Form 3160-3
(June 2015)

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HOBBS OCD
NOV 25 2019
RECEIVED

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM0001206A

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 29 BS2-5W
365H (326489)

2. Name of Operator
XTO PERMIAN OPERATING LLC (373075)

9. API Well No.
30-025-46541

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 (53560)
~~WILDCAT;~~ BONE SPRING

4. Location of Well *(Report location clearly and in accordance with any State requirements. *)*
At surface SWSW / 358 FSL / 330 FWL / LAT 32.566962 / LONG -103.778769
At proposed prod. zone LOT 3 / 1980 FSL / 50 FWL / LAT 32.571579 / LONG -103.813992

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 16 / T20S / R32E / NMP

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

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)	16. No of acres in lease	17. Spacing Unit dedicated to this well
330 feet	2075.4	320
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	**19. Proposed Depth**	**20. BLM/BIA Bond No. in file**
35 feet	9699 feet / 20637 feet	FED: COB000050
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	**22. Approximate date work will start***	**23. Estimated duration**
3513 feet	05/01/2019	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	01/17/2019

Title
Regulatory Coordinator

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Christopher Walls / Ph: (575)234-2234	11/20/2019
Title	**Office**	
Petroleum Engineer	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 11/25/19

APPROVED WITH CONDITIONS

KZ 11/25/19

Approval Date: 11/20/2019

(Continued on page 2)

*(Instructions on page 2)

INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM I: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the wen, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionany drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

ITEM 24: If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160
PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service wen or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.
ROUTINE USE: Information from the record and/or the record win be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.
EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM conects this information to anow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Conection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

(Continued on page 3)

Additional Operator Remarks

Location of Well

1. SHL: SWSW / 358 FSL / 330 FWL / TWSP: 20S / RANGE: 32E / SECTION: 16 / LAT: 32.566962 / LONG: -103.778769 (TVD: 0 feet, MD: 0 feet)

   PPP: NESW / 1980 FSL / 100 FEL / TWSP: 20S / RANGE: 32E / SECTION: 16 / LAT: 32.571422 / LONG: -103.780167 (TVD: 9699 feet, MD: 10214 feet)

   BHL: LOT 3 / 1980 FSL / 50 FWL / TWSP: 20S / RANGE: 32E / SECTION: 18 / LAT: 32.571579 / LONG: -103.813992 (TVD: 9699 feet, MD: 20637 feet)

BLM Point of Contact

Name: Tenille Ortiz

Title: Legal Instruments Examiner

Phone: 5752342224

Email: tortiz@blm.gov

Approval Date: 11/20/2019

Review and Appeal Rights

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

PECOS DISTRICT DRILLING
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**XTO Permian Operating, LLC**
LEASE NO.:	**NMNM-0001206A**
WELL NAME & NO.:	**Big Eddy Unit DI 29 BS2-5W 365H**
SURFACE HOLE FOOTAGE:	**0358' FSL & 0330' FWL**
BOTTOM HOLE FOOTAGE	**1980' FSL & 0050' FWL Sec. 18, T. 20 S., R 32 E.**
LOCATION:	**Section 16, T. 20 S., R 32 E., NMPM**
COUNTY:	**County, New Mexico**

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

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.

A. DRILLING OPERATIONS REQUIREMENTS

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

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

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

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.**

2. 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. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. 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 is located, this does not include the dog house or stairway area.

4. **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.**

B. CASING

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.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

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.

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.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

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.

1. The **18-5/8** inch surface casing shall be set at approximately **1080** feet (a minimum of 25 feet 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 is to include the lead cement slurry.**

    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.

13-3/8 1st Intermediate casing shall be kept fluid filled while running into hole to meet BLM minimum collapse requirements.

2. The minimum required fill of cement behind the **13-3/8** inch 1st intermediate casing is:

    ☐ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash.**

9-5/8 2nd Intermediate casing shall be kept fluid filled while running into hole to meet BLM minimum collapse requirements.

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

Operator has proposed DV tool at depth of 2780', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

a. First stage to DV tool:___

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

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 potash and Capitan Reef. Excess calculates to negative 12% - Additional cement will be required.**

Centralizers required through the curve and a minimum of one every other joint.

4. The minimum required fill of cement behind the **5-1/2** inch production casing is:

☐ Cement should tie-back at least **50 feet above the Capitan Reef** (Top of Capitan Reef estimated at 2702'). Operator shall provide method of verification.

5. 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.

6. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

C. 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 53.

2. Variance approved to use flex line from BOP to choke manifold. 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.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be psi.

4. **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 13-3/8 1st intermediate casing shoe shall be 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. **Operator shall perform the 9-5/8" casing integrity tests to 70% of the casing burst. This will test the multi-bowl seals.**
e. **If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.**

5. The appropriate BLM office shall be notified a minimum of 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.

   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.

D. **DRILL STEM TEST**

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. 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 090619

AFMSS

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

Operator Certification Data Report

11/21/2019

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:

City: **State:** **Zip:**

Phone: (432)620-6714

Email address: stephanie_rabadue@xtoenergy.com

Field Representative

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

AFMSS

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

Application Data Report

11/21/2019

APD ID: 10400037563 **Submission Date:** 01/17/2019

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI 29 BS2-5W **Well Number:** 365H

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

[redacted]

Show Final Text

Section 1 - General

APD ID: 10400037563 **Tie to previous NOS?** **Submission Date:** 01/17/2019

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: NMNM0001206A **Lease Acres:** 2075.4

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 29 BS2-5W **Well Number:** 365H **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 29 BS2-5W **Well Number:** 365H

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?** YES **New surface disturbance?** N

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** BEU DI **Number:** 29

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: **Distance to nearest well:** 35 FT **Distance to lease line:** 330 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: BEU_DI29_365H_C102_20181228063800.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:**

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
SHL Leg #1	358	FSL	330	FWL	20S	32E	16	Aliquot SWSW	32.566962	-103.778769	LEA	NEW MEXICO	NEW MEXICO	S	STATE	3513	0	0	
KOP Leg #1	358	FSL	330	FWL	20S	32E	16	Aliquot SWSW	32.566962	-103.778769	LEA	NEW MEXICO	NEW MEXICO	S	STATE	1513	2000	2000	
PPP Leg #1-1	1980	FSL	100	FEL	20S	32E	16	Aliquot NESW	32.571422	-103.780167	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 0001206A	-6186	10214	9699	

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI 29 BS2-5W **Well Number:** 365H

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
EXIT Leg #1	1980	FSL	100	FWL	20S	32E	18	Lot 3	32.571578	-103.81383	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 000120 6A	-6186	20637	9699	
BHL Leg #1	1980	FSL	50	FWL	20S	32E	18	Lot 3	32.571579	-103.813992	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 000120 6A	-6186	20637	9699	

AFMSS

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

Drilling Plan Data Report

11/21/2019

APD ID: 10400037563 **Submission Date:** 01/17/2019

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI 29 BS2-5W **Well Number:** 365H

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

[redacted]

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	PERMIAN	3513	0	0	OTHER : Alluvium	NONE	N
2	RUSTLER	2608	905	905	SILTSTONE	USEABLE WATER	N
3	TOP SALT	2252	1261	1261	SALT	POTASH	N
4	BASE OF SALT	1093	2420	2420	SALT	OTHER : Produced Water	N
5	CAPITAN REEF	659	2854	2854	LIMESTONE	USEABLE WATER	N
6	DELAWARE	-1363	4876	4876	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced Water	N
7	BRUSHY CANYON	-2603	6116	6116	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced Water	N
8	BONE SPRING	-4176	7689	7689	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced Water	N
9	BONE SPRING 1ST	-5304	8817	8817	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced Water	N
10	BONE SPRING 2ND	-5526	9039	9039	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced Water	Y

Section 2 - Blowout Prevention

[redacted]

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI 29 BS2-5W **Well Number:** 365H

[redacted]

Choke Diagram Attachment:

BEU_DI29_2MCM_20190822061342.pdf

BOP Diagram Attachment:

BEU_DI29_2MBOP_20190822061351.pdf

[redacted]

Choke Diagram Attachment:

BEU_DI29_3MCM_20181228053845.pdf

BOP Diagram Attachment:

BEU_DI29_3MBOP_20181228053906.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	1080	0	1080			1080	H-40	87.5	ST&C	1.27	2.13	DRY	5.92	DRY	5.92
2	INTERMEDIATE	17.5	13.375	NEW	API	N	0	2470	0	2470			2470	J-55	54.5	ST&C	1.45	2.36	DRY	3.82	DRY	3.82
3	INTERMEDIATE	12.25	9.625	NEW	API	N	0	4980	0	4980			4980	J-55	36	LT&C	1.62	1.4	DRY	2.53	DRY	2.53
4	PRODUCTION	8.75	5.5	NEW	API	N	0	20637	0	9699			20637	P-110	17	BUTT	1.62	1.12	DRY	2.18	DRY	2.18

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI 29 BS2-5W **Well Number:** 365H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU_DI29_365H_Csg_20181228063433.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU_DI29_365H_Csg_20181228063445.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU_DI29_365H_Csg_20181228063457.pdf

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI 29 BS2-5W **Well Number:** 365H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU_DI29_365H_Csg_20181228063517.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					1.87					
SURFACE	Tail										
INTERMEDIATE	Lead					1.87					
INTERMEDIATE	Tail										
INTERMEDIATE	Lead					1.88					
INTERMEDIATE	Tail										
INTERMEDIATE	Lead					1.88					
INTERMEDIATE	Tail										
PRODUCTION	Lead					2.69					
PRODUCTION	Tail										

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI 29 BS2-5W **Well Number:** 365H

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
2470	4980	OTHER : FW/Cut Brine / Poly-Sweeps	8.3	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
0	1080	OTHER : FW/Native	8.3	9.5							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
4980	9699	OTHER : FW/Cut Brine/Poly-Sweeps	9	9.3							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

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI 29 BS2-5W **Well Number:** 365H

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
											as a closed loop system
1080	2470	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

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:

CBL,CNL,DS,GR

Coring operation description for the well:

No coring will take place on this well.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4690 **Anticipated Surface Pressure:** 2561.28

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:

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI 29 BS2-5W **Well Number:** 365H

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

BEU_DI29_H2S_Dia_W_20181228054033.pdf

BEU_DI29_H2S_Plan_20181228054041.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

BEU_DI29_365H_DD_20181228063639.pdf

Other proposed operations facets description:

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.

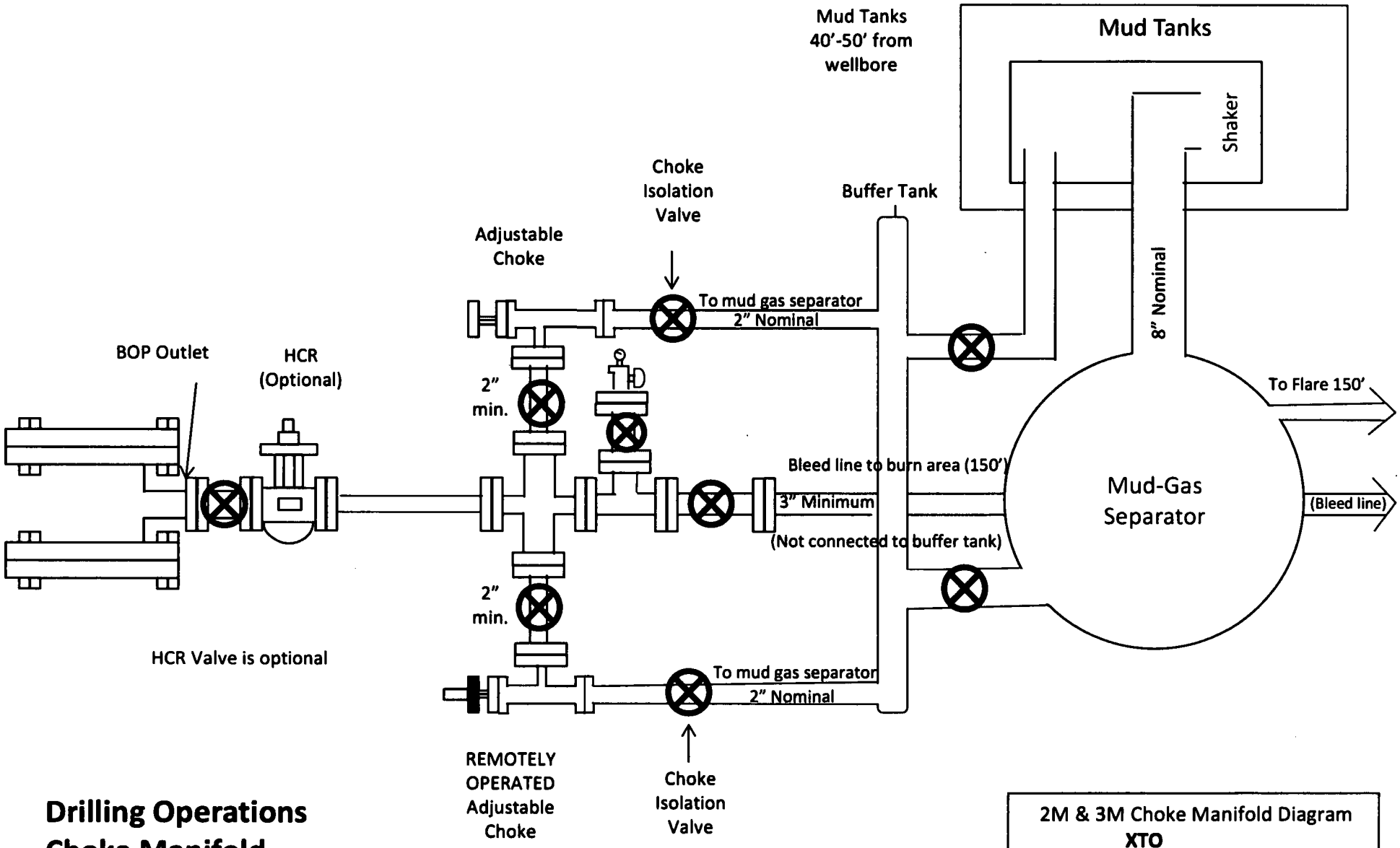
Other proposed operations facets attachment:

BEU_DI29_365H_GCP_20181228063651.pdf

Other Variance attachment:

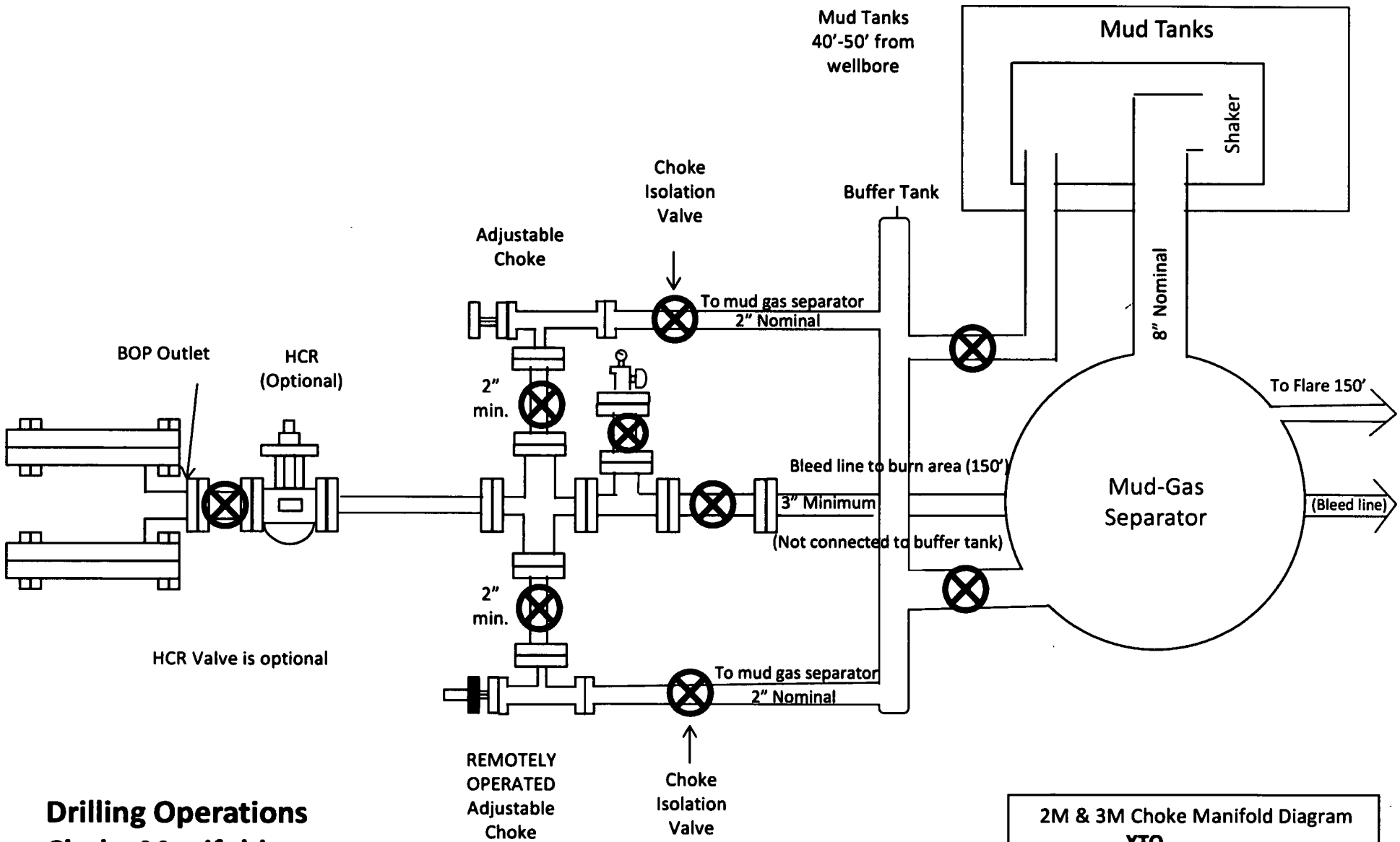
BEU_DI29_FH_20181228054223.pdf

BEU_DI29_MBS_20190820183132.pdf



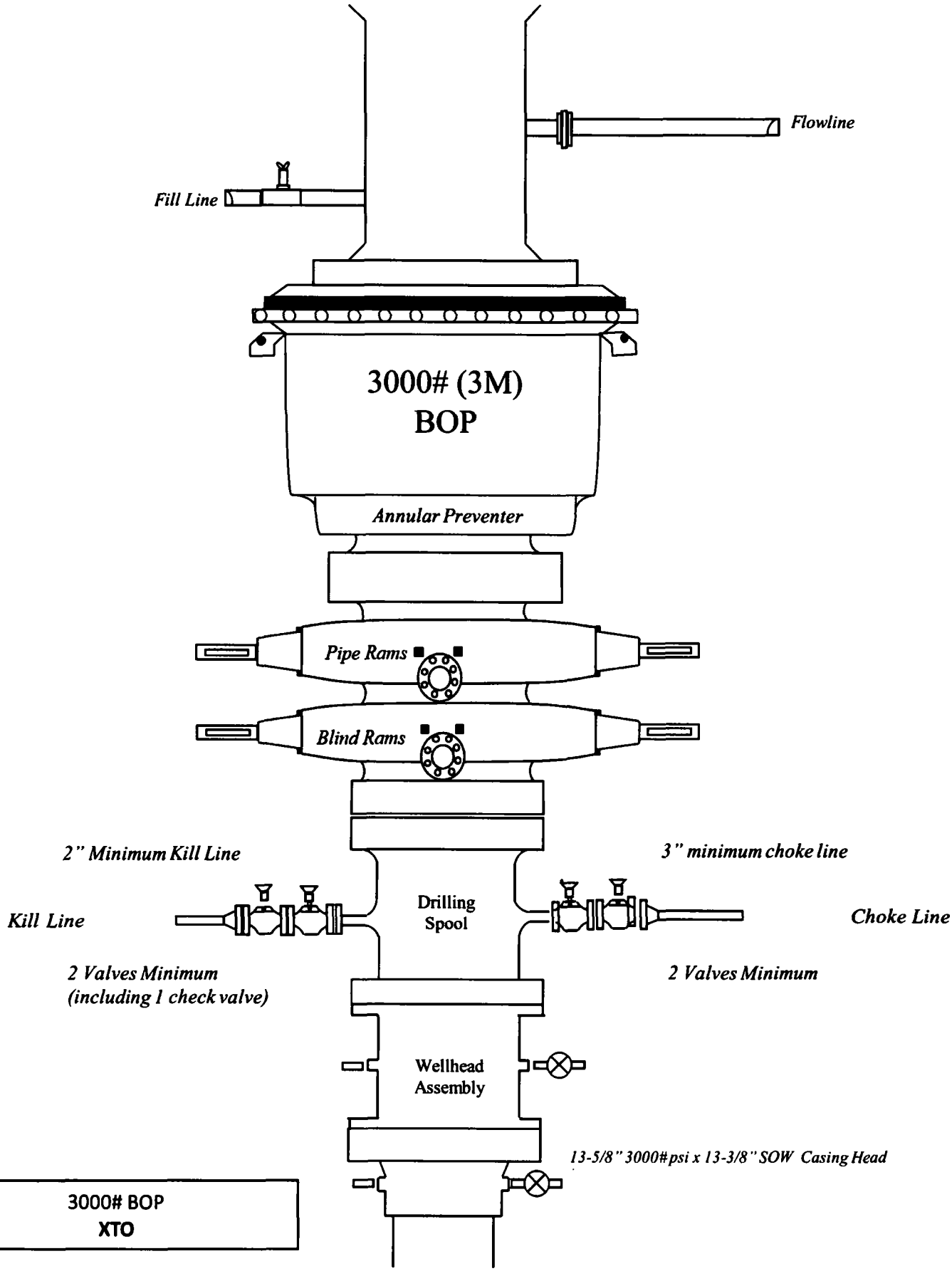
Drilling Operations
Choke Manifold
2M & 3M Service

2M & 3M Choke Manifold Diagram
XTO



Drilling Operations
Choke Manifold
2M & 3M Service

2M & 3M Choke Manifold Diagram
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

XTO Energy

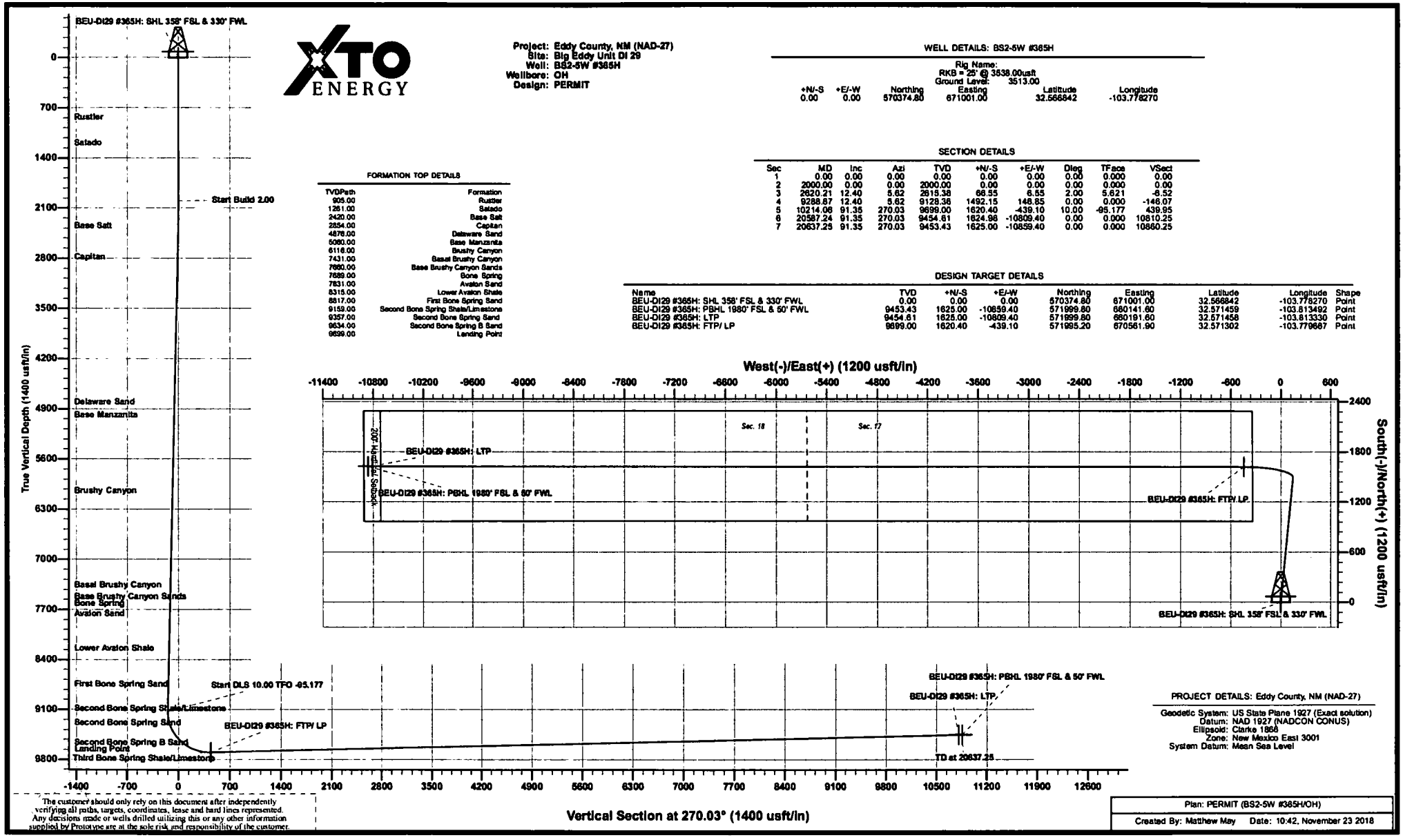
Eddy County, NM (NAD-27)
Big Eddy Unit DI 29
BS2-5W #365H

OH

Plan: PERMIT

Standard Planning Report

23 November, 2018



XTO ENERGY

Project: Eddy County, NM (NAD-27)
Site: Big Eddy Unit DI 29
Well: BS2-5W #365H
Wellbore: OH
Design: PERMIT

WELL DETAILS: BS2-5W #365H

Rig Name:
RKB = 25' @ 3538.00usft
Ground Level: 3513.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	570374.80	671001.00	32.566842	-103.778270

FORMATION TOP DETAILS

TVDPath	Formation
905.00	Rustler
1261.00	Salado
2420.00	Base Salt
2554.00	Capitan
4876.00	Delaware Sand
5060.00	Base Manzanita
6116.00	Brushy Canyon
7431.00	Basal Brushy Canyon
7660.00	Base Brushy Canyon Sands
7689.00	Bone Spring
7831.00	Avalon Sand
8315.00	Lower Avalon Shale
8817.00	First Bone Spring Sand
9159.00	Second Bone Spring Shale/Limestone
9357.00	Second Bone Spring Sand
9634.00	Second Bone Spring B Sand
9699.00	Landing Point

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	0.000	0.00
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.000	0.00
3	2620.21	12.40	5.62	2615.38	66.55	6.55	2.00	5.621	-6.52
4	9288.87	12.40	5.62	9128.36	1492.15	148.85	0.00	0.000	-146.07
5	10214.06	91.35	270.03	9699.00	1620.40	-439.10	10.00	-95.177	439.95
6	20587.24	91.35	270.03	9454.61	1624.98	-10809.40	0.00	0.000	10810.25
7	20637.25	91.35	270.03	9453.43	1625.00	-10859.40	0.00	0.000	10860.25

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
BEU-DI29 #365H: SHL 358' FSL & 330' FWL	0.00	0.00	0.00	570374.80	671001.00	32.566842	-103.778270	Point
BEU-DI29 #365H: PBHL 1980' FSL & 50' FWL	9453.43	1625.00	-10859.40	571999.80	660141.60	32.571459	-103.813492	Point
BEU-DI29 #365H: LTP	9454.61	1625.00	-10809.40	571999.80	660191.60	32.571458	-103.813330	Point
BEU-DI29 #365H: FTP/ LP	9699.00	1620.40	-439.10	571995.20	670561.90	32.571302	-103.779667	Point

PROJECT DETAILS: Eddy 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

Plan: PERMIT (BS2-5W #365H/OH)
Created By: Matthew May Date: 10:42, November 23 2018

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well BS2-5W #365H
Company:	XTO Energy	**TVD Reference:**	RKB = 25' @ 3538.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 25' @ 3538.00usft
Site:	Big Eddy Unit DI 29	**North Reference:**	Grid
Well:	BS2-5W #365H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Project	Eddy 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 29				
Site Position:		**Northing:**	570,344.80 usft	**Latitude:**	32.566759
From:	Map	**Easting:**	671,001.10 usft	**Longitude:**	-103.778270
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.299 °

Well	BS2-5W #365H					
Well Position	**+N/-S**	30.00 usft	**Northing:**	570,374.80 usft	**Latitude:**	32.566842
	+E/-W	-0.10 usft	**Easting:**	671,001.00 usft	**Longitude:**	-103.778270
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	3,513.00 usft

Wellbore	OH				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2015	11/23/2018	6.921	60.325	47,971

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	270.03	

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	0.000	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.000	
2,620.21	12.40	5.62	2,615.38	66.55	6.55	2.00	2.00	0.00	5.621	
9,288.87	12.40	5.62	9,128.36	1,492.15	146.85	0.00	0.00	0.00	0.000	
10,214.06	91.35	270.03	9,699.00	1,620.40	-439.10	10.00	8.53	-10.33	-95.177	BEU-DI29 #365H: F
20,587.24	91.35	270.03	9,454.61	1,624.98	-10,809.40	0.00	0.00	0.00	0.000	BEU-DI29 #365H: L
20,637.25	91.35	270.03	9,453.43	1,625.00	-10,859.40	0.00	0.00	0.00	0.000	BEU-DI29 #365H: F

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well BS2-5W #365H
Company:	XTO Energy	**TVD Reference:**	RKB = 25' @ 3538.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 25' @ 3538.00usft
Site:	Big Eddy Unit DI 29	**North Reference:**	Grid
Well:	BS2-5W #365H	**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
905.00	0.00	0.00	905.00	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
1,261.00	0.00	0.00	1,261.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
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	5.62	2,099.98	1.74	0.17	-0.17	2.00	2.00	0.00
2,200.00	4.00	5.62	2,199.84	6.94	0.68	-0.68	2.00	2.00	0.00
2,300.00	6.00	5.62	2,299.45	15.62	1.54	-1.53	2.00	2.00	0.00
2,400.00	8.00	5.62	2,398.70	27.75	2.73	-2.72	2.00	2.00	0.00
2,421.52	8.43	5.62	2,420.00	30.81	3.03	-3.02	2.00	2.00	0.00
Base Salt									
2,500.00	10.00	5.62	2,497.47	43.31	4.26	-4.24	2.00	2.00	0.00
2,600.00	12.00	5.62	2,595.62	62.30	6.13	-6.10	2.00	2.00	0.00
2,620.21	12.40	5.62	2,615.38	66.55	6.55	-6.52	2.00	2.00	0.00
2,700.00	12.40	5.62	2,693.30	83.61	8.23	-8.18	0.00	0.00	0.00
2,800.00	12.40	5.62	2,790.97	104.99	10.33	-10.28	0.00	0.00	0.00
2,864.54	12.40	5.62	2,854.00	118.78	11.69	-11.63	0.00	0.00	0.00
Capitan									
2,900.00	12.40	5.62	2,888.64	126.36	12.44	-12.37	0.00	0.00	0.00
3,000.00	12.40	5.62	2,986.30	147.74	14.54	-14.46	0.00	0.00	0.00
3,100.00	12.40	5.62	3,083.97	169.12	16.64	-16.56	0.00	0.00	0.00
3,200.00	12.40	5.62	3,181.63	190.50	18.75	-18.65	0.00	0.00	0.00
3,300.00	12.40	5.62	3,279.30	211.87	20.85	-20.74	0.00	0.00	0.00
3,400.00	12.40	5.62	3,376.96	233.25	22.96	-22.83	0.00	0.00	0.00
3,500.00	12.40	5.62	3,474.63	254.63	25.06	-24.93	0.00	0.00	0.00
3,600.00	12.40	5.62	3,572.29	276.01	27.16	-27.02	0.00	0.00	0.00
3,700.00	12.40	5.62	3,669.96	297.38	29.27	-29.11	0.00	0.00	0.00
3,800.00	12.40	5.62	3,767.63	318.76	31.37	-31.21	0.00	0.00	0.00
3,900.00	12.40	5.62	3,865.29	340.14	33.48	-33.30	0.00	0.00	0.00
4,000.00	12.40	5.62	3,962.96	361.52	35.58	-35.39	0.00	0.00	0.00
4,100.00	12.40	5.62	4,060.62	382.89	37.68	-37.48	0.00	0.00	0.00
4,200.00	12.40	5.62	4,158.29	404.27	39.79	-39.58	0.00	0.00	0.00
4,300.00	12.40	5.62	4,255.95	425.65	41.89	-41.67	0.00	0.00	0.00
4,400.00	12.40	5.62	4,353.62	447.03	44.00	-43.76	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well BS2-5W #365H
Company:	XTO Energy	**TVD Reference:**	RKB = 25' @ 3538.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 25' @ 3538.00usft
Site:	Big Eddy Unit DI 29	**North Reference:**	Grid
Well:	BS2-5W #365H	**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	12.40	5.62	4,451.29	468.40	46.10	-45.85	0.00	0.00	0.00
4,600.00	12.40	5.62	4,548.95	489.78	48.20	-47.95	0.00	0.00	0.00
4,700.00	12.40	5.62	4,646.62	511.16	50.31	-50.04	0.00	0.00	0.00
4,800.00	12.40	5.62	4,744.28	532.54	52.41	-52.13	0.00	0.00	0.00
4,900.00	12.40	5.62	4,841.95	553.91	54.52	-54.23	0.00	0.00	0.00
4,934.87	12.40	5.62	4,876.00	561.37	55.25	-54.95	0.00	0.00	0.00
Delaware Sand									
5,000.00	12.40	5.62	4,939.61	575.29	56.62	-56.32	0.00	0.00	0.00
5,100.00	12.40	5.62	5,037.28	596.67	58.72	-58.41	0.00	0.00	0.00
5,123.26	12.40	5.62	5,060.00	601.64	59.21	-58.90	0.00	0.00	0.00
Base Manzanita									
5,200.00	12.40	5.62	5,134.94	618.05	60.83	-60.50	0.00	0.00	0.00
5,300.00	12.40	5.62	5,232.61	639.42	62.93	-62.60	0.00	0.00	0.00
5,400.00	12.40	5.62	5,330.28	660.80	65.03	-64.69	0.00	0.00	0.00
5,500.00	12.40	5.62	5,427.94	682.18	67.14	-66.78	0.00	0.00	0.00
5,600.00	12.40	5.62	5,525.61	703.56	69.24	-68.87	0.00	0.00	0.00
5,700.00	12.40	5.62	5,623.27	724.93	71.35	-70.97	0.00	0.00	0.00
5,800.00	12.40	5.62	5,720.94	746.31	73.45	-73.06	0.00	0.00	0.00
5,900.00	12.40	5.62	5,818.60	767.69	75.55	-75.15	0.00	0.00	0.00
6,000.00	12.40	5.62	5,916.27	789.07	77.66	-77.25	0.00	0.00	0.00
6,100.00	12.40	5.62	6,013.94	810.44	79.76	-79.34	0.00	0.00	0.00
6,200.00	12.40	5.62	6,111.60	831.82	81.87	-81.43	0.00	0.00	0.00
6,204.50	12.40	5.62	6,116.00	832.78	81.96	-81.53	0.00	0.00	0.00
Brushy Canyon									
6,300.00	12.40	5.62	6,209.27	853.20	83.97	-83.52	0.00	0.00	0.00
6,400.00	12.40	5.62	6,306.93	874.58	86.07	-85.62	0.00	0.00	0.00
6,500.00	12.40	5.62	6,404.60	895.95	88.18	-87.71	0.00	0.00	0.00
6,600.00	12.40	5.62	6,502.26	917.33	90.28	-89.80	0.00	0.00	0.00
6,700.00	12.40	5.62	6,599.93	938.71	92.39	-91.89	0.00	0.00	0.00
6,800.00	12.40	5.62	6,697.60	960.09	94.49	-93.99	0.00	0.00	0.00
6,900.00	12.40	5.62	6,795.26	981.46	96.59	-96.08	0.00	0.00	0.00
7,000.00	12.40	5.62	6,892.93	1,002.84	98.70	-98.17	0.00	0.00	0.00
7,100.00	12.40	5.62	6,990.59	1,024.22	100.80	-100.27	0.00	0.00	0.00
7,200.00	12.40	5.62	7,088.26	1,045.60	102.91	-102.36	0.00	0.00	0.00
7,300.00	12.40	5.62	7,185.92	1,066.97	105.01	-104.45	0.00	0.00	0.00
7,400.00	12.40	5.62	7,283.59	1,088.35	107.11	-106.54	0.00	0.00	0.00
7,500.00	12.40	5.62	7,381.25	1,109.73	109.22	-108.64	0.00	0.00	0.00
7,550.93	12.40	5.62	7,431.00	1,120.62	110.29	-109.70	0.00	0.00	0.00
Basal Brushy Canyon									
7,600.00	12.40	5.62	7,478.92	1,131.11	111.32	-110.73	0.00	0.00	0.00
7,700.00	12.40	5.62	7,576.59	1,152.48	113.43	-112.82	0.00	0.00	0.00
7,785.41	12.40	5.62	7,660.00	1,170.74	115.22	-114.61	0.00	0.00	0.00
Base Brushy Canyon Sands									
7,800.00	12.40	5.62	7,674.25	1,173.86	115.53	-114.91	0.00	0.00	0.00
7,815.10	12.40	5.62	7,689.00	1,177.09	115.85	-115.23	0.00	0.00	0.00
Bone Spring									
7,900.00	12.40	5.62	7,771.92	1,195.24	117.63	-117.01	0.00	0.00	0.00
7,960.50	12.40	5.62	7,831.00	1,208.17	118.91	-118.27	0.00	0.00	0.00
Avalon Sand									
8,000.00	12.40	5.62	7,869.58	1,216.62	119.74	-119.10	0.00	0.00	0.00
8,100.00	12.40	5.62	7,967.25	1,237.99	121.84	-121.19	0.00	0.00	0.00
8,200.00	12.40	5.62	8,064.91	1,259.37	123.95	-123.29	0.00	0.00	0.00
8,300.00	12.40	5.62	8,162.58	1,280.75	126.05	-125.38	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well BS2-5W #365H
Company:	XTO Energy	**TVD Reference:**	RKB = 25' @ 3538.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 25' @ 3538.00usft
Site:	Big Eddy Unit DI 29	**North Reference:**	Grid
Well:	BS2-5W #365H	**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)
8,400.00	12.40	5.62	8,260.25	1,302.13	128.15	-127.47	0.00	0.00	0.00
8,456.06	12.40	5.62	8,315.00	1,314.11	129.33	-128.64	0.00	0.00	0.00
Lower Avalon Shale									
8,500.00	12.40	5.62	8,357.91	1,323.50	130.26	-129.56	0.00	0.00	0.00
8,600.00	12.40	5.62	8,455.58	1,344.88	132.36	-131.66	0.00	0.00	0.00
8,700.00	12.40	5.62	8,553.24	1,366.26	134.46	-133.75	0.00	0.00	0.00
8,800.00	12.40	5.62	8,650.91	1,387.64	136.57	-135.84	0.00	0.00	0.00
8,900.00	12.40	5.62	8,748.57	1,409.01	138.67	-137.93	0.00	0.00	0.00
8,970.06	12.40	5.62	8,817.00	1,423.99	140.15	-139.40	0.00	0.00	0.00
First Bone Spring Sand									
9,000.00	12.40	5.62	8,846.24	1,430.39	140.78	-140.03	0.00	0.00	0.00
9,100.00	12.40	5.62	8,943.90	1,451.77	142.88	-142.12	0.00	0.00	0.00
9,200.00	12.40	5.62	9,041.57	1,473.15	144.98	-144.21	0.00	0.00	0.00
9,288.87	12.40	5.62	9,128.36	1,492.15	146.85	-146.07	0.00	0.00	0.00
9,300.00	12.35	0.43	9,139.24	1,494.53	146.98	-146.20	10.00	-0.46	-46.61
9,320.24	12.51	351.05	9,159.00	1,498.86	146.66	-145.87	10.00	0.78	-46.36
Second Bone Spring Shale/Limestone									
9,350.00	13.30	338.17	9,188.02	1,505.22	144.88	-144.09	10.00	2.66	-43.26
9,400.00	15.83	320.89	9,236.43	1,515.86	138.44	-137.64	10.00	5.05	-34.56
9,450.00	19.32	308.97	9,284.10	1,526.36	127.70	-126.90	10.00	6.99	-23.84
9,500.00	23.35	300.80	9,330.68	1,536.64	112.74	-111.94	10.00	8.06	-16.34
9,528.95	25.84	297.21	9,357.00	1,542.47	102.20	-101.40	10.00	8.57	-12.39
Second Bone Spring Sand									
9,550.00	27.69	294.99	9,375.80	1,546.63	93.69	-92.88	10.00	8.80	-10.57
9,600.00	32.20	290.67	9,419.11	1,556.25	70.68	-69.87	10.00	9.03	-8.64
9,650.00	36.83	287.32	9,460.31	1,565.42	43.89	-43.07	10.00	9.26	-6.69
9,700.00	41.53	284.64	9,499.06	1,574.08	13.53	-12.71	10.00	9.41	-5.38
9,750.00	46.29	282.41	9,535.07	1,582.15	-20.18	21.01	10.00	9.51	-4.46
9,800.00	51.08	280.51	9,568.07	1,589.58	-56.98	57.81	10.00	9.58	-3.80
9,850.00	55.90	278.85	9,597.81	1,596.32	-96.58	97.42	10.00	9.64	-3.32
9,900.00	60.74	277.37	9,624.06	1,602.31	-138.69	139.53	10.00	9.68	-2.96
9,921.00	62.78	276.79	9,634.00	1,604.58	-157.05	157.89	10.00	9.70	-2.76
Second Bone Spring B Sand									
9,950.00	65.59	276.02	9,646.63	1,607.49	-182.99	183.83	10.00	9.71	-2.64
10,000.00	70.46	274.78	9,665.33	1,611.85	-229.14	229.98	10.00	9.73	-2.49
10,050.00	75.33	273.61	9,680.03	1,615.34	-276.78	277.63	10.00	9.75	-2.34
10,100.00	80.21	272.49	9,690.62	1,617.93	-325.57	326.41	10.00	9.76	-2.24
10,150.00	85.09	271.40	9,697.01	1,619.61	-375.11	375.96	10.00	9.76	-2.18
10,186.42	88.65	270.62	9,699.00	1,620.25	-411.46	412.31	10.00	9.77	-2.15
Landing Point									
10,200.00	89.98	270.33	9,699.16	1,620.36	-425.04	425.89	10.00	9.77	-2.14
10,214.06	91.35	270.03	9,699.00	1,620.40	-439.10	439.95	10.00	9.77	-2.14
10,300.00	91.35	270.03	9,696.98	1,620.44	-525.02	525.87	0.00	0.00	0.00
10,400.00	91.35	270.03	9,694.62	1,620.48	-624.99	625.84	0.00	0.00	0.00
10,500.00	91.35	270.03	9,692.26	1,620.53	-724.96	725.81	0.00	0.00	0.00
10,600.00	91.35	270.03	9,689.91	1,620.57	-824.93	825.78	0.00	0.00	0.00
10,700.00	91.35	270.03	9,687.55	1,620.61	-924.91	925.76	0.00	0.00	0.00
10,800.00	91.35	270.03	9,685.20	1,620.66	-1,024.88	1,025.73	0.00	0.00	0.00
10,900.00	91.35	270.03	9,682.84	1,620.70	-1,124.85	1,125.70	0.00	0.00	0.00
11,000.00	91.35	270.03	9,680.48	1,620.75	-1,224.82	1,225.67	0.00	0.00	0.00
11,100.00	91.35	270.03	9,678.13	1,620.79	-1,324.80	1,325.64	0.00	0.00	0.00
11,200.00	91.35	270.03	9,675.77	1,620.84	-1,424.77	1,425.62	0.00	0.00	0.00
11,300.00	91.35	270.03	9,673.42	1,620.88	-1,524.74	1,525.59	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well BS2-5W #365H
Company:	XTO Energy	**TVD Reference:**	RKB = 25' @ 3538.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 25' @ 3538.00usft
Site:	Big Eddy Unit DI 29	**North Reference:**	Grid
Well:	BS2-5W #365H	**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)
11,400.00	91.35	270.03	9,671.06	1,620.92	-1,624.71	1,625.56	0.00	0.00	0.00
11,500.00	91.35	270.03	9,668.70	1,620.97	-1,724.68	1,725.53	0.00	0.00	0.00
11,600.00	91.35	270.03	9,666.35	1,621.01	-1,824.66	1,825.51	0.00	0.00	0.00
11,700.00	91.35	270.03	9,663.99	1,621.06	-1,924.63	1,925.48	0.00	0.00	0.00
11,800.00	91.35	270.03	9,661.64	1,621.10	-2,024.60	2,025.45	0.00	0.00	0.00
11,900.00	91.35	270.03	9,659.28	1,621.14	-2,124.57	2,125.42	0.00	0.00	0.00
12,000.00	91.35	270.03	9,656.92	1,621.19	-2,224.55	2,225.39	0.00	0.00	0.00
12,100.00	91.35	270.03	9,654.57	1,621.23	-2,324.52	2,325.37	0.00	0.00	0.00
12,200.00	91.35	270.03	9,652.21	1,621.28	-2,424.49	2,425.34	0.00	0.00	0.00
12,300.00	91.35	270.03	9,649.86	1,621.32	-2,524.46	2,525.31	0.00	0.00	0.00
12,400.00	91.35	270.03	9,647.50	1,621.36	-2,624.43	2,625.28	0.00	0.00	0.00
12,500.00	91.35	270.03	9,645.14	1,621.41	-2,724.41	2,725.26	0.00	0.00	0.00
12,600.00	91.35	270.03	9,642.79	1,621.45	-2,824.38	2,825.23	0.00	0.00	0.00
12,700.00	91.35	270.03	9,640.43	1,621.50	-2,924.35	2,925.20	0.00	0.00	0.00
12,800.00	91.35	270.03	9,638.08	1,621.54	-3,024.32	3,025.17	0.00	0.00	0.00
12,900.00	91.35	270.03	9,635.72	1,621.59	-3,124.30	3,125.14	0.00	0.00	0.00
13,000.00	91.35	270.03	9,633.36	1,621.63	-3,224.27	3,225.12	0.00	0.00	0.00
13,100.00	91.35	270.03	9,631.01	1,621.67	-3,324.24	3,325.09	0.00	0.00	0.00
13,200.00	91.35	270.03	9,628.65	1,621.72	-3,424.21	3,425.06	0.00	0.00	0.00
13,300.00	91.35	270.03	9,626.30	1,621.76	-3,524.19	3,525.03	0.00	0.00	0.00
13,400.00	91.35	270.03	9,623.94	1,621.81	-3,624.16	3,625.01	0.00	0.00	0.00
13,500.00	91.35	270.03	9,621.58	1,621.85	-3,724.13	3,724.98	0.00	0.00	0.00
13,600.00	91.35	270.03	9,619.23	1,621.89	-3,824.10	3,824.95	0.00	0.00	0.00
13,700.00	91.35	270.03	9,616.87	1,621.94	-3,924.07	3,924.92	0.00	0.00	0.00
13,800.00	91.35	270.03	9,614.52	1,621.98	-4,024.05	4,024.89	0.00	0.00	0.00
13,900.00	91.35	270.03	9,612.16	1,622.03	-4,124.02	4,124.87	0.00	0.00	0.00
14,000.00	91.35	270.03	9,609.80	1,622.07	-4,223.99	4,224.84	0.00	0.00	0.00
14,100.00	91.35	270.03	9,607.45	1,622.11	-4,323.96	4,324.81	0.00	0.00	0.00
14,200.00	91.35	270.03	9,605.09	1,622.16	-4,423.94	4,424.78	0.00	0.00	0.00
14,300.00	91.35	270.03	9,602.74	1,622.20	-4,523.91	4,524.76	0.00	0.00	0.00
14,400.00	91.35	270.03	9,600.38	1,622.25	-4,623.88	4,624.73	0.00	0.00	0.00
14,500.00	91.35	270.03	9,598.02	1,622.29	-4,723.85	4,724.70	0.00	0.00	0.00
14,600.00	91.35	270.03	9,595.67	1,622.34	-4,823.82	4,824.67	0.00	0.00	0.00
14,700.00	91.35	270.03	9,593.31	1,622.38	-4,923.80	4,924.65	0.00	0.00	0.00
14,800.00	91.35	270.03	9,590.96	1,622.42	-5,023.77	5,024.62	0.00	0.00	0.00
14,900.00	91.35	270.03	9,588.60	1,622.47	-5,123.74	5,124.59	0.00	0.00	0.00
15,000.00	91.35	270.03	9,586.24	1,622.51	-5,223.71	5,224.56	0.00	0.00	0.00
15,100.00	91.35	270.03	9,583.89	1,622.56	-5,323.69	5,324.53	0.00	0.00	0.00
15,200.00	91.35	270.03	9,581.53	1,622.60	-5,423.66	5,424.51	0.00	0.00	0.00
15,300.00	91.35	270.03	9,579.18	1,622.64	-5,523.63	5,524.48	0.00	0.00	0.00
15,400.00	91.35	270.03	9,576.82	1,622.69	-5,623.60	5,624.45	0.00	0.00	0.00
15,500.00	91.35	270.03	9,574.46	1,622.73	-5,723.57	5,724.42	0.00	0.00	0.00
15,600.00	91.35	270.03	9,572.11	1,622.78	-5,823.55	5,824.40	0.00	0.00	0.00
15,700.00	91.35	270.03	9,569.75	1,622.82	-5,923.52	5,924.37	0.00	0.00	0.00
15,800.00	91.35	270.03	9,567.40	1,622.87	-6,023.49	6,024.34	0.00	0.00	0.00
15,900.00	91.35	270.03	9,565.04	1,622.91	-6,123.46	6,124.31	0.00	0.00	0.00
16,000.00	91.35	270.03	9,562.68	1,622.95	-6,223.44	6,224.28	0.00	0.00	0.00
16,100.00	91.35	270.03	9,560.33	1,623.00	-6,323.41	6,324.26	0.00	0.00	0.00
16,200.00	91.35	270.03	9,557.97	1,623.04	-6,423.38	6,424.23	0.00	0.00	0.00
16,300.00	91.35	270.03	9,555.62	1,623.09	-6,523.35	6,524.20	0.00	0.00	0.00
16,400.00	91.35	270.03	9,553.26	1,623.13	-6,623.32	6,624.17	0.00	0.00	0.00
16,500.00	91.35	270.03	9,550.90	1,623.17	-6,723.30	6,724.15	0.00	0.00	0.00
16,600.00	91.35	270.03	9,548.55	1,623.22	-6,823.27	6,824.12	0.00	0.00	0.00
16,700.00	91.35	270.03	9,546.19	1,623.26	-6,923.24	6,924.09	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well BS2-5W #365H
Company:	XTO Energy	**TVD Reference:**	RKB = 25' @ 3538.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 25' @ 3538.00usft
Site:	Big Eddy Unit DI 29	**North Reference:**	Grid
Well:	BS2-5W #365H	**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)
16,800.00	91.35	270.03	9,543.84	1,623.31	-7,023.21	7,024.06	0.00	0.00	0.00
16,900.00	91.35	270.03	9,541.48	1,623.35	-7,123.19	7,124.03	0.00	0.00	0.00
17,000.00	91.35	270.03	9,539.13	1,623.39	-7,223.16	7,224.01	0.00	0.00	0.00
17,100.00	91.35	270.03	9,536.77	1,623.44	-7,323.13	7,323.98	0.00	0.00	0.00
17,200.00	91.35	270.03	9,534.41	1,623.48	-7,423.10	7,423.95	0.00	0.00	0.00
17,300.00	91.35	270.03	9,532.06	1,623.53	-7,523.07	7,523.92	0.00	0.00	0.00
17,400.00	91.35	270.03	9,529.70	1,623.57	-7,623.05	7,623.90	0.00	0.00	0.00
17,500.00	91.35	270.03	9,527.35	1,623.62	-7,723.02	7,723.87	0.00	0.00	0.00
17,600.00	91.35	270.03	9,524.99	1,623.66	-7,822.99	7,823.84	0.00	0.00	0.00
17,700.00	91.35	270.03	9,522.63	1,623.70	-7,922.96	7,923.81	0.00	0.00	0.00
17,800.00	91.35	270.03	9,520.28	1,623.75	-8,022.94	8,023.78	0.00	0.00	0.00
17,900.00	91.35	270.03	9,517.92	1,623.79	-8,122.91	8,123.76	0.00	0.00	0.00
18,000.00	91.35	270.03	9,515.57	1,623.84	-8,222.88	8,223.73	0.00	0.00	0.00
18,100.00	91.35	270.03	9,513.21	1,623.88	-8,322.85	8,323.70	0.00	0.00	0.00
18,200.00	91.35	270.03	9,510.85	1,623.92	-8,422.82	8,423.67	0.00	0.00	0.00
18,300.00	91.35	270.03	9,508.50	1,623.97	-8,522.80	8,523.65	0.00	0.00	0.00
18,400.00	91.35	270.03	9,506.14	1,624.01	-8,622.77	8,623.62	0.00	0.00	0.00
18,500.00	91.35	270.03	9,503.79	1,624.06	-8,722.74	8,723.59	0.00	0.00	0.00
18,600.00	91.35	270.03	9,501.43	1,624.10	-8,822.71	8,823.56	0.00	0.00	0.00
18,700.00	91.35	270.03	9,499.07	1,624.15	-8,922.69	8,923.53	0.00	0.00	0.00
18,800.00	91.35	270.03	9,496.72	1,624.19	-9,022.66	9,023.51	0.00	0.00	0.00
18,900.00	91.35	270.03	9,494.36	1,624.23	-9,122.63	9,123.48	0.00	0.00	0.00
19,000.00	91.35	270.03	9,492.01	1,624.28	-9,222.60	9,223.45	0.00	0.00	0.00
19,100.00	91.35	270.03	9,489.65	1,624.32	-9,322.57	9,323.42	0.00	0.00	0.00
19,200.00	91.35	270.03	9,487.29	1,624.37	-9,422.55	9,423.40	0.00	0.00	0.00
19,300.00	91.35	270.03	9,484.94	1,624.41	-9,522.52	9,523.37	0.00	0.00	0.00
19,400.00	91.35	270.03	9,482.58	1,624.45	-9,622.49	9,623.34	0.00	0.00	0.00
19,500.00	91.35	270.03	9,480.23	1,624.50	-9,722.46	9,723.31	0.00	0.00	0.00
19,600.00	91.35	270.03	9,477.87	1,624.54	-9,822.44	9,823.29	0.00	0.00	0.00
19,700.00	91.35	270.03	9,475.51	1,624.59	-9,922.41	9,923.26	0.00	0.00	0.00
19,800.00	91.35	270.03	9,473.16	1,624.63	-10,022.38	10,023.23	0.00	0.00	0.00
19,900.00	91.35	270.03	9,470.80	1,624.67	-10,122.35	10,123.20	0.00	0.00	0.00
20,000.00	91.35	270.03	9,468.45	1,624.72	-10,222.32	10,223.17	0.00	0.00	0.00
20,100.00	91.35	270.03	9,466.09	1,624.76	-10,322.30	10,323.15	0.00	0.00	0.00
20,200.00	91.35	270.03	9,463.73	1,624.81	-10,422.27	10,423.12	0.00	0.00	0.00
20,300.00	91.35	270.03	9,461.38	1,624.85	-10,522.24	10,523.09	0.00	0.00	0.00
20,400.00	91.35	270.03	9,459.02	1,624.90	-10,622.21	10,623.06	0.00	0.00	0.00
20,500.00	91.35	270.03	9,456.67	1,624.94	-10,722.19	10,723.04	0.00	0.00	0.00
20,587.24	91.35	270.03	9,454.61	1,624.98	-10,809.40	10,810.25	0.00	0.00	0.00
20,600.00	91.35	270.03	9,454.31	1,624.98	-10,822.16	10,823.01	0.00	0.00	0.00
20,637.25	91.35	270.03	9,453.43	1,625.00	-10,859.40	10,860.25	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well BS2-5W #365H
Company:	XTO Energy	**TVD Reference:**	RKB = 25' @ 3538.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 25' @ 3538.00usft
Site:	Big Eddy Unit DI 29	**North Reference:**	Grid
Well:	BS2-5W #365H	**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
BEU-DI29 #365H: SH - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	570,374.80	671,001.00	32.566842	-103.778270
BEU-DI29 #365H: PB - plan hits target center - Point	0.00	0.01	9,453.43	1,625.00	-10,859.40	571,999.80	660,141.60	32.571459	-103.813492
BEU-DI29 #365H: LTI - plan misses target center by 0.02usft at 20587.24usft MD (9454.61 TVD, 1624.98 N, -10809.40 E) - Point	0.00	0.01	9,454.61	1,625.00	-10,809.40	571,999.80	660,191.60	32.571459	-103.813330
BEU-DI29 #365H: FTI - plan hits target center - Point	0.00	0.01	9,699.00	1,620.40	-439.10	571,995.20	670,561.90	32.571302	-103.779668

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
905.00	905.00	Rustler			
1,261.00	1,261.00	Salado			
2,421.52	2,420.00	Base Salt			
2,864.54	2,854.00	Capitan			
4,934.87	4,876.00	Delaware Sand			
5,123.26	5,060.00	Base Manzanita			
6,204.50	6,116.00	Brushy Canyon			
7,550.93	7,431.00	Basal Brushy Canyon			
7,785.41	7,660.00	Base Brushy Canyon Sands			
7,815.10	7,689.00	Bone Spring			
7,960.50	7,831.00	Avalon Sand			
8,456.06	8,315.00	Lower Avalon Shale			
8,970.06	8,817.00	First Bone Spring Sand			
9,320.24	9,159.00	Second Bone Spring Shale/Limesto			
9,528.95	9,357.00	Second Bone Spring Sand			
9,921.00	9,634.00	Second Bone Spring B Sand			
10,186.42	9,699.00	Landing Point			