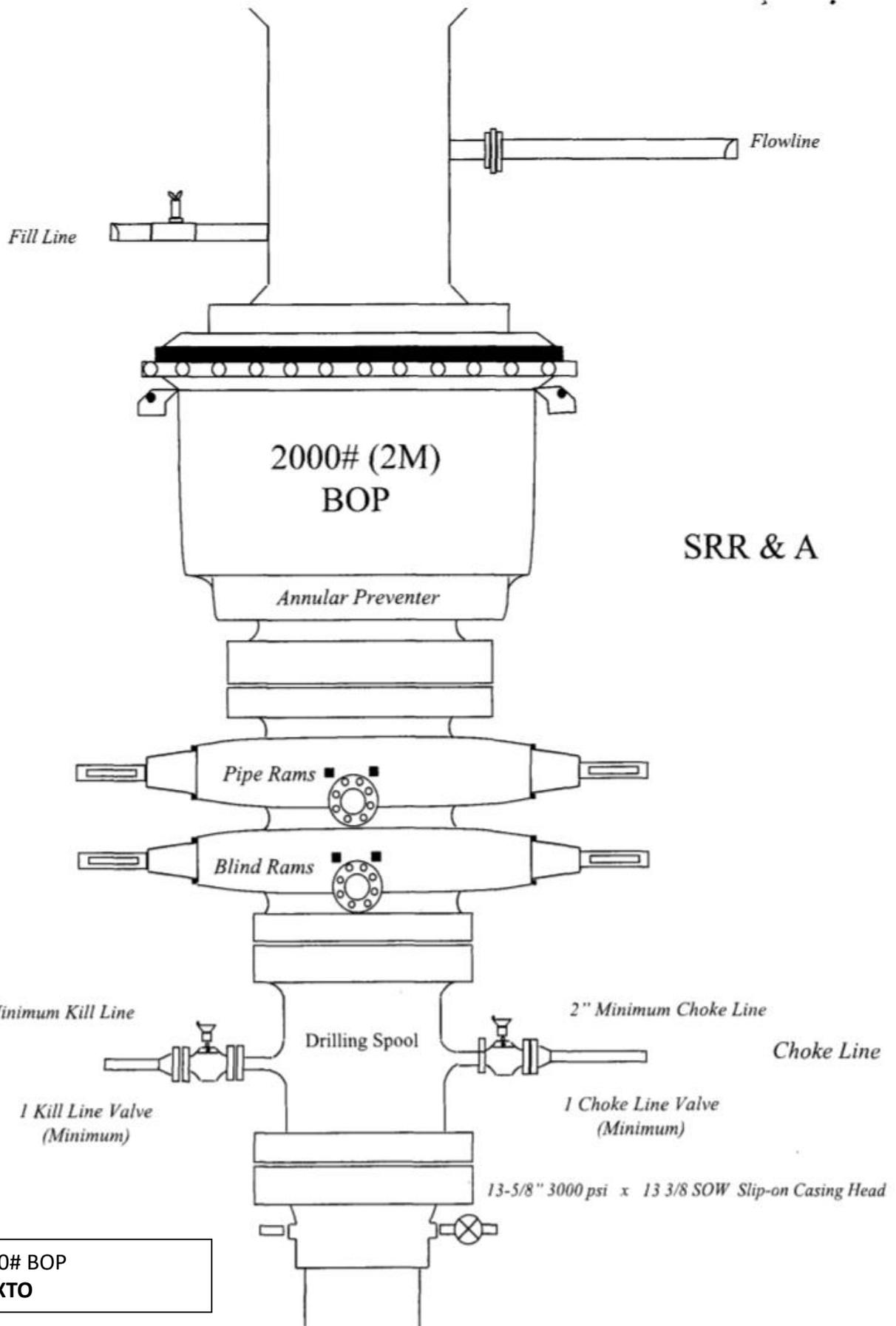
2" Nominal

To mud gas separator

2" Nominal

Choke  
Isolation  
Valve





SRR & A

2000# BOP  
XTO

**Casing Design**

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
24"	0' – 1177'	18-5/8"	87.5	STC	H-40	New	2.00	1.17	5.43
17-1/2"	0' – 2672'	13-3/8"	68	STC	J-55	New	3.01	2.36	3.71
12-1/4"	0' – 4819'	9-5/8"	40	LTC	J-55	New	2.37	3.77	3.77
8-3/4"	0' – 25969'	5-1/2"	17	BTC	P-110	New	1.12	1.64	2.04

- XTO requests to not utilize centralizers in the curve and lateral
- 13-3/8" Collapse analyzed using 50% evacuation based on regional experience.
- 9-5/8" Collapse analyzed using 33% 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
- Test on 2M Annular & Casing will be limited to 70% burst of the casing or 1500 psi, whichever is less

**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

**Casing Design**

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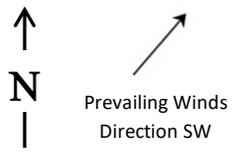
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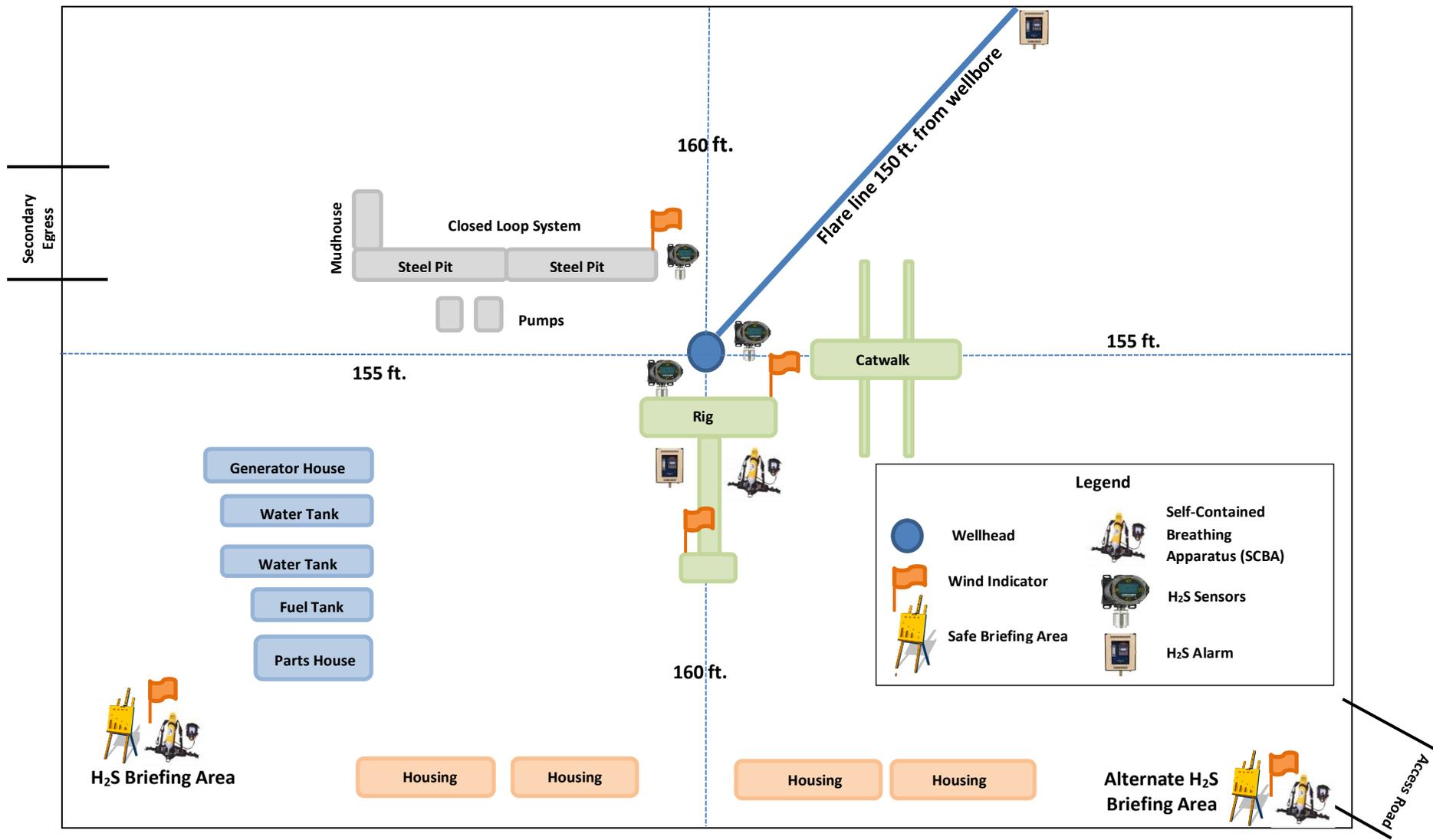
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# H2S Briefing Areas and Alarm Locations





## **HYDROGEN SULFIDE (H<sub>2</sub>S) CONTINGENCY PLAN**

### **Assumed 100 ppm ROE = 3000'**

100 ppm H<sub>2</sub>S concentration shall trigger activation of this plan.

#### **Emergency Procedures**

In the event of a release of gas containing H<sub>2</sub>S, the first responder(s) must

- Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- Evacuate any public places encompassed by the 100 ppm ROE.
- Be equipped with H<sub>2</sub>S monitors and air packs in order to control the release.
- Use the “buddy system” to ensure no injuries occur during the response
- Take precautions to avoid personal injury during this operation.
- Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- Have received training in the
  - o Detection of H<sub>2</sub>S, and
  - o Measures for protection against the gas,
  - o Equipment used for protection and emergency response.

#### **Ignition of Gas source**

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO<sub>2</sub>). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever this is an ignition of the gas.

#### **Characteristics of H<sub>2</sub>S and SO<sub>2</sub>**

<b>Common Name</b>	<b>Chemical Formula</b>	<b>Specific Gravity</b>	<b>Threshold Limit</b>	<b>Hazardous Limit</b>	<b>Lethal Concentration</b>
<b>Hydrogen Sulfide</b>	<b>H<sub>2</sub>S</b>	<b>1.189 Air = 1</b>	<b>10 ppm</b>	<b>100 ppm/hr</b>	<b>600 ppm</b>
<b>Sulfur Dioxide</b>	<b>SO<sub>2</sub></b>	<b>2.21 Air = 1</b>	<b>2 ppm</b>	<b>N/A</b>	<b>1000 ppm</b>

#### **Contacting Authorities**

All XTO location personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available including directions to site. The following call list of essential and potential responders has been prepared for use during a release. (Operator Name)'s response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER).

## CARLSBAD OFFICE – EDDY & LEA COUNTIES

3104 E. Greene St., Carlsbad, NM 88220  
Carlsbad, NM

575-887-7329

### **XTO PERSONNEL:**

Kendall Decker, Drilling Manager	903-521-6477
Milton Turman, Drilling Superintendent	817-524-5107
Jeff Raines, Construction Foreman	432-557-3159
Toady Sanders, EH & S Manager	903-520-1601
Wes McSpadden, Production Foreman	575-441-1147

### **SHERIFF DEPARTMENTS:**

Eddy County	575-887-7551
Lea County	575-396-3611

### **NEW MEXICO STATE POLICE:**

575-392-5588

### **FIRE DEPARTMENTS:**

Carlsbad	911 575-885-2111
Eunice	575-394-2111
Hobbs	575-397-9308
Jal	575-395-2221
Lovington	575-396-2359

### **HOSPITALS:**

Carlsbad Medical Emergency	911 575-885-2111
Eunice Medical Emergency	575-394-2112
Hobbs Medical Emergency	575-397-9308
Jal Medical Emergency	575-395-2221
Lovington Medical Emergency	575-396-2359

### **AGENT NOTIFICATIONS:**

#### **For Lea County:**

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

#### **For Eddy County:**

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



## **XTO Energy**

**Lea County, NM (NAD-27)  
Big Eddy Unit DI BB JABBA  
#103H**

**OH**

**Plan: PERMIT**

## **Standard Planning Report**

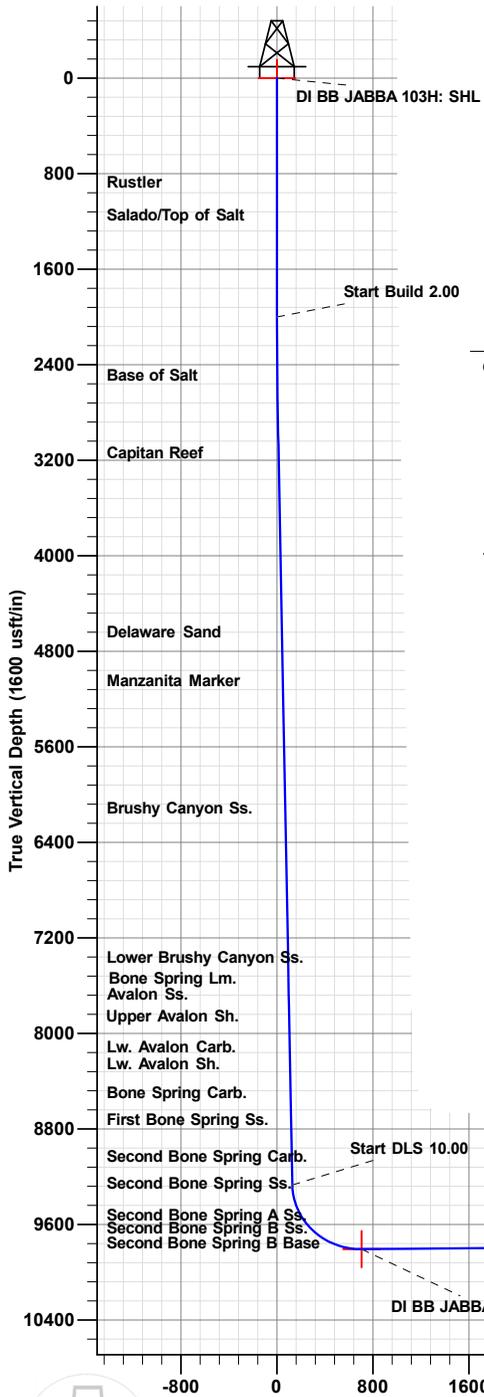
**30 July, 2019**



Project: Lea County, NM (NAD-27)  
 Site: Big Eddy Unit DI BB JABBA  
 Well: #103H  
 Wellbore: OH  
 Design: PERMIT

WELL DETAILS: #103H

Rig Name:  
 RKB = 25' @ 3555.00usft  
 Ground Level: 3530.00  
 Easting 676603.20  
 Latitude 32.5520801  
 Longitude -103.7601791



PROJECT DETAILS: Lea County, NM (NAD-27)  
 Geodetic System: US State Plane 1927 (Exact solution)  
 Datum: NAD 1927 (NADCON CONUS)  
 Ellipsoid: Clarke 1866  
 Zone: New Mexico East 3001  
 System Datum: Mean Sea Level

FORMATION TOP DETAILS

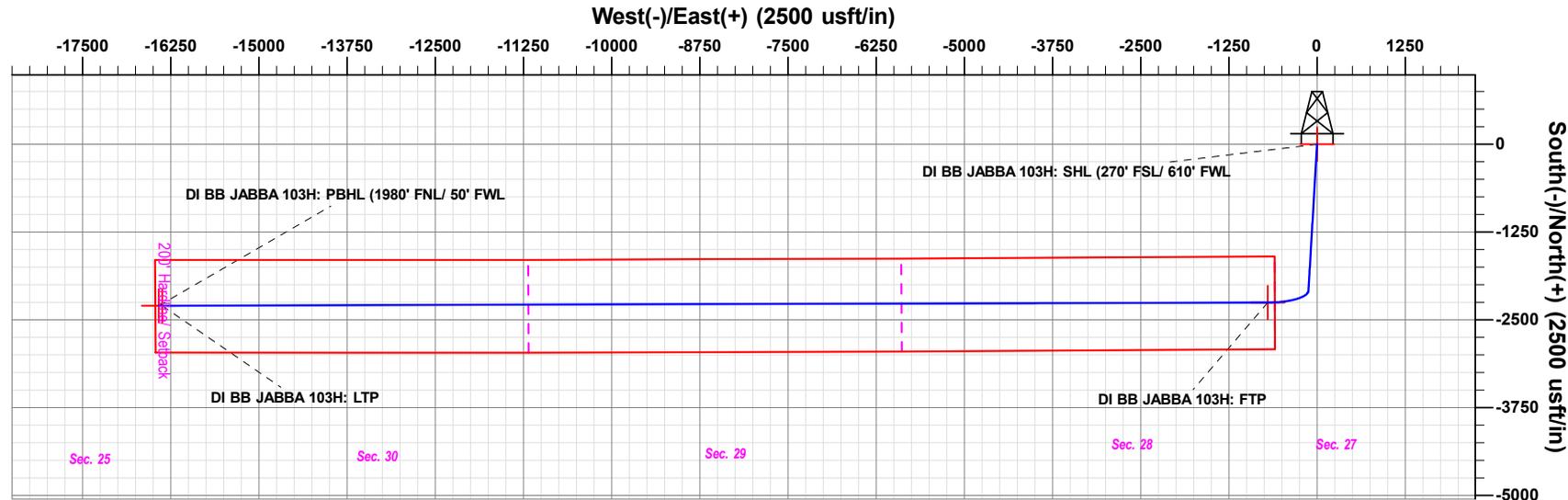
TVDPath	Formation
955.00	Rustler
1230.00	Salado/Top of Salt
2575.00	Base of Salt
3228.00	Capitan Reef
4722.00	Delaware Sand
5128.00	Manzanita Marker
6200.00	Brushy Canyon Ss.
7449.00	Lower Brushy Canyon Ss.
7725.00	Bone Spring Lm.
7866.00	Avalon Ss.
7951.00	Upper Avalon Sh.
8203.00	Lw. Avalon Carb.
8342.00	Lw. Avalon Sh.
8581.00	Bone Spring Carb.
8805.00	First Bone Spring Ss.
9119.00	Second Bone Spring Carb.
9343.00	Second Bone Spring Ss.
9607.00	Second Bone Spring A Ss.
9715.00	Second Bone Spring B Ss.

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00
3	2849.23	16.98	183.34	2836.85	-124.74	-7.29	2.00	183.34	7.64
4	9574.92	16.98	183.34	9269.18	-2086.07	-121.86	0.00	0.00	127.69
5	10469.53	90.51	269.84	9807.00	-2253.20	-699.10	10.00	86.50	705.39
6	26138.70	90.51	269.84	9668.00	-2297.66	-16367.60	0.00	0.00	16373.95
7	26188.71	90.51	269.84	9668.00	-2297.80	-16417.60	0.00	0.00	16423.95

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
DI BB JABBA 103H: SHL (270' FSL/ 610' FWL)	0.00	0.00	0.00	565034.10	676603.20	32.5520801	-103.7601791	Point
DI BB JABBA 103H: PBHL (1980' FNL/ 50' FWL)	9668.00	-2297.80	-16417.60	562736.30	660185.60	32.5459956	-103.8134958	Point
DI BB JABBA 103H: LTP	9668.44	-2297.90	-16367.60	562736.20	660235.60	32.5459947	-103.8133335	Point
DI BB JABBA 103H: FTP	9807.00	-2253.20	-699.10	562780.90	675904.10	32.5458970	-103.7624871	Point



The customer should only rely on this document after independently verifying all paths, targets, coordinates, lease and hard lines represented. Any decisions made or wells drilled utilizing this or any other information supplied by Prototype are at the sole risk and responsibility of the user.

Vertical Section at 269.84° (1600 usft/in)

Plan: PERMIT (#103H/OH)  
 Created By: Matthew May Date: 14:30, July 30 2019



## Planning Report

<b>Database:</b>	EDM 5000.1.13 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #103H
<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	RKB = 25' @ 3555.00usft
<b>Project:</b>	Lea County, NM (NAD-27)	<b>MD Reference:</b>	RKB = 25' @ 3555.00usft
<b>Site:</b>	Big Eddy Unit DI BB JABBA	<b>North Reference:</b>	Grid
<b>Well:</b>	#103H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PERMIT		

<b>Project</b>	Lea County, NM (NAD-27)		
<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>	Big Eddy Unit DI BB JABBA				
<b>Site Position:</b>		<b>Northing:</b>	565,234.10 usft	<b>Latitude:</b>	32.5526298
<b>From:</b>	Map	<b>Easting:</b>	676,602.40 usft	<b>Longitude:</b>	-103.7601782
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.31 °

<b>Well</b>	#103H					
<b>Well Position</b>	<b>+N/-S</b>	-200.00 usft	<b>Northing:</b>	565,034.10 usft	<b>Latitude:</b>	32.5520801
	<b>+E/-W</b>	0.80 usft	<b>Easting:</b>	676,603.20 usft	<b>Longitude:</b>	-103.7601791
<b>Position Uncertainty</b>		0.00 usft	<b>Wellhead Elevation:</b>	0.00 usft	<b>Ground Level:</b>	3,530.00 usft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	07/23/19	6.84	60.31	47,895

<b>Design</b>	PERMIT				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00	
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	269.84	

<b>Plan Sections</b>											
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	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00		
2,849.23	16.98	183.34	2,836.85	-124.74	-7.29	2.00	2.00	0.00	183.34		
9,574.92	16.98	183.34	9,269.18	-2,086.07	-121.86	0.00	0.00	0.00	0.00		
10,469.53	90.51	269.84	9,807.00	-2,253.20	-699.10	10.00	8.22	9.67	86.50	DI BB JABBA 103H	
26,138.71	90.51	269.84	9,668.44	-2,297.66	-16,367.60	0.00	0.00	0.00	0.00	DI BB JABBA 103H	
26,188.71	90.51	269.84	9,668.00	-2,297.80	-16,417.60	0.00	0.00	0.00	0.00	DI BB JABBA 103H	



Planning Report

<b>Database:</b>	EDM 5000.1.13 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #103H
<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	RKB = 25' @ 3555.00usft
<b>Project:</b>	Lea County, NM (NAD-27)	<b>MD Reference:</b>	RKB = 25' @ 3555.00usft
<b>Site:</b>	Big Eddy Unit DI BB JABBA	<b>North Reference:</b>	Grid
<b>Well:</b>	#103H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PERMIT		

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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	
955.00	0.00	0.00	955.00	0.00	0.00	0.00	0.00	0.00	0.00	
<b>Rustler</b>										
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,230.00	0.00	0.00	1,230.00	0.00	0.00	0.00	0.00	0.00	0.00	
<b>Salado/Top of Salt</b>										
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,100.00	2.00	183.34	2,099.98	-1.74	-0.10	0.11	2.00	2.00	0.00	
2,200.00	4.00	183.34	2,199.84	-6.97	-0.41	0.43	2.00	2.00	0.00	
2,300.00	6.00	183.34	2,299.45	-15.67	-0.92	0.96	2.00	2.00	0.00	
2,400.00	8.00	183.34	2,398.70	-27.83	-1.63	1.70	2.00	2.00	0.00	
2,500.00	10.00	183.34	2,497.47	-43.45	-2.54	2.66	2.00	2.00	0.00	
2,578.93	11.58	183.34	2,575.00	-58.20	-3.40	3.56	2.00	2.00	0.00	
<b>Base of Salt</b>										
2,600.00	12.00	183.34	2,595.62	-62.50	-3.65	3.83	2.00	2.00	0.00	
2,700.00	14.00	183.34	2,693.06	-84.95	-4.96	5.20	2.00	2.00	0.00	
2,800.00	16.00	183.34	2,789.64	-110.79	-6.47	6.78	2.00	2.00	0.00	
2,849.23	16.98	183.34	2,836.85	-124.74	-7.29	7.64	2.00	2.00	0.00	
2,900.00	16.98	183.34	2,885.40	-139.55	-8.15	8.54	0.00	0.00	0.00	
3,000.00	16.98	183.34	2,981.04	-168.71	-9.86	10.33	0.00	0.00	0.00	
3,100.00	16.98	183.34	3,076.68	-197.87	-11.56	12.11	0.00	0.00	0.00	
3,200.00	16.98	183.34	3,172.32	-227.03	-13.26	13.90	0.00	0.00	0.00	
3,258.22	16.98	183.34	3,228.00	-244.01	-14.25	14.94	0.00	0.00	0.00	
<b>Capitan Reef</b>										
3,300.00	16.98	183.34	3,267.96	-256.19	-14.97	15.68	0.00	0.00	0.00	
3,400.00	16.98	183.34	3,363.59	-285.35	-16.67	17.47	0.00	0.00	0.00	
3,500.00	16.98	183.34	3,459.23	-314.52	-18.37	19.25	0.00	0.00	0.00	
3,600.00	16.98	183.34	3,554.87	-343.68	-20.08	21.04	0.00	0.00	0.00	
3,700.00	16.98	183.34	3,650.51	-372.84	-21.78	22.82	0.00	0.00	0.00	
3,800.00	16.98	183.34	3,746.15	-402.00	-23.48	24.61	0.00	0.00	0.00	
3,900.00	16.98	183.34	3,841.79	-431.16	-25.19	26.39	0.00	0.00	0.00	
4,000.00	16.98	183.34	3,937.42	-460.32	-26.89	28.18	0.00	0.00	0.00	
4,100.00	16.98	183.34	4,033.06	-489.49	-28.59	29.96	0.00	0.00	0.00	
4,200.00	16.98	183.34	4,128.70	-518.65	-30.30	31.75	0.00	0.00	0.00	
4,300.00	16.98	183.34	4,224.34	-547.81	-32.00	33.53	0.00	0.00	0.00	
4,400.00	16.98	183.34	4,319.98	-576.97	-33.70	35.32	0.00	0.00	0.00	



Planning Report

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<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	RKB = 25' @ 3555.00usft
<b>Project:</b>	Lea County, NM (NAD-27)	<b>MD Reference:</b>	RKB = 25' @ 3555.00usft
<b>Site:</b>	Big Eddy Unit DI BB JABBA	<b>North Reference:</b>	Grid
<b>Well:</b>	#103H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PERMIT		

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)
4,500.00	16.98	183.34	4,415.62	-606.13	-35.41	37.10	0.00	0.00	0.00
4,600.00	16.98	183.34	4,511.25	-635.30	-37.11	38.89	0.00	0.00	0.00
4,700.00	16.98	183.34	4,606.89	-664.46	-38.82	40.67	0.00	0.00	0.00
4,800.00	16.98	183.34	4,702.53	-693.62	-40.52	42.46	0.00	0.00	0.00
4,820.36	16.98	183.34	4,722.00	-699.56	-40.87	42.82	0.00	0.00	0.00
<b>Delaware Sand</b>									
4,900.00	16.98	183.34	4,798.17	-722.78	-42.22	44.24	0.00	0.00	0.00
5,000.00	16.98	183.34	4,893.81	-751.94	-43.93	46.03	0.00	0.00	0.00
5,100.00	16.98	183.34	4,989.45	-781.10	-45.63	47.81	0.00	0.00	0.00
5,200.00	16.98	183.34	5,085.08	-810.27	-47.33	49.60	0.00	0.00	0.00
5,244.87	16.98	183.34	5,128.00	-823.35	-48.10	50.40	0.00	0.00	0.00
<b>Manzanita Marker</b>									
5,300.00	16.98	183.34	5,180.72	-839.43	-49.04	51.38	0.00	0.00	0.00
5,400.00	16.98	183.34	5,276.36	-868.59	-50.74	53.17	0.00	0.00	0.00
5,500.00	16.98	183.34	5,372.00	-897.75	-52.44	54.95	0.00	0.00	0.00
5,600.00	16.98	183.34	5,467.64	-926.91	-54.15	56.74	0.00	0.00	0.00
5,700.00	16.98	183.34	5,563.28	-956.07	-55.85	58.52	0.00	0.00	0.00
5,800.00	16.98	183.34	5,658.91	-985.24	-57.55	60.31	0.00	0.00	0.00
5,900.00	16.98	183.34	5,754.55	-1,014.40	-59.26	62.09	0.00	0.00	0.00
6,000.00	16.98	183.34	5,850.19	-1,043.56	-60.96	63.88	0.00	0.00	0.00
6,100.00	16.98	183.34	5,945.83	-1,072.72	-62.66	65.66	0.00	0.00	0.00
6,200.00	16.98	183.34	6,041.47	-1,101.88	-64.37	67.45	0.00	0.00	0.00
6,300.00	16.98	183.34	6,137.11	-1,131.05	-66.07	69.23	0.00	0.00	0.00
6,365.76	16.98	183.34	6,200.00	-1,150.22	-67.19	70.40	0.00	0.00	0.00
<b>Brushy Canyon Ss.</b>									
6,400.00	16.98	183.34	6,232.74	-1,160.21	-67.78	71.02	0.00	0.00	0.00
6,500.00	16.98	183.34	6,328.38	-1,189.37	-69.48	72.80	0.00	0.00	0.00
6,600.00	16.98	183.34	6,424.02	-1,218.53	-71.18	74.58	0.00	0.00	0.00
6,700.00	16.98	183.34	6,519.66	-1,247.69	-72.89	76.37	0.00	0.00	0.00
6,800.00	16.98	183.34	6,615.30	-1,276.85	-74.59	78.15	0.00	0.00	0.00
6,900.00	16.98	183.34	6,710.94	-1,306.02	-76.29	79.94	0.00	0.00	0.00
7,000.00	16.98	183.34	6,806.57	-1,335.18	-78.00	81.72	0.00	0.00	0.00
7,100.00	16.98	183.34	6,902.21	-1,364.34	-79.70	83.51	0.00	0.00	0.00
7,200.00	16.98	183.34	6,997.85	-1,393.50	-81.40	85.29	0.00	0.00	0.00
7,300.00	16.98	183.34	7,093.49	-1,422.66	-83.11	87.08	0.00	0.00	0.00
7,400.00	16.98	183.34	7,189.13	-1,451.82	-84.81	88.86	0.00	0.00	0.00
7,500.00	16.98	183.34	7,284.77	-1,480.99	-86.51	90.65	0.00	0.00	0.00
7,600.00	16.98	183.34	7,380.40	-1,510.15	-88.22	92.43	0.00	0.00	0.00
7,671.72	16.98	183.34	7,449.00	-1,531.06	-89.44	93.71	0.00	0.00	0.00
<b>Lower Brushy Canyon Ss.</b>									
7,700.00	16.98	183.34	7,476.04	-1,539.31	-89.92	94.22	0.00	0.00	0.00
7,800.00	16.98	183.34	7,571.68	-1,568.47	-91.62	96.00	0.00	0.00	0.00
7,900.00	16.98	183.34	7,667.32	-1,597.63	-93.33	97.79	0.00	0.00	0.00
7,960.31	16.98	183.34	7,725.00	-1,615.22	-94.36	98.87	0.00	0.00	0.00
<b>Bone Spring Lm.</b>									
8,000.00	16.98	183.34	7,762.96	-1,626.80	-95.03	99.57	0.00	0.00	0.00
8,100.00	16.98	183.34	7,858.60	-1,655.96	-96.74	101.36	0.00	0.00	0.00
8,107.74	16.98	183.34	7,866.00	-1,658.22	-96.87	101.50	0.00	0.00	0.00
<b>Avalon Ss.</b>									
8,196.62	16.98	183.34	7,951.00	-1,684.13	-98.38	103.08	0.00	0.00	0.00
<b>Upper Avalon Sh.</b>									
8,200.00	16.98	183.34	7,954.23	-1,685.12	-98.44	103.14	0.00	0.00	0.00
8,300.00	16.98	183.34	8,049.87	-1,714.28	-100.14	104.93	0.00	0.00	0.00



Planning Report

<b>Database:</b>	EDM 5000.1.13 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #103H
<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	RKB = 25' @ 3555.00usft
<b>Project:</b>	Lea County, NM (NAD-27)	<b>MD Reference:</b>	RKB = 25' @ 3555.00usft
<b>Site:</b>	Big Eddy Unit DI BB JABBA	<b>North Reference:</b>	Grid
<b>Well:</b>	#103H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PERMIT		

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)	
8,400.00	16.98	183.34	8,145.51	-1,743.44	-101.85	106.71	0.00	0.00	0.00	
8,460.11	16.98	183.34	8,203.00	-1,760.97	-102.87	107.79	0.00	0.00	0.00	
<b>Lw. Avalon Carb.</b>										
8,500.00	16.98	183.34	8,241.15	-1,772.60	-103.55	108.50	0.00	0.00	0.00	
8,600.00	16.98	183.34	8,336.79	-1,801.77	-105.25	110.28	0.00	0.00	0.00	
8,605.45	16.98	183.34	8,342.00	-1,803.36	-105.35	110.38	0.00	0.00	0.00	
<b>Lw. Avalon Sh.</b>										
8,700.00	16.98	183.34	8,432.43	-1,830.93	-106.96	112.07	0.00	0.00	0.00	
8,800.00	16.98	183.34	8,528.06	-1,860.09	-108.66	113.85	0.00	0.00	0.00	
8,855.35	16.98	183.34	8,581.00	-1,876.23	-109.60	114.84	0.00	0.00	0.00	
<b>Bone Spring Carb.</b>										
8,900.00	16.98	183.34	8,623.70	-1,889.25	-110.36	115.64	0.00	0.00	0.00	
9,000.00	16.98	183.34	8,719.34	-1,918.41	-112.07	117.42	0.00	0.00	0.00	
9,089.57	16.98	183.34	8,805.00	-1,944.53	-113.59	119.02	0.00	0.00	0.00	
<b>First Bone Spring Ss.</b>										
9,100.00	16.98	183.34	8,814.98	-1,947.57	-113.77	119.21	0.00	0.00	0.00	
9,200.00	16.98	183.34	8,910.62	-1,976.74	-115.47	120.99	0.00	0.00	0.00	
9,300.00	16.98	183.34	9,006.26	-2,005.90	-117.18	122.78	0.00	0.00	0.00	
9,400.00	16.98	183.34	9,101.89	-2,035.06	-118.88	124.56	0.00	0.00	0.00	
9,417.89	16.98	183.34	9,119.00	-2,040.28	-119.19	124.88	0.00	0.00	0.00	
<b>Second Bone Spring Carb.</b>										
9,500.00	16.98	183.34	9,197.53	-2,064.22	-120.58	126.35	0.00	0.00	0.00	
9,574.92	16.98	183.34	9,269.18	-2,086.07	-121.86	127.69	0.00	0.00	0.00	
9,600.00	17.31	191.78	9,293.15	-2,093.38	-122.84	128.68	10.00	1.31	33.65	
9,650.00	18.94	207.03	9,340.70	-2,107.90	-128.05	133.93	10.00	3.25	30.50	
9,652.44	19.05	207.70	9,343.00	-2,108.61	-128.41	134.30	10.00	4.44	27.52	
<b>Second Bone Spring Ss.</b>										
9,700.00	21.59	219.32	9,387.62	-2,122.26	-137.57	143.50	10.00	5.35	24.41	
9,750.00	24.95	228.74	9,433.56	-2,136.34	-151.34	157.30	10.00	6.70	18.85	
9,800.00	28.75	235.94	9,478.17	-2,150.04	-169.24	175.24	10.00	7.62	14.39	
9,850.00	32.86	241.52	9,521.12	-2,163.25	-191.14	197.18	10.00	8.21	11.18	
9,900.00	37.16	245.97	9,562.07	-2,175.87	-216.87	222.94	10.00	8.61	8.89	
9,950.00	41.60	249.60	9,600.71	-2,187.81	-246.24	252.34	10.00	8.88	7.27	
9,958.46	42.36	250.15	9,607.00	-2,189.76	-251.55	257.66	10.00	9.00	6.52	
<b>Second Bone Spring A Ss.</b>										
10,000.00	46.13	252.65	9,636.76	-2,198.98	-279.02	285.16	10.00	9.08	6.00	
10,050.00	50.74	255.26	9,669.92	-2,209.29	-314.96	321.13	10.00	9.21	5.22	
10,100.00	55.39	257.54	9,699.96	-2,218.66	-353.80	359.99	10.00	9.31	4.57	
10,127.38	57.96	258.68	9,715.00	-2,223.37	-376.18	382.39	10.00	9.37	4.18	
<b>Second Bone Spring B Ss.</b>										
10,150.00	60.09	259.58	9,726.64	-2,227.02	-395.23	401.45	10.00	9.40	3.97	
10,200.00	64.81	261.44	9,749.77	-2,234.32	-438.94	445.18	10.00	9.44	3.71	
10,250.00	69.55	263.16	9,769.16	-2,240.48	-484.60	490.85	10.00	9.49	3.44	
10,300.00	74.31	264.77	9,784.66	-2,245.47	-531.85	538.12	10.00	9.52	3.23	
10,350.00	79.08	266.31	9,796.17	-2,249.24	-580.35	586.63	10.00	9.54	3.08	
10,400.00	83.86	267.80	9,803.58	-2,251.77	-629.71	636.00	10.00	9.56	2.98	
10,450.00	88.64	269.27	9,806.85	-2,253.05	-679.57	685.86	10.00	9.56	2.93	
10,469.53	90.51	269.84	9,807.00	-2,253.20	-699.10	705.39	10.00	9.57	2.92	
10,500.00	90.51	269.84	9,806.73	-2,253.29	-729.57	735.86	0.00	0.00	0.00	
10,600.00	90.51	269.84	9,805.85	-2,253.57	-829.57	835.86	0.00	0.00	0.00	
10,700.00	90.51	269.84	9,804.96	-2,253.85	-929.56	935.85	0.00	0.00	0.00	
10,800.00	90.51	269.84	9,804.08	-2,254.14	-1,029.56	1,035.85	0.00	0.00	0.00	
10,900.00	90.51	269.84	9,803.19	-2,254.42	-1,129.55	1,135.84	0.00	0.00	0.00	



Planning Report

<b>Database:</b>	EDM 5000.1.13 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #103H
<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	RKB = 25' @ 3555.00usft
<b>Project:</b>	Lea County, NM (NAD-27)	<b>MD Reference:</b>	RKB = 25' @ 3555.00usft
<b>Site:</b>	Big Eddy Unit DI BB JABBA	<b>North Reference:</b>	Grid
<b>Well:</b>	#103H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PERMIT		

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)	
11,000.00	90.51	269.84	9,802.31	-2,254.71	-1,229.55	1,235.84	0.00	0.00	0.00	
11,100.00	90.51	269.84	9,801.43	-2,254.99	-1,329.54	1,335.84	0.00	0.00	0.00	
11,200.00	90.51	269.84	9,800.54	-2,255.27	-1,429.54	1,435.83	0.00	0.00	0.00	
11,300.00	90.51	269.84	9,799.66	-2,255.56	-1,529.54	1,535.83	0.00	0.00	0.00	
11,400.00	90.51	269.84	9,798.77	-2,255.84	-1,629.53	1,635.82	0.00	0.00	0.00	
11,500.00	90.51	269.84	9,797.89	-2,256.12	-1,729.53	1,735.82	0.00	0.00	0.00	
11,600.00	90.51	269.84	9,797.00	-2,256.41	-1,829.52	1,835.82	0.00	0.00	0.00	
11,700.00	90.51	269.84	9,796.12	-2,256.69	-1,929.52	1,935.81	0.00	0.00	0.00	
11,800.00	90.51	269.84	9,795.24	-2,256.97	-2,029.51	2,035.81	0.00	0.00	0.00	
11,900.00	90.51	269.84	9,794.35	-2,257.26	-2,129.51	2,135.81	0.00	0.00	0.00	
12,000.00	90.51	269.84	9,793.47	-2,257.54	-2,229.51	2,235.80	0.00	0.00	0.00	
12,100.00	90.51	269.84	9,792.58	-2,257.83	-2,329.50	2,335.80	0.00	0.00	0.00	
12,200.00	90.51	269.84	9,791.70	-2,258.11	-2,429.50	2,435.79	0.00	0.00	0.00	
12,300.00	90.51	269.84	9,790.81	-2,258.39	-2,529.49	2,535.79	0.00	0.00	0.00	
12,400.00	90.51	269.84	9,789.93	-2,258.68	-2,629.49	2,635.79	0.00	0.00	0.00	
12,500.00	90.51	269.84	9,789.05	-2,258.96	-2,729.48	2,735.78	0.00	0.00	0.00	
12,600.00	90.51	269.84	9,788.16	-2,259.24	-2,829.48	2,835.78	0.00	0.00	0.00	
12,700.00	90.51	269.84	9,787.28	-2,259.53	-2,929.48	2,935.77	0.00	0.00	0.00	
12,800.00	90.51	269.84	9,786.39	-2,259.81	-3,029.47	3,035.77	0.00	0.00	0.00	
12,900.00	90.51	269.84	9,785.51	-2,260.10	-3,129.47	3,135.77	0.00	0.00	0.00	
13,000.00	90.51	269.84	9,784.62	-2,260.38	-3,229.46	3,235.76	0.00	0.00	0.00	
13,100.00	90.51	269.84	9,783.74	-2,260.66	-3,329.46	3,335.76	0.00	0.00	0.00	
13,200.00	90.51	269.84	9,782.86	-2,260.95	-3,429.45	3,435.75	0.00	0.00	0.00	
13,300.00	90.51	269.84	9,781.97	-2,261.23	-3,529.45	3,535.75	0.00	0.00	0.00	
13,400.00	90.51	269.84	9,781.09	-2,261.51	-3,629.45	3,635.75	0.00	0.00	0.00	
13,500.00	90.51	269.84	9,780.20	-2,261.80	-3,729.44	3,735.74	0.00	0.00	0.00	
13,600.00	90.51	269.84	9,779.32	-2,262.08	-3,829.44	3,835.74	0.00	0.00	0.00	
13,700.00	90.51	269.84	9,778.43	-2,262.37	-3,929.43	3,935.73	0.00	0.00	0.00	
13,800.00	90.51	269.84	9,777.55	-2,262.65	-4,029.43	4,035.73	0.00	0.00	0.00	
13,900.00	90.51	269.84	9,776.67	-2,262.93	-4,129.42	4,135.73	0.00	0.00	0.00	
14,000.00	90.51	269.84	9,775.78	-2,263.22	-4,229.42	4,235.72	0.00	0.00	0.00	
14,100.00	90.51	269.84	9,774.90	-2,263.50	-4,329.42	4,335.72	0.00	0.00	0.00	
14,200.00	90.51	269.84	9,774.01	-2,263.78	-4,429.41	4,435.72	0.00	0.00	0.00	
14,300.00	90.51	269.84	9,773.13	-2,264.07	-4,529.41	4,535.71	0.00	0.00	0.00	
14,400.00	90.51	269.84	9,772.24	-2,264.35	-4,629.40	4,635.71	0.00	0.00	0.00	
14,500.00	90.51	269.84	9,771.36	-2,264.64	-4,729.40	4,735.70	0.00	0.00	0.00	
14,600.00	90.51	269.84	9,770.48	-2,264.92	-4,829.39	4,835.70	0.00	0.00	0.00	
14,700.00	90.51	269.84	9,769.59	-2,265.20	-4,929.39	4,935.70	0.00	0.00	0.00	
14,800.00	90.51	269.84	9,768.71	-2,265.49	-5,029.39	5,035.69	0.00	0.00	0.00	
14,900.00	90.51	269.84	9,767.82	-2,265.77	-5,129.38	5,135.69	0.00	0.00	0.00	
15,000.00	90.51	269.84	9,766.94	-2,266.05	-5,229.38	5,235.68	0.00	0.00	0.00	
15,100.00	90.51	269.84	9,766.05	-2,266.34	-5,329.37	5,335.68	0.00	0.00	0.00	
15,200.00	90.51	269.84	9,765.17	-2,266.62	-5,429.37	5,435.68	0.00	0.00	0.00	
15,300.00	90.51	269.84	9,764.29	-2,266.91	-5,529.36	5,535.67	0.00	0.00	0.00	
15,400.00	90.51	269.84	9,763.40	-2,267.19	-5,629.36	5,635.67	0.00	0.00	0.00	
15,500.00	90.51	269.84	9,762.52	-2,267.47	-5,729.35	5,735.66	0.00	0.00	0.00	
15,600.00	90.51	269.84	9,761.63	-2,267.76	-5,829.35	5,835.66	0.00	0.00	0.00	
15,700.00	90.51	269.84	9,760.75	-2,268.04	-5,929.35	5,935.66	0.00	0.00	0.00	
15,800.00	90.51	269.84	9,759.86	-2,268.32	-6,029.34	6,035.65	0.00	0.00	0.00	
15,900.00	90.51	269.84	9,758.98	-2,268.61	-6,129.34	6,135.65	0.00	0.00	0.00	
16,000.00	90.51	269.84	9,758.10	-2,268.89	-6,229.33	6,235.64	0.00	0.00	0.00	
16,100.00	90.51	269.84	9,757.21	-2,269.18	-6,329.33	6,335.64	0.00	0.00	0.00	
16,200.00	90.51	269.84	9,756.33	-2,269.46	-6,429.32	6,435.64	0.00	0.00	0.00	
16,300.00	90.51	269.84	9,755.44	-2,269.74	-6,529.32	6,535.63	0.00	0.00	0.00	



Planning Report

<b>Database:</b>	EDM 5000.1.13 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #103H
<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	RKB = 25' @ 3555.00usft
<b>Project:</b>	Lea County, NM (NAD-27)	<b>MD Reference:</b>	RKB = 25' @ 3555.00usft
<b>Site:</b>	Big Eddy Unit DI BB JABBA	<b>North Reference:</b>	Grid
<b>Well:</b>	#103H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PERMIT		

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)	
16,400.00	90.51	269.84	9,754.56	-2,270.03	-6,629.32	6,635.63	0.00	0.00	0.00	
16,500.00	90.51	269.84	9,753.67	-2,270.31	-6,729.31	6,735.63	0.00	0.00	0.00	
16,600.00	90.51	269.84	9,752.79	-2,270.59	-6,829.31	6,835.62	0.00	0.00	0.00	
16,700.00	90.51	269.84	9,751.91	-2,270.88	-6,929.30	6,935.62	0.00	0.00	0.00	
16,800.00	90.51	269.84	9,751.02	-2,271.16	-7,029.30	7,035.61	0.00	0.00	0.00	
16,900.00	90.51	269.84	9,750.14	-2,271.45	-7,129.29	7,135.61	0.00	0.00	0.00	
17,000.00	90.51	269.84	9,749.25	-2,271.73	-7,229.29	7,235.61	0.00	0.00	0.00	
17,100.00	90.51	269.84	9,748.37	-2,272.01	-7,329.29	7,335.60	0.00	0.00	0.00	
17,200.00	90.51	269.84	9,747.48	-2,272.30	-7,429.28	7,435.60	0.00	0.00	0.00	
17,300.00	90.51	269.84	9,746.60	-2,272.58	-7,529.28	7,535.59	0.00	0.00	0.00	
17,400.00	90.51	269.84	9,745.72	-2,272.86	-7,629.27	7,635.59	0.00	0.00	0.00	
17,500.00	90.51	269.84	9,744.83	-2,273.15	-7,729.27	7,735.59	0.00	0.00	0.00	
17,600.00	90.51	269.84	9,743.95	-2,273.43	-7,829.26	7,835.58	0.00	0.00	0.00	
17,700.00	90.51	269.84	9,743.06	-2,273.72	-7,929.26	7,935.58	0.00	0.00	0.00	
17,800.00	90.51	269.84	9,742.18	-2,274.00	-8,029.26	8,035.57	0.00	0.00	0.00	
17,900.00	90.51	269.84	9,741.29	-2,274.28	-8,129.25	8,135.57	0.00	0.00	0.00	
18,000.00	90.51	269.84	9,740.41	-2,274.57	-8,229.25	8,235.57	0.00	0.00	0.00	
18,100.00	90.51	269.84	9,739.53	-2,274.85	-8,329.24	8,335.56	0.00	0.00	0.00	
18,200.00	90.51	269.84	9,738.64	-2,275.13	-8,429.24	8,435.56	0.00	0.00	0.00	
18,300.00	90.51	269.84	9,737.76	-2,275.42	-8,529.23	8,535.56	0.00	0.00	0.00	
18,400.00	90.51	269.84	9,736.87	-2,275.70	-8,629.23	8,635.55	0.00	0.00	0.00	
18,500.00	90.51	269.84	9,735.99	-2,275.98	-8,729.23	8,735.55	0.00	0.00	0.00	
18,600.00	90.51	269.84	9,735.10	-2,276.27	-8,829.22	8,835.54	0.00	0.00	0.00	
18,700.00	90.51	269.84	9,734.22	-2,276.55	-8,929.22	8,935.54	0.00	0.00	0.00	
18,800.00	90.51	269.84	9,733.34	-2,276.84	-9,029.21	9,035.54	0.00	0.00	0.00	
18,900.00	90.51	269.84	9,732.45	-2,277.12	-9,129.21	9,135.53	0.00	0.00	0.00	
19,000.00	90.51	269.84	9,731.57	-2,277.40	-9,229.20	9,235.53	0.00	0.00	0.00	
19,100.00	90.51	269.84	9,730.68	-2,277.69	-9,329.20	9,335.52	0.00	0.00	0.00	
19,200.00	90.51	269.84	9,729.80	-2,277.97	-9,429.20	9,435.52	0.00	0.00	0.00	
19,300.00	90.51	269.84	9,728.91	-2,278.25	-9,529.19	9,535.52	0.00	0.00	0.00	
19,400.00	90.51	269.84	9,728.03	-2,278.54	-9,629.19	9,635.51	0.00	0.00	0.00	
19,500.00	90.51	269.84	9,727.15	-2,278.82	-9,729.18	9,735.51	0.00	0.00	0.00	
19,600.00	90.51	269.84	9,726.26	-2,279.11	-9,829.18	9,835.50	0.00	0.00	0.00	
19,700.00	90.51	269.84	9,725.38	-2,279.39	-9,929.17	9,935.50	0.00	0.00	0.00	
19,800.00	90.51	269.84	9,724.49	-2,279.67	-10,029.17	10,035.50	0.00	0.00	0.00	
19,900.00	90.51	269.84	9,723.61	-2,279.96	-10,129.17	10,135.49	0.00	0.00	0.00	
20,000.00	90.51	269.84	9,722.73	-2,280.24	-10,229.16	10,235.49	0.00	0.00	0.00	
20,100.00	90.51	269.84	9,721.84	-2,280.52	-10,329.16	10,335.48	0.00	0.00	0.00	
20,200.00	90.51	269.84	9,720.96	-2,280.81	-10,429.15	10,435.48	0.00	0.00	0.00	
20,300.00	90.51	269.84	9,720.07	-2,281.09	-10,529.15	10,535.48	0.00	0.00	0.00	
20,400.00	90.51	269.84	9,719.19	-2,281.38	-10,629.14	10,635.47	0.00	0.00	0.00	
20,500.00	90.51	269.84	9,718.30	-2,281.66	-10,729.14	10,735.47	0.00	0.00	0.00	
20,600.00	90.51	269.84	9,717.42	-2,281.94	-10,829.14	10,835.47	0.00	0.00	0.00	
20,700.00	90.51	269.84	9,716.54	-2,282.23	-10,929.13	10,935.46	0.00	0.00	0.00	
20,800.00	90.51	269.84	9,715.65	-2,282.51	-11,029.13	11,035.46	0.00	0.00	0.00	
20,900.00	90.51	269.84	9,714.77	-2,282.79	-11,129.12	11,135.45	0.00	0.00	0.00	
21,000.00	90.51	269.84	9,713.88	-2,283.08	-11,229.12	11,235.45	0.00	0.00	0.00	
21,100.00	90.51	269.84	9,713.00	-2,283.36	-11,329.11	11,335.45	0.00	0.00	0.00	
21,200.00	90.51	269.84	9,712.11	-2,283.65	-11,429.11	11,435.44	0.00	0.00	0.00	
21,300.00	90.51	269.84	9,711.23	-2,283.93	-11,529.10	11,535.44	0.00	0.00	0.00	
21,400.00	90.51	269.84	9,710.35	-2,284.21	-11,629.10	11,635.43	0.00	0.00	0.00	
21,500.00	90.51	269.84	9,709.46	-2,284.50	-11,729.10	11,735.43	0.00	0.00	0.00	
21,600.00	90.51	269.84	9,708.58	-2,284.78	-11,829.09	11,835.43	0.00	0.00	0.00	
21,700.00	90.51	269.84	9,707.69	-2,285.06	-11,929.09	11,935.42	0.00	0.00	0.00	



Planning Report

<b>Database:</b>	EDM 5000.1.13 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #103H
<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	RKB = 25' @ 3555.00usft
<b>Project:</b>	Lea County, NM (NAD-27)	<b>MD Reference:</b>	RKB = 25' @ 3555.00usft
<b>Site:</b>	Big Eddy Unit DI BB JABBA	<b>North Reference:</b>	Grid
<b>Well:</b>	#103H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PERMIT		

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)
21,800.00	90.51	269.84	9,706.81	-2,285.35	-12,029.08	12,035.42	0.00	0.00	0.00
21,900.00	90.51	269.84	9,705.92	-2,285.63	-12,129.08	12,135.41	0.00	0.00	0.00
22,000.00	90.51	269.84	9,705.04	-2,285.92	-12,229.07	12,235.41	0.00	0.00	0.00
22,100.00	90.51	269.84	9,704.16	-2,286.20	-12,329.07	12,335.41	0.00	0.00	0.00
22,200.00	90.51	269.84	9,703.27	-2,286.48	-12,429.07	12,435.40	0.00	0.00	0.00
22,300.00	90.51	269.84	9,702.39	-2,286.77	-12,529.06	12,535.40	0.00	0.00	0.00
22,400.00	90.51	269.84	9,701.50	-2,287.05	-12,629.06	12,635.39	0.00	0.00	0.00
22,500.00	90.51	269.84	9,700.62	-2,287.33	-12,729.05	12,735.39	0.00	0.00	0.00
22,600.00	90.51	269.84	9,699.73	-2,287.62	-12,829.05	12,835.39	0.00	0.00	0.00
22,700.00	90.51	269.84	9,698.85	-2,287.90	-12,929.04	12,935.38	0.00	0.00	0.00
22,800.00	90.51	269.84	9,697.97	-2,288.19	-13,029.04	13,035.38	0.00	0.00	0.00
22,900.00	90.51	269.84	9,697.08	-2,288.47	-13,129.04	13,135.38	0.00	0.00	0.00
23,000.00	90.51	269.84	9,696.20	-2,288.75	-13,229.03	13,235.37	0.00	0.00	0.00
23,100.00	90.51	269.84	9,695.31	-2,289.04	-13,329.03	13,335.37	0.00	0.00	0.00
23,200.00	90.51	269.84	9,694.43	-2,289.32	-13,429.02	13,435.36	0.00	0.00	0.00
23,300.00	90.51	269.84	9,693.54	-2,289.60	-13,529.02	13,535.36	0.00	0.00	0.00
23,400.00	90.51	269.84	9,692.66	-2,289.89	-13,629.01	13,635.36	0.00	0.00	0.00
23,500.00	90.51	269.84	9,691.78	-2,290.17	-13,729.01	13,735.35	0.00	0.00	0.00
23,600.00	90.51	269.84	9,690.89	-2,290.46	-13,829.01	13,835.35	0.00	0.00	0.00
23,700.00	90.51	269.84	9,690.01	-2,290.74	-13,929.00	13,935.34	0.00	0.00	0.00
23,800.00	90.51	269.84	9,689.12	-2,291.02	-14,029.00	14,035.34	0.00	0.00	0.00
23,900.00	90.51	269.84	9,688.24	-2,291.31	-14,128.99	14,135.34	0.00	0.00	0.00
24,000.00	90.51	269.84	9,687.35	-2,291.59	-14,228.99	14,235.33	0.00	0.00	0.00
24,100.00	90.51	269.84	9,686.47	-2,291.87	-14,328.98	14,335.33	0.00	0.00	0.00
24,200.00	90.51	269.84	9,685.59	-2,292.16	-14,428.98	14,435.32	0.00	0.00	0.00
24,300.00	90.51	269.84	9,684.70	-2,292.44	-14,528.98	14,535.32	0.00	0.00	0.00
24,400.00	90.51	269.84	9,683.82	-2,292.72	-14,628.97	14,635.32	0.00	0.00	0.00
24,500.00	90.51	269.84	9,682.93	-2,293.01	-14,728.97	14,735.31	0.00	0.00	0.00
24,600.00	90.51	269.84	9,682.05	-2,293.29	-14,828.96	14,835.31	0.00	0.00	0.00
24,700.00	90.51	269.84	9,681.16	-2,293.58	-14,928.96	14,935.30	0.00	0.00	0.00
24,800.00	90.51	269.84	9,680.28	-2,293.86	-15,028.95	15,035.30	0.00	0.00	0.00
24,900.00	90.51	269.84	9,679.40	-2,294.14	-15,128.95	15,135.30	0.00	0.00	0.00
25,000.00	90.51	269.84	9,678.51	-2,294.43	-15,228.95	15,235.29	0.00	0.00	0.00
25,100.00	90.51	269.84	9,677.63	-2,294.71	-15,328.94	15,335.29	0.00	0.00	0.00
25,200.00	90.51	269.84	9,676.74	-2,294.99	-15,428.94	15,435.29	0.00	0.00	0.00
25,300.00	90.51	269.84	9,675.86	-2,295.28	-15,528.93	15,535.28	0.00	0.00	0.00
25,400.00	90.51	269.84	9,674.97	-2,295.56	-15,628.93	15,635.28	0.00	0.00	0.00
25,500.00	90.51	269.84	9,674.09	-2,295.85	-15,728.92	15,735.27	0.00	0.00	0.00
25,600.00	90.51	269.84	9,673.21	-2,296.13	-15,828.92	15,835.27	0.00	0.00	0.00
25,700.00	90.51	269.84	9,672.32	-2,296.41	-15,928.92	15,935.27	0.00	0.00	0.00
25,800.00	90.51	269.84	9,671.44	-2,296.70	-16,028.91	16,035.26	0.00	0.00	0.00
25,900.00	90.51	269.84	9,670.55	-2,296.98	-16,128.91	16,135.26	0.00	0.00	0.00
26,000.00	90.51	269.84	9,669.67	-2,297.26	-16,228.90	16,235.25	0.00	0.00	0.00
26,100.00	90.51	269.84	9,668.78	-2,297.55	-16,328.90	16,335.25	0.00	0.00	0.00
26,138.71	90.51	269.84	9,668.44	-2,297.66	-16,367.60	16,373.95	0.00	0.00	0.00
26,188.71	90.51	269.84	9,668.00	-2,297.80	-16,417.60	16,423.95	0.00	0.00	0.00



Planning Report

<b>Database:</b>	EDM 5000.1.13 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #103H
<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	RKB = 25' @ 3555.00usft
<b>Project:</b>	Lea County, NM (NAD-27)	<b>MD Reference:</b>	RKB = 25' @ 3555.00usft
<b>Site:</b>	Big Eddy Unit DI BB JABBA	<b>North Reference:</b>	Grid
<b>Well:</b>	#103H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PERMIT		

Design Targets

Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
DI BB JABBA 103H: E	- plan hits target center	0.00	0.00	0.00	0.00	0.00	565,034.10	676,603.20	32.5520801	-103.7601791
- Point										
DI BB JABBA 103H: F	- plan hits target center	0.00	0.00	9,668.00	-2,297.80	-16,417.60	562,736.30	660,185.60	32.5459956	-103.8134958
- Point										
DI BB JABBA 103H: L	- plan misses target center by 0.24usft at 26138.70usft MD (9668.44 TVD, -2297.66 N, -16367.60 E)	0.00	0.01	9,668.44	-2,297.90	-16,367.60	562,736.20	660,235.60	32.5459947	-103.8133335
- Point										
DI BB JABBA 103H: F	- plan hits target center	0.00	0.01	9,807.00	-2,253.20	-699.10	562,780.90	675,904.10	32.5458970	-103.7624871
- Point										

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
955.00	955.00	Rustler			
1,230.00	1,230.00	Salado/Top of Salt			
2,578.93	2,575.00	Base of Salt			
3,258.22	3,228.00	Capitan Reef			
4,820.36	4,722.00	Delaware Sand			
5,244.87	5,128.00	Manzanita Marker			
6,365.76	6,200.00	Brushy Canyon Ss.			
7,671.72	7,449.00	Lower Brushy Canyon Ss.			
7,960.31	7,725.00	Bone Spring Lm.			
8,107.74	7,866.00	Avalon Ss.			
8,196.62	7,951.00	Upper Avalon Sh.			
8,460.11	8,203.00	Lw. Avalon Carb.			
8,605.45	8,342.00	Lw. Avalon Sh.			
8,855.35	8,581.00	Bone Spring Carb.			
9,089.57	8,805.00	First Bone Spring Ss.			
9,417.89	9,119.00	Second Bone Spring Carb.			
9,652.44	9,343.00	Second Bone Spring Ss.			
9,958.46	9,607.00	Second Bone Spring A Ss.			
10,127.38	9,715.00	Second Bone Spring B Ss.			



GATES E & S NORTH AMERICA, INC  
 DU-TEX  
 134 44TH STREET  
 CORPUS CHRISTI, TEXAS 78405

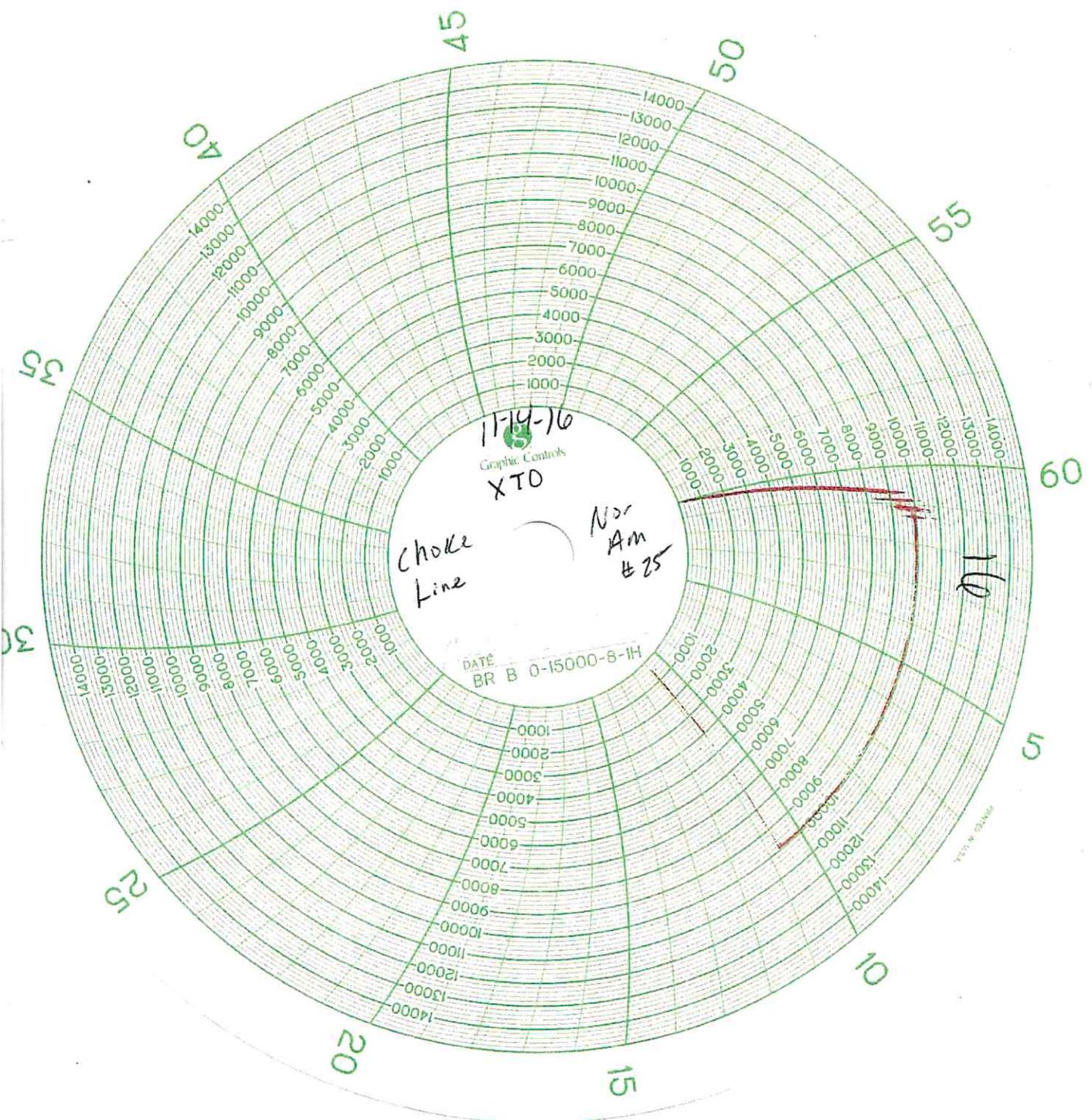
PHONE: 361-887-9807  
 FAX: 361-887-0812  
 EMAIL: crpe&s@gates.com  
 WEB: www.gates.com

### GRADE D PRESSURE TEST CERTIFICATE

Customer:	AUSTIN DISTRIBUTING	Test Date:	6/8/2014
Customer Ref.:	PENDING	Hose Serial No.:	D-060814-1
Invoice No.:	201709	Created By:	NORMA
Product Description:	FD3-042.0R41/16.5KFLGE/E LE		
End Fitting 1:	4 1/16 in. SK FLG	End Fitting 2:	4 1/16 in. SK FLG
Gates Part No.:	4774-6001	Assembly Code:	L33090011513D-060814-1
Working Pressure:	5,000 PSI	Test Pressure:	7,500 PSI

Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 7,500 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.5 times the working pressure per Table 9.

Quality:	QUALITY	Signature:	<i>[Signature]</i>
Date:	6/8/2014	Date:	6/8/2014
Technical Supervisor:	PRODUCTION	Signature:	<i>[Signature]</i>



11-14-16  
Graphic Controls  
XTO

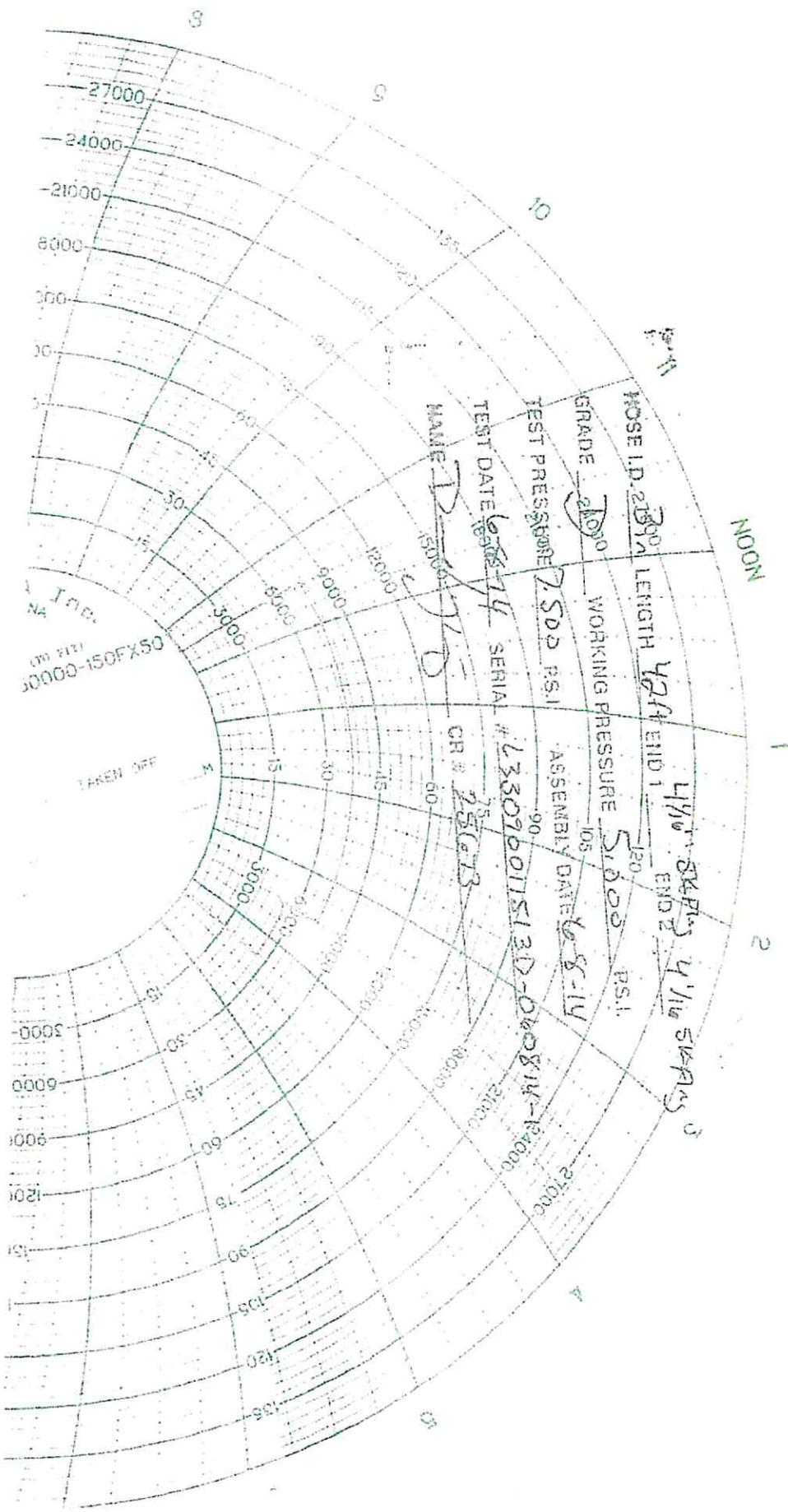
Choke  
Line

Nov  
Am  
#25

DATE  
BR B 0-15000-8-1H

14

SMITH CHART  
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NA Inc.  
 (70 717)  
 10000-150FX50

TAKEN OFF

HOSE I.D. 2 1/2" LENGTH 42'4" END 1 4 1/2" BEARING 1 1/2" STAYS  
 END 2  
 GRADE 200 WORKING PRESSURE 5100 PS.I.  
 TEST PRESSURE 7500 PS.I. ASSEMBLY DATE 10-8-14  
 TEST DATE 10-8-14 SERIAL # L33096017513D-010814-12000  
 NAME D. J. D. CR # 25613

NOON

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4

5

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24000

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18000

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6000

3000

3000

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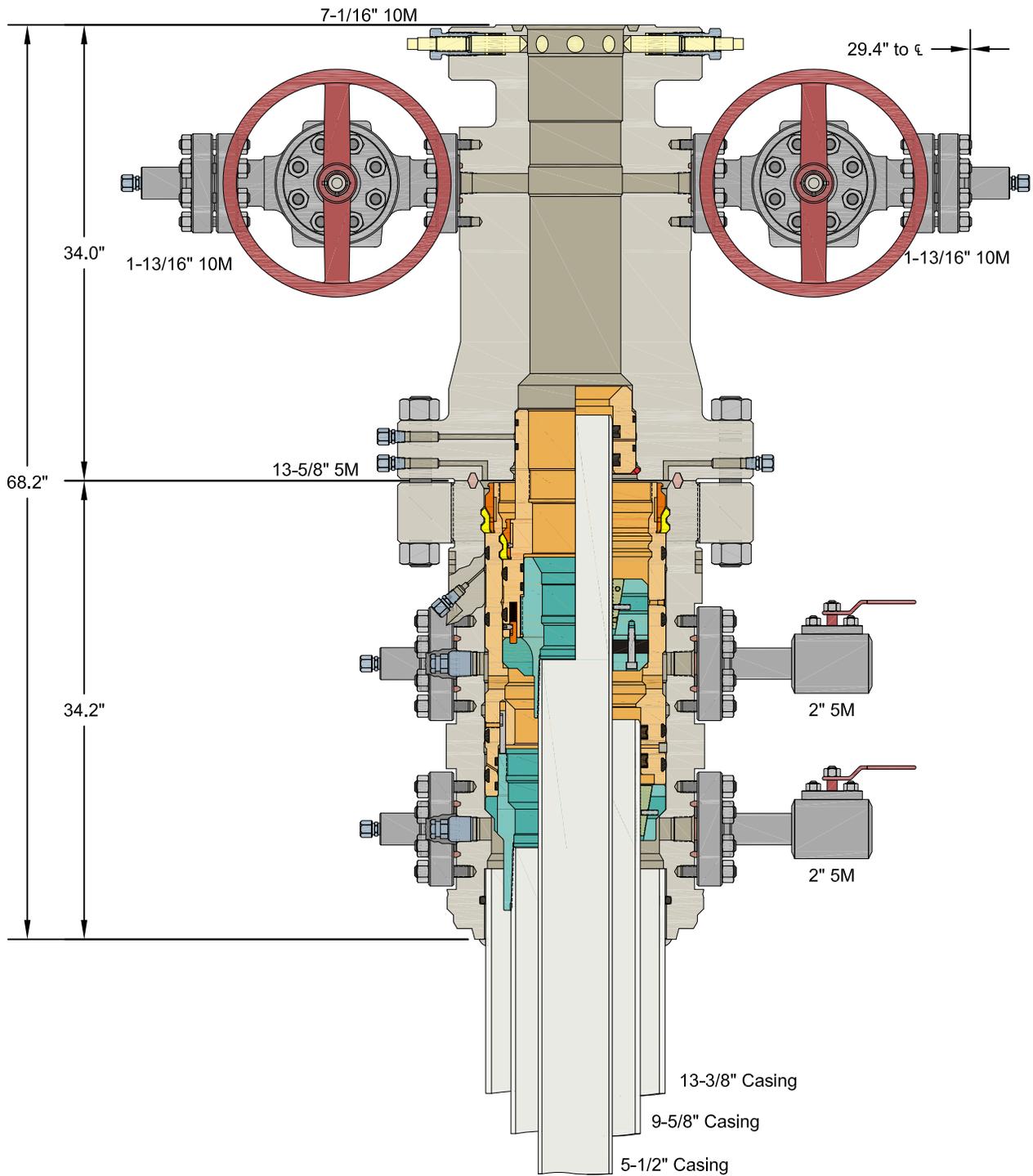
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ALL DIMENSIONS ARE APPROXIMATE

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XTO ENERGY, INC.

13-3/8" x 9-5/8" x 5-1/2" 10M RSH-2 Wellhead  
Assembly, With T-EBS-F Tubing Head

DRAWN VJK 16FEB17

APPRV KN 16FEB17

FOR REFERENCE ONLY  
DRAWING NO. 10012842

APD ID: 10400046300

Submission Date: 08/22/2019

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI BB JABBA

Well Number: 103H

Well Type: OIL WELL

Well Work Type: Drill

## Section 1 - General

Would you like to address long-term produced water disposal? NO

## Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

### Lined pit specifications:

Pit liner description:

### Pit liner manufacturers information:

Precipitated solids disposal:

Describe precipitated solids disposal:

### Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

### Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

### Lined pit reclamation attachment:

Leak detection system description:

### Leak detection system attachment:

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI BB JABBA

Well Number: 103H

Lined pit Monitor description:

**Lined pit Monitor attachment:**

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

**Additional bond information attachment:**

**Section 3 - Unlined Pits**

Would you like to utilize Unlined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD disturbance (acres):

PWD surface owner:

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

**Unlined pit specifications:**

Precipitated solids disposal:

Describe precipitated solids disposal:

**Precipitated solids disposal permit:**

Unlined pit precipitated solids disposal schedule:

**Unlined pit precipitated solids disposal schedule attachment:**

Unlined pit reclamation description:

**Unlined pit reclamation attachment:**

Unlined pit Monitor description:

**Unlined pit Monitor attachment:**

Do you propose to put the produced water to beneficial use?

**Beneficial use user confirmation:**

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

**TDS lab results:**

**Geologic and hydrologic evidence:**

**State authorization:**

**Unlined Produced Water Pit Estimated percolation:**

Unlined pit: do you have a reclamation bond for the pit?

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI BB JABBA

Well Number: 103H

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

**Additional bond information attachment:**

#### Section 4 - Injection

Would you like to utilize Injection PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number:

Injection well name:

Assigned injection well API number?

Injection well API number:

Injection well new surface disturbance (acres):

Minerals protection information:

**Mineral protection attachment:**

Underground Injection Control (UIC) Permit?

**UIC Permit attachment:**

#### Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

**Surface Discharge NPDES Permit attachment:**

Surface Discharge site facilities information:

**Surface discharge site facilities map:**

#### Section 6 - Other

Would you like to utilize Other PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Other PWD discharge volume (bbl/day):

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI BB JABBA

Well Number: 103H

Other PWD type description:

**Other PWD type attachment:**

Have other regulatory requirements been met?

**Other regulatory requirements attachment:**



APD ID: 10400046300

Submission Date: 08/22/2019

Highlighted data  
reflects the most  
recent changes

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI BB JABBA

Well Number: 103H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

### Bond Information

Federal/Indian APD: FED

BLM Bond number: COB000050

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

**Forest Service reclamation bond attachment:**

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

**Additional reclamation bond information attachment:**