

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
APPLICATION FOR PERMIT TO DRILL OR REENTER

|  |   |  |
|--|---|--|
| 1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER   |   | 5. Lease Serial No.<br>NMNM0001206A                                      |
| 1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other  |   | 6. If Indian, Allottee or Tribe Name                                     |
| 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone   |   | 7. If Unit or CA Agreement, Name and No.<br>BIG EDDY / NMNM068294X       |
| 2. Name of Operator<br>XTO PERMIAN OPERATING LLC (372075)  |   | 8. Lease Name and Well No.<br>BIG EDDY UNIT D129 BS2-5W<br>366H (326488) |
| 3a. Address<br>6401 Holiday Hill Road, Bldg 5 Midland TX 79707   | 3b. Phone No. (include area code)<br>(432)682-8873  | 9. API Well No.<br>70-025-46654  |
| 4. Location of Well (Report location clearly and in accordance with any State requirements. *)<br>At surface SWSW / 420 FSL / 280 FWL / LAT 32.567133 / LONG -103.778931<br>At proposed prod. zone LOT 1 / 660 FNL / 50 FWL / LAT 32.578848 / LONG -103.813986 |   | 10. Field and Pool, or Exploratory<br>WILDCAT; BONE SPRING 53660         |
| 11. Sec., T. R. M. or Blk. and Survey or Area<br>SEC 16 / T20S / R32E / NMP  |   | 12. County or Parish<br>LEA  |
| 13. State<br>NM  |   | 14. Distance in miles and direction from nearest town or post office*    |
| 15. Distance from proposed* location to nearest property or lease line, ft.<br>(Also to nearest drig. unit line, if any)<br>280 feet   | 16. No of acres in lease<br>2075.4                  | 17. Spacing Unit dedicated to this well<br>320                           |
| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.<br>35 feet  | 19. Proposed Depth<br>8807 feet / 20846 feet        | 20. BLM/BIA Bond No. in file<br>FED: COB000050                           |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc.)<br>3513 feet   | 22. Approximate date work will start*<br>05/01/2019 | 23. Estimated duration<br>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.   | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan.  | 5. Operator certification.  |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be requested by the BLM.            |

|  |   |                    |
|--|---|--------------------|
| 25. Signature<br>(Electronic Submission)           | Name (Printed/Typed)<br>Stephanie Rabadue / Ph: (432)620-6714 | Date<br>01/21/2019 |
| Title<br>Regulatory Coordinator                    |   |                    |
| Approved by (Signature)<br>(Electronic Submission) | Name (Printed/Typed)<br>Cody Layton / Ph: (575)234-5959       | Date<br>12/13/2019 |
| Title<br>Assistant Field Manager Lands & Minerals  |   |                    |
| Office<br>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.

BCA Rec'd 12/19

APPROVED WITH CONDITIONS

LA  
12/23/19

## 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 1:** 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 well, 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 directionally 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 well 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 will 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 collects this information to allow 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 Connection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

## **Additional Operator Remarks**

### **Location of Well**

1. SHL: SWSW / 420 FSL / 280 FWL / TWSP: 20S / RANGE: 32E / SECTION: 16 / LAT: 32.567133 / LONG: -103.778931 ( TVD: 0 feet, MD: 0 feet )

PPP: NENE / 660 FNL / 100 FEL / TWSP: 20S / RANGE: 32E / SECTION: 16 / LAT: 32.578709 / LONG: -103.78018 ( TVD: 8807 feet, MD: 10432 feet )

BHL: LOT 1 / 660 FNL / 50 FWL / TWSP: 20S / RANGE: 32E / SECTION: 18 / LAT: 32.578848 / LONG: -103.813986 ( TVD: 8807 feet, MD: 20846 feet )

## **BLM Point of Contact**

Name: Tenille Ortiz

Title: Legal Instruments Examiner

Phone: 5752342224

Email: tortiz@blm.gov

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**Approval Date: 12/13/2019**

(Form 3160-3, page 3)

**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

|                              |   |
|------------------------------|---|
| <b>OPERATOR'S NAME:</b>      | <b>XTO Permian Operating, LLC</b>                           |
| <b>LEASE NO.:</b>            | <b>NMNM-0001206A</b>  |
| <b>WELL NAME &amp; NO.:</b>  | <b>Big Eddy Unit DI 29 BS2-5W 366H</b>                      |
| <b>SURFACE HOLE FOOTAGE:</b> | <b>0420' FSL &amp; 0280' FWL</b>                            |
| <b>BOTTOM HOLE FOOTAGE</b>   | <b>0660' FNL &amp; 0050' FWL Sec. 18, T. 20 S., R 32 E.</b> |
| <b>LOCATION:</b>             | <b>Section 16, T. 20 S., R 32 E., NMPM</b>                  |
| <b>COUNTY:</b>               | <b>County, New Mexico</b>                                   |

### **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 (H<sub>2</sub>S) monitors shall be installed prior to drilling out the surface shoe. If H<sub>2</sub>S 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 1<sup>st</sup> 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 1<sup>st</sup> 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 2<sup>nd</sup> 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 2<sup>nd</sup> 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 1<sup>st</sup> intermediate casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 13-3/8 1<sup>st</sup> 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 111519**



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

## Operator Certification Data Report

12/16/2019

### 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:**



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

## Application Data Report

12/16/2019

APD ID: 10400037564

Submission Date: 01/21/2019

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI 29 BS2-5W

Well Number: 366H

Well Type: OIL WELL

Well Work Type: Drill



[Show Final Text](#)

### Section 1 - General

APD ID: 10400037564

Tie to previous NOS?

Submission Date: 01/21/2019

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: 366H

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:** 366H

**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 Number: 29

**Well Class:** HORIZONTAL

**DI**

**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:** 280 FT

**Reservoir well spacing assigned acres Measurement:** 320 Acres

**Well plat:** BEU\_DI29\_366H\_C102\_20181228065322.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<br>Leg<br>#1   | 420     | FSL          | 280     | FWL          | 20S  | 32E   | 16      | Aliquot<br>SWS<br>W | 32.56713<br>3 | -<br>103.7789<br>31 | LEA    | NEW<br>MEXI<br>CO | NEW<br>MEXI<br>CO | S          | STATE                | 351<br>3      | 0         | 0        |                        |
| KOP<br>Leg<br>#1   | 420     | FSL          | 280     | FWL          | 20S  | 32E   | 16      | Aliquot<br>SWS<br>W | 32.56713<br>3 | -<br>103.7789<br>31 | LEA    | NEW<br>MEXI<br>CO | NEW<br>MEXI<br>CO | S          | STATE                | 151<br>3      | 200<br>0  | 200<br>0 |                        |
| PPP<br>Leg<br>#1-1 | 660     | FNL          | 100     | FEL          | 20S  | 32E   | 16      | Aliquot<br>NENE     | 32.57870<br>9 | -<br>103.7801<br>8  | LEA    | NEW<br>MEXI<br>CO | NEW<br>MEXI<br>CO | F          | NMNM<br>000120<br>6A | -<br>529<br>4 | 104<br>32 | 880<br>7 |                        |

**Operator Name:** XTO PERMIAN OPERATING LLC

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

**Well Number:** 366H

| 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<br>Leg<br>#1 | 660     | FNL          | 100     | FWL          | 20S  | 32E   | 18      | Lot<br>1          | 32.57884<br>7 | -<br>103.8138<br>24 | LEA    | NEW<br>MEXI<br>CO | NEW<br>MEXI<br>CO | F          | NMNM<br>000120<br>6A | -<br>529<br>4 | 207<br>96 | 880<br>7 |                        |
| BHL<br>Leg<br>#1  | 660     | FNL          | 50      | FWL          | 20S  | 32E   | 18      | Lot<br>1          | 32.57884<br>8 | -<br>103.8139<br>86 | LEA    | NEW<br>MEXI<br>CO | NEW<br>MEXI<br>CO | F          | NMNM<br>000120<br>6A | -<br>529<br>4 | 208<br>46 | 880<br>7 |                        |



12/16/2019

1. The first step is to identify the key components of the system.

Show Final Text

**Well Work Type: Drill**

| 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 | Y                   |

|   |                    |
|---|--------------------|
| Pressure Rating (PSI): 150  | Rating Depth: 1080 |
| Equipment: The blow out preventer equipment (BOP) for this well consists of a 13.5/8" minimum MWD and a 13.5/8" minimum 15% Blow out Preventer.   |                    |
| Requesting Authority: [redacted]  |                    |
| <p>Variance from the rules is requested to allow use of a flex hose at the choke line from the line to the Choke Manifold. If this hose is used in a way that the manufacturer's certification and pressure test data will be maintained. Attached is an example of a certification and pressure test chart. The manufacturer does not require a return.</p> <p><del>Results of the test will be provided by an independent service company. The test results will be limited to 50% of the vendor's test capacity and applying the BOP test will be limited to 100% of the test capacity. The well will include a flow return to the pressure regulation rate 264 BOP diagram is attached. Each time well test report, each trip, paper will be filed in the test log.</del></p> |                    |

**BOP Diagram Attachment:**



Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI 29 BS2-5W

Well Number: 366H

BEU\_DI29\_2MCM\_20191024082258.pdf

BEU\_DI29\_2MBOP\_20191024082312.pdf

Pressure Rating (PSI): 3M

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

Requesting Variance? YES

Variance request: A variance is requested to allow use of a flex joint as the choke line from the BOP to the choke line head. 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 no other modifications only in the curve after the BOP and only a maximum of one every other joint. Permanent Wellhead: 13-5/8" Multibowl System A, Starting Head: 13-5/8" 6W top flange x 13-5/8" 6W bottom B, Tubing Head: 13-5/8" 6W bottom flange x 1-1/16" 10M top flange Wellhead will be installed by manufacturer's representatives. Manufacturer will monitor welding process to ensure appropriate temperature of heat. Operator will test the 9-5/8" casing per BLM Onshore Order. 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 tripping 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\_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    |

**Operator Name:** XTO PERMIAN OPERATING LLC

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

**Well Number:** 366H

| 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          | 20846.0       | 0           | 8807           |             |                | 20846.110                   | P-110 | 17     | BUTT       | 1.62        | 1.12     | DRY           | 2.18     | DRY          | 2.18    |

#### Casing Attachments

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

BEU\_DI29\_366H\_Csg\_20181228065033.pdf

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

BEU\_DI29\_366H\_Csg\_20181228065046.pdf

**Operator Name:** XTO PERMIAN OPERATING LLC

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

**Well Number:** 366H

#### Casing Attachments

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

BEU\_DI29\_366H\_Csg\_20181228065056.pdf

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

BEU\_DI29\_366H\_Csg\_20181228065104.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      | 1080      | 1420         | 1.87  | 12.9    | 2655.4 | 100     | EconoCem-HLTRC | None      |
| SURFACE      | Tail      |                  |        |           | 560          | 1.35  | 14.8    | 756    | 100     | HalCem-C       | 2% CaCl   |
| INTERMEDIATE | Lead      |                  | 0      | 2470      | 1420         | 1.87  | 12.9    | 2655.4 | 100     | EconoCem-HLTRC | None      |
| INTERMEDIATE | Tail      |                  |        |           | 560          | 1.35  | 14.8    | 756    | 100     | HalCem-C       | 2% CaCl   |
| INTERMEDIATE | Lead      | 2780             | 0      | 2780      | 100          | 1.88  | 12.9    | 188    | 100     | HalCem-C       | 2% CaCl   |

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI 29 BS2-5W

Well Number: 366H

| String Type  | Lead/Tail | Stage Tool Depth | Top MD | Bottom MD | Quantity(sx) | Yield | Density | Cu Ft | Excess% | Cement type | Additives |
|--------------|-----------|------------------|--------|-----------|--------------|-------|---------|-------|---------|-------------|-----------|
| INTERMEDIATE | Tail      |                  |        |           | 230          | 1.88  | 11.2    | 11.2  | 100     | 100% cement | 2% CcCl   |
| INTERMEDIATE | Lead      | 2780             | 2780   | 4980      | 390          | 1.88  | 11.5    | 11.5  | 100     | 100% cement | 2% CcCl   |
| INTERMEDIATE | Tail      |                  |        |           | 470          | 1.33  | 11.5    | 11.5  | 100     | 100% cement | 2% CcCl   |
| PRODUCTION   | Lead      |                  | 0      | 2084<br>6 | 890          | 2.69  | 10.5    | 10.5  | 100     | 100% cement | None      |
| PRODUCTION   | Tail      |                  |        |           | 2210         | 1.61  | 10.5    | 10.5  | 100     | 100% cement | 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  |
|-----------|--------------|--|----------------------|----------------------|---------------------|-----------------------------|----|----------------|----------------|-----------------|---|
| 2470      | 4980         | OTHER :<br>FW/Cut Brine /<br>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 |

**Operator Name:** XTO PERMIAN OPERATING LLC

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

**Well Number:** 366H

| 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         | 1080         | OTHER :<br>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      | 8807         | OTHER :<br>FW/Cut<br>Brine/Poly-<br>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 as a closed loop system |
| 1080      | 2470         | OTHER :<br>Brine/Gel<br>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.

**Operator Name:** XTO PERMIAN OPERATING LLC

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

**Well Number:** 366H

### Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 4259

**Anticipated Surface Pressure:** 2125.21

**Anticipated Bottom Hole Temperature(F):** 160

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

**Describe:**

Potential loss of circulation through the Capitan Reef.

**Contingency Plans geohazards description:**

The necessary mud products for weight addition and fluid loss control will be on location at all times. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system. Lost circulation could occur but is not expected to be a serious problem in this area and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid.

**Contingency Plans geohazards attachment:**

**Hydrogen Sulfide drilling operations plan required?** YES

**Hydrogen sulfide drilling operations plan:**

BEU\_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\_366H\_DD\_20181228065219.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.

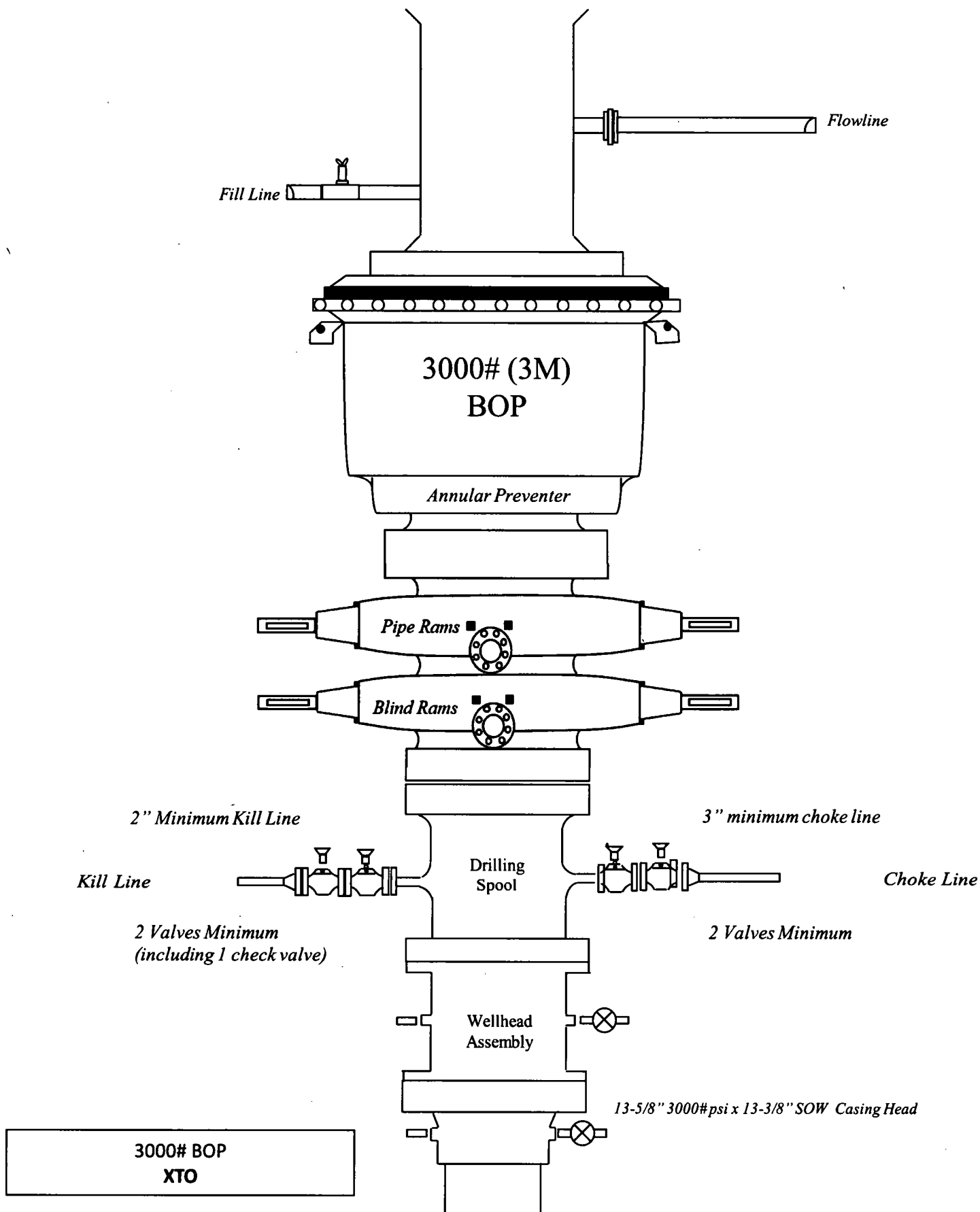
XTO requests to utilize centralizers only in the curve after the KOP and only a minimum of one every other joint.

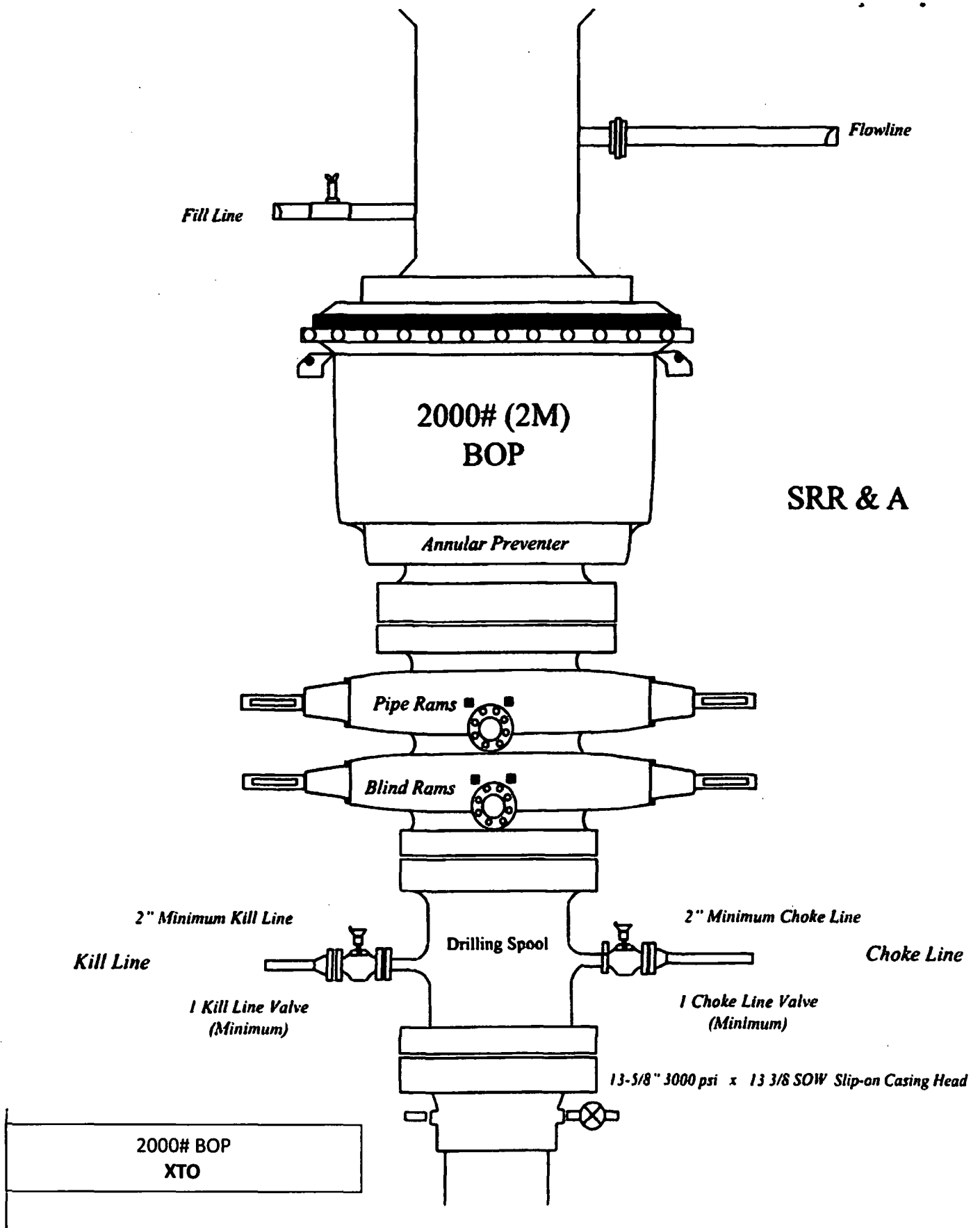
**Other proposed operations facets attachment:**

BEU\_DI29\_366H\_GCP\_20181228065228.pdf

**Other Variance attachment:**

BEU\_DI29\_FH\_20181228054223.pdf









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

**Assumed 100 ppm ROE = 3000'**

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

### Emergency Procedures

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

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

### Ignition of Gas source

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

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

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

**Eddy County, NM (NAD-27)**

**Big Eddy Unit DI 29**

**BS2-5W #366H**

**OH**

**Plan: PERMIT**

## **Standard Planning Report**

**26 November, 2018**



Project: Eddy County, NM (NAD-27)  
Site: Big Eddy Unit DI 29  
Well: BS2-5W #366H  
Wellbore: OH  
Design: PERMIT

#### WELL DETAILS: BS2-5W #366H

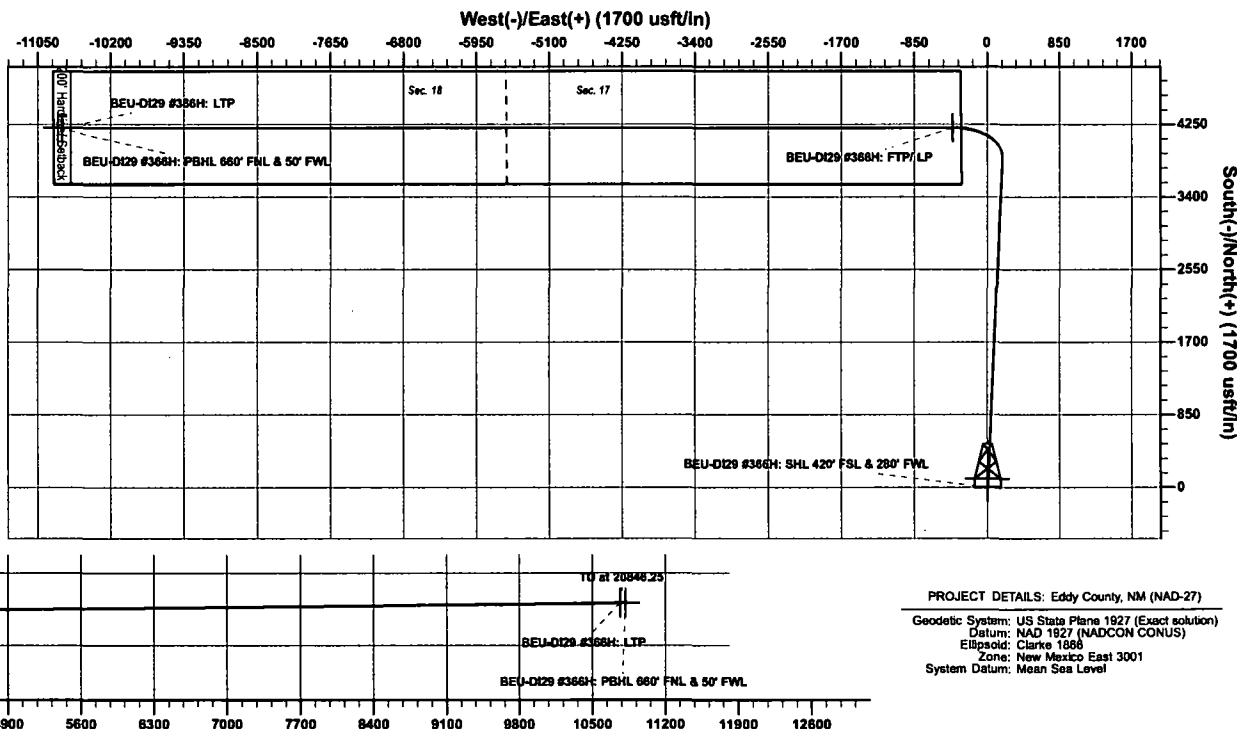
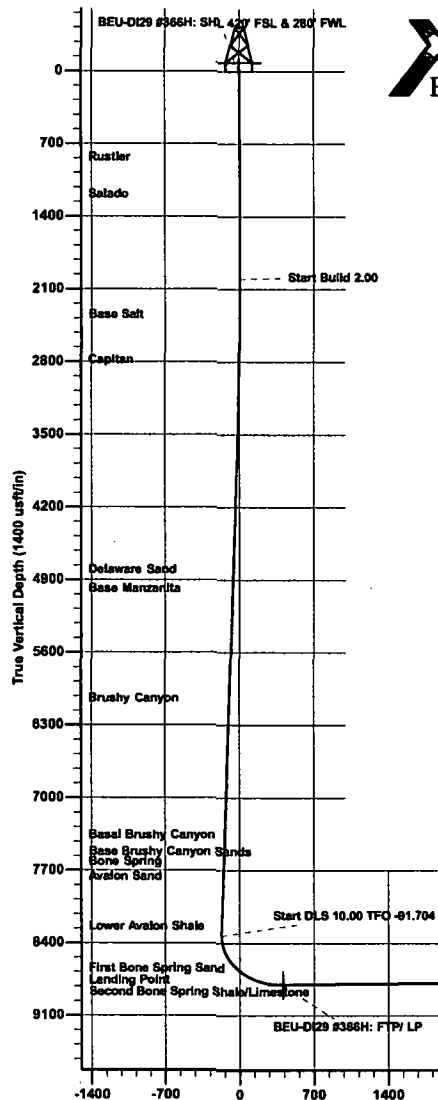
Rig Name:  
RKB = 25' @ 3538.00ush  
Ground Level: 3513.00  
Northing 570436.80 Easting 670950.80 Latitude 32.567013 Longitude -103.776431

#### SECTION DETAILS

| Sec | MD       | Inc   | Azi    | TVD     | +N-S    | +E-W      | Diag  | 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  | 0.005   | 0.00     |
| 3   | 3777.78  | 35.56 | 2.54   | 3685.85 | 533.61  | 23.68     | 2.00  | 2.541   | -23.78   |
| 4   | 9511.95  | 35.56 | 2.54   | 8330.90 | 3864.71 | 171.52    | 0.00  | 0.000   | -172.20  |
| 5   | 10432.00 | 80.64 | 269.99 | 8807.00 | 4209.30 | -406.50   | 10.00 | -91.704 | 405.77   |
| 6   | 20796.24 | 80.64 | 269.99 | 8691.23 | 4207.41 | -10770.10 | 0.00  | 0.000   | 10769.37 |
| 7   | 20846.25 | 80.64 | 269.99 | 8690.67 | 4207.40 | -10620.10 | 0.00  | 0.000   | 10819.37 |

#### DESIGN TARGET DETAILS

| Name                                    | TVD     | +N-S    | +E-W      | Northing  | Easting   | Latitude  | Longitude   | Shape |
|---|---------|---------|-----------|-----------|-----------|-----------|-------------|-------|
| BEU-DI29 #366H: SHL 420' FSL & 280' FWL | 0.00    | 0.00    | 0.00      | 570436.80 | 670950.80 | 32.567013 | -103.776431 | Point |
| BEU-DI29 #366H: PBHL 660' FNL & 50' FWL | 8690.67 | 4207.40 | -10620.10 | 574944.20 | 660130.70 | 32.576728 | -103.813485 | Point |
| BEU-DI29 #366H: LTP                     | 8691.23 | 4207.50 | -10770.10 | 574944.30 | 660180.70 | 32.576728 | -103.813323 | Point |
| BEU-DI29 #366H: FTP/LP                  | 8607.00 | 4209.30 | -406.50   | 574948.10 | 670544.30 | 32.576569 | -103.779680 | Point |



Vertical Section at 269.99° (1400 usft/in)

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 #366H/OH)

Created By: Matthew May Date: 16.03, November 26 2016

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

**District I**  
1625 N. French Dr., Hobbs, NM 88240  
Phone: (575) 393-6161 Fax: (575) 393-0720

**District II**  
811 S. First St., Artesia, NM 88210  
Phone: (575) 748-1283 Fax: (575) 748-9720

**District III**  
1000 Rio Brazos Road, Aztec, NM 87410  
Phone: (505) 334-6178 Fax: (505) 334-6170

**District IV**  
1220 S. St. Francis Dr., Santa Fe, NM 87505  
Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

☐ AMENDED REPORT

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

|                                    |   |  |
|------------------------------------|---|--|
| <sup>1</sup> API Number<br>30-025- | <sup>2</sup> Pool Code                                    | <sup>3</sup> Pool Name<br>Wildcat; Bone Spring |
| <sup>4</sup> Property Code         | <sup>5</sup> Property Name<br>BIG EDDY UNIT DI 29 BS2-5W  | <sup>6</sup> Well Number<br>366H               |
| <sup>7</sup> OGRID No.<br>260737   | <sup>8</sup> Operator Name<br>XTO PERMIAN OPERATING, LLC. | <sup>9</sup> Elevation<br>3,513'               |

<sup>10</sup> Surface Location

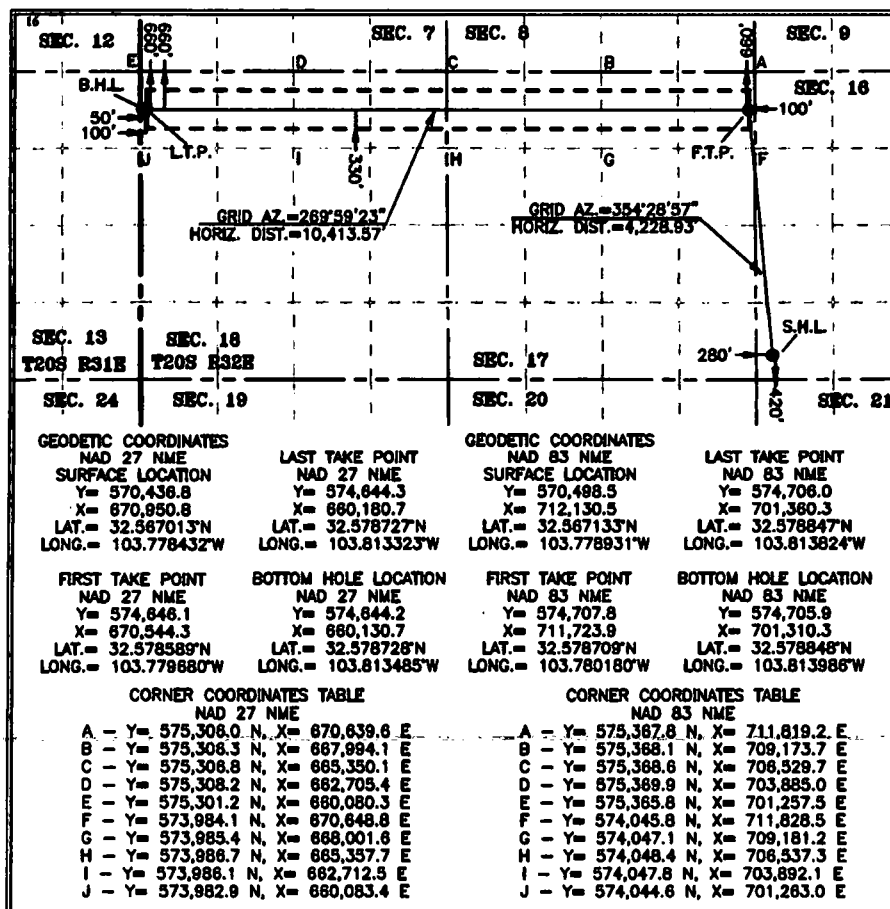
| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| M             | 16      | 20 S     | 32 E  |         | 420           | SOUTH            | 280           | WEST           | LEA    |

<sup>11</sup> Bottom Hole Location If Different From Surface

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| I             | 18      | 20 S     | 32 E  |         | 660           | NORTH            | 50            | WEST           | LEA    |

|                                      |                               |                                  |                         |
|--------------------------------------|-------------------------------|----------------------------------|-------------------------|
| <sup>12</sup> Dedicated Acres<br>320 | <sup>13</sup> Joint or Infill | <sup>14</sup> Consolidation Code | <sup>15</sup> Order No. |
|--------------------------------------|-------------------------------|----------------------------------|-------------------------|

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



**17 OPERATOR CERTIFICATION**  
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or released mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Stephanie Rabadue 11/19/2018  
Signature Date

Stephanie Rabadue  
Printed Name  
stephanie\_rabadue@xtoenergy.com  
E-mail Address

**18 SURVEYOR CERTIFICATION**  
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

11-19-2018  
Date of Survey  
Signature and Seal of Professional Surveyor:  
MARK DILLON HARP 23786  
Certificate Number  
AI 2018061614





|                  |                           |                                     |                         |
|------------------|---------------------------|-------------------------------------|-------------------------|
| <b>Database:</b> | EDM 5000.1 Single User Db | <b>Local Co-ordinate Reference:</b> | Well BS2-5W #366H       |
| <b>Company:</b>  | XTO Energy                | <b>TVD Reference:</b>               | RKB = 25' @ 3538.00usft |
| <b>Project:</b>  | Eddy County, NM (NAD-27)  | <b>MD Reference:</b>                | RKB = 25' @ 3538.00usft |
| <b>Site:</b>     | Big Eddy Unit DI 29       | <b>North Reference:</b>             | Grid                    |
| <b>Well:</b>     | BS2-5W #366H              | <b>Survey Calculation Method:</b>   | Minimum Curvature       |
| <b>Wellbore:</b> | OH                        |                                     |                         |
| <b>Design:</b>   | PERMIT                    |                                     |                         |

|                    |                                      |                      |                |
|--------------------|--------------------------------------|----------------------|----------------|
| <b>Project</b>     | Eddy County, NM (NAD-27)             |                      |                |
| <b>Map System:</b> | US State Plane 1927 (Exact solution) | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | NAD 1927 (NADCON CONUS)              |                      |                |
| <b>Map Zone:</b>   | New Mexico East 3001                 |                      |                |

|                              |                     |                          |                 |
|------------------------------|---------------------|--------------------------|-----------------|
| <b>Site</b>                  | Big Eddy Unit DI 29 |                          |                 |
| <b>Site Position:</b>        |                     | <b>Northing:</b>         | 570,344.80 usft |
| <b>From:</b>                 | Map                 | <b>Easting:</b>          | 671,001.10 usft |
| <b>Position Uncertainty:</b> | 0.00 usft           | <b>Slot Radius:</b>      | 13-3/16 "       |
|                              |                     | <b>Latitude:</b>         | 32.566759       |
|                              |                     | <b>Longitude:</b>        | -103.778270     |
|                              |                     | <b>Grid Convergence:</b> | 0.299 °         |

|                             |              |                            |                                  |
|-----------------------------|--------------|----------------------------|----------------------------------|
| <b>Well</b>                 | BS2-5W #366H |                            |                                  |
| <b>Well Position</b>        | <b>+N/-S</b> | 92.00 usft                 | <b>Northing:</b> 570,436.80 usft |
|                             | <b>+E/-W</b> | -50.30 usft                | <b>Easting:</b> 670,950.80 usft  |
| <b>Position Uncertainty</b> | 0.00 usft    | <b>Wellhead Elevation:</b> | 0.00 usft                        |
|                             |              | <b>Latitude:</b>           | 32.567013                        |
|                             |              | <b>Longitude:</b>          | -103.778432                      |
|                             |              | <b>Ground Level:</b>       | 3,513.00 usft                    |

|                  |                   |                    |                            |
|------------------|-------------------|--------------------|----------------------------|
| <b>Wellbore</b>  | OH                |                    |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b>     |
|                  | IGRF2015          | 11/26/2018         | 6.920                      |
|                  |                   |                    | <b>Dip Angle (°)</b>       |
|                  |                   |                    | 60.325                     |
|                  |                   |                    | <b>Field Strength (nT)</b> |
|                  |                   |                    | 47,970                     |

|                          |                                |                     |                           |
|--------------------------|--------------------------------|---------------------|---------------------------|
| <b>Design</b>            | PERMIT                         |                     |                           |
| <b>Audit Notes:</b>      |                                |                     |                           |
| <b>Version:</b>          | <b>Phase:</b>                  | PLAN                | <b>Tie On Depth:</b> 0.00 |
| <b>Vertical Section:</b> | <b>Depth From (TVD) (usft)</b> | <b>+N/-S (usft)</b> | <b>+E/-W (usft)</b>       |
|                          | 0.00                           | 0.00                | 0.00                      |
|                          |                                |                     | <b>Direction (°)</b>      |
|                          |                                |                     | 269.99                    |

| 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            | 0.01        | 2,000.00              | 0.00         | 0.00         | 0.00                    | 0.00                   | 0.00                  | 0.005   |                   |
| 3,777.78              | 35.56           | 2.54        | 3,665.85              | 533.61       | 23.68        | 2.00                    | 2.00                   | 0.00                  | 2.541   |                   |
| 9,511.95              | 35.56           | 2.54        | 8,330.90              | 3,864.71     | 171.52       | 0.00                    | 0.00                   | 0.00                  | 0.000   |                   |
| 10,432.00             | 90.64           | 269.99      | 8,807.00              | 4,209.30     | -406.50      | 10.00                   | 5.99                   | -10.06                | -91.704 | BEU-DI29 #366H: F |
| 20,796.24             | 90.64           | 269.99      | 8,691.23              | 4,207.41     | -10,770.10   | 0.00                    | 0.00                   | 0.00                  | 0.000   | BEU-DI29 #366H: L |
| 20,846.25             | 90.64           | 269.99      | 8,690.67              | 4,207.40     | -10,820.10   | 0.00                    | 0.00                   | 0.00                  | 0.000   | BEU-DI29 #366H: F |



|                  |                           |                                     |                         |
|------------------|---------------------------|-------------------------------------|-------------------------|
| <b>Database:</b> | EDM 5000.1 Single User Db | <b>Local Co-ordinate Reference:</b> | Well BS2-5W #366H       |
| <b>Company:</b>  | XTO Energy                | <b>TVD Reference:</b>               | RKB = 25' @ 3538.00usft |
| <b>Project:</b>  | Eddy County, NM (NAD-27)  | <b>MD Reference:</b>                | RKB = 25' @ 3538.00usft |
| <b>Site:</b>     | Big Eddy Unit DI 29       | <b>North Reference:</b>             | Grid                    |
| <b>Well:</b>     | BS2-5W #366H              | <b>Survey Calculation Method:</b>   | Minimum Curvature       |
| <b>Wellbore:</b> | OH                        |                                     |                         |
| <b>Design:</b>   | PERMIT                    |                                     |                         |

**Planned Survey**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N-S (usft) | +E-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|-------------|-------------|-------------------------|-------------------------|------------------------|-----------------------|
| 0.00                  | 0.00            | 0.00        | 0.00                  | 0.00        | 0.00        | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 100.00                | 0.00            | 0.00        | 100.00                | 0.00        | 0.00        | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 200.00                | 0.00            | 0.00        | 200.00                | 0.00        | 0.00        | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 300.00                | 0.00            | 0.00        | 300.00                | 0.00        | 0.00        | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 400.00                | 0.00            | 0.00        | 400.00                | 0.00        | 0.00        | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 500.00                | 0.00            | 0.00        | 500.00                | 0.00        | 0.00        | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 600.00                | 0.00            | 0.00        | 600.00                | 0.00        | 0.00        | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 700.00                | 0.00            | 0.00        | 700.00                | 0.00        | 0.00        | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 800.00                | 0.00            | 0.00        | 800.00                | 0.00        | 0.00        | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 900.00                | 0.00            | 0.00        | 900.00                | 0.00        | 0.00        | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 905.00                | 0.00            | 0.00        | 905.00                | 0.00        | 0.00        | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| <b>Rustler</b>        |                 |             |                       |             |             |                         |                         |                        |                       |
| 1,000.00              | 0.00            | 0.00        | 1,000.00              | 0.00        | 0.00        | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,100.00              | 0.00            | 0.00        | 1,100.00              | 0.00        | 0.00        | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,200.00              | 0.00            | 0.00        | 1,200.00              | 0.00        | 0.00        | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,261.00              | 0.00            | 0.00        | 1,261.00              | 0.00        | 0.00        | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| <b>Salado</b>         |                 |             |                       |             |             |                         |                         |                        |                       |
| 1,300.00              | 0.00            | 0.00        | 1,300.00              | 0.00        | 0.00        | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,400.00              | 0.00            | 0.00        | 1,400.00              | 0.00        | 0.00        | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,500.00              | 0.00            | 0.00        | 1,500.00              | 0.00        | 0.00        | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,600.00              | 0.00            | 0.00        | 1,600.00              | 0.00        | 0.00        | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,700.00              | 0.00            | 0.00        | 1,700.00              | 0.00        | 0.00        | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,800.00              | 0.00            | 0.00        | 1,800.00              | 0.00        | 0.00        | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,900.00              | 0.00            | 0.00        | 1,900.00              | 0.00        | 0.00        | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 2,000.00              | 0.00            | 0.01        | 2,000.00              | 0.00        | 0.00        | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 2,100.00              | 2.00            | 2.54        | 2,099.98              | 1.74        | 0.08        | -0.08                   | 2.00                    | 2.00                   | 0.00                  |
| 2,200.00              | 4.00            | 2.54        | 2,199.84              | 6.97        | 0.31        | -0.31                   | 2.00                    | 2.00                   | 0.00                  |
| 2,300.00              | 6.00            | 2.54        | 2,299.45              | 15.68       | 0.70        | -0.70                   | 2.00                    | 2.00                   | 0.00                  |
| 2,400.00              | 8.00            | 2.54        | 2,398.70              | 27.85       | 1.24        | -1.24                   | 2.00                    | 2.00                   | 0.00                  |
| 2,421.52              | 8.43            | 2.54        | 2,420.00              | 30.92       | 1.37        | -1.38                   | 2.00                    | 2.00                   | 0.00                  |
| <b>Base Salt</b>      |                 |             |                       |             |             |                         |                         |                        |                       |
| 2,500.00              | 10.00           | 2.54        | 2,497.47              | 43.48       | 1.93        | -1.94                   | 2.00                    | 2.00                   | 0.00                  |
| 2,600.00              | 12.00           | 2.54        | 2,595.62              | 62.54       | 2.78        | -2.79                   | 2.00                    | 2.00                   | 0.00                  |
| 2,700.00              | 14.00           | 2.54        | 2,693.06              | 85.01       | 3.77        | -3.79                   | 2.00                    | 2.00                   | 0.00                  |
| 2,800.00              | 16.00           | 2.54        | 2,789.64              | 110.87      | 4.92        | -4.94                   | 2.00                    | 2.00                   | 0.00                  |
| 2,867.18              | 17.34           | 2.54        | 2,854.00              | 130.12      | 5.78        | -5.80                   | 2.00                    | 2.00                   | 0.00                  |
| <b>Capitan</b>        |                 |             |                       |             |             |                         |                         |                        |                       |
| 2,900.00              | 18.00           | 2.54        | 2,885.27              | 140.07      | 6.22        | -6.24                   | 2.00                    | 2.00                   | 0.00                  |
| 3,000.00              | 20.00           | 2.54        | 2,979.82              | 172.60      | 7.66        | -7.69                   | 2.00                    | 2.00                   | 0.00                  |
| 3,100.00              | 22.00           | 2.54        | 3,073.17              | 208.40      | 9.25        | -9.29                   | 2.00                    | 2.00                   | 0.00                  |
| 3,200.00              | 24.00           | 2.54        | 3,165.21              | 247.43      | 10.98       | -11.02                  | 2.00                    | 2.00                   | 0.00                  |
| 3,300.00              | 26.00           | 2.54        | 3,255.84              | 289.65      | 12.86       | -12.91                  | 2.00                    | 2.00                   | 0.00                  |
| 3,400.00              | 28.00           | 2.54        | 3,344.94              | 335.00      | 14.87       | -14.93                  | 2.00                    | 2.00                   | 0.00                  |
| 3,500.00              | 30.00           | 2.54        | 3,432.39              | 383.43      | 17.02       | -17.08                  | 2.00                    | 2.00                   | 0.00                  |
| 3,600.00              | 32.00           | 2.54        | 3,518.11              | 434.88      | 19.30       | -19.38                  | 2.00                    | 2.00                   | 0.00                  |
| 3,700.00              | 34.00           | 2.54        | 3,601.97              | 489.29      | 21.72       | -21.80                  | 2.00                    | 2.00                   | 0.00                  |
| 3,777.78              | 35.56           | 2.54        | 3,665.85              | 533.61      | 23.68       | -23.78                  | 2.00                    | 2.00                   | 0.00                  |
| 3,800.00              | 35.56           | 2.54        | 3,683.93              | 546.52      | 24.26       | -24.35                  | 0.00                    | 0.00                   | 0.00                  |
| 3,900.00              | 35.56           | 2.54        | 3,765.29              | 604.61      | 26.83       | -26.94                  | 0.00                    | 0.00                   | 0.00                  |
| 4,000.00              | 35.56           | 2.54        | 3,846.64              | 662.70      | 29.41       | -29.53                  | 0.00                    | 0.00                   | 0.00                  |
| 4,100.00              | 35.56           | 2.54        | 3,928.00              | 720.79      | 31.99       | -32.12                  | 0.00                    | 0.00                   | 0.00                  |
| 4,200.00              | 35.56           | 2.54        | 4,009.35              | 778.89      | 34.57       | -34.70                  | 0.00                    | 0.00                   | 0.00                  |
| 4,300.00              | 35.56           | 2.54        | 4,090.71              | 836.98      | 37.15       | -37.29                  | 0.00                    | 0.00                   | 0.00                  |
| 4,400.00              | 35.56           | 2.54        | 4,172.06              | 895.07      | 39.73       | -39.88                  | 0.00                    | 0.00                   | 0.00                  |



|                  |                           |                                     |                         |
|------------------|---------------------------|-------------------------------------|-------------------------|
| <b>Database:</b> | EDM 5000.1 Single User Db | <b>Local Co-ordinate Reference:</b> | Well BS2-5W #366H       |
| <b>Company:</b>  | XTO Energy                | <b>TVD Reference:</b>               | RKB = 25' @ 3538.00usft |
| <b>Project:</b>  | Eddy County, NM (NAD-27)  | <b>MD Reference:</b>                | RKB = 25' @ 3538.00usft |
| <b>Site:</b>     | Big Eddy Unit DI 29       | <b>North Reference:</b>             | Grid                    |
| <b>Well:</b>     | BS2-5W #366H              | <b>Survey Calculation Method:</b>   | Minimum Curvature       |
| <b>Wellbore:</b> | OH                        |                                     |                         |
| <b>Design:</b>   | PERMIT                    |                                     |                         |

**Planned Survey**

| Measured Depth (usft)           | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---------------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 4,500.00                        | 35.56           | 2.54        | 4,253.42              | 953.16       | 42.30        | -42.47                  | 0.00                    | 0.00                   | 0.00                  |
| 4,600.00                        | 35.56           | 2.54        | 4,334.77              | 1,011.26     | 44.88        | -45.06                  | 0.00                    | 0.00                   | 0.00                  |
| 4,700.00                        | 35.56           | 2.54        | 4,416.13              | 1,069.35     | 47.46        | -47.65                  | 0.00                    | 0.00                   | 0.00                  |
| 4,800.00                        | 35.56           | 2.54        | 4,497.48              | 1,127.44     | 50.04        | -50.23                  | 0.00                    | 0.00                   | 0.00                  |
| 4,900.00                        | 35.56           | 2.54        | 4,578.84              | 1,185.53     | 52.62        | -52.82                  | 0.00                    | 0.00                   | 0.00                  |
| 5,000.00                        | 35.56           | 2.54        | 4,660.19              | 1,243.62     | 55.19        | -55.41                  | 0.00                    | 0.00                   | 0.00                  |
| 5,100.00                        | 35.56           | 2.54        | 4,741.55              | 1,301.72     | 57.77        | -58.00                  | 0.00                    | 0.00                   | 0.00                  |
| 5,200.00                        | 35.56           | 2.54        | 4,822.90              | 1,359.81     | 60.35        | -60.59                  | 0.00                    | 0.00                   | 0.00                  |
| 5,265.27                        | 35.56           | 2.54        | 4,876.00              | 1,397.72     | 62.03        | -62.28                  | 0.00                    | 0.00                   | 0.00                  |
| <b>Delaware Sand</b>            |                 |             |                       |              |              |                         |                         |                        |                       |
| 5,300.00                        | 35.56           | 2.54        | 4,904.26              | 1,417.90     | 62.93        | -63.18                  | 0.00                    | 0.00                   | 0.00                  |
| 5,400.00                        | 35.56           | 2.54        | 4,985.61              | 1,475.99     | 65.51        | -65.77                  | 0.00                    | 0.00                   | 0.00                  |
| 5,491.43                        | 35.56           | 2.54        | 5,060.00              | 1,529.11     | 67.87        | -68.13                  | 0.00                    | 0.00                   | 0.00                  |
| <b>Base Manzanita</b>           |                 |             |                       |              |              |                         |                         |                        |                       |
| 5,500.00                        | 35.56           | 2.54        | 5,066.97              | 1,534.08     | 68.09        | -68.35                  | 0.00                    | 0.00                   | 0.00                  |
| 5,600.00                        | 35.56           | 2.54        | 5,148.32              | 1,592.18     | 70.66        | -70.94                  | 0.00                    | 0.00                   | 0.00                  |
| 5,700.00                        | 35.56           | 2.54        | 5,229.68              | 1,650.27     | 73.24        | -73.53                  | 0.00                    | 0.00                   | 0.00                  |
| 5,800.00                        | 35.56           | 2.54        | 5,311.03              | 1,708.36     | 75.82        | -76.12                  | 0.00                    | 0.00                   | 0.00                  |
| 5,900.00                        | 35.56           | 2.54        | 5,392.39              | 1,766.45     | 78.40        | -78.71                  | 0.00                    | 0.00                   | 0.00                  |
| 6,000.00                        | 35.56           | 2.54        | 5,473.74              | 1,824.54     | 80.98        | -81.30                  | 0.00                    | 0.00                   | 0.00                  |
| 6,100.00                        | 35.56           | 2.54        | 5,555.10              | 1,882.64     | 83.56        | -83.88                  | 0.00                    | 0.00                   | 0.00                  |
| 6,200.00                        | 35.56           | 2.54        | 5,636.45              | 1,940.73     | 86.13        | -86.47                  | 0.00                    | 0.00                   | 0.00                  |
| 6,300.00                        | 35.56           | 2.54        | 5,717.81              | 1,998.82     | 88.71        | -89.06                  | 0.00                    | 0.00                   | 0.00                  |
| 6,400.00                        | 35.56           | 2.54        | 5,799.16              | 2,056.91     | 91.29        | -91.65                  | 0.00                    | 0.00                   | 0.00                  |
| 6,500.00                        | 35.56           | 2.54        | 5,880.52              | 2,115.01     | 93.87        | -94.24                  | 0.00                    | 0.00                   | 0.00                  |
| 6,600.00                        | 35.56           | 2.54        | 5,961.88              | 2,173.10     | 96.45        | -96.83                  | 0.00                    | 0.00                   | 0.00                  |
| 6,700.00                        | 35.56           | 2.54        | 6,043.23              | 2,231.19     | 99.02        | -99.41                  | 0.00                    | 0.00                   | 0.00                  |
| 6,789.45                        | 35.56           | 2.54        | 6,116.00              | 2,283.15     | 101.33       | -101.73                 | 0.00                    | 0.00                   | 0.00                  |
| <b>Brushy Canyon</b>            |                 |             |                       |              |              |                         |                         |                        |                       |
| 6,800.00                        | 35.56           | 2.54        | 6,124.59              | 2,289.28     | 101.60       | -102.00                 | 0.00                    | 0.00                   | 0.00                  |
| 6,900.00                        | 35.56           | 2.54        | 6,205.94              | 2,347.37     | 104.18       | -104.59                 | 0.00                    | 0.00                   | 0.00                  |
| 7,000.00                        | 35.56           | 2.54        | 6,287.30              | 2,405.47     | 106.76       | -107.18                 | 0.00                    | 0.00                   | 0.00                  |
| 7,100.00                        | 35.56           | 2.54        | 6,368.65              | 2,463.56     | 109.34       | -109.77                 | 0.00                    | 0.00                   | 0.00                  |
| 7,200.00                        | 35.56           | 2.54        | 6,450.01              | 2,521.65     | 111.92       | -112.36                 | 0.00                    | 0.00                   | 0.00                  |
| 7,300.00                        | 35.56           | 2.54        | 6,531.36              | 2,579.74     | 114.49       | -114.94                 | 0.00                    | 0.00                   | 0.00                  |
| 7,400.00                        | 35.56           | 2.54        | 6,612.72              | 2,637.83     | 117.07       | -117.53                 | 0.00                    | 0.00                   | 0.00                  |
| 7,500.00                        | 35.56           | 2.54        | 6,694.07              | 2,695.93     | 119.65       | -120.12                 | 0.00                    | 0.00                   | 0.00                  |
| 7,600.00                        | 35.56           | 2.54        | 6,775.43              | 2,754.02     | 122.23       | -122.71                 | 0.00                    | 0.00                   | 0.00                  |
| 7,700.00                        | 35.56           | 2.54        | 6,856.78              | 2,812.11     | 124.81       | -125.30                 | 0.00                    | 0.00                   | 0.00                  |
| 7,800.00                        | 35.56           | 2.54        | 6,938.14              | 2,870.20     | 127.39       | -127.89                 | 0.00                    | 0.00                   | 0.00                  |
| 7,900.00                        | 35.56           | 2.54        | 7,019.49              | 2,928.29     | 129.96       | -130.48                 | 0.00                    | 0.00                   | 0.00                  |
| 8,000.00                        | 35.56           | 2.54        | 7,100.85              | 2,986.39     | 132.54       | -133.06                 | 0.00                    | 0.00                   | 0.00                  |
| 8,100.00                        | 35.56           | 2.54        | 7,182.20              | 3,044.48     | 135.12       | -135.65                 | 0.00                    | 0.00                   | 0.00                  |
| 8,200.00                        | 35.56           | 2.54        | 7,263.56              | 3,102.57     | 137.70       | -138.24                 | 0.00                    | 0.00                   | 0.00                  |
| 8,300.00                        | 35.56           | 2.54        | 7,344.91              | 3,160.66     | 140.28       | -140.83                 | 0.00                    | 0.00                   | 0.00                  |
| 8,400.00                        | 35.56           | 2.54        | 7,426.27              | 3,218.76     | 142.86       | -143.42                 | 0.00                    | 0.00                   | 0.00                  |
| 8,405.82                        | 35.56           | 2.54        | 7,431.00              | 3,222.13     | 143.01       | -143.57                 | 0.00                    | 0.00                   | 0.00                  |
| <b>Basal Brushy Canyon</b>      |                 |             |                       |              |              |                         |                         |                        |                       |
| 8,500.00                        | 35.56           | 2.54        | 7,507.62              | 3,276.85     | 145.43       | -146.01                 | 0.00                    | 0.00                   | 0.00                  |
| 8,600.00                        | 35.56           | 2.54        | 7,588.98              | 3,334.94     | 148.01       | -148.59                 | 0.00                    | 0.00                   | 0.00                  |
| 8,687.30                        | 35.56           | 2.54        | 7,660.00              | 3,385.65     | 150.26       | -150.85                 | 0.00                    | 0.00                   | 0.00                  |
| <b>Base Brushy Canyon Sands</b> |                 |             |                       |              |              |                         |                         |                        |                       |
| 8,700.00                        | 35.56           | 2.54        | 7,670.33              | 3,393.03     | 150.59       | -151.18                 | 0.00                    | 0.00                   | 0.00                  |





Database: EDM 5000.1 Single User Db  
 Company: XTO Energy  
 Project: Eddy County, NM (NAD-27)  
 Site: Big Eddy Unit DI 29  
 Well: BS2-5W #366H  
 Wellbore: OH  
 Design: PERMIT

Local Co-ordinate Reference: Well BS2-5W #366H  
 TVD Reference: RKB = 25' @ 3538.00usft  
 MD Reference: RKB = 25' @ 3538.00usft  
 North Reference: Grid  
 Survey Calculation Method: Minimum Curvature

**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) |
|-------------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 8,722.95                      | 35.56           | 2.54        | 7,689.00              | 3,406.36     | 151.18       | -151.78                 | 0.00                    | 0.00                   | 0.00                  |
| <b>Bone Spring</b>            |                 |             |                       |              |              |                         |                         |                        |                       |
| 8,800.00                      | 35.56           | 2.54        | 7,751.69              | 3,451.12     | 153.17       | -153.77                 | 0.00                    | 0.00                   | 0.00                  |
| 8,897.49                      | 35.56           | 2.54        | 7,831.00              | 3,507.76     | 155.68       | -156.29                 | 0.00                    | 0.00                   | 0.00                  |
| <b>Avalon Sand</b>            |                 |             |                       |              |              |                         |                         |                        |                       |
| 8,900.00                      | 35.56           | 2.54        | 7,833.04              | 3,509.22     | 155.75       | -156.36                 | 0.00                    | 0.00                   | 0.00                  |
| 9,000.00                      | 35.56           | 2.54        | 7,914.40              | 3,567.31     | 158.32       | -158.95                 | 0.00                    | 0.00                   | 0.00                  |
| 9,100.00                      | 35.56           | 2.54        | 7,995.75              | 3,625.40     | 160.90       | -161.54                 | 0.00                    | 0.00                   | 0.00                  |
| 9,200.00                      | 35.56           | 2.54        | 8,077.11              | 3,683.49     | 163.48       | -164.12                 | 0.00                    | 0.00                   | 0.00                  |
| 9,300.00                      | 35.56           | 2.54        | 8,158.46              | 3,741.58     | 166.06       | -166.71                 | 0.00                    | 0.00                   | 0.00                  |
| 9,400.00                      | 35.56           | 2.54        | 8,239.82              | 3,799.68     | 168.64       | -169.30                 | 0.00                    | 0.00                   | 0.00                  |
| 9,492.41                      | 35.56           | 2.54        | 8,315.00              | 3,853.36     | 171.02       | -171.69                 | 0.00                    | 0.00                   | 0.00                  |
| <b>Lower Avalon Shale</b>     |                 |             |                       |              |              |                         |                         |                        |                       |
| 9,500.00                      | 35.56           | 2.54        | 8,321.17              | 3,857.77     | 171.22       | -171.89                 | 0.00                    | 0.00                   | 0.00                  |
| 9,511.95                      | 35.56           | 2.54        | 8,330.90              | 3,864.71     | 171.52       | -172.20                 | 0.00                    | 0.00                   | 0.00                  |
| 9,550.00                      | 35.62           | 356.00      | 8,361.85              | 3,886.82     | 171.24       | -171.92                 | 10.00                   | 0.17                   | -17.19                |
| 9,600.00                      | 36.23           | 347.54      | 8,402.36              | 3,915.80     | 167.04       | -167.72                 | 10.00                   | 1.23                   | -16.92                |
| 9,650.00                      | 37.42           | 339.43      | 8,442.41              | 3,944.47     | 158.51       | -159.19                 | 10.00                   | 2.38                   | -16.22                |
| 9,700.00                      | 39.13           | 331.84      | 8,481.68              | 3,972.62     | 145.71       | -146.41                 | 10.00                   | 3.42                   | -15.18                |
| 9,750.00                      | 41.30           | 324.86      | 8,519.88              | 4,000.04     | 128.76       | -129.46                 | 10.00                   | 4.33                   | -13.97                |
| 9,800.00                      | 43.84           | 318.49      | 8,556.72              | 4,026.51     | 107.77       | -108.48                 | 10.00                   | 5.10                   | -12.72                |
| 9,850.00                      | 46.71           | 312.73      | 8,591.91              | 4,051.85     | 82.91        | -83.62                  | 10.00                   | 5.74                   | -11.53                |
| 9,900.00                      | 49.85           | 307.50      | 8,625.19              | 4,075.84     | 54.37        | -55.08                  | 10.00                   | 6.27                   | -10.45                |
| 9,950.00                      | 53.19           | 302.76      | 8,656.31              | 4,098.32     | 22.35        | -23.07                  | 10.00                   | 6.69                   | -9.50                 |
| 10,000.00                     | 56.71           | 298.41      | 8,685.03              | 4,119.11     | -12.88       | 12.16                   | 10.00                   | 7.04                   | -8.68                 |
| 10,050.00                     | 60.37           | 294.42      | 8,711.13              | 4,138.05     | -51.07       | 50.35                   | 10.00                   | 7.32                   | -8.00                 |
| 10,066.23                     | 61.58           | 293.18      | 8,719.00              | 4,143.77     | -64.06       | 63.33                   | 10.00                   | 7.47                   | -7.60                 |
| <b>First Bone Spring Sand</b> |                 |             |                       |              |              |                         |                         |                        |                       |
| 10,100.00                     | 64.14           | 290.70      | 8,734.41              | 4,154.99     | -91.93       | 91.21                   | 10.00                   | 7.57                   | -7.34                 |
| 10,150.00                     | 68.00           | 287.22      | 8,754.69              | 4,169.82     | -135.14      | 134.41                  | 10.00                   | 7.72                   | -6.96                 |
| 10,200.00                     | 71.92           | 283.93      | 8,771.82              | 4,182.41     | -180.38      | 179.65                  | 10.00                   | 7.85                   | -6.59                 |
| 10,250.00                     | 75.91           | 280.78      | 8,785.68              | 4,192.67     | -227.30      | 226.56                  | 10.00                   | 7.96                   | -6.30                 |
| 10,300.00                     | 79.93           | 277.74      | 8,796.14              | 4,200.52     | -275.54      | 274.80                  | 10.00                   | 8.04                   | -6.08                 |
| 10,350.00                     | 83.97           | 274.77      | 8,803.15              | 4,205.91     | -324.73      | 324.00                  | 10.00                   | 8.09                   | -5.93                 |
| 10,400.00                     | 88.04           | 271.85      | 8,806.63              | 4,208.79     | -374.51      | 373.78                  | 10.00                   | 8.13                   | -5.84                 |
| 10,432.00                     | 90.64           | 269.99      | 8,807.00              | 4,209.30     | -406.50      | 405.77                  | 10.00                   | 8.14                   | -5.81                 |
| <b>Landing Point</b>          |                 |             |                       |              |              |                         |                         |                        |                       |
| 10,500.00                     | 90.64           | 269.99      | 8,806.24              | 4,209.29     | -474.50      | 473.76                  | 0.00                    | 0.00                   | 0.00                  |
| 10,600.00                     | 90.64           | 269.99      | 8,805.12              | 4,209.27     | -574.49      | 573.76                  | 0.00                    | 0.00                   | 0.00                  |
| 10,700.00                     | 90.64           | 269.99      | 8,804.01              | 4,209.25     | -674.49      | 673.75                  | 0.00                    | 0.00                   | 0.00                  |
| 10,800.00                     | 90.64           | 269.99      | 8,802.89              | 4,209.23     | -774.48      | 773.75                  | 0.00                    | 0.00                   | 0.00                  |
| 10,900.00                     | 90.64           | 269.99      | 8,801.77              | 4,209.21     | -874.47      | 873.74                  | 0.00                    | 0.00                   | 0.00                  |
| 11,000.00                     | 90.64           | 269.99      | 8,800.66              | 4,209.20     | -974.47      | 973.73                  | 0.00                    | 0.00                   | 0.00                  |
| 11,100.00                     | 90.64           | 269.99      | 8,799.54              | 4,209.18     | -1,074.46    | 1,073.73                | 0.00                    | 0.00                   | 0.00                  |
| 11,200.00                     | 90.64           | 269.99      | 8,798.42              | 4,209.16     | -1,174.46    | 1,173.72                | 0.00                    | 0.00                   | 0.00                  |
| 11,300.00                     | 90.64           | 269.99      | 8,797.30              | 4,209.14     | -1,274.45    | 1,273.71                | 0.00                    | 0.00                   | 0.00                  |
| 11,400.00                     | 90.64           | 269.99      | 8,796.19              | 4,209.12     | -1,374.44    | 1,373.71                | 0.00                    | 0.00                   | 0.00                  |
| 11,500.00                     | 90.64           | 269.99      | 8,795.07              | 4,209.11     | -1,474.44    | 1,473.70                | 0.00                    | 0.00                   | 0.00                  |
| 11,600.00                     | 90.64           | 269.99      | 8,793.95              | 4,209.09     | -1,574.43    | 1,573.70                | 0.00                    | 0.00                   | 0.00                  |
| 11,700.00                     | 90.64           | 269.99      | 8,792.84              | 4,209.07     | -1,674.42    | 1,673.69                | 0.00                    | 0.00                   | 0.00                  |
| 11,800.00                     | 90.64           | 269.99      | 8,791.72              | 4,209.05     | -1,774.42    | 1,773.68                | 0.00                    | 0.00                   | 0.00                  |
| 11,900.00                     | 90.64           | 269.99      | 8,790.60              | 4,209.03     | -1,874.41    | 1,873.68                | 0.00                    | 0.00                   | 0.00                  |
| 12,000.00                     | 90.64           | 269.99      | 8,789.49              | 4,209.01     | -1,974.41    | 1,973.67                | 0.00                    | 0.00                   | 0.00                  |



|                  |                           |                                     |                         |
|------------------|---------------------------|-------------------------------------|-------------------------|
| <b>Database:</b> | EDM 5000.1 Single User Db | <b>Local Co-ordinate Reference:</b> | Well BS2-5W #366H       |
| <b>Company:</b>  | XTO Energy                | <b>TVD Reference:</b>               | RKB = 25' @ 3538.00usft |
| <b>Project:</b>  | Eddy County, NM (NAD-27)  | <b>MD Reference:</b>                | RKB = 25' @ 3538.00usft |
| <b>Site:</b>     | Big Eddy Unit DI 29       | <b>North Reference:</b>             | Grid                    |
| <b>Well:</b>     | BS2-5W #366H              | <b>Survey Calculation Method:</b>   | Minimum Curvature       |
| <b>Wellbore:</b> | OH                        |                                     |                         |
| <b>Design:</b>   | PERMIT                    |                                     |                         |

**Planned Survey**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 12,100.00             | 90.64           | 269.99      | 8,788.37              | 4,209.00     | -2,074.40    | 2,073.66                | 0.00                    | 0.00                   | 0.00                  |
| 12,200.00             | 90.64           | 269.99      | 8,787.25              | 4,208.98     | -2,174.39    | 2,173.66                | 0.00                    | 0.00                   | 0.00                  |
| 12,300.00             | 90.64           | 269.99      | 8,786.13              | 4,208.96     | -2,274.39    | 2,273.65                | 0.00                    | 0.00                   | 0.00                  |
| 12,400.00             | 90.64           | 269.99      | 8,785.02              | 4,208.94     | -2,374.38    | 2,373.65                | 0.00                    | 0.00                   | 0.00                  |
| 12,500.00             | 90.64           | 269.99      | 8,783.90              | 4,208.92     | -2,474.37    | 2,473.64                | 0.00                    | 0.00                   | 0.00                  |
| 12,600.00             | 90.64           | 269.99      | 8,782.78              | 4,208.90     | -2,574.37    | 2,573.63                | 0.00                    | 0.00                   | 0.00                  |
| 12,700.00             | 90.64           | 269.99      | 8,781.67              | 4,208.89     | -2,674.36    | 2,673.63                | 0.00                    | 0.00                   | 0.00                  |
| 12,800.00             | 90.64           | 269.99      | 8,780.55              | 4,208.87     | -2,774.36    | 2,773.62                | 0.00                    | 0.00                   | 0.00                  |
| 12,900.00             | 90.64           | 269.99      | 8,779.43              | 4,208.85     | -2,874.35    | 2,873.61                | 0.00                    | 0.00                   | 0.00                  |
| 13,000.00             | 90.64           | 269.99      | 8,778.32              | 4,208.83     | -2,974.34    | 2,973.61                | 0.00                    | 0.00                   | 0.00                  |
| 13,100.00             | 90.64           | 269.99      | 8,777.20              | 4,208.81     | -3,074.34    | 3,073.60                | 0.00                    | 0.00                   | 0.00                  |
| 13,200.00             | 90.64           | 269.99      | 8,776.08              | 4,208.80     | -3,174.33    | 3,173.60                | 0.00                    | 0.00                   | 0.00                  |
| 13,300.00             | 90.64           | 269.99      | 8,774.96              | 4,208.78     | -3,274.32    | 3,273.59                | 0.00                    | 0.00                   | 0.00                  |
| 13,400.00             | 90.64           | 269.99      | 8,773.85              | 4,208.76     | -3,374.32    | 3,373.58                | 0.00                    | 0.00                   | 0.00                  |
| 13,500.00             | 90.64           | 269.99      | 8,772.73              | 4,208.74     | -3,474.31    | 3,473.58                | 0.00                    | 0.00                   | 0.00                  |
| 13,600.00             | 90.64           | 269.99      | 8,771.61              | 4,208.72     | -3,574.31    | 3,573.57                | 0.00                    | 0.00                   | 0.00                  |
| 13,700.00             | 90.64           | 269.99      | 8,770.50              | 4,208.70     | -3,674.30    | 3,673.56                | 0.00                    | 0.00                   | 0.00                  |
| 13,800.00             | 90.64           | 269.99      | 8,769.38              | 4,208.69     | -3,774.29    | 3,773.56                | 0.00                    | 0.00                   | 0.00                  |
| 13,900.00             | 90.64           | 269.99      | 8,768.26              | 4,208.67     | -3,874.29    | 3,873.55                | 0.00                    | 0.00                   | 0.00                  |
| 14,000.00             | 90.64           | 269.99      | 8,767.15              | 4,208.65     | -3,974.28    | 3,973.55                | 0.00                    | 0.00                   | 0.00                  |
| 14,100.00             | 90.64           | 269.99      | 8,766.03              | 4,208.63     | -4,074.27    | 4,073.54                | 0.00                    | 0.00                   | 0.00                  |
| 14,200.00             | 90.64           | 269.99      | 8,764.91              | 4,208.61     | -4,174.27    | 4,173.53                | 0.00                    | 0.00                   | 0.00                  |
| 14,300.00             | 90.64           | 269.99      | 8,763.80              | 4,208.59     | -4,274.26    | 4,273.53                | 0.00                    | 0.00                   | 0.00                  |
| 14,400.00             | 90.64           | 269.99      | 8,762.68              | 4,208.58     | -4,374.26    | 4,373.52                | 0.00                    | 0.00                   | 0.00                  |
| 14,500.00             | 90.64           | 269.99      | 8,761.56              | 4,208.56     | -4,474.25    | 4,473.51                | 0.00                    | 0.00                   | 0.00                  |
| 14,600.00             | 90.64           | 269.99      | 8,760.44              | 4,208.54     | -4,574.24    | 4,573.51                | 0.00                    | 0.00                   | 0.00                  |
| 14,700.00             | 90.64           | 269.99      | 8,759.33              | 4,208.52     | -4,674.24    | 4,673.50                | 0.00                    | 0.00                   | 0.00                  |
| 14,800.00             | 90.64           | 269.99      | 8,758.21              | 4,208.50     | -4,774.23    | 4,773.50                | 0.00                    | 0.00                   | 0.00                  |
| 14,900.00             | 90.64           | 269.99      | 8,757.09              | 4,208.48     | -4,874.22    | 4,873.49                | 0.00                    | 0.00                   | 0.00                  |
| 15,000.00             | 90.64           | 269.99      | 8,755.98              | 4,208.47     | -4,974.22    | 4,973.48                | 0.00                    | 0.00                   | 0.00                  |
| 15,100.00             | 90.64           | 269.99      | 8,754.86              | 4,208.45     | -5,074.21    | 5,073.48                | 0.00                    | 0.00                   | 0.00                  |
| 15,200.00             | 90.64           | 269.99      | 8,753.74              | 4,208.43     | -5,174.21    | 5,173.47                | 0.00                    | 0.00                   | 0.00                  |
| 15,300.00             | 90.64           | 269.99      | 8,752.63              | 4,208.41     | -5,274.20    | 5,273.46                | 0.00                    | 0.00                   | 0.00                  |
| 15,400.00             | 90.64           | 269.99      | 8,751.51              | 4,208.39     | -5,374.19    | 5,373.46                | 0.00                    | 0.00                   | 0.00                  |
| 15,500.00             | 90.64           | 269.99      | 8,750.39              | 4,208.38     | -5,474.19    | 5,473.45                | 0.00                    | 0.00                   | 0.00                  |
| 15,600.00             | 90.64           | 269.99      | 8,749.27              | 4,208.36     | -5,574.18    | 5,573.45                | 0.00                    | 0.00                   | 0.00                  |
| 15,700.00             | 90.64           | 269.99      | 8,748.16              | 4,208.34     | -5,674.17    | 5,673.44                | 0.00                    | 0.00                   | 0.00                  |
| 15,800.00             | 90.64           | 269.99      | 8,747.04              | 4,208.32     | -5,774.17    | 5,773.43                | 0.00                    | 0.00                   | 0.00                  |
| 15,900.00             | 90.64           | 269.99      | 8,745.92              | 4,208.30     | -5,874.16    | 5,873.43                | 0.00                    | 0.00                   | 0.00                  |
| 16,000.00             | 90.64           | 269.99      | 8,744.81              | 4,208.28     | -5,974.16    | 5,973.42                | 0.00                    | 0.00                   | 0.00                  |
| 16,100.00             | 90.64           | 269.99      | 8,743.69              | 4,208.27     | -6,074.15    | 6,073.41                | 0.00                    | 0.00                   | 0.00                  |
| 16,200.00             | 90.64           | 269.99      | 8,742.57              | 4,208.25     | -6,174.14    | 6,173.41                | 0.00                    | 0.00                   | 0.00                  |
| 16,300.00             | 90.64           | 269.99      | 8,741.46              | 4,208.23     | -6,274.14    | 6,273.40                | 0.00                    | 0.00                   | 0.00                  |
| 16,400.00             | 90.64           | 269.99      | 8,740.34              | 4,208.21     | -6,374.13    | 6,373.40                | 0.00                    | 0.00                   | 0.00                  |
| 16,500.00             | 90.64           | 269.99      | 8,739.22              | 4,208.19     | -6,474.12    | 6,473.39                | 0.00                    | 0.00                   | 0.00                  |
| 16,600.00             | 90.64           | 269.99      | 8,738.10              | 4,208.17     | -6,574.12    | 6,573.38                | 0.00                    | 0.00                   | 0.00                  |
| 16,700.00             | 90.64           | 269.99      | 8,736.99              | 4,208.16     | -6,674.11    | 6,673.38                | 0.00                    | 0.00                   | 0.00                  |
| 16,800.00             | 90.64           | 269.99      | 8,735.87              | 4,208.14     | -6,774.11    | 6,773.37                | 0.00                    | 0.00                   | 0.00                  |
| 16,900.00             | 90.64           | 269.99      | 8,734.75              | 4,208.12     | -6,874.10    | 6,873.36                | 0.00                    | 0.00                   | 0.00                  |
| 17,000.00             | 90.64           | 269.99      | 8,733.64              | 4,208.10     | -6,974.09    | 6,973.36                | 0.00                    | 0.00                   | 0.00                  |
| 17,100.00             | 90.64           | 269.99      | 8,732.52              | 4,208.08     | -7,074.09    | 7,073.35                | 0.00                    | 0.00                   | 0.00                  |
| 17,200.00             | 90.64           | 269.99      | 8,731.40              | 4,208.07     | -7,174.08    | 7,173.35                | 0.00                    | 0.00                   | 0.00                  |
| 17,300.00             | 90.64           | 269.99      | 8,730.29              | 4,208.05     | -7,274.07    | 7,273.34                | 0.00                    | 0.00                   | 0.00                  |
| 17,400.00             | 90.64           | 269.99      | 8,729.17              | 4,208.03     | -7,374.07    | 7,373.33                | 0.00                    | 0.00                   | 0.00                  |



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Planning Report

|           |                           |                              |                         |
|-----------|---------------------------|------------------------------|-------------------------|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well BS2-5W #366H       |
| 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 #366H              | 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) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 17,500.00             | 90.64           | 269.99      | 8,728.05              | 4,208.01     | -7,474.06    | 7,473.33                | 0.00                    | 0.00                   | 0.00                  |
| 17,600.00             | 90.64           | 269.99      | 8,726.93              | 4,207.99     | -7,574.06    | 7,573.32                | 0.00                    | 0.00                   | 0.00                  |
| 17,700.00             | 90.64           | 269.99      | 8,725.82              | 4,207.97     | -7,674.05    | 7,673.32                | 0.00                    | 0.00                   | 0.00                  |
| 17,800.00             | 90.64           | 269.99      | 8,724.70              | 4,207.96     | -7,774.04    | 7,773.31                | 0.00                    | 0.00                   | 0.00                  |
| 17,900.00             | 90.64           | 269.99      | 8,723.58              | 4,207.94     | -7,874.04    | 7,873.30                | 0.00                    | 0.00                   | 0.00                  |
| 18,000.00             | 90.64           | 269.99      | 8,722.47              | 4,207.92     | -7,974.03    | 7,973.30                | 0.00                    | 0.00                   | 0.00                  |
| 18,100.00             | 90.64           | 269.99      | 8,721.35              | 4,207.90     | -8,074.02    | 8,073.29                | 0.00                    | 0.00                   | 0.00                  |
| 18,200.00             | 90.64           | 269.99      | 8,720.23              | 4,207.88     | -8,174.02    | 8,173.28                | 0.00                    | 0.00                   | 0.00                  |
| 18,300.00             | 90.64           | 269.99      | 8,719.12              | 4,207.86     | -8,274.01    | 8,273.28                | 0.00                    | 0.00                   | 0.00                  |
| 18,400.00             | 90.64           | 269.99      | 8,718.00              | 4,207.85     | -8,374.01    | 8,373.27                | 0.00                    | 0.00                   | 0.00                  |
| 18,500.00             | 90.64           | 269.99      | 8,716.88              | 4,207.83     | -8,474.00    | 8,473.27                | 0.00                    | 0.00                   | 0.00                  |
| 18,600.00             | 90.64           | 269.99      | 8,715.76              | 4,207.81     | -8,573.99    | 8,573.26                | 0.00                    | 0.00                   | 0.00                  |
| 18,700.00             | 90.64           | 269.99      | 8,714.65              | 4,207.79     | -8,673.99    | 8,673.25                | 0.00                    | 0.00                   | 0.00                  |
| 18,800.00             | 90.64           | 269.99      | 8,713.53              | 4,207.77     | -8,773.98    | 8,773.25                | 0.00                    | 0.00                   | 0.00                  |
| 18,900.00             | 90.64           | 269.99      | 8,712.41              | 4,207.76     | -8,873.97    | 8,873.24                | 0.00                    | 0.00                   | 0.00                  |
| 19,000.00             | 90.64           | 269.99      | 8,711.30              | 4,207.74     | -8,973.97    | 8,973.23                | 0.00                    | 0.00                   | 0.00                  |
| 19,100.00             | 90.64           | 269.99      | 8,710.18              | 4,207.72     | -9,073.96    | 9,073.23                | 0.00                    | 0.00                   | 0.00                  |
| 19,200.00             | 90.64           | 269.99      | 8,709.06              | 4,207.70     | -9,173.96    | 9,173.22                | 0.00                    | 0.00                   | 0.00                  |
| 19,300.00             | 90.64           | 269.99      | 8,707.95              | 4,207.68     | -9,273.95    | 9,273.22                | 0.00                    | 0.00                   | 0.00                  |
| 19,400.00             | 90.64           | 269.99      | 8,706.83              | 4,207.66     | -9,373.94    | 9,373.21                | 0.00                    | 0.00                   | 0.00                  |
| 19,500.00             | 90.64           | 269.99      | 8,705.71              | 4,207.65     | -9,473.94    | 9,473.20                | 0.00                    | 0.00                   | 0.00                  |
| 19,600.00             | 90.64           | 269.99      | 8,704.59              | 4,207.63     | -9,573.93    | 9,573.20                | 0.00                    | 0.00                   | 0.00                  |
| 19,700.00             | 90.64           | 269.99      | 8,703.48              | 4,207.61     | -9,673.92    | 9,673.19                | 0.00                    | 0.00                   | 0.00                  |
| 19,800.00             | 90.64           | 269.99      | 8,702.36              | 4,207.59     | -9,773.92    | 9,773.18                | 0.00                    | 0.00                   | 0.00                  |
| 19,900.00             | 90.64           | 269.99      | 8,701.24              | 4,207.57     | -9,873.91    | 9,873.18                | 0.00                    | 0.00                   | 0.00                  |
| 20,000.00             | 90.64           | 269.99      | 8,700.13              | 4,207.55     | -9,973.91    | 9,973.17                | 0.00                    | 0.00                   | 0.00                  |
| 20,100.00             | 90.64           | 269.99      | 8,699.01              | 4,207.54     | -10,073.90   | 10,073.17               | 0.00                    | 0.00                   | 0.00                  |
| 20,200.00             | 90.64           | 269.99      | 8,697.89              | 4,207.52     | -10,173.89   | 10,173.16               | 0.00                    | 0.00                   | 0.00                  |
| 20,300.00             | 90.64           | 269.99      | 8,696.78              | 4,207.50     | -10,273.89   | 10,273.15               | 0.00                    | 0.00                   | 0.00                  |
| 20,400.00             | 90.64           | 269.99      | 8,695.66              | 4,207.48     | -10,373.88   | 10,373.15               | 0.00                    | 0.00                   | 0.00                  |
| 20,500.00             | 90.64           | 269.99      | 8,694.54              | 4,207.46     | -10,473.87   | 10,473.14               | 0.00                    | 0.00                   | 0.00                  |
| 20,600.00             | 90.64           | 269.99      | 8,693.42              | 4,207.45     | -10,573.87   | 10,573.13               | 0.00                    | 0.00                   | 0.00                  |
| 20,700.00             | 90.64           | 269.99      | 8,692.31              | 4,207.43     | -10,673.86   | 10,673.13               | 0.00                    | 0.00                   | 0.00                  |
| 20,796.24             | 90.64           | 269.99      | 8,691.23              | 4,207.41     | -10,770.10   | 10,769.37               | 0.00                    | 0.00                   | 0.00                  |
| 20,800.00             | 90.64           | 269.99      | 8,691.19              | 4,207.41     | -10,773.86   | 10,773.12               | 0.00                    | 0.00                   | 0.00                  |
| 20,846.25             | 90.64           | 269.99      | 8,690.67              | 4,207.40     | -10,820.10   | 10,819.37               | 0.00                    | 0.00                   | 0.00                  |



|                  |                           |                                     |                         |
|------------------|---------------------------|-------------------------------------|-------------------------|
| <b>Database:</b> | EDM 5000.1 Single User Db | <b>Local Co-ordinate Reference:</b> | Well BS2-5W #366H       |
| <b>Company:</b>  | XTO Energy                | <b>TVD Reference:</b>               | RKB = 25' @ 3538.00usft |
| <b>Project:</b>  | Eddy County, NM (NAD-27)  | <b>MD Reference:</b>                | RKB = 25' @ 3538.00usft |
| <b>Site:</b>     | Big Eddy Unit DI 29       | <b>North Reference:</b>             | Grid                    |
| <b>Well:</b>     | BS2-5W #366H              | <b>Survey Calculation Method:</b>   | Minimum Curvature       |
| <b>Wellbore:</b> | OH                        |                                     |                         |
| <b>Design:</b>   | PERMIT                    |                                     |                         |

#### Design Targets

##### Target Name

| - hit/miss target<br>- Shape   | Dip Angle<br>(°) | Dip Dir.<br>(°) | TVD<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Northing<br>(usft) | Easting<br>(usft) | Latitude  | Longitude   |
|--|------------------|-----------------|---------------|-----------------|-----------------|--------------------|-------------------|-----------|-------------|
| BEU-DI29 #366H: SH<br>- plan hits target center<br>- Point   | 0.00             | 0.01            | 0.00          | 0.00            | 0.00            | 570,436.80         | 670,950.80        | 32.567013 | -103.778432 |
| BEU-DI29 #366H: PB<br>- plan hits target center<br>- Point   | 0.00             | 0.01            | 8,690.67      | 4,207.40        | -10,820.10      | 574,644.20         | 660,130.70        | 32.578728 | -103.813486 |
| BEU-DI29 #366H: LTI<br>- plan misses target center by 0.09usft at 20796.24usft MD (8691.23 TVD, 4207.41 N, -10770.10 E)<br>- Point | 0.00             | 0.01            | 8,691.23      | 4,207.50        | -10,770.10      | 574,644.30         | 660,180.70        | 32.578728 | -103.813323 |
| BEU-DI29 #366H: FTI<br>- plan hits target center<br>- Point  | 0.00             | 0.01            | 8,807.00      | 4,209.30        | -406.50         | 574,646.10         | 670,544.30        | 32.578589 | -103.779680 |

#### Formations

| Measured<br>Depth<br>(usft) | Vertical<br>Depth<br>(usft) | Name                     | Lithology | Dip<br>(°) | Dip<br>Direction<br>(°) |
|-----------------------------|-----------------------------|--------------------------|-----------|------------|-------------------------|
| 905.00                      | 905.00                      | Rustler                  |           |            |                         |
| 1,261.00                    | 1,261.00                    | Salado                   |           |            |                         |
| 2,421.52                    | 2,420.00                    | Base Salt                |           |            |                         |
| 2,867.18                    | 2,854.00                    | Capitan                  |           |            |                         |
| 5,265.27                    | 4,876.00                    | Delaware Sand            |           |            |                         |
| 5,491.43                    | 5,060.00                    | Base Manzanita           |           |            |                         |
| 6,789.45                    | 6,116.00                    | Brushy Canyon            |           |            |                         |
| 8,405.82                    | 7,431.00                    | Basal Brushy Canyon      |           |            |                         |
| 8,687.30                    | 7,660.00                    | Base Brushy Canyon Sands |           |            |                         |
| 8,722.95                    | 7,689.00                    | Bone Spring              |           |            |                         |
| 8,897.49                    | 7,831.00                    | Avalon Sand              |           |            |                         |
| 9,492.41                    | 8,315.00                    | Lower Avalon Shale       |           |            |                         |
| 10,066.23                   | 8,719.00                    | First Bone Spring Sand   |           |            |                         |
| 10,432.00                   | 8,807.00                    | Landing Point            |           |            |                         |



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

## PWD Data Report

12/16/2019

APD ID: 10400037564

Submission Date: 01/21/2019

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI 29 BS2-5W

Well Number: 366H

Well Type: OIL WELL

Well Work Type: Drill

### Section 1 - General

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

### Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

**Operator Name:** XTO PERMIAN OPERATING LLC

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

**Well Number:** 366H

**Lined pit Monitor description:**

**Lined pit Monitor attachment:**

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

**Is the reclamation bond a rider under the BLM bond?**

**Lined pit bond number:**

**Lined pit bond amount:**

**Additional bond information attachment:**

### **Section 3 - Unlined Pits**

**Would you like to utilize Unlined Pit PWD options?** NO

**Produced Water Disposal (PWD) Location:**

**PWD disturbance (acres):**

**PWD surface owner:**

**Unlined pit PWD on or off channel:**

**Unlined pit PWD discharge volume (bbl/day):**

**Unlined pit specifications:**

**Precipitated solids disposal:**

**Describe precipitated solids disposal:**

**Precipitated solids disposal permit:**

**Unlined pit precipitated solids disposal schedule:**

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

**Unlined pit reclamation description:**

**Unlined pit reclamation attachment:**

**Unlined pit Monitor description:**

**Unlined pit Monitor attachment:**

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

**Beneficial use user confirmation:**

**Estimated depth of the shallowest aquifer (feet):**

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

**TDS lab results:**

**Geologic and hydrologic evidence:**

**State authorization:**

**Unlined Produced Water Pit Estimated percolation:**

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

**Operator Name:** XTO PERMIAN OPERATING LLC

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

**Well Number:** 366H

**Is the reclamation bond a rider under the BLM bond?**

**Unlined pit bond number:**

**Unlined pit bond amount:**

**Additional bond information attachment:**

#### **Section 4 - Injection**

**Would you like to utilize Injection PWD options?** NO

**Produced Water Disposal (PWD) Location:**

**PWD surface owner:**

**PWD disturbance (acres):**

**Injection PWD discharge volume (bbl/day):**

**Injection well mineral owner:**

**Injection well type:**

**Injection well number:**

**Injection well name:**

**Assigned injection well API number?**

**Injection well API number:**

**Injection well new surface disturbance (acres):**

**Minerals protection information:**

**Mineral protection attachment:**

**Underground Injection Control (UIC) Permit?**

**UIC Permit attachment:**

#### **Section 5 - Surface Discharge**

**Would you like to utilize Surface Discharge PWD options?** NO

**Produced Water Disposal (PWD) Location:**

**PWD surface owner:**

**PWD disturbance (acres):**

**Surface discharge PWD discharge volume (bbl/day):**

**Surface Discharge NPDES Permit?**

**Surface Discharge NPDES Permit attachment:**

**Surface Discharge site facilities information:**

**Surface discharge site facilities map:**

#### **Section 6 - Other**

**Would you like to utilize Other PWD options?** NO

**Produced Water Disposal (PWD) Location:**

**PWD surface owner:**

**PWD disturbance (acres):**

**Other PWD discharge volume (bbl/day):**

**Operator Name:** XTO PERMIAN OPERATING LLC

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

**Well Number:** 366H

**Other PWD type description:**

**Other PWD type attachment:**

**Have other regulatory requirements been met?**

**Other regulatory requirements attachment:**





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

## Bond Info Data Report

12/16/2019

APD ID: 10400037564

Submission Date: 01/21/2019

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI 29 BS2-5W

Well Number: 366H

Well Type: OIL WELL

Well Work Type: Drill

Click here to view  
the final text  
of the report.

[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: