Form 3160-3
(June 2015)

OCD – HOBBS
06/02/2020
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FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM033955

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☑ Single Zone ☐ Multiple Zone

7. If Unit or CA Agreement, Name and No.
BIG EDDY / NMNM068294X

8. Lease Name and Well No.
BIG EDDY UNIT DI BB JABBA
100H [328261]

2. Name of Operator
XTO PERMIAN OPERATING LLC [373075]

9. API Well No. 30-025-47224

3a. Address
6401 Holiday Hill Road, Bldg 5 Midland TX 79707

3b. Phone No. *(include area code)*
(432)682-8873

10. Field and Pool, or Exploratory
WILDCAT; BONE SPRING [53560]

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface SWSW / 470 FSL / 610 FWL / LAT 32.55275 / LONG -103.760677
At proposed prod. zone LOT 3 / 1980 FSL / 50 FWL / LAT 32.557001 / LONG -103.813997

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 22 / T20S / R32E / NMP

14. Distance in miles and direction from nearest town or post office*
24.38 miles

12. County or Parish
LEA

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
470 feet

16. No of acres in lease
1280

17. Spacing Unit dedicated to this well
480

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
30 feet

19. Proposed Depth
9624 feet / 25969 feet

20. BLM/BIA Bond No. in file
FED: COB000050

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3529 feet

22. Approximate date work will start*
05/01/2019

23. Estimated duration
90 days

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.
2. A Drilling Plan.
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).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Stephanie Rabadue / Ph: (432)620-6714	08/22/2019

Title
Regulatory Coordinator

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	12/13/2019

Title	Office
Assistant Field Manager Lands & Minerals	CARLSBAD

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

KZ
06/05/2020

Approval Date: 12/13/2019

(Continued on page 2)

*(Instructions on page 2)

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**XTO Permian Operating, LLC.**
LEASE NO.:	**NMNM-033955**
WELL NAME & NO.:	**Big Eddy Unit DI BB Jaba 100H**
SURFACE HOLE FOOTAGE:	**0470' FSL & 0610' FWL**
BOTTOM HOLE FOOTAGE	**1980' FSL & 0050 FWL Sec. 19, T.20 S., R.32 E.**
LOCATION:	**Section 22, T.20 S., R.32 E., NMPM**
COUNTY:	**Lea County, New Mexico**

COA

H2S	◉ Yes	○ No	
Potash	○ None	○ Secretary	◉ R-111-P
Cave/Karst Potential	◉ Low	○ Medium	○ High
Cave/Karst Potential	○ Critical		
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	◉ Multibowl	○ Both
Other	☑ 4 String Area	☑ Capitan Reef	☐ WIPP
Other	☑ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☐ COM	☑ 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

Approval Date: 12/13/2019

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 1st 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'' 2nd 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 2nd 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'' 1st intermediate casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 1st 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 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

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 intergrity 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

APD ID: 10400045939 **Submission Date:** 08/22/2019

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI BB JABBA **Well Number:** 100H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400045939 **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:** 100H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** WILDCAT; BONE SPRING **Pool Name:**

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:** 100H

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:** 470 FT

Reservoir well spacing assigned acres Measurement: 480 Acres

Well plat: BEU_BB_Jabba_100H_C102_20190815100057.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	470	FSL	610	FWL	20S	32E	22	Aliquot SWSW	32.55275	-103.760677	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 033955	3529	0	0	N
KOP Leg #1	470	FSL	610	FWL	20S	32E	22	Aliquot SWSW	32.55275	-103.760677	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 033955	1529	2000	2000	Y
PPP Leg #1-1	1980	FSL	100	FEL	20S	32E	21	Aliquot NESE	32.556902	-103.762976	LEA	NEW MEXICO	NEW MEXICO	F	NMLC0065752A	-5825	9354	9354	Y

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI BB JABBA **Well Number:** 100H

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?
EXIT Leg #1	1980	FSL	100	FWL	20S	32E	19	Lot 3	32.557	-103.813835	LEA	NEW MEXICO	NEW MEXICO	F	NMLC0065752A	-6095	25919	9624	Y
BHL Leg #1	1980	FSL	50	FWL	20S	32E	19	Lot 3	32.557001	-103.813997	LEA	NEW MEXICO	NEW MEXICO	F	NMLC0065752A	-6095	25969	9624	Y

APD ID: 10400045939 **Submission Date:** 08/22/2019

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI BB JABBA **Well Number:** 100H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
515924	PERMIAN	3529	0	0	OTHER : Alluvium	NONE	N
515915	RUSTLER	2577	952	952	SILTSTONE	USEABLE WATER	N
515916	TOP SALT	2302	1227	1227	SALT	OTHER, POTASH	N
515917	BASE OF SALT	957	2572	2572	SALT	OTHER, POTASH	N
515933	CAPITAN REEF	304	3225	3225	LIMESTONE	USEABLE WATER	N
515913	DELAWARE	-1190	4719	4719	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
515931	BRUSHY CANYON	-2650	6179	6179	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
515914	BONE SPRING	-4193	7722	7722	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
515929	BONE SPRING 1ST	-5273	8802	8802	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
515928	BONE SPRING 2ND	-5587	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 nippling up, the BOP test will be limited to 2,000 psi. All BOP tests will include a low

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_20191204062845.pdf

Pressure Rating (PSI): 3M **Rating Depth:** 9624

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 nippling 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	3529	2352	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		857	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		-1290	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:** 100H

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	PRODUCTION	8.75	5.5	NEW	API	N	0	25970	0	9624		-6095	25970	P-110	17	BUTT	1.64	1.12	DRY	2.04	DRY	2.04

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU_BB_Jabba_100H_Csg_20190821065431.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU_BB_Jabba_100H_Csg_20190821065532.pdf

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI BB JABBA **Well Number:** 100H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU_BB_Jabba_100H_Csg_20190821065603.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU_BB_Jabba_100H_Csg_20190821065637.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:** 100H

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	25969	800	2.69	10.5	2152	30	NeoCem	none
PRODUCTION	Tail				3490	1.61	13.2	5618.9	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:** 100H

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	9624	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:** 100H

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4353 **Anticipated Surface Pressure:** 2235

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 geoharzards 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_100H_DD_20190821070811.pdf

Other proposed operations facets description:

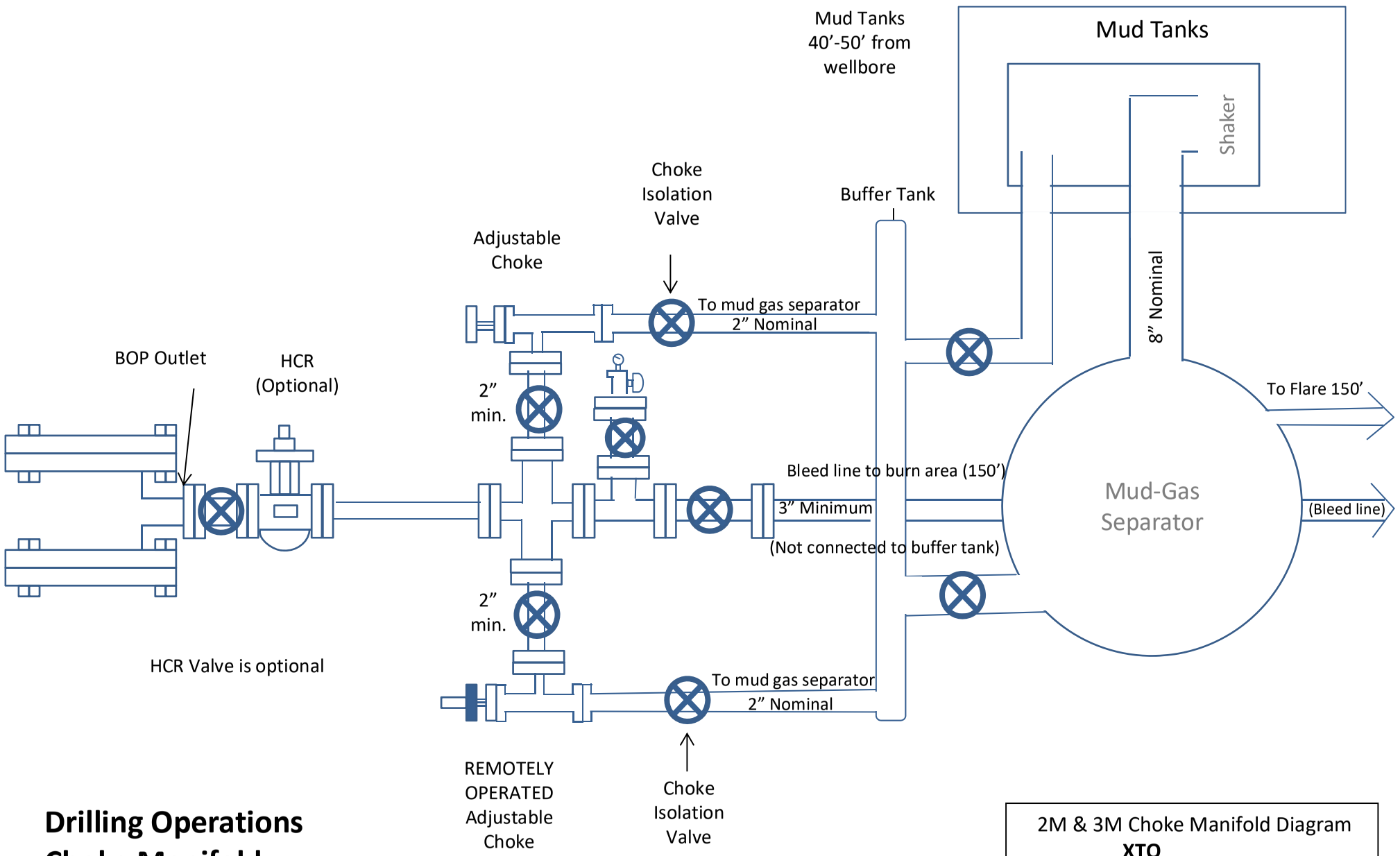
Other proposed operations facets attachment:

BEU_BB_Jabba_100H_GCP_20190821070820.pdf

Other Variance attachment:

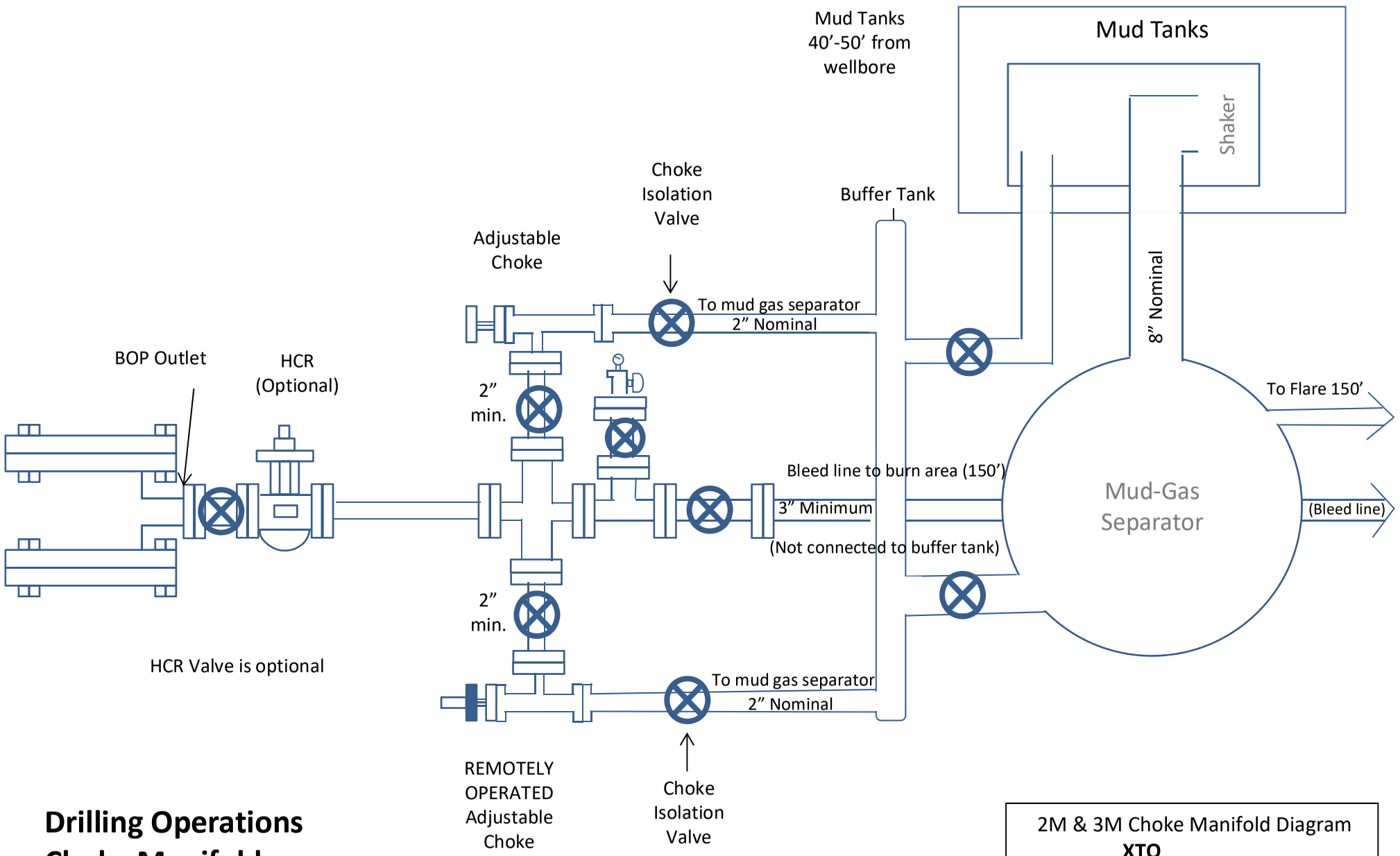
BEU_BB_FH_20190821070830.pdf

BEU_BB_MBS_20190821070837.pdf



Drilling Operations
Choke Manifold
2M & 3M Service

2M & 3M Choke Manifold Diagram
XTO



Drilling Operations
Choke Manifold
2M & 3M Service

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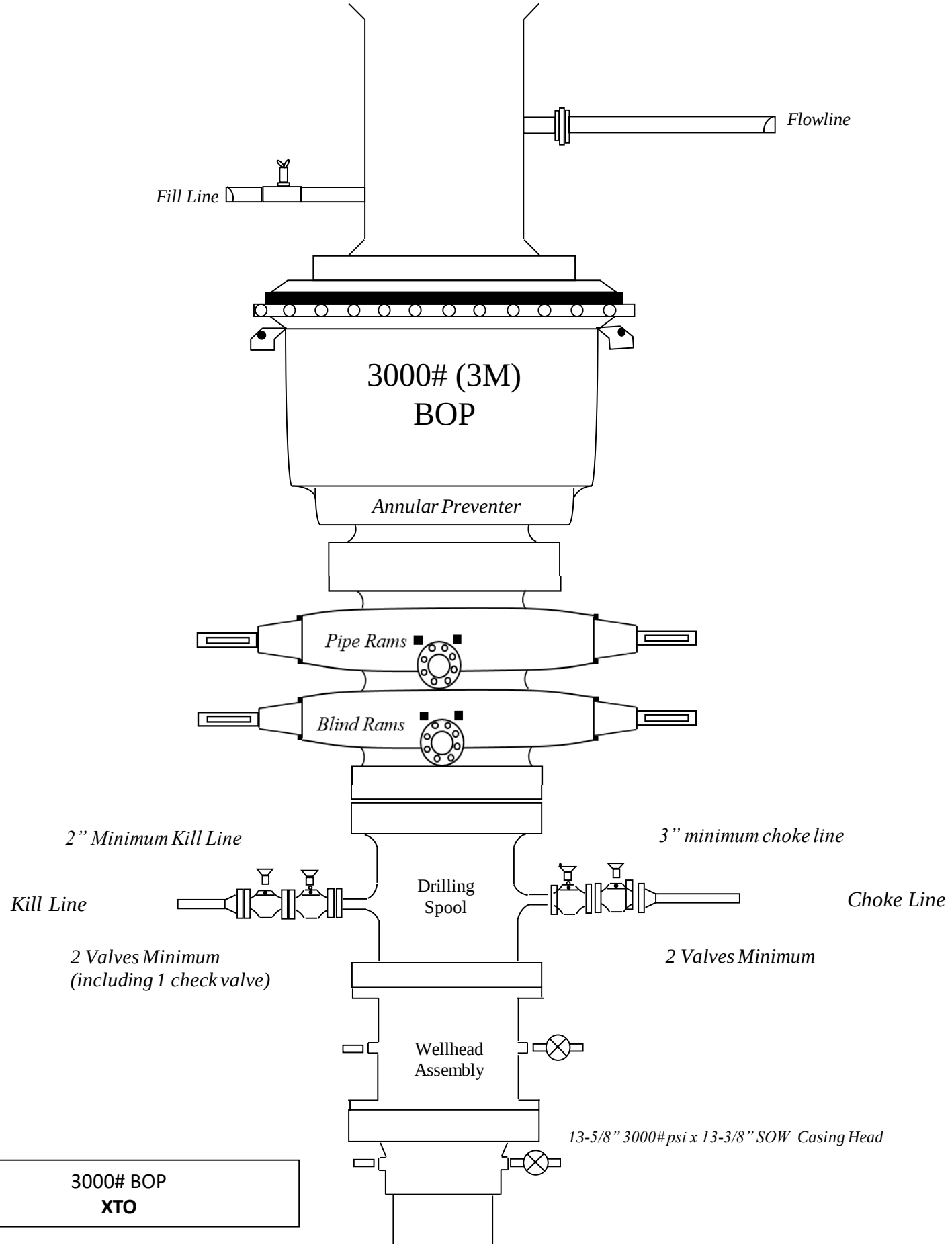
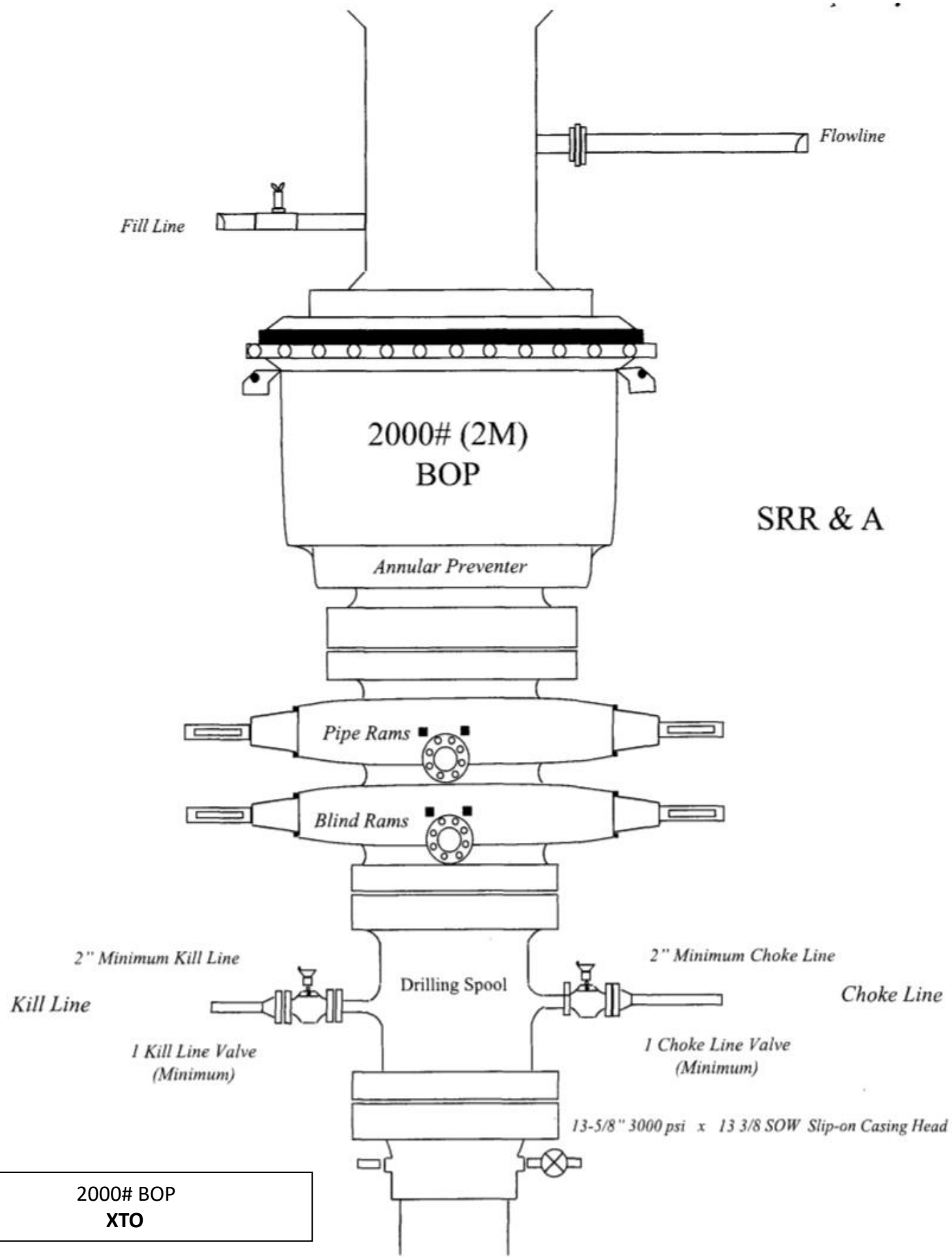
XTO


Flowline
Fill Line
3000# (3M)
BOP
Annular Preventer
Pipe Rams
Blind Rams
2" Minimum Kill Line
3" minimum choke line
Kill Line
Drilling
Spool
Choke Line
2 Valves Minimum
(including 1 check valve)
2 Valves Minimum
Wellhead
Assembly
13-5/8" 3000# psi x 13-3/8" SOW Casing Head

3000# BOP
XTO


Flowline
Fill Line
2000# (2M)
BOP
SRR & A
Annular Preventer
Pipe Rams
Blind Rams
2" Minimum Kill Line
2" Minimum Choke Line
Drilling Spool
Kill Line
Choke Line
1 Kill Line Valve
(Minimum)
1 Choke Line Valve
(Minimum)
13-5/8" 3000 psi x 13 3/8 SOW Slip-on Casing Head

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, whichver 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

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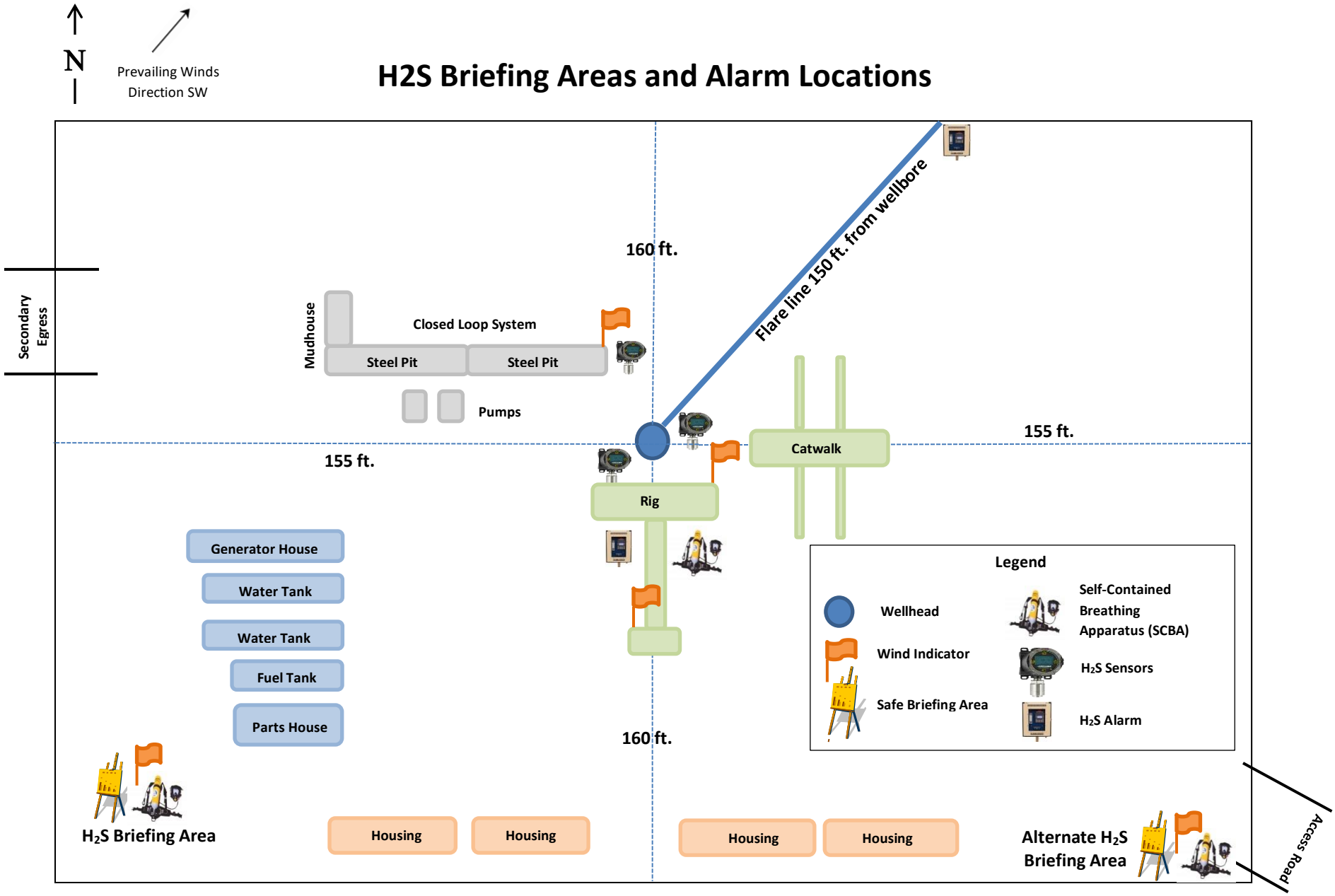
H2S Briefing Areas and Alarm Locations



HYDROGEN SULFIDE (H2S) CONTINGENCY PLAN

Assumed 100 ppm ROE = 3000'

100 ppm H2S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing H_2S, 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_2S 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
    - Detection of H_2S, and
    - Measures for protection against the gas,
    - 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_2). 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_2S and SO_2

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	**H_2S**	**1.189 Air = I**	**10 ppm**	**100 ppm/hr**	**600 ppm**
Sulfur Dioxide	**SO_2**	**2.21 Air = I**	**2 ppm**	**N/A**	**1000 ppm**

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: 911

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

HOSPITALS: 911

Carlsbad Medical Emergency	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
#100H

OH

Plan: PERMIT

Standard Planning Report

25 July, 2019

Project: Lea County, NM (NAD-27)
Site: Big Eddy Unit DI BB JABBA
Well: #100H
Wellbore: OH
Design: PERMIT

WELL DETAILS: #100H

Rig Name:
RKB = 25' @ 3554.00usft
Ground Level: 3529.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	565234.10	676602.40	32.5526298	-103.7601782

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
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	2572.41	11.45	354.34	2568.61	56.72	-5.62	2.00	354.34	5.46
4	9354.98	11.45	354.34	9216.24	1396.37	-138.32	0.00	0.00	134.42
5	10249.20	90.52	269.84	9767.00	1506.80	-716.60	10.00	-84.51	712.39
6	25919.81	90.52	269.84	9624.45	1462.44	-16386.50	0.00	0.00	16382.35
7	25969.81	90.52	269.84	9624.00	1462.30	-16436.50	0.00	0.00	16432.35

PROJECT DETAILS: Lea County, NM (NAD-27)

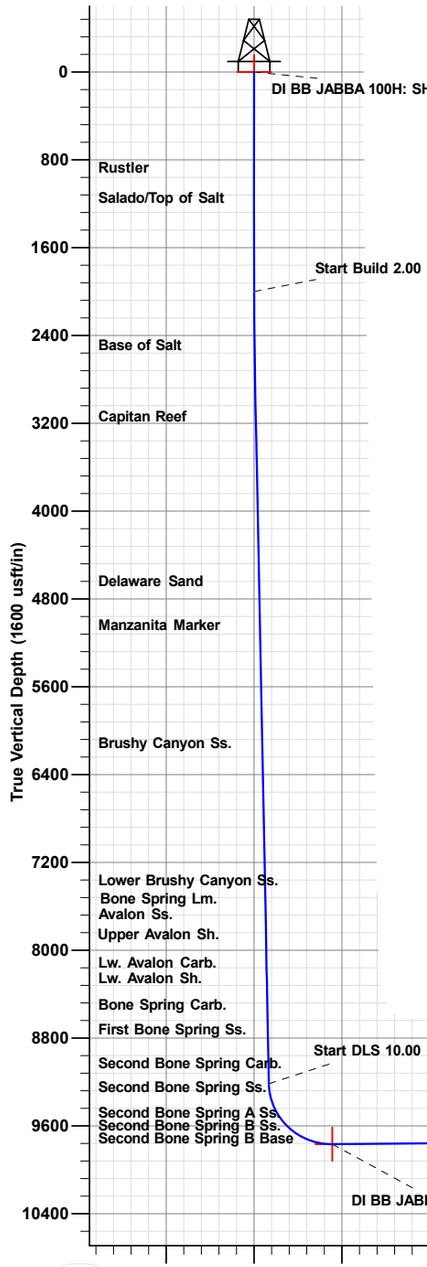
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

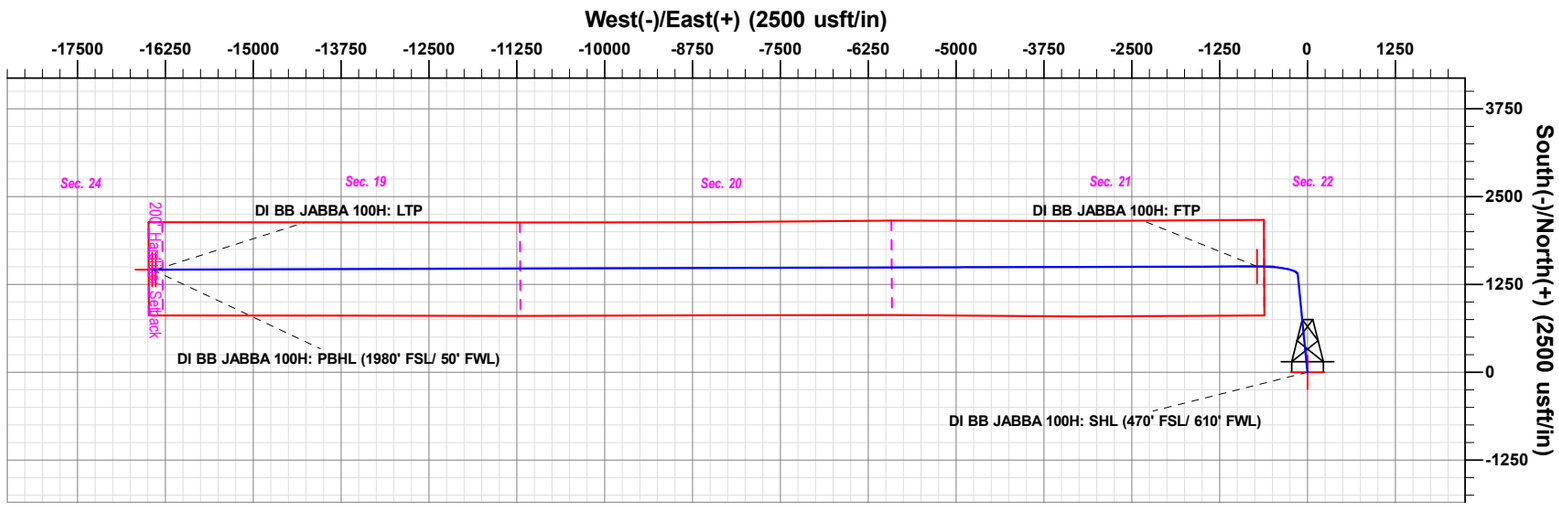
DESIGN TARGET DETAILS

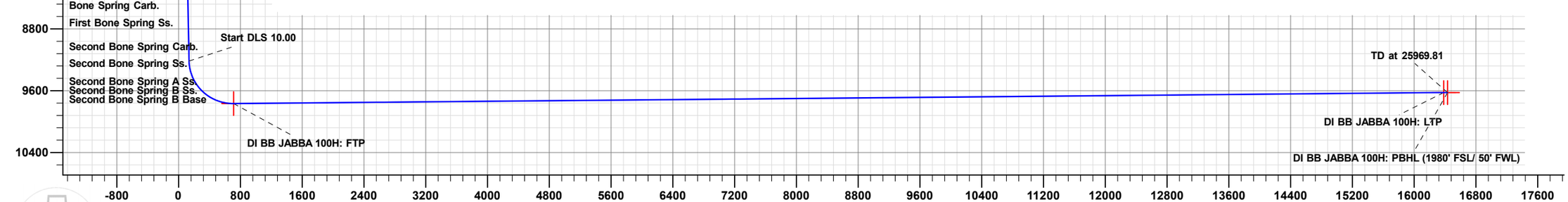
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
DI BB JABBA 100H: SHL (470' FSL/ 610' FWL)	0.00	0.00	0.00	565234.10	676602.40	32.5526298	-103.7601782	Point
DI BB JABBA 100H: PBHL (1980' FSL/ 50' FWL)	9624.00	1462.30	-16436.50	566696.40	660165.90	32.5568812	-103.8134970	Point
DI BB JABBA 100H: LTP	9624.45	1462.20	-16386.50	566696.30	660215.90	32.5568802	-103.8133347	Point
DI BB JABBA 100H: FTP	9767.00	1506.80	-716.60	566740.90	675885.80	32.5567822	-103.7624776	Point

FORMATION TOP DETAILS

TVDPath	Formation
954.00	Rustler
1229.00	Salado/Top of Salt
2574.00	Base of Salt
3227.00	Capitan Reef
4721.00	Delaware Sand
5127.00	Manzanita Marker
6199.00	Brushy Canyon Ss.
7448.00	Lower Brushy Canyon Ss.
7724.00	Bone Spring Lm.
7865.00	Avalon Ss.
7950.00	Upper Avalon Sh.
8202.00	Lw. Avalon Carb.
8341.00	Lw. Avalon Sh.
8580.00	Bone Spring Carb.
8804.00	First Bone Spring Ss.
9118.00	Second Bone Spring Carb.
9328.00	Second Bone Spring Ss.
9562.00	Second Bone Spring A Ss.
9686.00	Second Bone Spring B Ss.







Vertical Section at 269.84° (1600 usft/in)

Plan: PERMIT (#100H/OH)
Created By: Matthew May Date: 13:56, July 30 2019

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #100H
Company:	XTO Energy	**TVD Reference:**	RKB = 25' @ 3554.00usft
Project:	Lea County, NM (NAD-27)	**MD Reference:**	RKB = 25' @ 3554.00usft
Site:	Big Eddy Unit DI BB JABBA	**North Reference:**	Grid
Well:	#100H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Project Lea County, NM (NAD-27)

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site Big Eddy Unit DI BB JABBA

Site Position:		**Northing:**	565,234.10 usft	**Latitude:**	32.5526298
From:	Map	**Easting:**	676,602.40 usft	**Longitude:**	-103.7601782
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.31 °

Well #100H

Well Position	**+N/-S**	0.00 usft	**Northing:**	565,234.10 usft	**Latitude:**	32.5526298
	+E/-W	0.00 usft	**Easting:**	676,602.40 usft	**Longitude:**	-103.7601782
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	3,529.00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	07/23/19	6.84	60.31	47,896

Design PERMIT

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	269.84

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
0.00	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	
2,572.41	11.45	354.34	2,568.61	56.72	-5.62	2.00	2.00	0.00	354.34	
9,354.98	11.45	354.34	9,216.24	1,396.37	-138.32	0.00	0.00	0.00	0.00	
10,249.20	90.52	269.84	9,767.00	1,506.80	-716.60	10.00	8.84	-9.45	-84.51	DI BB JABBA 100H
25,919.81	90.52	269.84	9,624.46	1,462.44	-16,386.50	0.00	0.00	0.00	0.00	DI BB JABBA 100H
25,969.81	90.52	269.84	9,624.00	1,462.30	-16,436.50	0.00	0.00	0.00	0.00	DI BB JABBA 100H

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #100H
Company:	XTO Energy	**TVD Reference:**	RKB = 25' @ 3554.00usft
Project:	Lea County, NM (NAD-27)	**MD Reference:**	RKB = 25' @ 3554.00usft
Site:	Big Eddy Unit DI BB JABBA	**North Reference:**	Grid
Well:	#100H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	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
954.00	0.00	0.00	954.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
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
1,229.00	0.00	0.00	1,229.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado/Top of Salt									
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	354.34	2,099.98	1.74	-0.17	0.17	2.00	2.00	0.00
2,200.00	4.00	354.34	2,199.84	6.94	-0.69	0.67	2.00	2.00	0.00
2,300.00	6.00	354.34	2,299.45	15.62	-1.55	1.50	2.00	2.00	0.00
2,400.00	8.00	354.34	2,398.70	27.74	-2.75	2.67	2.00	2.00	0.00
2,500.00	10.00	354.34	2,497.47	43.31	-4.29	4.17	2.00	2.00	0.00
2,572.41	11.45	354.34	2,568.61	56.72	-5.62	5.46	2.00	2.00	0.00
2,577.91	11.45	354.34	2,574.00	57.81	-5.73	5.56	0.00	0.00	0.00
Base of Salt									
2,600.00	11.45	354.34	2,595.65	62.17	-6.16	5.98	0.00	0.00	0.00
2,700.00	11.45	354.34	2,693.66	81.92	-8.11	7.89	0.00	0.00	0.00
2,800.00	11.45	354.34	2,791.67	101.67	-10.07	9.79	0.00	0.00	0.00
2,900.00	11.45	354.34	2,889.68	121.42	-12.03	11.69	0.00	0.00	0.00
3,000.00	11.45	354.34	2,987.69	141.17	-13.98	13.59	0.00	0.00	0.00
3,100.00	11.45	354.34	3,085.70	160.93	-15.94	15.49	0.00	0.00	0.00
3,200.00	11.45	354.34	3,183.71	180.68	-17.90	17.39	0.00	0.00	0.00
3,244.17	11.45	354.34	3,227.00	189.40	-18.76	18.23	0.00	0.00	0.00
Capitan Reef									
3,300.00	11.45	354.34	3,281.72	200.43	-19.85	19.29	0.00	0.00	0.00
3,400.00	11.45	354.34	3,379.73	220.18	-21.81	21.20	0.00	0.00	0.00
3,500.00	11.45	354.34	3,477.74	239.93	-23.77	23.10	0.00	0.00	0.00
3,600.00	11.45	354.34	3,575.75	259.68	-25.72	25.00	0.00	0.00	0.00
3,700.00	11.45	354.34	3,673.77	279.43	-27.68	26.90	0.00	0.00	0.00
3,800.00	11.45	354.34	3,771.78	299.19	-29.64	28.80	0.00	0.00	0.00
3,900.00	11.45	354.34	3,869.79	318.94	-31.59	30.70	0.00	0.00	0.00
4,000.00	11.45	354.34	3,967.80	338.69	-33.55	32.60	0.00	0.00	0.00
4,100.00	11.45	354.34	4,065.81	358.44	-35.51	34.51	0.00	0.00	0.00
4,200.00	11.45	354.34	4,163.82	378.19	-37.46	36.41	0.00	0.00	0.00
4,300.00	11.45	354.34	4,261.83	397.94	-39.42	38.31	0.00	0.00	0.00
4,400.00	11.45	354.34	4,359.84	417.69	-41.38	40.21	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #100H
Company:	XTO Energy	**TVD Reference:**	RKB = 25' @ 3554.00usft
Project:	Lea County, NM (NAD-27)	**MD Reference:**	RKB = 25' @ 3554.00usft
Site:	Big Eddy Unit DI BB JABBA	**North Reference:**	Grid
Well:	#100H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	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	11.45	354.34	4,457.85	437.45	-43.33	42.11	0.00	0.00	0.00
4,600.00	11.45	354.34	4,555.86	457.20	-45.29	44.01	0.00	0.00	0.00
4,700.00	11.45	354.34	4,653.87	476.95	-47.25	45.91	0.00	0.00	0.00
4,768.49	11.45	354.34	4,721.00	490.48	-48.59	47.22	0.00	0.00	0.00
Delaware Sand									
4,800.00	11.45	354.34	4,751.88	496.70	-49.20	47.82	0.00	0.00	0.00
4,900.00	11.45	354.34	4,849.89	516.45	-51.16	49.72	0.00	0.00	0.00
5,000.00	11.45	354.34	4,947.90	536.20	-53.12	51.62	0.00	0.00	0.00
5,100.00	11.45	354.34	5,045.91	555.95	-55.07	53.52	0.00	0.00	0.00
5,182.73	11.45	354.34	5,127.00	572.30	-56.69	55.09	0.00	0.00	0.00
Manzanita Marker									
5,200.00	11.45	354.34	5,143.92	575.71	-57.03	55.42	0.00	0.00	0.00
5,300.00	11.45	354.34	5,241.93	595.46	-58.99	57.32	0.00	0.00	0.00
5,400.00	11.45	354.34	5,339.94	615.21	-60.94	59.22	0.00	0.00	0.00
5,500.00	11.45	354.34	5,437.95	634.96	-62.90	61.12	0.00	0.00	0.00
5,600.00	11.45	354.34	5,535.96	654.71	-64.85	63.03	0.00	0.00	0.00
5,700.00	11.45	354.34	5,633.97	674.46	-66.81	64.93	0.00	0.00	0.00
5,800.00	11.45	354.34	5,731.99	694.21	-68.77	66.83	0.00	0.00	0.00
5,900.00	11.45	354.34	5,830.00	713.97	-70.72	68.73	0.00	0.00	0.00
6,000.00	11.45	354.34	5,928.01	733.72	-72.68	70.63	0.00	0.00	0.00
6,100.00	11.45	354.34	6,026.02	753.47	-74.64	72.53	0.00	0.00	0.00
6,200.00	11.45	354.34	6,124.03	773.22	-76.59	74.43	0.00	0.00	0.00
6,276.50	11.45	354.34	6,199.00	788.33	-78.09	75.89	0.00	0.00	0.00
Brushy Canyon Ss.									
6,300.00	11.45	354.34	6,222.04	792.97	-78.55	76.34	0.00	0.00	0.00
6,400.00	11.45	354.34	6,320.05	812.72	-80.51	78.24	0.00	0.00	0.00
6,500.00	11.45	354.34	6,418.06	832.47	-82.46	80.14	0.00	0.00	0.00
6,600.00	11.45	354.34	6,516.07	852.23	-84.42	82.04	0.00	0.00	0.00
6,700.00	11.45	354.34	6,614.08	871.98	-86.38	83.94	0.00	0.00	0.00
6,800.00	11.45	354.34	6,712.09	891.73	-88.33	85.84	0.00	0.00	0.00
6,900.00	11.45	354.34	6,810.10	911.48	-90.29	87.74	0.00	0.00	0.00
7,000.00	11.45	354.34	6,908.11	931.23	-92.25	89.65	0.00	0.00	0.00
7,100.00	11.45	354.34	7,006.12	950.98	-94.20	91.55	0.00	0.00	0.00
7,200.00	11.45	354.34	7,104.13	970.73	-96.16	93.45	0.00	0.00	0.00
7,300.00	11.45	354.34	7,202.14	990.49	-98.12	95.35	0.00	0.00	0.00
7,400.00	11.45	354.34	7,300.15	1,010.24	-100.07	97.25	0.00	0.00	0.00
7,500.00	11.45	354.34	7,398.16	1,029.99	-102.03	99.15	0.00	0.00	0.00
7,550.85	11.45	354.34	7,448.00	1,040.03	-103.02	100.12	0.00	0.00	0.00
Lower Brushy Canyon Ss.									
7,600.00	11.45	354.34	7,496.17	1,049.74	-103.99	101.05	0.00	0.00	0.00
7,700.00	11.45	354.34	7,594.18	1,069.49	-105.94	102.96	0.00	0.00	0.00
7,800.00	11.45	354.34	7,692.19	1,089.24	-107.90	104.86	0.00	0.00	0.00
7,832.45	11.45	354.34	7,724.00	1,095.65	-108.53	105.47	0.00	0.00	0.00
Bone Spring Lm.									
7,900.00	11.45	354.34	7,790.21	1,108.99	-109.86	106.76	0.00	0.00	0.00
7,976.31	11.45	354.34	7,865.00	1,124.07	-111.35	108.21	0.00	0.00	0.00
Avalon Ss.									
8,000.00	11.45	354.34	7,888.22	1,128.75	-111.81	108.66	0.00	0.00	0.00
8,063.04	11.45	354.34	7,950.00	1,141.20	-113.05	109.86	0.00	0.00	0.00
Upper Avalon Sh.									
8,100.00	11.45	354.34	7,986.23	1,148.50	-113.77	110.56	0.00	0.00	0.00
8,200.00	11.45	354.34	8,084.24	1,168.25	-115.72	112.46	0.00	0.00	0.00
8,300.00	11.45	354.34	8,182.25	1,188.00	-117.68	114.36	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #100H
Company:	XTO Energy	**TVD Reference:**	RKB = 25' @ 3554.00usft
Project:	Lea County, NM (NAD-27)	**MD Reference:**	RKB = 25' @ 3554.00usft
Site:	Big Eddy Unit DI BB JABBA	**North Reference:**	Grid
Well:	#100H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	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)
8,320.15	11.45	354.34	8,202.00	1,191.98	-118.08	114.75	0.00	0.00	0.00
Lw. Avalon Carb.									
8,400.00	11.45	354.34	8,280.26	1,207.75	-119.64	116.26	0.00	0.00	0.00
8,461.98	11.45	354.34	8,341.00	1,219.99	-120.85	117.44	0.00	0.00	0.00
Lw. Avalon Sh.									
8,500.00	11.45	354.34	8,378.27	1,227.50	-121.59	118.17	0.00	0.00	0.00
8,600.00	11.45	354.34	8,476.28	1,247.25	-123.55	120.07	0.00	0.00	0.00
8,700.00	11.45	354.34	8,574.29	1,267.01	-125.51	121.97	0.00	0.00	0.00
8,705.83	11.45	354.34	8,580.00	1,268.16	-125.62	122.08	0.00	0.00	0.00
Bone Spring Carb.									
8,800.00	11.45	354.34	8,672.30	1,286.76	-127.46	123.87	0.00	0.00	0.00
8,900.00	11.45	354.34	8,770.31	1,306.51	-129.42	125.77	0.00	0.00	0.00
8,934.37	11.45	354.34	8,804.00	1,313.30	-130.09	126.43	0.00	0.00	0.00
First Bone Spring Ss.									
9,000.00	11.45	354.34	8,868.32	1,326.26	-131.38	127.67	0.00	0.00	0.00
9,100.00	11.45	354.34	8,966.33	1,346.01	-133.33	129.57	0.00	0.00	0.00
9,200.00	11.45	354.34	9,064.34	1,365.76	-135.29	131.48	0.00	0.00	0.00
9,254.75	11.45	354.34	9,118.00	1,376.58	-136.36	132.52	0.00	0.00	0.00
Second Bone Spring Carb.									
9,300.00	11.45	354.34	9,162.35	1,385.51	-137.25	133.38	0.00	0.00	0.00
9,354.98	11.45	354.34	9,216.24	1,396.37	-138.32	134.42	0.00	0.00	0.00
9,400.00	12.69	333.50	9,260.28	1,405.25	-140.97	137.05	10.00	2.75	-46.30
9,450.00	15.52	316.46	9,308.79	1,415.02	-148.03	144.08	10.00	5.68	-34.08
9,470.01	16.94	311.39	9,328.00	1,418.89	-152.06	148.10	10.00	7.06	-25.37
Second Bone Spring Ss.									
9,500.00	19.24	305.21	9,356.51	1,424.62	-159.38	155.40	10.00	7.70	-20.61
9,550.00	23.43	297.66	9,403.08	1,434.00	-174.93	170.92	10.00	8.37	-15.10
9,600.00	27.88	292.34	9,448.15	1,443.06	-194.56	190.53	10.00	8.89	-10.63
9,650.00	32.47	288.41	9,491.37	1,451.75	-218.12	214.06	10.00	9.19	-7.87
9,700.00	37.16	285.36	9,532.41	1,459.99	-245.43	241.35	10.00	9.38	-6.09
9,738.06	40.77	283.46	9,562.00	1,465.93	-268.61	264.52	10.00	9.49	-5.01
Second Bone Spring A Ss.									
9,750.00	41.91	282.92	9,570.96	1,467.73	-276.29	272.19	10.00	9.54	-4.53
9,800.00	46.71	280.89	9,606.73	1,474.90	-310.46	306.34	10.00	9.59	-4.06
9,850.00	51.53	279.16	9,639.45	1,481.46	-347.67	343.54	10.00	9.65	-3.46
9,900.00	56.38	277.64	9,668.86	1,487.35	-387.66	383.50	10.00	9.70	-3.03
9,932.30	59.52	276.75	9,686.00	1,490.78	-414.82	410.65	10.00	9.72	-2.75
Second Bone Spring B Ss.									
9,950.00	61.25	276.29	9,694.75	1,492.52	-430.10	425.93	10.00	9.74	-2.61
10,000.00	66.12	275.06	9,716.91	1,496.95	-474.69	470.51	10.00	9.75	-2.46
10,050.00	71.01	273.92	9,735.17	1,500.58	-521.07	516.88	10.00	9.77	-2.28
10,100.00	75.90	272.84	9,749.41	1,503.40	-568.90	564.70	10.00	9.79	-2.15
10,150.00	80.80	271.81	9,759.50	1,505.39	-617.82	613.61	10.00	9.79	-2.06
10,200.00	85.70	270.81	9,765.38	1,506.52	-667.44	663.23	10.00	9.80	-2.00
10,249.20	90.52	269.84	9,767.00	1,506.80	-716.60	712.39	10.00	9.80	-1.98
10,300.00	90.52	269.84	9,766.54	1,506.66	-767.40	763.19	0.00	0.00	0.00
10,400.00	90.52	269.84	9,765.63	1,506.37	-867.39	863.18	0.00	0.00	0.00
10,500.00	90.52	269.84	9,764.72	1,506.09	-967.39	963.18	0.00	0.00	0.00
10,600.00	90.52	269.84	9,763.81	1,505.81	-1,067.38	1,063.18	0.00	0.00	0.00
10,700.00	90.52	269.84	9,762.90	1,505.52	-1,167.38	1,163.17	0.00	0.00	0.00
10,800.00	90.52	269.84	9,761.99	1,505.24	-1,267.38	1,263.17	0.00	0.00	0.00
10,900.00	90.52	269.84	9,761.08	1,504.96	-1,367.37	1,363.16	0.00	0.00	0.00
11,000.00	90.52	269.84	9,760.17	1,504.67	-1,467.37	1,463.16	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #100H
Company:	XTO Energy	**TVD Reference:**	RKB = 25' @ 3554.00usft
Project:	Lea County, NM (NAD-27)	**MD Reference:**	RKB = 25' @ 3554.00usft
Site:	Big Eddy Unit DI BB JABBA	**North Reference:**	Grid
Well:	#100H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	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)
11,100.00	90.52	269.84	9,759.26	1,504.39	-1,567.36	1,563.15	0.00	0.00	0.00
11,200.00	90.52	269.84	9,758.35	1,504.11	-1,667.36	1,663.15	0.00	0.00	0.00
11,300.00	90.52	269.84	9,757.44	1,503.83	-1,767.35	1,763.15	0.00	0.00	0.00
11,400.00	90.52	269.84	9,756.53	1,503.54	-1,867.35	1,863.14	0.00	0.00	0.00
11,500.00	90.52	269.84	9,755.62	1,503.26	-1,967.34	1,963.14	0.00	0.00	0.00
11,600.00	90.52	269.84	9,754.71	1,502.98	-2,067.34	2,063.13	0.00	0.00	0.00
11,700.00	90.52	269.84	9,753.80	1,502.69	-2,167.33	2,163.13	0.00	0.00	0.00
11,800.00	90.52	269.84	9,752.89	1,502.41	-2,267.33	2,263.13	0.00	0.00	0.00
11,900.00	90.52	269.84	9,751.98	1,502.13	-2,367.33	2,363.12	0.00	0.00	0.00
12,000.00	90.52	269.84	9,751.07	1,501.84	-2,467.32	2,463.12	0.00	0.00	0.00
12,100.00	90.52	269.84	9,750.16	1,501.56	-2,567.32	2,563.11	0.00	0.00	0.00
12,200.00	90.52	269.84	9,749.26	1,501.28	-2,667.31	2,663.11	0.00	0.00	0.00
12,300.00	90.52	269.84	9,748.35	1,500.99	-2,767.31	2,763.10	0.00	0.00	0.00
12,400.00	90.52	269.84	9,747.44	1,500.71	-2,867.30	2,863.10	0.00	0.00	0.00
12,500.00	90.52	269.84	9,746.53	1,500.43	-2,967.30	2,963.10	0.00	0.00	0.00
12,600.00	90.52	269.84	9,745.62	1,500.15	-3,067.29	3,063.09	0.00	0.00	0.00
12,700.00	90.52	269.84	9,744.71	1,499.86	-3,167.29	3,163.09	0.00	0.00	0.00
12,800.00	90.52	269.84	9,743.80	1,499.58	-3,267.28	3,263.08	0.00	0.00	0.00
12,900.00	90.52	269.84	9,742.89	1,499.30	-3,367.28	3,363.08	0.00	0.00	0.00
13,000.00	90.52	269.84	9,741.98	1,499.01	-3,467.28	3,463.08	0.00	0.00	0.00
13,100.00	90.52	269.84	9,741.07	1,498.73	-3,567.27	3,563.07	0.00	0.00	0.00
13,200.00	90.52	269.84	9,740.16	1,498.45	-3,667.27	3,663.07	0.00	0.00	0.00
13,300.00	90.52	269.84	9,739.25	1,498.16	-3,767.26	3,763.06	0.00	0.00	0.00
13,400.00	90.52	269.84	9,738.34	1,497.88	-3,867.26	3,863.06	0.00	0.00	0.00
13,500.00	90.52	269.84	9,737.43	1,497.60	-3,967.25	3,963.06	0.00	0.00	0.00
13,600.00	90.52	269.84	9,736.52	1,497.31	-4,067.25	4,063.05	0.00	0.00	0.00
13,700.00	90.52	269.84	9,735.61	1,497.03	-4,167.24	4,163.05	0.00	0.00	0.00
13,800.00	90.52	269.84	9,734.70	1,496.75	-4,267.24	4,263.04	0.00	0.00	0.00
13,900.00	90.52	269.84	9,733.79	1,496.47	-4,367.23	4,363.04	0.00	0.00	0.00
14,000.00	90.52	269.84	9,732.88	1,496.18	-4,467.23	4,463.03	0.00	0.00	0.00
14,100.00	90.52	269.84	9,731.97	1,495.90	-4,567.23	4,563.03	0.00	0.00	0.00
14,200.00	90.52	269.84	9,731.06	1,495.62	-4,667.22	4,663.03	0.00	0.00	0.00
14,300.00	90.52	269.84	9,730.15	1,495.33	-4,767.22	4,763.02	0.00	0.00	0.00
14,400.00	90.52	269.84	9,729.24	1,495.05	-4,867.21	4,863.02	0.00	0.00	0.00
14,500.00	90.52	269.84	9,728.33	1,494.77	-4,967.21	4,963.01	0.00	0.00	0.00
14,600.00	90.52	269.84	9,727.42	1,494.48	-5,067.20	5,063.01	0.00	0.00	0.00
14,700.00	90.52	269.84	9,726.51	1,494.20	-5,167.20	5,163.01	0.00	0.00	0.00
14,800.00	90.52	269.84	9,725.60	1,493.92	-5,267.19	5,263.00	0.00	0.00	0.00
14,900.00	90.52	269.84	9,724.69	1,493.64	-5,367.19	5,363.00	0.00	0.00	0.00
15,000.00	90.52	269.84	9,723.79	1,493.35	-5,467.18	5,462.99	0.00	0.00	0.00
15,100.00	90.52	269.84	9,722.88	1,493.07	-5,567.18	5,562.99	0.00	0.00	0.00
15,200.00	90.52	269.84	9,721.97	1,492.79	-5,667.18	5,662.98	0.00	0.00	0.00
15,300.00	90.52	269.84	9,721.06	1,492.50	-5,767.17	5,762.98	0.00	0.00	0.00
15,400.00	90.52	269.84	9,720.15	1,492.22	-5,867.17	5,862.98	0.00	0.00	0.00
15,500.00	90.52	269.84	9,719.24	1,491.94	-5,967.16	5,962.97	0.00	0.00	0.00
15,600.00	90.52	269.84	9,718.33	1,491.65	-6,067.16	6,062.97	0.00	0.00	0.00
15,700.00	90.52	269.84	9,717.42	1,491.37	-6,167.15	6,162.96	0.00	0.00	0.00
15,800.00	90.52	269.84	9,716.51	1,491.09	-6,267.15	6,262.96	0.00	0.00	0.00
15,900.00	90.52	269.84	9,715.60	1,490.80	-6,367.14	6,362.96	0.00	0.00	0.00
16,000.00	90.52	269.84	9,714.69	1,490.52	-6,467.14	6,462.95	0.00	0.00	0.00
16,100.00	90.52	269.84	9,713.78	1,490.24	-6,567.13	6,562.95	0.00	0.00	0.00
16,200.00	90.52	269.84	9,712.87	1,489.96	-6,667.13	6,662.94	0.00	0.00	0.00
16,300.00	90.52	269.84	9,711.96	1,489.67	-6,767.13	6,762.94	0.00	0.00	0.00
16,400.00	90.52	269.84	9,711.05	1,489.39	-6,867.12	6,862.94	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #100H
Company:	XTO Energy	**TVD Reference:**	RKB = 25' @ 3554.00usft
Project:	Lea County, NM (NAD-27)	**MD Reference:**	RKB = 25' @ 3554.00usft
Site:	Big Eddy Unit DI BB JABBA	**North Reference:**	Grid
Well:	#100H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	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)
16,500.00	90.52	269.84	9,710.14	1,489.11	-6,967.12	6,962.93	0.00	0.00	0.00
16,600.00	90.52	269.84	9,709.23	1,488.82	-7,067.11	7,062.93	0.00	0.00	0.00
16,700.00	90.52	269.84	9,708.32	1,488.54	-7,167.11	7,162.92	0.00	0.00	0.00
16,800.00	90.52	269.84	9,707.41	1,488.26	-7,267.10	7,262.92	0.00	0.00	0.00
16,900.00	90.52	269.84	9,706.50	1,487.97	-7,367.10	7,362.91	0.00	0.00	0.00
17,000.00	90.52	269.84	9,705.59	1,487.69	-7,467.09	7,462.91	0.00	0.00	0.00
17,100.00	90.52	269.84	9,704.68	1,487.41	-7,567.09	7,562.91	0.00	0.00	0.00
17,200.00	90.52	269.84	9,703.77	1,487.12	-7,667.08	7,662.90	0.00	0.00	0.00
17,300.00	90.52	269.84	9,702.86	1,486.84	-7,767.08	7,762.90	0.00	0.00	0.00
17,400.00	90.52	269.84	9,701.95	1,486.56	-7,867.08	7,862.89	0.00	0.00	0.00
17,500.00	90.52	269.84	9,701.04	1,486.28	-7,967.07	7,962.89	0.00	0.00	0.00
17,600.00	90.52	269.84	9,700.13	1,485.99	-8,067.07	8,062.89	0.00	0.00	0.00
17,700.00	90.52	269.84	9,699.23	1,485.71	-8,167.06	8,162.88	0.00	0.00	0.00
17,800.00	90.52	269.84	9,698.32	1,485.43	-8,267.06	8,262.88	0.00	0.00	0.00
17,900.00	90.52	269.84	9,697.41	1,485.14	-8,367.05	8,362.87	0.00	0.00	0.00
18,000.00	90.52	269.84	9,696.50	1,484.86	-8,467.05	8,462.87	0.00	0.00	0.00
18,100.00	90.52	269.84	9,695.59	1,484.58	-8,567.04	8,562.87	0.00	0.00	0.00
18,200.00	90.52	269.84	9,694.68	1,484.29	-8,667.04	8,662.86	0.00	0.00	0.00
18,300.00	90.52	269.84	9,693.77	1,484.01	-8,767.04	8,762.86	0.00	0.00	0.00
18,400.00	90.52	269.84	9,692.86	1,483.73	-8,867.03	8,862.85	0.00	0.00	0.00
18,500.00	90.52	269.84	9,691.95	1,483.44	-8,967.03	8,962.85	0.00	0.00	0.00
18,600.00	90.52	269.84	9,691.04	1,483.16	-9,067.02	9,062.84	0.00	0.00	0.00
18,700.00	90.52	269.84	9,690.13	1,482.88	-9,167.02	9,162.84	0.00	0.00	0.00
18,800.00	90.52	269.84	9,689.22	1,482.60	-9,267.01	9,262.84	0.00	0.00	0.00
18,900.00	90.52	269.84	9,688.31	1,482.31	-9,367.01	9,362.83	0.00	0.00	0.00
19,000.00	90.52	269.84	9,687.40	1,482.03	-9,467.00	9,462.83	0.00	0.00	0.00
19,100.00	90.52	269.84	9,686.49	1,481.75	-9,567.00	9,562.82	0.00	0.00	0.00
19,200.00	90.52	269.84	9,685.58	1,481.46	-9,666.99	9,662.82	0.00	0.00	0.00
19,300.00	90.52	269.84	9,684.67	1,481.18	-9,766.99	9,762.82	0.00	0.00	0.00
19,400.00	90.52	269.84	9,683.76	1,480.90	-9,866.99	9,862.81	0.00	0.00	0.00
19,500.00	90.52	269.84	9,682.85	1,480.61	-9,966.98	9,962.81	0.00	0.00	0.00
19,600.00	90.52	269.84	9,681.94	1,480.33	-10,066.98	10,062.80	0.00	0.00	0.00
19,700.00	90.52	269.84	9,681.03	1,480.05	-10,166.97	10,162.80	0.00	0.00	0.00
19,800.00	90.52	269.84	9,680.12	1,479.76	-10,266.97	10,262.79	0.00	0.00	0.00
19,900.00	90.52	269.84	9,679.21	1,479.48	-10,366.96	10,362.79	0.00	0.00	0.00
20,000.00	90.52	269.84	9,678.30	1,479.20	-10,466.96	10,462.79	0.00	0.00	0.00
20,100.00	90.52	269.84	9,677.39	1,478.92	-10,566.95	10,562.78	0.00	0.00	0.00
20,200.00	90.52	269.84	9,676.48	1,478.63	-10,666.95	10,662.78	0.00	0.00	0.00
20,300.00	90.52	269.84	9,675.57	1,478.35	-10,766.94	10,762.77	0.00	0.00	0.00
20,400.00	90.52	269.84	9,674.67	1,478.07	-10,866.94	10,862.77	0.00	0.00	0.00
20,500.00	90.52	269.84	9,673.76	1,477.78	-10,966.94	10,962.77	0.00	0.00	0.00
20,600.00	90.52	269.84	9,672.85	1,477.50	-11,066.93	11,062.76	0.00	0.00	0.00
20,700.00	90.52	269.84	9,671.94	1,477.22	-11,166.93	11,162.76	0.00	0.00	0.00
20,800.00	90.52	269.84	9,671.03	1,476.93	-11,266.92	11,262.75	0.00	0.00	0.00
20,900.00	90.52	269.84	9,670.12	1,476.65	-11,366.92	11,362.75	0.00	0.00	0.00
21,000.00	90.52	269.84	9,669.21	1,476.37	-11,466.91	11,462.75	0.00	0.00	0.00
21,100.00	90.52	269.84	9,668.30	1,476.08	-11,566.91	11,562.74	0.00	0.00	0.00
21,200.00	90.52	269.84	9,667.39	1,475.80	-11,666.90	11,662.74	0.00	0.00	0.00
21,300.00	90.52	269.84	9,666.48	1,475.52	-11,766.90	11,762.73	0.00	0.00	0.00
21,400.00	90.52	269.84	9,665.57	1,475.24	-11,866.89	11,862.73	0.00	0.00	0.00
21,500.00	90.52	269.84	9,664.66	1,474.95	-11,966.89	11,962.72	0.00	0.00	0.00
21,600.00	90.52	269.84	9,663.75	1,474.67	-12,066.89	12,062.72	0.00	0.00	0.00
21,700.00	90.52	269.84	9,662.84	1,474.39	-12,166.88	12,162.72	0.00	0.00	0.00
21,800.00	90.52	269.84	9,661.93	1,474.10	-12,266.88	12,262.71	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #100H
Company:	XTO Energy	**TVD Reference:**	RKB = 25' @ 3554.00usft
Project:	Lea County, NM (NAD-27)	**MD Reference:**	RKB = 25' @ 3554.00usft
Site:	Big Eddy Unit DI BB JABBA	**North Reference:**	Grid
Well:	#100H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	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)
21,900.00	90.52	269.84	9,661.02	1,473.82	-12,366.87	12,362.71	0.00	0.00	0.00
22,000.00	90.52	269.84	9,660.11	1,473.54	-12,466.87	12,462.70	0.00	0.00	0.00
22,100.00	90.52	269.84	9,659.20	1,473.25	-12,566.86	12,562.70	0.00	0.00	0.00
22,200.00	90.52	269.84	9,658.29	1,472.97	-12,666.86	12,662.70	0.00	0.00	0.00
22,300.00	90.52	269.84	9,657.38	1,472.69	-12,766.85	12,762.69	0.00	0.00	0.00
22,400.00	90.52	269.84	9,656.47	1,472.41	-12,866.85	12,862.69	0.00	0.00	0.00
22,500.00	90.52	269.84	9,655.56	1,472.12	-12,966.84	12,962.68	0.00	0.00	0.00
22,600.00	90.52	269.84	9,654.65	1,471.84	-13,066.84	13,062.68	0.00	0.00	0.00
22,700.00	90.52	269.84	9,653.74	1,471.56	-13,166.84	13,162.67	0.00	0.00	0.00
22,800.00	90.52	269.84	9,652.83	1,471.27	-13,266.83	13,262.67	0.00	0.00	0.00
22,900.00	90.52	269.84	9,651.92	1,470.99	-13,366.83	13,362.67	0.00	0.00	0.00
23,000.00	90.52	269.84	9,651.01	1,470.71	-13,466.82	13,462.66	0.00	0.00	0.00
23,100.00	90.52	269.84	9,650.11	1,470.42	-13,566.82	13,562.66	0.00	0.00	0.00
23,200.00	90.52	269.84	9,649.20	1,470.14	-13,666.81	13,662.65	0.00	0.00	0.00
23,300.00	90.52	269.84	9,648.29	1,469.86	-13,766.81	13,762.65	0.00	0.00	0.00
23,400.00	90.52	269.84	9,647.38	1,469.57	-13,866.80	13,862.65	0.00	0.00	0.00
23,500.00	90.52	269.84	9,646.47	1,469.29	-13,966.80	13,962.64	0.00	0.00	0.00
23,600.00	90.52	269.84	9,645.56	1,469.01	-14,066.79	14,062.64	0.00	0.00	0.00
23,700.00	90.52	269.84	9,644.65	1,468.73	-14,166.79	14,162.63	0.00	0.00	0.00
23,800.00	90.52	269.84	9,643.74	1,468.44	-14,266.79	14,262.63	0.00	0.00	0.00
23,900.00	90.52	269.84	9,642.83	1,468.16	-14,366.78	14,362.63	0.00	0.00	0.00
24,000.00	90.52	269.84	9,641.92	1,467.88	-14,466.78	14,462.62	0.00	0.00	0.00
24,100.00	90.52	269.84	9,641.01	1,467.59	-14,566.77	14,562.62	0.00	0.00	0.00
24,200.00	90.52	269.84	9,640.10	1,467.31	-14,666.77	14,662.61	0.00	0.00	0.00
24,300.00	90.52	269.84	9,639.19	1,467.03	-14,766.76	14,762.61	0.00	0.00	0.00
24,400.00	90.52	269.84	9,638.28	1,466.74	-14,866.76	14,862.60	0.00	0.00	0.00
24,500.00	90.52	269.84	9,637.37	1,466.46	-14,966.75	14,962.60	0.00	0.00	0.00
24,600.00	90.52	269.84	9,636.46	1,466.18	-15,066.75	15,062.60	0.00	0.00	0.00
24,700.00	90.52	269.84	9,635.55	1,465.89	-15,166.74	15,162.59	0.00	0.00	0.00
24,800.00	90.52	269.84	9,634.64	1,465.61	-15,266.74	15,262.59	0.00	0.00	0.00
24,900.00	90.52	269.84	9,633.73	1,465.33	-15,366.74	15,362.58	0.00	0.00	0.00
25,000.00	90.52	269.84	9,632.82	1,465.05	-15,466.73	15,462.58	0.00	0.00	0.00
25,100.00	90.52	269.84	9,631.91	1,464.76	-15,566.73	15,562.58	0.00	0.00	0.00
25,200.00	90.52	269.84	9,631.00	1,464.48	-15,666.72	15,662.57	0.00	0.00	0.00
25,300.00	90.52	269.84	9,630.09	1,464.20	-15,766.72	15,762.57	0.00	0.00	0.00
25,400.00	90.52	269.84	9,629.18	1,463.91	-15,866.71	15,862.56	0.00	0.00	0.00
25,500.00	90.52	269.84	9,628.27	1,463.63	-15,966.71	15,962.56	0.00	0.00	0.00
25,600.00	90.52	269.84	9,627.36	1,463.35	-16,066.70	16,062.55	0.00	0.00	0.00
25,700.00	90.52	269.84	9,626.45	1,463.06	-16,166.70	16,162.55	0.00	0.00	0.00
25,800.00	90.52	269.84	9,625.54	1,462.78	-16,266.69	16,262.55	0.00	0.00	0.00
25,900.00	90.52	269.84	9,624.64	1,462.50	-16,366.69	16,362.54	0.00	0.00	0.00
25,919.81	90.52	269.84	9,624.46	1,462.44	-16,386.50	16,382.35	0.00	0.00	0.00
25,969.81	90.52	269.84	9,624.00	1,462.30	-16,436.50	16,432.35	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #100H
Company:	XTO Energy	**TVD Reference:**	RKB = 25' @ 3554.00usft
Project:	Lea County, NM (NAD-27)	**MD Reference:**	RKB = 25' @ 3554.00usft
Site:	Big Eddy Unit DI BB JABBA	**North Reference:**	Grid
Well:	#100H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

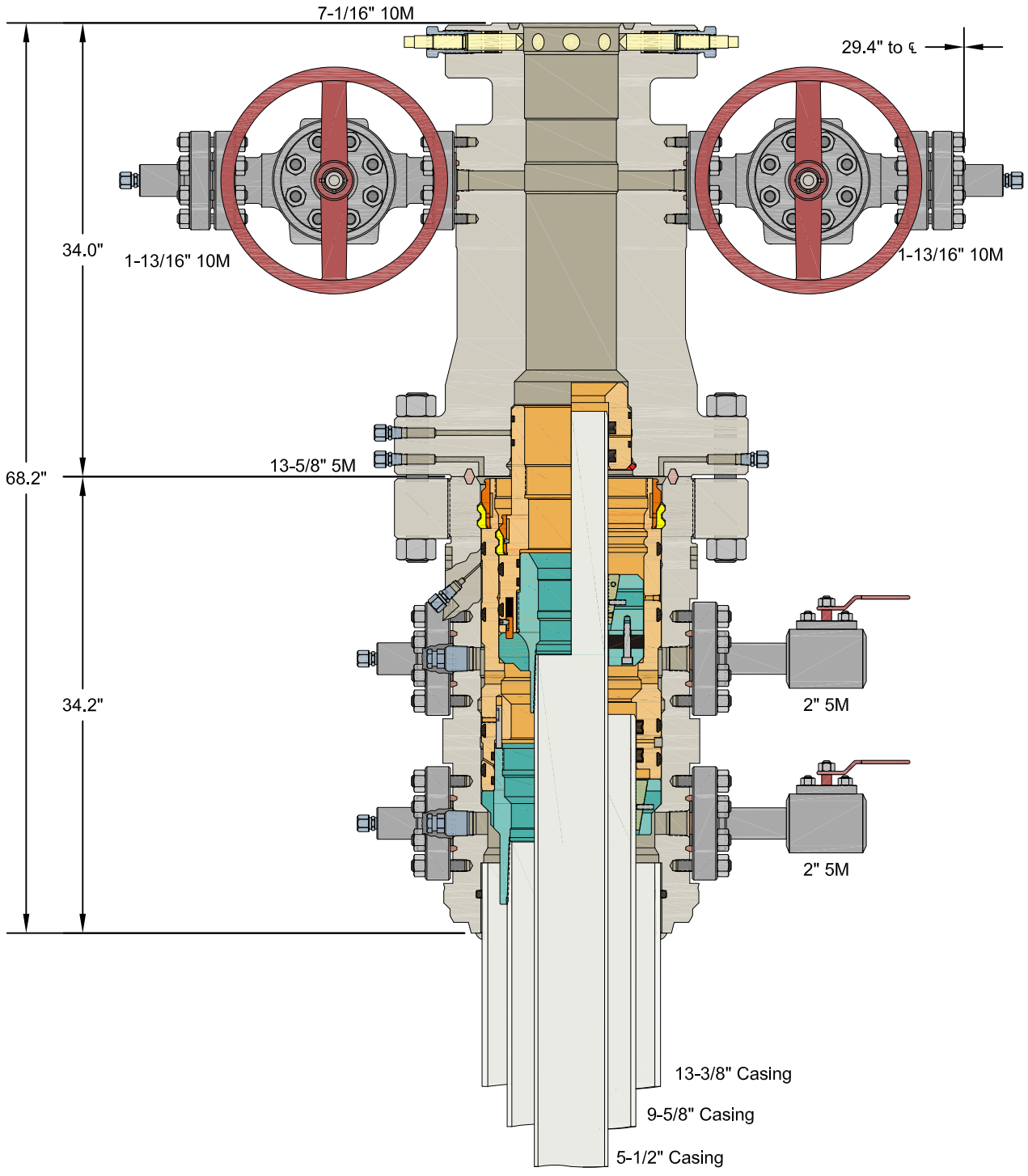
Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
DI BB JABBA 100H: S - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	565,234.10	676,602.40	32.5526298	-103.7601782
DI BB JABBA 100H: F - plan hits target center - Point	0.00	0.00	9,624.00	1,462.30	-16,436.50	566,696.40	660,165.90	32.5568812	-103.8134970
DI BB JABBA 100H: L - plan misses target center by 0.24usft at 25919.81usft MD (9624.45 TVD, 1462.44 N, -16386.50 E) - Point	0.00	0.00	9,624.45	1,462.20	-16,386.50	566,696.30	660,215.90	32.5568802	-103.8133347
DI BB JABBA 100H: F - plan hits target center - Point	0.00	0.00	9,767.00	1,506.80	-716.60	566,740.90	675,885.80	32.5567822	-103.7624776

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
954.00	-1,993.00	Rustler			
1,229.00	-1,718.00	Salado/Top of Salt			
2,577.91	-373.00	Base of Salt			
1,948.00	0.00	Second Bone Spring B Base			
3,244.17	280.00	Capitan Reef			
4,768.49	1,774.00	Delaware Sand			
5,182.73	2,180.00	Manzanita Marker			
6,276.50	3,252.00	Brushy Canyon Ss.			
7,550.85	4,501.00	Lower Brushy Canyon Ss.			
7,832.45	4,777.00	Bone Spring Lm.			
7,976.31	4,918.00	Avalon Ss.			
8,063.04	5,003.00	Upper Avalon Sh.			
8,320.15	5,255.00	Lw. Avalon Carb.			
8,461.98	5,394.00	Lw. Avalon Sh.			
8,705.83	5,633.00	Bone Spring Carb.			
8,934.37	5,857.00	First Bone Spring Ss.			
9,254.75	6,171.00	Second Bone Spring Carb.			
9,470.01	6,381.00	Second Bone Spring Ss.			
9,738.06	6,615.00	Second Bone Spring A Ss.			
9,932.30	6,739.00	Second Bone Spring B Ss.			

GE Oil & Gas



ALL DIMENSIONS ARE APPROXIMATE

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

AFMSS

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

Bond Info Data Report

01/03/2020

APD ID: 10400045939

Submission Date: 08/22/2019

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI BB JABBA

Well Number: 100H

Well Type: OIL WELL

Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

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: