Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

# APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☐ DRILL ☐ REENTER

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

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

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.

2. Name of Operator

9. API Well No.

| 3a. Address | 3b. Phone No. *(include area code)* | 10. Field and Pool, or Exploratory |
|---|---|---|
| | | |

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface

At proposed prod. zone

11. Sec., T. R. M. or Blk. and Survey or Area

| 14. Distance in miles and direction from nearest town or post office* | 12. County or Parish | 13. State |
|---|---|---|
| | | |

| 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) | 16. No of acres in lease | 17. Spacing Unit dedicated to this well |
|---|---|---|
| | | |

| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. | 19. Proposed Depth | 20. BLM/BIA Bond No. in file |
|---|---|---|
| | | |

| 21. Elevations (Show whether DF, KDB, RT, GL, etc.) | 22. Approximate date work will start* | 23. Estimated duration |
|---|---|---|
| | | |

## 24. Attachments

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

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

| 25. Signature | Name *(Printed/Typed)* | Date |
|---|---|---|
| | | |

Title

| Approved by *(Signature)* | Name *(Printed/Typed)* | Date |
|---|---|---|
| | | |

| Title | Office |
|---|---|
| | |

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

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

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

**Approval Date: 12/11/2024**

## INSTRUCTIONS

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

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

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

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

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

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

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

## NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48( d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160

PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service wen or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

ROUTINE USE: Information from the record and/or the record win be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

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

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





**Approval Date: 12/11/2024**

## Additional Operator Remarks

### Location of Well

0. SHL: SWNE / 2070 FNL / 2230 FEL / TWSP: 20S / RANGE: 31E / SECTION: 27 / LAT: 32.545846 / LONG: -103.855679 ( TVD: 0 feet, MD: 0 feet )

PPP: NWSE / 2644 FSL / 2376 FEL / TWSP: 20S / RANGE: 31E / SECTION: 27 / LAT: 32.54427 / LONG: -103.856156 ( TVD: 8705 feet, MD: 9200 feet )

PPP: SESW / 330 FSL / 2310 FWL / TWSP: 20S / RANGE: 31E / SECTION: 27 / LAT: 32.537918 / LONG: -103.858077 ( TVD: 9518 feet, MD: 10500 feet )

PPP: SESE / 321 FSL / 0 FWL / TWSP: 20S / RANGE: 31E / SECTION: 28 / LAT: 32.537921 / LONG: -103.865573 ( TVD: 9518 feet, MD: 13200 feet )

BHL: SWSW / 330 FSL / 50 FWL / TWSP: 20S / RANGE: 31E / SECTION: 29 / LAT: 32.53793 / LONG: -103.8998 ( TVD: 9518 feet, MD: 23265 feet )

## BLM Point of Contact

Name: MARIAH HUGHES
Title: Land Law Examiner
Phone: (575) 234-5972
Email: mhughes@blm.gov

**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.

| C-102<br>Sumbit electronically<br>Via OCD Permitting | State of New Mexico<br>Energy, Minerals & Natural Resources Department<br>OIL CONVERSION DIVISION | Revised July, 09 2024 |
|---|---|---|
| | | Submittal Type: ☒ Initial Submittal / ☐ Amended Report / ☐ As Drilled |

**WELL LOCATION INFORMATION**

| API Number | Pool Code | Pool Name |
|---|---|---|
| 30-015- | 98232 | WC-015 G-06 S203127G; BONE SPRING |

| Property Code | Property Name | Well Number |
|---|---|---|
| | BIG EDDY UNIT DI 5 WEST 27-29 | 12H |

| OGRID No. | Operator Name | Ground Level Elevation |
|---|---|---|
| 373075 | XTO PERMIAN OPERATING, LLC. | 3,525' |

Surface Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal — Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal

**Surface Hole Location**

| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | Longitude | County |
|---|---|---|---|---|---|---|---|---|---|
| G | 27 | 20S | 31E | | 2,070 FNL | 2,230 FEL | 32.545846 | -103.855679 | EDDY |

**Bottom Hole Location**

| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | Longitude | County |
|---|---|---|---|---|---|---|---|---|---|
| M | 29 | 20S | 31E | | 330 FSL | 50 FWL | 32.537930 | -103.899800 | EDDY |

| Dedicated Acres | Infill or Defining Well | Defining Well API | Overlapping Spacing Unit (Y/N) | Consolidation Code |
|---|---|---|---|---|
| 400.00 | INFILL | | N | U |

Order Numbers. — Well Setbacks are under Common Ownership: ☒ Yes ☐ No

**Kick Off Point (KOP)**

| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | Longitude | County |
|---|---|---|---|---|---|---|---|---|---|
| G | 27 | 20S | 31E | | 2,070 FNL | 2,230 FEL | 32.545846 | -103.855679 | EDDY |

**First Take Point (FTP)**

| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | Longitude | County |
|---|---|---|---|---|---|---|---|---|---|
| N | 27 | 20S | 31E | | 330 FSL | 2,310 FWL | 32.537918 | -103.858077 | EDDY |

**Last Take Point (LTP)**

| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | Longitude | County |
|---|---|---|---|---|---|---|---|---|---|
| M | 29 | 20S | 31E | | 330 FSL | 100 FWL | 32.537930 | -103.899637 | EDDY |

| Unitized Area or Area of Interest | Spacing Unit Type : ☒ Horizontal ☐ Vertical | Ground Elevation |
|---|---|---|
| NMNM105467880 | | 3,525' |

OPERATOR CERTIFICATIONS

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

*If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or information) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.*

Srinivas Naveen — 12/20/24

Signature — Date

Srinivas Naveen Laghuvarapu

Printed Name

srinivas.n.laghuvarapu@exxonmobil.com

Email Address

SURVEYOR CERTIFICATIONS

*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*

MARK DILLON HARP NEW MEXICO 23786 PROFESSIONAL SURVEYOR

Signature and Seal of Professional Surveyor

MARK DILLON HARP 23786 — Certificate Number

12/19/2024 — Date of Survey

YH

618.013004.04-12

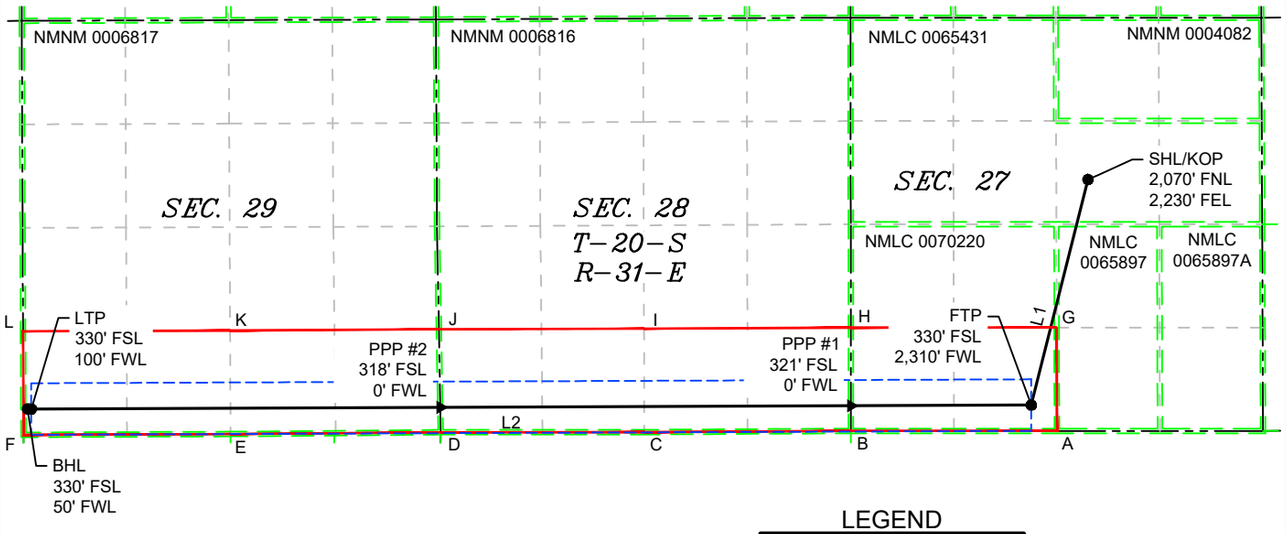
*Note: No allowable will be assigned to this completion until all interest have been consolidated or a non-standard unit has been approved by the division.*

P:\618.013 XTO Energy - NM\004 Big Eddy Unit - Eddy Lea\04 - BEU DI 5 - EDDY\Wells\12 - West 27-29 12H\DWG\OLD\DI 5 WEST 27-29 12H PERMITTED APD C-102.dwg

ACREAGE DEDICATION PLATS

This grid represents a standard section. You may superimpose a non-standard section, or larger area, over this grid. Operators must outline the dedicated acreage in a red box, clearly show the well surface location and bottom hole location, if it is a directionally drilled, with the dimensions from the section lines in the cardinal directions. If this is a horizontal wellbore show on this plat the location of the First Take Point and Last Take Point, and the point within the Completed interval (other then the First Take Point and Last Take Point) that is closest to any outer boundary of the tract.

Surveyor shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land in not surveyed, contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.




| LINE TABLE | | |
|---|---|---|
| LINE | AZIMUTH | LENGTH |
| L1 | 194°06'49" | 2,977.32' |
| L2 | 269°46'28" | 12,857.76' |

LEGEND

- SECTION LINE
- PROPOSED WELL BORE
- NEW MEXICO MINERAL LEASE
- 330' BUFFER
- ALLOCATION AREA

**COORDINATE TABLE**

| SHL/KOP (NAD 83 NME) | | | FTP (NAD 83 NME) | | | PPP #1 (NAD 83 NME) | | | PPP #2 (NAD 83 NME) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Y = | 562,639.5 | N | Y = | 559,752.0 | N | Y = | 559,742.9 | N | Y = | 559,722.2 | N |
| X = | 688,521.5 | E | X = | 687,795.5 | E | X = | 685,485.5 | E | X = | 680,226.4 | E |
| LAT. = | 32.545846 | °N | LAT. = | 32.537918 | °N | LAT. = | 32.537921 | °N | LAT. = | 32.537927 | °N |
| LONG. = | 103.855679 | °W | LONG. = | 103.858077 | °W | LONG. = | 103.865573 | °W | LONG. = | 103.882638 | °W |
| | | | LTP (NAD 83 NME) | | | BHL (NAD 83 NME) | | | | | |
| | | | Y = | 559,701.6 | N | Y = | 559,701.4 | N | | | |
| | | | X = | 674,987.8 | E | X = | 674,937.8 | E | | | |
| | | | LAT. = | 32.537930 | °N | LAT. = | 32.537930 | °N | | | |
| | | | LONG. = | 103.899637 | °W | LONG. = | 103.899800 | °W | | | |
| SHL/KOP (NAD 27 NME) | | | FTP (NAD 27 NME) | | | PPP #1 (NAD 27 NME) | | | PPP #2 (NAD 27 NME) | | |
| Y = | 562,577.8 | N | Y = | 559,690.4 | N | Y = | 559,681.3 | N | Y = | 559,660.5 | N |
| X = | 647,341.9 | E | X = | 646,615.8 | E | X = | 644,305.8 | E | X = | 639,046.6 | E |
| LAT. = | 32.545725 | °N | LAT. = | 32.537797 | °N | LAT. = | 32.537801 | °N | LAT. = | 32.537806 | °N |
| LONG. = | 103.855178 | °W | LONG. = | 103.857576 | °W | LONG. = | 103.865071 | °W | LONG. = | 103.882137 | °W |
| | | | LTP (NAD 27 NME) | | | BHL (NAD 27 NME) | | | | | |
| | | | Y = | 559,639.9 | N | Y = | 559,639.7 | N | | | |
| | | | X = | 633,808.1 | E | X = | 633,758.1 | E | | | |
| | | | LAT. = | 32.537809 | °N | LAT. = | 32.537809 | °N | | | |
| | | | LONG. = | 103.899135 | °W | LONG. = | 103.899298 | °W | | | |

| CORNER COORDINATES (NAD 83 NME) | | | | | | CORNER COORDINATES (NAD 27 NME) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A - Y = | 559,422.1 | N | A - X = | 688,124.2 | E | A - Y = | 559,360.4 | N | A - X = | 646,944.5 | E |
| B - Y = | 559,421.8 | N | B - X = | 685,485.7 | E | B - Y = | 559,360.1 | N | B - X = | 644,306.0 | E |
| C - Y = | 559,405.9 | N | C - X = | 682,840.1 | E | C - Y = | 559,344.2 | N | C - X = | 641,660.5 | E |
| D - Y = | 559,404.2 | N | D - X = | 680,232.0 | E | D - Y = | 559,342.5 | N | D - X = | 639,052.2 | E |
| E - Y = | 559,381.4 | N | E - X = | 677,541.0 | E | E - Y = | 559,319.7 | N | E - X = | 636,361.3 | E |
| F - Y = | 559,371.9 | N | F - X = | 674,889.4 | E | F - Y = | 559,310.2 | N | F - X = | 633,709.6 | E |
| G - Y = | 560,743.9 | N | G - X = | 688,120.8 | E | G - Y = | 560,682.3 | N | G - X = | 646,941.1 | E |
| H - Y = | 560,743.8 | N | H - X = | 685,484.5 | E | H - Y = | 560,682.1 | N | H - X = | 644,304.9 | E |
| I - Y = | 560,729.1 | N | I - X = | 682,836.3 | E | I - Y = | 560,667.4 | N | I - X = | 641,656.7 | E |
| J - Y = | 560,721.4 | N | J - X = | 680,208.8 | E | J - Y = | 560,659.7 | N | J - X = | 639,029.1 | E |
| K - Y = | 560,705.3 | N | K - X = | 677,534.9 | E | K - Y = | 560,643.5 | N | K - X = | 636,355.2 | E |
| L - Y = | 560,695.7 | N | L - X = | 674,883.3 | E | L - Y = | 560,634.0 | N | L - X = | 633,703.6 | E |

YH 618.013004.04-12

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

# NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

## Section 1 – Plan Description

**Effective May 25, 2021**

**I. Operator:** XTO Permian Operating, LLC **OGRID:** 373075 **Date:** 10/10/2024

**II. Type:** ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

**III. Well(s):** Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

| Well Name | API | ULSTR | Footages | Anticipated Oil BBL/D | 3 yr Anticipated Decline oil BBL/D | Anticipated Gas MCF/D | 3 yr anticipated decline Gas MCF/D | Anticipated Produced Water BBL/D | 3 yr anticipated decline Water BBL/D |
|---|---|---|---|---|---|---|---|---|---|
| Big Eddy Unit DI 5 West 27-20 1H | TBD | 27 T20S R31E | 1745' FNL, 2230' FEL | 1,800 | 200 | 2,500 | 700 | 4,500 | 550 |
| Big Eddy Unit DI 5 West 27-20 2H | TBD | 27 T20S R31E | 1745' FNL, 2260' FEL | 1,500 | 200 | 2,250 | 500 | 3,750 | 450 |
| Big Eddy Unit DI 5 West 27-20 3H | TBD | 27 T20S R31E | 1745' FNL, 2290' FEL | 1,500 | 200 | 2,250 | 500 | 3,750 | 450 |
| Big Eddy Unit DI 5 West 27-20 4H | TBD | 27 T20S R31E | 1870' FNL, 2230' FEL | 1,500 | 200 | 2,250 | 500 | 3,750 | 450 |
| Big Eddy Unit DI 5 West 27-29 5H | TBD | 27 T20S R31E | 1870' FNL, 2260' FEL | 1,500 | 200 | 2,250 | 500 | 3,750 | 450 |
| Big Eddy Unit DI 5 West 27-29 6H | TBD | 27 T20S R31E | 1870' FNL, 2290' FEL | 1,500 | 200 | 2,250 | 500 | 3,750 | 450 |
| Big Eddy Unit DI 5 | TBD | 27 T20S R31E | 1945' FNL, | 1,500 | 200 | 2,250 | 500 | 3,750 | 450 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| West 27-29 7H | | | 2290' FEL | | | | | | |
| Big Eddy Unit DI 5 West 27-29 8H | TBD | 27 T20S R31E | 1945' FNL, 2260' FEL | 1,500 | 200 | 2,250 | 500 | 3,750 | 450 |
| Big Eddy Unit DI 5 West 27-29 9H | TBD | 27 T20S R31E | 1945' FNL, 2230' FEL | 1,500 | 200 | 2,250 | 500 | 3,750 | 450 |
| Big Eddy Unit DI 5 West 27-29 10H | TBD | 27 T20S R31E | 2070' FNL, 2290' FEL | 1,500 | 200 | 2,250 | 500 | 3,750 | 450 |
| Big Eddy Unit DI 5 West 27-29 11H | TBD | 27 T20S R31E | 2070' FNL, 2260' FEL | 1,500 | 200 | 2,250 | 500 | 3,750 | 450 |
| Big Eddy Unit DI 5 West 27-29 12H | TBD | 27 T20S R31E | 2070' FNL, 2230' FEL | 1,500 | 200 | 2,250 | 500 | 3,750 | 450 |

**IV. Central Delivery Point Name:** Big Eddy Unit DI 5 Battery [See 19.15.27.9(D)(1) NMAC]

**V. Anticipated Schedule:** Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

| Well Name | API | Spud Date | TD Reached Date | Completion Commencement Date | Initial Flow Back Date | First Production Date |
|---|---|---|---|---|---|---|
| Big Eddy Unit DI 5 West 27-20 1H | TBD | TBD | TBD | TBD | TBD | TBD |
| Big Eddy Unit DI 5 West 27-20 2H | TBD | TBD | TBD | TBD | TBD | TBD |
| Big Eddy Unit DI 5 West 27-20 3H | TBD | TBD | TBD | TBD | TBD | TBD |
| Big Eddy Unit DI 5 West 27-20 4H | TBD | TBD | TBD | TBD | TBD | TBD |
| Big Eddy Unit DI 5 West 27-29 5H | TBD | TBD | TBD | TBD | TBD | TBD |
| Big Eddy Unit DI 5 West 27-29 6H | TBD | TBD | TBD | TBD | TBD | TBD |
| Big Eddy Unit DI 5 West 27-29 7H | TBD | TBD | TBD | TBD | TBD | TBD |
| Big Eddy Unit DI 5 West 27-29 8H | TBD | TBD | TBD | TBD | TBD | TBD |
| Big Eddy Unit DI 5 West 27-29 9H | TBD | TBD | TBD | TBD | TBD | TBD |
| Big Eddy Unit DI 5 West 27-29 10H | TBD | TBD | TBD | TBD | TBD | TBD |
| Big Eddy Unit DI 5 West 27-29 11H | TBD | TBD | TBD | TBD | TBD | TBD |
| Big Eddy Unit DI 5 West 27-29 12H | TBD | TBD | TBD | TBD | TBD | TBD |

**VI. Separation Equipment:** ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

**VII. Operational Practices:** ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

**VIII. Best Management Practices:** ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

# Section 2 – Enhanced Plan

**EFFECTIVE APRIL 1, 2022**

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☒ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

**IX. Anticipated Natural Gas Production:**

| Well | API | Anticipated Average Natural Gas Rate MCF/D | Anticipated Volume of Natural Gas for the First Year MCF |
|---|---|---|---|
| | | | |
| | | | |

**X. Natural Gas Gathering System (NGGS):**

| Operator | System | ULSTR of Tie-in | Anticipated Gathering Start Date | Available Maximum Daily Capacity of System Segment Tie-in |
|---|---|---|---|---|
| | | | | |
| | | | | |

**XI. Map.** ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

**XII. Line Capacity.** The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

**XIII. Line Pressure.** Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

**XIV. Confidentiality:** ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

## Section 3 - Certifications

**Effective May 25, 2021**

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system. ***If Operator checks this box, Operator will select one of the following:***

**Well Shut-In.** ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

**Venting and Flaring Plan.** ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- **(a)** power generation on lease;
- **(b)** power generation for grid;
- **(c)** compression on lease;
- **(d)** liquids removal on lease;
- **(e)** reinjection for underground storage;
- **(f)** reinjection for temporary storage;
- **(g)** reinjection for enhanced oil recovery;
- **(h)** fuel cell production; and
- **(i)** other alternative beneficial uses approved by the division.

## Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

**(a)** Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

**(b)** Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

**I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.**

| |
|---|
| Signature: Srinivas Naveen |
| Printed Name: Srinivas Naveen Laghuvarapu |
| Title: Regulatory Analyst |
| E-mail Address: srinivas.n.laghuvarapu@exxonmobil.com |
| Date: 10/29/2024 |
| Phone: +91-7780442850 |

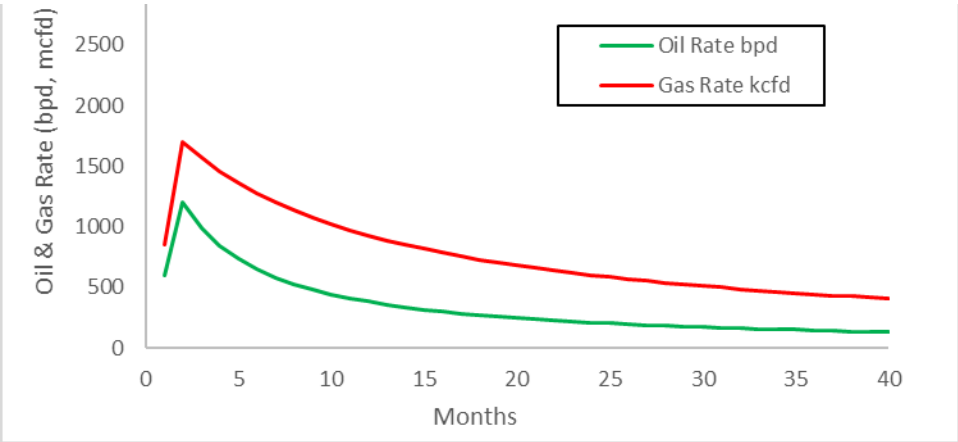
**OIL CONSERVATION DIVISION**

**(Only applicable when submitted as a standalone form)**

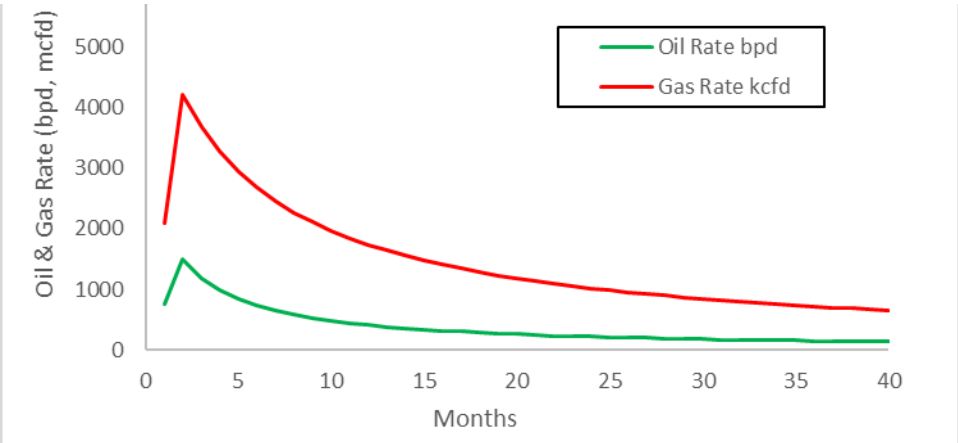
| |
|---|
| Approved By: |
| Title: |
| Approval Date: |
| Conditions of Approval: |

**Big Eddy Unit – Decline Curves:**

**Bone Spring:**




**Wolfcamp:**



VI. Separation Equipment:

XTO Permian Operating LLC. utilizes a "stage separation" process in which oil and gas separation is carried out through a series of separators operating at successively reduced pressures. Hydrocarbon liquids are produced into a high-pressure inlet separator, then carried through one or more lower pressure separation vessels before entering the storage tanks. The purpose of this separation process is to attain maximum recovery of liquid hydrocarbons from the fluids and allow maximum capture of produced gas into the sales pipeline. XTO utilizes a series of Low-Pressure Compression units to capture gas off the staged separation and send it to the sales pipeline. This process minimizes the amount of flash gas that enters the end-stage storage tanks that is subsequently vented or flared.

VII. Operational Practices

XTO Permian Operating LLC will employ best management practices and control technologies to maximize the recovery and minimize waste of natural gas through venting and flaring.

- During drilling operations, XTO will utilize flares to capture and control natural gas, where technically feasible. If flaring is deemed technically in-feasible, XTO will employ best management practices to minimize or reduce venting to the extent possible.

- During completions operations, XTO will utilize Green Completion methods to capture gas produced during well completions that is otherwise vented or flared. If capture is technically in-feasible, flares will be used to control flow back fluids entering into frac tanks during initial flowback. Upon indication of first measurable hydrocarbon volumes, XTO Permian Operating LLCwill turn operations to onsite separation vessels and flow to the gathering pipeline.

- During production operations, XTO Permian Operating LLC will take every practical effort to minimize waste of natural gas through venting and flaring by:

    - Designing and constructing facilities in a manner consistent to achieve maximum capture and control of hydrocarbon liquids & produced gas
    - Utilizing a closed-loop capture system to collect, and route produced gas to sales line via low pressure compression, or to a flare/combustor
    - Flaring in lieu of venting, where technically feasible
    - Utilizing auto-ignitors or continuous pilots, with thermocouples connected to Scada, to quickly detect and resolve issues related to malfunctioning flares/combustors
    - Employ the use of automatic tank gauging to minimize storage tank venting during loading events
    - Installing air-driven or electric-driven pneumatics & combustion engines, where technically feasible to minimize venting to the atmosphere
    - Confirm equipment is properly maintained and repaired through a preventative maintenance and repair program to ensure equipment meets all manufacturer specifications

- Conduct and document AVO inspections on the frequency set forth in Part 27 to detect and repair any onsite leaks as quickly and efficiently as is feasible.

VIII. Best Management Practices during Maintenance

XTO Permian Operating LLC. will utilize best management practices to minimize venting during active and planned maintenance activities. XTO is operating under guidance that production facilities permitted under NOI permits have no provisions to allow high pressure flaring and high-pressure flaring is only allowed in disruption scenarios so long as the duration is less than eight hours. When technically feasible, flaring during maintenance activities will be utilized in lieu of venting to the atmosphere. XTO will work with third-party operators during scheduled maintenance of downstream pipeline or processing plants to address those events ahead of time to minimize venting. Actions considered include identifying alternative capture approaches or planning to temporarily reduce production or shut in the well to address these circumstances.

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

# Drilling Plan Data Report
12/18/2024

**APD ID:** 10400093680
**Submission Date:** 08/09/2023
**Operator Name:** XTO PERMIAN OPERATING LLC
**Well Name:** BIG EDDY UNIT DI 5 WEST 27-29
**Well Number:** 12H
**Well Type:** OIL WELL
**Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

## Section 1 - Geologic Formations

| Formation ID | Formation Name | Elevation | True Vertical | Measured Depth | Lithologies | Mineral Resources | Producing Formatio |
|---|---|---|---|---|---|---|---|
| 14663560 | QUATERNARY | 3525 | 0 | 0 | ALLUVIUM | USEABLE WATER | N |
| 14663561 | RUSTLER | 2882 | 643 | 643 | ANHYDRITE, SANDSTONE | USEABLE WATER | N |
| 14663562 | SALADO | 2606 | 919 | 919 | POTASH, SALT | POTASH | N |
| 14663559 | BASE OF SALT | 1354 | 2171 | 2171 | POTASH, SALT | POTASH | N |
| 14663557 | CAPITAN REEF | 694 | 2831 | 2831 | LIMESTONE | USEABLE WATER | N |
| 14663563 | DELAWARE | -381 | 3906 | 3906 | LIMESTONE, SANDSTONE | NATURAL GAS, OIL, OTHER : Produced Water | N |
| 14663555 | BRUSHY CANYON | -2338 | 5863 | 5863 | SANDSTONE | NATURAL GAS, OIL, OTHER : Produced Water | N |
| 14663564 | BONE SPRING | -3914 | 7439 | 7439 | LIMESTONE, SANDSTONE | NATURAL GAS, OIL, OTHER : Produced Water | Y |
| 14663556 | BONE SPRING 1ST | -4847 | 8372 | 8372 | LIMESTONE, SANDSTONE | NATURAL GAS, OIL, OTHER : Produced Water | Y |
| 14663558 | BONE SPRING 2ND | -5943 | 9468 | 9468 | LIMESTONE, SANDSTONE | NATURAL GAS, OIL, OTHER : Produced Water | Y |

## Section 2 - Blowout Prevention

**Pressure Rating (PSI):** 5M
**Rating Depth:** 9518

**Equipment:** Once the permanent WH is installed on the surface casing, the blow out preventer equipment (BOP) will consist of a 5M Hydril Annular and a 5M Double Ram BOP. XTO will use a Multi-Bowl system which is attached

**Requesting Variance?** YES

**Variance request:** A variance is requested to allow use of a flex hose: See Attached. XTO requests a variance to be able to batch drill this well if necessary. XTO request a break test variance: See Attached. XTO requests a variance to utilize a spudder rig: See Attached.
**Testing Procedure:** All BOP testing will be done by an independent service company. Operator will test as per 43 CFR 3172.
**Choke Diagram Attachment:**

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** BIG EDDY UNIT DI 5 WEST 27-29 **Well Number:** 12H

BIG_EDDY_UNIT_DI_5_WEST_5MCM_20240614133815.pdf

**BOP Diagram Attachment:**

BIG_EDDY_UNIT_DI_5_WEST_5MBOP_20240614133823.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 | 17.5 | 13.375 | NEW | API | N | 0 | 819 | 0 | 819 | 3525 | 2706 | 819 | J-55 | 54.5 | BUTT | 3.16 | 4.02 | DRY | 20.36 | DRY | 20.36 |
| 2 | INTERMEDIATE | 12.25 | 9.625 | NEW | API | N | 0 | 2271 | 0 | 2271 | 3525 | 1254 | 2271 | J-55 | 40 | BUTT | 3.98 | 4.2 | DRY | 6.94 | DRY | 6.94 |
| 3 | INTERMEDIATE | 8.75 | 7.625 | NEW | API | Y | 0 | 3956 | 0 | 3956 | 3525 | -431 | 3956 | L-80 | 29.7 | FJ | 8.6 | 2.22 | DRY | 9.21 | DRY | 9.21 |
| 4 | PRODUCTION | 6.75 | 5.5 | NEW | NON API | Y | 0 | 23265 | 0 | 9518 | 3525 | -5993 | 23265 | P-110 | 20 | OTHER - TALON HTQ/FREEDOM HTQ | 2.14 | 1.05 | DRY | 2.9 | DRY | 2.9 |

**Casing Attachments**

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

DI_5_12H_Csg_20241105083100.pdf

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** BIG EDDY UNIT DI 5 WEST 27-29 **Well Number:** 12H

**Casing Attachments**

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

DI_5_12H_Csg_20241105083009.pdf

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

DI_5_12H_Csg_20241105083115.pdf

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

DI_5_12H_Csg_20241105083126.pdf

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

**Inspection Document:**

**Spec Document:**

Freedom_semi_premium_5.5_production_casing_20240821115944.pdf
Talon___semiflush_20240709134330.pdf

**Tapered String Spec:**

DI_5_12H_Csg_20241105083032.pdf

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

DI_5_12H_Csg_20241105083043.pdf

## Section 4 - Cement

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** BIG EDDY UNIT DI 5 WEST 27-29 **Well Number:** 12H

| String Type | Lead/Tail | Stage Tool Depth | Top MD | Bottom MD | Quantity(sx) | Yield | Density | Cu Ft | Excess% | Cement type | Additives |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SURFACE | Lead | | 0 | 819 | 540 | 1.33 | 12.8 | 718.2 | 100 | EconoCem-HLTRRC | NA |
| SURFACE | Tail | | 0 | 819 | 310 | 1.33 | 14.8 | 412.3 | 100 | Class C | 2% CaCl |
| INTERMEDIATE | Lead | | 0 | 1971 | 90 | 2.77 | 10.5 | 249.3 | 100 | Class C | NA |
| INTERMEDIATE | Tail | | 1971 | 3956 | 210 | 1.27 | 14.8 | 266.7 | 100 | Class C | NA |
| INTERMEDIATE | Lead | | 0 | 2271 | 440 | 2.06 | 14.8 | 906.4 | 100 | Class C | NA |
| INTERMEDIATE | Tail | | 0 | 2271 | 60 | 2.06 | 15.6 | 123.6 | 100 | Class C | 2% CaCl |
| PRODUCTION | Lead | | 7439 | 9520 | 70 | 2.69 | 11.5 | 188.3 | 30 | NeoCem | NA |
| PRODUCTION | Tail | | 9520 | 23265 | 870 | 1.51 | 13.2 | 1313.7 | 30 | VersaCem | NA |

## 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:** Spud with fresh water/native mud. Drill out from under surface casing with Saturated Salt solution. Saturated Salt mud will be used while drilling through the salt formation. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Pump speed will be recorded on a daily drilling report after mudding up. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

## Circulating Medium Table

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** BIG EDDY UNIT DI 5 WEST 27-29 **Well Number:** 12H

| 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 | 819 | WATER-BASED MUD | 8.4 | 8.9 | | | | | | | |
| 2271 | 3956 | WATER-BASED MUD | 8.8 | 9.3 | | | | | | | |
| 3956 | 23265 | OIL-BASED MUD | 10.5 | 11 | | | | | | | |
| 819 | 2271 | SALT SATURATED | 10 | 10.5 | | | | | | | |

## Section 6 - Test, Logging, Coring

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

Mud Logger: Mud Logging Unit (2 man) below intermediate casing.
Open hole logging will not be done on this well.

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

GAMMA RAY LOG,CEMENT BOND LOG,DIRECTIONAL SURVEY,MEASUREMENT WHILE DRILLING,MUD LOG/GEOLOGICAL LITHOLOGY LOG,

**Coring operation description for the well:**

No coring is planned for the well.

## Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 5444 **Anticipated Surface Pressure:** 3350

**Anticipated Bottom Hole Temperature(F):** 180

**Anticipated abnormal pressures, temperatures, or potential geologic hazards?** NO

**Describe:**

**Contingency Plans geoharzards description:**

**Contingency Plans geohazards**

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

**Hydrogen sulfide drilling operations**

XTO_Energy_H2S_Plan_Updated_20241105082711.pdf

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** BIG EDDY UNIT DI 5 WEST 27-29 **Well Number:** 12H

## Section 8 - Other Information

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

BIG_EDDY_UNIT_DI_5_WEST_27_29_12H_DD_20230731113607.pdf

**Other proposed operations facets description:**

XTO Permian Operating LLC will abide by R-111-Q and monitor separation Distance to offsets and maintain a Separation Factor greater than 1.0 while drilling through the salt intervals. For blind or inclination only wells, XTO Permian Operating LLC will maintain greater than 300 center-to-center separation.

**Other proposed operations facets attachment:**

BIG_EDDY_UNIT_DI_5_WEST_MBS_20240612035523.pdf

BIG_EDDY_UNIT_DI_5_WEST_27_29_12H_Cmt_20240612035545.pdf

Big_Eddy_Unit_DI_5_West___GCP_20241105084814.pdf

Well_Bore_Diagram___4_string_design___Capitan_reef_20241105084814.pdf

BIG_EDDY_UNIT_DI_5_WEST_H2S_DiaA_20241105084815.pdf

**Other Variance attachment:**

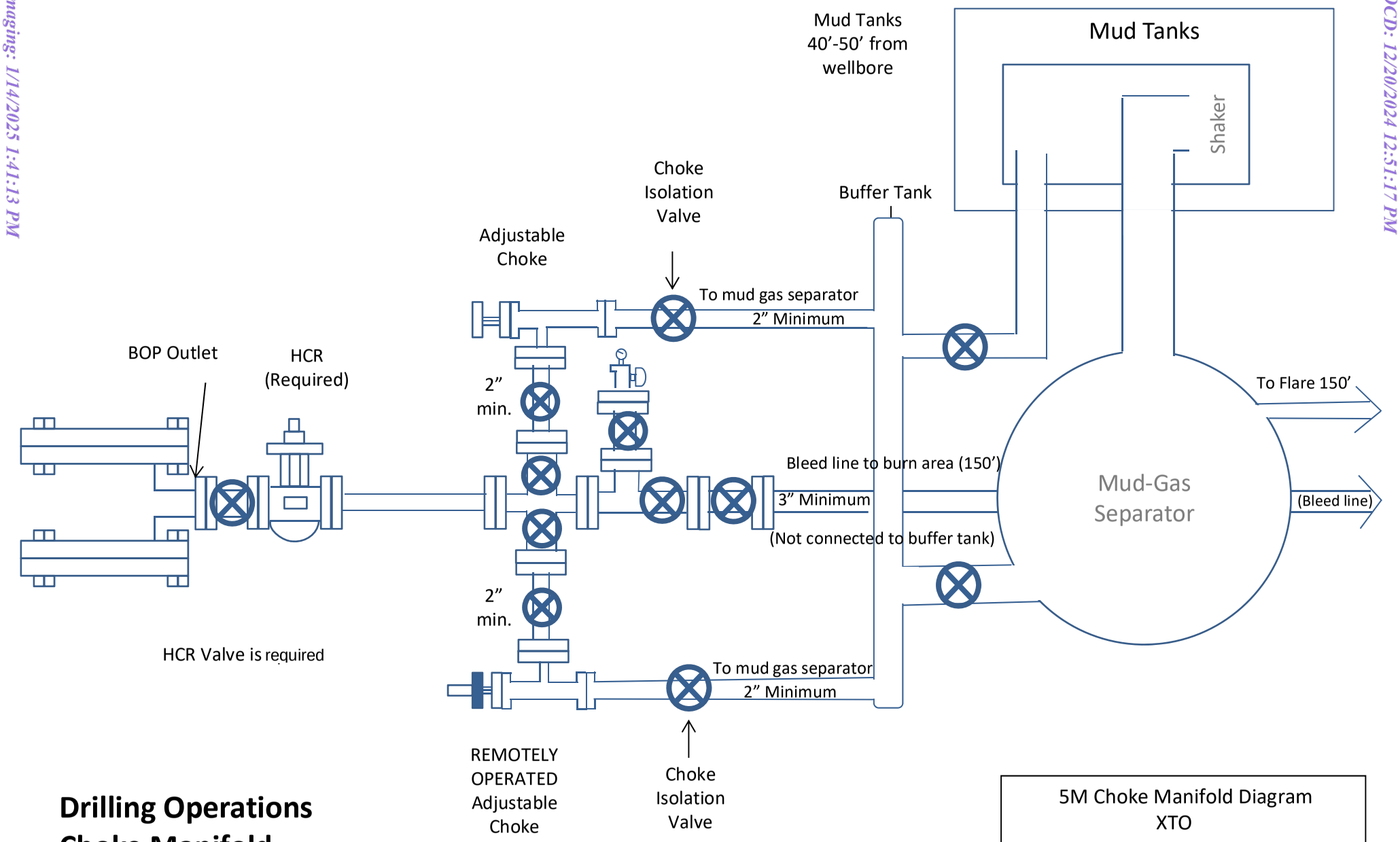
BIG_EDDY_UNIT_DI_5_WEST_OLCV_20230720103809.pdf

Updated_Flex_Hose_20240726065810.pdf

BOP_Break_Test_Variance_20240821120050.pdf

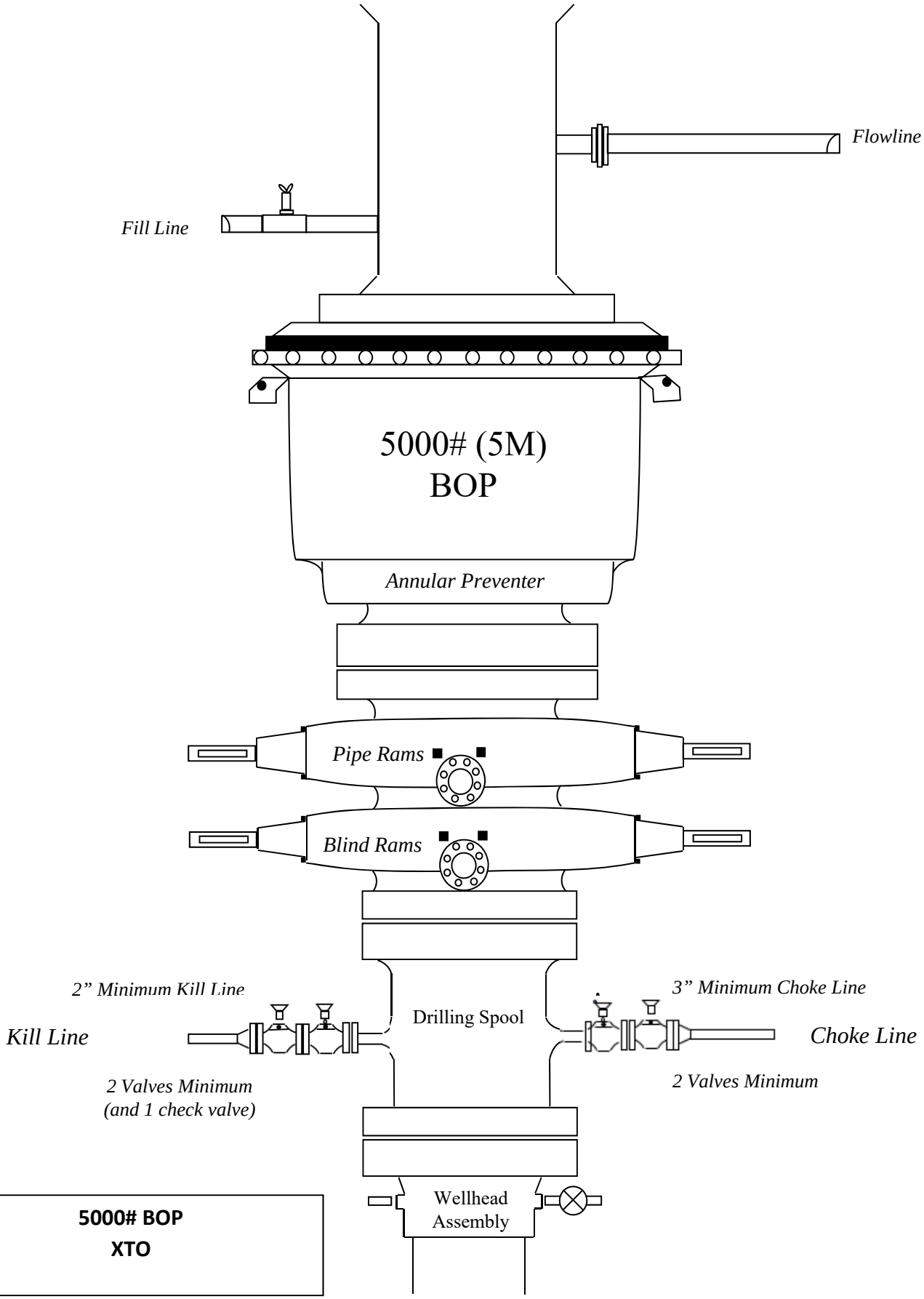
Spudder_Rig_Request_20240821120106.pdf

Bleed line will discharge 100' from wellhead for non-H2S situations and 150' from wellhead for H2S situations.




# Drilling Operations
# Choke Manifold
# 5M Service

5M Choke Manifold Diagram
XTO


Flowline
Fill Line
5000# (5M)
BOP
Annular Preventer
Pipe Rams
Blind Rams
2" Minimum Kill Line
3" Minimum Choke Line
Kill Line
Drilling Spool
Choke Line
2 Valves Minimum
(and 1 check valve)
2 Valves Minimum
Wellhead
Assembly

**5000# BOP**
**XTO**

# U. S. Steel Tubular Products

11/29/2021 4:16:04 PM

## 5.500" 20.00lb/ft (0.361" Wall) P110 RY USS-TALON HTQ™ RD

| MECHANICAL PROPERTIES | Pipe | USS-TALON HTQ™ RD | | [6] |
|---|---|---|---|---|
| Minimum Yield Strength | 110,000 | -- | psi | -- |
| Maximum Yield Strength | 125,000 | -- | psi | -- |
| Minimum Tensile Strength | 125,000 | -- | psi | -- |
| **DIMENSIONS** | **Pipe** | **USS-TALON HTQ™ RD** | | **--** |
| Outside Diameter | 5.500 | 5.900 | in. | -- |
| Wall Thickness | 0.361 | -- | in. | -- |
| Inside Diameter | 4.778 | 4.778 | in. | -- |
| Standard Drift | 4.653 | 4.653 | in. | -- |
| Alternate Drift | -- | -- | in. | -- |
| Nominal Linear Weight, T&C | 20.00 | -- | lb/ft | -- |
| Plain End Weight | 19.83 | -- | lb/ft | -- |
| **SECTION AREA** | **Pipe** | **USS-TALON HTQ™ RD** | | **--** |
| Critical Area | 5.828 | 5.828 | sq. in. | -- |
| Joint Efficiency | -- | 100.0 | % | [2] |
| **PERFORMANCE** | **Pipe** | **USS-TALON HTQ™ RD** | | **--** |
| Minimum Collapse Pressure | 11,100 | 11,100 | psi | -- |
| Minimum Internal Yield Pressure | 12,640 | 12,640 | psi | -- |
| Minimum Pipe Body Yield Strength | 641,000 | -- | lb | -- |
| Joint Strength | -- | 641,000 | lb | -- |
| Compression Rating | -- | 641,000 | lb | -- |
| Reference Length | -- | 21,370 | ft | [5] |
| Maximum Uniaxial Bend Rating | -- | 91.7 | deg/100 ft | [3] |
| **MAKE-UP DATA** | **Pipe** | **USS-TALON HTQ™ RD** | | **--** |
| Make-Up Loss | -- | 5.58 | in. | -- |
| Minimum Make-Up Torque | -- | 17,000 | ft-lb | [4] |
| Maximum Make-Up Torque | -- | 20,000 | ft-lb | [4] |
| Maximum Operating Torque | -- | 39,500 | ft-lb | [4] |



## Notes

1. Other than proprietary collapse and connection values, performance properties have been calculated using standard equations defined by API 5C3 and do not incorporate any additional design or safety factors. Calculations assume nominal pipe OD, nominal wall thickness, and Specified Minimum Yield Strength (SMYS).
2. Joint efficiencies are calculated by dividing the connection critical area by the pipe body area.
3. Uniaxial bend rating shown is structural only.
4. Torques have been calculated assuming a thread compound friction factor of 1.0 and are recommended only. Field make-up torques may require adjustment based on actual field conditions (e.g. make-up speed, temperature, thread compound, etc.).
5. Reference length is calculated by Joint Strength divided by Nominal Linear Weight, T&C with a 1.5 Safety factor.
6. Coupling must meet minimum mechanical properties of the pipe.



U. S. Steel Tubular Products
460 Wildwood Forest Drive, Suite 300S
Spring, Texas 77380

1-877-893-9461
connections@uss.com
www.usstubular.com

# U. S. Steel Tubular Products

11/8/2023 1:08:50 PM

## 5.500" 20.00lb/ft (0.361" Wall) P110 RY USS-FREEDOM HTQ®

| MECHANICAL PROPERTIES | Pipe | USS-FREEDOM HTQ® | | -- |
|---|---|---|---|---|
| Minimum Yield Strength | 110,000 | -- | psi | -- |
| Maximum Yield Strength | 125,000 | -- | psi | -- |
| Minimum Tensile Strength | 125,000 | -- | psi | -- |
| **DIMENSIONS** | **Pipe** | **USS-FREEDOM HTQ®** | | **--** |
| Outside Diameter | 5.500 | 6.300 | in. | -- |
| Wall Thickness | 0.361 | -- | in. | -- |
| Inside Diameter | 4.778 | 4.778 | in. | -- |
| Standard Drift | 4.653 | 4.653 | in. | -- |
| Alternate Drift | -- | -- | in. | -- |
| Nominal Linear Weight, T&C | 20.00 | -- | lb/ft | -- |
| Plain End Weight | 19.83 | -- | lb/ft | -- |
| **SECTION AREA** | **Pipe** | **USS-FREEDOM HTQ®** | | **--** |
| Critical Area | 5.828 | 5.828 | sq. in. | -- |
| Joint Efficiency | -- | 100.0 | % | -- |
| **PERFORMANCE** | **Pipe** | **USS-FREEDOM HTQ®** | | **--** |
| Minimum Collapse Pressure | 11,100 | 11,100 | psi | -- |
| Minimum Internal Yield Pressure | 12,640 | 12,640 | psi | -- |
| Minimum Pipe Body Yield Strength | 641,000 | -- | lb | -- |
| Joint Strength | -- | 641,000 | lb | -- |
| Compression Rating | -- | 641,000 | lb | -- |
| Reference Length [4] | -- | 21,370 | ft | -- |
| Maximum Uniaxial Bend Rating [2] | -- | 91.7 | deg/100 ft | -- |
| **MAKE-UP DATA** | **Pipe** | **USS-FREEDOM HTQ®** | | **--** |
| Make-Up Loss | -- | 4.13 | in. | -- |
| Minimum Make-Up Torque [3] | -- | 15,000 | ft-lb | -- |
| Maximum Make-Up Torque [3] | -- | 21,000 | ft-lb | -- |
| Maximum Operating Torque[3] | -- | 29,500 | ft-lb | -- |



## Notes

1. Other than proprietary collapse and connection values, performance properties have been calculated using standard equations defined by API 5C3 and do not incorporate any additional design or safety factors. Calculations assume nominal pipe OD, nominal wall thickness, and Specified Minimum Yield Strength (SMYS).
2. Uniaxial bending rating shown is structural only, and equal to compression efficiency.
3. Torques have been calculated assuming a thread compound friction factor of 1.0 and are recommended only. Field make-up torques may require adjustment based on actual field conditions (e.g. make-up speed, temperature, thread compound, etc.).
4. Reference length is calculated by joint strength divided by plain end weight with 1.5 safety factor.



U. S. Steel Tubular Products
460 Wildwood Forest Drive, Suite 300S
Spring, Texas 77380

1-877-893-9461
connections@uss.com
www.usstubular.com

| Hole Size | Casing Interval | CSG OD | Weight | Grade | Collar | New/Used | SF Burst | SF Collapse | SF Tension |
|---|---|---|---|---|---|---|---|---|---|
| 17.5 | 0' – 819' | 13.375 | 54.5 | J-55 | BTC | New | 4.02 | 3.16 | 20.36 |
| 12.25 | 0' – 2271' | 9.625 | 40 | J-55 | BTC | New | 4.20 | 3.98 | 6.94 |
| 8.75 | 0' – 2371' | 7.625 | 29.7 | HC L-80 | Flush Joint | New | 2.22 | 5.11 | 3.46 |
| 8.75 | 2371' – 3956' | 7.625 | 29.7 | HC L-80 | Flush Joint | New | 2.22 | 8.60 | 9.21 |
| 6.75 | 0' – 3856' | 5.5 | 20 | RY P-110 | Semi-Premium / Freedom HTQ | New | 1.05 | 5.27 | 2.15 |
| 6.75 | 3856' - 23265' | 5.5 | 20 | RY P-110 | Semi-Flush / Talon HTQ | New | 1.05 | 2.14 | 2.90 |

# XTO Energy

**EDDY COUNTY, NM (NAD-27 / NME)**
**BIG EDDY UNIT DI 5 WEST 27-29**
**12H**

**Wellbore #1**

**Plan: PERMIT**

# Standard Planning Report

**02 June, 2023**

**Project:** EDDY COUNTY, NM (NAD-27 / NME)
**Site:** BIG EDDY UNIT DI 5 WEST 27-29
**Well:** 12H
**Wellbore:** Wellbore #1
**Design:** PERMIT

WELL DETAILS: 12H

Rig Name: TBD
GL @ 3525.00usft (TBD)
Ground Level: 3525.00

| +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
|---|---|---|---|---|---|
| 0.00 | 0.00 | 562577.80 | 647341.90 | 32.5457254 | -103.8551774 |

SECTION DETAILS

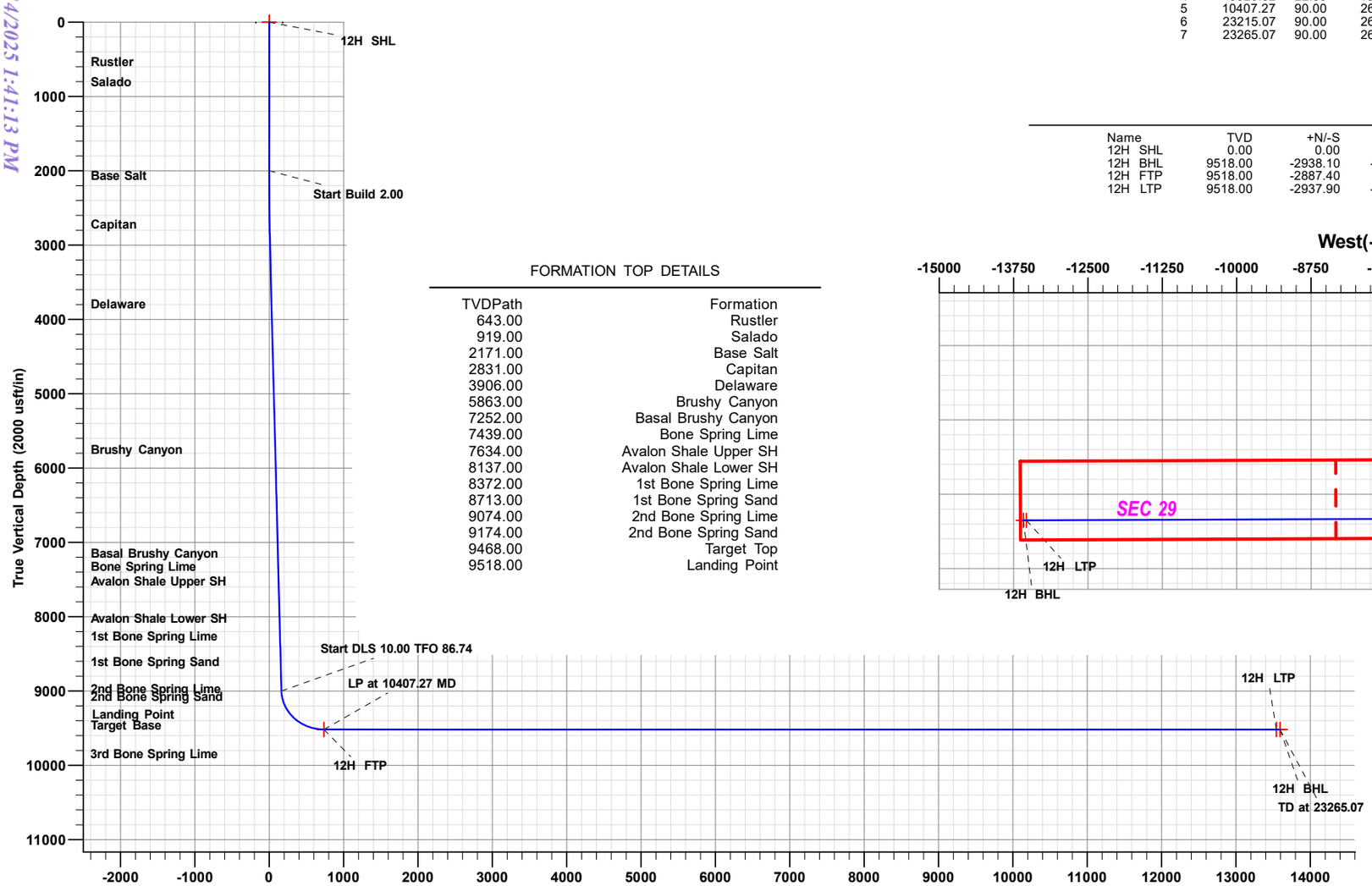
| Sec | MD | Inc | Azi | TVD | +N/-S | +E/-W | DIeg | TFace | VSect | Target |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2 | 2000.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 3 | 3129.56 | 22.59 | 183.30 | 3100.52 | -219.45 | -12.67 | 2.00 | 183.30 | 13.55 | |
| 4 | 9520.82 | 22.59 | 183.30 | 9001.37 | -2670.59 | -154.15 | 0.00 | 0.00 | 164.87 | |
| 5 | 10407.27 | 90.00 | 269.77 | 9518.00 | -2887.40 | -726.10 | 10.00 | 86.74 | 737.68 | 12H FTP |
| 6 | 23215.07 | 90.00 | 269.77 | 9518.00 | -2937.90 | -13533.80 | 0.00 | 0.00 | 13545.48 | 12H LTP |
| 7 | 23265.07 | 90.00 | 269.77 | 9518.00 | -2938.10 | -13583.80 | 0.00 | 0.00 | 13595.48 | 12H BHL |

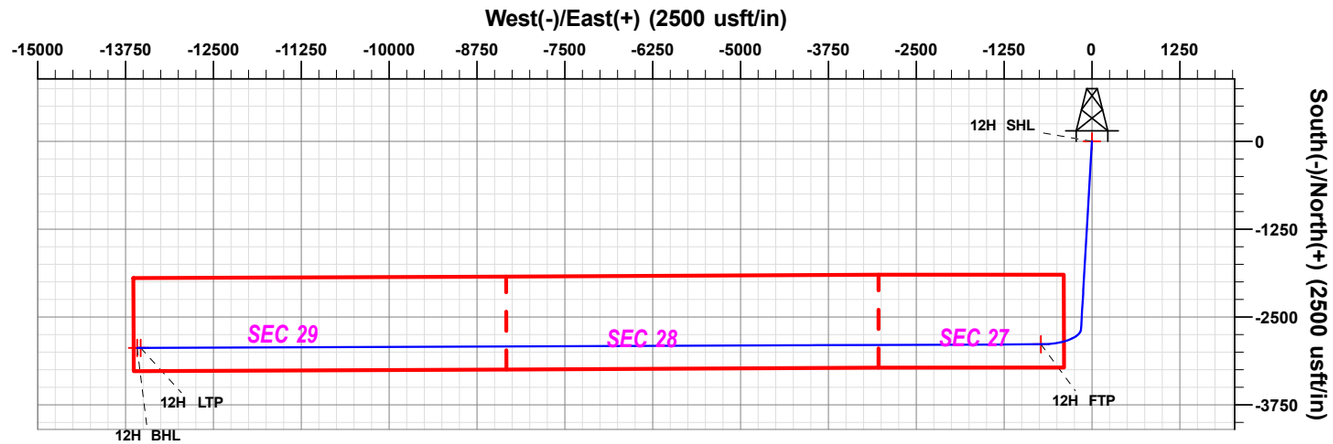
DESIGN TARGET DETAILS

| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
|---|---|---|---|---|---|---|---|
| 12H SHL | 0.00 | 0.00 | 0.00 | 562577.80 | 647341.90 | 32.5457254 | -103.8551774 |
| 12H BHL | 9518.00 | -2938.10 | -13583.80 | 559639.70 | 633758.10 | 32.5378091 | -103.8992975 |
| 12H FTP | 9518.00 | -2887.40 | -726.10 | 559690.40 | 646615.80 | 32.5377975 | -103.8575756 |
| 12H LTP | 9518.00 | -2937.90 | -13533.80 | 559639.90 | 633808.10 | 32.5378091 | -103.8991352 |

FORMATION TOP DETAILS

| TVDPath | Formation |
|---|---|
| 643.00 | Rustler |
| 919.00 | Salado |
| 2171.00 | Base Salt |
| 2831.00 | Capitan |
| 3906.00 | Delaware |
| 5863.00 | Brushy Canyon |
| 7252.00 | Basal Brushy Canyon |
| 7439.00 | Bone Spring Lime |
| 7634.00 | Avalon Shale Upper SH |
| 8137.00 | Avalon Shale Lower SH |
| 8372.00 | 1st Bone Spring Lime |
| 8713.00 | 1st Bone Spring Sand |
| 9074.00 | 2nd Bone Spring Lime |
| 9174.00 | 2nd Bone Spring Sand |
| 9468.00 | Target Top |
| 9518.00 | Landing Point |




PROJECT DETAILS: EDDY COUNTY, NM (NAD-27 / NME)

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 (12H/Wellbore #1)
Created By: Matthew May Date: 7:10, June 02 2023

XTO ENERGY

# Planning Report

| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.1.13 Single User Db | **Local Co-ordinate Reference:** | Well 12H |
| **Company:** | XTO Energy | **TVD Reference:** | GL @ 3525.00usft (TBD) |
| **Project:** | EDDY COUNTY, NM (NAD-27 / NME) | **MD Reference:** | GL @ 3525.00usft (TBD) |
| **Site:** | BIG EDDY UNIT DI 5 WEST 27-29 | **North Reference:** | Grid |
| **Well:** | 12H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | PERMIT | | |

**Project** EDDY COUNTY, NM (NAD-27 / NME)

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

**Site** BIG EDDY UNIT DI 5 WEST 27-29

| | | | | | |
|---|---|---|---|---|---|
| **Site Position:** | | **Northing:** | 562,777.80 usft | **Latitude:** | 32.5462755 |
| **From:** | Map | **Easting:** | 647,310.80 usft | **Longitude:** | -103.8552754 |
| **Position Uncertainty:** | 0.00 usft | **Slot Radius:** | 13-3/16 " | **Grid Convergence:** | 0.26 ° |

**Well** 12H

| | | | | | | |
|---|---|---|---|---|---|---|
| **Well Position** | **+N/-S** | -200.00 usft | **Northing:** | 562,577.80 usft | **Latitude:** | 32.5457254 |
| | **+E/-W** | 31.10 usft | **Easting:** | 647,341.90 usft | **Longitude:** | -103.8551774 |
| **Position Uncertainty** | | 0.00 usft | **Wellhead Elevation:** | 0.00 usft | **Ground Level:** | 3,525.00 usft |

**Wellbore** Wellbore #1

| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|---|---|---|---|---|---|
| | IGRF2020 | 06/02/23 | 6.47 | 60.09 | 47,450 |

**Design** PERMIT

**Audit Notes:**

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

| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) |
|---|---|---|---|---|
| | 0.00 | 0.00 | 0.00 | 269.77 |

**Plan Sections**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2,000.00 | 0.00 | 0.00 | 2,000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 3,129.56 | 22.59 | 183.30 | 3,100.52 | -219.45 | -12.67 | 2.00 | 2.00 | 0.00 | 183.30 | |
| 9,520.82 | 22.59 | 183.30 | 9,001.37 | -2,670.59 | -154.15 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 10,407.27 | 90.00 | 269.77 | 9,518.00 | -2,887.40 | -726.10 | 10.00 | 7.60 | 9.75 | 86.74 | 12H FTP |
| 23,215.07 | 90.00 | 269.77 | 9,518.00 | -2,937.90 | -13,533.80 | 0.00 | 0.00 | 0.00 | 0.00 | 12H LTP |
| 23,265.07 | 90.00 | 269.77 | 9,518.00 | -2,938.10 | -13,583.80 | 0.00 | 0.00 | 0.00 | 0.00 | 12H BHL |

XTO ENERGY

# Planning Report

| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.1.13 Single User Db | **Local Co-ordinate Reference:** | Well 12H |
| **Company:** | XTO Energy | **TVD Reference:** | GL @ 3525.00usft (TBD) |
| **Project:** | EDDY COUNTY, NM (NAD-27 / NME) | **MD Reference:** | GL @ 3525.00usft (TBD) |
| **Site:** | BIG EDDY UNIT DI 5 WEST 27-29 | **North Reference:** | Grid |
| **Well:** | 12H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | PERMIT | | |

**Planned Survey**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **12H SHL** | | | | | | | | | |
| 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 |
| 643.00 | 0.00 | 0.00 | 643.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Rustler** | | | | | | | | | |
| 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 |
| 919.00 | 0.00 | 0.00 | 919.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Salado** | | | | | | | | | |
| 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 |
| 1,300.00 | 0.00 | 0.00 | 1,300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,400.00 | 0.00 | 0.00 | 1,400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,500.00 | 0.00 | 0.00 | 1,500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,600.00 | 0.00 | 0.00 | 1,600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,700.00 | 0.00 | 0.00 | 1,700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,800.00 | 0.00 | 0.00 | 1,800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,900.00 | 0.00 | 0.00 | 1,900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,000.00 | 0.00 | 0.00 | 2,000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,100.00 | 2.00 | 183.30 | 2,099.98 | -1.74 | -0.10 | 0.11 | 2.00 | 2.00 | 0.00 |
| 2,171.10 | 3.42 | 183.30 | 2,171.00 | -5.10 | -0.29 | 0.31 | 2.00 | 2.00 | 0.00 |
| **Base Salt** | | | | | | | | | |
| 2,200.00 | 4.00 | 183.30 | 2,199.84 | -6.97 | -0.40 | 0.43 | 2.00 | 2.00 | 0.00 |
| 2,300.00 | 6.00 | 183.30 | 2,299.45 | -15.67 | -0.90 | 0.97 | 2.00 | 2.00 | 0.00 |
| 2,400.00 | 8.00 | 183.30 | 2,398.70 | -27.83 | -1.61 | 1.72 | 2.00 | 2.00 | 0.00 |
| 2,500.00 | 10.00 | 183.30 | 2,497.47 | -43.45 | -2.51 | 2.68 | 2.00 | 2.00 | 0.00 |
| 2,600.00 | 12.00 | 183.30 | 2,595.62 | -62.50 | -3.61 | 3.86 | 2.00 | 2.00 | 0.00 |
| 2,700.00 | 14.00 | 183.30 | 2,693.06 | -84.96 | -4.90 | 5.24 | 2.00 | 2.00 | 0.00 |
| 2,800.00 | 16.00 | 183.30 | 2,789.64 | -110.79 | -6.40 | 6.84 | 2.00 | 2.00 | 0.00 |
| 2,843.12 | 16.86 | 183.30 | 2,831.00 | -122.97 | -7.10 | 7.59 | 2.00 | 2.00 | 0.00 |
| **Capitan** | | | | | | | | | |
| 2,900.00 | 18.00 | 183.30 | 2,885.27 | -139.98 | -8.08 | 8.64 | 2.00 | 2.00 | 0.00 |
| 3,000.00 | 20.00 | 183.30 | 2,979.82 | -172.48 | -9.96 | 10.65 | 2.00 | 2.00 | 0.00 |
| 3,100.00 | 22.00 | 183.30 | 3,073.17 | -208.26 | -12.02 | 12.86 | 2.00 | 2.00 | 0.00 |
| 3,129.56 | 22.59 | 183.30 | 3,100.52 | -219.45 | -12.67 | 13.55 | 2.00 | 2.00 | 0.00 |
| 3,200.00 | 22.59 | 183.30 | 3,165.55 | -246.47 | -14.23 | 15.22 | 0.00 | 0.00 | 0.00 |
| 3,300.00 | 22.59 | 183.30 | 3,257.88 | -284.82 | -16.44 | 17.58 | 0.00 | 0.00 | 0.00 |
| 3,400.00 | 22.59 | 183.30 | 3,350.21 | -323.17 | -18.65 | 19.95 | 0.00 | 0.00 | 0.00 |
| 3,500.00 | 22.59 | 183.30 | 3,442.53 | -361.52 | -20.87 | 22.32 | 0.00 | 0.00 | 0.00 |
| 3,600.00 | 22.59 | 183.30 | 3,534.86 | -399.87 | -23.08 | 24.69 | 0.00 | 0.00 | 0.00 |
| 3,700.00 | 22.59 | 183.30 | 3,627.19 | -438.22 | -25.30 | 27.05 | 0.00 | 0.00 | 0.00 |
| 3,800.00 | 22.59 | 183.30 | 3,719.52 | -476.58 | -27.51 | 29.42 | 0.00 | 0.00 | 0.00 |
| 3,900.00 | 22.59 | 183.30 | 3,811.84 | -514.93 | -29.72 | 31.79 | 0.00 | 0.00 | 0.00 |
| 4,000.00 | 22.59 | 183.30 | 3,904.17 | -553.28 | -31.94 | 34.16 | 0.00 | 0.00 | 0.00 |
| 4,001.98 | 22.59 | 183.30 | 3,906.00 | -554.04 | -31.98 | 34.20 | 0.00 | 0.00 | 0.00 |
| **Delaware** | | | | | | | | | |

XTO ENERGY

# Planning Report

| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.1.13 Single User Db | **Local Co-ordinate Reference:** | Well 12H |
| **Company:** | XTO Energy | **TVD Reference:** | GL @ 3525.00usft (TBD) |
| **Project:** | EDDY COUNTY, NM (NAD-27 / NME) | **MD Reference:** | GL @ 3525.00usft (TBD) |
| **Site:** | BIG EDDY UNIT DI 5 WEST 27-29 | **North Reference:** | Grid |
| **Well:** | 12H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | PERMIT | | |

**Planned Survey**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| 4,100.00 | 22.59 | 183.30 | 3,996.50 | -591.63 | -34.15 | 36.52 | 0.00 | 0.00 | 0.00 |
| 4,200.00 | 22.59 | 183.30 | 4,088.82 | -629.98 | -36.36 | 38.89 | 0.00 | 0.00 | 0.00 |
| 4,300.00 | 22.59 | 183.30 | 4,181.15 | -668.33 | -38.58 | 41.26 | 0.00 | 0.00 | 0.00 |
| 4,400.00 | 22.59 | 183.30 | 4,273.48 | -706.68 | -40.79 | 43.63 | 0.00 | 0.00 | 0.00 |
| 4,500.00 | 22.59 | 183.30 | 4,365.80 | -745.04 | -43.01 | 46.00 | 0.00 | 0.00 | 0.00 |
| 4,600.00 | 22.59 | 183.30 | 4,458.13 | -783.39 | -45.22 | 48.36 | 0.00 | 0.00 | 0.00 |
| 4,700.00 | 22.59 | 183.30 | 4,550.46 | -821.74 | -47.43 | 50.73 | 0.00 | 0.00 | 0.00 |
| 4,800.00 | 22.59 | 183.30 | 4,642.79 | -860.09 | -49.65 | 53.10 | 0.00 | 0.00 | 0.00 |
| 4,900.00 | 22.59 | 183.30 | 4,735.11 | -898.44 | -51.86 | 55.47 | 0.00 | 0.00 | 0.00 |
| 5,000.00 | 22.59 | 183.30 | 4,827.44 | -936.79 | -54.07 | 57.83 | 0.00 | 0.00 | 0.00 |
| 5,100.00 | 22.59 | 183.30 | 4,919.77 | -975.14 | -56.29 | 60.20 | 0.00 | 0.00 | 0.00 |
| 5,200.00 | 22.59 | 183.30 | 5,012.09 | -1,013.50 | -58.50 | 62.57 | 0.00 | 0.00 | 0.00 |
| 5,300.00 | 22.59 | 183.30 | 5,104.42 | -1,051.85 | -60.72 | 64.94 | 0.00 | 0.00 | 0.00 |
| 5,400.00 | 22.59 | 183.30 | 5,196.75 | -1,090.20 | -62.93 | 67.30 | 0.00 | 0.00 | 0.00 |
| 5,500.00 | 22.59 | 183.30 | 5,289.07 | -1,128.55 | -65.14 | 69.67 | 0.00 | 0.00 | 0.00 |
| 5,600.00 | 22.59 | 183.30 | 5,381.40 | -1,166.90 | -67.36 | 72.04 | 0.00 | 0.00 | 0.00 |
| 5,700.00 | 22.59 | 183.30 | 5,473.73 | -1,205.25 | -69.57 | 74.41 | 0.00 | 0.00 | 0.00 |
| 5,800.00 | 22.59 | 183.30 | 5,566.05 | -1,243.60 | -71.78 | 76.78 | 0.00 | 0.00 | 0.00 |
| 5,900.00 | 22.59 | 183.30 | 5,658.38 | -1,281.96 | -74.00 | 79.14 | 0.00 | 0.00 | 0.00 |
| 6,000.00 | 22.59 | 183.30 | 5,750.71 | -1,320.31 | -76.21 | 81.51 | 0.00 | 0.00 | 0.00 |
| 6,100.00 | 22.59 | 183.30 | 5,843.04 | -1,358.66 | -78.43 | 83.88 | 0.00 | 0.00 | 0.00 |
| 6,121.62 | 22.59 | 183.30 | 5,863.00 | -1,366.95 | -78.90 | 84.39 | 0.00 | 0.00 | 0.00 |
| **Brushy Canyon** | | | | | | | | | |
| 6,200.00 | 22.59 | 183.30 | 5,935.36 | -1,397.01 | -80.64 | 86.25 | 0.00 | 0.00 | 0.00 |
| 6,300.00 | 22.59 | 183.30 | 6,027.69 | -1,435.36 | -82.85 | 88.61 | 0.00 | 0.00 | 0.00 |
| 6,400.00 | 22.59 | 183.30 | 6,120.02 | -1,473.71 | -85.07 | 90.98 | 0.00 | 0.00 | 0.00 |
| 6,500.00 | 22.59 | 183.30 | 6,212.34 | -1,512.07 | -87.28 | 93.35 | 0.00 | 0.00 | 0.00 |
| 6,600.00 | 22.59 | 183.30 | 6,304.67 | -1,550.42 | -89.49 | 95.72 | 0.00 | 0.00 | 0.00 |
| 6,700.00 | 22.59 | 183.30 | 6,397.00 | -1,588.77 | -91.71 | 98.08 | 0.00 | 0.00 | 0.00 |
| 6,800.00 | 22.59 | 183.30 | 6,489.32 | -1,627.12 | -93.92 | 100.45 | 0.00 | 0.00 | 0.00 |
| 6,900.00 | 22.59 | 183.30 | 6,581.65 | -1,665.47 | -96.13 | 102.82 | 0.00 | 0.00 | 0.00 |
| 7,000.00 | 22.59 | 183.30 | 6,673.98 | -1,703.82 | -98.35 | 105.19 | 0.00 | 0.00 | 0.00 |
| 7,100.00 | 22.59 | 183.30 | 6,766.30 | -1,742.17 | -100.56 | 107.56 | 0.00 | 0.00 | 0.00 |
| 7,200.00 | 22.59 | 183.30 | 6,858.63 | -1,780.53 | -102.78 | 109.92 | 0.00 | 0.00 | 0.00 |
| 7,300.00 | 22.59 | 183.30 | 6,950.96 | -1,818.88 | -104.99 | 112.29 | 0.00 | 0.00 | 0.00 |
| 7,400.00 | 22.59 | 183.30 | 7,043.29 | -1,857.23 | -107.20 | 114.66 | 0.00 | 0.00 | 0.00 |
| 7,500.00 | 22.59 | 183.30 | 7,135.61 | -1,895.58 | -109.42 | 117.03 | 0.00 | 0.00 | 0.00 |
| 7,600.00 | 22.59 | 183.30 | 7,227.94 | -1,933.93 | -111.63 | 119.39 | 0.00 | 0.00 | 0.00 |
| 7,626.06 | 22.59 | 183.30 | 7,252.00 | -1,943.93 | -112.21 | 120.01 | 0.00 | 0.00 | 0.00 |
| **Basal Brushy Canyon** | | | | | | | | | |
| 7,700.00 | 22.59 | 183.30 | 7,320.27 | -1,972.28 | -113.84 | 121.76 | 0.00 | 0.00 | 0.00 |
| 7,800.00 | 22.59 | 183.30 | 7,412.59 | -2,010.63 | -116.06 | 124.13 | 0.00 | 0.00 | 0.00 |
| 7,828.60 | 22.59 | 183.30 | 7,439.00 | -2,021.60 | -116.69 | 124.81 | 0.00 | 0.00 | 0.00 |
| **Bone Spring Lime** | | | | | | | | | |
| 7,900.00 | 22.59 | 183.30 | 7,504.92 | -2,048.99 | -118.27 | 126.50 | 0.00 | 0.00 | 0.00 |
| 8,000.00 | 22.59 | 183.30 | 7,597.25 | -2,087.34 | -120.49 | 128.86 | 0.00 | 0.00 | 0.00 |
| 8,039.81 | 22.59 | 183.30 | 7,634.00 | -2,102.60 | -121.37 | 129.81 | 0.00 | 0.00 | 0.00 |
| **Avalon Shale Upper SH** | | | | | | | | | |
| 8,100.00 | 22.59 | 183.30 | 7,689.57 | -2,125.69 | -122.70 | 131.23 | 0.00 | 0.00 | 0.00 |
| 8,200.00 | 22.59 | 183.30 | 7,781.90 | -2,164.04 | -124.91 | 133.60 | 0.00 | 0.00 | 0.00 |
| 8,300.00 | 22.59 | 183.30 | 7,874.23 | -2,202.39 | -127.13 | 135.97 | 0.00 | 0.00 | 0.00 |
| 8,400.00 | 22.59 | 183.30 | 7,966.56 | -2,240.74 | -129.34 | 138.33 | 0.00 | 0.00 | 0.00 |
| 8,500.00 | 22.59 | 183.30 | 8,058.88 | -2,279.09 | -131.55 | 140.70 | 0.00 | 0.00 | 0.00 |

XTO ENERGY

# Planning Report

| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.1.13 Single User Db | **Local Co-ordinate Reference:** | Well 12H |
| **Company:** | XTO Energy | **TVD Reference:** | GL @ 3525.00usft (TBD) |
| **Project:** | EDDY COUNTY, NM (NAD-27 / NME) | **MD Reference:** | GL @ 3525.00usft (TBD) |
| **Site:** | BIG EDDY UNIT DI 5 WEST 27-29 | **North Reference:** | Grid |
| **Well:** | 12H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | PERMIT | | |

**Planned Survey**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| 8,584.61 | 22.59 | 183.30 | 8,137.00 | -2,311.54 | -133.43 | 142.71 | 0.00 | 0.00 | 0.00 |
| **Avalon Shale Lower SH** | | | | | | | | | |
| 8,600.00 | 22.59 | 183.30 | 8,151.21 | -2,317.45 | -133.77 | 143.07 | 0.00 | 0.00 | 0.00 |
| 8,700.00 | 22.59 | 183.30 | 8,243.54 | -2,355.80 | -135.98 | 145.44 | 0.00 | 0.00 | 0.00 |
| 8,800.00 | 22.59 | 183.30 | 8,335.86 | -2,394.15 | -138.20 | 147.81 | 0.00 | 0.00 | 0.00 |
| 8,839.14 | 22.59 | 183.30 | 8,372.00 | -2,409.16 | -139.06 | 148.73 | 0.00 | 0.00 | 0.00 |
| **1st Bone Spring Lime** | | | | | | | | | |
| 8,900.00 | 22.59 | 183.30 | 8,428.19 | -2,432.50 | -140.41 | 150.17 | 0.00 | 0.00 | 0.00 |
| 9,000.00 | 22.59 | 183.30 | 8,520.52 | -2,470.85 | -142.62 | 152.54 | 0.00 | 0.00 | 0.00 |
| 9,100.00 | 22.59 | 183.30 | 8,612.84 | -2,509.20 | -144.84 | 154.91 | 0.00 | 0.00 | 0.00 |
| 9,200.00 | 22.59 | 183.30 | 8,705.17 | -2,547.55 | -147.05 | 157.28 | 0.00 | 0.00 | 0.00 |
| 9,208.48 | 22.59 | 183.30 | 8,713.00 | -2,550.81 | -147.24 | 157.48 | 0.00 | 0.00 | 0.00 |
| **1st Bone Spring Sand** | | | | | | | | | |
| 9,300.00 | 22.59 | 183.30 | 8,797.50 | -2,585.91 | -149.26 | 159.64 | 0.00 | 0.00 | 0.00 |
| 9,400.00 | 22.59 | 183.30 | 8,889.82 | -2,624.26 | -151.48 | 162.01 | 0.00 | 0.00 | 0.00 |
| 9,500.00 | 22.59 | 183.30 | 8,982.15 | -2,662.61 | -153.69 | 164.38 | 0.00 | 0.00 | 0.00 |
| 9,520.82 | 22.59 | 183.30 | 9,001.37 | -2,670.59 | -154.15 | 164.87 | 0.00 | 0.00 | 0.00 |
| 9,550.00 | 22.93 | 190.80 | 9,028.29 | -2,681.78 | -155.54 | 166.31 | 10.00 | 1.17 | 25.68 |
| 9,599.86 | 24.29 | 202.80 | 9,074.00 | -2,700.78 | -161.34 | 172.18 | 10.00 | 2.72 | 24.08 |
| **2nd Bone Spring Lime** | | | | | | | | | |
| 9,600.00 | 24.29 | 202.83 | 9,074.13 | -2,700.84 | -161.36 | 172.20 | 10.00 | 3.62 | 22.67 |
| 9,650.00 | 26.49 | 213.33 | 9,119.32 | -2,719.64 | -171.49 | 182.40 | 10.00 | 4.39 | 20.99 |
| 9,700.00 | 29.34 | 222.13 | 9,163.52 | -2,738.05 | -185.84 | 196.83 | 10.00 | 5.69 | 17.60 |
| 9,712.07 | 30.10 | 224.01 | 9,174.00 | -2,742.43 | -189.93 | 200.93 | 10.00 | 6.33 | 15.61 |
| **2nd Bone Spring Sand** | | | | | | | | | |
| 9,750.00 | 32.66 | 229.39 | 9,206.38 | -2,755.93 | -204.31 | 215.37 | 10.00 | 6.75 | 14.18 |
| 9,800.00 | 36.33 | 235.39 | 9,247.60 | -2,773.13 | -226.76 | 237.89 | 10.00 | 7.34 | 12.00 |
| 9,850.00 | 40.26 | 240.40 | 9,286.84 | -2,789.54 | -253.01 | 264.21 | 10.00 | 7.85 | 10.02 |
| 9,900.00 | 44.36 | 244.65 | 9,323.82 | -2,805.01 | -282.88 | 294.13 | 10.00 | 8.21 | 8.49 |
| 9,950.00 | 48.60 | 248.30 | 9,358.24 | -2,819.44 | -316.12 | 327.43 | 10.00 | 8.48 | 7.31 |
| 10,000.00 | 52.95 | 251.50 | 9,389.86 | -2,832.71 | -352.49 | 363.85 | 10.00 | 8.69 | 6.40 |
| 10,050.00 | 57.37 | 254.35 | 9,418.42 | -2,844.73 | -391.71 | 403.12 | 10.00 | 8.84 | 5.70 |
| 10,100.00 | 61.84 | 256.93 | 9,443.72 | -2,855.40 | -433.48 | 444.93 | 10.00 | 8.96 | 5.16 |
| 10,150.00 | 66.37 | 259.30 | 9,465.55 | -2,864.64 | -477.48 | 488.98 | 10.00 | 9.04 | 4.74 |
| 10,156.18 | 66.93 | 259.59 | 9,468.00 | -2,865.68 | -483.06 | 494.56 | 10.00 | 9.09 | 4.55 |
| **Target Top** | | | | | | | | | |
| 10,200.00 | 70.92 | 261.52 | 9,483.75 | -2,872.38 | -523.38 | 534.91 | 10.00 | 9.12 | 4.41 |
| 10,250.00 | 75.50 | 263.61 | 9,498.19 | -2,878.56 | -570.84 | 582.39 | 10.00 | 9.16 | 4.19 |
| 10,300.00 | 80.10 | 265.62 | 9,508.75 | -2,883.14 | -619.48 | 631.04 | 10.00 | 9.20 | 4.02 |
| 10,350.00 | 84.71 | 267.57 | 9,515.36 | -2,886.08 | -668.93 | 680.51 | 10.00 | 9.22 | 3.91 |
| 10,400.00 | 89.33 | 269.50 | 9,517.96 | -2,887.35 | -718.83 | 730.42 | 10.00 | 9.23 | 3.85 |
| 10,407.27 | 90.00 | 269.77 | 9,518.00 | -2,887.40 | -726.10 | 737.68 | 10.00 | 9.24 | 3.84 |
| **Landing Point - 12H FTP** | | | | | | | | | |
| 10,500.00 | 90.00 | 269.77 | 9,518.00 | -2,887.77 | -818.83 | 830.42 | 0.00 | 0.00 | 0.00 |
| 10,600.00 | 90.00 | 269.77 | 9,518.00 | -2,888.16 | -918.83 | 930.42 | 0.00 | 0.00 | 0.00 |
| 10,700.00 | 90.00 | 269.77 | 9,518.00 | -2,888.55 | -1,018.83 | 1,030.42 | 0.00 | 0.00 | 0.00 |
| 10,800.00 | 90.00 | 269.77 | 9,518.00 | -2,888.95 | -1,118.83 | 1,130.42 | 0.00 | 0.00 | 0.00 |
| 10,900.00 | 90.00 | 269.77 | 9,518.00 | -2,889.34 | -1,218.83 | 1,230.42 | 0.00 | 0.00 | 0.00 |
| 11,000.00 | 90.00 | 269.77 | 9,518.00 | -2,889.74 | -1,318.83 | 1,330.42 | 0.00 | 0.00 | 0.00 |
| 11,100.00 | 90.00 | 269.77 | 9,518.00 | -2,890.13 | -1,418.83 | 1,430.42 | 0.00 | 0.00 | 0.00 |
| 11,200.00 | 90.00 | 269.77 | 9,518.00 | -2,890.53 | -1,518.83 | 1,530.42 | 0.00 | 0.00 | 0.00 |
| 11,300.00 | 90.00 | 269.77 | 9,518.00 | -2,890.92 | -1,618.83 | 1,630.42 | 0.00 | 0.00 | 0.00 |
| 11,400.00 | 90.00 | 269.77 | 9,518.00 | -2,891.31 | -1,718.83 | 1,730.42 | 0.00 | 0.00 | 0.00 |

XTO ENERGY

# Planning Report

| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.1.13 Single User Db | **Local Co-ordinate Reference:** | Well 12H |
| **Company:** | XTO Energy | **TVD Reference:** | GL @ 3525.00usft (TBD) |
| **Project:** | EDDY COUNTY, NM (NAD-27 / NME) | **MD Reference:** | GL @ 3525.00usft (TBD) |
| **Site:** | BIG EDDY UNIT DI 5 WEST 27-29 | **North Reference:** | Grid |
| **Well:** | 12H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | PERMIT | | |

**Planned Survey**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| 11,500.00 | 90.00 | 269.77 | 9,518.00 | -2,891.71 | -1,818.83 | 1,830.42 | 0.00 | 0.00 | 0.00 |
| 11,600.00 | 90.00 | 269.77 | 9,518.00 | -2,892.10 | -1,918.82 | 1,930.42 | 0.00 | 0.00 | 0.00 |
| 11,700.00 | 90.00 | 269.77 | 9,518.00 | -2,892.50 | -2,018.82 | 2,030.42 | 0.00 | 0.00 | 0.00 |
| 11,800.00 | 90.00 | 269.77 | 9,518.00 | -2,892.89 | -2,118.82 | 2,130.42 | 0.00 | 0.00 | 0.00 |
| 11,900.00 | 90.00 | 269.77 | 9,518.00 | -2,893.29 | -2,218.82 | 2,230.42 | 0.00 | 0.00 | 0.00 |
| 12,000.00 | 90.00 | 269.77 | 9,518.00 | -2,893.68 | -2,318.82 | 2,330.42 | 0.00 | 0.00 | 0.00 |
| 12,100.00 | 90.00 | 269.77 | 9,518.00 | -2,894.07 | -2,418.82 | 2,430.42 | 0.00 | 0.00 | 0.00 |
| 12,200.00 | 90.00 | 269.77 | 9,518.00 | -2,894.47 | -2,518.82 | 2,530.42 | 0.00 | 0.00 | 0.00 |
| 12,300.00 | 90.00 | 269.77 | 9,518.00 | -2,894.86 | -2,618.82 | 2,630.42 | 0.00 | 0.00 | 0.00 |
| 12,400.00 | 90.00 | 269.77 | 9,518.00 | -2,895.26 | -2,718.82 | 2,730.42 | 0.00 | 0.00 | 0.00 |
| 12,500.00 | 90.00 | 269.77 | 9,518.00 | -2,895.65 | -2,818.82 | 2,830.42 | 0.00 | 0.00 | 0.00 |
| 12,600.00 | 90.00 | 269.77 | 9,518.00 | -2,896.05 | -2,918.82 | 2,930.42 | 0.00 | 0.00 | 0.00 |
| 12,700.00 | 90.00 | 269.77 | 9,518.00 | -2,896.44 | -3,018.82 | 3,030.42 | 0.00 | 0.00 | 0.00 |
| 12,800.00 | 90.00 | 269.77 | 9,518.00 | -2,896.83 | -3,118.82 | 3,130.42 | 0.00 | 0.00 | 0.00 |
| 12,900.00 | 90.00 | 269.77 | 9,518.00 | -2,897.23 | -3,218.81 | 3,230.42 | 0.00 | 0.00 | 0.00 |
| 13,000.00 | 90.00 | 269.77 | 9,518.00 | -2,897.62 | -3,318.81 | 3,330.42 | 0.00 | 0.00 | 0.00 |
| 13,100.00 | 90.00 | 269.77 | 9,518.00 | -2,898.02 | -3,418.81 | 3,430.42 | 0.00 | 0.00 | 0.00 |
| 13,200.00 | 90.00 | 269.77 | 9,518.00 | -2,898.41 | -3,518.81 | 3,530.42 | 0.00 | 0.00 | 0.00 |
| 13,300.00 | 90.00 | 269.77 | 9,518.00 | -2,898.81 | -3,618.81 | 3,630.42 | 0.00 | 0.00 | 0.00 |
| 13,400.00 | 90.00 | 269.77 | 9,518.00 | -2,899.20 | -3,718.81 | 3,730.42 | 0.00 | 0.00 | 0.00 |
| 13,500.00 | 90.00 | 269.77 | 9,518.00 | -2,899.60 | -3,818.81 | 3,830.42 | 0.00 | 0.00 | 0.00 |
| 13,600.00 | 90.00 | 269.77 | 9,518.00 | -2,899.99 | -3,918.81 | 3,930.42 | 0.00 | 0.00 | 0.00 |
| 13,700.00 | 90.00 | 269.77 | 9,518.00 | -2,900.38 | -4,018.81 | 4,030.42 | 0.00 | 0.00 | 0.00 |
| 13,800.00 | 90.00 | 269.77 | 9,518.00 | -2,900.78 | -4,118.81 | 4,130.42 | 0.00 | 0.00 | 0.00 |
| 13,900.00 | 90.00 | 269.77 | 9,518.00 | -2,901.17 | -4,218.81 | 4,230.42 | 0.00 | 0.00 | 0.00 |
| 14,000.00 | 90.00 | 269.77 | 9,518.00 | -2,901.57 | -4,318.81 | 4,330.42 | 0.00 | 0.00 | 0.00 |
| 14,100.00 | 90.00 | 269.77 | 9,518.00 | -2,901.96 | -4,418.81 | 4,430.42 | 0.00 | 0.00 | 0.00 |
| 14,200.00 | 90.00 | 269.77 | 9,518.00 | -2,902.36 | -4,518.80 | 4,530.42 | 0.00 | 0.00 | 0.00 |
| 14,300.00 | 90.00 | 269.77 | 9,518.00 | -2,902.75 | -4,618.80 | 4,630.42 | 0.00 | 0.00 | 0.00 |
| 14,400.00 | 90.00 | 269.77 | 9,518.00 | -2,903.14 | -4,718.80 | 4,730.42 | 0.00 | 0.00 | 0.00 |
| 14,500.00 | 90.00 | 269.77 | 9,518.00 | -2,903.54 | -4,818.80 | 4,830.42 | 0.00 | 0.00 | 0.00 |
| 14,600.00 | 90.00 | 269.77 | 9,518.00 | -2,903.93 | -4,918.80 | 4,930.42 | 0.00 | 0.00 | 0.00 |
| 14,700.00 | 90.00 | 269.77 | 9,518.00 | -2,904.33 | -5,018.80 | 5,030.42 | 0.00 | 0.00 | 0.00 |
| 14,800.00 | 90.00 | 269.77 | 9,518.00 | -2,904.72 | -5,118.80 | 5,130.42 | 0.00 | 0.00 | 0.00 |
| 14,900.00 | 90.00 | 269.77 | 9,518.00 | -2,905.12 | -5,218.80 | 5,230.42 | 0.00 | 0.00 | 0.00 |
| 15,000.00 | 90.00 | 269.77 | 9,518.00 | -2,905.51 | -5,318.80 | 5,330.42 | 0.00 | 0.00 | 0.00 |
| 15,100.00 | 90.00 | 269.77 | 9,518.00 | -2,905.90 | -5,418.80 | 5,430.42 | 0.00 | 0.00 | 0.00 |
| 15,200.00 | 90.00 | 269.77 | 9,518.00 | -2,906.30 | -5,518.80 | 5,530.42 | 0.00 | 0.00 | 0.00 |
| 15,300.00 | 90.00 | 269.77 | 9,518.00 | -2,906.69 | -5,618.80 | 5,630.42 | 0.00 | 0.00 | 0.00 |
| 15,400.00 | 90.00 | 269.77 | 9,518.00 | -2,907.09 | -5,718.80 | 5,730.42 | 0.00 | 0.00 | 0.00 |
| 15,500.00 | 90.00 | 269.77 | 9,518.00 | -2,907.48 | -5,818.79 | 5,830.42 | 0.00 | 0.00 | 0.00 |
| 15,600.00 | 90.00 | 269.77 | 9,518.00 | -2,907.88 | -5,918.79 | 5,930.42 | 0.00 | 0.00 | 0.00 |
| 15,700.00 | 90.00 | 269.77 | 9,518.00 | -2,908.27 | -6,018.79 | 6,030.42 | 0.00 | 0.00 | 0.00 |
| 15,800.00 | 90.00 | 269.77 | 9,518.00 | -2,908.66 | -6,118.79 | 6,130.42 | 0.00 | 0.00 | 0.00 |
| 15,900.00 | 90.00 | 269.77 | 9,518.00 | -2,909.06 | -6,218.79 | 6,230.42 | 0.00 | 0.00 | 0.00 |
| 16,000.00 | 90.00 | 269.77 | 9,518.00 | -2,909.45 | -6,318.79 | 6,330.42 | 0.00 | 0.00 | 0.00 |
| 16,100.00 | 90.00 | 269.77 | 9,518.00 | -2,909.85 | -6,418.79 | 6,430.42 | 0.00 | 0.00 | 0.00 |
| 16,200.00 | 90.00 | 269.77 | 9,518.00 | -2,910.24 | -6,518.79 | 6,530.42 | 0.00 | 0.00 | 0.00 |
| 16,300.00 | 90.00 | 269.77 | 9,518.00 | -2,910.64 | -6,618.79 | 6,630.42 | 0.00 | 0.00 | 0.00 |
| 16,400.00 | 90.00 | 269.77 | 9,518.00 | -2,911.03 | -6,718.79 | 6,730.42 | 0.00 | 0.00 | 0.00 |
| 16,500.00 | 90.00 | 269.77 | 9,518.00 | -2,911.42 | -6,818.79 | 6,830.42 | 0.00 | 0.00 | 0.00 |
| 16,600.00 | 90.00 | 269.77 | 9,518.00 | -2,911.82 | -6,918.79 | 6,930.42 | 0.00 | 0.00 | 0.00 |
| 16,700.00 | 90.00 | 269.77 | 9,518.00 | -2,912.21 | -7,018.79 | 7,030.42 | 0.00 | 0.00 | 0.00 |
| 16,800.00 | 90.00 | 269.77 | 9,518.00 | -2,912.61 | -7,118.78 | 7,130.42 | 0.00 | 0.00 | 0.00 |

XTO ENERGY

# Planning Report

| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.1.13 Single User Db | **Local Co-ordinate Reference:** | Well 12H |
| **Company:** | XTO Energy | **TVD Reference:** | GL @ 3525.00usft (TBD) |
| **Project:** | EDDY COUNTY, NM (NAD-27 / NME) | **MD Reference:** | GL @ 3525.00usft (TBD) |
| **Site:** | BIG EDDY UNIT DI 5 WEST 27-29 | **North Reference:** | Grid |
| **Well:** | 12H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | PERMIT | | |

**Planned Survey**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| 16,900.00 | 90.00 | 269.77 | 9,518.00 | -2,913.00 | -7,218.78 | 7,230.42 | 0.00 | 0.00 | 0.00 |
| 17,000.00 | 90.00 | 269.77 | 9,518.00 | -2,913.40 | -7,318.78 | 7,330.42 | 0.00 | 0.00 | 0.00 |
| 17,100.00 | 90.00 | 269.77 | 9,518.00 | -2,913.79 | -7,418.78 | 7,430.42 | 0.00 | 0.00 | 0.00 |
| 17,200.00 | 90.00 | 269.77 | 9,518.00 | -2,914.18 | -7,518.78 | 7,530.42 | 0.00 | 0.00 | 0.00 |
| 17,300.00 | 90.00 | 269.77 | 9,518.00 | -2,914.58 | -7,618.78 | 7,630.42 | 0.00 | 0.00 | 0.00 |
| 17,400.00 | 90.00 | 269.77 | 9,518.00 | -2,914.97 | -7,718.78 | 7,730.42 | 0.00 | 0.00 | 0.00 |
| 17,500.00 | 90.00 | 269.77 | 9,518.00 | -2,915.37 | -7,818.78 | 7,830.42 | 0.00 | 0.00 | 0.00 |
| 17,600.00 | 90.00 | 269.77 | 9,518.00 | -2,915.76 | -7,918.78 | 7,930.42 | 0.00 | 0.00 | 0.00 |
| 17,700.00 | 90.00 | 269.77 | 9,518.00 | -2,916.16 | -8,018.78 | 8,030.42 | 0.00 | 0.00 | 0.00 |
| 17,800.00 | 90.00 | 269.77 | 9,518.00 | -2,916.55 | -8,118.78 | 8,130.42 | 0.00 | 0.00 | 0.00 |
| 17,900.00 | 90.00 | 269.77 | 9,518.00 | -2,916.94 | -8,218.78 | 8,230.42 | 0.00 | 0.00 | 0.00 |
| 18,000.00 | 90.00 | 269.77 | 9,518.00 | -2,917.34 | -8,318.78 | 8,330.42 | 0.00 | 0.00 | 0.00 |
| 18,100.00 | 90.00 | 269.77 | 9,518.00 | -2,917.73 | -8,418.77 | 8,430.42 | 0.00 | 0.00 | 0.00 |
| 18,200.00 | 90.00 | 269.77 | 9,518.00 | -2,918.13 | -8,518.77 | 8,530.42 | 0.00 | 0.00 | 0.00 |
| 18,300.00 | 90.00 | 269.77 | 9,518.00 | -2,918.52 | -8,618.77 | 8,630.42 | 0.00 | 0.00 | 0.00 |
| 18,400.00 | 90.00 | 269.77 | 9,518.00 | -2,918.92 | -8,718.77 | 8,730.42 | 0.00 | 0.00 | 0.00 |
| 18,500.00 | 90.00 | 269.77 | 9,518.00 | -2,919.31 | -8,818.77 | 8,830.42 | 0.00 | 0.00 | 0.00 |
| 18,600.00 | 90.00 | 269.77 | 9,518.00 | -2,919.71 | -8,918.77 | 8,930.42 | 0.00 | 0.00 | 0.00 |
| 18,700.00 | 90.00 | 269.77 | 9,518.00 | -2,920.10 | -9,018.77 | 9,030.42 | 0.00 | 0.00 | 0.00 |
| 18,800.00 | 90.00 | 269.77 | 9,518.00 | -2,920.49 | -9,118.77 | 9,130.42 | 0.00 | 0.00 | 0.00 |
| 18,900.00 | 90.00 | 269.77 | 9,518.00 | -2,920.89 | -9,218.77 | 9,230.42 | 0.00 | 0.00 | 0.00 |
| 19,000.00 | 90.00 | 269.77 | 9,518.00 | -2,921.28 | -9,318.77 | 9,330.42 | 0.00 | 0.00 | 0.00 |
| 19,100.00 | 90.00 | 269.77 | 9,518.00 | -2,921.68 | -9,418.77 | 9,430.42 | 0.00 | 0.00 | 0.00 |
| 19,200.00 | 90.00 | 269.77 | 9,518.00 | -2,922.07 | -9,518.77 | 9,530.42 | 0.00 | 0.00 | 0.00 |
| 19,300.00 | 90.00 | 269.77 | 9,518.00 | -2,922.47 | -9,618.77 | 9,630.42 | 0.00 | 0.00 | 0.00 |
| 19,400.00 | 90.00 | 269.77 | 9,518.00 | -2,922.86 | -9,718.76 | 9,730.42 | 0.00 | 0.00 | 0.00 |
| 19,500.00 | 90.00 | 269.77 | 9,518.00 | -2,923.25 | -9,818.76 | 9,830.42 | 0.00 | 0.00 | 0.00 |
| 19,600.00 | 90.00 | 269.77 | 9,518.00 | -2,923.65 | -9,918.76 | 9,930.42 | 0.00 | 0.00 | 0.00 |
| 19,700.00 | 90.00 | 269.77 | 9,518.00 | -2,924.04 | -10,018.76 | 10,030.42 | 0.00 | 0.00 | 0.00 |
| 19,800.00 | 90.00 | 269.77 | 9,518.00 | -2,924.44 | -10,118.76 | 10,130.42 | 0.00 | 0.00 | 0.00 |
| 19,900.00 | 90.00 | 269.77 | 9,518.00 | -2,924.83 | -10,218.76 | 10,230.42 | 0.00 | 0.00 | 0.00 |
| 20,000.00 | 90.00 | 269.77 | 9,518.00 | -2,925.23 | -10,318.76 | 10,330.42 | 0.00 | 0.00 | 0.00 |
| 20,100.00 | 90.00 | 269.77 | 9,518.00 | -2,925.62 | -10,418.76 | 10,430.42 | 0.00 | 0.00 | 0.00 |
| 20,200.00 | 90.00 | 269.77 | 9,518.00 | -2,926.01 | -10,518.76 | 10,530.42 | 0.00 | 0.00 | 0.00 |
| 20,300.00 | 90.00 | 269.77 | 9,518.00 | -2,926.41 | -10,618.76 | 10,630.42 | 0.00 | 0.00 | 0.00 |
| 20,400.00 | 90.00 | 269.77 | 9,518.00 | -2,926.80 | -10,718.76 | 10,730.42 | 0.00 | 0.00 | 0.00 |
| 20,500.00 | 90.00 | 269.77 | 9,518.00 | -2,927.20 | -10,818.76 | 10,830.42 | 0.00 | 0.00 | 0.00 |
| 20,600.00 | 90.00 | 269.77 | 9,518.00 | -2,927.59 | -10,918.76 | 10,930.42 | 0.00 | 0.00 | 0.00 |
| 20,700.00 | 90.00 | 269.77 | 9,518.00 | -2,927.99 | -11,018.75 | 11,030.42 | 0.00 | 0.00 | 0.00 |
| 20,800.00 | 90.00 | 269.77 | 9,518.00 | -2,928.38 | -11,118.75 | 11,130.42 | 0.00 | 0.00 | 0.00 |
| 20,900.00 | 90.00 | 269.77 | 9,518.00 | -2,928.77 | -11,218.75 | 11,230.42 | 0.00 | 0.00 | 0.00 |
| 21,000.00 | 90.00 | 269.77 | 9,518.00 | -2,929.17 | -11,318.75 | 11,330.42 | 0.00 | 0.00 | 0.00 |
| 21,100.00 | 90.00 | 269.77 | 9,518.00 | -2,929.56 | -11,418.75 | 11,430.42 | 0.00 | 0.00 | 0.00 |
| 21,200.00 | 90.00 | 269.77 | 9,518.00 | -2,929.96 | -11,518.75 | 11,530.42 | 0.00 | 0.00 | 0.00 |
| 21,300.00 | 90.00 | 269.77 | 9,518.00 | -2,930.35 | -11,618.75 | 11,630.42 | 0.00 | 0.00 | 0.00 |
| 21,400.00 | 90.00 | 269.77 | 9,518.00 | -2,930.75 | -11,718.75 | 11,730.42 | 0.00 | 0.00 | 0.00 |
| 21,500.00 | 90.00 | 269.77 | 9,518.00 | -2,931.14 | -11,818.75 | 11,830.42 | 0.00 | 0.00 | 0.00 |
| 21,600.00 | 90.00 | 269.77 | 9,518.00 | -2,931.53 | -11,918.75 | 11,930.42 | 0.00 | 0.00 | 0.00 |
| 21,700.00 | 90.00 | 269.77 | 9,518.00 | -2,931.93 | -12,018.75 | 12,030.42 | 0.00 | 0.00 | 0.00 |
| 21,800.00 | 90.00 | 269.77 | 9,518.00 | -2,932.32 | -12,118.75 | 12,130.42 | 0.00 | 0.00 | 0.00 |
| 21,900.00 | 90.00 | 269.77 | 9,518.00 | -2,932.72 | -12,218.75 | 12,230.42 | 0.00 | 0.00 | 0.00 |
| 22,000.00 | 90.00 | 269.77 | 9,518.00 | -2,933.11 | -12,318.74 | 12,330.42 | 0.00 | 0.00 | 0.00 |
| 22,100.00 | 90.00 | 269.77 | 9,518.00 | -2,933.51 | -12,418.74 | 12,430.42 | 0.00 | 0.00 | 0.00 |
| 22,200.00 | 90.00 | 269.77 | 9,518.00 | -2,933.90 | -12,518.74 | 12,530.42 | 0.00 | 0.00 | 0.00 |

XTO ENERGY

# Planning Report

| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.1.13 Single User Db | **Local Co-ordinate Reference:** | Well 12H |
| **Company:** | XTO Energy | **TVD Reference:** | GL @ 3525.00usft (TBD) |
| **Project:** | EDDY COUNTY, NM (NAD-27 / NME) | **MD Reference:** | GL @ 3525.00usft (TBD) |
| **Site:** | BIG EDDY UNIT DI 5 WEST 27-29 | **North Reference:** | Grid |
| **Well:** | 12H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **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) |
|---|---|---|---|---|---|---|---|---|---|
| 22,300.00 | 90.00 | 269.77 | 9,518.00 | -2,934.29 | -12,618.74 | 12,630.42 | 0.00 | 0.00 | 0.00 |
| 22,400.00 | 90.00 | 269.77 | 9,518.00 | -2,934.69 | -12,718.74 | 12,730.42 | 0.00 | 0.00 | 0.00 |
| 22,500.00 | 90.00 | 269.77 | 9,518.00 | -2,935.08 | -12,818.74 | 12,830.42 | 0.00 | 0.00 | 0.00 |
| 22,600.00 | 90.00 | 269.77 | 9,518.00 | -2,935.48 | -12,918.74 | 12,930.42 | 0.00 | 0.00 | 0.00 |
| 22,700.00 | 90.00 | 269.77 | 9,518.00 | -2,935.87 | -13,018.74 | 13,030.42 | 0.00 | 0.00 | 0.00 |
| 22,800.00 | 90.00 | 269.77 | 9,518.00 | -2,936.27 | -13,118.74 | 13,130.42 | 0.00 | 0.00 | 0.00 |
| 22,900.00 | 90.00 | 269.77 | 9,518.00 | -2,936.66 | -13,218.74 | 13,230.42 | 0.00 | 0.00 | 0.00 |
| 23,000.00 | 90.00 | 269.77 | 9,518.00 | -2,937.05 | -13,318.74 | 13,330.42 | 0.00 | 0.00 | 0.00 |
| 23,100.00 | 90.00 | 269.77 | 9,518.00 | -2,937.45 | -13,418.74 | 13,430.42 | 0.00 | 0.00 | 0.00 |
| 23,200.00 | 90.00 | 269.77 | 9,518.00 | -2,937.84 | -13,518.73 | 13,530.42 | 0.00 | 0.00 | 0.00 |
| 23,215.07 | 90.00 | 269.77 | 9,518.00 | -2,937.90 | -13,533.80 | 13,545.48 | 0.00 | 0.00 | 0.00 |
| **12H LTP** | | | | | | | | | |
| 23,265.07 | 90.00 | 269.77 | 9,518.00 | -2,938.10 | -13,583.80 | 13,595.49 | 0.00 | 0.00 | 0.00 |
| **12H BHL** | | | | | | | | | |

**Design Targets**

| Target Name - hit/miss target - Shape | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| 12H SHL<br>- plan hits target center<br>- Point | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 562,577.80 | 647,341.90 | 32.5457254 | -103.8551774 |
| 12H BHL<br>- plan hits target center<br>- Point | 0.00 | 0.00 | 9,518.00 | -2,938.10 | -13,583.80 | 559,639.70 | 633,758.10 | 32.5378091 | -103.8992975 |
| 12H LTP<br>- plan hits target center<br>- Point | 0.00 | 0.00 | 9,518.00 | -2,937.90 | -13,533.80 | 559,639.90 | 633,808.10 | 32.5378091 | -103.8991352 |
| 12H FTP<br>- plan hits target center<br>- Point | 0.00 | 0.00 | 9,518.00 | -2,887.40 | -726.10 | 559,690.40 | 646,615.80 | 32.5377976 | -103.8575756 |

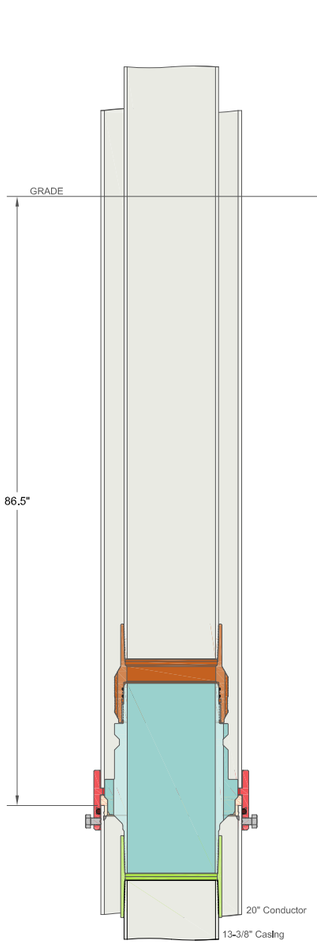
XTO ENERGY

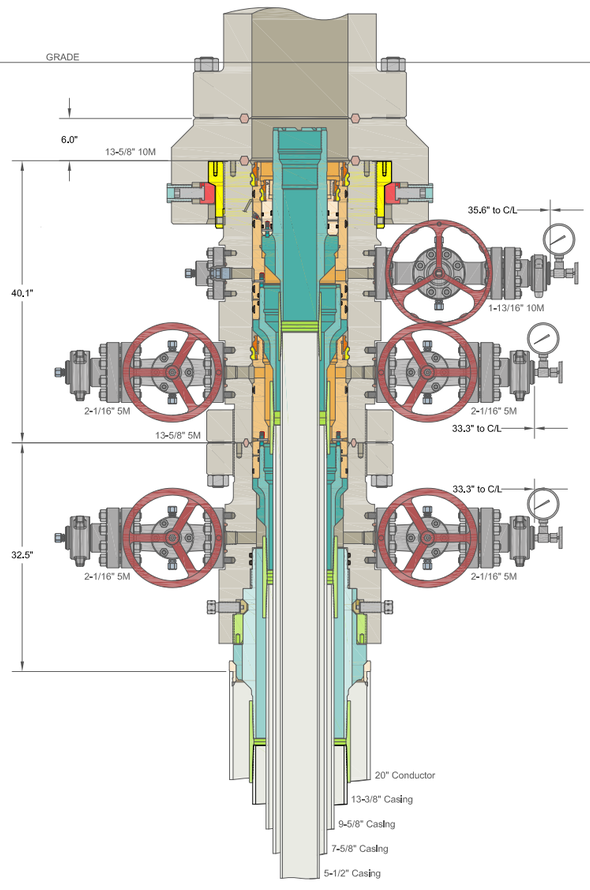
# Planning Report

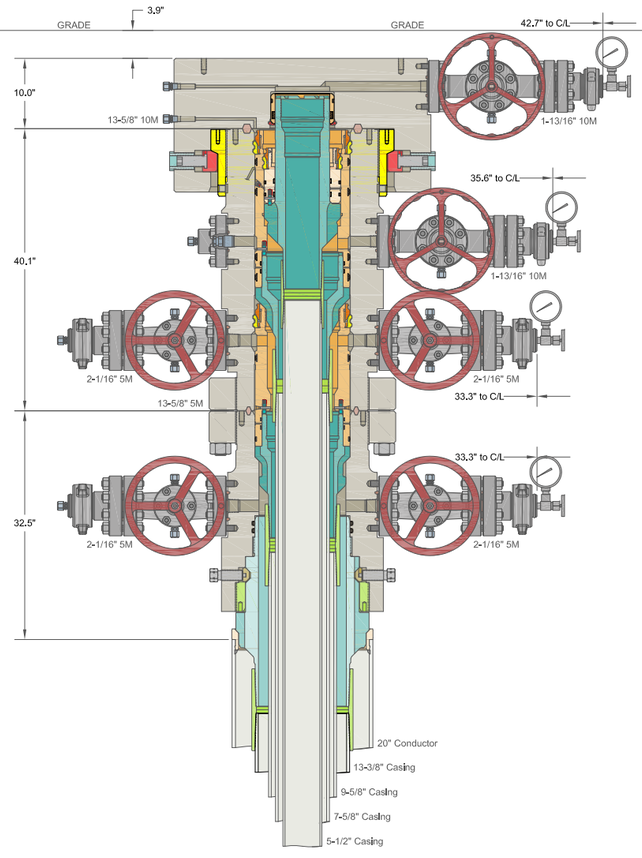
| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.1.13 Single User Db | **Local Co-ordinate Reference:** | Well 12H |
| **Company:** | XTO Energy | **TVD Reference:** | GL @ 3525.00usft (TBD) |
| **Project:** | EDDY COUNTY, NM (NAD-27 / NME) | **MD Reference:** | GL @ 3525.00usft (TBD) |
| **Site:** | BIG EDDY UNIT DI 5 WEST 27-29 | **North Reference:** | Grid |
| **Well:** | 12H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | PERMIT | | |

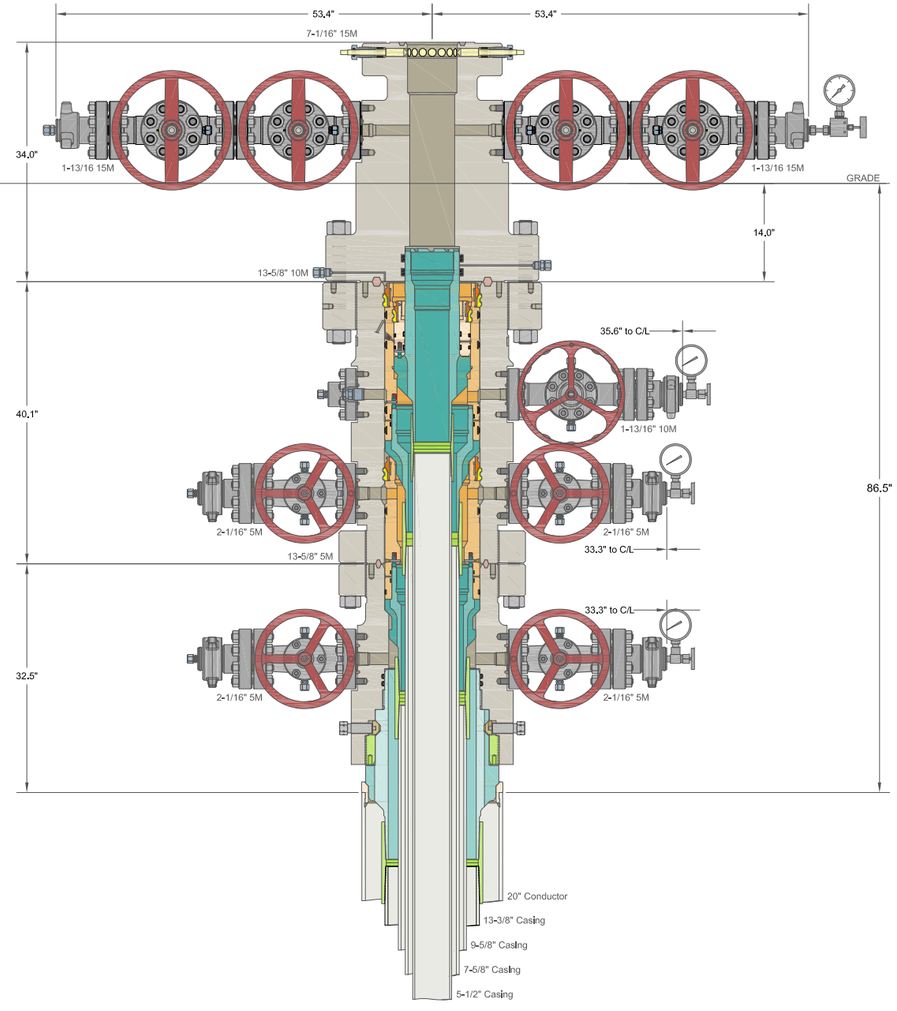
**Formations**

| Measured Depth (usft) | Vertical Depth (usft) | Name | Lithology | Dip (°) | Dip Direction (°) |
|---|---|---|---|---|---|
| 643.00 | 643.00 | Rustler | | | |
| 919.00 | 919.00 | Salado | | | |
| 2,171.10 | 2,171.00 | Base Salt | | | |
| 2,843.12 | 2,831.00 | Capitan | | | |
| 4,001.98 | 3,906.00 | Delaware | | | |
| 6,121.62 | 5,863.00 | Brushy Canyon | | | |
| 7,626.06 | 7,252.00 | Basal Brushy Canyon | | | |
| 7,828.60 | 7,439.00 | Bone Spring Lime | | | |
| 8,039.81 | 7,634.00 | Avalon Shale Upper SH | | | |
| 8,584.61 | 8,137.00 | Avalon Shale Lower SH | | | |
| 8,839.14 | 8,372.00 | 1st Bone Spring Lime | | | |
| 9,208.48 | 8,713.00 | 1st Bone Spring Sand | | | |
| 9,599.86 | 9,074.00 | 2nd Bone Spring Lime | | | |
| 9,712.07 | 9,174.00 | 2nd Bone Spring Sand | | | |
| 10,156.18 | 9,468.00 | Target Top | | | |
| 10,407.27 | 9,518.00 | Landing Point | | | |




ALL DIMENSIONS APPROXIMA

# CACTUS WELLHEAD LLC

(20") x 13-3/8" x 9-5/8" x 7-5/8" x 5-1/2" MBU-4T-CFL-R-DBLO
With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS-SB Tubing Head
And Drilling & Skid Configurations

XTO ENERGY INC
DELAWARE BASIN

| | | |
|---|---|---|
| DRAWN | VJK | 31MAR22 |
| APPRV | | |

DRAWING NO. SDT-3301

## Cement Variance Request

**Intermediate Casing :**

XTO requests the option to pump a two stage cement job on the 9-5/8" intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Capitan Reef (2831') and the second stage performed as a bradenhead squeeze with planned cement from the Capitan Reef to surface. If cement is not visually confirmed to circulate to surface, the final cement top after the second stage job will be verified by Echo-meter. If necessary, a top out consisting of 1,500 sack of Class C cement + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (2.30 yld, 12.91 ppg) will be executed as a contingency. If cement is still unable to circulate to surface, another Echo-meter run will be performed for cement top verification.

XTO will include the Echo-meter verified fluid top and the volume of displacement fluid above the cement slurry in the annulus in all post-drill sundries on wells utilizing this cement program.

XTO will report to the BLM the volume of fluid (limited to 5 bbls) used to flush intermediate casing valves following backside cementing procedures.

XTO requests to pump an Optional Lead if well conditions dictate in an attempt to bring cement to surface. If cement reaches surface, the BLM will be notified and the second stage bradenhead squeeze and subsequent TOC verification will be negated.

XTO requests the option to conduct the bradenhead squeeze and TOC verification offline as per standard approval from BLM when unplanned remediation is needed and batch drilling is approved. In the event the bradenhead is conducted, we will ensure the first stage cement job is cemented properly and the well is static with floats holding and no pressure on the csg annulus as with all other casing strings where batch drilling operations occur before moving off the rig. The TA cap will also be installed per Cactus procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops.

**Production Casing :**

XTO requests the option to offline cement and remediate (if needed) surface and intermediate casing strings where batch drilling is approved and if unplanned remediation is needed. XTO will ensure well is static with no pressure on the csg annulus, as with all other casing strings where batch drilling operations occur before moving off the rig. The TA cap will also be installed when applicable per Cactus procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops. Offline cement operations will then be conducted after the rig is moved off the current well to the next well in the batch sequence.

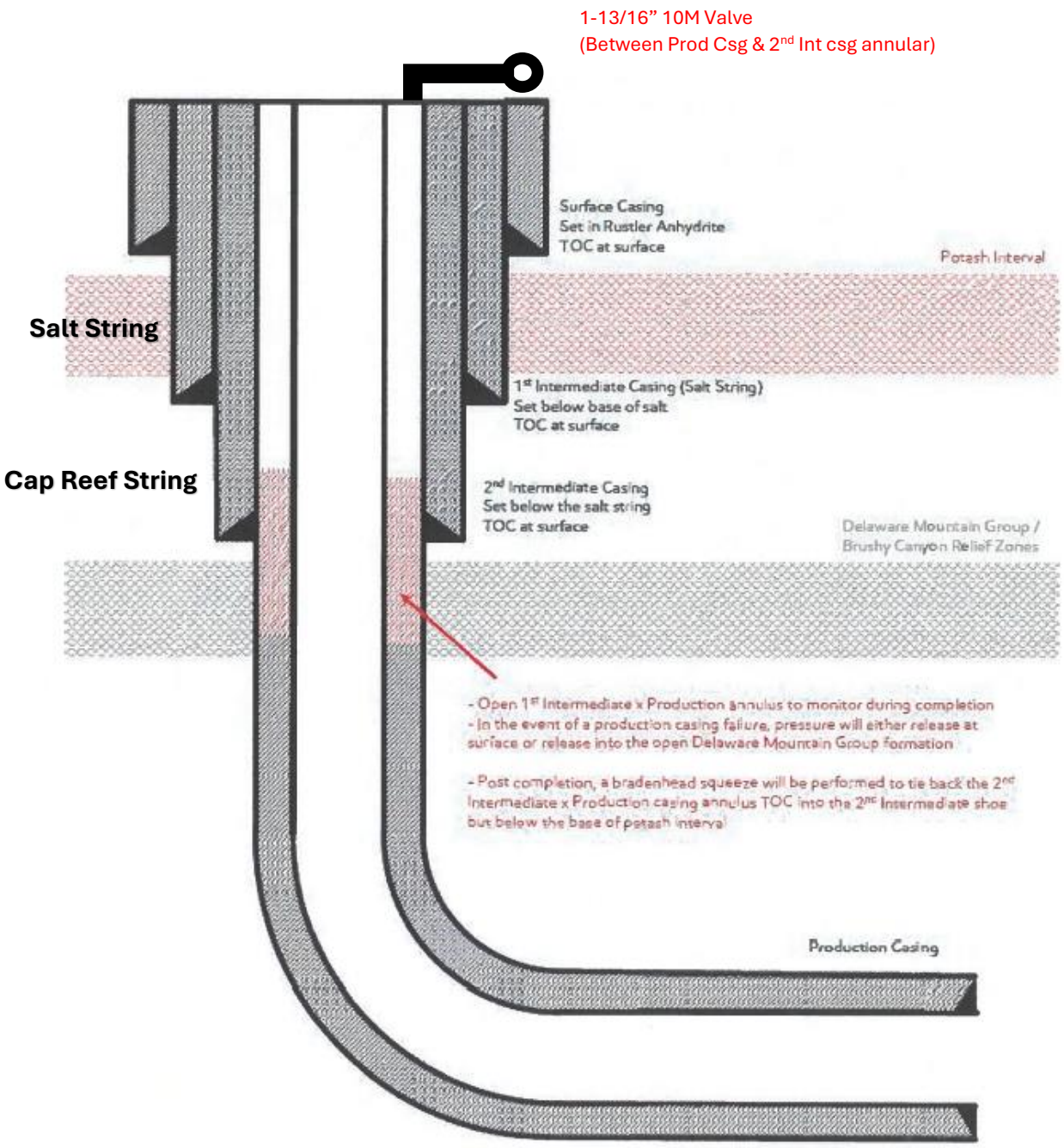



**Figure E – Potash + Cap Reef (2 Int Csg at top of DMG)**

Updated May 2024:

XTO is aware of the R-111-Q update and will comply with these requirements including (but not limited to):

1. Alignment with KPLA requirements per schematic above, leaving open annulus for pressure mnoitoring during frac and utilizing new casing that meets API standards.
2. Contingency plans in place to divert formation fluids away fromm salt interval in even of production casin failure.
3. Bradenhead squeeze to be completed within 180 days to tie back TOC to salt string at least 500ft but with top below Marker Bed 126.
4. Productin Cement to be tied back no less than 500ft inside previous casing shoe

**XTO Permian Operating, LLC Offline Cementing Variance Request**

XTO requests the option to cement the surface and intermediate casing strings offline as a prudent batch drilling efficiency of acreage development.

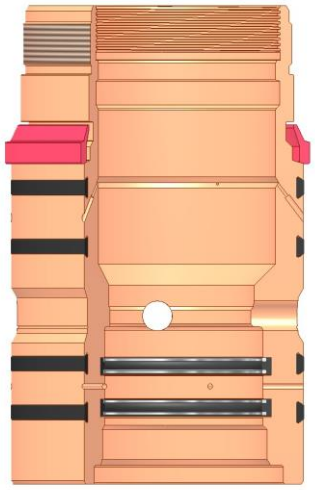
## 1. Cement Program

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

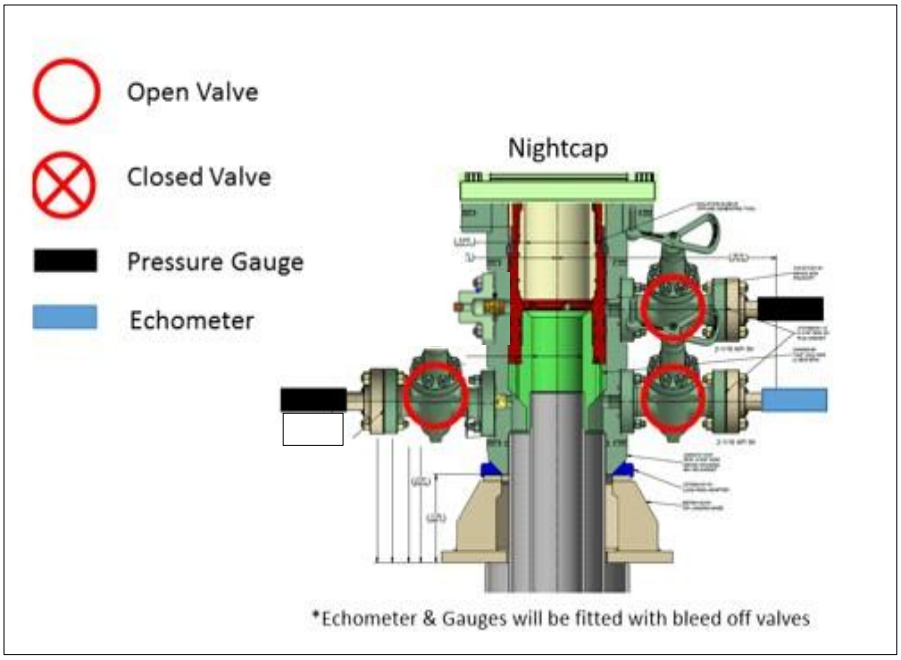
## 2. Offline Cementing Procedure

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

1. Run casing as per normal operations. While running casing, conduct negative pressure test and confirm integrity of the float equipment (float collar and shoe)
2. Land casing with mandrel
3. Fill pipe with kill weight fluid, do not circulate through floats and confirm well is static
4. Set annular packoff shown below and pressure test to confirm integrity of the seal. Pressure ratings of wellhead components and valves is 5,000 psi.
5. After confirmation of both annular barriers and internal barriers, nipple down BOP and install cap flange.
    a. If any barrier fails to test, the BOP stack will not be nippled down until after the cement job is completed with cement 500ft above the highest formation capable of flow with kill weight mud above or after it has achieved 50-psi compressive strength if kill weight fluid cannot be verified.



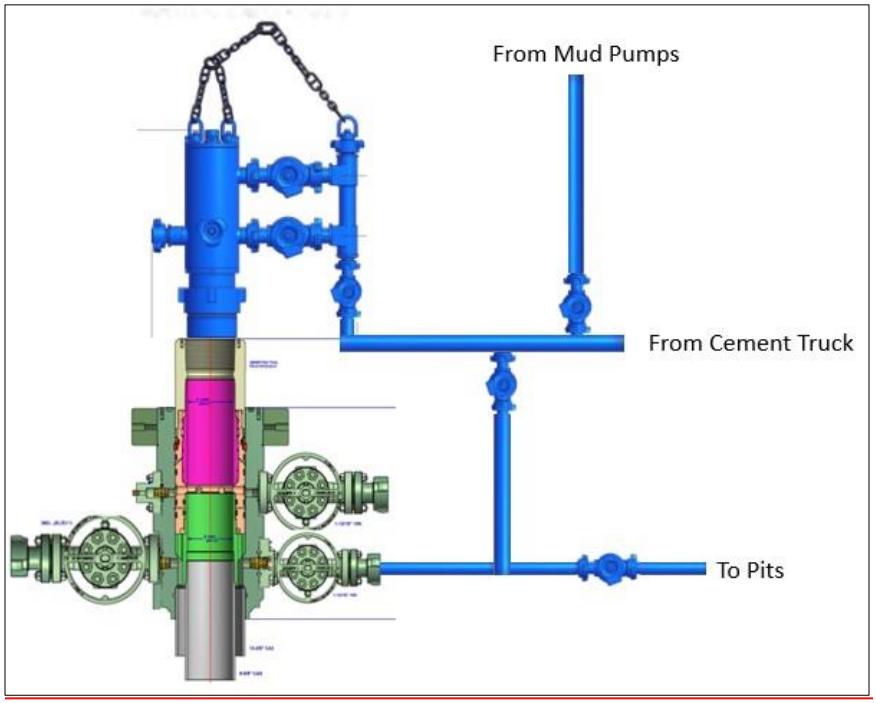
Annular packoff with both external and internal seals




Wellhead diagram during skidding operations

6. Skid rig to next well on pad.
7. Confirm well is static before removing cap flange, flange will not be removed and offline cementing operations will not commence until well is under control. If well is not static, casing outlet valves will provide access to both the casing ID and annulus. Rig or third party pump truck will kill well prior to cementing or nippling up for further remediation.
    a. Well Control Plan
        i. The Drillers Method will be the primary well control method to regain control of the wellbore prior to cementing, if wellbore conditions do not permit the drillers method other methods of well control may be used
        ii. Rig pumps or a 3rd party pump will be tied into the upper casing valve to pump down the casing ID
        iii. A high pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
        iv. Once influx is circulated out of the hole, kill weight mud will be circulated
        v. Well will be confirmed static
        vi. Once confirmed static, cap flange will be removed to allow for offline cementing operations to commence
8. Install offline cement tool
9. Rig up cement equipment

**XTO Permian Operating, LLC Offline Cementing Variance Request**




Wellhead diagram during offline cementing operations

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

**BLACK GOLD®**

**GATES ENGINEERING & SERVICES NORTH AMERICA**
**7603 Prairie Oak Dr.**
**Houston, TX. 77086**

**PHONE: +1 (281) 602-4100**
**FAX: +1 (281) 602-4147**
**EMAIL: gesna.quality@gates.com**
**WEB: www.gates.com/oilandgas**

NEW CHOKE HOSE
INSTALLED 02-10-2024

# CERTIFICATE OF CONFORMANCE

This is to verify that the items detailed below meet the requirements of the Customer's Purchase Order referenced herein, and are in Conformance with applicable specifications, and that Records of Required Tests are on file and subject to examination. The following items were inspected and hydrostatically tested at **Gates Engineering & Services North America** facilities in Houston, TX, USA.

| | |
|---|---|
| **CUSTOMER:** | NABORS DRILLING TECHNOLOGIES USA DBA NABORS DRILLING USA |
| **CUSTOMER P.O.#:** | 15582803 (TAG NABORS PO #15582803 SN 74621 ASSET 66-1531) |
| **CUSTOMER P/N:** | IMR RETEST SN 74621 ASSET #66-1531 |
| **PART DESCRIPTION:** | RETEST OF CUSTOMER 3" X 45 FT 16C CHOKE & KILL HOSE ASSEMBLY C/W 4 1/16" 10K FLANGES |
| **SALES ORDER #:** | 529480 |
| **QUANTITY:** | 1 |
| **SERIAL #:** | 74621 H3-012524-1 |

**SIGNATURE:** F. OSPINOS

**TITLE:** QUALITY ASSURANCE

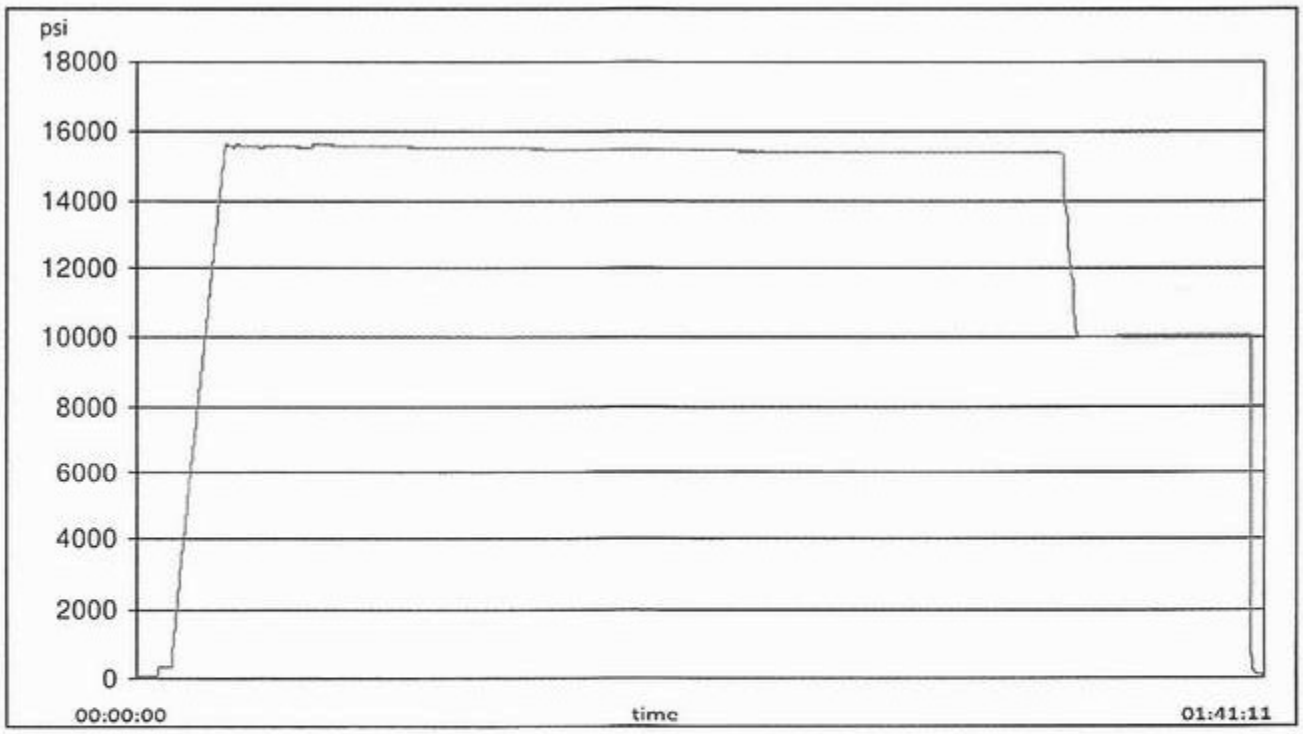
**DATE:** 1/25/2024

H3-15716

1/25/2024 11:48:06 AM

# TEST REPORT

| CUSTOMER | | | TEST OBJECT | | |
|---|---|---|---|---|---|
| Company: | Nabors Industries Inc. | | Serial number: | H3-012524-1 | |
| | | | Lot number: | | |
| Production description: | 74621/66-1531 | | Description: | 74621/66-1531 | |
| Sales order #: | 529480 | | | | |
| Customer reference: | FG1213 | | Hose ID: | 3" 16C CK | |
| | | | Part number: | | |
| **TEST INFORMATION** | | | | | |
| Test procedure: | GTS-04-053 | | Fitting 1: | 3.0 x 4-1/16 10K | |
| Test pressure: | 15000.00 | psi | Part number: | | |
| Test pressure hold: | 3600.00 | sec | Description: | | |
| Work pressure: | 10000.00 | psi | | | |
| Work pressure hold: | 900.00 | sec | Fitting 2: | 3.0 x 4-1/16 10K | |
| Length difference: | 0.00 | % | Part number: | | |
| Length difference: | 0.00 | inch | Description: | | |
| Visual check: | | | Length: | 45 | feet |
| Pressure test result: | PASS | | | | |
| Length measurement result: | | | | | |
| Test operator: | Travis | | | | |



H3-15/16

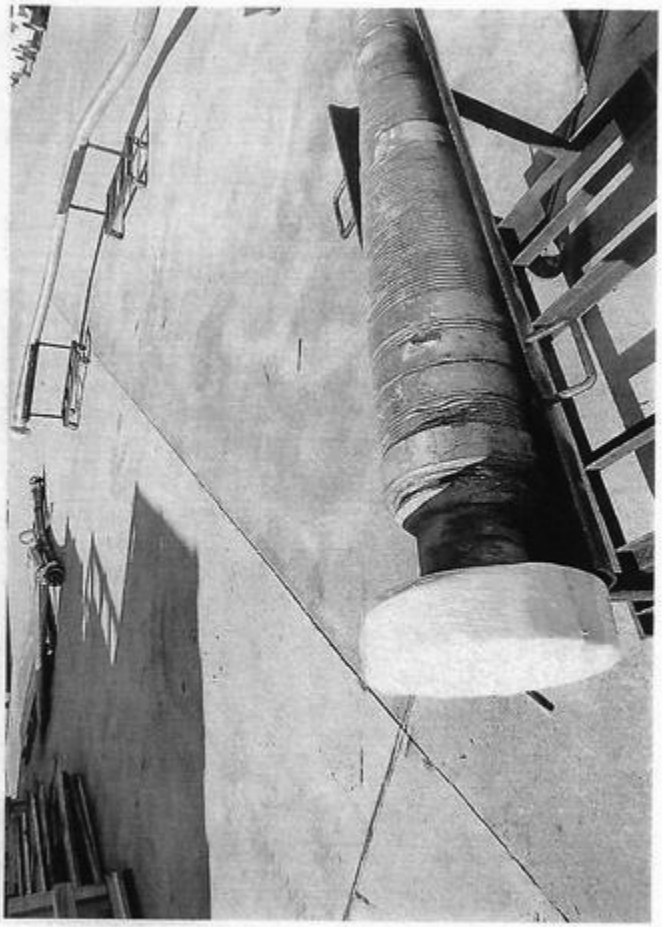
1/25/2024 11:48:06 AM

# TEST REPORT

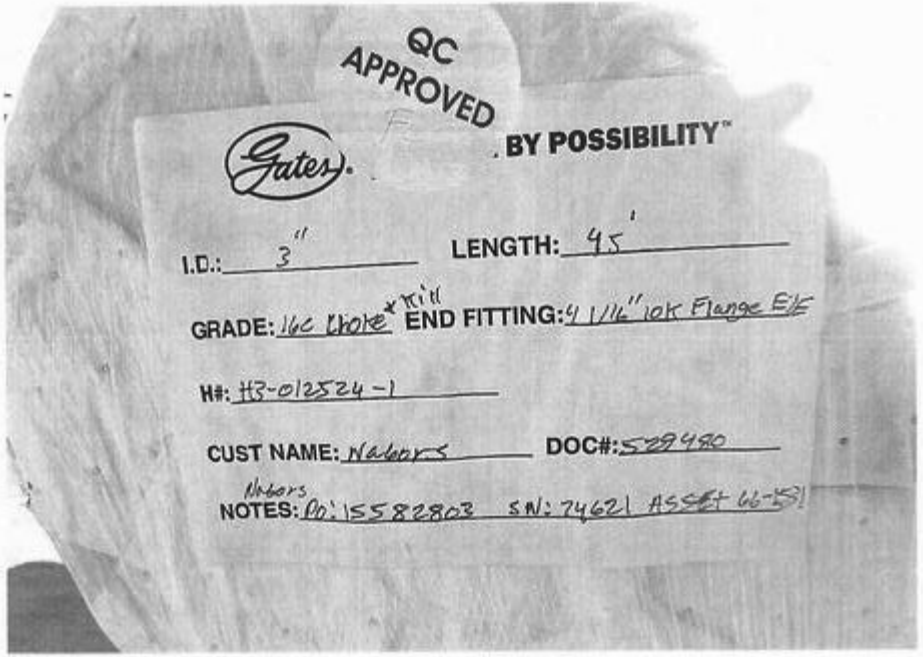
## GAUGE TRACEABILITY

| Description | Serial number | Calibration date | Calibration due date |
|---|---|---|---|
| S-25-A-W | 110D3PHO | 2023-06-06 | 2024-06-06 |
| S-25-A-W | 110IQWDG | 2023-05-16 | 2024-05-16 |

Comment








**Subject:** Request for a Variance Allowing break Testing of the Blowout Preventer Equipment (BOPE)

XTO Energy requests a variance to ONLY test broken pressure seals on the BOPE and function test BOP when skidding a drilling rig between multiple wells on a pad.

**Background**

Onshore Oil and Gas Order CFR Title 43 Part 3170, Drilling Operations, Sections III.A.2.i.iv.B states that the BOP test must be performed whenever any seal subject to test pressure is broken. The current interpretation of the Bureau of Land Management (BLM) requires a complete BOP test and not just a test of the affected component. CFR Title 43 Part 3170 states, "Some situation may exist either on a well-by- well basis or field-wide basis whereby it is commonly accepted practice to vary a particular minimum standard(s) established in this order. This situation can be resolved by requesting a variance…". XTO Energy feels the break testing the BOPE is such a situation. Therefore, as per CFR Title 43 Part 3170, XTO Energy submits this request for the variance.

**Supporting Documentation**

CFR Title 43 Part 3170 became effective on December 19, 1988 and has remained the standard for regulating BLM onshore drilling operations for over 30 years. During this time there have been significant changes in drilling technology. BLM continues to use the variance request process to allow for the use of modern technology and acceptable engineering practices that have arisen since CFR Title 43 Part 3170 was originally released. The XTO Energy drilling rig fleet has many modern upgrades that allow the intact BOP stack to be moved between well slots on a multi-well pad, as well as, wellhead designs that incorporate quick connects facilitating release of the BOP from the wellhead without breaking any BOP stack components apart. These technologies have been used extensively offshore, and other regulators, API, and many operators around the world have endorsed break testing as safe and reliable.

Figure 1: Winch System attached to BOP Stack

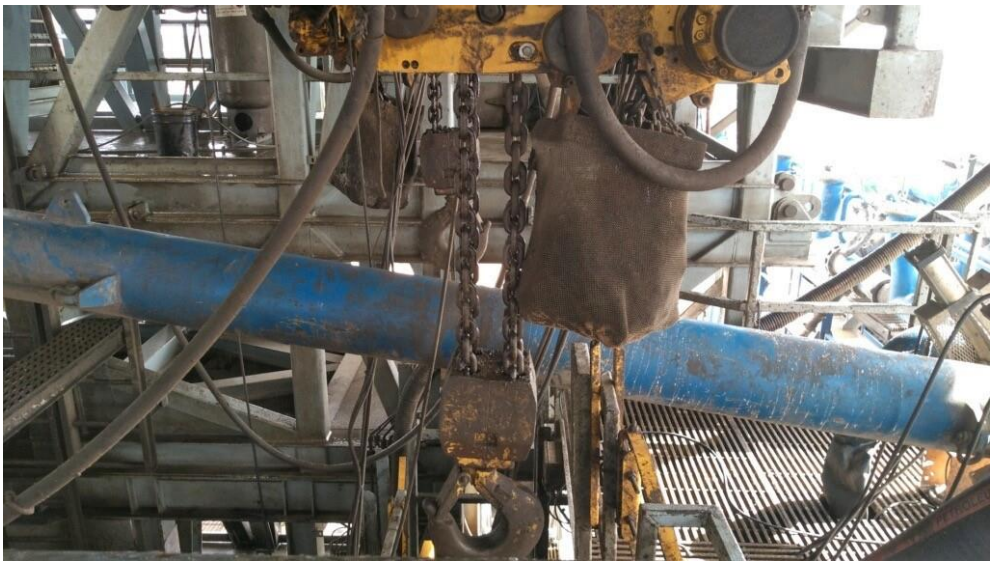


Figure 2: BOP Winch System

American Petroleum Institute (API) standards, specification and recommended practices are considered the industry standard and are consistently utilized and referenced by the industry. CFR Title 43 Part 3170recognizes API recommended Practices (RP) 53 in its original development. API Standard 53, *Well Control Equipment Systems for Drilling Wells* (Fifth Edition, December 2018, Annex C, Table C.4) recognizes break testing as an acceptable practice. Specifically, API Standard 53, Section 5.3.7.1 states "A pressure test of the pressure containing component shall be performed following the disconnection or repair, limited to the affected component." See Table C.4 below for reference.

62 API STANDARD 53

**Table C.4—Initial Pressure Testing, Surface BOP Stacks**

| Component to be Pressure Tested | Pressure Test—Low Pressure[ac] psig (MPa) | Pressure Test—High Pressure[ac] | |
|---|---|---|---|
| | | Change Out of Component, Elastomer, or Ring Gasket | No Change Out of Component, Elastomer, or Ring Gasket |
| Annular preventer[b] | 250 to 350 (1.72 to 2.41) | RWP of annular preventer | MASP or 70% annular RWP, whichever is lower. |
| Fixed pipe, variable bore, blind, and BSR preventers[bd] | 250 to 350 (1.72 to 2.41) | RWP of ram preventer or wellhead system, whichever is lower | ITP |
| Choke and kill line and BOP side outlet valves below ram preventers (both sides) | 250 to 350 (1.72 to 2.41) | RWP of side outlet valve or wellhead system, whichever is lower | ITP |
| Choke manifold—upstream of chokes[e] | 250 to 350 (1.72 to 2.41) | RWP of ram preventers or wellhead system, whichever is lower | ITP |
| Choke manifold—downstream of chokes[e] | 250 to 350 (1.72 to 2.41) | RWP of valve(s), line(s), or MASP for the well program, whichever is lower | |
| Kelly, kelly valves, drill pipe safety valves, IBOPs | 250 to 350 (1.72 to 2.41) | MASP for the well program | |

[a] Pressure test evaluation periods shall be a minimum of five minutes.
No visible leaks.
The pressure shall remain stable during the evaluation period. The pressure shall not decrease below the intended test pressure.

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

[c] For pad drilling operations, moving from one wellhead to another within the 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

[d] For surface offshore operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented during the initial test. For land operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented at commissioning and annually.

[e] Adjustable chokes are not required to be full sealing devices. Pressure testing against a closed choke is not required.

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

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

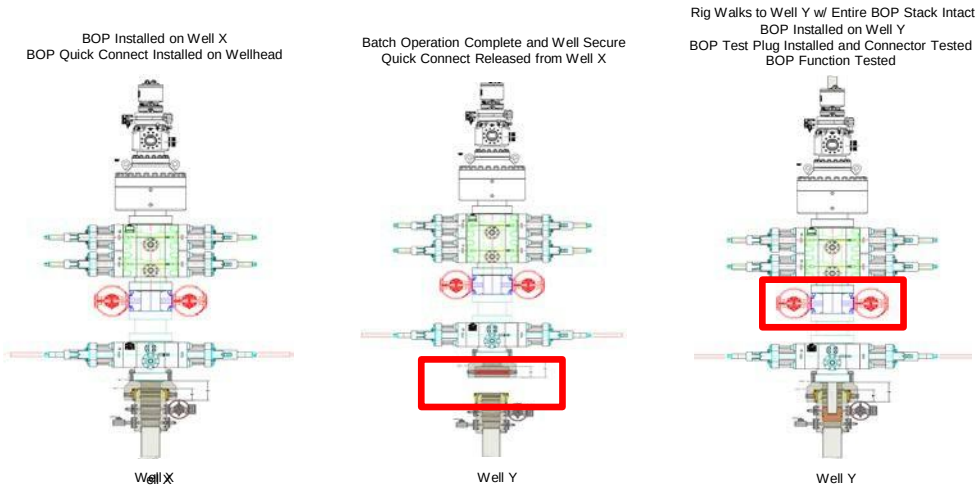
XTO Energy feels break testing and our current procedures meet the intent of CFR Title 43 Part 317 0and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. XTO Energy's internal standards requires complete BOPE tests more often than that of CFR Title 43 Part 3170 (Every 21 days). In addition to function testing the annular, pipe rams and blind rams after
each BOP nipple up, XTO Energy performs a choke drill with the rig crew prior to drilling out every casing shoe. This is additional training for the rig crew that exceeds the requirements of the CFR Title 43 Part 3170.

**Procedures**

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

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

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




**Summary**

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

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

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

1. After a full BOP test is conducted on the first well on the pad.

2. The first intermediate hole section drilled on the pad will be the deepest. All of the remaining hole sections will be the same depth or shallower.

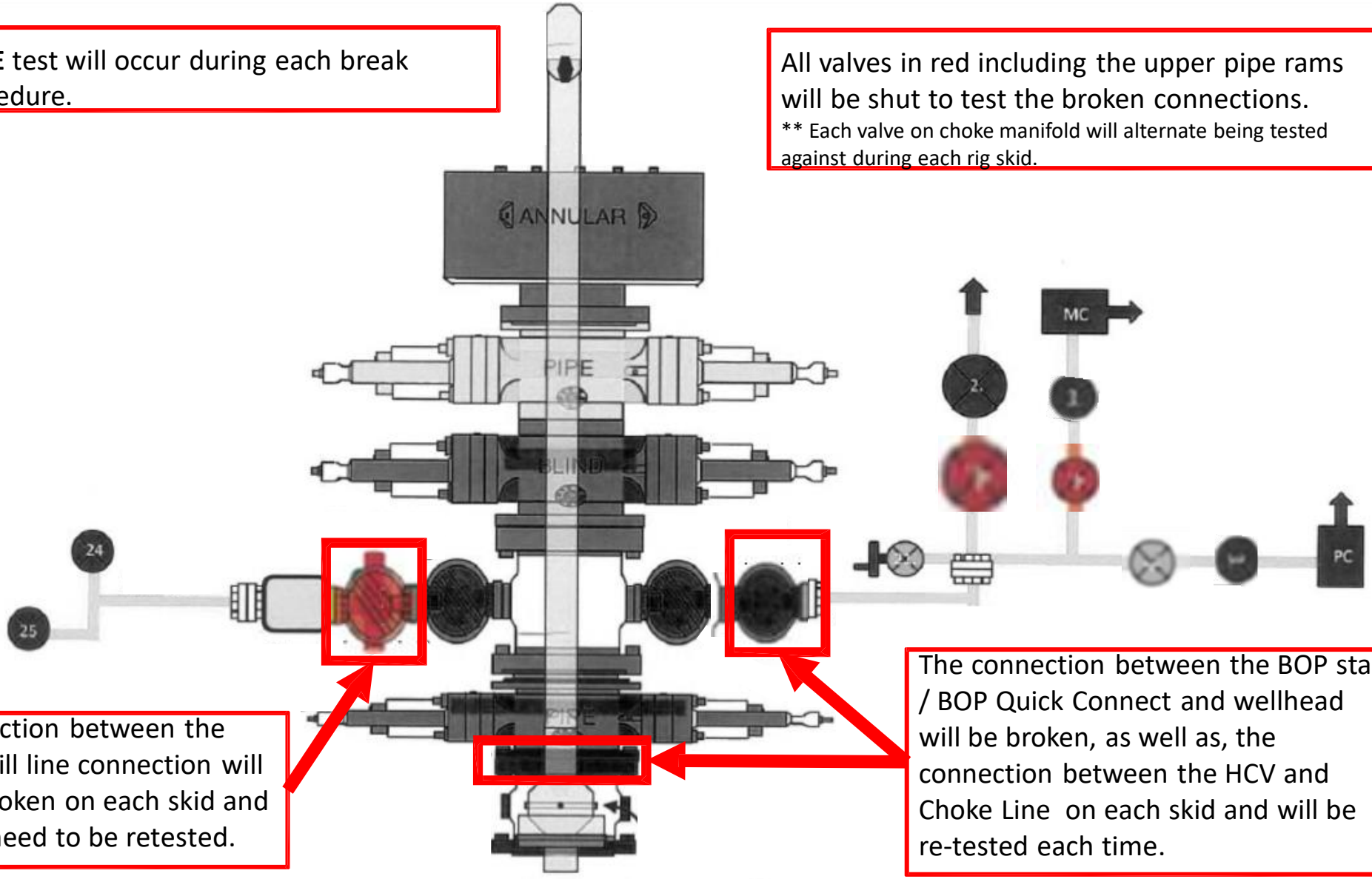
3. Full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.

4. Full BOP test will be required prior to drilling the production hole.

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

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

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




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

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

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

Description of Operations:

1. Spudder rig will move in to drill the surface hole and pre-set surface casing on the well.
    a. After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
    b. The spudder rig will utilize fresh water-based mud to drill the surface hole to TD. Solids control will be handled entirely on a closed loop basis. No earth pits will be used.
2. The wellhead will be installed and tested as soon as the surface casing is cut off and WOC time has been reached.
3. A blind flange at the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on two wing valves.
    a. A means for intervention will be maintained while the drilling rig is not over the well.
4. Spudder rig operations are expected to take 2-3 days per well on the pad.
5. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.
6. Drilling Operations will begin with a larger rig and a BOP stack equal to or greater than the pressure rating that was permitted will be nippled up and tested on the wellhead before drilling operations resume on each well.
    a. The larger rig will move back onto the location within 90 days from the point at which the wells are secured and the spudder rig is moved off location.
    b. The BLM will be notified 24 hours before the larger rig moves back on the pre-set locations
7. XTO will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.
8. Once the rig is removed, XTO will secure the wellhead area by placing a guard rail around the cellar area.

**PECOS DISTRICT**

**SURFACE USE**

**CONDITIONS OF APPROVAL**

| | |
|---|---|
| OPERATOR'S NAME: | XTO Permian Operating LLC |
| LEASE NO.: | NMLC0065431 |
| COUNTY: | Eddy County, New Mexico |

Wells:

BIG EDDY UNIT DI 5 WEST 27-20 #1H: Slot B 3
Surface Hole Location: 1,745' FNL & 2,230' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 2,310' FSL & 50' FWL, Section 20, T. 20 S. R. 31 E.

BIG EDDY UNIT DI 5 WEST 27-20 #2H: Slot B 2
Surface Hole Location: 1,745' FNL & 2,260' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 1,650' FSL & 50' FWL, Section 20, T. 20 S. R. 31 E.

BIG EDDY UNIT DI 5 WEST 27-20 #3H: Slot B 1
Surface Hole Location: 1,745' FNL & 2,290' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 990' FSL & 50' FWL, Section 20, T. 20 S. R. 31 E.

BIG EDDY UNIT DI 5 WEST 27-20 #4H: Slot C 3
Surface Hole Location: 1,870' FNL & 2,230' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 330' FSL & 50' FWL, Section 20, T. 20 S. R. 31 E.

BIG EDDY UNIT DI 5 WEST 27-29 #5H: Slot C 2
Surface Hole Location: 1,870' FNL & 2,260' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 330' FNL & 50' FWL, Section 29, T. 20 S. R. 31 E.

BIG EDDY UNIT DI 5 WEST 27-29 #6H: Slot C 1
Surface Hole Location: 1,870' FNL & 2,290' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 990' FNL & 50' FWL, Section 29, T. 20 S. R. 31 E.

BIG EDDY UNIT DI 5 WEST 27-29 #7H: Slot D 1
Surface Hole Location: 1,945' FNL & 2,290' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 1,650' FNL & 50' FWL, Section 29, T. 20 S. R. 31 E.

BIG EDDY UNIT DI 5 WEST 27-29 #8H: Slot D 2
Surface Hole Location: 1,945' FNL & 2,260' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 2,310' FNL & 50' FWL, Section 20, T. 20 S. R. 31 E.

BIG EDDY UNIT DI 5 WEST 27-29 #9H: Slot D 3
Surface Hole Location: 1,945' FNL & 2,230' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 2,310' FSL & 50' FWL, Section 29, T. 20 S. R. 31 E.

BIG EDDY UNIT DI 5 WEST 27-29 #10H: Slot E 1
Surface Hole Location: 2,070' FNL & 2,290' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 1,650' FSL & 50' FWL, Section 29, T. 20 S. R. 31 E.





**Approval Date: 12/11/2024**

BIG EDDY UNIT DI 5 WEST 27-29 #11H: Slot E 2
Surface Hole Location: 2,070’ FNL & 2,260’ FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 990’ FSL & 50’ FWL, Section 29, T. 20 S. R. 31 E.

BIG EDDY UNIT DI 5 WEST 27-29 #12H: Slot E 3
Surface Hole Location: 2,070’ FNL & 2,230’ FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 330’ FSL & 50’ FWL, Section 29, T. 20 S. R. 31 E.

Future Well #1: Slot C 4
Surface Hole Location: 2,105’ FEL & 1,945’ FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

# TABLE OF CONTENTS

# 1. GENERAL PROVISIONS

The failure of the operator to comply with these requirements may result in the assessment of liquidated damages or penalties pursuant to 43 CFR 3163.1 or 3163.2. A copy of these conditions of approval shall be present on the location during construction, drilling and reclamation activity. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

## 1.1. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural resource (historic or prehistoric site or object) discovered by the operator, or any person working on the operator's behalf, on the public or federal land shall be immediately reported to the Authorized Officer. The operator shall suspend all operations in the immediate area (within 100ft) of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer, in conjunction with a BLM Cultural Resource Specialist, to determine appropriate actions to prevent the loss of significant scientific values. The operator shall be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the operator.

Traditional Cultural Properties (TCPs) are protected by NHPA as codified in 36 CFR 800 for possessing traditional, religious, and cultural significance tied to a certain group of individuals. Though there are currently no designated TCPs within the project area or within a mile of the project area, but it is possible for a TCP to be designated after the approval of this project. **If a TCP is designated in the project area after the project's approval, the BLM Authorized Officer will notify the operator of the following conditions and the duration for which these conditions are required.**

1. Temporary halting of all construction, drilling, and production activities to lower noise.
2. Temporary shut-off of all artificial lights at night.

The operator is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA), specifically NAGPRA Subpart B regarding discoveries, to protect human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered during project work. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and a BLM-CFO Authorized Officer will be notified immediately. The BLM will then be required to be notified, in writing, within 24 hours of the discovery. The written notification should include the geographic location by county and state, the contents of the discovery, and the steps taken to protect said discovery. You must also include any potential threats to the discovery and a conformation that all activity within 100ft of the discovery has ceased and work will not resume until written certification is issued. All work on the entire project must halt for a minimum of 3 days and work cannot resume until an Authorized Officer grants permission to do so.

Any paleontological resource discovered by the operator, or any person working on the operator's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. The operator will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the operator.

## 1.2. RANGELAND RESOURCES

### 1.2.1. **Cattleguards**

Where a permanent cattleguard is approved, an appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s). Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations. A gate shall be constructed on one side of the cattleguard and fastened securely to H-braces.

1.2.2. **Fence Requirement**

Where entry granted across a fence line, the fence must be braced and tied off on both sides of the passageway prior to cutting. Once the work is completed, the fence will be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

1.2.3. **Livestock Watering Requirement**

Any damage to structures that provide water to livestock throughout the life of the well, caused by operations from the well site, must be immediately corrected by the operator. The operator must notify the BLM office (575-234-5972) and the private surface landowner or the grazing allotment holder if any damage occurs to structures that provide water to livestock.

## 1.3. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA, New Mexico Department of Agriculture, and BLM requirements and policies.

**1.3.1 African Rue (Peganum harmala)**

**Spraying:** The spraying of African Rue must be completed by a licensed or certified applicator. In order to attempt to kill or remove African Rue the proper mix of chemical is needed. The mix consists of 2% Arsenal (Imazapyr) and 2% Roundup (Glyphosate) along with a nonionic surfactant. Any other chemicals or combinations shall be approved by the BLM Noxious Weeds Coordinator prior to treatment. African Rue shall be sprayed in connection to any dirt working activities or disturbances to the site being sprayed. Spraying of African Rue shall be done on immature plants at initial growth through flowering and mature plants between budding and flowering stages. Spraying shall not be conducted after flowering when plant is fruiting. This will ensure optimal intake of chemical and decrease chances of developing herbicide resistance. After spraying, the operator or necessary parties must contact the Carlsbad Field Office to inspect the effectiveness of the application treatment to the plant species. No ground disturbing activities can take place until the inspection by the authorized officer is complete. The operator may contact the Environmental Protection Department or the BLM Noxious Weed Coordinator at (575) 234-5972 or BLM_NM_CFO_NoxiousWeeds@blm.gov.

**Management Practices:** In addition to spraying for African Rue, good management practices should be followed. All equipment should be washed off using a power washer in a designated containment area. The containment area shall be bermed to allow for containment of the seed to prevent it from entering any open areas of the nearby landscape. The containment area shall be excavated near or adjacent to the well pad at a depth of three feet and just large enough to get equipment inside it to be washed off. This will allow all seeds to be in a centrally located area that can be treated at a later date if the need arises.

## 1.4. LIGHT POLLUTION

1.4.1. **Downfacing**

All permanent lighting will be pointed straight down at the ground in order to prevent light spill beyond the edge of approved surface disturbance.

1.4.2. **Shielding**

All permanent lighting will use full cutoff luminaires, which are fully shielded (i.e., not emitting direct or indirect light above an imaginary horizontal plane passing through the lowest part of the light source).

1.4.3. **Lighting Color**

Lighting shall be 3,500 Kelvin or less (Warm White) except during drilling, completion, and workover operations. No bluish-white lighting shall be used in permanent outdoor lighting.

# 2. SPECIAL REQUIREMENTS

## 2.1. WATERSHED

The entire well pad(s) will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. The compacted berm shall be constructed at a minimum of 12 inches with impermeable mineral material (e.g. caliche). Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed. Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion. Stockpiling of topsoil is required. The topsoil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control. If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

2.1.1. **Tank Battery**

Tank battery locations will be lined and bermed. A 20-mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Secondary containment holding capacity must be large enough to contain 1 ½ times the content of the largest tank or 24-hourproduction, whichever is greater (displaced volume from all tanks within the berms MUST be subtracted from total volume of containment in calculating holding capacity). Automatic shut off, check valves, or similar systems will be installed for tanks to minimize the effects of catastrophic line failures used in production or drilling.

2.1.2. **Buried/Surface Line(s)**

When crossing ephemeral drainages, the pipeline(s) will be buried to a minimum depth of 48 inches from the top of pipe to ground level. Erosion control methods such as gabions and/or rock aprons must be placed on both up and downstream sides of the pipeline crossing. In addition, curled (weed free) wood/straw fiber wattles/logs and/or silt fences must be placed on the downstream side for sediment control during construction and maintained until soils and vegetation have stabilized. Water bars must be placed within the corridor to divert and dissipate surface runoff. A pipeline access road is not permitted to cross ephemeral drainages. Traffic must be diverted to a preexisting route. Additional seeding may be required in floodplains and drainages to restore energy dissipating vegetation.

Prior to pipeline installation/construction a leak detection plan will be developed. The method(s) could incorporate gauges to detect pressure drops, situating valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.

2.1.3. **Electric Line(s)**

Any water erosion that may occur due to the construction of overhead electric line and during the life of the power line will be quickly corrected and proper measures will be taken to prevent future erosion. A power pole must not be placed in drainages, playas, wetlands, riparian areas, or floodplains and must span across the features at a distance away that does not promote further erosion.

## 2.3 VISUAL RESOURCE MANAGEMENT

2.5.1 **VRM IV**

Above-ground structures including meter housing that are not subject to safety requirements are painted a flat non-reflective paint color, Shale Green from the BLM Standard Environmental Color Chart (CC-001: June 2008).

2.5.**CONSTRUCTION REQUIRENMENTS**

## 3.1 CONSTRCUTION NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at BLM_NM_CFO_Construction_Reclamation@blm.gov at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and COAs on the well site and they shall be made available upon request by the Authorized Officer.

## 3.2 TOPSOIL

The operator shall strip the topsoil (the A horizon) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. No more than the top 6 inches of topsoil shall be removed. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (the B horizon and below) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

## 3.3 CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No reserve pits will be used for drill cuttings. The operator shall properly dispose of drilling contents at an authorized disposal site.

## 3.4 FEDERAL MINERAL PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

## 3.5 WELL PAD & SURFACING

Any surfacing material used to surface the well pad will be removed at the time of interim and final reclamation.

## 3.6 EXCLOSURE FENCING (CELLARS & PITS)

The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the well cellar is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

The operator will also install and maintain mesh netting for all open well cellars to prevent access to smaller wildlife before and after drilling operations until the well cellar is free of fluids and the operator. Use a maximum netting mesh size of 1 ½ inches. The netting must not have holes or gaps.

## 3.7 ON LEASE ACESS ROAD

### 3.7.1 **Road Width**

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

### 3.7.2 Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements will be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

### 3.7.3 Crowning

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

### 3.7.4 Ditching

Ditching shall be required on both sides of the road.

### 3.7.5 Turnouts

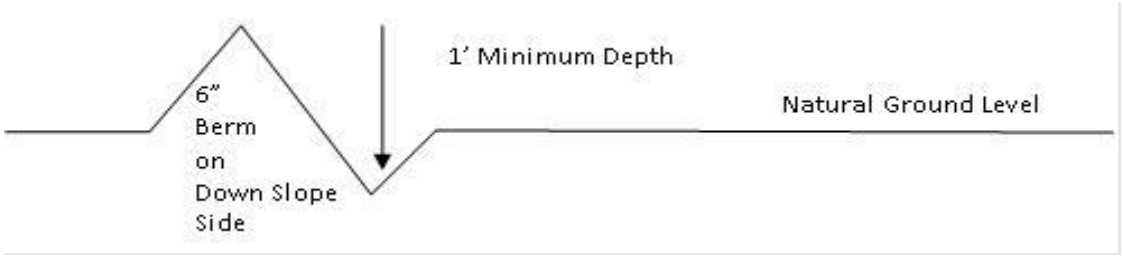
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

### 3.7.6 Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, leadoff ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

**Cross Section of a Typical Lead-off Ditch**




All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

**Formula for Spacing Interval of Lead-off Ditches**

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: $\frac{400'}{4} + 100' = 200'$ lead-off ditch interval

3.7.7 **Public Access**

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

**Construction Steps**

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

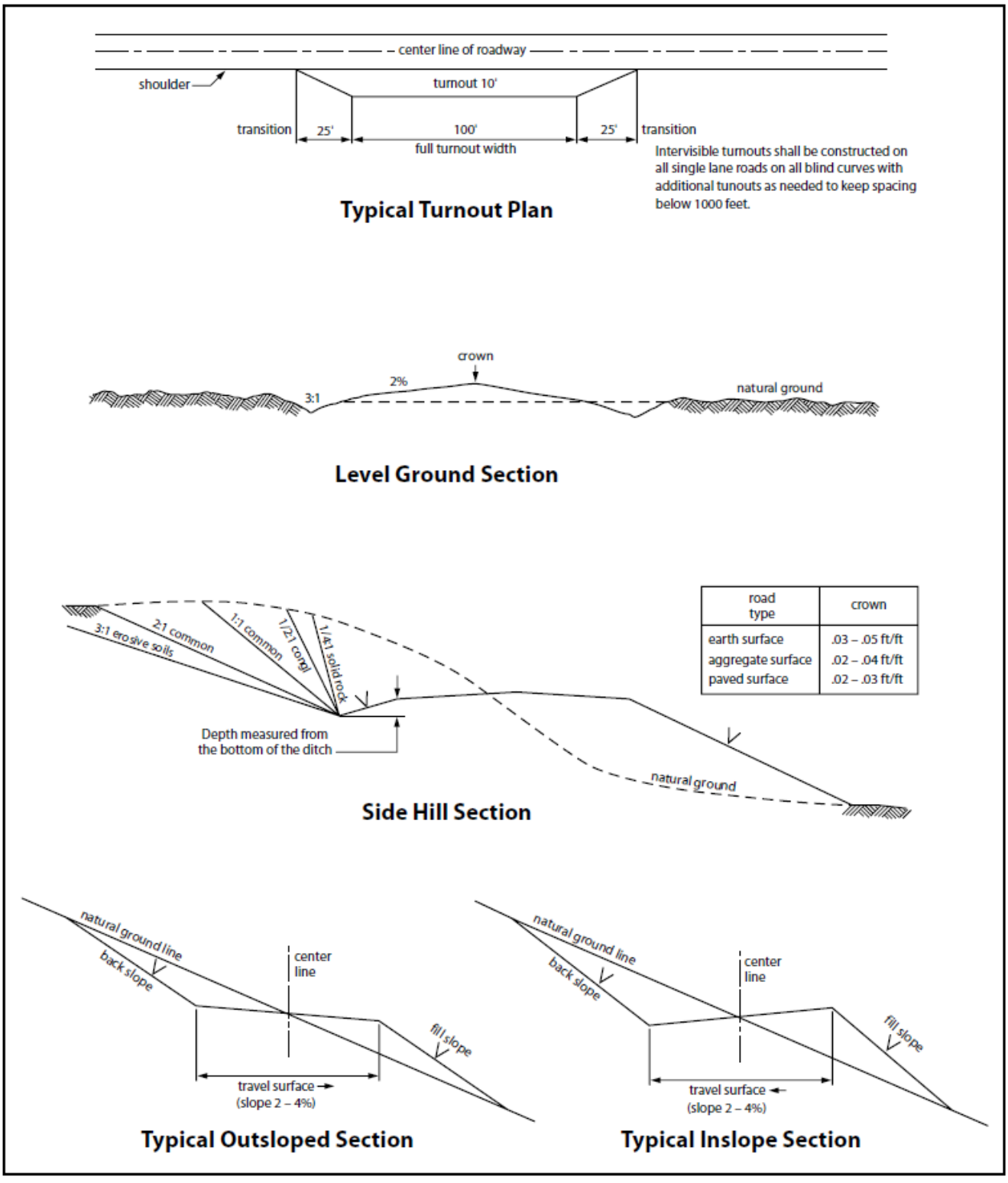



Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.





**Approval Date: 12/11/2024**

# 4. PRODUCTION (POST DRILLING)

## 5.1 WELL STRUCTURES & FACILITIES

### 5.1.2 **Exclosure Netting (Open-top Tanks)**

Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

### 5.1.3. Chemical and Fuel Secondary Containment and Exclosure Screening

The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

### 5.1.4. Open-Vent Exhaust Stack Exclosures

The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone*.) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

### 5.1.5. Containment Structures

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

# 5. RECLAMATION

Stipulations required by the Authorized Officer on specific actions may differ from the following general guidelines

## 6.1 ROAD AND SITE RECLAMATION

Any roads constructed during the life of the well will have the caliche removed or linear burial. If contaminants are indicated then testing will be required for chlorides and applicable contaminate anomalies for final disposal determination (disposed of in a manner approved by the Authorized Officer within

Federal, State and Local statutes, regulations, and ordinances) and seeded to the specifications in sections 6.5 and 6.6.

## 6.2 EROSION CONTROL

Install erosion control berms, windrows, and hummocks. Windrows must be level and constructed perpendicular to down-slope drainage; steeper slopes will require greater windrow density. Topsoil between windrows must be ripped to a depth of at least 12”, unless bedrock is encountered. Any large boulders pulled up during ripping must be deep-buried on location. Ripping must be perpendicular to down-slope. The surface must be left rough in order to catch and contain rainfall on-site. Any trenches resulting from erosion cause by run-off shall be addressed immediately.

## 6.3 INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations must undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators must work with BLM surface protection specialists (BLM_NM_CFO_Construction_Reclamation@blm.gov) to devise the best strategies to reduce the size of the location. Interim reclamation must allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche and any other surface material is required. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided in section 6.6.

Upon completion of interim reclamation, the operator shall submit a Sundry Notice, Subsequent Report of Reclamation (Form 3160-5).

## 6.4 FINAL ABANDONMENT & RECLAMATION

Prior to surface abandonment, the operator shall submit a Notice of Intent Sundry Notice and reclamation plan.

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding will be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM. After earthwork and seeding is completed, the operator is required to submit a Sundry Notice, Subsequent Report of Reclamation.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (BLM_NM_CFO_Construction_Reclamation@blm.gov).

## 6.5 SEEDING TECHNIQUES

Seeds shall be hydro-seeded, mechanically drilled, or broadcast, with the broadcast-seeded area raked, ripped or dragged to aid in covering the seed. The seed mixture shall be evenly and uniformly planted over the disturbed area.

## 6.6 SOIL SPECIFIC SEED MIXTURE

The lessee/permitee shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the Authorized Officer.

Seed land application will be accomplished by mechanical planting using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area. Smaller/heavier seeds tend to drop the bottom of the drill and are planted first; the operator shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory BLM or Soil Conservation

District stand is established as determined by the Authorized Officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding or until several months of precipitation have occurred, enabling a full four months of growth, with one or more seed generations being established.

**Seed Mixture 2, for Sandy Site**

Species to be planted in pounds of pure live seed* per acre:

| Species | lb/acre |
|---|---|
| Sand dropseed (Sporobolus cryptandrus) | 1.0 |
| Sand love grass (Eragrostis trichodes) | 1.0 |
| Plains bristlegrass (Setaria macrostachya) | 2.0 |

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed





**Approval Date: 12/11/2024**

# PECOS DISTRICT
# DRILLING CONDITIONS OF APPROVAL

| | |
|---|---|
| **OPERATOR'S NAME:** | XTO |
| **LEASE NO.:** | **NMLC070220** |
| **LOCATION:** | Sec. 27, T.20 S, R 31 E |
| **COUNTY:** | Eddy County, New Mexico |
| **WELL NAME & NO.:** | Big Eddy Unit DI 5 West 27-29 12H |
| **SURFACE HOLE FOOTAGE:** | 2070'/N & 2230'/E |
| **BOTTOM HOLE FOOTAGE:** | 330'/S & 50'/W |

COA

| | | | | |
|---|---|---|---|---|
| **$H_2S$** | ○ No | | ○ Yes | |
| **Potash / WIPP** | ○ None | ○ Secretary | ◉ R-111-Q | ☑ Open Annulus |
| | 4-String Design: Open 1st Int x 2nd Annulus (ICP 2 below Relief Zone) | | | ☐ WIPP |
| **Cave / Karst** | ◉ Low | ○ Medium | ○ High | ○ Critical |
| **Wellhead** | ○ Conventional | ◉ Multibowl | ○ Both | ○ Diverter |
| **Cementing** | ☐ Primary Squeeze | ☐ Cont. Squeeze | ☐ EchoMeter | ☐ DV Tool |
| **Special Req** | ☑ Capitan Reef | ☐ Water Disposal | ☐ COM | ☑ Unit |
| **Waste Prev.** | ○ Self-Certification | ○ Waste Min. Plan | ◉ APD Submitted prior to 06/10/2024 | |
| **Additional Language** | ☑ Flex Hose | ☑ Casing Clearance | ☐ Pilot Hole | ☑ Break Testing |
| | ☑ Four-String | ☑ Offline Cementing | ☐ Fluid-Filled | |

## A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet 43 CFR 3176 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

***APD is within the R-111-Q defined boundary. Operator must follow all procedures and requirements listed within the updated order.***

## B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **743** feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.

    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





**Approval Date: 12/11/2024**

cement and ideally between 8-10 hours after completing the cement job.

b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or **500 pounds compressive strength**, whichever is greater. (This is to include the lead cement)
c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **9-5/8** inch 1st Intermediate casing is:
   - Cement to surface. If cement does not circulate see B.1.a, c-d above. **Excess calculates to -31%. Additional cement maybe required.**

**Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**

❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:
**(Use this for 3 string wells in the Capitan Reef, if 4 string well ensure FW based mud used across the Capitan interval)**

- Switch to freshwater mud to protect the Capitan Reef and use freshwater mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.
- Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

3. The minimum required fill of cement behind the **7-5/8** inch 2nd Intermediate casing is:
   - Cement to surface. If cement does not circulate see B.1.a, c-d above. 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 cave/karst, Capitan Reef, or potash.**

4. The minimum required fill of cement behind the **5-1/2** inch production casing is:
   - Cement should tie-back **500 feet** into the previous casing but not higher than **USGS Marker Bed No. 126**. **Operator must verify top of cement per R-111-Q requirements.** Submit results to the BLM. Operator shall provide method of verification. **Excess calculates to -10%. Additional cement maybe required.**




**Approval Date: 12/11/2024**

## C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).

    1. Operator has proposed a multi-bowl wellhead assembly. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

        a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
        b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
        c. Manufacturer representative shall install the test plug for the initial BOP test.
        d. If the cement does not circulate and one-inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
        e. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172 must be followed.

## D. SPECIAL REQUIREMENT (S)

**Unit Wells**

The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.

**Commercial Well Determination**

A commercial well determination shall be submitted after production has been established for at least six months. **(This is not necessary for secondary recovery unit wells)**

**BOPE Break Testing Variance**

- BOPE Break Testing is ONLY permitted for intervals utilizing a 5M BOPE or less. **(Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP.)**
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer **(575-706-2779)** prior to the commencement of any BOPE Break Testing operations.





**Approval Date: 12/11/2024**

- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted (575-361-2822 Eddy County) 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per **43 CFR 3172**.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

**Offline Cementing**
Contact the BLM prior to the commencement of any offline cementing procedure.

Engineer may elect to vary this language. Speak with Chris about implementing changes and whether that change seems reasonable.

**Casing Clearance**
String does not meet 0.422" clearance requirement per 43 CFR 3172. Cement tieback requirement increased 100' for Production casing tieback. Operator may contact approving engineer to discuss changing casing set depth or grade to meet clearance requirement.




**Approval Date: 12/11/2024**

# GENERAL REQUIREMENTS

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

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

**Contact Eddy County Petroleum Engineering Inspection Staff:**

Email or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220; **BLM_NM_CFO_DrillingNotifications@BLM.GOV**; (575) 361-2822

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
    a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
    b. When the operator proposes to set surface casing with Spudder Rig
        i. Notify the BLM when moving in and removing the Spudder Rig.
        ii. Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
        iii. BOP/BOPE test to be conducted per **43 CFR 3172** as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. For intervals in which cement to surface is required, cement to surface should be verified with a visual check and density or pH check to differentiate cement from spacer and drilling mud. The results should be documented in the driller's log and daily reports.

## A. CASING

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

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: 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 at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. 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.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. 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.
8. Whenever a casing string is cemented in the R-111-Q potash area, the NMOCD requirements shall be followed.

**B. PRESSURE CONTROL**

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR 3172**.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's

requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
    i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    ii. 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.
    iii. Manufacturer representative shall install the test plug for the initial BOP test.
    iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
    v. 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 4 hours in advance for a representative to witness the tests.
    i. In a water basin, 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. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
    ii. 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 cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve

open. (only applies to single stage cement jobs, prior to the cement setting up.)

iii. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

iv. 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.

v. The results of the test shall be reported to the appropriate BLM office.

vi. 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.

vii. 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.

viii. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **43 CFR 3172**.

## C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

## D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be

disposed of on the well location or surrounding area. Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

**Approved by Zota Stevens on 12/3/2024**
575-234-5998 / zstevens@blm.gov

# HYDROGEN SULFIDE (H2S) CONTINGENCY PLAN

## Assumed 100 ppm ROE = 3000'

100 ppm H2S concentration shall trigger activation of this plan.

**Emergency Procedures**

In the event of a release of gas containing $H_2S$, the first responder(s) must

- Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- Evacuate any public places encompassed by the 100 ppm ROE.
- Be equipped with $H_2S$ monitors and air packs in order to control the release.
- Use the "buddy system" to ensure no injuries occur during the response
- Take precautions to avoid personal injury during this operation.
- Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- Have received training in the
  - Detection of $H_2S$, and
  - Measures for protection against the gas,
  - Equipment used for protection and emergency response.

**Ignition of Gas source**

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide ($SO_2$). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever this is an ignition of the gas.

**Characteristics of $H_2S$ and $SO_2$**

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

**Contacting Authorities**

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

# CARLSBAD OFFICE – EDDY & LEA COUNTIES

3104 E. Greene St., Carlsbad, NM 88220
Carlsbad, NM 575-887-7329

**XTO PERSONNEL:**

| | |
|---|---|
| Will Dacus, Drilling Manager | 832-948-5021 |
| Brian Dunn, Drilling Supervisor | 832-653-0490 |
| Robert Bartels, Construction Execution Planner | 406-478-3617 |
| Andy Owens, EH & S Manager | 903-245-2602 |
| Frank Fuentes, Production Foreman | 575-689-3363 |

**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:**

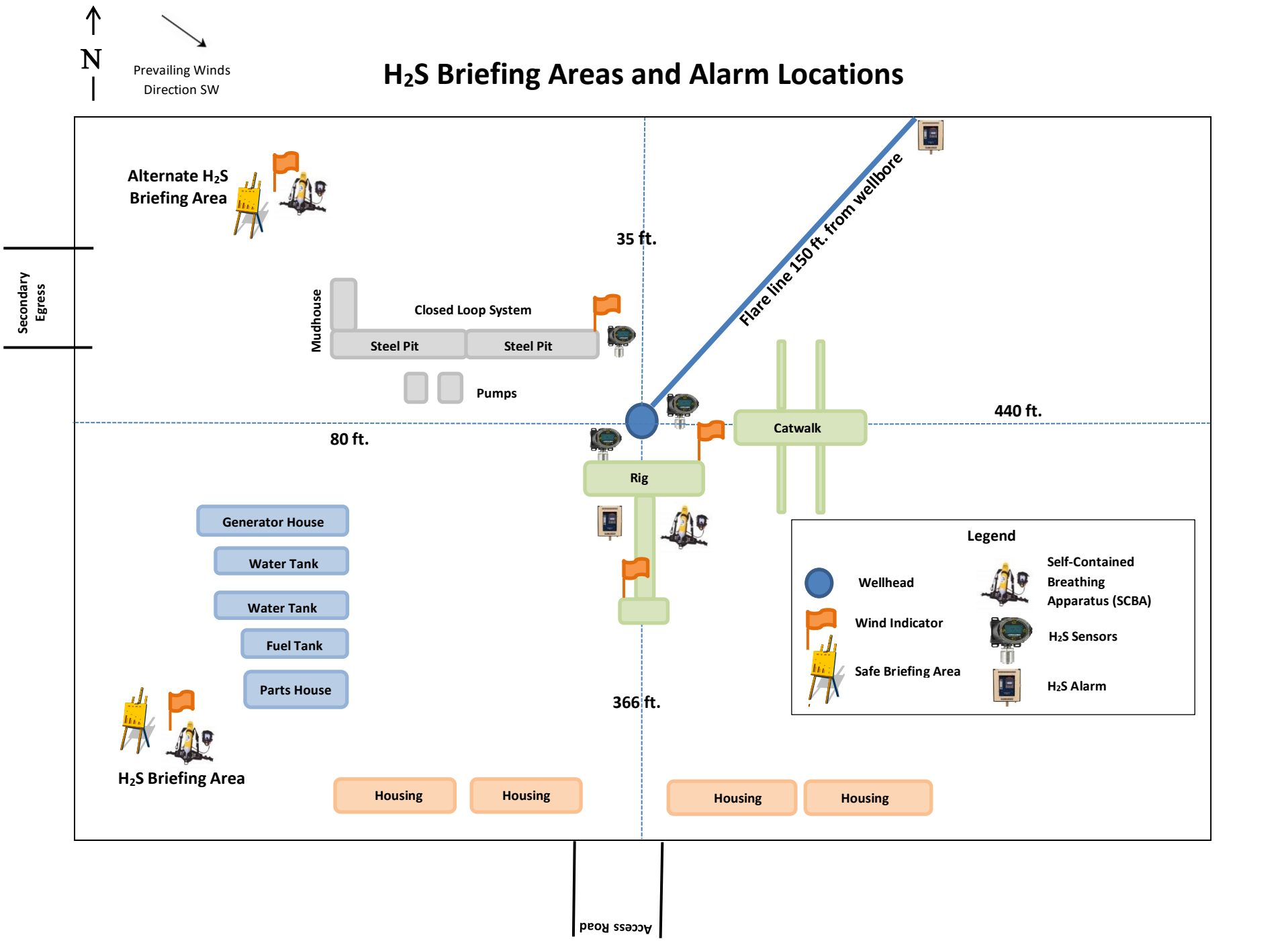
**For Lea County**:

| | |
|---|---|
| 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 |

# $H_2S$ Briefing Areas and Alarm Locations



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

# SUPO Data Report
12/18/2024

**APD ID:** 10400093680
**Submission Date:** 08/09/2023
**Operator Name:** XTO PERMIAN OPERATING LLC
**Well Name:** BIG EDDY UNIT DI 5 WEST 27-29
**Well Number:** 12H
**Well Type:** OIL WELL
**Well Work Type:** Drill

Highlighted data reflects the most recent changes
Show Final Text

## Section 1 - Existing Roads

**Will existing roads be used?** YES

**Existing Road Map:**

BIG_EDDY_UNIT_DI_5_WEST_27_29_12H_Road_20230731094232.pdf

**Existing Road Purpose:** ACCESS
**Row(s) Exist?** NO

### ROW ID(s)

**ID:**

**Do the existing roads need to be improved?** NO

**Existing Road Improvement Description:**

**Existing Road Improvement Attachment:**

## Section 2 - New or Reconstructed Access Roads

**Will new roads be needed?** NO

## Section 3 - Location of Existing Wells

**Existing Wells Map?** YES

**Attach Well map:**

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** BIG EDDY UNIT DI 5 WEST 27-29 **Well Number:** 12H

BIG_EDDY_UNIT_DI_5_WEST_1Mile_20230720105444.pdf

## Section 4 - Location of Existing and/or Proposed Production Facilities

**Submit or defer a Proposed Production Facilities plan?** DEFER

**Estimated Production Facilities description:** Production Facilities. No additional production facilities are necessary for Big Eddy Unit DI5 wells. Once drilled and completed, the wells will flow to the Big Eddy Unit DI5 battery, directly adjacent to the Big Eddy Unit DI 5. There is no new surface disturbance associated with this project. Buried & Surface Flowlines. No additional flowlines are needed or requested for the Big Eddy Unit DI 5 project. There is no new surface disturbance associated with this project. Midstream Tie-In. No midstream tie-in connections are requested or required for the Big Eddy Unit DI 5 project. No additional corridors are requested for gas/oil/water takeaway. Disposal Facilities. Produced water will be hauled from location to a commercial disposal facility as needed. Once wells are drilled and completed, a 3160-5 sundry notification will be submitted to BLM in compliance with Onshore Order 7. Flare. A flare is not requested nor required with this project. Aboveground Structures. All permanent (on site six months or longer) aboveground structures constructed or installed on location and not subject to safety requirements will be painted earth-tone colors such as shale green that reduce the visual impacts of the built environment. Containment Berms. Containment berms will be constructed completely around any production facilities designed to hold fluids. The containment berms will be constructed of compacted subsoil, be sufficiently impervious, hold 1.5 times the capacity of the largest tank and away from cut or fill areas. Electrical. No additional electrical is needed or requested for this project. There is no new surface disturbance associated with this project.

## Section 5 - Location and Types of Water Supply

### Water Source Table

**Water source type:** OTHER

**Describe type:** Fresh Water; Section 27, T25S-R30E, Eddy County, NM

**Water source use type:** DUST CONTROL

SURFACE CASING

INTERMEDIATE/PRODUCTION CASING

STIMULATION

**Source latitude:**

**Source longitude:**

**Source datum:**

**Water source permit type:** PRIVATE CONTRACT

**Water source transport method:** PIPELINE

**Source land ownership:** COMMERCIAL

**Source transportation land ownership:** FEDERAL

**Water source volume (barrels):** 2000000

**Source volume (acre-feet):** 257.78619266

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** BIG EDDY UNIT DI 5 WEST 27-29 **Well Number:** 12H

**Source volume (gal):** 84000000

---

**Water source type:** OTHER

**Describe type:** Fresh Water; Section 6, T25S-R29E, Eddy County, NM

**Water source use type:** DUST CONTROL
SURFACE CASING
INTERMEDIATE/PRODUCTION CASING
STIMULATION

**Source latitude:** **Source longitude:**

**Source datum:**

**Water source permit type:** PRIVATE CONTRACT

**Water source transport method:** PIPELINE

**Source land ownership:** COMMERCIAL

**Source transportation land ownership:** FEDERAL

**Water source volume (barrels):** 2000000 **Source volume (acre-feet):** 257.78619266

**Source volume (gal):** 84000000

---

**Water source and transportation**

BIG_EDDY_UNIT_DI_5_WEST_27_29_12H_Wtr_20230731094404.pdf

**Water source comments:** The well will be drilled using a combination of water mud systems as outlined in the Drilling Program. The water will be obtained from a 3rd party vendor and hauled to the anticipated pit in Section 7 by transport truck using the existing and proposed roads depicted in the attached exhibits. No water well will be drilled on the location. Water for drilling, completion and dust control will be purchased from the following company: Texas Pacific Water Resources Water for drilling, completion and dust control will be supplied by Texas Pacific Water Resources for sale to XTO Permian Operating, LLC from Section 27, T25S-R30E, Eddy County, NM. In the event that Texas Pacific Water Resources does not have the appropriate water for XTO at time of drilling and completion, then XTO water will come from Intrepid Potash Company with the location of the water being in Section 6, T25S-R29E, Eddy County, NM. Anticipated water usage for drilling includes an estimated 50,000 barrels (bbls) of water to drill a horizontal well in a combination of fresh water and brine as detailed in the mud program in the drilling plans. These volumes are calculated for ~1.5 bbls per foot of hole drilled with excess to accommodate any lost circulation or wash out that may occur. Actual water volumes used during operations will depend on the depth of the well, length of horizontal sections, and the losses that may occur during the operation. Temporary water flowlines will be permitted via ROW approval letter and proper grants as-needed based on drilling and completion schedules. Well completion is expected to require approximately 1,950,000 bbls of water per horizontal well. Actual water volumes used during operations will depend on the depth of the well and length of horizontal sections.

**New water well?** N

**New Water Well Info**

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** BIG EDDY UNIT DI 5 WEST 27-29 **Well Number:** 12H

**Well latitude:** **Well Longitude:** **Well datum:**

**Well target aquifer:**

**Est. depth to top of aquifer(ft):** **Est thickness of aquifer:**

**Aquifer comments:**

**Aquifer documentation:**

**Well depth (ft):** **Well casing type:**

**Well casing outside diameter (in.):** **Well casing inside diameter (in.):**

**New water well casing?** **Used casing source:**

**Drilling method:** **Drill material:**

**Grout material:** **Grout depth:**

**Casing length (ft.):** **Casing top depth (ft.):**

**Well Production type:** **Completion Method:**

**Water well additional information:**

**State appropriation permit:**

**Additional information attachment:**

## Section 6 - Construction Materials

**Using any construction materials:** NO

**Construction Materials description:**

**Construction Materials source location**

## Section 7 - Methods for Handling

**Waste type:** DRILLING

**Waste content description:** Fluid

**Amount of waste:** 500 barrels

**Waste disposal frequency :** One Time Only

**Safe containment description:** Steel mud boxes

**Safe containmant attachment:**

**Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL

**Disposal type description:**

**Disposal location description:** R360 Environmental Solutions 4507 W Carlsbad Hwy, Hobbs, NM 88240

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** BIG EDDY UNIT DI 5 WEST 27-29 **Well Number:** 12H

**Waste type:** DRILLING

**Waste content description:** Cuttings

**Amount of waste:** 2100 pounds

**Waste disposal frequency :** One Time Only

**Safe containment description:** The well will be drilled utilizing a closed-loop mud system. Drill cuttings will be held in roll-off style mud boxes and taken to a New Mexico Oil Conservation Division (NMOCD) approved disposal site.

**Safe containmant attachment:**

**Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL
**Disposal type description:**

**Disposal location description:** R360 Environmental Solutions 4507 W Carlsbad Hwy, Hobbs, NM 88240

**Waste type:** SEWAGE

**Waste content description:** Portable, self-contained toilets will be provided for human waste disposal. Upon completion of drilling and completion activities, or as required, the toilet holding tanks will be pumped and the contents thereof disposed of in an approved sewage disposal facility. All state and local laws and regulations pertaining to the disposal of human and solid waste will be complied with. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.

**Amount of waste:** 250 gallons

**Waste disposal frequency :** Weekly

**Safe containment description:** Portable, self-contained toilets will be provided for human waste disposal. Upon completion of drilling and completion activities, or as required, the toilet holding tanks will be pumped and the contents thereof disposed of in an approved sewage disposal facility. All state and local laws and regulations pertaining to the disposal of human and solid waste will be complied with. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.

**Safe containmant attachment:**

**Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL
**Disposal type description:**

**Disposal location description:** A licensed 3rd party contractor to haul and dispose of human waste.

**Waste type:** GARBAGE

**Waste content description:** All garbage, junk and non-flammable waste materials will be contained in a self-contained, portable dumpster or trash cage, to prevent scattering and will be removed and deposited in an approved sanitary landfill. Immediately after drilling all debris and other waste materials on and around the well location not contained in the trash cage will be cleaned up and removed from the location. No potentially adverse materials or substances will be left on the location.

**Amount of waste:** 250 pounds

**Waste disposal frequency :** Weekly

**Safe containment description:** All garbage, junk and non-flammable waste materials will be contained in a self-contained, portable dumpster or trash cage, to prevent scattering and will be removed and deposited in an approved sanitary landfill. Immediately after drilling all debris and other waste materials on and around the well location not contained in the trash cage will be cleaned up and removed from the location. No potentially adverse materials or substances will be left on the location.

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** BIG EDDY UNIT DI 5 WEST 27-29 **Well Number:** 12H

**Safe containmant attachment:**

**Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL
**Disposal type description:**

**Disposal location description:** A licensed 3rd party contractor to haul and dispose of human waste.

**Waste type:** GARBAGE

**Waste content description:** All garbage, junk and non-flammable waste materials will be contained in a self-contained, portable dumpster or trash cage, to prevent scattering and will be removed and deposited in an approved sanitary landfill. Immediately after drilling all debris and other waste materials on and around the well location not contained in the trash cage will be cleaned up and removed from the location. No potentially adverse materials or substances will be left on the location.

**Amount of waste:** 250 pounds

**Waste disposal frequency :** Weekly

**Safe containment description:** All garbage, junk and non-flammable waste materials will be contained in a self-contained, portable dumpster or trash cage, to prevent scattering and will be removed and deposited in an approved sanitary landfill. Immediately after drilling all debris and other waste materials on and around the well location not contained in the trash cage will be cleaned up and removed from the location. No potentially adverse materials or substances will be left on the location.

**Safe containmant attachment:**

**Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL
**Disposal type description:**

**Disposal location description:** A licensed 3rd party contractor to haul and dispose of human waste.

## Reserve Pit

**Reserve Pit being used?** NO

**Temporary disposal of produced water into reserve pit?** NO

**Reserve pit length (ft.)** **Reserve pit width (ft.)**

**Reserve pit depth (ft.)** **Reserve pit volume (cu. yd.)**

**Is at least 50% of the reserve pit in cut?**

**Reserve pit liner**

**Reserve pit liner specifications and installation description**

## Cuttings Area

**Cuttings Area being used?** NO

**Are you storing cuttings on location?** Y

**Description of cuttings location** Cuttings. The well will be drilled utilizing a closed-loop mud system. Drill cuttings will be held in roll-off style mud boxes and taken to a New Mexico Oil Conservation Division (NMOCD) approved disposal site. Drilling Fluids. These will be contained in steel mud pits and then taken to a NMOCD

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** BIG EDDY UNIT DI 5 WEST 27-29 **Well Number:** 12H

approved commercial disposal facility. Produced Fluids. Water produced from the well during completion will be held temporarily in steel tanks and then taken to a NMOCD approved commercial disposal facility. Oil produced during operations will be stored in tanks until sold.

**Cuttings area length (ft.)**

**Cuttings area width (ft.)**

**Cuttings area depth (ft.)**

**Cuttings area volume (cu. yd.)**

**Is at least 50% of the cuttings area in cut?**

**WCuttings area liner**

**Cuttings area liner specifications and installation description**

## Section 8 - Ancillary

**Are you requesting any Ancillary Facilities?:** N

**Ancillary Facilities**

**Comments:**

## Section 9 - Well Site

**Well Site Layout Diagram:**

BIG_EDDY_UNIT_DI_5_WEST_27_29_12H_Well_20230731095251.pdf

BIG_EDDY_UNIT_DI_5_WEST_27_29_12H_RL_20240614134031_20241105084941.pdf

**Comments:** Multi-well pad.

## Section 10 - Plans for Surface Reclamation

**Type of disturbance:** No New Surface Disturbance

**Multiple Well Pad Name:** BIG EDDY UNIT DI 5 WEST

**Multiple Well Pad Number:** A

**Recontouring**

BIG_EDDY_UNIT_DI_5_WEST_IR1_20241105085007.pdf

**Drainage/Erosion control construction:** Initial seedbed preparation will consist of recontouring to the appropriate interim or final reclamation standard. All compacted areas to be seeded will be ripped to a minimum depth of 18 inches with a minimum furrow spacing of 2 feet, followed by recontouring the surface and then evenly spreading the stockpiled topsoil. Prior to seeding, the seedbed will be scarified to a depth of no less than 4-6 inches.

**Drainage/Erosion control reclamation:** Erosion features are equal to or less than surrounding area and erosion control is sufficient so that water naturally infiltrates into the soil and gullying, headcutting, slumping, and deep or excessive rills (greater than 3 inches) are not observed.

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** BIG EDDY UNIT DI 5 WEST 27-29 **Well Number:** 12H

| | | |
|---|---|---|
| **Well pad proposed disturbance (acres):** | **Well pad interim reclamation (acres):** 0 | **Well pad long term disturbance (acres):** 0 |
| **Road proposed disturbance (acres):** | **Road interim reclamation (acres):** 0 | **Road long term disturbance (acres):** 0 |
| **Powerline proposed disturbance (acres):** | **Powerline interim reclamation (acres):** 0 | **Powerline long term disturbance (acres):** 0 |
| **Pipeline proposed disturbance (acres):** | **Pipeline interim reclamation (acres):** 0 | **Pipeline long term disturbance (acres):** 0 |
| **Other proposed disturbance (acres):** | **Other interim reclamation (acres):** 0 | **Other long term disturbance (acres):** 0 |
| **Total proposed disturbance:** 0 | **Total interim reclamation:** 0 | **Total long term disturbance:** 0 |

**Disturbance Comments:**

**Reconstruction method:** The original stock piled topsoil will be spread over the areas being reclaimed and the original landform will be restored for all disturbed areas including well pads, production facilities, roads, pipelines, and utility corridors as close as possible to the original topography. The location will then be ripped and seeded.

**Topsoil redistribution:** The original stock piled topsoil will be spread over the areas being reclaimed and the original landform will be restored for all disturbed areas including well pads, production facilities, roads, pipelines, and utility corridors as close as possible to the original topography. The location will then be ripped and seeded.

**Soil treatment:** A self-sustaining, vigorous, diverse, native (or otherwise approved) plant community will be established on the site with a density sufficient to control erosion and invasion by non-native plants and to re-establish wildlife habitat or forage production. At a minimum, the established plant community will consist of species included in the seed mix and/or desirable species occurring in the surrounding natural vegetation.
**Existing Vegetation at the well pad:** According to the Natural Resources Conservation Service online database, the project area soils consist of Simona soils. These soils are associated with the Shallow Sandy ecological site (R042CX002NM) which typically supports grama grasslands with an even distribution of yucca, javelin bush, range ratany, prickly pear, and mesquite. The current vegetative community consists of mesquite, soapweed yucca, broom snakeweed, javelin bush, pencil cholla, horse crippler, prickly pear, and desert grasses and forbs. The project area lies on a heavily eroded, relatively flat terrain approximately 0.7 miles west of Williams Sink.

**Existing Vegetation at the well pad**

**Existing Vegetation Community at the road:** According to the Natural Resources Conservation Service online database, the project area soils consist of Simona soils. These soils are associated with the Shallow Sandy ecological site (R042CX002NM) which typically supports grama grasslands with an even distribution of yucca, javelin bush, range ratany, prickly pear, and mesquite. The current vegetative community consists of mesquite, soapweed yucca, broom snakeweed, javelin bush, pencil cholla, horse crippler, prickly pear, and desert grasses and forbs. The project area lies on a heavily eroded, relatively flat terrain approximately 0.7 miles west of Williams Sink.

**Existing Vegetation Community at the road**

**Existing Vegetation Community at the pipeline:** According to the Natural Resources Conservation Service online database, the project area soils consist of Simona soils. These soils are associated with the Shallow Sandy ecological site (R042CX002NM) which typically supports grama grasslands with an even distribution of yucca, javelin bush, range ratany, prickly pear, and mesquite. The current vegetative community consists of mesquite, soapweed yucca, broom snakeweed, javelin bush, pencil cholla, horse crippler, prickly pear, and desert grasses and forbs. The project area lies on a heavily eroded, relatively flat terrain approximately 0.7 miles west of Williams Sink.

**Existing Vegetation Community at the pipeline**

**Existing Vegetation Community at other disturbances:** According to the Natural Resources Conservation Service online database, the project area soils consist of Simona soils. These soils are associated with the Shallow Sandy ecological site (R042CX002NM) which typically supports grama grasslands with an even distribution of yucca, javelin bush, range ratany, prickly pear, and mesquite. The current

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** BIG EDDY UNIT DI 5 WEST 27-29 **Well Number:** 12H

vegetative community consists of mesquite, soapweed yucca, broom snakeweed, javelin bush, pencil cholla, horse crippler, prickly pear, and desert grasses and forbs. The project area lies on a heavily eroded, relatively flat terrain approximately 0.7 miles west of Williams Sink.

**Existing Vegetation Community at other disturbances**

**Non native seed used?** N

**Non native seed description:**

**Seedling transplant description:**

**Will seedlings be transplanted for this project?** N

**Seedling transplant description**

**Will seed be harvested for use in site reclamation?** N

**Seed harvest description:**

**Seed harvest description attachment:**

## Seed

## Seed Table

## Seed Summary

**Total pounds/Acre:**

| Seed Type | Pounds/Acre |
|---|---|

**Seed reclamation**

## Operator Contact/Responsible Official

**First Name:** Robert **Last Name:** Bartels

**Phone:** (406)478-3617 **Email:** robert.e.bartels@exxonmobil.com

**Seedbed prep:** Initial seedbed preparation will consist of recontouring to the appropriate interim or final reclamation standard. All compacted areas to be seeded will be ripped to a minimum depth of 18 inches with a minimum furrow spacing of 2 feet, followed by recontouring the surface and then evenly spreading the stockpiled topsoil. Prior to seeding, the seedbed will be scarified to a depth of no less than 4-6 inches. If the site is to be broadcast seeded, the surface will be left rough enough to trap seed and snow, control erosion, and increase water infiltration.

**Seed BMP:** If broadcast seeding is to be used and is delayed, final seedbed preparation will consist of contour cultivating to a depth of 4-6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.

**Seed method:** Seeding will be conducted no more than two weeks following completion of final seedbed preparation. A certified weed-free seed mix designed by the BLM to meet reclamation standards will be used. If the site is harrowed or dragged, seed will be covered by no more than 0.25 inch of soil.

**Existing invasive species?** N

**Existing invasive species treatment description:**

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** BIG EDDY UNIT DI 5 WEST 27-29 **Well Number:** 12H

**Existing invasive species treatment**

**Weed treatment plan description:** Weed control for all phases will be through the use of approved pesticides and herbicides according to applicable State, Federal and local laws.
**Weed treatment plan**

**Monitoring plan description:** Monitoring of invasive and noxious weeds will be visual and as-needed. If it is determined additional methods are required to monitor invasive and noxious weeds, appropriate BLM authorities will be contacted with a plan of action for approval prior to implementation.
**Monitoring plan**

**Success standards:** 100% compliance with applicable regulations.

**Pit closure description:** There will be no reserve pit as each well will be drilled utilizing a closed loop mud system. The closed loop system will meet the NMOCD requirements 19.15.17
**Pit closure attachment:**

## Section 11 - Surface Ownership

**Disturbance type:** EXISTING ACCESS ROAD

**Describe:**

**Surface Owner:** BUREAU OF LAND MANAGEMENT

**Other surface owner description:**

**BIA Local Office:**

**BOR Local Office:**

**COE Local Office:**

**DOD Local Office:**

**NPS Local Office:**

**State Local Office:**

**Military Local Office:**

**USFWS Local Office:**

**Other Local Office:**

**USFS Region:**

**USFS Forest/Grassland:** **USFS Ranger District:**

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** BIG EDDY UNIT DI 5 WEST 27-29 **Well Number:** 12H

**Disturbance type:** TRANSMISSION LINE

**Describe:**

**Surface Owner:** BUREAU OF LAND MANAGEMENT

**Other surface owner description:**

**BIA Local Office:**

**BOR Local Office:**

**COE Local Office:**

**DOD Local Office:**

**NPS Local Office:**

**State Local Office:**

**Military Local Office:**

**USFWS Local Office:**

**Other Local Office:**

**USFS Region:**

**USFS Forest/Grassland:** **USFS Ranger District:**

**Disturbance type:** OTHER

**Describe:** Flowlines

**Surface Owner:** BUREAU OF LAND MANAGEMENT

**Other surface owner description:**

**BIA Local Office:**

**BOR Local Office:**

**COE Local Office:**

**DOD Local Office:**

**NPS Local Office:**

**State Local Office:**

**Military Local Office:**

**USFWS Local Office:**

**Other Local Office:**

**USFS Region:**

**USFS Forest/Grassland:** **USFS Ranger District:**

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** BIG EDDY UNIT DI 5 WEST 27-29 **Well Number:** 12H

**Disturbance type:** WELL PAD

**Describe:**

**Surface Owner:** BUREAU OF LAND MANAGEMENT

**Other surface owner description:**

**BIA Local Office:**

**BOR Local Office:**

**COE Local Office:**

**DOD Local Office:**

**NPS Local Office:**

**State Local Office:**

**Military Local Office:**

**USFWS Local Office:**

**Other Local Office:**

**USFS Region:**

**USFS Forest/Grassland:** **USFS Ranger District:**

## Section 12 - Other

**Right of Way needed?** N **Use APD as ROW?**

**ROW Type(s):**

## ROW

**SUPO Additional Information:** SUPO written for all wells in section/project area.

**Use a previously conducted onsite?** Y

**Previous Onsite information:** The XTO Permian Operating, LLC. representatives and BLM NRS were on location for onsite on March 28, 2019.

## Other SUPO

BIG_EDDY_UNIT_DI_5_West_Well_List_20230720122334.pdf

BIG_EDDY_UNIT_DI_5_WEST_SUPO_UPDATED_20241105085502.pdf

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

# State of New Mexico
# Energy, Minerals and Natural Resources
# Oil Conservation Division
# 1220 S. St Francis Dr.
# Santa Fe, NM 87505

CONDITIONS

Action 414415

## CONDITIONS

| Operator: | OGRID: |
|---|---|
| XTO PERMIAN OPERATING LLC.<br>6401 HOLIDAY HILL ROAD<br>MIDLAND, TX 79707 | 373075 |
| | Action Number: 414415 |
| | Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| slaghuvarapu | Cement is required to circulate on both surface and intermediate1 strings of casing. | 12/20/2024 |
| slaghuvarapu | If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing. | 12/20/2024 |
| ward.rikala | Notify the OCD 24 hours prior to casing & cement. | 1/14/2025 |
| ward.rikala | File As Drilled C-102 and a directional Survey with C-104 completion packet. | 1/14/2025 |
| ward.rikala | Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string. | 1/14/2025 |
| ward.rikala | Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system. | 1/14/2025 |
| ward.rikala | This well is within the Capitan Reef. The first intermediate casing string shall be sat and cemented back to surface immediately above the Capitan Reef. The second intermediate string shall be set and cemented back to surface immediately below the base of the Capitan Reef. | 1/14/2025 |
| ward.rikala | Operator must comply with all of the R-111-Q requirements. | 1/14/2025 |