



U.S. Department of the Interior  
Bureau of Land Management

*Application for Permit to Drill*

**APD Package Report**

Date Printed: 09/29/2025 07:02 AM

APD ID: 10400098603

Well Status: AAPD

APD Received Date: 05/24/2024 06:18 AM

Well Name: BIG EDDY UNIT DI 31W 10-7

Operator: XTO PERMIAN OPERATING LLC

Well Number: 4H

APD Package Report Contents

- Form 3160-3
- Operator Certification Report
- Application Report
- Application Attachments
  - Well Plat: 1 file(s)
- Drilling Plan Report
- Drilling Plan Attachments
  - Blowout Prevention Choke Diagram Attachment: 1 file(s)
  - Blowout Prevention BOP Diagram Attachment: 1 file(s)
  - Casing Spec Documents: 2 file(s)
  - Casing Design Assumptions and Worksheet(s): 1 file(s)
  - Hydrogen sulfide drilling operations plan: 1 file(s)
  - Proposed horizontal/directional/multi-lateral plan submission: 2 file(s)
  - Other Facets: 5 file(s)
  - Other Variances: 6 file(s)
- SUPO Report
- SUPO Attachments
  - Existing Road Map: 1 file(s)
  - New Road Map: 1 file(s)
  - Attach Well map: 1 file(s)
  - Production Facilities map: 4 file(s)
  - Water source and transportation map: 1 file(s)
  - Well Site Layout Diagram: 2 file(s)
  - Other SUPO Attachment: 1 file(s)
- PWD Report
- PWD Attachments
  - None

- Bond Report
- Bond Attachments
  - None



Form 3160-3  
(October 2024)FORM APPROVED  
OMB No. 1004-0137  
Expires: October 31, 2027UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
**APPLICATION FOR PERMIT TO DRILL OR REENTER**

|                                                                                                                                                                                                                                                                                            |  |                                                                                                                                                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER                                                                                                                                                                                               |  | 5. Lease Serial No.<br><b>NMLC068399</b>                                                                                                                                                                              |
| 1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other                                                                                                                                                            |  | 6. If Indian, Allottee or Tribe Name                                                                                                                                                                                  |
| 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone                                                                                                                               |  | 7. If Unit or CA Agreement, Name and No.<br><b>NMNM068294X/BIG EDDY</b>                                                                                                                                               |
| 2. Name of Operator<br><b>XTO PERMIAN OPERATING LLC</b>                                                                                                                                                                                                                                    |  | 8. Lease Name and Well No.<br><b>BIG EDDY UNIT DI 31W 10-7</b>                                                                                                                                                        |
| 3a. Address<br><b>6401 HOLIDAY HILL ROAD BLDG 5, MIDLAND, TX 7970</b>                                                                                                                                                                                                                      |  | 9. API Well No.<br><b>30-015-57366</b>                                                                                                                                                                                |
| 3b. Phone No. (include area code)<br><b>(432) 683-2277</b>                                                                                                                                                                                                                                 |  | 10. Field and Pool, or Exploratory<br><b>WC WILLIAMS SINK/BONE SPRING</b>                                                                                                                                             |
| 4. Location of Well (Report location clearly and in accordance with any State requirements. *)<br>At surface <b>SESW / 955 FSL / 2229 FWL / LAT 32.583273 / LONG -103.858329</b><br>At proposed prod. zone <b>LOT 3 / 1672 FSL / 50 FWL / LAT 32.585278 / LONG -103.916872</b>             |  | 11. Sec., T. R. M. or Blk. and Survey or Area<br><b>SEC 10/T20S/R31E/NMP</b>                                                                                                                                          |
| 14. Distance in miles and direction from nearest town or post office*                                                                                                                                                                                                                      |  | 12. County or Parish<br><b>EDDY</b>                                                                                                                                                                                   |
| 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)<br><b>955 feet</b>                                                                                                                                                   |  | 13. State<br><b>NM</b>                                                                                                                                                                                                |
| 16. No of acres in lease<br><b>558.84</b>                                                                                                                                                                                                                                                  |  | 17. Spacing Unit dedicated to this well<br><b>558.84</b>                                                                                                                                                              |
| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.<br><b>30 feet</b>                                                                                                                                                               |  | 20. BLM/BIA Bond No. in file<br><b>FED: COB000050</b>                                                                                                                                                                 |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc.)<br><b>3472 feet</b>                                                                                                                                                                                                                    |  | 22. Approximate date work will start*<br><b>06/16/2026</b>                                                                                                                                                            |
| 23. Estimated duration<br><b>30 days</b>                                                                                                                                                                                                                                                   |  | 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.<br>2. A Drilling Plan.<br>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).<br>5. Operator certification.<br>6. Such other site specific information and/or plans as may be requested by the BLM. |
| 25. Signature<br>(Electronic Submission)                                                                                                                                                                                                                                                   |  | Name (Printed/Typed)<br><b>RICHARD REDUS / Ph: (432) 682-8873</b>                                                                                                                                                     |
| Title<br><b>Permitting Manager</b>                                                                                                                                                                                                                                                         |  | Date<br><b>05/24/2024</b>                                                                                                                                                                                             |
| Approved by (Signature)<br>(Electronic Submission)                                                                                                                                                                                                                                         |  | Name (Printed/Typed)<br><b>CODY LAYTON / Ph: (575) 234-5959</b>                                                                                                                                                       |
| Title<br><b>Assistant Field Manager Lands &amp; Minerals</b>                                                                                                                                                                                                                               |  | Date<br><b>09/22/2025</b>                                                                                                                                                                                             |
| Office<br><b>Carlsbad Field Office</b>                                                                                                                                                                                                                                                     |  |                                                                                                                                                                                                                       |
| 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.<br>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. |  |                                                                                                                                                                                                                       |

(Continued on page 2)

\*(Instructions on page 2)



## INSTRUCTIONS

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

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

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

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

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

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

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

## NOTICES

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

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

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

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

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

The Paperwork Reduction Act of 1995 requires us to inform you that:

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

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

## Additional Operator Remarks

### Location of Well

0. SHL: SESW / 955 FSL / 2229 FWL / TWSP: 20S / RANGE: 31E / SECTION: 10 / LAT: 32.583273 / LONG: -103.858329 ( TVD: 0 feet, MD: 0 feet )

PPP: NESW / 1672 FSL / 2641 FEL / TWSP: 20S / RANGE: 31E / SECTION: 9 / LAT: 32.585257 / LONG: -103.874145 ( TVD: 9454 feet, MD: 15100 feet )

PPP: NESW / 1672 FSL / 2535 FWL / TWSP: 20S / RANGE: 31E / SECTION: 10 / LAT: 32.585244 / LONG: -103.857341 ( TVD: 9454 feet, MD: 9900 feet )

BHL: LOT 3 / 1672 FSL / 50 FWL / TWSP: 20S / RANGE: 31E / SECTION: 7 / LAT: 32.585278 / LONG: -103.916872 ( TVD: 9454 feet, MD: 27633 feet )

### BLM Point of Contact

Name: MARIAH HUGHES

Title: Land Law Examiner

Phone: (575) 234-5972

Email: MHUGHES@BLM.GOV

CONFIDENTIAL

**PECOS DISTRICT  
SURFACE USE  
CONDITIONS OF APPROVAL**

|                  |                                   |
|------------------|-----------------------------------|
| OPERATOR'S NAME: | <b>XTO Permian Operating, LLC</b> |
| LEASE NO.:       | <b>karst</b>                      |
| COUNTY:          | Eddy County, New Mexico           |

Wells:

- BEU DI 31 WEST 10-7 # 1H
- BEU DI 31 WEST 10-7 # 2H
- BEU DI 31 WEST 10-7 # 3H
- BEU DI 31 WEST 10-7 # 4H
- BEU DI 31 WEST 10-7 # 5H
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## 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

If noxious weeds were NOT found during onsite:

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.

If noxious weeds WERE found during onsite:

The operator shall treat the noxious weeds that are currently established and any noxious weeds that 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](mailto: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-hour production, 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 WILDLIFE

### 2.3.1 Lesser Prairie Chicken

#### 2.3.1.1 Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken:

Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

#### 2.3.1.2 Timing Limitation Exceptions:

The Carlsbad Field Office will publish an annual map of where the LPC timing and noise stipulations and conditions of approval (Limitations) will apply for the identified year (between March 1 and June 15) based on the latest survey information. The LPC Timing Area map will identify areas which are Habitat Areas (HA), Isolated Population Area (IPA), and Primary Population Area (PPA). The LPC Timing Area map will also have an area in red crosshatch. The red crosshatch area is the only area where an operator is required to submit a request for exception to the LPC Limitations. If an operator is operating outside the red crosshatch area, the LPC Limitations do not apply for that year and an exception to LPC Limitations is not required.

#### 2.3.1.3 Ground-level Abandoned Well Marker to avoid raptor perching:

Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at [BLM\\_NM\\_CFO\\_Construction\\_Reclamation@blm.gov](mailto:BLM_NM_CFO_Construction_Reclamation@blm.gov).

### 2.4.1 SPECIAL STATUS PLANT SPECIES

## 2.4 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).

**\*AND/OR\***

All above ground structures including but not limited to pumpjacks, storage tanks, production equipment, etc. must be shorter than 8 feet.

### 2.5.2 VRM III Facility Requirement

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).



Low-profile tanks, pumpjacks, and production equipment etc. must be shorter than 8 feet.

## 2.6 POTASH RESOURCES

Lessees must comply with the 2012 Secretarial Potash Order. The Order is designed to manage the efficient development of oil, gas, and potash resources. Section 6 of the Order provides general provisions which must be followed to minimize conflict between the industries and ensure the safety of operations.

To minimize impacts to potash resources, the proposed well is confined within the boundaries of the established Big Eddy Unit 31 & 33 Drill Island.

## 3. CONSTRUCTION REQUIREMENTS

### 3.1 CONSTRUCTION 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](mailto: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 enclosure 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 enclosure 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 ACCESS 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.

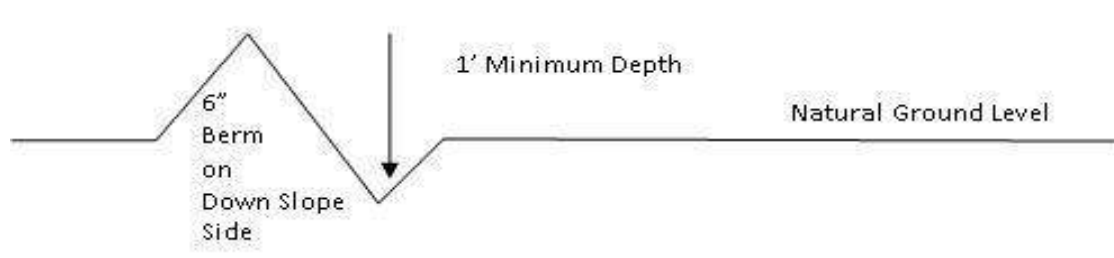
#### 3.7.6 Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outslowing 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:

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

#### 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

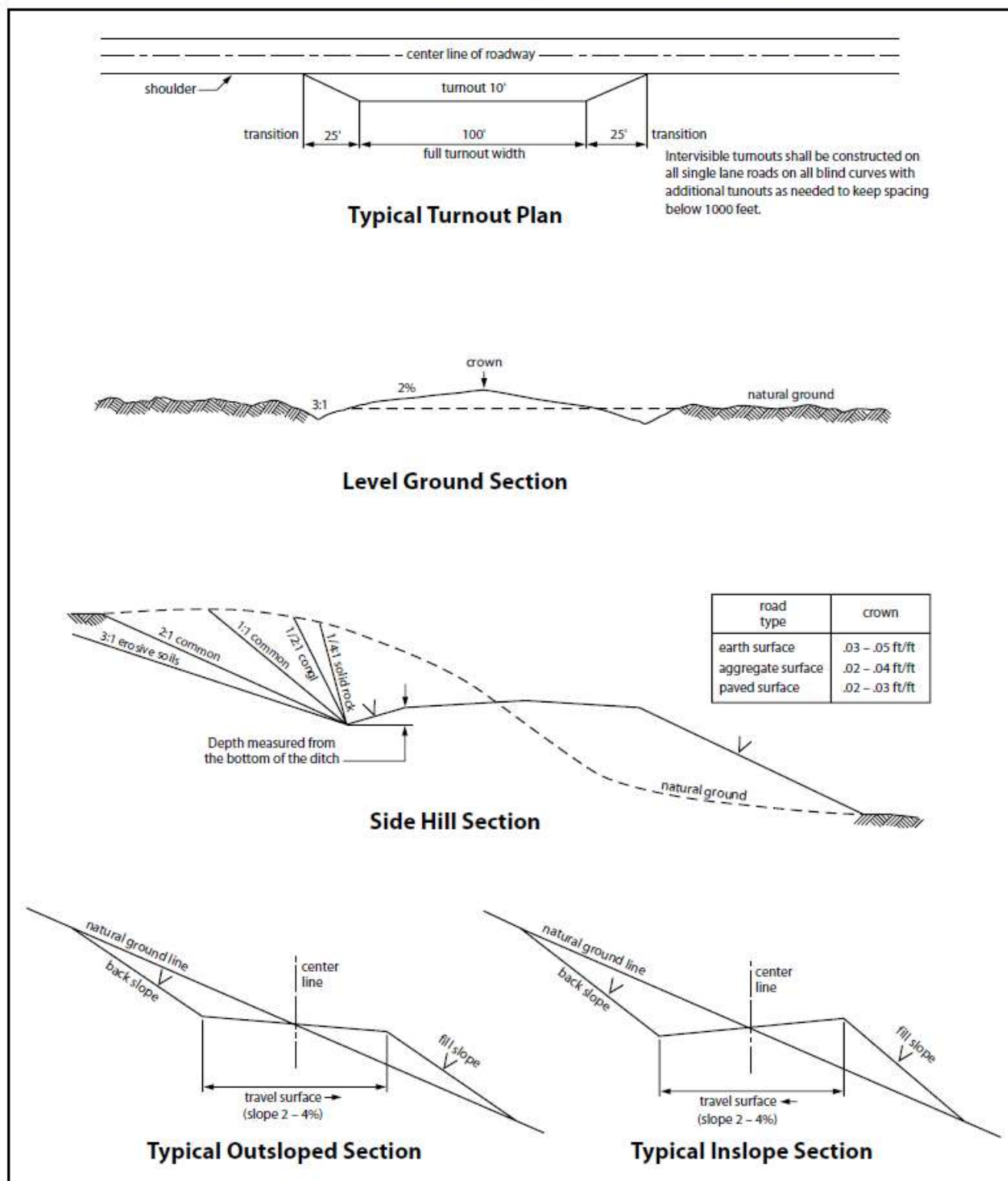


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

## 4. PIPELINES

- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, passages, or voids are intersected by trenching, and no pipe will be laid in the trench at that point until clearance has been issued by the Authorized Officer.
- A leak detection plan **will be submitted to the BLM Carlsbad Field Office for approval** prior to pipeline installation. The method could incorporate gauges to detect pressure drops, siting values 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.
- Regular monitoring is required to quickly identify leaks for their immediate and proper treatment.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

### 4.1 BURIED PIPELINES

A copy of the application (APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request a copy of your permit during construction to ensure compliance with all stipulations.

Operator agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Operator shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this APD.
2. The Operator shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the operator shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the pipeline corridor or on facilities authorized under this APD. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The operator agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Pipeline corridor (unless the release or threatened release is wholly unrelated to the operator's activity on the pipeline corridor), or resulting from the activity of the Operator on the pipeline corridor. This agreement applies without regard to whether a release is caused by the operator, its agent, or unrelated third parties.
4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant is discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of operator, regardless of fault. Upon failure of operator to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and

fish and wildlife habitats, at the full expense of the operator. Such action by the Authorized Officer shall not relieve operator of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized pipeline corridor.
6. The pipeline will be buried with a minimum cover of 36 inches between the top of the pipe and ground level.
7. The maximum allowable disturbance for construction in this pipeline corridor will be 30 feet:
  - Blading of vegetation within the pipeline corridor will be allowed: maximum width of blading operations will not exceed **20** feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation.*)
  - Clearing of brush species within the pipeline corridor will be allowed: maximum width of clearing operations will not exceed **30** feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)
  - The remaining area of the pipeline corridor (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)
8. The operator shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately   6   inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.
9. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this pipeline corridor and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire pipeline corridor shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted, and a 6-inch berm will be left over the ditch line to allow for settling back to grade.
10. The pipeline will be identified by signs at the point of origin and completion of the pipeline corridor and at all road crossings. At a minimum, signs will state the operator's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.
11. The operator shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the operator before maintenance begins. The operator will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the operator to construct temporary deterrence structures.
12. 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 associated roads, 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 and BLM requirements and policies.
13. Escape Ramps - The operator will construct and maintain pipeline/utility trenches [that are not otherwise fenced, screened, or netted] to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

- a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them alive at least 100 yards from the trench.
- b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30-degree slope and spaced no more than 500 feet apart) shall be placed in the trench. Before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them alive at least 100 yards from the trench.

## 4.2 RANGELAND MITIGATION FOR PIPELINES

### 4.5.1 Fence Requirement

Where entry is granted across a fence line, the fence must be braced and tied off on both sides of the passageway with H-braces 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 operator prior to crossing any fence(s).

### 4.5.2 Cattleguards

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at road-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.

### 4.5.3 Livestock Watering Requirement

Structures that provide water to livestock, such as windmills, pipelines, drinking troughs, and earthen reservoirs, will be avoided by moving the proposed action.

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 operator if any damage occurs to structures that provide water to livestock.

- Livestock operators will be contacted, and adequate crossing facilities will be provided as needed to ensure livestock are not prevented from reaching water sources because of the open trench.
- Wildlife and livestock trails will remain open and passable by adding soft plugs (areas where the trench is excavated and replaced with minimal compaction) during the construction phase. Soft plugs with ramps on either side will be left at all well-defined livestock and wildlife trails along the open trench to allow passage across the trench and provide a means of escape for livestock and wildlife that may enter the trench.
- Trenches will be backfilled as soon as feasible to minimize the amount of open trench. The Operator will avoid leaving trenches open overnight to the extent possible and open trenches that cannot be backfilled immediately will have escape ramps (wooden) placed at no more than 2,500 feet intervals and sloped no more than 45 degrees.

## 5. OVERHEAD ELECTRIC LINES

**A copy of the APD and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.**

Operator agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:



1. The operator shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this APD.
2. The operator shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the operator shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the powerline corridor or on facilities authorized under this powerline corridor. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The operator agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Powerline corridor (unless the release or threatened release is wholly unrelated to the operator's activity on the powerline corridor), or resulting from the activity of the Operator on the powerline corridor. This agreement applies without regard to whether a release is caused by the operator, its agent, or unrelated third parties.
4. There will be no clearing or blading of the powerline corridor unless otherwise agreed to in writing by the Authorized Officer.
5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The operator shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this powerline corridor, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the operator without liability or expense to the United States.
6. Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.
7. The operator shall minimize disturbance to existing fences and other improvements on public lands. The operator is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The operator will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.
8. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.
9. Upon cancellation, relinquishment, or expiration of this APD, the operator shall comply with those abandonment procedures as prescribed by the Authorized Officer.
10. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this APD, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.
11. Special Stipulations:

- For reclamation remove poles, lines, transformer, etc. and dispose of properly. Fill in any holes from the poles removed.

#### 12. Karst stipulations for overhead electric lines

- Smaller powerlines will be routed around sinkholes and other karst features to avoid or lessen the possibility of encountering near surface voids and to minimize changes to runoff or possible leaks and spills from entering karst systems. Larger powerlines will adjust their pole spacing to avoid cave and karst features.
- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction.
- No further construction will be done until clearance has been issued by the Authorized Officer.
- Special restoration stipulations or realignment may be required.

## 6. PRODUCTION (POST DRILLING)

### 5.1 WELL STRUCTURES & FACILITIES

#### 5.1.1 Placement of Production Facilities

Production facilities must be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

#### 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.

## **7. 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/permittee 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:

| <u>Species</u>                             | <u>lb/acre</u> |
|--------------------------------------------|----------------|
| 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

## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

|                                                                                                         |
|---------------------------------------------------------------------------------------------------------|
| <b>OPERATOR'S NAME:</b> XTO                                                                             |
| <b>WELL NAME &amp; NO.:</b> Big Eddy Unit DI 31W 10-7 4H                                                |
| <b>LOCATION:</b> 10-20S-31E-NMP                                                                         |
| <b>COUNTY:</b> <span style="border: 1px solid black; padding: 2px 10px;">Eddy County, New Mexico</span> |

Create COAs

|                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| <b>H<sub>2</sub>S</b><br><div style="border: 1px solid black; padding: 2px; margin-top: 5px;">Not Reported</div>                                                                                                                                                                                               | <b>Cave / Karst</b><br><div style="border: 1px solid black; padding: 2px; margin-top: 5px;">Low</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Waste Prevention Rule</b><br><div style="border: 1px solid black; padding: 2px; margin-top: 5px;">Waste Minimization Plan</div> |
| <b>Potash</b><br><div style="border: 1px solid black; padding: 2px; margin-top: 5px;">R-111-Q</div>                                                                                                                                                                                                            | <b>R-111-Q Design</b><br><div style="border: 1px solid black; padding: 2px; margin-top: 5px;">4-String: Open 1st Int x 2nd Annulus (ICP 2 below Relief Zone)</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                    |
| <b>Wellhead</b><br><div style="border: 1px solid black; padding: 2px; margin-top: 5px;">Multibowl</div><br><br><input checked="" type="checkbox"/> Flex Hose<br><input checked="" type="checkbox"/> Break Testing                                                                                              | <div style="text-align: center; margin-bottom: 10px;"> <b>Casing</b><br/> <div style="border: 1px solid black; padding: 2px; display: inline-block;">4-String Well</div> </div> <div style="display: flex; justify-content: space-around;"> <input type="checkbox"/> Liner           <input checked="" type="checkbox"/> Fluid Filled           <input type="checkbox"/> Casing Clearance         </div> <div style="text-align: center; margin-bottom: 10px;"> <b>Cementing</b> </div> <div style="display: flex; justify-content: space-around;"> <input type="checkbox"/> DV Tool           <input type="checkbox"/> Bradenhead           <input checked="" type="checkbox"/> Echometer         </div> <div style="display: flex; justify-content: space-around;"> <input checked="" type="checkbox"/> Offline Cement           <input checked="" type="checkbox"/> Open Annulus           <input type="checkbox"/> Pilot Hole         </div> |                                                                                                                                    |
| <b>Special Requirements</b><br><div style="display: flex; justify-content: space-between; margin-top: 10px;"> <input type="checkbox"/> Capitan Reef           <input type="checkbox"/> Water Disposal           <input type="checkbox"/> COM           <input checked="" type="checkbox"/> Unit         </div> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                    |

### A. HYDROGEN SULFIDE

Hydrogen Sulfide (H<sub>2</sub>S) monitors shall be installed prior to drilling out the surface shoe. If H<sub>2</sub>S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet 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 **20** inch surface casing shall be set at approximately **948** 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 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 (including 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.

***1st Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.***

2. The minimum required fill of cement behind the **13-3/8** inch 1st intermediate casing is **cement to surface**. If cement does not circulate, see B.1.a, c-d above.
  - **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry** due to the presence of cave/karst, Capitan Reef, or potash features.
  - **Operator shall run Echo-meter to verify Cement Slurry/Fluid top in the annulus.** Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry between second stage BH and top out.
    - Operator must use a limited flush fluid volume of 1 bbl following backside cementing procedures.
    - No displacement fluid/wash out shall be utilized at the top of the cement slurry during second stage bradenhead when running Echo-meter if cement is required to surface.
    - Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.
3. The minimum required fill of cement behind the **9-5/8** inch 2nd intermediate casing is **500 feet** into the previous casing but not higher than **USGS Marker Bed No. 126 (base of the McNutt Potash ore zone.)**
  - Operator must verify top of cement per R-111-Q requirements. Submit results to the BLM. 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 the presence of cave/karst, Capitan Reef, or potash features.
  - **Operator shall run Echo-meter to verify Cement Slurry/Fluid top in the annulus.** Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry between second stage BH and top out.
    - Operator must use a limited flush fluid volume of 1 bbl following backside cementing procedures.

- No displacement fluid/wash out shall be utilized at the top of the cement slurry during second stage bradenhead when running Echo-meter if cement is required to surface.
  - Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.
  - **A monitored open annulus will be incorporated during completion by leaving the above annulus un-cemented and monitored.** Operator must follow all monitoring requirements listed within R-111-Q. Tieback shall be met within **180 days**.
  - Operator has proposed an open annulus completion in R-111-Q. Operator shall provide a method of verification pre-completion top of cement. **Submit results to the BLM.**
  - Pressure monitoring device and Pressure Safety Valves must be installed at surface on both the intermediate annulus and the production annulus for the life of the well.
  - **In the event of a casing failure during completion**, the operator **must** contact the BLM at engineers (575-706-2779) and inspection staff (575-361-2822 Eddy County).
4. The minimum required fill of cement behind the **5-1/2** inch production casing is **500 feet** into the previous casing but not higher than **USGS Marker Bed No. 126 (base of the McNutt Potash ore zone)**. **Excess calculates to 2%. Additional cement maybe required.**
- Operator must verify top of cement per R-111-Q requirements. Submit results to the BLM. 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 the presence of cave/karst, Capitan Reef, or potash features.
  - **Operator shall run Echo-meter to verify Cement Slurry/Fluid top in the annulus.** Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry between second stage BH and top out.
    - Operator must use a limited flush fluid volume of 1 bbl following backside cementing procedures.
    - No displacement fluid/wash out shall be utilized at the top of the cement slurry during second stage bradenhead when running Echo-meter if cement is required to surface.
    - Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.
  - **A monitored open annulus will be incorporated during completion by leaving the above annulus un-cemented and monitored.** Operator must follow all monitoring requirements listed within R-111-Q. Tieback shall be met within **180 days**.
  - Operator has proposed an open annulus completion in R-111-Q. Operator shall provide a method of verification pre-completion top of cement. **Submit results to the BLM.**
  - Pressure monitoring device and Pressure Safety Valves must be installed at surface on both the intermediate annulus and the production annulus for the life of the well.

- **In the event of a casing failure during completion**, the operator **must** contact the BLM at engineers (575-706-2779) and inspection staff (575-361-2822 Eddy County).

### C. PRESSURE CONTROL

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 Diverter system is approved as a variance to drill the intermediate casing section.**
  - 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.
2. 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).
3. Break testing has been approved for this well ONLY on those 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.)** If in the event break testing is not utilized, then a full BOPE test would be conducted.
  - a. Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation. **BOPE Break Testing is NOT permitted to drilling the production hole section.**
  - b. While in transfer between wells, BOPE shall be secured by the hydraulic carrier or cradle.
  - c. 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).
  - d. As a minimum, a full BOPE test shall be performed at 21-day intervals.
  - e. In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per **43 CFR 3172**. 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.

#### **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)**

##### **Offline Cementing**

Offline cementing has been approved for **all hole sections**. Contact the BLM prior to the commencement of any offline cementing procedure.



## 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](mailto: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 2<sup>nd</sup> 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 2<sup>nd</sup> 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 8/5/2025**  
575-234-5998 / zstevens@blm.gov



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

## Operator Certification Data Report

09/29/2025

### Operator

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

**NAME:** VISHAL RAJAN

**Signed on:** 05/24/2024

**Title:** Regulatory Clerk

**Street Address:** 6401 HOLIDAY HILL ROAD BLDG 5

**City:** MIDLAND

**State:** TX

**Zip:** 79707

**Phone:** (432)620-6704

**Email address:** VISHAL.RAJAN@EXXONMOBIL.COM

### Field

**Representative Name:**

**Street Address:**

**City:**

**State:**

**Zip:**

**Phone:**

**Email address:**



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

**Application Data**

09/29/2025

**APD ID:** 10400098603**Submission Date:** 05/24/2024

Highlighted data  
reflects the most  
recent changes  
[Show Final Text](#)

**Operator Name:** XTO PERMIAN OPERATING LLC**Well Name:** BIG EDDY UNIT DI 31W 10-7**Well Number:** 4H**Well Type:** OIL WELL**Well Work Type:** Drill

### Section 1 - General

**APD ID:** 10400098603**Tie to previous NOS?** N**Submission Date:** 05/24/2024**BLM Office:** Carlsbad**User:** VISHAL RAJAN**Title:** Regulatory Clerk**Federal/Indian APD:** FED**Is the first lease penetrated for production Federal or Indian?** FED**Lease number:** NMLC068399**Lease Acres:****Surface access agreement in place?****Allotted?****Reservation:****Agreement in place?** YES**Federal or Indian agreement:** FEDERAL**Agreement number:** NMNM68294X**Agreement name:** BIG EDDY**Keep application confidential?** Y**Permitting Agent?** NO**APD Operator:** XTO PERMIAN OPERATING LLC**Operator letter of**

### Operator Info

**Operator Organization Name:** XTO PERMIAN OPERATING LLC**Operator Address:** 6401 HOLIDAY HILL ROAD BLDG 5**Zip:** 79707**Operator PO Box:****Operator City:** MIDLAND**State:** TX**Operator Phone:** (432)683-2277**Operator Internet Address:**

### Section 2 - Well Information

**Well in Master Development Plan?** NO**Master Development Plan name:****Well in Master SUPO?** NO**Master SUPO name:****Well in Master Drilling Plan?** NO**Master Drilling Plan name:****Well Name:** BIG EDDY UNIT DI 31W 10-7**Well Number:** 4H**Well API Number:****Field/Pool or Exploratory?** Field and Pool**Field Name:** WC WILLIAMS  
SINK**Pool Name:** BONE SPRING



Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI 31W 10-7

Well Number: 4H

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

Is the proposed well in a Helium production area? N Use Existing Well Pad? N New surface disturbance?

Type of Well Pad: MULTIPLE WELL

Multiple Well Pad Name: BIG  
EDDY UNIT DI 31

Number: 1

Well Class: HORIZONTAL

Number of Legs: 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town:

Distance to nearest well: 30 FT

Distance to lease line: 955 FT

Reservoir well spacing assigned acres Measurement: 558.84 Acres

Well plat: BIG\_EDDY\_UNIT\_DI\_31W\_10\_7\_4H\_C102\_06\_24\_2025\_20250625155124.pdf

Well work start Date: 06/16/2026

Duration: 30 DAYS

### Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83

Vertical Datum: NAVD88

Survey number:

Reference Datum: GROUND LEVEL

| Wellbore     | NS-Foot | NS Indicator | EW-Foot | EW Indicator | Twsp | Range | Section | Aliquot/Lot/Tract | Latitude  | Longitude   | County | State      | Meridian   | Lease Type | Lease Number | Elevation | MD   | TVD  | Will this well produce from this |
|--------------|---------|--------------|---------|--------------|------|-------|---------|-------------------|-----------|-------------|--------|------------|------------|------------|--------------|-----------|------|------|----------------------------------|
| SHL Leg #1   | 955     | FSL          | 2229    | FWL          | 20S  | 31E   | 10      | Aliquot SESW      | 32.583273 | -103.858329 | EDD Y  | NEW MEXICO | NEW MEXICO | F          | NMLC068399   | 3472      |      |      | Y                                |
| KOP Leg #1   | 1672    | FSL          | 2535    | FWL          | 20S  | 31E   | 10      | Aliquot NESW      | 32.585244 | -103.857341 | EDD Y  | NEW MEXICO | NEW MEXICO | F          | NMLC068399   | -5409     | 8970 | 8881 | Y                                |
| PPP Leg #1-1 | 1672    | FSL          | 2535    | FWL          | 20S  | 31E   | 10      | Aliquot NESW      | 32.585244 | -103.857341 | EDD Y  | NEW MEXICO | NEW MEXICO | F          | NMLC068399   | -5982     | 9900 | 9454 | Y                                |



**Operator Name:** XTO PERMIAN OPERATING LLC**Well Name:** BIG EDDY UNIT DI 31W 10-7**Well Number:** 4H

| Wellbore           | NS-Foot  | NS Indicator | EW-Foot  | EW Indicator | Twsp | Range | Section | Aliquot/Lot/Tract | Latitude      | Longitude           | County   | State             | Meridian          | Lease Type | Lease Number   | Elevation     | MD        | TVD      | Will this well produce from this |
|--------------------|----------|--------------|----------|--------------|------|-------|---------|-------------------|---------------|---------------------|----------|-------------------|-------------------|------------|----------------|---------------|-----------|----------|----------------------------------|
| PPP<br>Leg<br>#1-2 | 167<br>2 | FSL          | 264<br>1 | FEL          | 20S  | 31E   | 9       | Aliquot<br>NESW   | 32.58525<br>7 | -<br>103.8741<br>45 | EDD<br>Y | NEW<br>MEXI<br>CO | NEW<br>MEXI<br>CO | F          | NMNM<br>0251   | -<br>598<br>2 | 151<br>00 | 945<br>4 | Y                                |
| EXIT<br>Leg<br>#1  | 167<br>2 | FSL          | 100      | FW<br>L      | 20S  | 31E   | 7       | Lot<br>3          | 32.58527<br>9 | -<br>103.9167<br>1  | EDD<br>Y | NEW<br>MEXI<br>CO | NEW<br>MEXI<br>CO | F          | NMLC0<br>70220 | -<br>598<br>2 | 275<br>83 | 945<br>4 | Y                                |
| BHL<br>Leg<br>#1   | 167<br>2 | FSL          | 50       | FW<br>L      | 20S  | 31E   | 7       | Lot<br>3          | 32.58527<br>8 | -<br>103.9168<br>72 | EDD<br>Y | NEW<br>MEXI<br>CO | NEW<br>MEXI<br>CO | F          | NMLC0<br>70220 | -<br>598<br>2 | 276<br>33 | 945<br>4 | Y                                |

|                                                                                                                                                                                                                                                        |                                                                                                                          |                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div>Santa Fe Main Office<br/>Phone: (505) 476-3441<br/>General Information<br/>Phone: (505) 629-6116<br/><br/>Online Phone Directory Visit:<br/><a href="https://www.emnrd.nm.gov/ocd/contact-us/">https://www.emnrd.nm.gov/ocd/contact-us/</a></div> | <div>State of New Mexico<br/>Energy, Minerals &amp; Natural Resources<br/>Department<br/>OIL CONSERVATION DIVISION</div> | <div>C-102<br/>Revised July 9, 2024<br/>Submit Electronically<br/>via OCD Permitting</div>                                                                                                    |
|                                                                                                                                                                                                                                                        |                                                                                                                          | <div>Submittal Type:</div> <div><input checked="" type="checkbox"/> Initial Submittal</div> <div><input type="checkbox"/> Amended Report</div> <div><input type="checkbox"/> As Drilled</div> |

WELL LOCATION INFORMATION

|                                                                                                                                                        |                                                     |                                                                                                                                                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| API Number<br><b>30-015- 57366</b>                                                                                                                     | Pool Code<br><b>97650</b>                           | Pool Name<br><b>WC WILLIAMS SINK; BONE SPRING</b>                                                                                                      |
| Property Code<br><b>337823</b>                                                                                                                         | Property Name<br><b>BIG EDDY UNIT DI 31W 10-7</b>   | Well Number<br><b>4H</b>                                                                                                                               |
| OGRID No.<br><b>373075</b>                                                                                                                             | Operator Name<br><b>XTO PERMIAN OPERATING, LLC.</b> | Ground Level Elevation<br><b>3472'</b>                                                                                                                 |
| Surface Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal |                                                     | Mineral Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal |

Surface Location

|    |         |          |       |     |              |              |           |             |        |
|----|---------|----------|-------|-----|--------------|--------------|-----------|-------------|--------|
| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude  | Longitude   | County |
| N  | 10      | 20S      | 31E   |     | 955 FSL      | 2,229 FWL    | 32.583273 | -103.858329 | EDDY   |

Bottom Hole Location

|    |         |          |       |     |              |              |           |             |        |
|----|---------|----------|-------|-----|--------------|--------------|-----------|-------------|--------|
| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude  | Longitude   | County |
|    | 07      | 20S      | 31E   | 3   | 1,672 FSL    | 50 FWL       | 32.585278 | -103.916872 | EDDY   |

|                                  |                                            |                   |                                                                                                               |                                |
|----------------------------------|--------------------------------------------|-------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------|
| Dedicated Acres<br><b>558.84</b> | Infill or Defining Well<br><b>DEFINING</b> | Defining Well API | Overlapping Spacing Unit (Y/N)<br><b>N</b>                                                                    | Consolidation Code<br><b>U</b> |
| Order Numbers:                   |                                            |                   | Well setbacks are under Common Ownership: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |                                |

Kick Off Point (KOP)

|    |         |          |       |     |              |              |           |             |        |
|----|---------|----------|-------|-----|--------------|--------------|-----------|-------------|--------|
| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude  | Longitude   | County |
| K  | 10      | 20S      | 31E   |     | 1,672 FSL    | 2,535 FWL    | 32.585244 | -103.857341 | EDDY   |

First Take Point (FTP)

|    |         |          |       |     |              |              |           |             |        |
|----|---------|----------|-------|-----|--------------|--------------|-----------|-------------|--------|
| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude  | Longitude   | County |
| K  | 10      | 20S      | 31E   |     | 1,672 FSL    | 2,535 FWL    | 32.585244 | -103.857341 | EDDY   |

Last Take Point (LTP)

|    |         |          |       |     |              |              |           |             |        |
|----|---------|----------|-------|-----|--------------|--------------|-----------|-------------|--------|
| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude  | Longitude   | County |
|    | 07      | 20S      | 31E   | 3   | 1,672 FSL    | 100 FWL      | 32.585279 | -103.916710 | EDDY   |

|                                                                    |                                                                                                    |                                         |
|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-----------------------------------------|
| Unitized Area or Area of Uniform Interest<br><b>NMNM-105467880</b> | Spacing Unit Type <input checked="" type="checkbox"/> Horizontal <input type="checkbox"/> Vertical | Ground Floor Elevation:<br><b>3472'</b> |
|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-----------------------------------------|

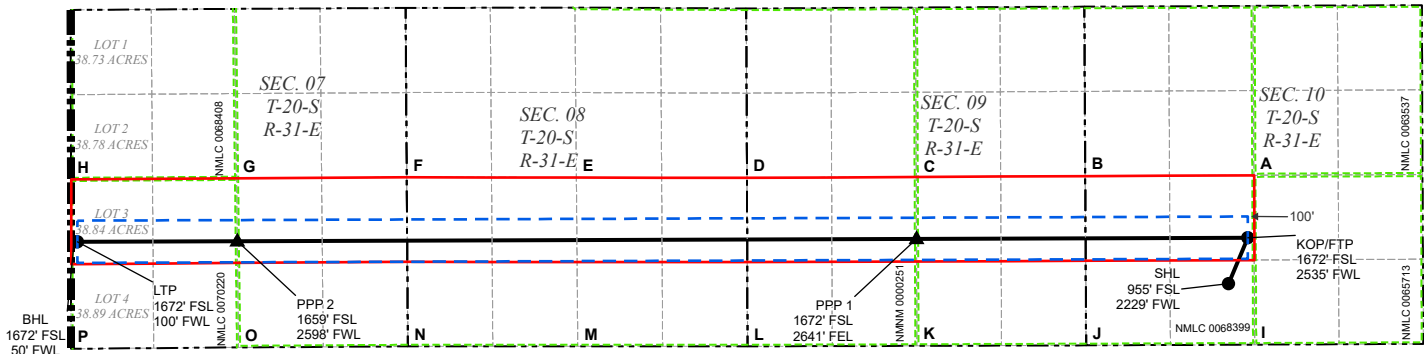
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div>OPERATOR CERTIFICATIONS</div> <div><p>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 a 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 well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p><p>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 formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.</p></div> <div><div><div>L. Srinivas Naveen</div><div>6/25/2025</div></div><div>SignatureDate</div><div>Srinivas Naveen Laghuvarapu</div><div>Printed Name</div><div>srinivas.n.laghuvarapu@exxonmobil.com</div><div>Email Address</div></div> | <div>SURVEYOR CERTIFICATIONS</div> <div><p>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.</p></div> <div><div><div><div><div>MARK DILLON HARP</div><div>NEW MEXICO</div><div>23786</div><div>PROFESSIONAL SURVEYOR</div></div></div><div><div><div>T. Dillon Harp</div><div>Signature and Seal of Professional Surveyor</div></div><div><div>23786</div><div>06-24-2025</div></div><div>Certificate NumberDate of Survey</div></div><div><div>DN</div><div>618.013004.11-12</div></div></div></div> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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

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 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 than the First Take Point or Last Take Point) that is closest to any outer boundary of the tract.

Surveyors 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 is not surveyed, contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.



LEGEND

- SECTION LINE
- 
- 330' BUFFER

| WELL COORDINATE TABLE |              |              |            |             |              |              |            |             |
|-----------------------|--------------|--------------|------------|-------------|--------------|--------------|------------|-------------|
| WELL                  | NAD 83 NME X | NAD 83 NME Y | NAD 83 LAT | NAD 83 LON  | NAD 27 NME X | NAD 27 NME Y | NAD 27 LAT | NAD 27 LON  |
| SHL                   | 687,644.1    | 576,252.2    | 32.583273  | -103.858329 | 646,465.0    | 576,190.3    | 32.583153  | -103.857826 |
| KOP/FTP               | 687,945.2    | 576,970.5    | 32.585244  | -103.857341 | 646,766.1    | 576,908.6    | 32.585124  | -103.856838 |
| LTP                   | 669,659.1    | 576,906.4    | 32.585279  | -103.916710 | 628,479.9    | 576,844.4    | 32.585159  | -103.916206 |
| BHL                   | 669,609.1    | 576,906.0    | 32.585278  | -103.916872 | 628,429.9    | 576,844.0    | 32.585158  | -103.916368 |
| PPP 1                 | 682,769.4    | 576,952.4    | 32.585257  | -103.874145 | 641,590.4    | 576,890.4    | 32.585137  | -103.873641 |
| PPP 2                 | 672,156.8    | 576,915.2    | 32.585276  | -103.908601 | 630,977.6    | 576,853.2    | 32.585156  | -103.908097 |

| CORNER COORDINATE TABLE |              |              |              |              |
|-------------------------|--------------|--------------|--------------|--------------|
| CORNER                  | NAD 83 NME X | NAD 83 NME Y | NAD 27 NME X | NAD 27 NME Y |
| A                       | 688,040.7    | 577,945.1    | 646,861.6    | 577,883.2    |
| B                       | 685,405.3    | 577,933.1    | 644,226.2    | 577,871.1    |
| C                       | 682,765.3    | 577,919.7    | 641,586.2    | 577,857.8    |
| D                       | 680,121.1    | 577,906.4    | 638,942.0    | 577,844.4    |
| E                       | 677,454.8    | 577,910.7    | 636,275.6    | 577,848.7    |
| F                       | 674,804.4    | 577,915.0    | 633,625.2    | 577,853.0    |
| G                       | 672,144.8    | 577,898.0    | 630,965.6    | 577,836.0    |
| H                       | 669,558.6    | 577,881.5    | 628,379.4    | 577,819.5    |
| I                       | 688,053.1    | 575,299.0    | 646,873.9    | 575,237.0    |
| J                       | 685,420.0    | 575,287.4    | 644,240.8    | 575,225.5    |
| K                       | 682,776.6    | 575,280.2    | 641,597.5    | 575,218.3    |
| L                       | 680,128.7    | 575,272.6    | 638,949.5    | 575,210.6    |
| M                       | 677,476.5    | 575,271.3    | 636,297.3    | 575,209.4    |
| N                       | 674,822.2    | 575,271.8    | 633,643.0    | 575,209.8    |
| O                       | 672,177.2    | 575,256.5    | 630,997.9    | 575,194.5    |
| P                       | 669,560.1    | 575,233.5    | 628,380.8    | 575,171.5    |



# Drilling Plan Data Report

09/29/2025

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

APD ID: 10400098603

Submission Date: 05/24/2024

Highlighted data  
reflects the most  
recent changes

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI 31W 10-7

Well Number: 4H

Well Type: OIL WELL

Well Work Type: Drill

[Show Final Text](#)

## Section 1 - Geologic Formations

| Formation ID | Formation Name  | Elevation | True Vertical | Measured Depth | Lithologies          | Mineral Resources                        | Producing Formatio |
|--------------|-----------------|-----------|---------------|----------------|----------------------|------------------------------------------|--------------------|
| 16444000     | QUATERNARY      | 3472      | 0             | 0              | ALLUVIUM             | USEABLE WATER                            | N                  |
| 16444001     | RUSTLER         | 2715      | 757           | 757            | ANHYDRITE, SANDSTONE | USEABLE WATER                            | N                  |
| 16444002     | SALADO          | 2395      | 1077          | 1077           | SALT                 | POTASH                                   | N                  |
| 16444003     | BASE OF SALT    | 1132      | 2340          | 2340           | SALT                 | POTASH                                   | N                  |
| 16444004     | CAPITAN REEF    | 539       | 2933          | 2933           | LIMESTONE            | USEABLE WATER                            | N                  |
| 16444005     | DELAWARE        | -800      | 4272          | 4272           | LIMESTONE, SANDSTONE | NATURAL GAS, OIL, OTHER : Produced Water | N                  |
| 16444006     | BRUSHY CANYON   | -2177     | 5649          | 5649           | SANDSTONE            | NATURAL GAS, OIL, OTHER : Produced Water | N                  |
| 16444007     | BONE SPRING     | -3751     | 7223          | 7223           | LIMESTONE, SANDSTONE | NATURAL GAS, OIL, OTHER : Produced Water | Y                  |
| 16444008     | BONE SPRING 1ST | -4989     | 8461          | 8461           | LIMESTONE, SANDSTONE | NATURAL GAS, OIL, OTHER : Produced Water | Y                  |
| 16444009     | BONE SPRING 2ND | -5564     | 9036          | 9036           | LIMESTONE, SANDSTONE | NATURAL GAS, OIL, OTHER : Produced Water | Y                  |

## Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M

Rating Depth: 9454

**Equipment:** Once the permanent WH is installed on the casing, the blow out preventer equipment (BOP) will consist of a minimum 5M Hydril and a minimum 10M triple Ram BOP. XTO will use a Multi-Bowl System which is attached.

Requesting Variance? YES

**Variance request:** Offline Cementing Variance XOM requests the option to offline cement and remediate (if needed) surface, intermediate and production casing strings where batch drilling is approved and if unplanned remediation is needed. XOM 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. Offline cement operations will then be conducted after the rig is moved off the current well to the next well in the batch sequence. The TA cap will also be installed when applicable per wellhead manufacturer's procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops. Break Test Variance A break testing variance is requested to ONLY test broken pressure seals on the BOP

**Operator Name:** XTO PERMIAN OPERATING LLC**Well Name:** BIG EDDY UNIT DI 31W 10-7**Well Number:** 4H

equipment when moving from wellhead to wellhead for the intermediate hole sections which is in compliance with API Standard 53. The maximum anticipated surface pressure is less than 4800psi and the deepest intermediate casing point does not penetrate the Wolfcamp Formation. Flex Hose Variance A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test chart will be kept on the rig. Attached is an example of a certification and pressure test chart. The manufacturer does not require anchors. Diverter Variance Operator request a variance to utilize a temporary blowout preventer equipment (Diverter) to drill 1st intermediate section. This temporary diverter consist of a minimum 2M Hydril. Once the casing is run and cemented, and the multi-bowl wellhead system is installed and tested, the full BOP system with Hydril and rams will be installed before continue drilling or entering into a hydrocarbon bearing interval. Open Hole Logging Variance Open hole logging will not be done on this well. Spudder Rig Variance XOM requests the option to utilize a spudder rig (Atlas Copco RD20 or Equivalent) to set and cement surface casing. Batch Drilling Variance XOM requests a variance to be able to batch drill this well. In doing so, XOM will set casing and ensure that the well is cemented properly (unless approval is given for offline cementing) and the well is static. XOM will contact the BLM to skid the rig to drill the remaining wells on the pad. Once surface and intermediate strings are all completed, XOM will begin drilling the production hole on each of the wells.

**Testing Procedure:** All BOP testing will be done by an independent service company. Operator will test as per 43 CFR 3172.

**Choke Diagram Attachment:**

BIG\_EDDY\_UNIT\_DI\_31\_10MCM\_20250429052704.pdf

**BOP Diagram Attachment:**

BIG\_EDDY\_UNIT\_DI\_31\_5M10M\_BOP\_20250429053612.pdf

### Section 3 - Casing

| Casing ID | String Type  | Hole Size | Csg Size | Condition | Standard | Tapered String | Top Set MD | Bottom Set MD | Top Set TVD | Bottom Set TVD | Top Set MSL | Bottom Set MSL | Calculated casing length MD | Grade | Weight | Joint Type  | Collapse SF | Burst SF | Joint SF Type | Joint SF | Body SF Type | Body SF |
|-----------|--------------|-----------|----------|-----------|----------|----------------|------------|---------------|-------------|----------------|-------------|----------------|-----------------------------|-------|--------|-------------|-------------|----------|---------------|----------|--------------|---------|
| 1         | SURFACE      | 24        | 20.0     | NEW       | API      | N              | 0          | 1052          | 0           | 1052           | 3472        | 2420           | 1052                        | J-55  | 94     | BUTT        | 2.28        | 6.54     | DRY           | 7.97     | DRY          | 7.97    |
| 2         | INTERMEDIATE | 17.5      | 13.375   | NEW       | API      | N              | 0          | 2440          | 0           | 2437           | 3472        | 1035           | 2440                        | J-55  | 54.5   | BUTT        | 2.14        | 3.66     | DRY           | 4.01     | DRY          | 4.01    |
| 3         | INTERMEDIATE | 12.25     | 9.625    | NEW       | API      | N              | 0          | 4322          | 0           | 4272           | 3472        | -800           | 4322                        | J-55  | 40     | BUTT        | 2.78        | 3.2      | DRY           | 2.73     | DRY          | 2.73    |
| 4         | PRODUCTION   | 8.5       | 5.5      | NEW       | NON API  | N              | 0          | 27633         | 0           | 9454           | 3472        | -5982          | 27633                       | P-110 | 20     | OTHER - TPN | 3           | 1.18     | DRY           | 2.77     | DRY          | 2.77    |

**Casing Attachments**

**Operator Name:** XTO PERMIAN OPERATING LLC**Well Name:** BIG EDDY UNIT DI 31W 10-7**Well Number:** 4H**Casing Attachments**

---

**Casing ID:** 1      **String**      SURFACE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

---

**Casing ID:** 2      **String**      INTERMEDIATE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

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**Casing ID:** 3      **String**      INTERMEDIATE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

---

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI 31W 10-7

Well Number: 4H

## Casing Attachments

Casing ID: 4 String PRODUCTION

Inspection Document:

Spec Document:

TPN\_\_5.500\_20.00\_0.361\_P110\_ICY\_20250624133417.pdf

Wedge\_461\_6.000\_\_26.00\_0.438\_P110\_CY\_20250624133418.pdf

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BIG\_EDDY\_UNIT\_DI\_31\_CSG\_20250428104743.pdf

## Section 4 - Cement

| String Type  | Lead/Tail | Stage Tool Depth | Top MD | Bottom MD | Quantity(sx) | Yield | Density | Cu Ft   | Excess% | Cement type | Additives |
|--------------|-----------|------------------|--------|-----------|--------------|-------|---------|---------|---------|-------------|-----------|
| SURFACE      | Lead      |                  | 0      | 752       | 1073         | 2.11  | 12.4    | 2264.03 | 100     | Class C     | NA        |
| SURFACE      | Tail      |                  | 752    | 1052      | 679          | 1.33  | 14.8    | 903.07  | 100     | Class C     | NA        |
| INTERMEDIATE | Lead      |                  | 0      | 2140      | 1104         | 2.02  | 12.9    | 2230.08 | 50      | Class C     | NA        |
| INTERMEDIATE | Tail      |                  | 2140   | 2440      | 216          | 1.45  | 14.8    | 313.2   | 50      | Class C     | NA        |
| INTERMEDIATE | Lead      |                  | 0      | 4022      | 935          | 2.02  | 12.9    | 1888.7  | 50      | Class C     | NA        |
| INTERMEDIATE | Tail      |                  | 4022   | 4322      | 87           | 1.45  | 14.8    | 126.15  | 35      | Class C     | NA        |
| PRODUCTION   | Lead      |                  | 3822   | 5649      | 430          | 1.45  | 14.8    | 623.5   | 35      | Class C     | NA        |
| PRODUCTION   | Tail      |                  | 5649   | 27633     | 3857         | 1.44  | 13.2    | 5554.08 | 0       | Class C     | NA        |



Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI 31W 10-7

Well Number: 4H

### 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 43 CFR 3172:

Diagram of the equipment for the circulating system in accordance with 43 CFR 3172:

**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 a fully saturated brine 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. An EDR (Electronic Drilling Recorder) 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

| 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                    |
|-----------|--------------|-------------------------|----------------------|----------------------|---------------------|-----------------------------|----|----------------|----------------|-----------------|-----------------------------------------------|
| 1052      | 2440         | OTHER : Brine           | 9.5                  | 10                   |                     |                             |    |                |                |                 | Fully saturated salt across salado / salt.    |
| 0         | 1052         | WATER-BASED MUD         | 8.3                  | 8.7                  |                     |                             |    |                |                |                 | Fresh Water or Native Water                   |
| 4322      | 2763<br>3    | OTHER : Cut Brine / OBM | 9                    | 9.6                  |                     |                             |    |                |                |                 | OBM or cut brine depending on well conditions |
| 2440      | 4322         | WATER-BASED MUD         | 8.3                  | 8.7                  |                     |                             |    |                |                |                 | Fresh water                                   |

**Operator Name:** XTO PERMIAN OPERATING LLC**Well Name:** BIG EDDY UNIT DI 31W 10-7**Well Number:** 4H

## Section 6 - Test, Logging, Coring

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

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, MEASUREMENT WHILE DRILLING, MUD LOG/GEOLOGICAL LITHOLOGY LOG, DIRECTIONAL SURVEY,

**Coring operation description for the well:**

No coring is planned for the well.

## Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 4719**Anticipated Surface Pressure:** 2639**Anticipated Bottom Hole Temperature(F):** 180**Anticipated abnormal pressures, temperatures, or potential geologic hazards?** NO**Describe:****Contingency Plans geohazards description:****Contingency Plans geohazards****Hydrogen Sulfide drilling operations plan required?** YES**Hydrogen sulfide drilling operations**

XTO\_Energy\_H2S\_Plan\_Updated\_20240819174817.pdf

## Section 8 - Other Information

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

Big\_Eddy\_Unit\_DI\_31W\_10\_7\_4H\_DD\_20250624133644.pdf

Big\_Eddy\_Unit\_DI\_31W\_10\_7\_4H\_Directional\_Plan\_View\_20250624133645.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 feet center-to-center separation.

**Other proposed operations facets attachment:**

BIG\_EDDY\_UNIT\_DI\_31\_MBS\_4\_STR\_20\_x\_13.375\_x\_9.625\_x\_5.5\_or\_6\_20250430114654.pdf

BIG\_EDDY\_UNIT\_DI\_31\_H2S\_Diagram\_20250505121047.pdf

Final\_Gas\_Capture\_Plan\_\_Big\_Eddy\_Unit\_DI\_31\_20250624133817.pdf

R\_111\_Q\_Figure\_E\_4\_String\_Design\_with\_Prod\_open\_annulus\_Capitan\_20250625160850.pdf

BEU\_DI\_31W\_10\_7\_004H\_APD\_DP\_4\_BH\_2BS\_3.5Mi\_20250709162046.pdf

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** BIG EDDY UNIT DI 31W 10-7

**Well Number:** 4H

**Other Variance request(s)?:** Y

**Other Variance attachment:**

BIG\_EDDY\_UNIT\_DI\_31\_SPUDDER\_RIG\_VARIANCE\_20250505121220.pdf

BIG\_EDDY\_UNIT\_DI\_31\_DIVERTER\_VARIANCE\_20250505121220.pdf

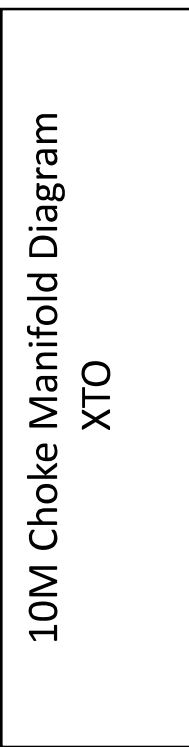
BIG\_EDDY\_UNIT\_DI\_31\_OFFLINE\_CEMENTING\_VARIANCE\_20250505121222.pdf

BIG\_EDDY\_UNIT\_DI\_31\_FLEX\_HOSE\_VARIANCE\_20250505121226.pdf

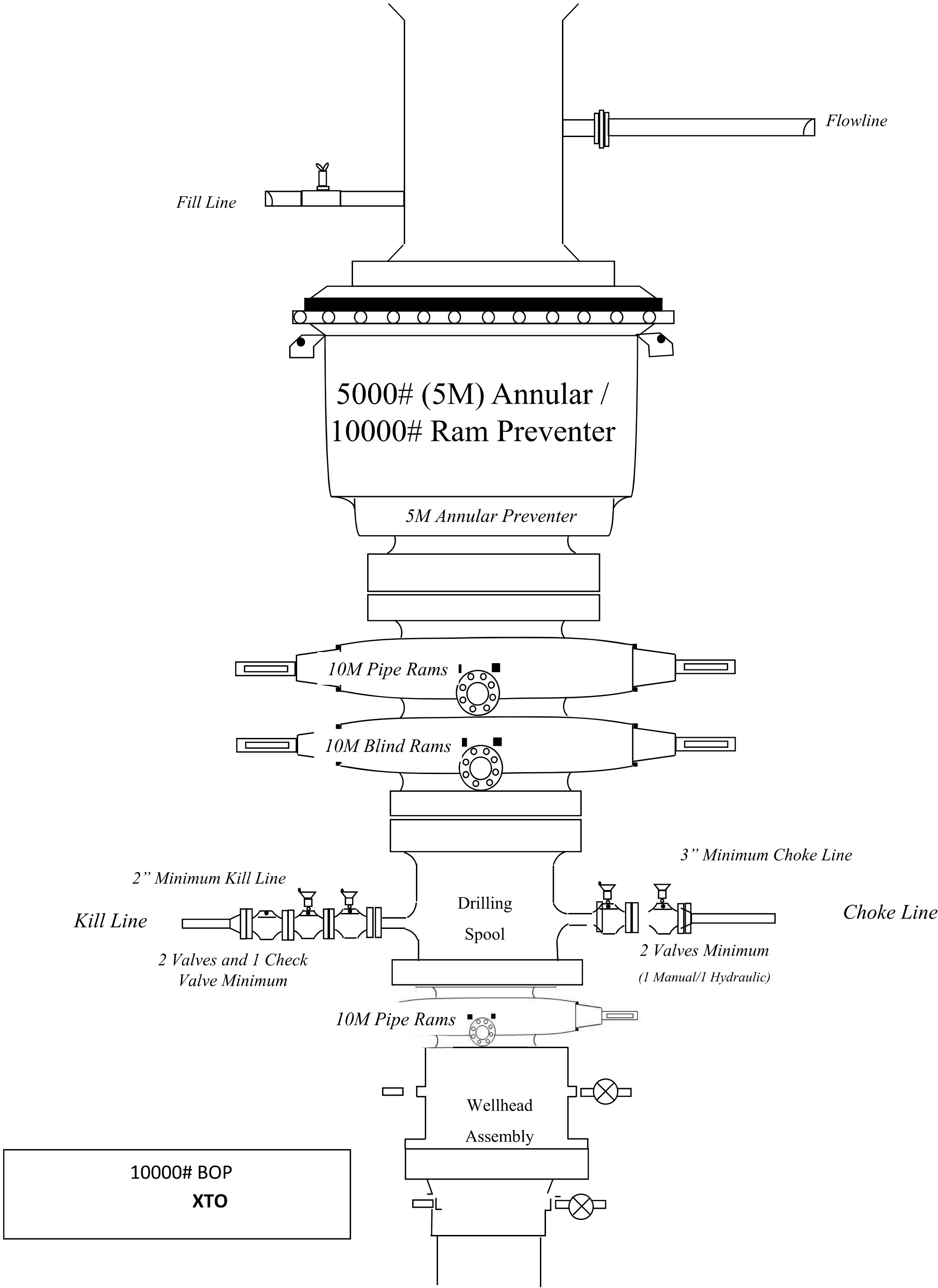
BIG\_EDDY\_UNIT\_DI\_31\_BOP\_BREAK\_TEST\_VARIANCE\_20250624133853.pdf

Offline\_Cementing\_Variance\_Prod\_Csg\_20250709162057.pdf

Mud Tanks  
40'-50' from  
wellbore



# Drilling Operations Choke Manifold 10M Service





TPN™



| Coupling             | Pipe Body            |
|----------------------|----------------------|
| Grade: P110-ICY      | Grade: P110-ICY      |
| Body: White          | 1st Band: White      |
| 1st Band: Pale Green | 2nd Band: Pale Green |
| 2nd Band: -          | 3rd Band: Pale Green |
| 3rd Band: -          | 4th Band: -          |
|                      | 5th Band: -          |
|                      | 6th Band: -          |

|                      |                 |                 |              |       |          |
|----------------------|-----------------|-----------------|--------------|-------|----------|
| Customer             | XTO ENERGY INC. | Wall Thickness  | 0.361 in.    | Grade | P110-ICY |
| Outside Diameter     | 5.500 in.       | Pipe Body Drift | API Standard | Type  | Casing   |
| Min. Wall Thickness  | 87.50 %         |                 |              |       |          |
| Connection OD Option | REGULAR         |                 |              |       |          |

Pipe Body Data

| Geometry       |             |                  |             | Performance                  |              |
|----------------|-------------|------------------|-------------|------------------------------|--------------|
| Nominal OD     | 5.500 in.   | Wall Thickness   | 0.361 in.   | Body Yield Strength          | 729 x1000 lb |
| Nominal Weight | 20.00 lb/ft | Plain End Weight | 19.83 lb/ft | Min. Internal Yield Pressure | 14,360 psi   |
| Drift          | 4.653 in.   | OD Tolerance     | API         | SMYS                         | 125,000 psi  |
| Nominal ID     | 4.778 in.   |                  |             | Collapse Pressure            | 12,300 psi   |

Connection Data

| Geometry             |           | Performance                |              | Make-Up Torques         |              |
|----------------------|-----------|----------------------------|--------------|-------------------------|--------------|
| Connection OD        | 6.300 in. | Tension Efficiency         | 100 %        | Minimum                 | 21,100 ft-lb |
| Coupling Length      | 8.408 in. | Joint Yield Strength       | 729 x1000 lb | Optimum                 | 22,600 ft-lb |
| Connection ID        | 4.778 in. | Internal Pressure Capacity | 14,360 psi   | Maximum                 | 24,100 ft-lb |
| Make-up Loss         | 4.204 in. | Compression Efficiency     | 100 %        | Operation Limit Torques |              |
| Threads per inch     | 5         | Compression Strength       | 729 x1000 lb |                         |              |
| Connection OD Option | Regular   | Max. Allowable Bending     | 104 °/100 ft | Operating Torque        | 29,300 ft-lb |
|                      |           | External Pressure Capacity | 12,300 psi   | Yield Torque            | 32,500 ft-lb |

Notes

For the latest performance data, always visit our website: [www.tenaris.com](http://www.tenaris.com)  
For further information on concepts indicated in this datasheet, download the Datasheet Manual from [www.tenaris.com](http://www.tenaris.com)

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PI-0/CII-3



# TenarisHydril Wedge 461<sup>®</sup>



| Coupling       | Pipe Body       |
|----------------|-----------------|
| Grade: P110-CY | Grade: P110-CY  |
| Body: White    | 1st Band: White |
| 1st Band: Grey | 2nd Band: Grey  |
| 2nd Band: -    | 3rd Band: -     |
| 3rd Band: -    | 4th Band: -     |
|                | 5th Band: -     |
|                | 6th Band: -     |

|                      |           |                 |              |       |         |
|----------------------|-----------|-----------------|--------------|-------|---------|
| Outside Diameter     | 6.000 in. | Wall Thickness  | 0.438 in.    | Grade | P110-CY |
| Min. Wall Thickness  | 87.50 %   | Pipe Body Drift | API Standard | Type  | Casing  |
| Connection OD Option | REGULAR   |                 |              |       |         |

## Pipe Body Data

| Geometry       |             |                  |             | Performance                  |              |
|----------------|-------------|------------------|-------------|------------------------------|--------------|
| Nominal OD     | 6.000 in.   | Wall Thickness   | 0.438 in.   | Body Yield Strength          | 842 x1000 lb |
| Nominal Weight | 26.00 lb/ft | Plain End Weight | 26.04 lb/ft | Min. Internal Yield Pressure | 14,050 psi   |
| Drift          | 4.999 in.   | OD Tolerance     | API         | SMYS                         | 110,000 psi  |
| Nominal ID     | 5.124 in.   |                  |             | Collapse Pressure            | 13,680 psi   |

## Connection Data

| Geometry             |           | Performance                |                | Make-Up Torques         |              |
|----------------------|-----------|----------------------------|----------------|-------------------------|--------------|
| Connection OD        | 6.800 in. | Tension Efficiency         | 100 %          | Minimum                 | 20,000 ft-lb |
| Coupling Length      | 8.914 in. | Joint Yield Strength       | 842 x1000 lb   | Optimum                 | 21,000 ft-lb |
| Connection ID        | 5.170 in. | Internal Pressure Capacity | 14,050 psi     | Maximum                 | 25,200 ft-lb |
| Make-up Loss         | 4.375 in. | Compression Efficiency     | 100 %          | Operation Limit Torques |              |
| Threads per inch     | 3.40      | Compression Strength       | 842 x1000 lb   | Operating Torque        | 52,000 ft-lb |
| Connection OD Option | Regular   | Max. Allowable Bending     | 84.03 °/100 ft | Yield Torque            | 61,000 ft-lb |
|                      |           | External Pressure Capacity | 13,680 psi     | Buck-On                 |              |
|                      |           | Coupling Face Load         | 306,000 lb     | Minimum                 | 25,200 ft-lb |
|                      |           |                            |                | Maximum                 | 26,700 ft-lb |

## Notes

In October 2019, TenarisHydril Wedge XP<sup>®</sup> 2.0 was renamed TenarisHydril Wedge 461<sup>™</sup>. Product dimensions and properties remain identical and both connections are fully interchangeable

For the latest performance data, always visit our website: [www.tenaris.com](http://www.tenaris.com)  
For further information on concepts indicated in this datasheet, download the Datasheet Manual from [www.tenaris.com](http://www.tenaris.com)

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PIII/CI





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

**Ignition of Gas source**

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

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

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

**Contacting Authorities**

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

**CARLSBAD OFFICE – EDDY & LEA COUNTIES**

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

575-887-7329

**XTO PERSONNEL:**  
Will Dacus, Drilling Manager  
Brian Dunn, Drilling Supervisor  
Robert Bartels, Construction Execution Planner  
Andy Owens, EH & S Manager  
Frank Fuentes, Production Foreman

832-948-5021  
832-653-0490  
406-478-3617  
903-245-2602  
575-689-3363

**SHERIFF DEPARTMENTS:**  
Eddy County  
Lea County

575-887-7551  
575-396-3611

**NEW MEXICO STATE POLICE:**

575-392-5588

**FIRE DEPARTMENTS:**  
Carlsbad  
Eunice  
Hobbs  
Jal  
Lovington

911  
575-885-2111  
575-394-2111  
575-397-9308  
575-395-2221  
575-396-2359

**HOSPITALS:**  
Carlsbad Medical Emergency  
Eunice Medical Emergency  
Hobbs Medical Emergency  
Jal Medical Emergency  
Lovington Medical Emergency

911  
575-885-2111  
575-394-2112  
575-397-9308  
575-395-2221  
575-396-2359

**AGENT NOTIFICATIONS:**  
**For Lea County:**  
Bureau of Land Management – Hobbs  
New Mexico Oil Conservation Division – Hobbs  
  
**For Eddy County:**  
Bureau of Land Management - Carlsbad  
New Mexico Oil Conservation Division - Artesia

575-393-3612  
575-393-6161  
  
575-234-5972  
575-748-1283

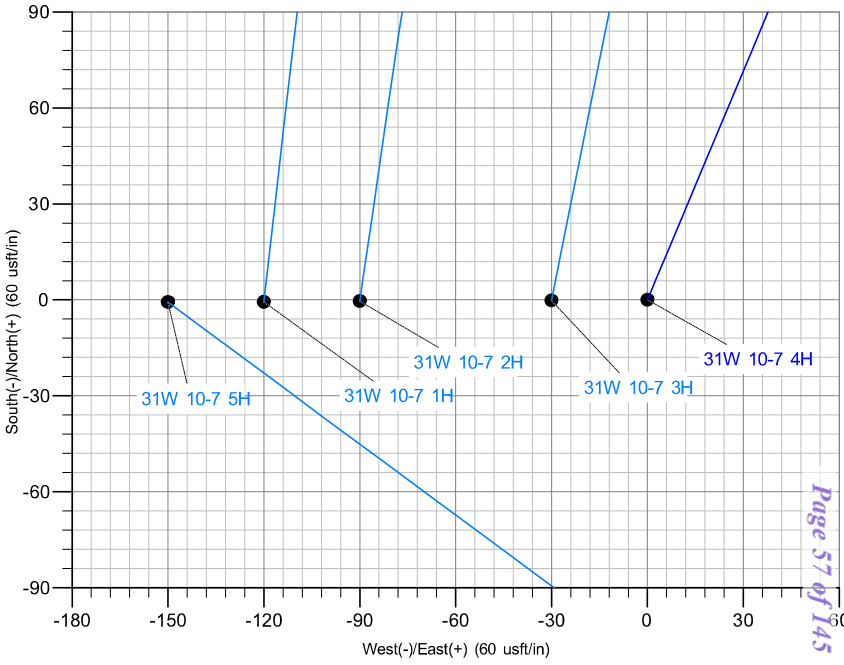
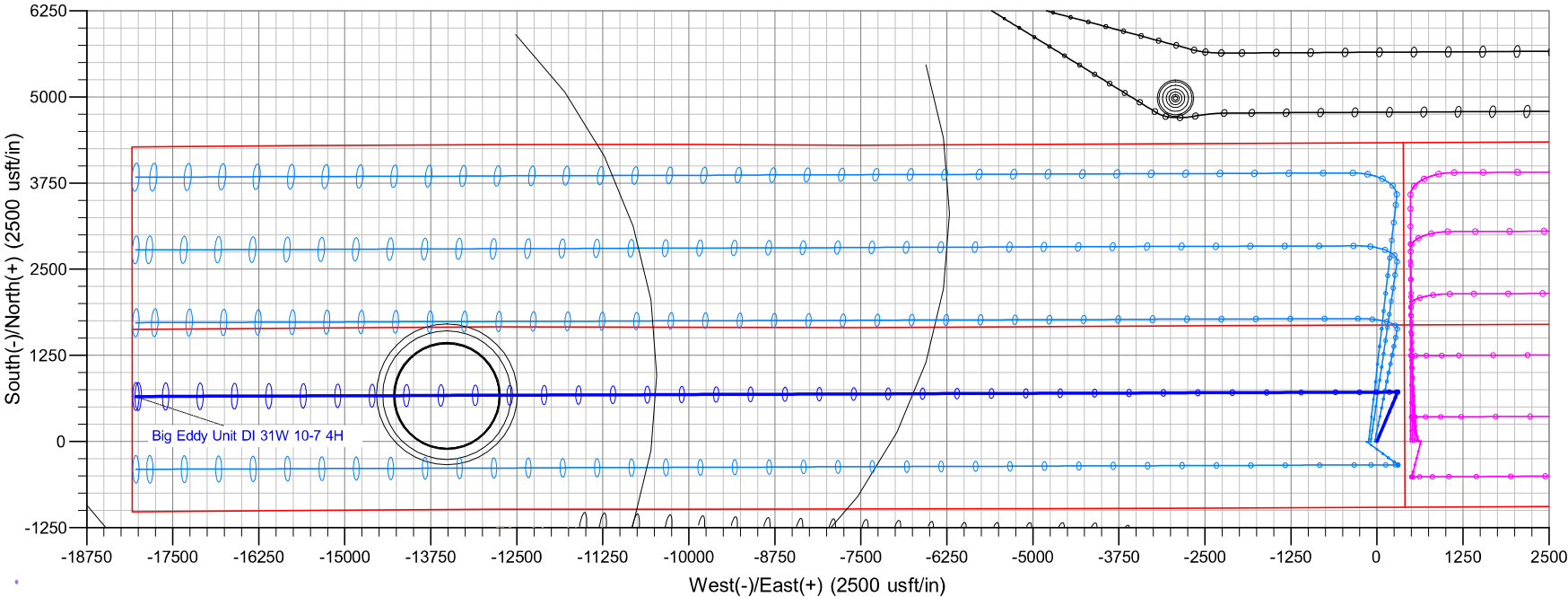
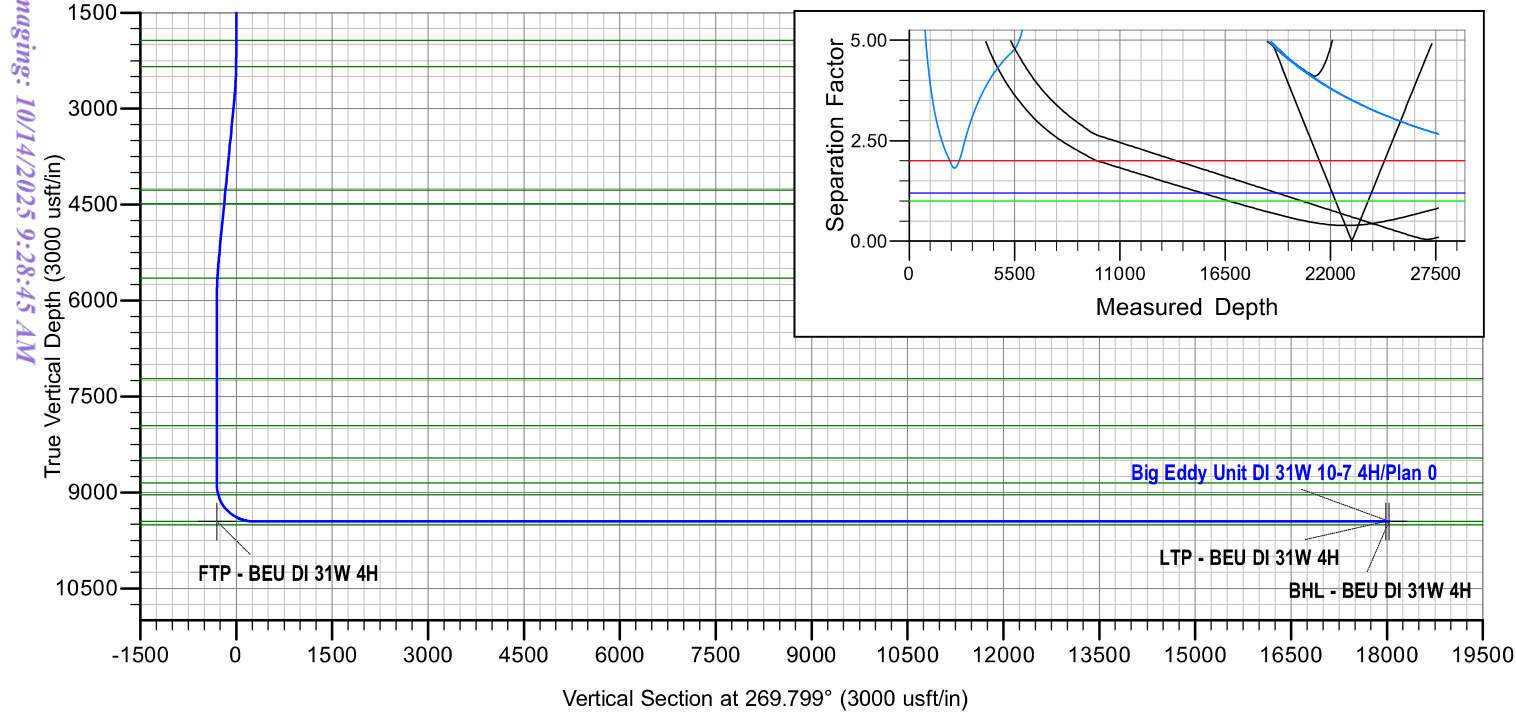
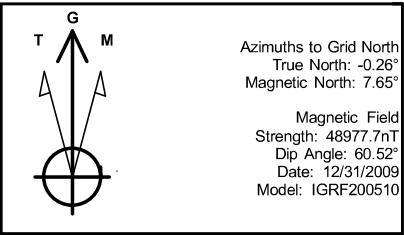
Project: Big Eddy Unit DI 31 West - Eddy Co. - NAD 27 NME  
Site: BEU DI 31 West - Plans  
Well: Big Eddy Unit DI 31W 10-7 4H  
Wellbore: OH  
Design: Plan 0

| WELL DETAILS: Big Eddy Unit DI 31W 10-7 4H    |           |                  |                   |  |
|-----------------------------------------------|-----------|------------------|-------------------|--|
| Ground Elevation: 3472.00                     |           |                  |                   |  |
| RKB Elevation: RKB 32 @ 3504.00usft (Rig TBD) |           |                  |                   |  |
| Rig Name: Rig TBD                             |           |                  |                   |  |
| Northing                                      | Easting   | Latitude         | Longitude         |  |
| 576190.30                                     | 646465.00 | 32° 34' 59.353 N | 103° 51' 28.173 W |  |

| DESIGN TARGET DETAILS |         |        |           |           |           |                                   |
|-----------------------|---------|--------|-----------|-----------|-----------|-----------------------------------|
| Name                  | TVD     | +N/-S  | +E/-W     | Northing  | Easting   | Latitude Longitude                |
| BHL - BEU DI 31W 4H   | 9454.00 | 653.70 | -18035.10 | 576844.00 | 628429.90 | 32° 35' 6.570 N 103° 54' 58.925 W |
| FTP - BEU DI 31W 4H   | 9454.00 | 718.30 | 301.10    | 576908.60 | 646766.10 | 32° 35' 6.447 N 103° 51' 24.616 W |
| LTP - BEU DI 31W 4H   | 9454.00 | 654.10 | -17985.10 | 576844.40 | 628479.90 | 32° 35' 6.572 N 103° 54' 58.341 W |

| SECTION DETAILS |       |         |         |        |           |       |        |          |                     |
|-----------------|-------|---------|---------|--------|-----------|-------|--------|----------|---------------------|
| MD              | Inc   | Azi     | TVD     | +N/-S  | +E/-W     | Dleg  | TFace  | VSect    | Target              |
| 0.00            | 0.00  | 0.000   | 0.00    | 0.00   | 0.00      | 0.00  | 0.00   | 0.00     |                     |
| 2200.00         | 0.00  | 0.000   | 2200.00 | 0.00   | 0.00      | 0.00  | 0.00   | 0.00     |                     |
| 2899.81         | 14.00 | 22.743  | 2892.87 | 78.44  | 32.88     | 2.00  | 22.74  | -33.16   |                     |
| 5416.79         | 14.00 | 22.743  | 5335.13 | 639.86 | 268.22    | 0.00  | 0.00   | -270.46  |                     |
| 6116.60         | 0.00  | 0.000   | 6028.00 | 718.30 | 301.10    | 2.00  | 180.00 | -303.62  |                     |
| 8969.65         | 0.00  | 0.000   | 8881.04 | 718.30 | 301.10    | 0.00  | 0.00   | -303.62  |                     |
| 9869.65         | 90.00 | 269.799 | 9454.00 | 718.29 | -271.85   | 10.00 | 269.80 | 269.34   | LTP - BEU DI 31W 4H |
| 27583.00        | 90.00 | 269.799 | 9454.00 | 654.10 | -17985.10 | 0.00  | 0.00   | 17982.69 | LTP - BEU DI 31W 4H |
| 27633.00        | 90.00 | 269.799 | 9454.00 | 653.92 | -18035.10 | 0.00  | 0.00   | 18032.70 | BHL - BEU DI 31W 4H |

| FORMATION TOP DETAILS |         |                                    |
|-----------------------|---------|------------------------------------|
| TVDPath               | MDPath  | Formation                          |
| 757.00                | 757.00  | Rustler                            |
| 1077.00               | 1077.00 | Salado                             |
| 1932.00               | 1932.00 | MB-126                             |
| 2340.00               | 2340.06 | Base of Salt                       |
| 4272.00               | 4321.14 | Delaware                           |
| 4483.00               | 4538.59 | Cherry Canyon                      |
| 5649.00               | 5736.49 | Brushy Canyon                      |
| 7223.00               | 7311.60 | Bone Spring Lm.                    |
| 7958.00               | 8046.60 | Avalon                             |
| 8461.00               | 8549.60 | 1st Bone Spring Sand               |
| 8851.00               | 8939.60 | 2nd Bone Spring Lime               |
| 9036.00               | 9126.56 | 2nd Bone Spring Sand               |
| 9454.00               | 9869.65 | 2rd Bone Spring Sand Lower Landing |



# ROC

Big Eddy Unit DI 31 West - Eddy Co. - NAD 27 NME

BEU DI 31 West - Plans

Big Eddy Unit DI 31W 10-7 4H

OH

Plan: Plan 0

## Standard Planning Report

19 June, 2025

## Planning Report

|                  |                                                  |                                     |                                   |
|------------------|--------------------------------------------------|-------------------------------------|-----------------------------------|
| <b>Database:</b> | EDM 5000.18 Single User Db                       | <b>Local Co-ordinate Reference:</b> | Well Big Eddy Unit DI 31W 10-7 4H |
| <b>Company:</b>  | ROC                                              | <b>TVD Reference:</b>               | RKB 32 @ 3504.00usft (Rig TBD)    |
| <b>Project:</b>  | Big Eddy Unit DI 31 West - Eddy Co. - NAD 27 NME | <b>MD Reference:</b>                | RKB 32 @ 3504.00usft (Rig TBD)    |
| <b>Site:</b>     | BEU DI 31 West - Plans                           | <b>North Reference:</b>             | Grid                              |
| <b>Well:</b>     | Big Eddy Unit DI 31W 10-7 4H                     | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Wellbore:</b> | OH                                               |                                     |                                   |
| <b>Design:</b>   | Plan 0                                           |                                     |                                   |

|                    |                                                  |                      |                |
|--------------------|--------------------------------------------------|----------------------|----------------|
| <b>Project</b>     | Big Eddy Unit DI 31 West - Eddy Co. - NAD 27 NME |                      |                |
| <b>Map System:</b> | US State Plane 1927 (Exact solution)             | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | NAD 1927 (NADCON CONUS)                          |                      |                |
| <b>Map Zone:</b>   | New Mexico East 3001                             |                      |                |

| Site                  |  |  |           |  |  | BEU DI 31 West - Plans |  |  |                 |  |  |            |  |  |                   |  |  |
|-----------------------|--|--|-----------|--|--|------------------------|--|--|-----------------|--|--|------------|--|--|-------------------|--|--|
| Site Position:        |  |  |           |  |  | Northing:              |  |  | 576,189.70 usft |  |  | Latitude:  |  |  | 32° 34' 59.352 N  |  |  |
| From:                 |  |  | Map       |  |  | Easting:               |  |  | 646,345.00 usft |  |  | Longitude: |  |  | 103° 51' 29.575 W |  |  |
| Position Uncertainty: |  |  | 0.00 usft |  |  | Slot Radius:           |  |  | 13-3/16 "       |  |  |            |  |  |                   |  |  |

| Well                 | Big Eddy Unit DI 31W 10-7 4H |           |                     |                 |               |                   |
|----------------------|------------------------------|-----------|---------------------|-----------------|---------------|-------------------|
| Well Position        | +N/-S                        | 0.00 usft | Northing:           | 576,190.30 usft | Latitude:     | 32° 34' 59.353 N  |
|                      | +E/-W                        | 0.00 usft | Easting:            | 646,465.00 usft | Longitude:    | 103° 51' 28.173 W |
| Position Uncertainty |                              | 0.00 usft | Wellhead Elevation: | usft            | Ground Level: | 3,472.00 usft     |
| Grid Convergence:    |                              | 0.26 °    |                     |                 |               |                   |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | OH                |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | IGRF200510        | 12/31/2009         | 7.91                   | 60.52                | 48,977.66809267            |

|                   |                            |                 |                 |                  |
|-------------------|----------------------------|-----------------|-----------------|------------------|
| Design            | Plan 0                     |                 |                 |                  |
| Audit Notes:      |                            |                 |                 |                  |
| Version:          | Phase:                     | PLAN            | Tie On Depth:   | 0.00             |
| Vertical Section: | Depth From (TVD)<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Direction<br>(°) |
|                   | 0.00                       | 0.00            | 0.00            | 269.799          |

|                                 |                        |                          |                  |                        |  |
|---------------------------------|------------------------|--------------------------|------------------|------------------------|--|
| <b>Plan Survey Tool Program</b> | <b>Date</b>            | 6/11/2025                |                  |                        |  |
| <b>Depth From (usft)</b>        | <b>Depth To (usft)</b> | <b>Survey (Wellbore)</b> | <b>Tool Name</b> | <b>Remarks</b>         |  |
| 1                               | 0.00                   | 27,633.00                | Plan 0 (OH)      | XOMR2_OWSG MWD+IFF     |  |
|                                 |                        |                          |                  | OWSG MWD + IFR1 + Mult |  |

## Planning Report

|                  |                                                  |                                     |                                   |
|------------------|--------------------------------------------------|-------------------------------------|-----------------------------------|
| <b>Database:</b> | EDM 5000.18 Single User Db                       | <b>Local Co-ordinate Reference:</b> | Well Big Eddy Unit DI 31W 10-7 4H |
| <b>Company:</b>  | ROC                                              | <b>TVD Reference:</b>               | RKB 32 @ 3504.00usft (Rig TBD)    |
| <b>Project:</b>  | Big Eddy Unit DI 31 West - Eddy Co. - NAD 27 NME | <b>MD Reference:</b>                | RKB 32 @ 3504.00usft (Rig TBD)    |
| <b>Site:</b>     | BEU DI 31 West - Plans                           | <b>North Reference:</b>             | Grid                              |
| <b>Well:</b>     | Big Eddy Unit DI 31W 10-7 4H                     | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Wellbore:</b> | OH                                               |                                     |                                   |
| <b>Design:</b>   | Plan 0                                           |                                     |                                   |

| 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            | 0.000       | 0.00                  | 0.00         | 0.00         | 0.00                    | 0.00                   | 0.00                  | 0.00    |                  |
| 2,200.00              | 0.00            | 0.000       | 2,200.00              | 0.00         | 0.00         | 0.00                    | 0.00                   | 0.00                  | 0.00    |                  |
| 2,899.81              | 14.00           | 22.743      | 2,892.87              | 78.44        | 32.88        | 2.00                    | 2.00                   | 0.00                  | 22.74   |                  |
| 5,416.79              | 14.00           | 22.743      | 5,335.13              | 639.86       | 268.22       | 0.00                    | 0.00                   | 0.00                  | 0.00    |                  |
| 6,116.60              | 0.00            | 0.000       | 6,028.00              | 718.30       | 301.10       | 2.00                    | -2.00                  | 0.00                  | 180.00  |                  |
| 8,969.65              | 0.00            | 0.000       | 8,881.04              | 718.30       | 301.10       | 0.00                    | 0.00                   | 0.00                  | 0.00    |                  |
| 9,869.65              | 90.00           | 269.799     | 9,454.00              | 716.29       | -271.85      | 10.00                   | 10.00                  | 0.00                  | 269.80  |                  |
| 27,583.00             | 90.00           | 269.799     | 9,454.00              | 654.10       | -17,985.10   | 0.00                    | 0.00                   | 0.00                  | 0.00    | LTP - BEU DI 31W |
| 27,633.00             | 90.00           | 269.799     | 9,454.00              | 653.92       | -18,035.10   | 0.00                    | 0.00                   | 0.00                  | 0.00    | BHL - BEU DI 31W |

## Planning Report

|                  |                                                  |                                     |                                   |
|------------------|--------------------------------------------------|-------------------------------------|-----------------------------------|
| <b>Database:</b> | EDM 5000.18 Single User Db                       | <b>Local Co-ordinate Reference:</b> | Well Big Eddy Unit DI 31W 10-7 4H |
| <b>Company:</b>  | ROC                                              | <b>TVD Reference:</b>               | RKB 32 @ 3504.00usft (Rig TBD)    |
| <b>Project:</b>  | Big Eddy Unit DI 31 West - Eddy Co. - NAD 27 NME | <b>MD Reference:</b>                | RKB 32 @ 3504.00usft (Rig TBD)    |
| <b>Site:</b>     | BEU DI 31 West - Plans                           | <b>North Reference:</b>             | Grid                              |
| <b>Well:</b>     | Big Eddy Unit DI 31W 10-7 4H                     | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Wellbore:</b> | OH                                               |                                     |                                   |
| <b>Design:</b>   | Plan 0                                           |                                     |                                   |

| 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            | 0.000       | 0.00                  | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |  |
| 100.00                | 0.00            | 0.000       | 100.00                | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |  |
| 200.00                | 0.00            | 0.000       | 200.00                | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |  |
| 300.00                | 0.00            | 0.000       | 300.00                | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |  |
| 400.00                | 0.00            | 0.000       | 400.00                | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |  |
| 500.00                | 0.00            | 0.000       | 500.00                | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |  |
| 600.00                | 0.00            | 0.000       | 600.00                | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |  |
| 700.00                | 0.00            | 0.000       | 700.00                | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |  |
| 757.00                | 0.00            | 0.000       | 757.00                | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |  |
| <b>Rustler</b>        |                 |             |                       |              |              |                         |                         |                        |                       |  |
| 800.00                | 0.00            | 0.000       | 800.00                | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |  |
| 900.00                | 0.00            | 0.000       | 900.00                | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |  |
| 1,000.00              | 0.00            | 0.000       | 1,000.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |  |
| 1,077.00              | 0.00            | 0.000       | 1,077.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |  |
| <b>Salado</b>         |                 |             |                       |              |              |                         |                         |                        |                       |  |
| 1,100.00              | 0.00            | 0.000       | 1,100.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |  |
| 1,200.00              | 0.00            | 0.000       | 1,200.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |  |
| 1,300.00              | 0.00            | 0.000       | 1,300.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |  |
| 1,400.00              | 0.00            | 0.000       | 1,400.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |  |
| 1,500.00              | 0.00            | 0.000       | 1,500.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |  |
| 1,600.00              | 0.00            | 0.000       | 1,600.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |  |
| 1,700.00              | 0.00            | 0.000       | 1,700.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |  |
| 1,800.00              | 0.00            | 0.000       | 1,800.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |  |
| 1,900.00              | 0.00            | 0.000       | 1,900.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |  |
| 1,932.00              | 0.00            | 0.000       | 1,932.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |  |
| <b>MB-126</b>         |                 |             |                       |              |              |                         |                         |                        |                       |  |
| 2,000.00              | 0.00            | 0.000       | 2,000.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |  |
| 2,100.00              | 0.00            | 0.000       | 2,100.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |  |
| 2,200.00              | 0.00            | 0.000       | 2,200.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |  |
| 2,300.00              | 2.00            | 22.743      | 2,299.98              | 1.61         | 0.67         | -0.68                   | 2.00                    | 2.00                   | 0.00                  |  |
| 2,340.06              | 2.80            | 22.743      | 2,340.00              | 3.16         | 1.32         | -1.33                   | 2.00                    | 2.00                   | 0.00                  |  |
| <b>Base of Salt</b>   |                 |             |                       |              |              |                         |                         |                        |                       |  |
| 2,400.00              | 4.00            | 22.743      | 2,399.84              | 6.44         | 2.70         | -2.72                   | 2.00                    | 2.00                   | 0.00                  |  |
| 2,500.00              | 6.00            | 22.743      | 2,499.45              | 14.47        | 6.07         | -6.12                   | 2.00                    | 2.00                   | 0.00                  |  |
| 2,600.00              | 8.00            | 22.743      | 2,598.70              | 25.71        | 10.78        | -10.87                  | 2.00                    | 2.00                   | 0.00                  |  |
| 2,700.00              | 10.00           | 22.743      | 2,697.47              | 40.14        | 16.83        | -16.97                  | 2.00                    | 2.00                   | 0.00                  |  |
| 2,800.00              | 12.00           | 22.743      | 2,795.62              | 57.74        | 24.20        | -24.40                  | 2.00                    | 2.00                   | 0.00                  |  |
| 2,899.81              | 14.00           | 22.743      | 2,892.87              | 78.44        | 32.88        | -33.16                  | 2.00                    | 2.00                   | 0.00                  |  |
| 3,000.00              | 14.00           | 22.743      | 2,990.09              | 100.79       | 42.25        | -42.60                  | 0.00                    | 0.00                   | 0.00                  |  |
| 3,100.00              | 14.00           | 22.743      | 3,087.12              | 123.09       | 51.60        | -52.03                  | 0.00                    | 0.00                   | 0.00                  |  |
| 3,200.00              | 14.00           | 22.743      | 3,184.15              | 145.40       | 60.95        | -61.46                  | 0.00                    | 0.00                   | 0.00                  |  |
| 3,300.00              | 14.00           | 22.743      | 3,281.18              | 167.70       | 70.30        | -70.89                  | 0.00                    | 0.00                   | 0.00                  |  |
| 3,400.00              | 14.00           | 22.743      | 3,378.21              | 190.01       | 79.65        | -80.31                  | 0.00                    | 0.00                   | 0.00                  |  |
| 3,500.00              | 14.00           | 22.743      | 3,475.24              | 212.31       | 89.00        | -89.74                  | 0.00                    | 0.00                   | 0.00                  |  |
| 3,600.00              | 14.00           | 22.743      | 3,572.27              | 234.62       | 98.35        | -99.17                  | 0.00                    | 0.00                   | 0.00                  |  |
| 3,700.00              | 14.00           | 22.743      | 3,669.30              | 256.92       | 107.70       | -108.60                 | 0.00                    | 0.00                   | 0.00                  |  |
| 3,800.00              | 14.00           | 22.743      | 3,766.34              | 279.23       | 117.05       | -118.03                 | 0.00                    | 0.00                   | 0.00                  |  |
| 3,900.00              | 14.00           | 22.743      | 3,863.37              | 301.53       | 126.40       | -127.46                 | 0.00                    | 0.00                   | 0.00                  |  |
| 4,000.00              | 14.00           | 22.743      | 3,960.40              | 323.84       | 135.75       | -136.88                 | 0.00                    | 0.00                   | 0.00                  |  |
| 4,100.00              | 14.00           | 22.743      | 4,057.43              | 346.15       | 145.10       | -146.31                 | 0.00                    | 0.00                   | 0.00                  |  |
| 4,200.00              | 14.00           | 22.743      | 4,154.46              | 368.45       | 154.45       | -155.74                 | 0.00                    | 0.00                   | 0.00                  |  |
| 4,300.00              | 14.00           | 22.743      | 4,251.49              | 390.76       | 163.80       | -165.17                 | 0.00                    | 0.00                   | 0.00                  |  |
| 4,321.14              | 14.00           | 22.743      | 4,272.00              | 395.47       | 165.78       | -167.16                 | 0.00                    | 0.00                   | 0.00                  |  |



## Planning Report

|                  |                                                  |                                     |                                   |
|------------------|--------------------------------------------------|-------------------------------------|-----------------------------------|
| <b>Database:</b> | EDM 5000.18 Single User Db                       | <b>Local Co-ordinate Reference:</b> | Well Big Eddy Unit DI 31W 10-7 4H |
| <b>Company:</b>  | ROC                                              | <b>TVD Reference:</b>               | RKB 32 @ 3504.00usft (Rig TBD)    |
| <b>Project:</b>  | Big Eddy Unit DI 31 West - Eddy Co. - NAD 27 NME | <b>MD Reference:</b>                | RKB 32 @ 3504.00usft (Rig TBD)    |
| <b>Site:</b>     | BEU DI 31 West - Plans                           | <b>North Reference:</b>             | Grid                              |
| <b>Well:</b>     | Big Eddy Unit DI 31W 10-7 4H                     | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Wellbore:</b> | OH                                               |                                     |                                   |
| <b>Design:</b>   | Plan 0                                           |                                     |                                   |

| 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) |
| <b>Delaware</b>        |                 |             |                       |              |              |                         |                         |                        |                       |
| 4,400.00               | 14.00           | 22.743      | 4,348.52              | 413.06       | 173.15       | -174.60                 | 0.00                    | 0.00                   | 0.00                  |
| 4,500.00               | 14.00           | 22.743      | 4,445.55              | 435.37       | 182.50       | -184.03                 | 0.00                    | 0.00                   | 0.00                  |
| 4,538.59               | 14.00           | 22.743      | 4,483.00              | 443.98       | 186.11       | -187.66                 | 0.00                    | 0.00                   | 0.00                  |
| <b>Cherry Canyon</b>   |                 |             |                       |              |              |                         |                         |                        |                       |
| 4,600.00               | 14.00           | 22.743      | 4,542.58              | 457.67       | 191.85       | -193.45                 | 0.00                    | 0.00                   | 0.00                  |
| 4,700.00               | 14.00           | 22.743      | 4,639.62              | 479.98       | 201.20       | -202.88                 | 0.00                    | 0.00                   | 0.00                  |
| 4,800.00               | 14.00           | 22.743      | 4,736.65              | 502.28       | 210.55       | -212.31                 | 0.00                    | 0.00                   | 0.00                  |
| 4,900.00               | 14.00           | 22.743      | 4,833.68              | 524.59       | 219.90       | -221.74                 | 0.00                    | 0.00                   | 0.00                  |
| 5,000.00               | 14.00           | 22.743      | 4,930.71              | 546.89       | 229.25       | -231.17                 | 0.00                    | 0.00                   | 0.00                  |
| 5,100.00               | 14.00           | 22.743      | 5,027.74              | 569.20       | 238.60       | -240.59                 | 0.00                    | 0.00                   | 0.00                  |
| 5,200.00               | 14.00           | 22.743      | 5,124.77              | 591.51       | 247.95       | -250.02                 | 0.00                    | 0.00                   | 0.00                  |
| 5,300.00               | 14.00           | 22.743      | 5,221.80              | 613.81       | 257.30       | -259.45                 | 0.00                    | 0.00                   | 0.00                  |
| 5,400.00               | 14.00           | 22.743      | 5,318.83              | 636.12       | 266.65       | -268.88                 | 0.00                    | 0.00                   | 0.00                  |
| 5,416.79               | 14.00           | 22.743      | 5,335.13              | 639.86       | 268.22       | -270.46                 | 0.00                    | 0.00                   | 0.00                  |
| 5,500.00               | 12.33           | 22.743      | 5,416.15              | 657.34       | 275.55       | -277.85                 | 2.00                    | -2.00                  | 0.00                  |
| 5,600.00               | 10.33           | 22.743      | 5,514.19              | 675.46       | 283.14       | -285.51                 | 2.00                    | -2.00                  | 0.00                  |
| 5,700.00               | 8.33            | 22.743      | 5,612.86              | 690.41       | 289.41       | -291.83                 | 2.00                    | -2.00                  | 0.00                  |
| 5,736.49               | 7.60            | 22.743      | 5,649.00              | 695.08       | 291.37       | -293.80                 | 2.00                    | -2.00                  | 0.00                  |
| <b>Brushy Canyon</b>   |                 |             |                       |              |              |                         |                         |                        |                       |
| 5,800.00               | 6.33            | 22.743      | 5,712.04              | 702.18       | 294.34       | -296.81                 | 2.00                    | -2.00                  | 0.00                  |
| 5,900.00               | 4.33            | 22.743      | 5,811.60              | 710.75       | 297.94       | -300.43                 | 2.00                    | -2.00                  | 0.00                  |
| 6,000.00               | 2.33            | 22.743      | 5,911.43              | 716.11       | 300.18       | -302.69                 | 2.00                    | -2.00                  | 0.00                  |
| 6,100.00               | 0.33            | 22.743      | 6,011.40              | 718.26       | 301.08       | -303.60                 | 2.00                    | -2.00                  | 0.00                  |
| 6,116.60               | 0.00            | 0.000       | 6,028.00              | 718.30       | 301.10       | -303.62                 | 2.00                    | -2.00                  | 0.00                  |
| 6,200.00               | 0.00            | 0.000       | 6,111.40              | 718.30       | 301.10       | -303.62                 | 0.00                    | 0.00                   | 0.00                  |
| 6,300.00               | 0.00            | 0.000       | 6,211.40              | 718.30       | 301.10       | -303.62                 | 0.00                    | 0.00                   | 0.00                  |
| 6,400.00               | 0.00            | 0.000       | 6,311.40              | 718.30       | 301.10       | -303.62                 | 0.00                    | 0.00                   | 0.00                  |
| 6,500.00               | 0.00            | 0.000       | 6,411.40              | 718.30       | 301.10       | -303.62                 | 0.00                    | 0.00                   | 0.00                  |
| 6,600.00               | 0.00            | 0.000       | 6,511.40              | 718.30       | 301.10       | -303.62                 | 0.00                    | 0.00                   | 0.00                  |
| 6,700.00               | 0.00            | 0.000       | 6,611.40              | 718.30       | 301.10       | -303.62                 | 0.00                    | 0.00                   | 0.00                  |
| 6,800.00               | 0.00            | 0.000       | 6,711.40              | 718.30       | 301.10       | -303.62                 | 0.00                    | 0.00                   | 0.00                  |
| 6,900.00               | 0.00            | 0.000       | 6,811.40              | 718.30       | 301.10       | -303.62                 | 0.00                    | 0.00                   | 0.00                  |
| 7,000.00               | 0.00            | 0.000       | 6,911.40              | 718.30       | 301.10       | -303.62                 | 0.00                    | 0.00                   | 0.00                  |
| 7,100.00               | 0.00            | 0.000       | 7,011.40              | 718.30       | 301.10       | -303.62                 | 0.00                    | 0.00                   | 0.00                  |
| 7,200.00               | 0.00            | 0.000       | 7,111.40              | 718.30       | 301.10       | -303.62                 | 0.00                    | 0.00                   | 0.00                  |
| 7,300.00               | 0.00            | 0.000       | 7,211.40              | 718.30       | 301.10       | -303.62                 | 0.00                    | 0.00                   | 0.00                  |
| 7,311.60               | 0.00            | 0.000       | 7,223.00              | 718.30       | 301.10       | -303.62                 | 0.00                    | 0.00                   | 0.00                  |
| <b>Bone Spring Lm.</b> |                 |             |                       |              |              |                         |                         |                        |                       |
| 7,400.00               | 0.00            | 0.000       | 7,311.40              | 718.30       | 301.10       | -303.62                 | 0.00                    | 0.00                   | 0.00                  |
| 7,500.00               | 0.00            | 0.000       | 7,411.40              | 718.30       | 301.10       | -303.62                 | 0.00                    | 0.00                   | 0.00                  |
| 7,600.00               | 0.00            | 0.000       | 7,511.40              | 718.30       | 301.10       | -303.62                 | 0.00                    | 0.00                   | 0.00                  |
| 7,700.00               | 0.00            | 0.000       | 7,611.40              | 718.30       | 301.10       | -303.62                 | 0.00                    | 0.00                   | 0.00                  |
| 7,800.00               | 0.00            | 0.000       | 7,711.40              | 718.30       | 301.10       | -303.62                 | 0.00                    | 0.00                   | 0.00                  |
| 7,900.00               | 0.00            | 0.000       | 7,811.40              | 718.30       | 301.10       | -303.62                 | 0.00                    | 0.00                   | 0.00                  |
| 8,000.00               | 0.00            | 0.000       | 7,911.40              | 718.30       | 301.10       | -303.62                 | 0.00                    | 0.00                   | 0.00                  |
| 8,046.60               | 0.00            | 0.000       | 7,958.00              | 718.30       | 301.10       | -303.62                 | 0.00                    | 0.00                   | 0.00                  |
| <b>Avalon</b>          |                 |             |                       |              |              |                         |                         |                        |                       |
| 8,100.00               | 0.00            | 0.000       | 8,011.40              | 718.30       | 301.10       | -303.62                 | 0.00                    | 0.00                   | 0.00                  |
| 8,200.00               | 0.00            | 0.000       | 8,111.40              | 718.30       | 301.10       | -303.62                 | 0.00                    | 0.00                   | 0.00                  |
| 8,300.00               | 0.00            | 0.000       | 8,211.40              | 718.30       | 301.10       | -303.62                 | 0.00                    | 0.00                   | 0.00                  |
| 8,400.00               | 0.00            | 0.000       | 8,311.40              | 718.30       | 301.10       | -303.62                 | 0.00                    | 0.00                   | 0.00                  |

## Planning Report

|                  |                                                  |                                     |                                   |
|------------------|--------------------------------------------------|-------------------------------------|-----------------------------------|
| <b>Database:</b> | EDM 5000.18 Single User Db                       | <b>Local Co-ordinate Reference:</b> | Well Big Eddy Unit DI 31W 10-7 4H |
| <b>Company:</b>  | ROC                                              | <b>TVD Reference:</b>               | RKB 32 @ 3504.00usft (Rig TBD)    |
| <b>Project:</b>  | Big Eddy Unit DI 31 West - Eddy Co. - NAD 27 NME | <b>MD Reference:</b>                | RKB 32 @ 3504.00usft (Rig TBD)    |
| <b>Site:</b>     | BEU DI 31 West - Plans                           | <b>North Reference:</b>             | Grid                              |
| <b>Well:</b>     | Big Eddy Unit DI 31W 10-7 4H                     | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Wellbore:</b> | OH                                               |                                     |                                   |
| <b>Design:</b>   | Plan 0                                           |                                     |                                   |

| Planned Survey                     |                    |                |                             |                 |                 |                               |                               |                              |                             |  |
|------------------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|--|
| Measured<br>Depth<br>(usft)        | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Vertical<br>Section<br>(usft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) |  |
| 8,500.00                           | 0.00               | 0.000          | 8,411.40                    | 718.30          | 301.10          | -303.62                       | 0.00                          | 0.00                         | 0.00                        |  |
| 8,549.60                           | 0.00               | 0.000          | 8,461.00                    | 718.30          | 301.10          | -303.62                       | 0.00                          | 0.00                         | 0.00                        |  |
| 1st Bone Spring Sand               |                    |                |                             |                 |                 |                               |                               |                              |                             |  |
| 8,600.00                           | 0.00               | 0.000          | 8,511.40                    | 718.30          | 301.10          | -303.62                       | 0.00                          | 0.00                         | 0.00                        |  |
| 8,700.00                           | 0.00               | 0.000          | 8,611.40                    | 718.30          | 301.10          | -303.62                       | 0.00                          | 0.00                         | 0.00                        |  |
| 8,800.00                           | 0.00               | 0.000          | 8,711.40                    | 718.30          | 301.10          | -303.62                       | 0.00                          | 0.00                         | 0.00                        |  |
| 8,900.00                           | 0.00               | 0.000          | 8,811.40                    | 718.30          | 301.10          | -303.62                       | 0.00                          | 0.00                         | 0.00                        |  |
| 8,939.60                           | 0.00               | 0.000          | 8,851.00                    | 718.30          | 301.10          | -303.62                       | 0.00                          | 0.00                         | 0.00                        |  |
| 2nd Bone Spring Lime               |                    |                |                             |                 |                 |                               |                               |                              |                             |  |
| 8,969.65                           | 0.00               | 0.000          | 8,881.04                    | 718.30          | 301.10          | -303.62                       | 0.00                          | 0.00                         | 0.00                        |  |
| 9,000.00                           | 3.04               | 269.799        | 8,911.38                    | 718.30          | 300.30          | -302.81                       | 10.00                         | 10.00                        | 0.00                        |  |
| 9,050.00                           | 8.04               | 269.799        | 8,961.13                    | 718.28          | 295.47          | -297.99                       | 10.00                         | 10.00                        | 0.00                        |  |
| 9,100.00                           | 13.04              | 269.799        | 9,010.27                    | 718.25          | 286.34          | -288.85                       | 10.00                         | 10.00                        | 0.00                        |  |
| 9,126.56                           | 15.69              | 269.799        | 9,036.00                    | 718.23          | 279.75          | -282.27                       | 10.00                         | 10.00                        | 0.00                        |  |
| 2nd Bone Spring Sand               |                    |                |                             |                 |                 |                               |                               |                              |                             |  |
| 9,150.00                           | 18.04              | 269.799        | 9,058.43                    | 718.20          | 272.95          | -275.47                       | 10.00                         | 10.00                        | 0.00                        |  |
| 9,200.00                           | 23.04              | 269.799        | 9,105.24                    | 718.14          | 255.41          | -257.93                       | 10.00                         | 10.00                        | 0.00                        |  |
| 9,250.00                           | 28.04              | 269.799        | 9,150.34                    | 718.06          | 233.87          | -236.39                       | 10.00                         | 10.00                        | 0.00                        |  |
| 9,300.00                           | 33.04              | 269.799        | 9,193.39                    | 717.97          | 208.47          | -210.99                       | 10.00                         | 10.00                        | 0.00                        |  |
| 9,350.00                           | 38.04              | 269.799        | 9,234.07                    | 717.87          | 179.42          | -181.94                       | 10.00                         | 10.00                        | 0.00                        |  |
| 9,400.00                           | 43.04              | 269.799        | 9,272.06                    | 717.76          | 146.94          | -149.45                       | 10.00                         | 10.00                        | 0.00                        |  |
| 9,450.00                           | 48.04              | 269.799        | 9,307.07                    | 717.63          | 111.26          | -113.78                       | 10.00                         | 10.00                        | 0.00                        |  |
| 9,500.00                           | 53.04              | 269.799        | 9,338.84                    | 717.50          | 72.68           | -75.19                        | 10.00                         | 10.00                        | 0.00                        |  |
| 9,550.00                           | 58.04              | 269.799        | 9,367.13                    | 717.35          | 31.47           | -33.98                        | 10.00                         | 10.00                        | 0.00                        |  |
| 9,600.00                           | 63.04              | 269.799        | 9,391.71                    | 717.20          | -12.05          | 9.54                          | 10.00                         | 10.00                        | 0.00                        |  |
| 9,650.00                           | 68.04              | 269.799        | 9,412.41                    | 717.04          | -57.55          | 55.03                         | 10.00                         | 10.00                        | 0.00                        |  |
| 9,700.00                           | 73.04              | 269.799        | 9,429.07                    | 716.88          | -104.68         | 102.16                        | 10.00                         | 10.00                        | 0.00                        |  |
| 9,750.00                           | 78.04              | 269.799        | 9,441.55                    | 716.71          | -153.08         | 150.56                        | 10.00                         | 10.00                        | 0.00                        |  |
| 9,800.00                           | 83.04              | 269.799        | 9,449.77                    | 716.53          | -202.38         | 199.87                        | 10.00                         | 10.00                        | 0.00                        |  |
| 9,850.00                           | 88.04              | 269.799        | 9,453.66                    | 716.36          | -252.21         | 249.70                        | 10.00                         | 10.00                        | 0.00                        |  |
| 9,869.65                           | 90.00              | 269.799        | 9,454.00                    | 716.29          | -271.85         | 269.34                        | 10.00                         | 10.00                        | 0.00                        |  |
| 2rd Bone Spring Sand Lower Landing |                    |                |                             |                 |                 |                               |                               |                              |                             |  |
| 9,900.00                           | 90.00              | 269.799        | 9,454.00                    | 716.18          | -302.21         | 299.69                        | 0.00                          | 0.00                         | 0.00                        |  |
| 10,000.00                          | 90.00              | 269.799        | 9,454.00                    | 715.83          | -402.21         | 399.69                        | 0.00                          | 0.00                         | 0.00                        |  |
| 10,100.00                          | 90.00              | 269.799        | 9,454.00                    | 715.48          | -502.21         | 499.69                        | 0.00                          | 0.00                         | 0.00                        |  |
| 10,200.00                          | 90.00              | 269.799        | 9,454.00                    | 715.13          | -602.21         | 599.69                        | 0.00                          | 0.00                         | 0.00                        |  |
| 10,300.00                          | 90.00              | 269.799        | 9,454.00                    | 714.78          | -702.21         | 699.69                        | 0.00                          | 0.00                         | 0.00                        |  |
| 10,400.00                          | 90.00              | 269.799        | 9,454.00                    | 714.43          | -802.20         | 799.69                        | 0.00                          | 0.00                         | 0.00                        |  |
| 10,500.00                          | 90.00              | 269.799        | 9,454.00                    | 714.08          | -902.20         | 899.69                        | 0.00                          | 0.00                         | 0.00                        |  |
| 10,600.00                          | 90.00              | 269.799        | 9,454.00                    | 713.72          | -1,002.20       | 999.69                        | 0.00                          | 0.00                         | 0.00                        |  |
| 10,700.00                          | 90.00              | 269.799        | 9,454.00                    | 713.37          | -1,102.20       | 1,099.69                      | 0.00                          | 0.00                         | 0.00                        |  |
| 10,800.00                          | 90.00              | 269.799        | 9,454.00                    | 713.02          | -1,202.20       | 1,199.69                      | 0.00                          | 0.00                         | 0.00                        |  |
| 10,900.00                          | 90.00              | 269.799        | 9,454.00                    | 712.67          | -1,302.20       | 1,299.69                      | 0.00                          | 0.00                         | 0.00                        |  |
| 11,000.00                          | 90.00              | 269.799        | 9,454.00                    | 712.32          | -1,402.20       | 1,399.69                      | 0.00                          | 0.00                         | 0.00                        |  |
| 11,100.00                          | 90.00              | 269.799        | 9,454.00                    | 711.97          | -1,502.20       | 1,499.69                      | 0.00                          | 0.00                         | 0.00                        |  |
| 11,200.00                          | 90.00              | 269.799        | 9,454.00                    | 711.62          | -1,602.20       | 1,599.69                      | 0.00                          | 0.00                         | 0.00                        |  |
| 11,300.00                          | 90.00              | 269.799        | 9,454.00                    | 711.27          | -1,702.20       | 1,699.69                      | 0.00                          | 0.00                         | 0.00                        |  |
| 11,400.00                          | 90.00              | 269.799        | 9,454.00                    | 710.92          | -1,802.20       | 1,799.69                      | 0.00                          | 0.00                         | 0.00                        |  |
| 11,500.00                          | 90.00              | 269.799        | 9,454.00                    | 710.56          | -1,902.20       | 1,899.69                      | 0.00                          | 0.00                         | 0.00                        |  |
| 11,600.00                          | 90.00              | 269.799        | 9,454.00                    | 710.21          | -2,002.20       | 1,999.69                      | 0.00                          | 0.00                         | 0.00                        |  |
| 11,700.00                          | 90.00              | 269.799        | 9,454.00                    | 709.86          | -2,102.20       | 2,099.69                      | 0.00                          | 0.00                         | 0.00                        |  |
| 11,800.00                          | 90.00              | 269.799        | 9,454.00                    | 709.51          | -2,202.20       | 2,199.69                      | 0.00                          | 0.00                         | 0.00                        |  |
| 11,900.00                          | 90.00              | 269.799        | 9,454.00                    | 709.16          | -2,302.20       | 2,299.69                      | 0.00                          | 0.00                         | 0.00                        |  |

## Planning Report

|                  |                                                  |                                     |                                   |
|------------------|--------------------------------------------------|-------------------------------------|-----------------------------------|
| <b>Database:</b> | EDM 5000.18 Single User Db                       | <b>Local Co-ordinate Reference:</b> | Well Big Eddy Unit DI 31W 10-7 4H |
| <b>Company:</b>  | ROC                                              | <b>TVD Reference:</b>               | RKB 32 @ 3504.00usft (Rig TBD)    |
| <b>Project:</b>  | Big Eddy Unit DI 31 West - Eddy Co. - NAD 27 NME | <b>MD Reference:</b>                | RKB 32 @ 3504.00usft (Rig TBD)    |
| <b>Site:</b>     | BEU DI 31 West - Plans                           | <b>North Reference:</b>             | Grid                              |
| <b>Well:</b>     | Big Eddy Unit DI 31W 10-7 4H                     | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Wellbore:</b> | OH                                               |                                     |                                   |
| <b>Design:</b>   | Plan 0                                           |                                     |                                   |

| Planned Survey        |                 |             |                       |              |              |                         |                         |                        |                       |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 12,000.00             | 90.00           | 269.799     | 9,454.00              | 708.81       | -2,402.20    | 2,399.69                | 0.00                    | 0.00                   | 0.00                  |
| 12,100.00             | 90.00           | 269.799     | 9,454.00              | 708.46       | -2,502.19    | 2,499.69                | 0.00                    | 0.00                   | 0.00                  |
| 12,200.00             | 90.00           | 269.799     | 9,454.00              | 708.11       | -2,602.19    | 2,599.69                | 0.00                    | 0.00                   | 0.00                  |
| 12,300.00             | 90.00           | 269.799     | 9,454.00              | 707.76       | -2,702.19    | 2,699.69                | 0.00                    | 0.00                   | 0.00                  |
| 12,400.00             | 90.00           | 269.799     | 9,454.00              | 707.40       | -2,802.19    | 2,799.69                | 0.00                    | 0.00                   | 0.00                  |
| 12,500.00             | 90.00           | 269.799     | 9,454.00              | 707.05       | -2,902.19    | 2,899.69                | 0.00                    | 0.00                   | 0.00                  |
| 12,600.00             | 90.00           | 269.799     | 9,454.00              | 706.70       | -3,002.19    | 2,999.69                | 0.00                    | 0.00                   | 0.00                  |
| 12,700.00             | 90.00           | 269.799     | 9,454.00              | 706.35       | -3,102.19    | 3,099.69                | 0.00                    | 0.00                   | 0.00                  |
| 12,800.00             | 90.00           | 269.799     | 9,454.00              | 706.00       | -3,202.19    | 3,199.69                | 0.00                    | 0.00                   | 0.00                  |
| 12,900.00             | 90.00           | 269.799     | 9,454.00              | 705.65       | -3,302.19    | 3,299.69                | 0.00                    | 0.00                   | 0.00                  |
| 13,000.00             | 90.00           | 269.799     | 9,454.00              | 705.30       | -3,402.19    | 3,399.69                | 0.00                    | 0.00                   | 0.00                  |
| 13,100.00             | 90.00           | 269.799     | 9,454.00              | 704.95       | -3,502.19    | 3,499.69                | 0.00                    | 0.00                   | 0.00                  |
| 13,200.00             | 90.00           | 269.799     | 9,454.00              | 704.60       | -3,602.19    | 3,599.69                | 0.00                    | 0.00                   | 0.00                  |
| 13,300.00             | 90.00           | 269.799     | 9,454.00              | 704.25       | -3,702.19    | 3,699.69                | 0.00                    | 0.00                   | 0.00                  |
| 13,400.00             | 90.00           | 269.799     | 9,454.00              | 703.89       | -3,802.19    | 3,799.69                | 0.00                    | 0.00                   | 0.00                  |
| 13,500.00             | 90.00           | 269.799     | 9,454.00              | 703.54       | -3,902.19    | 3,899.69                | 0.00                    | 0.00                   | 0.00                  |
| 13,600.00             | 90.00           | 269.799     | 9,454.00              | 703.19       | -4,002.19    | 3,999.69                | 0.00                    | 0.00                   | 0.00                  |
| 13,700.00             | 90.00           | 269.799     | 9,454.00              | 702.84       | -4,102.18    | 4,099.69                | 0.00                    | 0.00                   | 0.00                  |
| 13,800.00             | 90.00           | 269.799     | 9,454.00              | 702.49       | -4,202.18    | 4,199.69                | 0.00                    | 0.00                   | 0.00                  |
| 13,900.00             | 90.00           | 269.799     | 9,454.00              | 702.14       | -4,302.18    | 4,299.69                | 0.00                    | 0.00                   | 0.00                  |
| 14,000.00             | 90.00           | 269.799     | 9,454.00              | 701.79       | -4,402.18    | 4,399.69                | 0.00                    | 0.00                   | 0.00                  |
| 14,100.00             | 90.00           | 269.799     | 9,454.00              | 701.44       | -4,502.18    | 4,499.69                | 0.00                    | 0.00                   | 0.00                  |
| 14,200.00             | 90.00           | 269.799     | 9,454.00              | 701.09       | -4,602.18    | 4,599.69                | 0.00                    | 0.00                   | 0.00                  |
| 14,300.00             | 90.00           | 269.799     | 9,454.00              | 700.73       | -4,702.18    | 4,699.69                | 0.00                    | 0.00                   | 0.00                  |
| 14,400.00             | 90.00           | 269.799     | 9,454.00              | 700.38       | -4,802.18    | 4,799.69                | 0.00                    | 0.00                   | 0.00                  |
| 14,500.00             | 90.00           | 269.799     | 9,454.00              | 700.03       | -4,902.18    | 4,899.69                | 0.00                    | 0.00                   | 0.00                  |
| 14,600.00             | 90.00           | 269.799     | 9,454.00              | 699.68       | -5,002.18    | 4,999.69                | 0.00                    | 0.00                   | 0.00                  |
| 14,700.00             | 90.00           | 269.799     | 9,454.00              | 699.33       | -5,102.18    | 5,099.69                | 0.00                    | 0.00                   | 0.00                  |
| 14,800.00             | 90.00           | 269.799     | 9,454.00              | 698.98       | -5,202.18    | 5,199.69                | 0.00                    | 0.00                   | 0.00                  |
| 14,900.00             | 90.00           | 269.799     | 9,454.00              | 698.63       | -5,302.18    | 5,299.69                | 0.00                    | 0.00                   | 0.00                  |
| 15,000.00             | 90.00           | 269.799     | 9,454.00              | 698.28       | -5,402.18    | 5,399.69                | 0.00                    | 0.00                   | 0.00                  |
| 15,100.00             | 90.00           | 269.799     | 9,454.00              | 697.93       | -5,502.18    | 5,499.69                | 0.00                    | 0.00                   | 0.00                  |
| 15,200.00             | 90.00           | 269.799     | 9,454.00              | 697.57       | -5,602.18    | 5,599.69                | 0.00                    | 0.00                   | 0.00                  |
| 15,300.00             | 90.00           | 269.799     | 9,454.00              | 697.22       | -5,702.17    | 5,699.69                | 0.00                    | 0.00                   | 0.00                  |
| 15,400.00             | 90.00           | 269.799     | 9,454.00              | 696.87       | -5,802.17    | 5,799.69                | 0.00                    | 0.00                   | 0.00                  |
| 15,500.00             | 90.00           | 269.799     | 9,454.00              | 696.52       | -5,902.17    | 5,899.69                | 0.00                    | 0.00                   | 0.00                  |
| 15,600.00             | 90.00           | 269.799     | 9,454.00              | 696.17       | -6,002.17    | 5,999.69                | 0.00                    | 0.00                   | 0.00                  |
| 15,700.00             | 90.00           | 269.799     | 9,454.00              | 695.82       | -6,102.17    | 6,099.69                | 0.00                    | 0.00                   | 0.00                  |
| 15,800.00             | 90.00           | 269.799     | 9,454.00              | 695.47       | -6,202.17    | 6,199.69                | 0.00                    | 0.00                   | 0.00                  |
| 15,900.00             | 90.00           | 269.799     | 9,454.00              | 695.12       | -6,302.17    | 6,299.69                | 0.00                    | 0.00                   | 0.00                  |
| 16,000.00             | 90.00           | 269.799     | 9,454.00              | 694.77       | -6,402.17    | 6,399.69                | 0.00                    | 0.00                   | 0.00                  |
| 16,100.00             | 90.00           | 269.799     | 9,454.00              | 694.41       | -6,502.17    | 6,499.69                | 0.00                    | 0.00                   | 0.00                  |
| 16,200.00             | 90.00           | 269.799     | 9,454.00              | 694.06       | -6,602.17    | 6,599.69                | 0.00                    | 0.00                   | 0.00                  |
| 16,300.00             | 90.00           | 269.799     | 9,454.00              | 693.71       | -6,702.17    | 6,699.69                | 0.00                    | 0.00                   | 0.00                  |
| 16,400.00             | 90.00           | 269.799     | 9,454.00              | 693.36       | -6,802.17    | 6,799.69                | 0.00                    | 0.00                   | 0.00                  |
| 16,500.00             | 90.00           | 269.799     | 9,454.00              | 693.01       | -6,902.17    | 6,899.69                | 0.00                    | 0.00                   | 0.00                  |
| 16,600.00             | 90.00           | 269.799     | 9,454.00              | 692.66       | -7,002.17    | 6,999.69                | 0.00                    | 0.00                   | 0.00                  |
| 16,700.00             | 90.00           | 269.799     | 9,454.00              | 692.31       | -7,102.17    | 7,099.69                | 0.00                    | 0.00                   | 0.00                  |
| 16,800.00             | 90.00           | 269.799     | 9,454.00              | 691.96       | -7,202.17    | 7,199.69                | 0.00                    | 0.00                   | 0.00                  |
| 16,900.00             | 90.00           | 269.799     | 9,454.00              | 691.61       | -7,302.16    | 7,299.69                | 0.00                    | 0.00                   | 0.00                  |
| 17,000.00             | 90.00           | 269.799     | 9,454.00              | 691.26       | -7,402.16    | 7,399.69                | 0.00                    | 0.00                   | 0.00                  |
| 17,100.00             | 90.00           | 269.799     | 9,454.00              | 690.90       | -7,502.16    | 7,499.69                | 0.00                    | 0.00                   | 0.00                  |
| 17,200.00             | 90.00           | 269.799     | 9,454.00              | 690.55       | -7,602.16    | 7,599.69                | 0.00                    | 0.00                   | 0.00                  |

## Planning Report

|                  |                                                  |                                     |                                   |
|------------------|--------------------------------------------------|-------------------------------------|-----------------------------------|
| <b>Database:</b> | EDM 5000.18 Single User Db                       | <b>Local Co-ordinate Reference:</b> | Well Big Eddy Unit DI 31W 10-7 4H |
| <b>Company:</b>  | ROC                                              | <b>TVD Reference:</b>               | RKB 32 @ 3504.00usft (Rig TBD)    |
| <b>Project:</b>  | Big Eddy Unit DI 31 West - Eddy Co. - NAD 27 NME | <b>MD Reference:</b>                | RKB 32 @ 3504.00usft (Rig TBD)    |
| <b>Site:</b>     | BEU DI 31 West - Plans                           | <b>North Reference:</b>             | Grid                              |
| <b>Well:</b>     | Big Eddy Unit DI 31W 10-7 4H                     | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Wellbore:</b> | OH                                               |                                     |                                   |
| <b>Design:</b>   | Plan 0                                           |                                     |                                   |

| Planned Survey        |                 |             |                       |              |              |                         |                         |                        |                       |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 17,300.00             | 90.00           | 269.799     | 9,454.00              | 690.20       | -7,702.16    | 7,699.69                | 0.00                    | 0.00                   | 0.00                  |
| 17,400.00             | 90.00           | 269.799     | 9,454.00              | 689.85       | -7,802.16    | 7,799.69                | 0.00                    | 0.00                   | 0.00                  |
| 17,500.00             | 90.00           | 269.799     | 9,454.00              | 689.50       | -7,902.16    | 7,899.69                | 0.00                    | 0.00                   | 0.00                  |
| 17,600.00             | 90.00           | 269.799     | 9,454.00              | 689.15       | -8,002.16    | 7,999.69                | 0.00                    | 0.00                   | 0.00                  |
| 17,700.00             | 90.00           | 269.799     | 9,454.00              | 688.80       | -8,102.16    | 8,099.69                | 0.00                    | 0.00                   | 0.00                  |
| 17,800.00             | 90.00           | 269.799     | 9,454.00              | 688.45       | -8,202.16    | 8,199.69                | 0.00                    | 0.00                   | 0.00                  |
| 17,900.00             | 90.00           | 269.799     | 9,454.00              | 688.10       | -8,302.16    | 8,299.69                | 0.00                    | 0.00                   | 0.00                  |
| 18,000.00             | 90.00           | 269.799     | 9,454.00              | 687.74       | -8,402.16    | 8,399.69                | 0.00                    | 0.00                   | 0.00                  |
| 18,100.00             | 90.00           | 269.799     | 9,454.00              | 687.39       | -8,502.16    | 8,499.69                | 0.00                    | 0.00                   | 0.00                  |
| 18,200.00             | 90.00           | 269.799     | 9,454.00              | 687.04       | -8,602.16    | 8,599.69                | 0.00                    | 0.00                   | 0.00                  |
| 18,300.00             | 90.00           | 269.799     | 9,454.00              | 686.69       | -8,702.16    | 8,699.69                | 0.00                    | 0.00                   | 0.00                  |
| 18,400.00             | 90.00           | 269.799     | 9,454.00              | 686.34       | -8,802.16    | 8,799.69                | 0.00                    | 0.00                   | 0.00                  |
| 18,500.00             | 90.00           | 269.799     | 9,454.00              | 685.99       | -8,902.16    | 8,899.69                | 0.00                    | 0.00                   | 0.00                  |
| 18,600.00             | 90.00           | 269.799     | 9,454.00              | 685.64       | -9,002.15    | 8,999.69                | 0.00                    | 0.00                   | 0.00                  |
| 18,700.00             | 90.00           | 269.799     | 9,454.00              | 685.29       | -9,102.15    | 9,099.69                | 0.00                    | 0.00                   | 0.00                  |
| 18,800.00             | 90.00           | 269.799     | 9,454.00              | 684.94       | -9,202.15    | 9,199.69                | 0.00                    | 0.00                   | 0.00                  |
| 18,900.00             | 90.00           | 269.799     | 9,454.00              | 684.58       | -9,302.15    | 9,299.69                | 0.00                    | 0.00                   | 0.00                  |
| 19,000.00             | 90.00           | 269.799     | 9,454.00              | 684.23       | -9,402.15    | 9,399.69                | 0.00                    | 0.00                   | 0.00                  |
| 19,100.00             | 90.00           | 269.799     | 9,454.00              | 683.88       | -9,502.15    | 9,499.69                | 0.00                    | 0.00                   | 0.00                  |
| 19,200.00             | 90.00           | 269.799     | 9,454.00              | 683.53       | -9,602.15    | 9,599.69                | 0.00                    | 0.00                   | 0.00                  |
| 19,300.00             | 90.00           | 269.799     | 9,454.00              | 683.18       | -9,702.15    | 9,699.69                | 0.00                    | 0.00                   | 0.00                  |
| 19,400.00             | 90.00           | 269.799     | 9,454.00              | 682.83       | -9,802.15    | 9,799.69                | 0.00                    | 0.00                   | 0.00                  |
| 19,500.00             | 90.00           | 269.799     | 9,454.00              | 682.48       | -9,902.15    | 9,899.69                | 0.00                    | 0.00                   | 0.00                  |
| 19,600.00             | 90.00           | 269.799     | 9,454.00              | 682.13       | -10,002.15   | 9,999.69                | 0.00                    | 0.00                   | 0.00                  |
| 19,700.00             | 90.00           | 269.799     | 9,454.00              | 681.78       | -10,102.15   | 10,099.69               | 0.00                    | 0.00                   | 0.00                  |
| 19,800.00             | 90.00           | 269.799     | 9,454.00              | 681.42       | -10,202.15   | 10,199.69               | 0.00                    | 0.00                   | 0.00                  |
| 19,900.00             | 90.00           | 269.799     | 9,454.00              | 681.07       | -10,302.15   | 10,299.69               | 0.00                    | 0.00                   | 0.00                  |
| 20,000.00             | 90.00           | 269.799     | 9,454.00              | 680.72       | -10,402.15   | 10,399.69               | 0.00                    | 0.00                   | 0.00                  |
| 20,100.00             | 90.00           | 269.799     | 9,454.00              | 680.37       | -10,502.15   | 10,499.69               | 0.00                    | 0.00                   | 0.00                  |
| 20,200.00             | 90.00           | 269.799     | 9,454.00              | 680.02       | -10,602.14   | 10,599.69               | 0.00                    | 0.00                   | 0.00                  |
| 20,300.00             | 90.00           | 269.799     | 9,454.00              | 679.67       | -10,702.14   | 10,699.69               | 0.00                    | 0.00                   | 0.00                  |
| 20,400.00             | 90.00           | 269.799     | 9,454.00              | 679.32       | -10,802.14   | 10,799.69               | 0.00                    | 0.00                   | 0.00                  |
| 20,500.00             | 90.00           | 269.799     | 9,454.00              | 678.97       | -10,902.14   | 10,899.69               | 0.00                    | 0.00                   | 0.00                  |
| 20,600.00             | 90.00           | 269.799     | 9,454.00              | 678.62       | -11,002.14   | 10,999.69               | 0.00                    | 0.00                   | 0.00                  |
| 20,700.00             | 90.00           | 269.799     | 9,454.00              | 678.27       | -11,102.14   | 11,099.69               | 0.00                    | 0.00                   | 0.00                  |
| 20,800.00             | 90.00           | 269.799     | 9,454.00              | 677.91       | -11,202.14   | 11,199.69               | 0.00                    | 0.00                   | 0.00                  |
| 20,900.00             | 90.00           | 269.799     | 9,454.00              | 677.56       | -11,302.14   | 11,299.69               | 0.00                    | 0.00                   | 0.00                  |
| 21,000.00             | 90.00           | 269.799     | 9,454.00              | 677.21       | -11,402.14   | 11,399.69               | 0.00                    | 0.00                   | 0.00                  |
| 21,100.00             | 90.00           | 269.799     | 9,454.00              | 676.86       | -11,502.14   | 11,499.69               | 0.00                    | 0.00                   | 0.00                  |
| 21,200.00             | 90.00           | 269.799     | 9,454.00              | 676.51       | -11,602.14   | 11,599.69               | 0.00                    | 0.00                   | 0.00                  |
| 21,300.00             | 90.00           | 269.799     | 9,454.00              | 676.16       | -11,702.14   | 11,699.69               | 0.00                    | 0.00                   | 0.00                  |
| 21,400.00             | 90.00           | 269.799     | 9,454.00              | 675.81       | -11,802.14   | 11,799.69               | 0.00                    | 0.00                   | 0.00                  |
| 21,500.00             | 90.00           | 269.799     | 9,454.00              | 675.46       | -11,902.14   | 11,899.69               | 0.00                    | 0.00                   | 0.00                  |
| 21,600.00             | 90.00           | 269.799     | 9,454.00              | 675.11       | -12,002.14   | 11,999.69               | 0.00                    | 0.00                   | 0.00                  |
| 21,700.00             | 90.00           | 269.799     | 9,454.00              | 674.75       | -12,102.14   | 12,099.69               | 0.00                    | 0.00                   | 0.00                  |
| 21,800.00             | 90.00           | 269.799     | 9,454.00              | 674.40       | -12,202.13   | 12,199.69               | 0.00                    | 0.00                   | 0.00                  |
| 21,900.00             | 90.00           | 269.799     | 9,454.00              | 674.05       | -12,302.13   | 12,299.69               | 0.00                    | 0.00                   | 0.00                  |
| 22,000.00             | 90.00           | 269.799     | 9,454.00              | 673.70       | -12,402.13   | 12,399.69               | 0.00                    | 0.00                   | 0.00                  |
| 22,100.00             | 90.00           | 269.799     | 9,454.00              | 673.35       | -12,502.13   | 12,499.69               | 0.00                    | 0.00                   | 0.00                  |
| 22,200.00             | 90.00           | 269.799     | 9,454.00              | 673.00       | -12,602.13   | 12,599.69               | 0.00                    | 0.00                   | 0.00                  |
| 22,300.00             | 90.00           | 269.799     | 9,454.00              | 672.65       | -12,702.13   | 12,699.69               | 0.00                    | 0.00                   | 0.00                  |
| 22,400.00             | 90.00           | 269.799     | 9,454.00              | 672.30       | -12,802.13   | 12,799.69               | 0.00                    | 0.00                   | 0.00                  |
| 22,500.00             | 90.00           | 269.799     | 9,454.00              | 671.95       | -12,902.13   | 12,899.69               | 0.00                    | 0.00                   | 0.00                  |

## Planning Report

|                  |                                                  |                                     |                                   |
|------------------|--------------------------------------------------|-------------------------------------|-----------------------------------|
| <b>Database:</b> | EDM 5000.18 Single User Db                       | <b>Local Co-ordinate Reference:</b> | Well Big Eddy Unit DI 31W 10-7 4H |
| <b>Company:</b>  | ROC                                              | <b>TVD Reference:</b>               | RKB 32 @ 3504.00usft (Rig TBD)    |
| <b>Project:</b>  | Big Eddy Unit DI 31 West - Eddy Co. - NAD 27 NME | <b>MD Reference:</b>                | RKB 32 @ 3504.00usft (Rig TBD)    |
| <b>Site:</b>     | BEU DI 31 West - Plans                           | <b>North Reference:</b>             | Grid                              |
| <b>Well:</b>     | Big Eddy Unit DI 31W 10-7 4H                     | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Wellbore:</b> | OH                                               |                                     |                                   |
| <b>Design:</b>   | Plan 0                                           |                                     |                                   |

| 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) |  |
| 22,600.00             | 90.00           | 269.799     | 9,454.00              | 671.59       | -13,002.13   | 12,999.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 22,700.00             | 90.00           | 269.799     | 9,454.00              | 671.24       | -13,102.13   | 13,099.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 22,800.00             | 90.00           | 269.799     | 9,454.00              | 670.89       | -13,202.13   | 13,199.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 22,900.00             | 90.00           | 269.799     | 9,454.00              | 670.54       | -13,302.13   | 13,299.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 23,000.00             | 90.00           | 269.799     | 9,454.00              | 670.19       | -13,402.13   | 13,399.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 23,100.00             | 90.00           | 269.799     | 9,454.00              | 669.84       | -13,502.13   | 13,499.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 23,200.00             | 90.00           | 269.799     | 9,454.00              | 669.49       | -13,602.13   | 13,599.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 23,300.00             | 90.00           | 269.799     | 9,454.00              | 669.14       | -13,702.13   | 13,699.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 23,400.00             | 90.00           | 269.799     | 9,454.00              | 668.79       | -13,802.13   | 13,799.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 23,500.00             | 90.00           | 269.799     | 9,454.00              | 668.43       | -13,902.12   | 13,899.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 23,600.00             | 90.00           | 269.799     | 9,454.00              | 668.08       | -14,002.12   | 13,999.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 23,700.00             | 90.00           | 269.799     | 9,454.00              | 667.73       | -14,102.12   | 14,099.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 23,800.00             | 90.00           | 269.799     | 9,454.00              | 667.38       | -14,202.12   | 14,199.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 23,900.00             | 90.00           | 269.799     | 9,454.00              | 667.03       | -14,302.12   | 14,299.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 24,000.00             | 90.00           | 269.799     | 9,454.00              | 666.68       | -14,402.12   | 14,399.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 24,100.00             | 90.00           | 269.799     | 9,454.00              | 666.33       | -14,502.12   | 14,499.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 24,200.00             | 90.00           | 269.799     | 9,454.00              | 665.98       | -14,602.12   | 14,599.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 24,300.00             | 90.00           | 269.799     | 9,454.00              | 665.63       | -14,702.12   | 14,699.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 24,400.00             | 90.00           | 269.799     | 9,454.00              | 665.27       | -14,802.12   | 14,799.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 24,500.00             | 90.00           | 269.799     | 9,454.00              | 664.92       | -14,902.12   | 14,899.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 24,600.00             | 90.00           | 269.799     | 9,454.00              | 664.57       | -15,002.12   | 14,999.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 24,700.00             | 90.00           | 269.799     | 9,454.00              | 664.22       | -15,102.12   | 15,099.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 24,800.00             | 90.00           | 269.799     | 9,454.00              | 663.87       | -15,202.12   | 15,199.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 24,900.00             | 90.00           | 269.799     | 9,454.00              | 663.52       | -15,302.12   | 15,299.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 25,000.00             | 90.00           | 269.799     | 9,454.00              | 663.17       | -15,402.12   | 15,399.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 25,100.00             | 90.00           | 269.799     | 9,454.00              | 662.82       | -15,502.11   | 15,499.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 25,200.00             | 90.00           | 269.799     | 9,454.00              | 662.47       | -15,602.11   | 15,599.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 25,300.00             | 90.00           | 269.799     | 9,454.00              | 662.12       | -15,702.11   | 15,699.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 25,400.00             | 90.00           | 269.799     | 9,454.00              | 661.76       | -15,802.11   | 15,799.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 25,500.00             | 90.00           | 269.799     | 9,454.00              | 661.41       | -15,902.11   | 15,899.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 25,600.00             | 90.00           | 269.799     | 9,454.00              | 661.06       | -16,002.11   | 15,999.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 25,700.00             | 90.00           | 269.799     | 9,454.00              | 660.71       | -16,102.11   | 16,099.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 25,800.00             | 90.00           | 269.799     | 9,454.00              | 660.36       | -16,202.11   | 16,199.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 25,900.00             | 90.00           | 269.799     | 9,454.00              | 660.01       | -16,302.11   | 16,299.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 26,000.00             | 90.00           | 269.799     | 9,454.00              | 659.66       | -16,402.11   | 16,399.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 26,100.00             | 90.00           | 269.799     | 9,454.00              | 659.31       | -16,502.11   | 16,499.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 26,200.00             | 90.00           | 269.799     | 9,454.00              | 658.96       | -16,602.11   | 16,599.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 26,300.00             | 90.00           | 269.799     | 9,454.00              | 658.60       | -16,702.11   | 16,699.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 26,400.00             | 90.00           | 269.799     | 9,454.00              | 658.25       | -16,802.11   | 16,799.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 26,500.00             | 90.00           | 269.799     | 9,454.00              | 657.90       | -16,902.11   | 16,899.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 26,600.00             | 90.00           | 269.799     | 9,454.00              | 657.55       | -17,002.11   | 16,999.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 26,700.00             | 90.00           | 269.799     | 9,454.00              | 657.20       | -17,102.10   | 17,099.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 26,800.00             | 90.00           | 269.799     | 9,454.00              | 656.85       | -17,202.10   | 17,199.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 26,900.00             | 90.00           | 269.799     | 9,454.00              | 656.50       | -17,302.10   | 17,299.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 27,000.00             | 90.00           | 269.799     | 9,454.00              | 656.15       | -17,402.10   | 17,399.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 27,100.00             | 90.00           | 269.799     | 9,454.00              | 655.80       | -17,502.10   | 17,499.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 27,200.00             | 90.00           | 269.799     | 9,454.00              | 655.44       | -17,602.10   | 17,599.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 27,300.00             | 90.00           | 269.799     | 9,454.00              | 655.09       | -17,702.10   | 17,699.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 27,400.00             | 90.00           | 269.799     | 9,454.00              | 654.74       | -17,802.10   | 17,799.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 27,500.00             | 90.00           | 269.799     | 9,454.00              | 654.39       | -17,902.10   | 17,899.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 27,583.00             | 90.00           | 269.799     | 9,454.00              | 654.10       | -17,985.10   | 17,982.70               | 0.00                    | 0.00                   | 0.00                  |  |
| 27,600.00             | 90.00           | 269.799     | 9,454.00              | 654.04       | -18,002.10   | 17,999.69               | 0.00                    | 0.00                   | 0.00                  |  |
| 27,633.00             | 90.00           | 269.799     | 9,454.00              | 653.92       | -18,035.10   | 18,032.70               | 0.00                    | 0.00                   | 0.00                  |  |

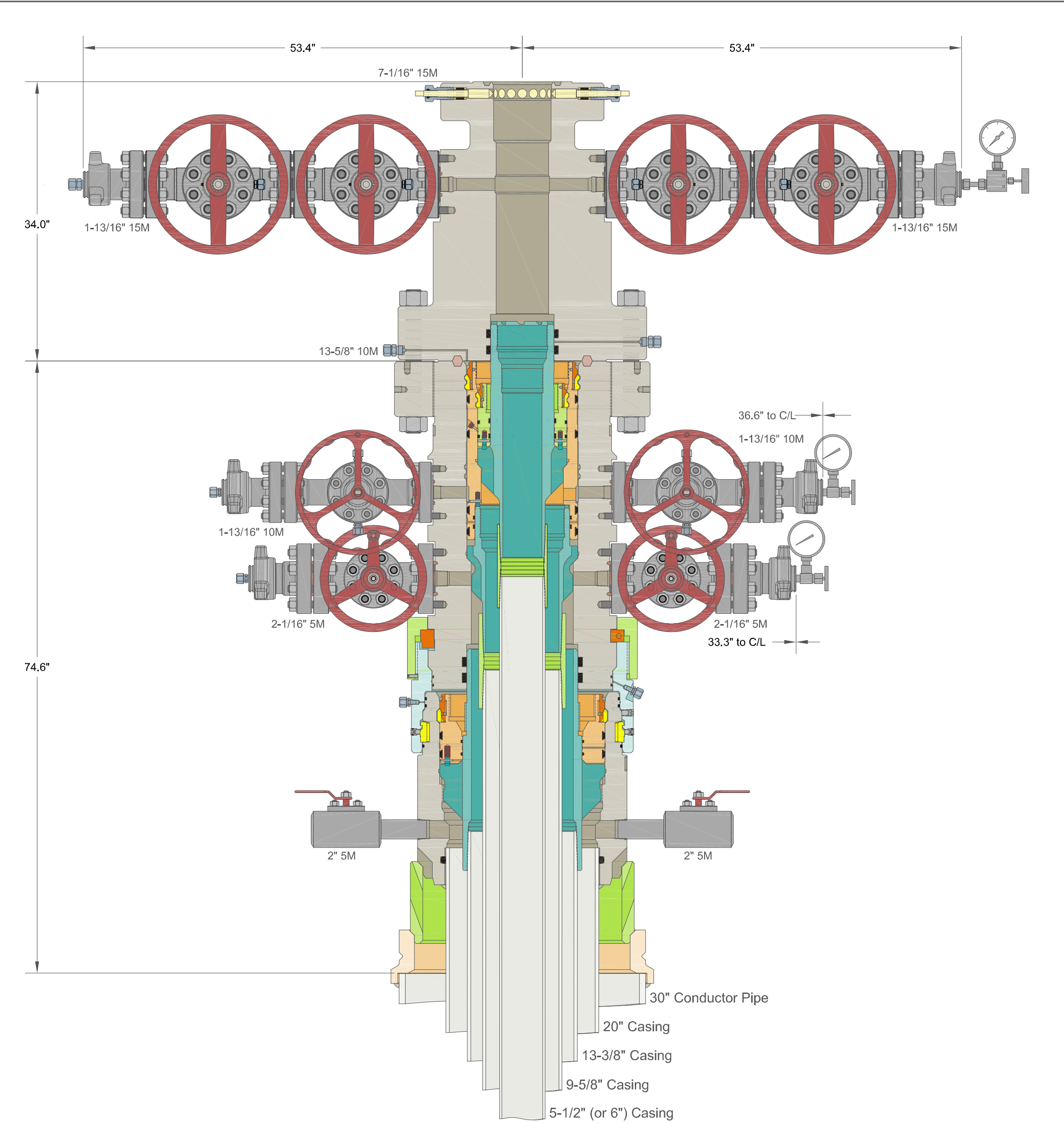
## Planning Report

|                  |                                                  |                                     |                                   |
|------------------|--------------------------------------------------|-------------------------------------|-----------------------------------|
| <b>Database:</b> | EDM 5000.18 Single User Db                       | <b>Local Co-ordinate Reference:</b> | Well Big Eddy Unit DI 31W 10-7 4H |
| <b>Company:</b>  | ROC                                              | <b>TVD Reference:</b>               | RKB 32 @ 3504.00usft (Rig TBD)    |
| <b>Project:</b>  | Big Eddy Unit DI 31 West - Eddy Co. - NAD 27 NME | <b>MD Reference:</b>                | RKB 32 @ 3504.00usft (Rig TBD)    |
| <b>Site:</b>     | BEU DI 31 West - Plans                           | <b>North Reference:</b>             | Grid                              |
| <b>Well:</b>     | Big Eddy Unit DI 31W 10-7 4H                     | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Wellbore:</b> | OH                                               |                                     |                                   |
| <b>Design:</b>   | Plan 0                                           |                                     |                                   |

| Design Targets                                                                                                                    |           |          |          |        |            |            |            |                 |                   |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------|----------|----------|--------|------------|------------|------------|-----------------|-------------------|
| Target Name                                                                                                                       |           |          |          |        |            |            |            |                 |                   |
| - hit/miss target                                                                                                                 | Dip Angle | Dip Dir. | TVD      | +N/-S  | +E/-W      | Northing   | Easting    | Latitude        | Longitude         |
| - Shape                                                                                                                           | (°)       | (°)      | (usft)   | (usft) | (usft)     | (usft)     | (usft)     |                 |                   |
| BHL - BEU DI 31W 4H<br>- plan misses target center by 0.22usft at 27633.00usft MD (9454.00 TVD, 653.92 N, -18035.10 E)<br>- Point | 0.00      | 0.000    | 9,454.00 | 653.70 | -18,035.10 | 576,844.00 | 628,429.90 | 32° 35' 6.570 N | 103° 54' 58.925 W |
| LTP - BEU DI 31W 4H<br>- plan hits target center<br>- Point                                                                       | 0.00      | 0.000    | 9,454.00 | 654.10 | -17,985.10 | 576,844.40 | 628,479.90 | 32° 35' 6.572 N | 103° 54' 58.341 W |
| FTP - BEU DI 31W 4H<br>- plan misses target center by 237.34usft at 9417.43usft MD (9284.61 TVD, 717.72 N, 134.85 E)<br>- Point   | 0.00      | 0.000    | 9,454.00 | 718.30 | 301.10     | 576,908.60 | 646,766.10 | 32° 35' 6.447 N | 103° 51' 24.616 W |

| Formations            |                       |                                   |           |         |                   |  |
|-----------------------|-----------------------|-----------------------------------|-----------|---------|-------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Name                              | Lithology | Dip (°) | Dip Direction (°) |  |
| 757.00                | 757.00                | Rustler                           |           |         |                   |  |
| 1,077.00              | 1,077.00              | Salado                            |           |         |                   |  |
| 1,932.00              | 1,932.00              | MB-126                            |           |         |                   |  |
| 2,340.06              | 2,340.00              | Base of Salt                      |           |         |                   |  |
| 4,321.14              | 4,272.00              | Delaware                          |           |         |                   |  |
| 4,538.59              | 4,483.00              | Cherry Canyon                     |           |         |                   |  |
| 5,736.49              | 5,649.00              | Brushy Canyon                     |           |         |                   |  |
| 7,311.60              | 7,223.00              | Bone Spring Lm.                   |           |         |                   |  |
| 8,046.60              | 7,958.00              | Avalon                            |           |         |                   |  |
| 8,549.60              | 8,461.00              | 1st Bone Spring Sand              |           |         |                   |  |
| 8,939.60              | 8,851.00              | 2nd Bone Spring Lime              |           |         |                   |  |
| 9,126.56              | 9,036.00              | 2nd Bone Spring Sand              |           |         |                   |  |
| 9,869.65              | 9,454.00              | 2rd Bone Spring Sand Lower Landir |           |         |                   |  |





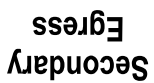
INFORMATION CONTAINED HEREIN IS THE PROPERTY OF CACTUS WELLHEAD, LLC. REPRODUCTION, DISCLOSURE, OR USE THEREOF IS PERMISSIBLE ONLY AS PROVIDED BY CONTRACT OR AS EXPRESSLY AUTHORIZED BY CACTUS WELLHEAD, LLC.

ALL DIMENSIONS APPROXIMATE

|                                                                                                                                                                                              |                                  |     |         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-----|---------|
| CACTUS WELLHEAD LLC                                                                                                                                                                          | XTO ENERGY INC<br>DELAWARE BASIN |     |         |
|                                                                                                                                                                                              | DRAWN                            | DLE | 25MAR24 |
|                                                                                                                                                                                              | APPRV                            |     |         |
| 30" x 20" x 13-3/8" x 9-5/8" x 5-1/2" (or 6") CRC / MBU-3T-CFL<br>With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS-SB Tubing Head<br>And 13-3/8", 9-5/8" & 5-1/2" (or 6") Pin Bottom Casing Hangers | DRAWING NO. HBE0000801           |     |         |







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: 6/17/2025

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 31E 10-7 1H | TBD | 10 T20S R31E | 955 FSL, 2550 FEL | 1,500                 | 200                                | 2,250                 | 500                                | 3,750                            | 450                                  |
| Big Eddy Unit DI 31E 10-7 2H | TBD | 10 T20S R31E | 955 FSL, 2520 FEL | 1,500                 | 200                                | 2,250                 | 500                                | 3,750                            | 450                                  |
| Big Eddy Unit DI 31E 10-7 3H | TBD | 10 T20S R31E | 955 FSL, 2490 FEL | 1,500                 | 200                                | 2,250                 | 500                                | 3,750                            | 450                                  |
| Big Eddy Unit DI 31E 10-7 4H | TBD | 10 T20S R31E | 955 FSL, 2460 FEL | 1,900                 | 200                                | 5,250                 | 900                                | 5,750                            | 550                                  |
| Big Eddy Unit DI 31E 10-7 5H | TBD | 10 T20S R31E | 955 FSL, 2430 FEL | 1,900                 | 200                                | 5,250                 | 900                                | 5,750                            | 550                                  |
| Big Eddy Unit DI 31E 10-7 6H | TBD | 10 T20S R31E | 955 FSL, 2400 FEL | 1,900                 | 200                                | 5,250                 | 900                                | 5,750                            | 550                                  |
| Big Eddy Unit DI 31W 10-7 1H | TBD | 10 T20S R31E | 955 FSL, 2109 FWL | 2,100                 | 250                                | 3,000                 | 800                                | 5,250                            | 600                                  |
| Big Eddy Unit DI             | TBD | 10 T20S R31E | 955 FSL, 2139 FWL | 2,100                 | 250                                | 3,000                 | 800                                | 5,250                            | 600                                  |

|                                       |     |                 |                      |       |     |       |       |       |     |  |
|---------------------------------------|-----|-----------------|----------------------|-------|-----|-------|-------|-------|-----|--|
| 31W 10-7<br>2H                        |     |                 |                      |       |     |       |       |       |     |  |
| Big Eddy<br>Unit DI<br>31W 10-7<br>3H | TBD | 10 T20S<br>R31E | 955 FSL,<br>2199 FWL | 2,100 | 250 | 3,000 | 800   | 5,250 | 600 |  |
| Big Eddy<br>Unit DI<br>31W 10-7<br>4H | TBD | 10 T20S<br>R31E | 955 FSL,<br>2229 FWL | 2,600 | 250 | 7,250 | 1,200 | 8,000 | 750 |  |
| Big Eddy<br>Unit DI<br>31W 10-7<br>5H | TBD | 10 T20S<br>R31E | 955 FSL,<br>2079 FWL | 2,600 | 250 | 7,250 | 1,200 | 8,000 | 750 |  |
| Big Eddy<br>Unit DI<br>31W 10-7<br>6H | TBD | 10 T20S<br>R31E | 355 FSL,<br>2459 FWL | 2,600 | 250 | 7,250 | 1,200 | 8,000 | 750 |  |

**IV. Central Delivery Point Name:**\_\_\_\_\_Big Eddy Unit DI 30 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<br>Date | Completion<br>Commencement Date | Initial Flow<br>Back Date | First Production<br>Date |
|---------------------------------|-----|-----------|--------------------|---------------------------------|---------------------------|--------------------------|
| Big Eddy Unit DI 31E<br>10-7 1H | TBD | TBD       | TBD                | TBD                             | TBD                       | TBD                      |
| Big Eddy Unit DI 31E<br>10-7 2H | TBD | TBD       | TBD                | TBD                             | TBD                       | TBD                      |
| Big Eddy Unit DI 31E<br>10-7 3H | TBD | TBD       | TBD                | TBD                             | TBD                       | TBD                      |
| Big Eddy Unit DI 31E<br>10-7 4H | TBD | TBD       | TBD                | TBD                             | TBD                       | TBD                      |
| Big Eddy Unit DI 31E<br>10-7 5H | TBD | TBD       | TBD                | TBD                             | TBD                       | TBD                      |
| Big Eddy Unit DI 31E<br>10-7 6H | TBD | TBD       | TBD                | TBD                             | TBD                       | TBD                      |
| Big Eddy Unit DI 31W<br>10-7 1H | TBD | TBD       | TBD                | TBD                             | TBD                       | TBD                      |
| Big Eddy Unit DI 31W<br>10-7 2H | TBD | TBD       | TBD                | TBD                             | TBD                       | TBD                      |
| Big Eddy Unit DI 31W<br>10-7 3H | TBD | TBD       | TBD                | TBD                             | TBD                       | TBD                      |
| Big Eddy Unit DI 31W<br>10-7 4H | TBD | TBD       | TBD                | TBD                             | TBD                       | TBD                      |
| Big Eddy Unit DI 31W<br>10-7 5H | TBD | TBD       | TBD                | TBD                             | TBD                       | TBD                      |
| Big Eddy Unit DI 31W<br>10-7 6H | 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.

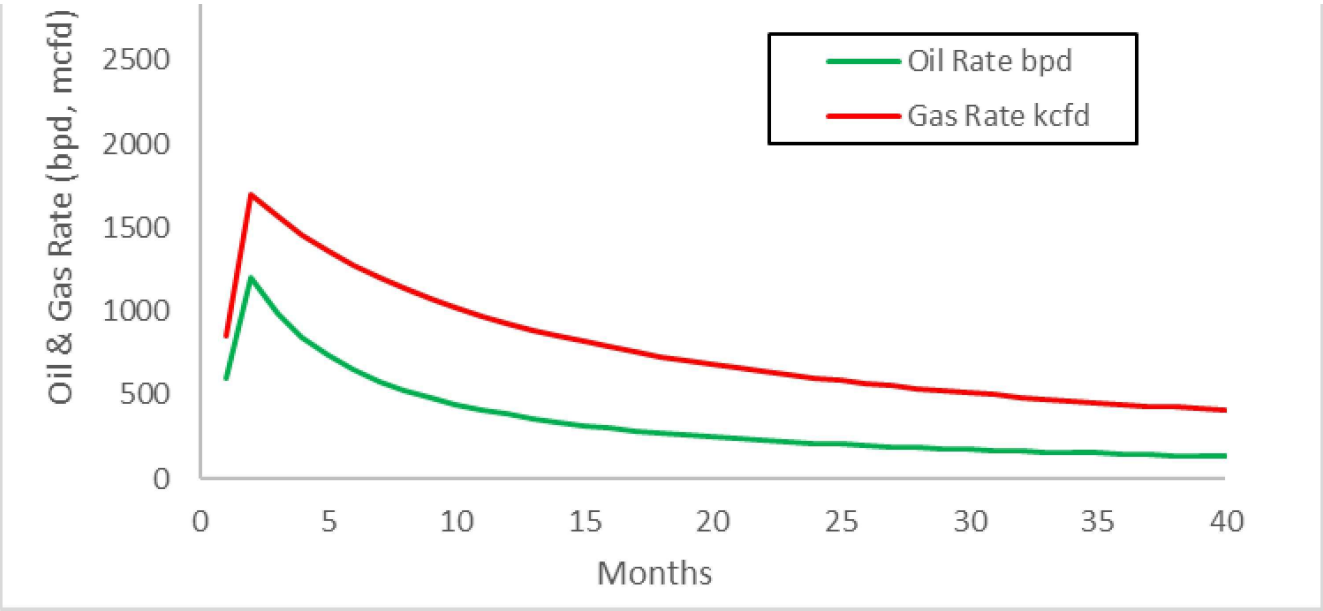
I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

|                                                                                                |
|------------------------------------------------------------------------------------------------|
| Signature: <i>L. Srinivas Naveen</i>                                                           |
| Printed Name: Srinivas Naveen Laghuvarapu                                                      |
| Title: Regulatory Analyst                                                                      |
| E-mail Address: srinivas.n.laghuvarapu@exxonmobil.com                                          |
| Date: 6/17/2025                                                                                |
| Phone: 346-224-6122                                                                            |
| <div>OIL CONSERVATION DIVISION<br/>(Only applicable when submitted as a standalone form)</div> |
| Approved By:                                                                                   |
| Title:                                                                                         |
| Approval Date:                                                                                 |
| Conditions of Approval:                                                                        |

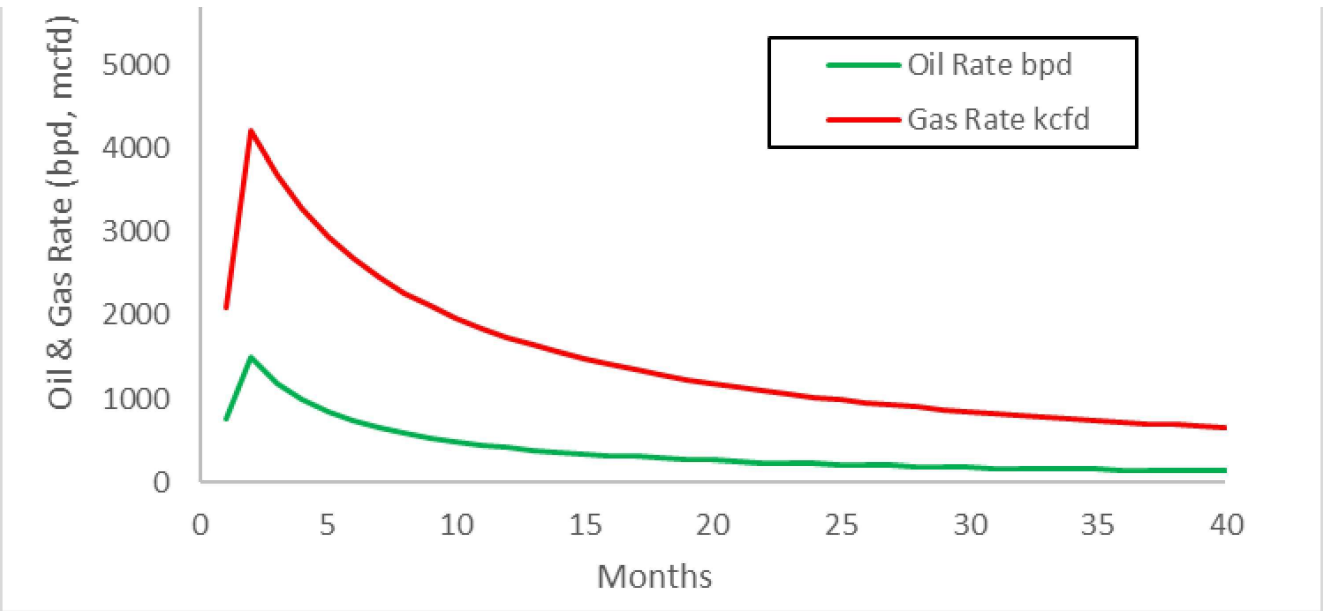


**Big Eddy Unit – Decline Curves:**

**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.

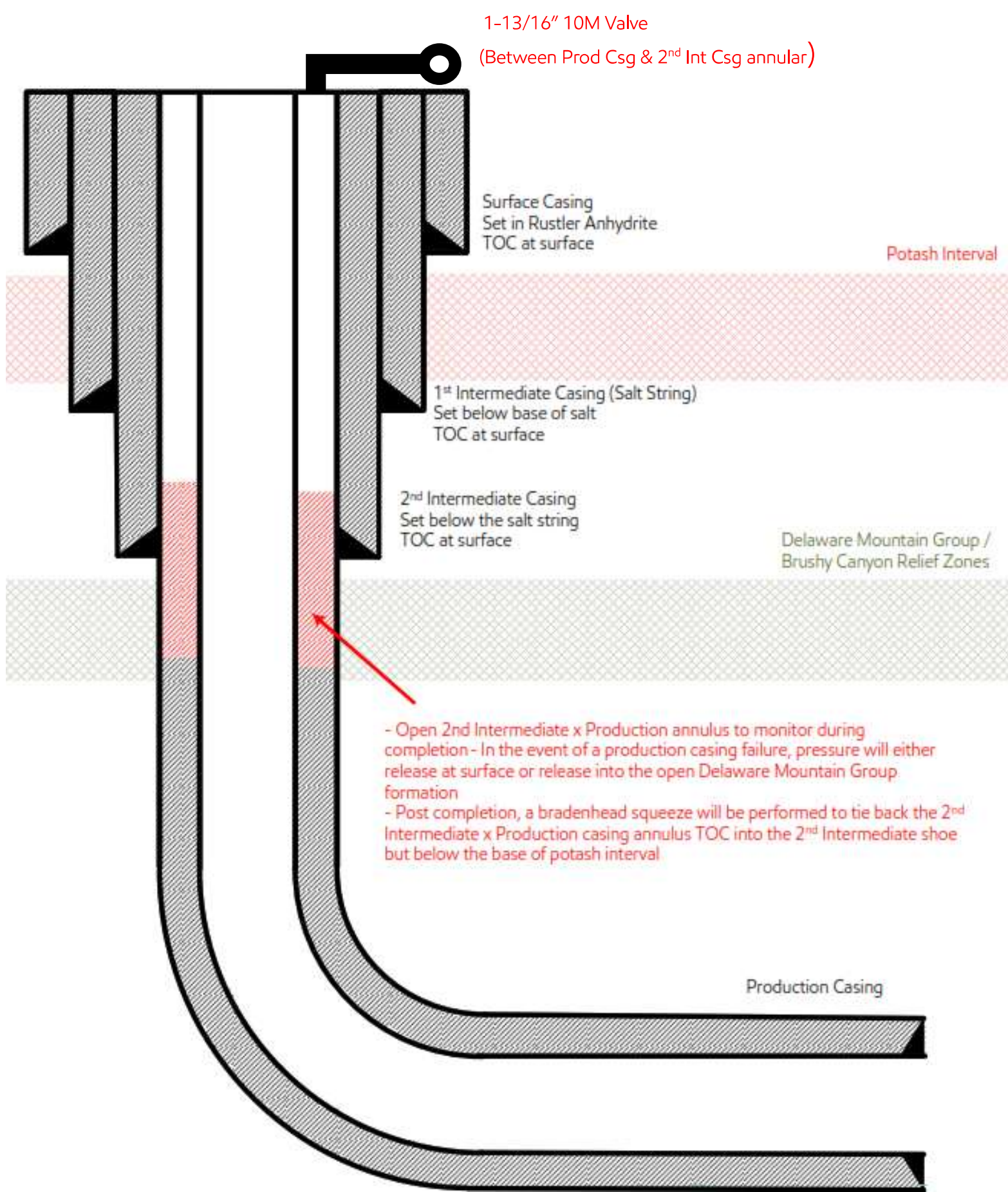
- During drilling operations, XTO will utilize flares to capture and control natural gas, where technically feasible. If flaring is deemed technically in-feasible, XTO will employ best management practices to minimize or reduce venting to the extent possible.
- During completions operations, XTO will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

4-String Design – Open 2nd Int x Production Casing Annulus (ICP 2 above relief Zone)



[Figure E] 4 String – Uncemented annulus between 2nd intermediate and Production casing strings

Update 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 open for pressure monitoring during frac and utilizing new casing that meets API standards.
- 2) Contingency plans in place to divert fluids away from salt interval in event of production casing failure.
- 3) **Production primary cement** job with TOC within Delaware Mountain Group with 0% excess & below the minimum 500’ from intermediate 2 casing shoe.
- 4) **Production bradenhead squeeze** to be completed within 180 days to tieback TOC to intermediate 2 at least 500ft but with top below Marker Bed 126.

## Eddy County, NM

|    |            |
|----|------------|
| A. | Quaternary |
|----|------------|

[illegible]

\*\*\* Deepest Expected Groundwater Depth: 40' (per NM State Engineers Office).

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Surface fresh water sands will be protected by setting 20" inch casing at 1052' and circulating cement back to surface.

**3. Primary Casing Design****Primary Design:**

| Hole Size (in.) | MD          | Casing TVD | OD Csg  | Weight | Grade    | Collar | New/Used | SF Burst | SF Collapse | SF Tension |
|-----------------|-------------|------------|---------|--------|----------|--------|----------|----------|-------------|------------|
| 26 / 24"        | 0' – 1052'  | 1052'      | 20"     | 94     | J55      | BTC    | New      | 6.54     | 2.28        | 7.97       |
| 17.5"           | 0' – 2440'  | 2437'      | 13-3/8" | 54.5   | J55      | BTC    | New      | 3.66     | 2.14        | 4.01       |
| 12.25"          | 0' – 4322'  | 4272'      | 9-5/8"  | 40     | J55      | BTC    | New      | 3.20     | 2.78        | 2.73       |
| 8.75 / 8.5"     | 0' – 27633' | 9454'      | 5-1/2"  | 20     | P110-ICV | TPN    | New      | 1.18     | 3.00        | 2.77       |
|                 |             |            |         |        |          |        |          |          |             |            |
|                 |             |            |         |        |          |        |          |          |             |            |
|                 |             |            |         |        |          |        |          |          |             |            |

**Production Casing Option**

Contingency to run 6" OD, 26 lb/ft, P110-CV grade, Tenaris Wedge 461 production casing is in place. This casing string complies with all applicable industry standards and meets or exceeds the required casing design safety factors. Cement volumes will be optimized in accordance with the objectives outlined in Section 4: Cement Program.

**Section 3 Summary:**

XOM will keep casing fluid filled to meet BLM's collapse requirement.  
The planned kick off point is located at: 8970' MD / 8881' TVD.

**Wellhead:**

A multi-bowl wellhead system will be utilized. The well design chosen is: 4-String Big Potash (Capitan Reef) (Figure E)

Wellhead will be installed by manufacturer's representatives.

Manufacturer will monitor welding process to ensure appropriate temperature of seal.

**4. Cement Program**

| Primary Cementing    |                    |           |               |                  |                   |                           |                                              |                                    |
|----------------------|--------------------|-----------|---------------|------------------|-------------------|---------------------------|----------------------------------------------|------------------------------------|
| Hole Section         | Slurry Type        | No. Sacks | Density (ppg) | Yield (ft3/sack) | TOC (ft)          | Casing Setting Depth (MD) | Excess (%)                                   | Slurry Description                 |
| Surface 1            | Lead               | 1073      | 12.4          | 2.11             | 0                 | 1,052                     | 100%                                         | Surface 1 Class C Lead Cement      |
| Surface 1            | Tail               | 679       | 14.8          | 1.33             | 752               | 1,052                     | 100%                                         | Surface 1 Class C Tail Cement      |
| Intermediate 1       | Lead               | 1104      | 12.9          | 2.02             | 0                 | 2,440                     | 50%                                          | Intermediate 1 Class C Lead Cement |
| Intermediate 1       | Tail               | 216       | 14.8          | 1.45             | 2140              | 2,440                     | 50%                                          | Intermediate 1 Class C Tail Cement |
| Intermediate 2       | Lead               | 935       | 12.9          | 2.02             | 0                 | 4,322                     | 50%                                          | Intermediate 2 Class C Lead Cement |
| Intermediate 2       | Tail               | 87        | 14.8          | 1.45             | 4022              | 4,322                     | 35%                                          | Intermediate 2 Class C Tail Cement |
| Production 1         | Lead               |           |               |                  |                   |                           |                                              |                                    |
| Production 1         | Tail               | 3857      | 13.2          | 1.44             | 5649              | 27,633                    | 0%                                           | Production 1 Class C Tail Cement   |
|                      |                    |           |               |                  |                   |                           |                                              |                                    |
|                      |                    |           |               |                  |                   |                           |                                              |                                    |
|                      |                    |           |               |                  |                   |                           |                                              |                                    |
|                      |                    |           |               |                  |                   |                           |                                              |                                    |
| Remedial Cementing   |                    |           |               |                  |                   |                           |                                              |                                    |
| Casing               | Slurry Type        | No. Sacks | Density (ppg) | Yield (ft3/sack) | Cemented Interval | Excess (%)                | Slurry Description                           |                                    |
| Production 1 Lateral | Bradenhead Squeeze | 430       | 14.8          | 1.45             | 3822 – 5649'      | 35%                       | Production Class C Bradenhead Squeeze Cement |                                    |
|                      |                    |           |               |                  |                   |                           |                                              |                                    |

**Section 4 Summary:**

XOM will comply with the R-111-Q requirements including (but not limited to):

- 1) Alignment with KPLA requirements per R-111-Q Figure E schematic, leaving open annulus open for pressure monitoring during frac and utilizing new casing that meets API standards.
- 2) Contingency plans in place to divert fluids away from salt interval in event of production casing failure.
- 3) Production primary cement job with TOC within Delaware Mountain Group with 0% excess & below the minimum 500' from intermediate 2 casing shoe.
- 4) Production bradenhead squeeze to be completed within 180 days after completions, to tieback TOC to intermediate 2 at least 500ft but with top below Marker Bed 126.



## 5. Pressure Control Equipment

### Section 5 Summary:

Once the permanent WH is installed on the casing, the blow out preventer equipment (BOP) will consist of a minimum 5M Hydril and a minimum 10M triple Ram BOP.

All BOP testing will be done by an independent service company. Operator will Test as per 43CFR-3172

### Requested Variances

#### 4A) Offline Cementing Variance

XOM requests the option to offline cement and remediate (if needed) surface, intermediate and production casing strings where batch drilling is approved and if unplanned remediation is needed. XOM 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. Offline cement operations will then be conducted after the rig is moved off the current well to the next well in the batch sequence. The TA cap will also be installed when applicable per wellhead manufacturer's procedure and pressure inside casing will be monitored via the valve on the TA cap as per standard batch drilling ops.

#### 5A) Break Test Variance

A break testing variance is requested to ONLY test broken pressure seals on the BOP equipment when moving from wellhead to wellhead for the intermediate hole sections which is in compliance with API Standard 53. The maximum anticipated surface pressure is less than 4800psi and the deepest intermediate casing point does not penetrate the Wolfcamp Formation.

#### 5B) Flex Hose Variance

A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test chart will be kept on the rig. Attached is an example of a certification and pressure test chart. The manufacturer does not require anchors.

#### 5C) Diverter Variance

Operator request a variance to utilize a temporary blowout preventer equipment (Diverter) to drill 1st intermediate section. This temporary diverter consist of a minimum 2M Hydril. Once the casing is run and cemented, and the multi-bowl wellhead system is installed and tested, the full BOP system with Hydril and rams will be installed before continue drilling or entering into a hydrocarbon bearing interval.

#### 8A) Open Hole Logging Variance

Open hole logging will not be done on this well.

#### 10A) Spudder Rig Variance

XOM requests the option to utilize a spudder rig (Atlas Copco RD20 or Equivalent) to set and cement surface casing.

#### 10B) Batch Drilling Variance

XOM requests a variance to be able to batch drill this well. In doing so, XOM will set casing and ensure that the well is cemented properly (unless approval is given for offline cementing) and the well is static. XOM will contact the BLM to skid the rig to drill the remaining wells on the pad. Once surface and intermediate strings are all completed, XOM will begin drilling the production hole on each of the wells.

## 6. Proposed Mud Circulation System

| INTERVAL       | Hole Size   | Mud Type        | MW        | Viscosity | Fluid Loss | Comments                                      |
|----------------|-------------|-----------------|-----------|-----------|------------|-----------------------------------------------|
|                |             |                 | (ppg)     | (sec/qt)  | (cc)       |                                               |
| 0' – 1052'     | 26 / 24"    | FW/Native       | 8.3 – 8.7 | 35-40     | NC         | Fresh Water or Native Water                   |
| 1052' – 2440'  | 17.5"       | Brine           | 9.5 – 10  | 30-32     | NC         | Fully saturated salt across Salado / Salt     |
| 2440' – 4322'  | 12.25"      | Fresh Water     | 8.3 – 8.7 | 35-40     | NC         | Fresh Water                                   |
| 4322' – 27633' | 8.75 / 8.5" | Cut Brine / OBM | 9 – 9.6   | 50-60     | NC – 20    | OBM or Cut Brine depending on Well Conditions |
|                |             |                 |           |           |            |                                               |
|                |             |                 |           |           |            |                                               |
|                |             |                 |           |           |            |                                               |

**Section 6 Summary:**

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

Spud with fresh water/native mud. Drill out from under surface casing with a fully saturated brine 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. An EDR (Electronic Drilling Recorder) 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.

**7. Auxiliary Well Control and Monitoring Equipment****Section 7 Summary:**

A Kelly cock will be in the drill string at all times.

A full opening drill pipe stabbing valve having appropriate connections will be on the rig floor at all times.

H2S monitors will be on location when drilling below the 20" casing.

**8. Logging, Coring and Testing Program****Section 8 Summary:**

Open hole logging will not be done on this well.

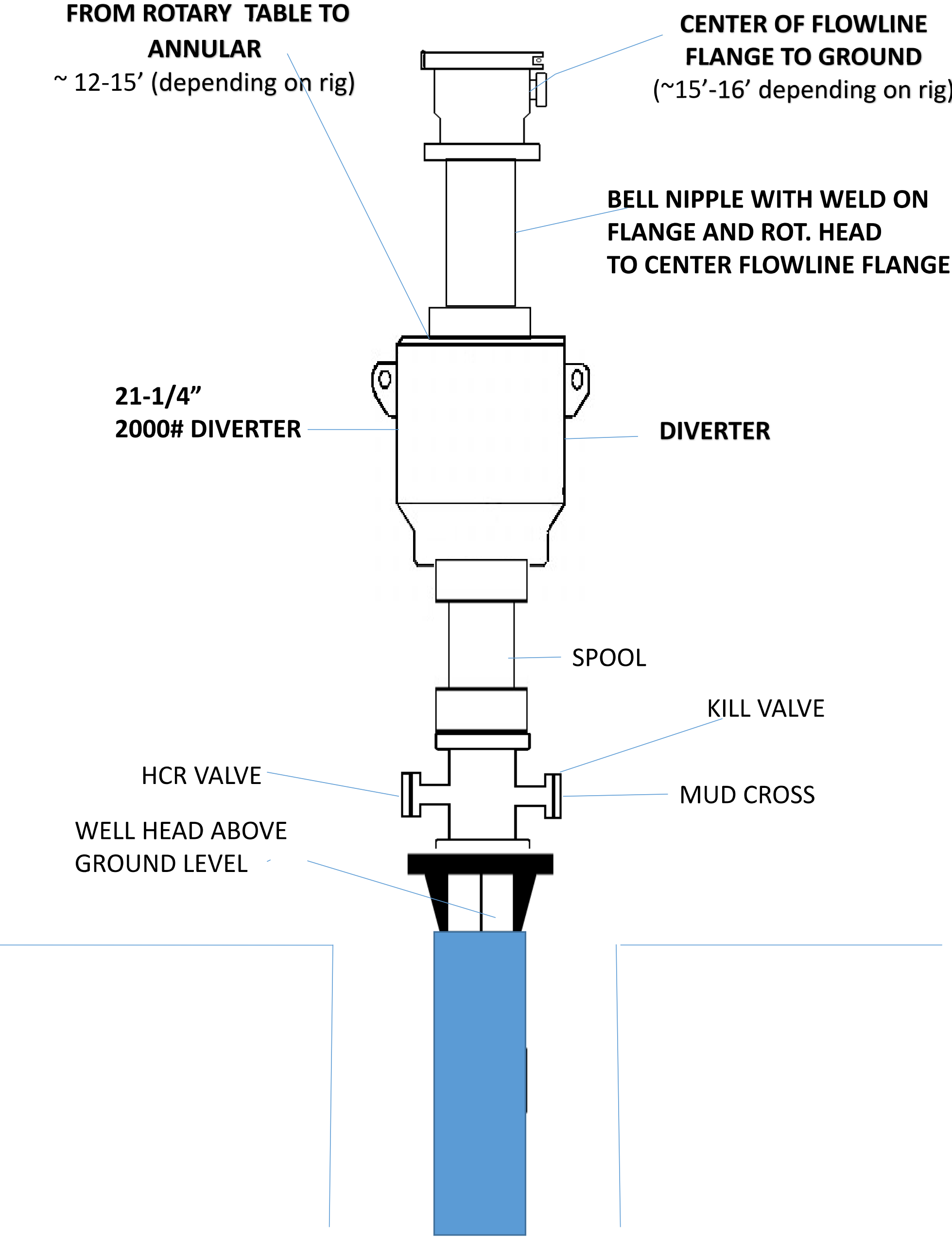
**9. Abnormal Pressures and Temperatures / Potential Hazards****Section 9 Summary:**

The estimated bottom hole temperature of 160F to 180F. No H2S is expected but monitors will be in place to detect any H2S occurrences. Should these circumstances be encountered the operator and drilling contractor are prepared to take all necessary steps to ensure safety of all personnel and environment. Lost circulation is possible throughout the well.

**10. Anticipated Starting Date and Duration of Operations****Section 10 Summary:**

Anticipated spud date will be after BLM approval. Move in operations and drilling is expected to take 40 days.





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 nipped 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.

## 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.

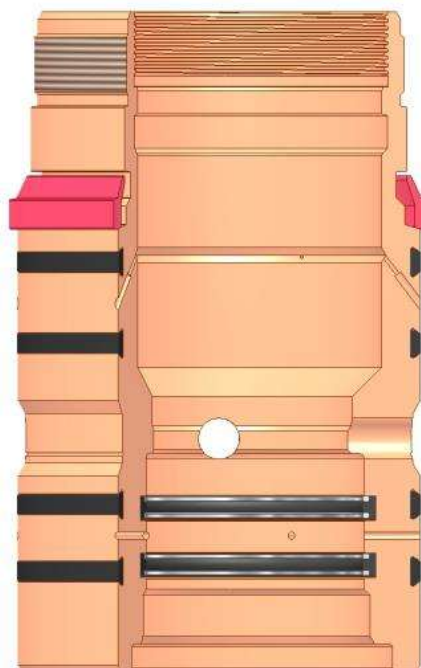
### 1. Cement Program

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

### 2. Offline Cementing Procedure

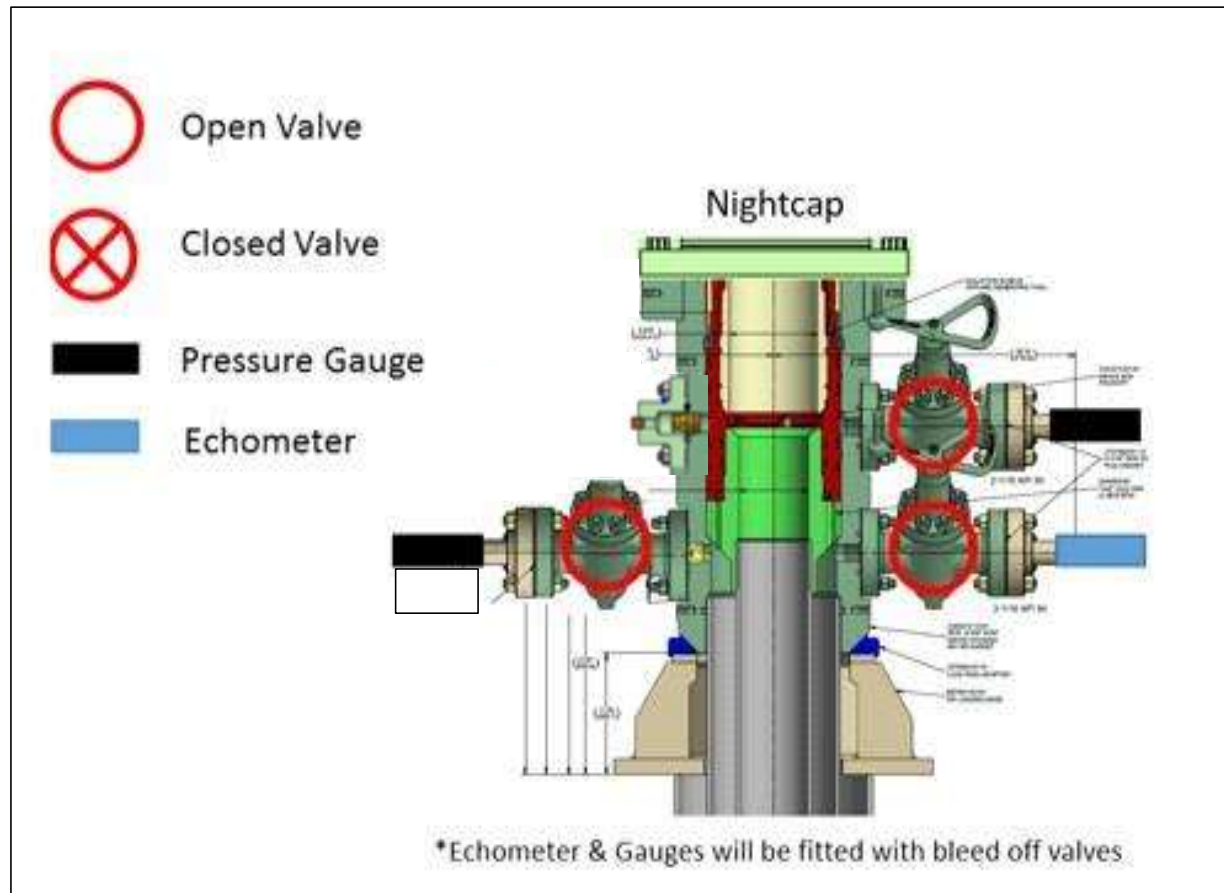
The operational sequence will be as follows. If a well control event occurs, the BLM will be contacted for approval prior to conducting offline cementing operations.

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 nipped 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.



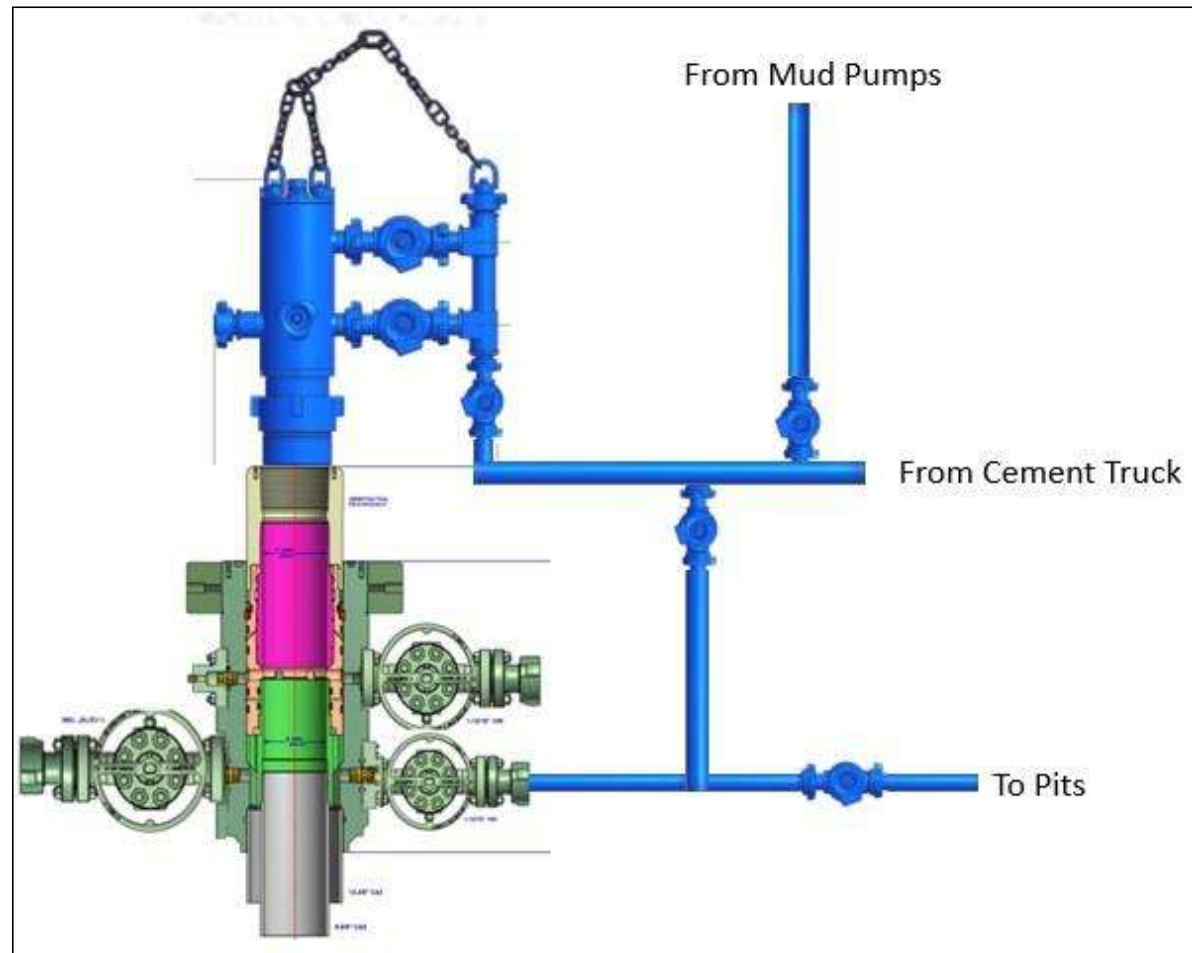
Annular packoff with both external and internal seals

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



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 nipping 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 3<sup>rd</sup> 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.



**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.

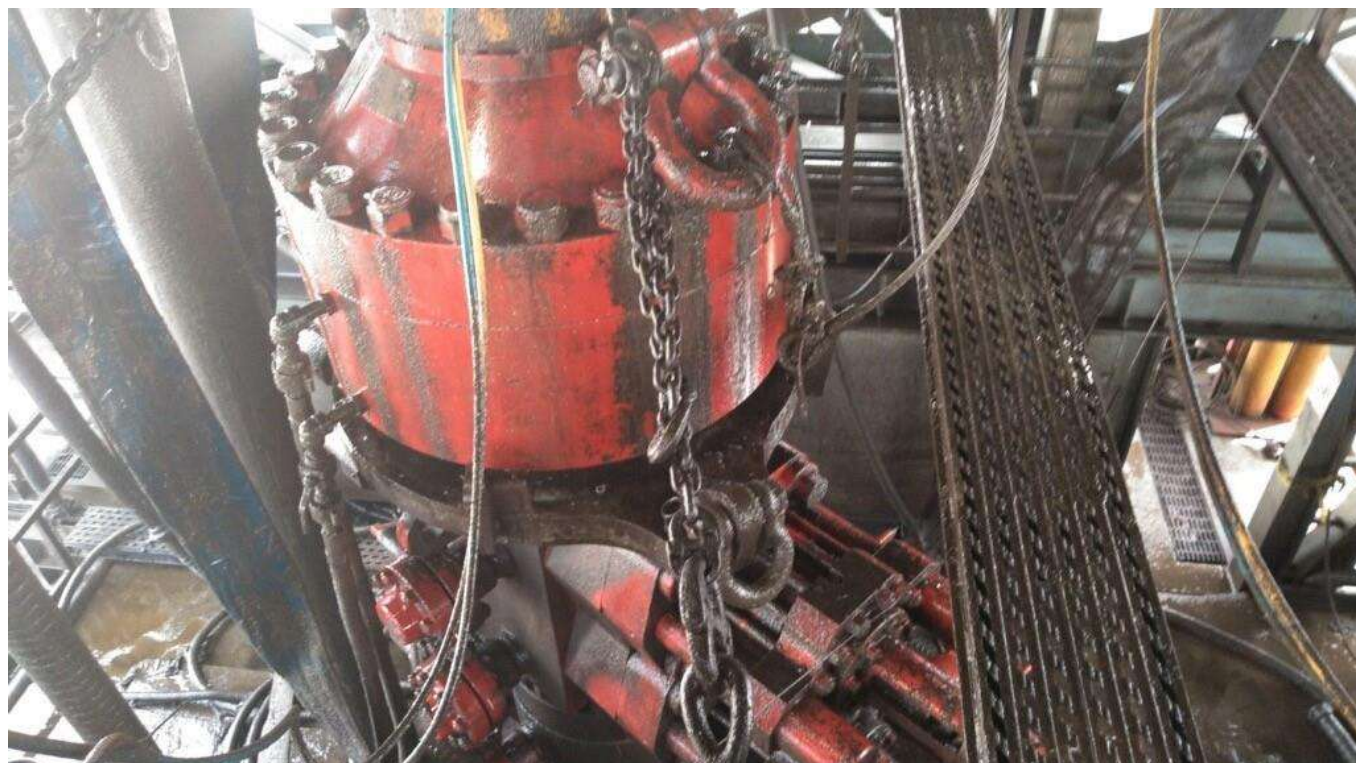


Figure 1: Winch System attached to BOP Stack





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 3170 recognizes 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 <sup>ac</sup><br>psig (MPa) | Pressure Test—High Pressure <sup>ac</sup>                                  |                                                       |
|----------------------------------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------|
|                                                                                  |                                                        | Change Out of Component, Elastomer, or Ring Gasket                         | No Change Out of Component, Elastomer, or Ring Gasket |
| Annular preventer <sup>b</sup>                                                   | 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 <sup>bd</sup>               | 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 <sup>e</sup>                                   | 250 to 350 (1.72 to 2.41)                              | RWP of ram preventers or wellhead system, whichever is lower               | ITP                                                   |
| Choke manifold—downstream of chokes <sup>e</sup>                                 | 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                                                  |                                                       |

<sup>a</sup> 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.

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

<sup>c</sup> 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.

<sup>d</sup> 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.

<sup>e</sup> 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.

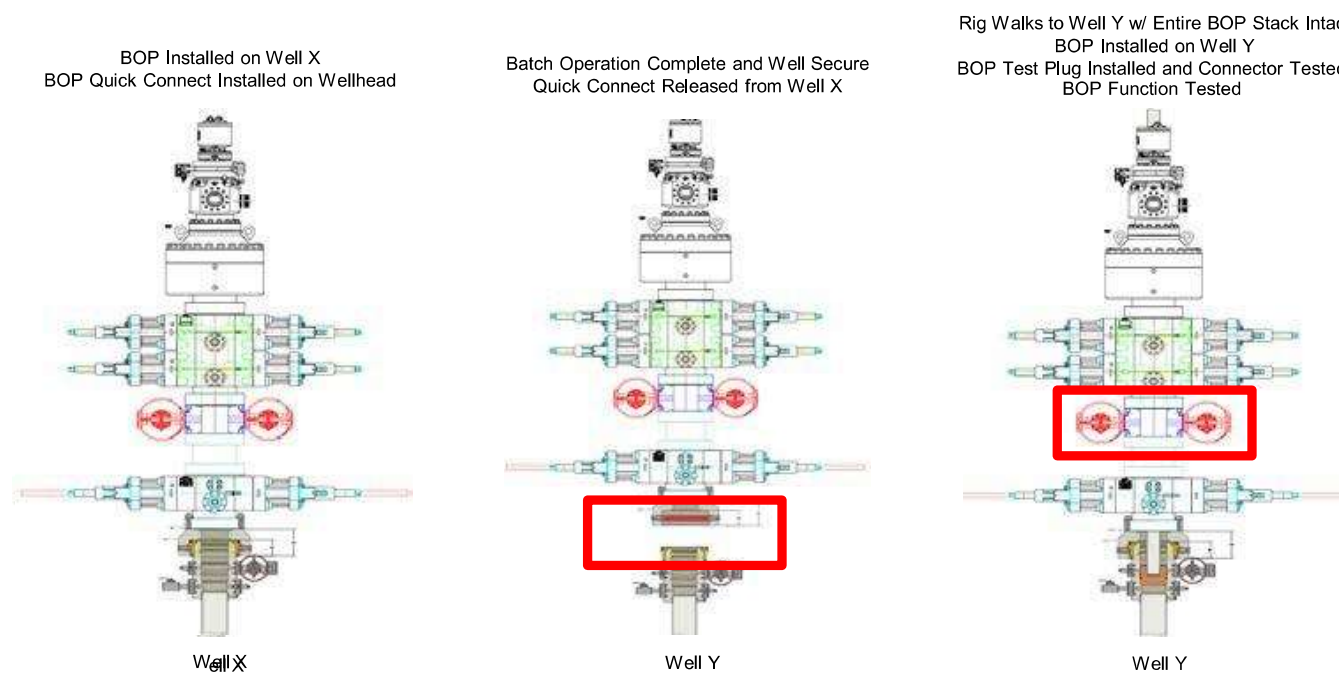
XTO Energy feels break testing and our current procedures meet the intent of CFR Title 43 Part 317 0and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. XTO Energy's internal standards requires complete BOPE tests more often 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*



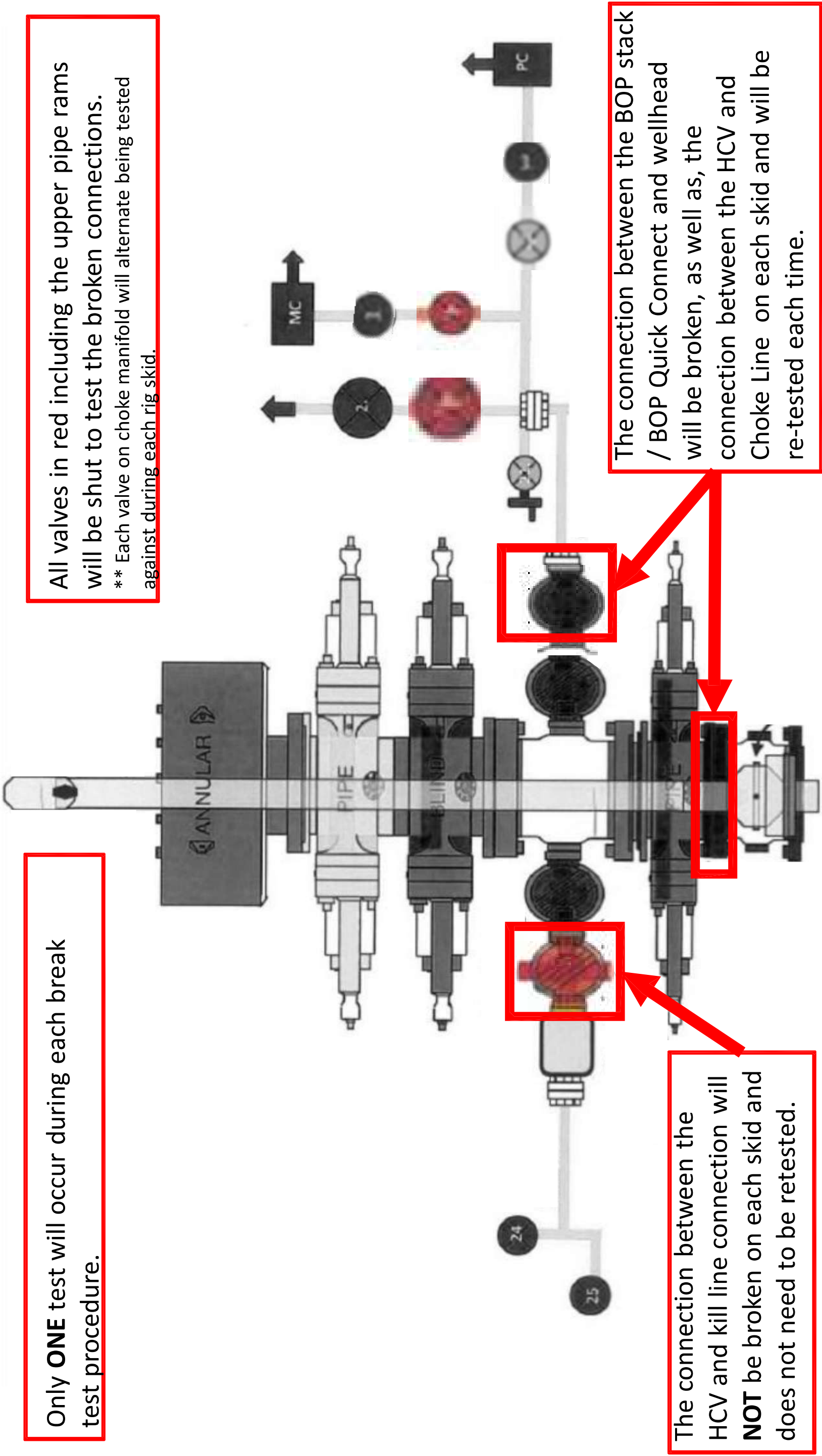
### Summary

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.





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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: \_\_\_\_\_

TITLE: \_\_\_\_\_

QUALITY ASSURANCE

DATE: \_\_\_\_\_

1/25/2024





H3-15/16

1/25/2024 11:48:06 AM

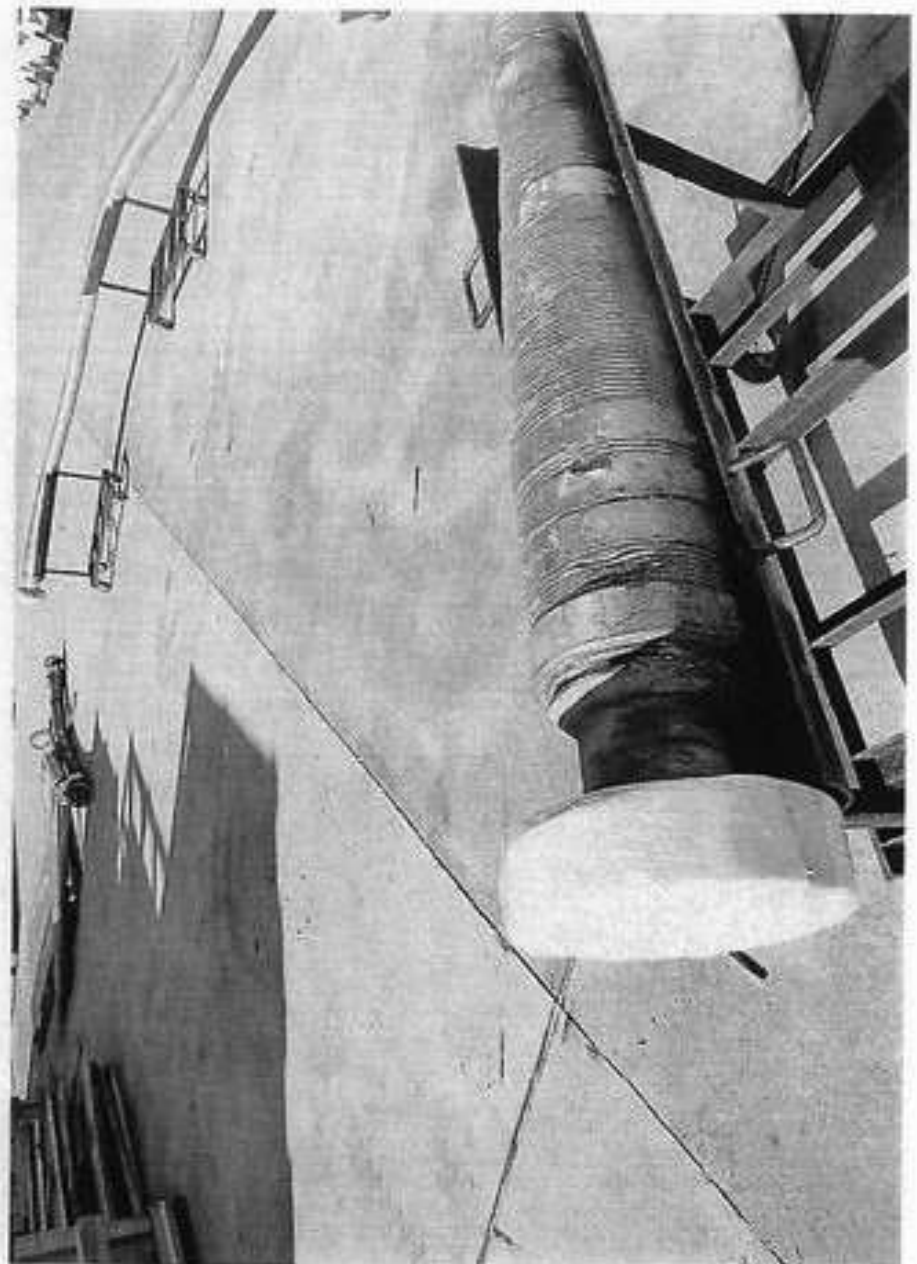
TEST REPORT

GAUGE TRACEABILITY

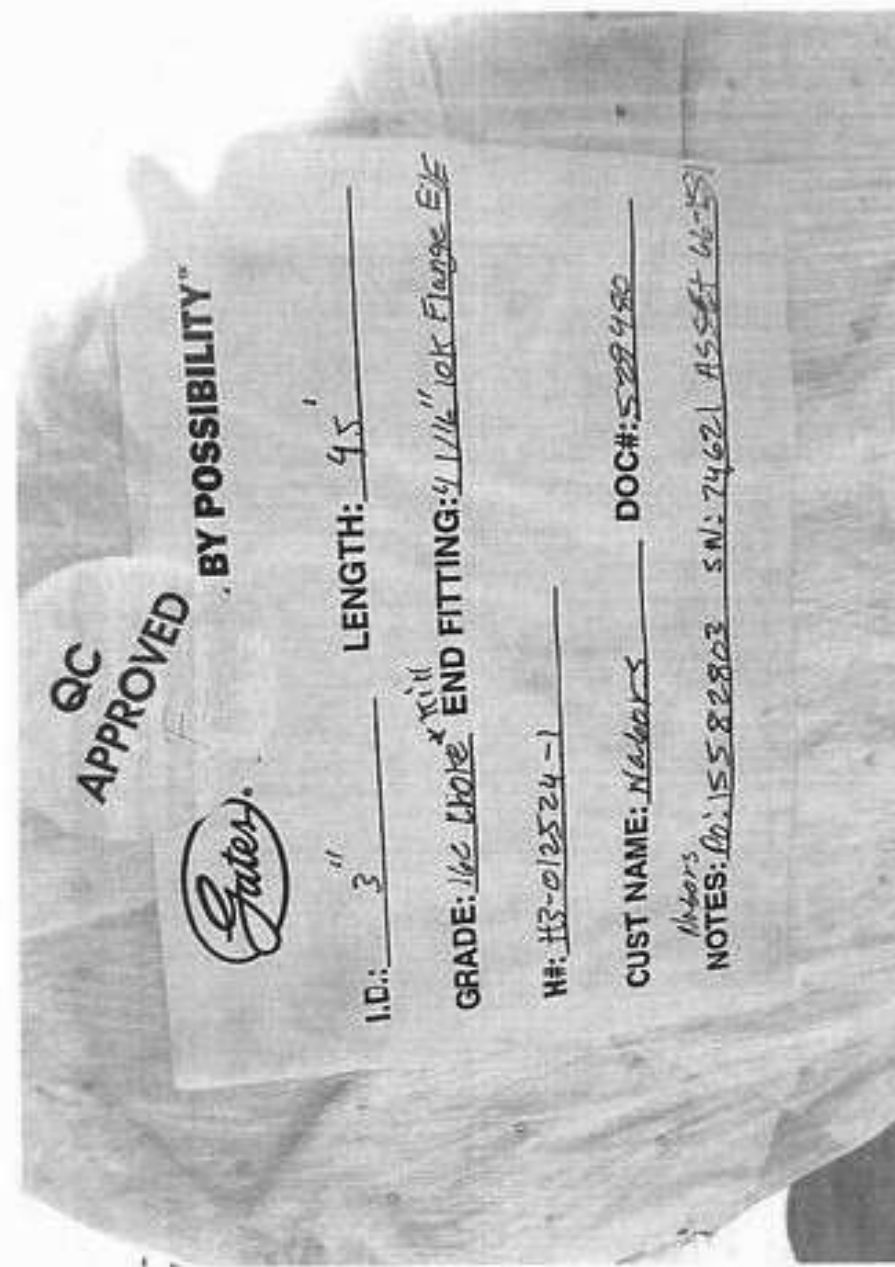
| Description | Serial number | Calibration date | Calibration due date |
|-------------|---------------|------------------|----------------------|
| S-25-A-W    | 110D3PHO      | 2023-06-06       | 2024-06-06           |
| S-25-A-W    | 110IQWDG      | 2023-05-16       | 2024-05-16           |

Comment













# Offline Production Cementing

Delaware Basin | 18 March 2025

Energy lives here™



# Variance Request for Offline Production Cementing

**Proposal:** allow wells that meet set criteria to perform production casing cement jobs offline, consistent with ExxonMobil's extensive experience safely and effectively cementing production casing strings offline in Texas

## Supporting Materials:

- Criteria for offline production cementing
- Proposed procedure
- Process and equipment
- Barrier comparison

# Criteria for Offline Cementing

The following conditions must be met to proceed with offline production cementing on Wolfcamp target formations or shallower:

- a) *Casing hanger successfully landed in the wellhead*
- b) *Ability to circulate overbalanced mud weight*
- c) *Initiate offline cementing operations within 24hr of landing casing*
- d) *All well control barriers test successfully and BLM notified of intent to perform offline production cementing prior to N/D BOP*
- e) *No offset frac operations within 1 mile and within the same target horizon*
- f) *Well Control certified ExxonMobil Operations Supervisor to be present during offline cementing operation to monitor returns*
- g) *Drill ahead operations will not begin on next well until offline production cement operations have concluded*

# Offline Cementing Procedure

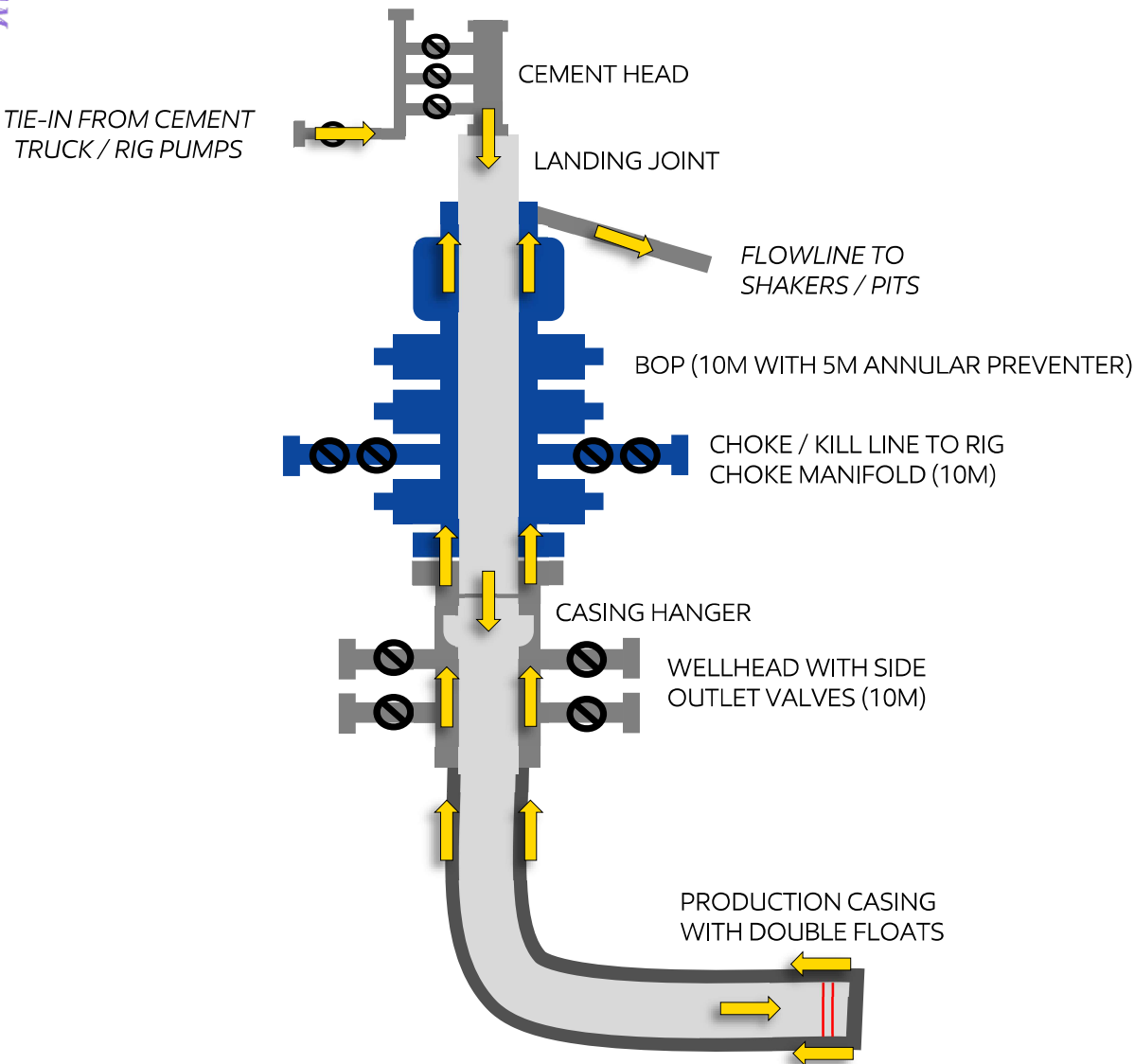
 Trigger to reevaluate plan

1. **Land production casing hanger** *If casing hanger cannot be landed, cementing will be performed online*
2. Flow check and **confirm the well is static on the casing and annulus.** *If flow is observed, cementing will be performed online*
3. **Lay down landing joint**
4. **Install and test pack-off assembly**
  - a) Pressure test the seal assembly per wellhead provider's procedure to confirm integrity to 250 / 10,000psi
5. **Install back-pressure valve** (BPV, rated to 10,000psi) in hanger per wellhead provider's procedure
6. **Confirm the well is static**
  - a) Flow indicates failure of hydrostatic barrier or mechanical barriers and underbalanced well conditions. *If flow is observed, cementing will be performed online*
  - b) Notify BLM of intent to proceed with nipple down and offline cementing
7. With the well secured and BLM notified; **nipple down BOP and skid rig** to next well on pad
  - a) *Note, verify offline cementing criteria is met before N/D BOP. If unable to meet criteria, cement job will be performed online*
8. **Install and test gate valve**
  - a) Test connection between wellhead adapter seals against hanger neck and ring gasket to 250 / 10,000 psi for 5 minutes
9. **Remove BPV from casing**
10. **Rig up cement head and cementing lines**
11. **Perform production cement job** as per procedure
  - a) Confirm flowpath and valve alignment; default routing to take returns from casing upper side outlet valves → offline cementing manifold → shakers / pits
  - b) *If elevated gas or flow trend observed, reroute returns through choke manifold for ability to hold backpressure to maintain well control and route mud returns to MGS*
12. **Confirm well is static** and double floats are holding after cement job
  - a) *If double floats do not hold, the well can be secured by closing gate valve or cement head or by holding and monitoring pressure at the cement truck while WOC*
13. **Rigdown surface equipment**
  - a) Bleed any remaining line pressure and remove cement head
  - b) Install BPV per wellhead providers recommended procedure
  - c) Close upper casing side outlet valves, break and R/D offline cement lines
  - d) Remove 10M gate valve and wellhead adapter
14. **Secure well**
  - a) Install temporary abandonment cap

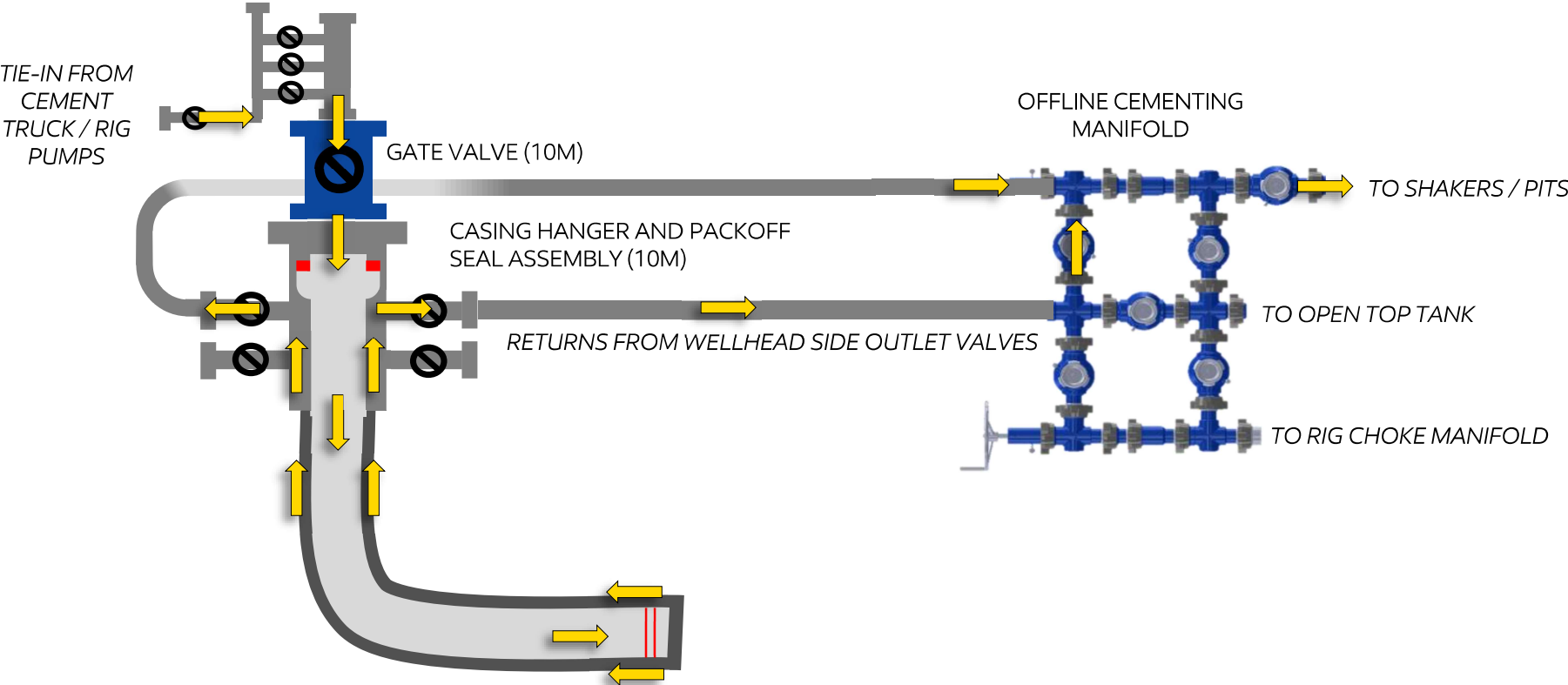


# Process and Equipment

## ONLINE CEMENTING



## OFFLINE CEMENTING



### KEY DIFFERENCES

1. Rig BOP replaced by gate valve and WH adaptor assembly (10M rated)
2. Addition of offline cementing manifold and high pressure iron to direct fluid returns to rig active system and/or choke manifold
3. Packoff annulus barrier in place and tested prior to cementing operations (10M rated)
4. Cement truck performs cement job displacement (vs rig pumps)

# Barrier Comparison

|                      | ONLINE                                   |                                         | OFFLINE (PROPOSED)                                                                                                                                     |                                                                                                                                                  |
|----------------------|------------------------------------------|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
|                      | Casing                                   | Annulus                                 | Casing                                                                                                                                                 | Annulus                                                                                                                                          |
| N/D BOP & Skid Rig   |                                          |                                         | 1. <b>Hydrostatic</b><br>2. Double float valves<br>3. BPV           | 1. Hydrostatic<br>2. Packoff                                  |
| Install Cement Head  | 1. Hydrostatic<br>2. Double float valves | 1. Hydrostatic<br>2. BOP (annular, VBR) | 1. Hydrostatic<br>2. Double float valves<br>3. <b>Gate valve</b>    | 1. Hydrostatic<br>2. <b>Packoff</b><br>3. Wellhead Adaptor    |
| Perform Cement Job   | 1. Double float valves<br>2. Cement Head | 1. Hydrostatic<br>2. BOP (annular, VBR) | 1. Double float valves<br>2. Cement Head<br>3. <b>Gate valve</b>  | 1. Hydrostatic<br>2. <b>Packoff</b><br>3. Wellhead Adaptor  |
| Remove Cement Head   | 1. Double float valves                   | 1. Hydrostatic<br>2. BOP (annular, VBR) | 1. Double float valves<br>2. <b>Gate valve</b>                    | 1. Hydrostatic<br>2. <b>Packoff</b><br>3. Wellhead Adaptor  |
| N/D & Install TA Cap | 1. Double float valves<br>2. BPV         | 1. Hydrostatic<br>2. Packoff            | 1. Double float valves<br>2. BPV                                                                                                                       | 1. Hydrostatic<br>2. Packoff                                                                                                                     |

# Well Control Response Plan

The following well control response plan for offline cementing is the same as for online cementing.

1. **Pre-job design:** Cement job designed to define max pump rates to reduce ECD and avoid losses during cement job.
2. **Identify the influx / re-route return flow:** If an influx is observed, the cementing manifold would be re-routed to direct flow to the rig choke manifold (instead of the shakers). If gas was encountered or a kick was detected, continue pumping the job through the rig choke / gas buster while controlling annulus back pressure through the rig choke. Shut the well in once the job is finished (to ensure cement does not set up inside casing). Roles & responsibilities are as follows:
  - Onsite well site representative responsible for monitoring and helping to identify if an influx occurred with support from the rig crews.
  - Rig crew responsible for shutting in the well.
  - Onsite well site representative responsible for operating the rig choke manifold.
3. **Monitor pressure:** If well is shut-in, pressure monitored while cement is building compressive strength.
4. **Flow check:** Once sufficient time is allocated to build compressive strength, perform flow check.
5. **Shut-in:** If annulus pressure / flow is observed, shut-in the well at the casing valves.
6. **Kill the well:** Pump kill weight mud or cement (depending on well conditions) via bradenhead squeeze down the annulus using the rig pumps tied into the cementing manifold or the cement truck.
7. **Flow check:** Flow check the well to confirm static.

**ExxonMobil**



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

# SUPO Data Report

09/29/2025

APD ID: 10400098603

Submission Date: 05/24/2024

Highlighted data  
reflects the most  
recent changes  
[Show Final Text](#)

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI 31W 10-7

Well Number: 4H

Well Type: OIL WELL

Well Work Type: Drill

## Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

BIG\_EDDY\_UNIT\_DI\_31\_WEST\_10\_7\_4H\_ROAD\_20250623100106.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT

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? YES

New Road Map:

618.013004.11\_XTO\_BEU\_DI\_31\_ACCESS\_ROADS\_FINAL\_06\_05\_2025\_20250623100323.pdf

New road type: RESOURCE

Length: 4752

Feet

Width (ft.): 30

Max slope (%): 2

Max grade (%): 3

Army Corp of Engineers (ACOE) permit required? N

ACOE Permit Number(s):

New road travel width: 20

**New road access erosion control:** Erosion features are equal to or less than surrounding area and erosion control is sufficient so that water naturally infiltrates into the soil

**New road access plan or profile prepared?** N

New road access plan



**Operator Name:** XTO PERMIAN OPERATING LLC**Well Name:** BIG EDDY UNIT DI 31W 10-7**Well Number:** 4H**Access road engineering design?** N**Access road engineering design****Turnout?** N**Access surfacing type:** GRAVEL**Access topsoil source:** ONSITE**Access surfacing type description:****Access onsite topsoil source depth:** 6**Offsite topsoil source description:****Onsite topsoil removal process:** STRIPPED**Access other construction information:** Approximately 6 inches of topsoil (root zone) will be stripped from the proposed access road prior to any further construction activity.**Access miscellaneous information:** From the intersection of Highway 62/180 (Carlsbad Highway) and Highway 243 (Buffalo Grass Road), go west on highway 62/180 for approximately 1.2 miles. Turn right (North) onto lease road and go approximately 3.5 miles. Turn left (West) onto lease road and go approximately .8 miles, arriving at the proposed access road and the location is to the North. No access road improvements will be needed; however, existing roads will be maintained in a condition the same as or better than before operations began.**Number of access turnouts:****Access turnout map:**

### Drainage Control

**New road drainage crossing:** LOW WATER**Drainage Control comments:** The access road and associated drainage structures will be constructed and maintained in accordance with road guidelines contained in the joint BLM/USFS publication: Surface Operating Standards for Oil and Gas Exploration and Development, The Gold Book, Fourth Edition and/or BLM Manual Section 9113 concerning road construction standards on projects subject to federal jurisdiction.**Road Drainage Control Structures (DCS) description:** The access road and associated drainage structures will be constructed and maintained in accordance with road guidelines contained in the joint BLM/USFS publication: Surface Operating Standards for Oil and Gas Exploration and Development, The Gold Book, Fourth Edition and/or BLM Manual Section 9113 concerning road construction standards on projects subject to federal jurisdiction.**Road Drainage Control Structures (DCS) attachment:**

### Access Additional Attachments

### Section 3 - Location of Existing Wells

**Existing Wells Map?** YES**Existing Well map Attachment:**

BEU\_31\_1Mile\_20240520134251.pdf

**Operator Name:** XTO PERMIAN OPERATING LLC**Well Name:** BIG EDDY UNIT DI 31W 10-7**Well Number:** 4H

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

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

**Production Facilities description:** i. Facilities: Some Production Facilities will be located on the Big Eddy Unit DI 31 well pad. The same is being shown on the facility layout attached in this section & the well site plat on section - 9 of SUPO as "Facility Village". The main facility is the existing Big Eddy Unit DI 30 Battery which is located in the NWSE, NESE, SWSE and SESE Section 15-20S-31E, Eddy County, New Mexico. ii. Flowlines: In the event the wells are found productive, 4" composite flex pipe/steel surface flowlines (maximum safety pressure rating: 750 psi/ operating pressure: 125 psi) or, 22" or less composite flex pipe/steel buried flowlines (maximum safety pressure rating: 1400 psi/operating pressure: 750 psi or less) will be laid from the proposed wells to the existing Big Eddy Unit DI 30 Tank Battery. The distance of proposed lines will be approximately 4479.49' or less based on the location of the well pad in conjunction with the facility location. A plat of the proposed flowline route for the lease is attached. iii. 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 with earth-tone colors such as shale green that reduce the visual impacts of the built environment. iv. Electrical. All lines will be the primary 115 KV to properly run the expected production equipment. 3247.36' of electrical will be run from the anticipated tie-in point with a request for 30 ROW construction and maintenance buffer. This distance is a max. approximation and may vary based on lease road corridors, varying elevations and terrain in the area. A plat of the proposed electrical is attached.

**Production Facilities map:**

FACILITY\_LAYOUT\_EXISTING\_BEU\_DI\_30\_BATTERY\_20250623100420.pdf

618.013004.11\_XTO\_BEU\_DI\_31\_BURIED\_AND\_SURFACE\_FLOWLINE\_FINAL\_06\_05\_2025\_20250623100422.pdf

618.013004.11\_XTO\_BEU\_DI\_31\_OVERHEAD\_ELECTRIC\_LINE\_FINAL\_06\_05\_2025\_20250623100422.pdf

FACILITY\_LAYOUT\_BEU\_DI\_31\_WELL\_PAD\_20250623100431.pdf

## Section 5 - Location and Types of Water Supply

### Water Source Table

**Water source type:** OTHER**Describe type:** Fresh Water; Section 13, T17S-R33E, Lea County, New Mexico.

|                               |                                |
|-------------------------------|--------------------------------|
| <b>Water source use type:</b> | DUST CONTROL                   |
|                               | SURFACE CASING                 |
|                               | INTERMEDIATE/PRODUCTION CASING |
|                               | STIMULATION                    |

**Source latitude:****Source longitude:****Source datum:****City:****Water source permit type:** PRIVATE CONTRACT**Water source transport method:** TRUCKING**Source land ownership:** COMMERCIAL

**Operator Name:** XTO PERMIAN OPERATING LLC**Well Name:** BIG EDDY UNIT DI 31W 10-7**Well Number:** 4H**Source transportation land ownership:** FEDERAL**Water source volume (barrels):** 300000**Source volume (acre-feet):** 38.6679289**Source volume (gal):** 12600000**Water source type:** OTHER**Describe type:** Fresh Water; Section 6, T25S-R29E, Eddy County,  
New Mexico**Water source use type:** DUST CONTROL

SURFACE CASING

INTERMEDIATE/PRODUCTION  
CASING

STIMULATION

**Source latitude:****Source longitude:****Source datum:****City:****Water source permit type:** PRIVATE CONTRACT**Water source transport method:** TRUCKING**Source land ownership:** COMMERCIAL**Source transportation land ownership:** FEDERAL**Water source volume (barrels):** 300000**Source volume (acre-feet):** 38.6679289**Source volume (gal):** 12600000**Water source and transportation**

BIG\_EDDY\_UNIT\_DI\_31\_WEST\_10\_7\_4H\_WTR\_\_20250623100536.pdf

**Water source comments:** The wells will be drilled using a combination of water mud systems as outlined in the Drilling Program. The water will be trucked by a 3rd party vendor 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 supplied by Texas Pacific Water Resources (TPWR) for sale to XTO Permian Operating, LLC. from Section 13, T17S-R33E, Lea County, New Mexico. In the event TPWR does not have the appropriate water for XTO Permian Operating, LLC at time of drilling and completion, then XTO Permian Operating, LLC water will come from Intrepid Potash Company with the location of the water being in Section 6, T25S-R29E, Eddy County, New Mexico. Anticipated water usage for drilling includes an estimated 35,000 barrels 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 ~1.5bbls 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 as needed. Well completion is expected to require approximately 300,000 barrels 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

**Operator Name:** XTO PERMIAN OPERATING LLC**Well Name:** BIG EDDY UNIT DI 31W 10-7**Well Number:** 4H**New Water Well Info****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:** YES**Construction Materials description:** Caliche Pit : 32.555087, -103.837452**Construction Materials source location****Section 7 - Methods for Handling****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 approve 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 approve 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

**Operator Name:** XTO PERMIAN OPERATING LLC**Well Name:** BIG EDDY UNIT DI 31W 10-7**Well Number:** 4H**Disposal type description:****Disposal location description:** A licensed 3rd party contractor will be used to haul and dispose of garbage.**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:** NMOCD Approved Commercial Disposal Facility**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:** NMOCD Approved Commercial Disposal Facility**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:**



**Operator Name:** XTO PERMIAN OPERATING LLC**Well Name:** BIG EDDY UNIT DI 31W 10-7**Well Number:** 4H**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. Drilling fluids will be contained in steel mud pits and then taken to a NMOCD 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?****Cuttings area liner****Cuttings area liner specifications and installation description**

### Section 8 - Ancillary

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

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI 31W 10-7

Well Number: 4H

### Section 9 - Well Site

#### Well Site Layout Diagram:

BEU\_DI\_31W\_10\_7\_4H\_RL\_20250623122941.pdf

BEU\_DI\_31W\_10\_7\_4H\_WELL\_06\_05\_2025\_20250625161106.pdf

Comments: Multi-well pad.

### Section 10 - Plans for Surface

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: BIG EDDY UNIT DI 31

Multiple Well Pad Number: 1

#### Recontouring

**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 gulying, headcutting, slumping, and deep or excessive rills (greater than 3 inches) are not observed.

|                                                     |                                                    |                                                      |
|-----------------------------------------------------|----------------------------------------------------|------------------------------------------------------|
| <b>Well pad proposed disturbance (acres):</b> 32.85 | <b>Well pad interim reclamation (acres):</b> 0     | <b>Well pad long term disturbance (acres):</b> 32.85 |
| <b>Road proposed disturbance (acres):</b> 3.28      | <b>Road interim reclamation (acres):</b> 0         | <b>Road long term disturbance (acres):</b> 3.28      |
| <b>Powerline proposed disturbance (acres):</b> 2.24 | <b>Powerline interim reclamation (acres):</b> 2.24 | <b>Powerline long term disturbance (acres):</b> 0    |
| <b>Pipeline proposed disturbance (acres):</b> 6.17  | <b>Pipeline interim reclamation (acres):</b> 6.17  | <b>Pipeline long term disturbance (acres):</b> 0     |
| <b>Other proposed disturbance (acres):</b> 0        | <b>Other interim reclamation (acres):</b> 0        | <b>Other long term disturbance (acres):</b> 0        |

**Total proposed disturbance:**  
44.540000000000006

**Total interim reclamation:** 8.41

**Total long term disturbance:** 36.13

#### 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:** Soils are classified as Simona Gravelly Fine Sandy Loam and Simona-Bippus Complex. Simona soils are found on alluvial fans and plans and form in mixed alluvium and/or Aeolian sands. Bippus soils are found on alluvial fans and floodplains and form in mixed alluvium. The Simona Bippus soils are dominant to the east and the Simona Gravelly Fine Sandy

**Operator Name:** XTO PERMIAN OPERATING LLC**Well Name:** BIG EDDY UNIT DI 31W 10-7**Well Number:** 4H

Loams are dominant to the West. Dominant vegetation species include: mesquite, sumac snakeweed, and various forbs and grasses. Ground cover is minimal, offering 90 percent visibility.

**Existing Vegetation at the well pad**

<strong>Existing Vegetation Community at the road:</strong> Soils are classified as Simona Gravelly Fine Sandy Loam and Simona-Bippus Complex. Simona soils are found on alluvial fans and plans and form in mixed alluvium and/or Aeolian sands. Bippus soils are found on alluvial fans and floodplains and form in mixed alluvium. The Simona Bippus soils are dominant to the east and the Simona Gravelly Fine Sandy Loams are dominant to the West. Dominant vegetation species include: mesquite, sumac snakeweed, and various forbs and grasses. Ground cover is minimal, offering 90 percent visibility.

**Existing Vegetation Community at the road**

<strong>Existing Vegetation Community at the pipeline:</strong> Soils are classified as Simona Gravelly Fine Sandy Loam and Simona-Bippus Complex. Simona soils are found on alluvial fans and plans and form in mixed alluvium and/or Aeolian sands. Bippus soils are found on alluvial fans and floodplains and form in mixed alluvium. The Simona Bippus soils are dominant to the east and the Simona Gravelly Fine Sandy Loams are dominant to the West. Dominant vegetation species include: mesquite, sumac snakeweed, and various forbs and grasses. Ground cover is minimal, offering 90 percent visibility.

**Existing Vegetation Community at the pipeline**

<strong>Existing Vegetation Community at other disturbances:</strong> Soils are classified as Simona Gravelly Fine Sandy Loam and Simona-Bippus Complex. Simona soils are found on alluvial fans and plans and form in mixed alluvium and/or Aeolian sands. Bippus soils are found on alluvial fans and floodplains and form in mixed alluvium. The Simona Bippus soils are dominant to the east and the Simona Gravelly Fine Sandy Loams are dominant to the West. Dominant vegetation species include: mesquite, sumac snakeweed, and various forbs and grasses. Ground cover is minimal, offering 90 percent visibility.

**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 attachment:****Will seed be harvested for use in site reclamation?** N**Seed harvest description:****Seed harvest description attachment:**[Seed](#)[Seed Table](#)

**Operator Name:** XTO PERMIAN OPERATING LLC**Well Name:** BIG EDDY UNIT DI 31W 10-7**Well Number:** 4H**Seed Summary****Total pounds/Acre:****Seed Type****Pounds/Acre****Seed reclamation****Operator Contact/Responsible Official****First Name:** Bobby**Last Name:** Hankins**Phone:** (970)629-5213**Email:** bobby.hankins@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.

**Existing invasive species?** N**Existing invasive species treatment description:****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****Disturbance type:** OTHER**Describe:** Flowline**Surface Owner:** BUREAU OF LAND MANAGEMENT**Other surface owner description:****BIA Local Office:****BOR Local Office:****COE Local Office:**

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** BIG EDDY UNIT DI 31W 10-7

**Well Number:** 4H

**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:** 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 31W 10-7**Well Number:** 4H**Disturbance type:** NEW 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:****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:**

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI 31W 10-7

Well Number: 4H

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? Y

Use APD as ROW? Y

**ROW Type(s):** 281001 ROW - ROADS,285003 ROW – POWER TRANS,288100 ROW – O&G Pipeline,289001 ROW- O&G Well Pad

### ROW

**SUPO Additional Information:** SUPO is written for all proposed wells in the development.

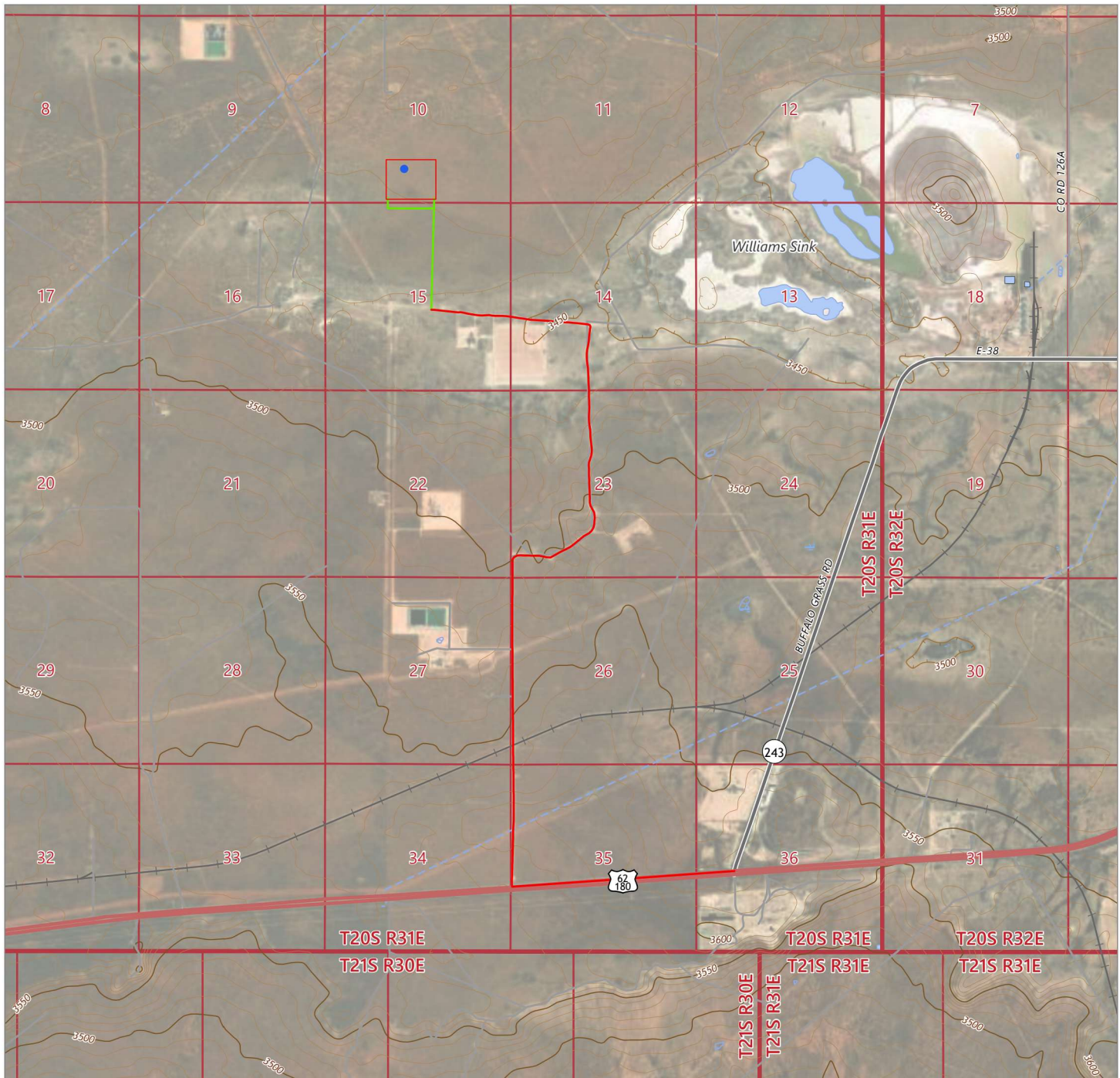
**Use a previously conducted onsite?** Y

**Previous Onsite information:** The XTO Permian Operating, LLC. representatives and BLM NRS were on location for onsite on 12/19/2023.

### Other SUPO

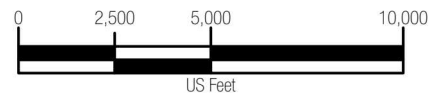
BIG\_EDDY\_UNIT\_DI\_31\_SUPO\_UPDATED\_20250709162136.pdf





### DRIVING DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF HIGHWAY 62/180 (CARLSBAD HIGHWAY) AND HIGHWAY 243 (BUFFALO GRASS ROAD), GO WEST ON HIGHWAY 62/180 FOR APPROX. 1.2 MILES. TURN RIGHT (NORTH) ONTO LEASE ROAD, AND GO APPROX. 3.5 MILES. TURN LEFT (WEST) ONTO LEASE ROAD, AND GO APPROX. 0.8 MILES, ARRIVING AT THE PROPOSED ACCESS ROAD AND THE LOCATION IS TO THE NORTH.



### LEGEND

- BIG EDDY UNIT DI 31W 10-7 4H WELL LOCATION
- PROPOSED WELL PAD
- DRIVING ROUTE
- PROPOSED ACCESS ROAD = 4752'



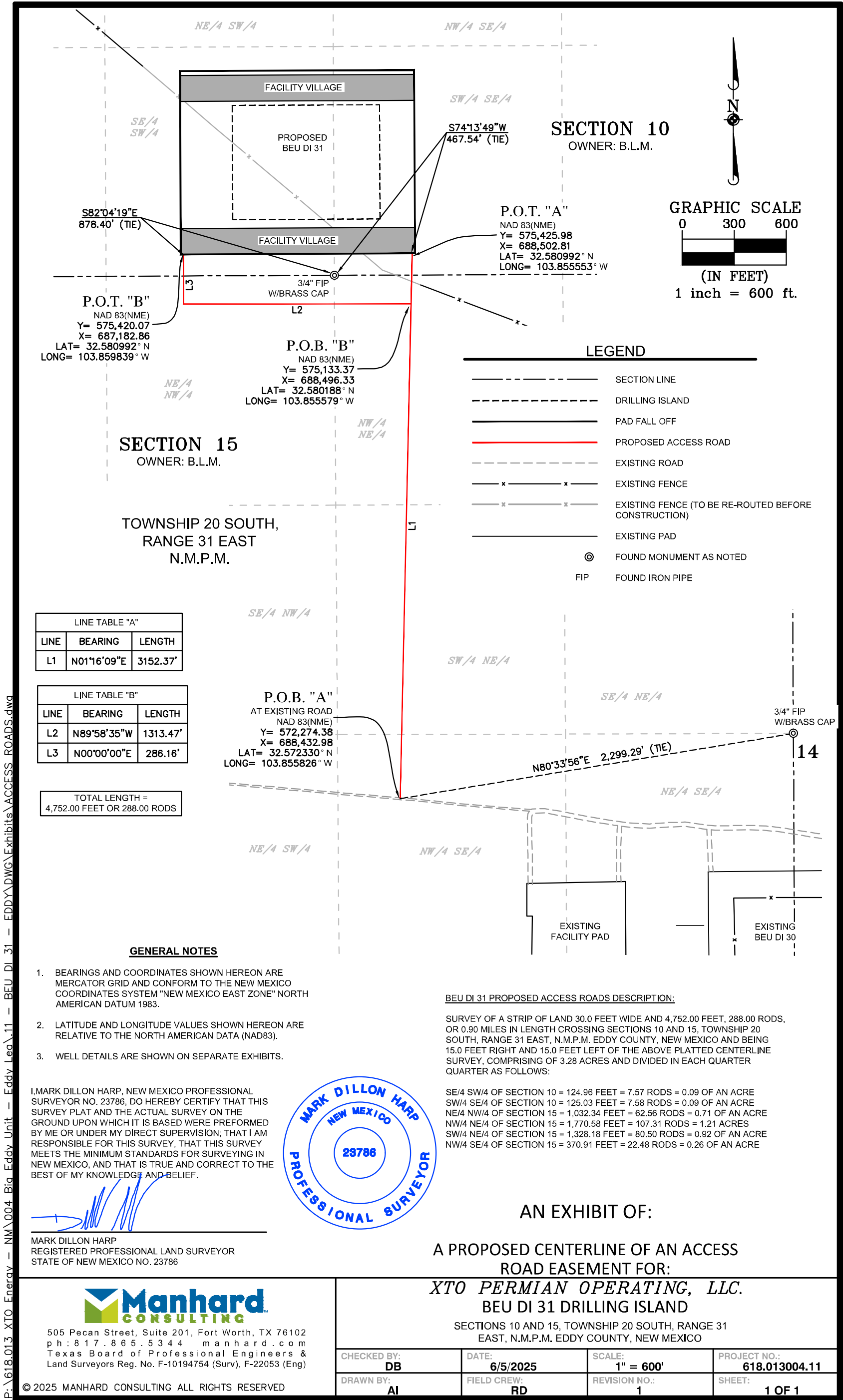
505 Pecan Street, Suite 201, Fort Worth, TX 76102  
Ph: 972.972.4250 manhard.com  
Texas Board of Professional Engineers & Land Surveyors Reg. No. F-10194754 (Surv), F-22053 (Eng)

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### A TOPOGRAPHICAL AND ACCESS ROAD MAP FOR XTO PERMIAN OPERATING, LLC. BIG EDDY UNIT DI 31W 10-7 4H

LOCATED 955 FEET FROM THE SOUTH LINE AND 2229 FEET FROM THE WEST LINE OF SECTION 10, TOWNSHIP 20 SOUTH, RANGE 31 EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO

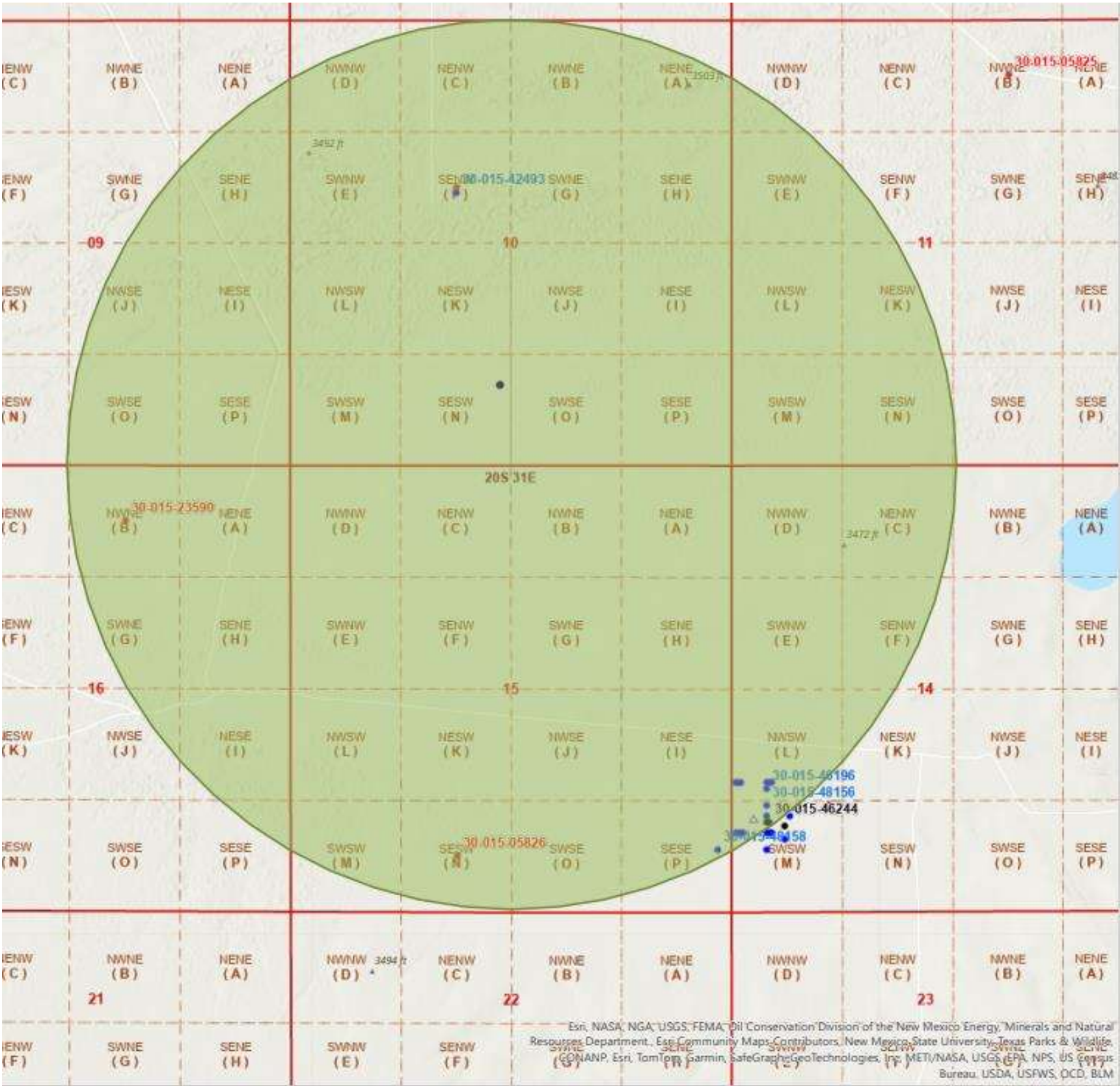
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|-------------|----|-------------|-----------|------------------|-----------|-----------------|------------------|
| CHECKED BY: | AR | DATE:       | 6/12/2025 | SCALE:           | 1"=5,000' | PROJECT NUMBER: | 618.013004.11-12 |
| DRAWN BY:   | RE | FIELD CREW: | RD        | REVISION NUMBER: | 1         | SHEET:          | 3 OF 3           |



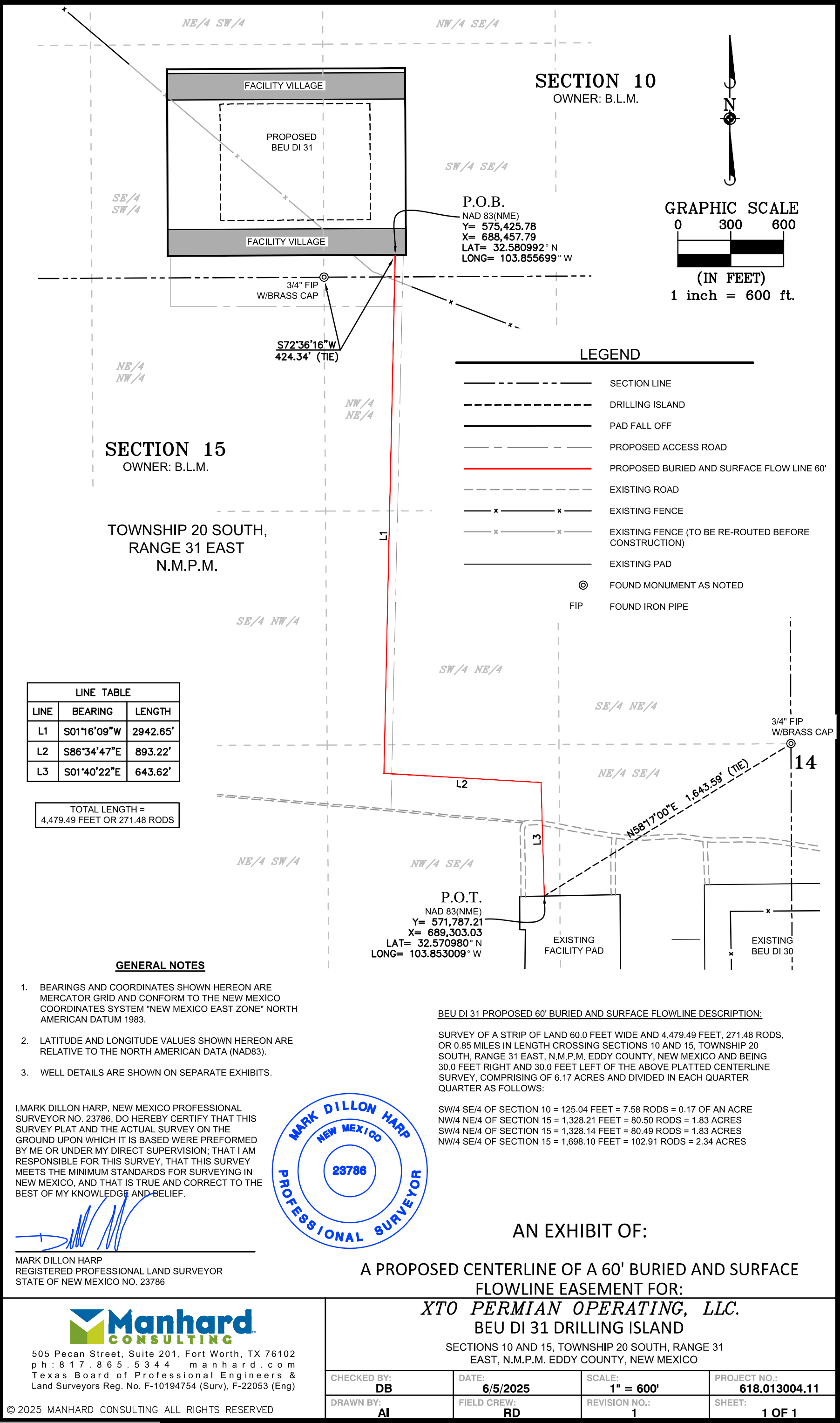


**Big Eddy Unit DI 31**

**1-Mile Radius Map**

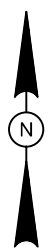


P:\618.013 XTO Energy - NM\004 Bta Eddy Unit - Eddy Lea\11 - BEU DI 31 - EDDY DWG\Exhibits\BURIED AND SURFACE FLOWLINE.dwg





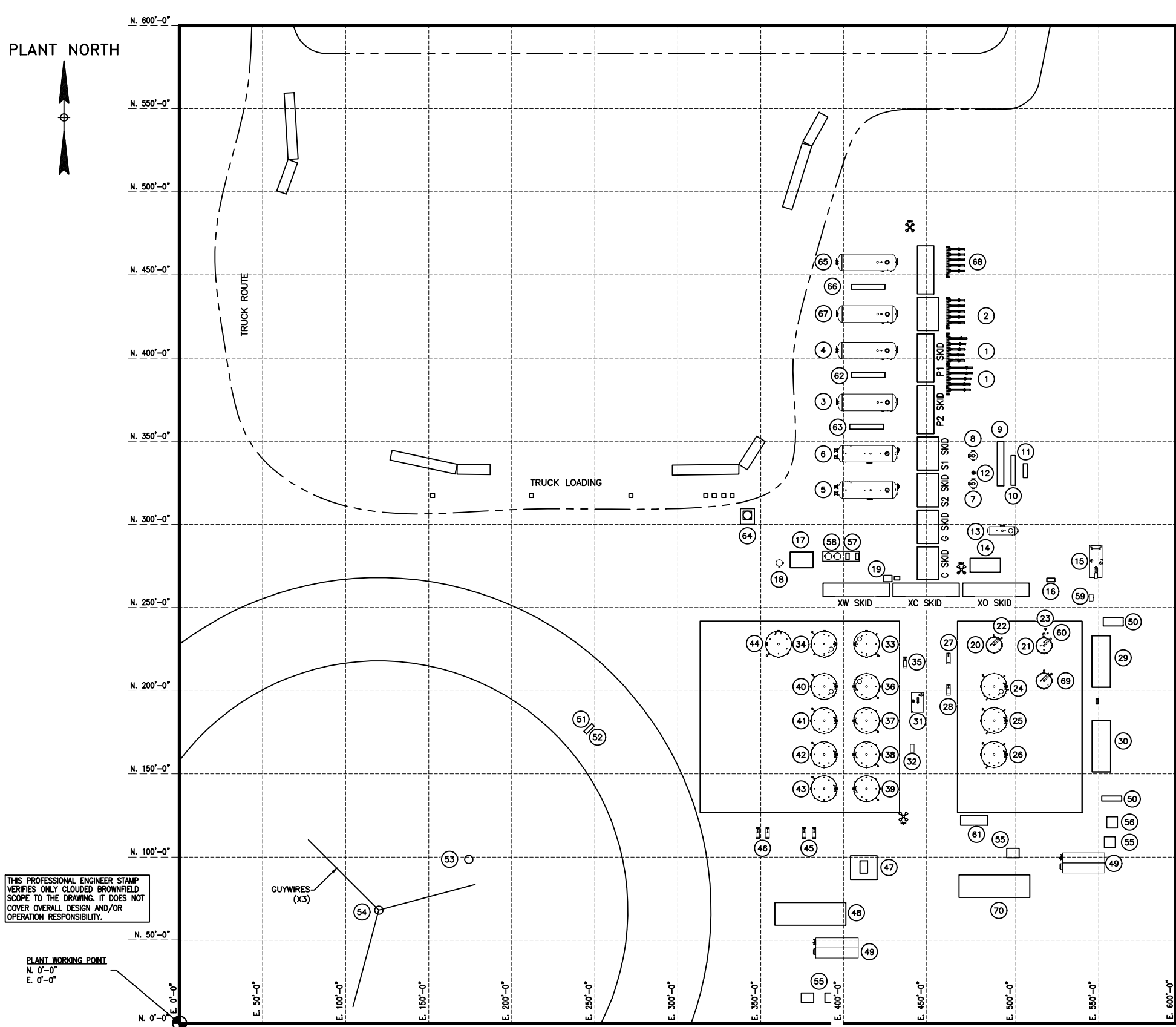




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|            |     |                         |  |    |      |     |
| 06/17/2025 | 0   | ISSUED FOR CONSTRUCTION |  | SS | GP   | SS  |
| DATE       | REV | DESCRIPTION             |  | BY | APPR | ENG |

Big Eddy Unit DI31  
FACILITY LAYOUT PLAN - BEU DI31  
DELAWARE BASIN DIVISION

|             |              |                                      |            |        |              |           |
|-------------|--------------|--------------------------------------|------------|--------|--------------|-----------|
| ENGINEER:   | SHYAM SUNDAR | DATE:                                | 06/17/2025 | SCALE: | NONE         | REV.<br>0 |
| PROJ. MGR:  | GREG POWER   | DWG NO. DN-BEUDI31-MP-EM-MX-LAY-0002 |            |        |              |           |
| DRAFTED BY: | SHYAM SUNDAR |                                      |            |        |              |           |
| DOC. TYPE:  | -            |                                      |            |        | CAD FILE NO. |           |



| ITEM | EQUIPMENT                                                  | QTY |
|------|------------------------------------------------------------|-----|
| 1    | INLET MANIFOLD TRAIN 1 (EXISTING)                          | 2   |
| 2    | INLET MANIFOLD TRAIN 2 (NEW)                               |     |
| 3    | PRODUCTION SEPARATOR TRAIN 1 (V-700) (EXISTING)            |     |
| 4    | PRODUCTION SEPARATOR TRAIN 2 (V-701) (REPURPOSED)          |     |
| 5    | HEATER TREATER TRAIN 1 (V-501) (EXISTING)                  |     |
| 6    | HEATER TREATER TRAIN 2 (V-500) (REPURPOSED)                |     |
| 7    | SALES GAS SCRUBBER (V-400) (EXISTING)                      |     |
| 8    | SALES GAS SCRUBBER (V-401) (EXISTING)                      |     |
| 9    | SALES GAS METER SKID (FE-400) (EXISTING) (PRODUCED GAS)    |     |
| 10   | SALES GAS METER SKID (FE-401) (REPURPOSED) (RECOVERED GAS) |     |
| 11   | BUYBACK GAS METER SKID (FE-402) (EXISTING)                 |     |
| 12   | FUEL GAS SCRUBBER (A-400) (EXISTING)                       |     |
| 13   | FLARE SCRUBBER (V-410) (EXISTING)                          |     |
| 14   | VRT COMPRESSOR (CPK-120) (EXISTING)                        |     |
| 15   | VRT COMPRESSOR (CPK-121) (NEW)                             |     |
| 16   | VRT COMPRESSOR PANELS (EXISTING)                           |     |
| 17   | INSTRUMENT AIR COMPRESSOR PACKAGE (EXISTING)               |     |
| 18   | INSTRUMENT AIR RECEIVERS (V-003) (EXISTING)                |     |
| 19   | JB2 RIO (EXISTING)                                         |     |
| 20   | VRT TRAIN 1 (V-110) (EXISTING)                             |     |
| 21   | VRT TRAIN 2 (V-111) (NEW)                                  |     |
| 22   | VRT DRAIN PUMP (P-110) (EXISTING)                          |     |
| 23   | VRT DRAIN PUMP (P-111) (NEW)                               |     |
| 24   | OIL STOCK TANK TRAIN 1 (T-100) (REPURPOSED)                |     |
| 25   | OIL STOCK TANK TRAIN 2 (T-101) (REPURPOSED)                |     |
| 26   | OIL STOCK TANK TRAIN 3 (T-102) (REPURPOSED)                |     |
| 27   | OIL CIRCULATION PUMP TRAIN 1 (P-150) (REPURPOSED)          |     |
| 28   | OIL CIRCULATION PUMP TRAIN 2 (P-151) (REPURPOSED)          |     |
| 29   | LACT TRAIN 1 (PPK-130) (EXISTING)                          |     |
| 30   | LACT TRAIN 2 (PPK-131) (EXISTING)                          |     |
| 31   | TANK VRU COMPRESSOR (CPK-140) (EXISTING)                   |     |
| 32   | VRU VFD PANEL (EXISTING)                                   |     |
| 33   | WATER SKIM TANK #1 (T-200) (EXISTING)                      |     |
| 34   | WATER SKIM TANK #2 (T-201) (EXISTING)                      |     |
| 35   | WATER CIRCULATION PUMP (P-230) (EXISTING)                  |     |
| 36   | WATER STOCK TANK (T-210) (EXISTING)                        |     |
| 37   | WATER STOCK TANK (T-211) (EXISTING)                        |     |
| 38   | WATER STOCK TANK (T-212) (EXISTING)                        |     |
| 39   | WATER STOCK TANK (T-213) (EXISTING)                        |     |
| 40   | WATER STOCK TANK (T-214) (EXISTING)                        |     |
| 41   | WATER STOCK TANK (T-215) (EXISTING)                        |     |
| 42   | WATER STOCK TANK (T-216) (EXISTING)                        |     |
| 43   | WATER STOCK TANK (T-217) (EXISTING)                        |     |
| 44   | GUN BARREL (T-108) (EXISTING)                              |     |
| 45   | SWD CHARGE PUMPS (P-220 / 221) (EXISTING)                  | 2   |
| 46   | WATER TRANSFER PUMPS (P-240 / 241) (EXISTING)              | 2   |
| 47   | SWD BYPASS PUMP (P-222) (EXISTING)                         |     |
| 48   | H-PUMP (P-225) (EXISTING)                                  |     |
| 49   | ELECTRICAL MCC BUILDING (EXISTING)                         | 2   |
| 50   | LACT VFD PANELS (EXISTING)                                 | 2   |
| 51   | BLOWCASE (V-901) (EXISTING)                                |     |
| 52   | LIQUID PUMP (P-311) (EXISTING)                             |     |
| 53   | LP FLARE (F-310A/B) (EXISTING)                             |     |
| 54   | HP FLARE (F-300) (EXISTING)                                |     |
| 55   | TRANSFORMERS (EXISTING)                                    | 4   |
| 56   | OUTDOOR SWITCHGEAR (EXISTING)                              |     |
| 57   | INSTRUMENT AIR COMPRESSOR PACKAGE (O.O.S.)                 |     |
| 58   | INSTRUMENT AIR RECEIVERS (V-001, V-002) (O.O.S.)           | 2   |
| 59   | VRT COMPRESSOR VFD CABINET (CPK-121) (NEW)                 |     |
| 60   | LIQUID SCRUBBER (A-111) (NEW)                              |     |
| 61   | TRUCK LACT (PPK-132) (NEW)                                 |     |
| 62   | PRODUCED GAS METER SKID (FE-701) (NEW)                     |     |
| 63   | PRODUCED GAS METER SKID (FE-700) (NEW)                     |     |
| 64   | METHANOL STORAGE TANK (EXISTING)                           |     |

|    |                                                    |  |
|----|----------------------------------------------------|--|
| 65 | PRODUCTION SEPARATOR TRAIN 3 (V-702) (PROPOSED)    |  |
| 66 | PRODUCED GAS METER SKID TRAIN 3(FE-701) (PROPOSED) |  |
| 67 | HEATER TREATER TRAIN 3 (V-502) (PROPOSED)          |  |
| 68 | INLET MANIFOLD TRAIN 3 (PROPOSED)                  |  |
| 69 | VRT TRAIN 3 (V-112) (PROPOSED)                     |  |
| 70 | LACT TRAIN 3 (PPK-132) (PROPOSED)                  |  |
|    |                                                    |  |
|    |                                                    |  |
|    |                                                    |  |
|    |                                                    |  |

THIS PROFESSIONAL ENGINEER STAMP  
 VERIFIES ONLY CLOUDED BROWNFIELD  
 SCOPE TO THE DRAWING. IT DOES NOT  
 COVER OVERALL DESIGN AND/OR  
 OPERATION RESPONSIBILITY.

PLANT WORKING POINT  
 N. 0'--0"  
 E. 0'--0"

NOTES:

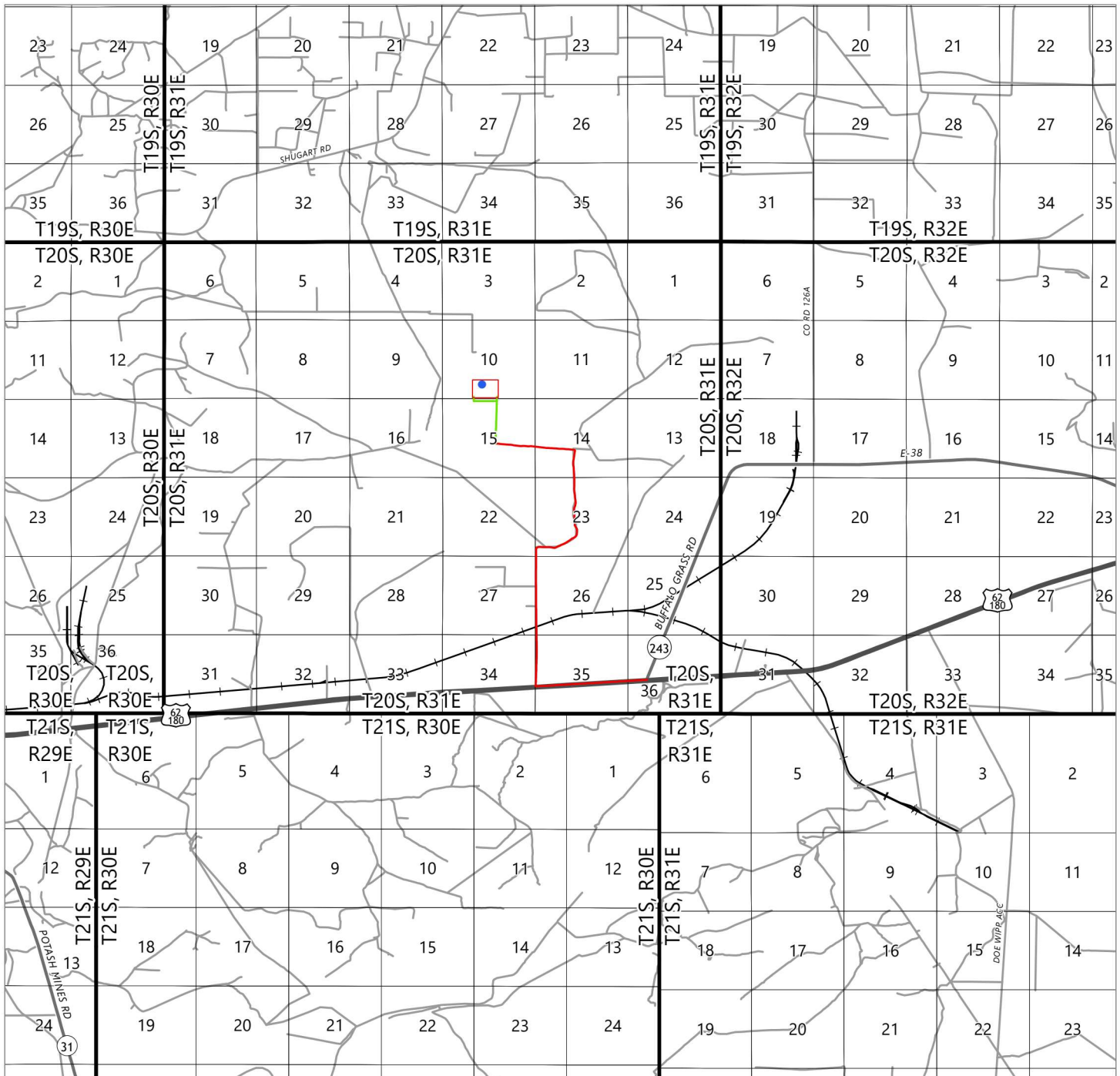
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|------------|-----|-------------------------|----|------|-----|
| DATE       | REV | DESCRIPTION             | BY | APPR | ENG |

ExxonMobil

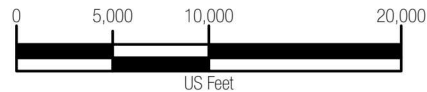
BEU DI-30 CTB  
 WELLPAD FACILITY  
 DELAWARE BASIN DIVISION

|             |              |              |                              |        |      |
|-------------|--------------|--------------|------------------------------|--------|------|
| ENGINEER:   | SHYAM SUNDAR | DATE:        | 05/16/2025                   | SCALE: | NONE |
| PROJ. MGR:  | GREG POWER   | DWG NO.      | DN-BEUDI30-MP-EM-MX-LAY-0001 |        |      |
| DRAFTED BY: | SHYAM SUNDAR |              |                              |        |      |
| DOC. TYPE:  | -            | CAD FILE NO. | DN-BEUDI30-MP-EM-MX-LAY-0001 |        |      |



**DRIVING DIRECTIONS TO LOCATION**

FROM THE INTERSECTION OF HIGHWAY 62/180 (CARLSBAD HIGHWAY) AND HIGHWAY 243 (BUFFALO GRASS ROAD), GO WEST ON HIGHWAY 62/180 FOR APPROX. 1.2 MILES. TURN RIGHT (NORTH) ONTO LEASE ROAD, AND GO APPROX. 3.5 MILES. TURN LEFT (WEST) ONTO LEASE ROAD, AND GO APPROX. 0.8 MILES, ARRIVING AT THE PROPOSED ACCESS ROAD AND THE LOCATION IS TO THE NORTH.

**LEGEND**

- BIG EDDY UNIT DI 31W 10-7 4H WELL LOCATION
- PROPOSED WELL PAD
- DRIVING ROUTE
- PROPOSED ACCESS ROAD = 4752'



505 Pecan Street, Suite 201, Fort Worth, TX 76102  
 Ph: 972.972.4250 manhard.com  
 Texas Board of Professional Engineers & Land Surveyors Reg. No. F-10194754 (Surv), F-22053 (Eng)

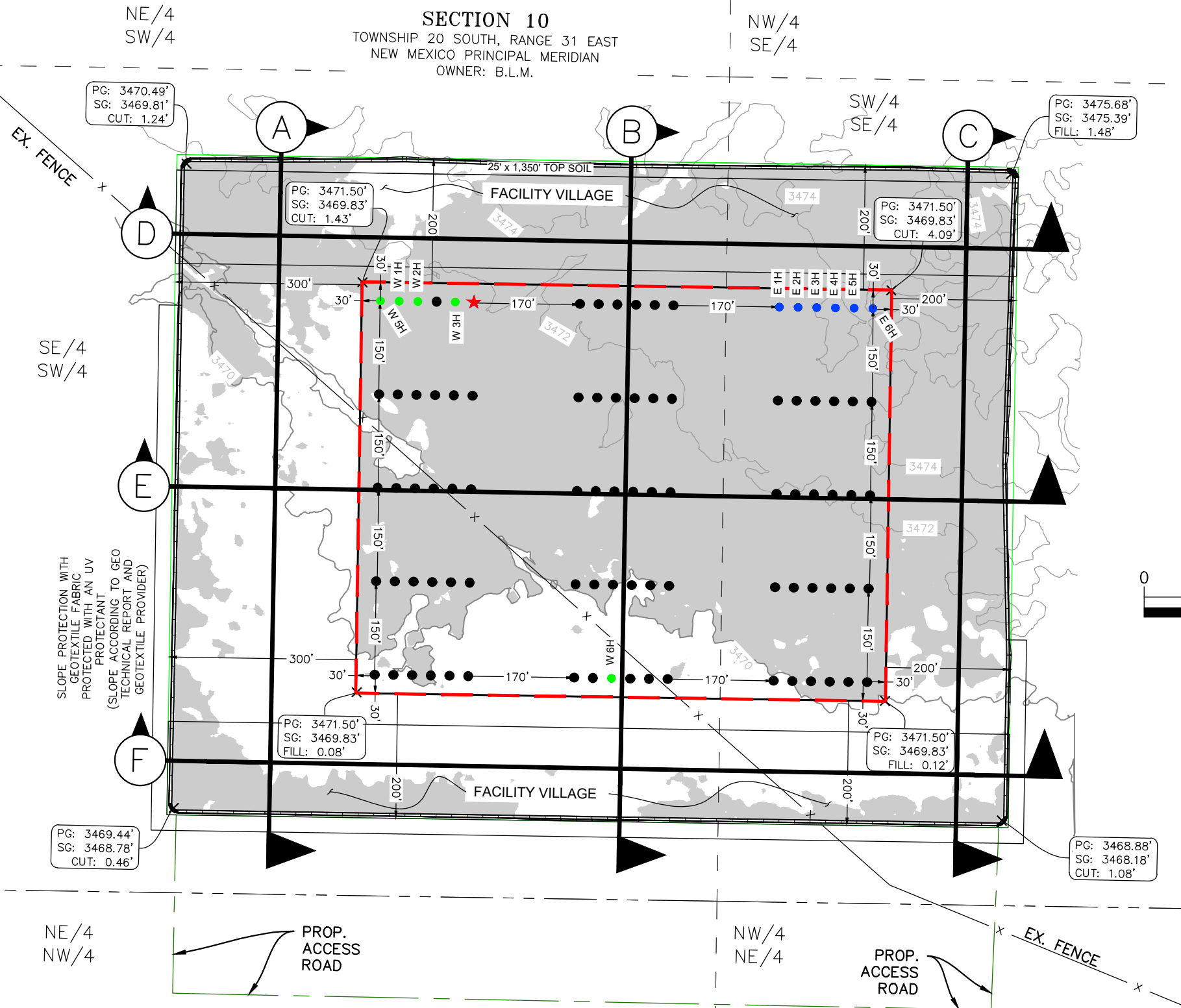
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**A VICINITY MAP FOR XTO PERMIAN OPERATING, LLC.**  
**BIG EDDY UNIT DI 31W 10-7 4H**

LOCATED 955 FEET FROM THE SOUTH LINE AND 2229 FEET FROM THE WEST LINE OF SECTION 10, TOWNSHIP 20 SOUTH, RANGE 31 EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO

|             |    |             |           |                  |            |                 |                  |
|-------------|----|-------------|-----------|------------------|------------|-----------------|------------------|
| CHECKED BY: | AR | DATE:       | 6/12/2025 | SCALE:           | 1"=10,000' | PROJECT NUMBER: | 618.013004.11-12 |
| DRAWN BY:   | RE | FIELD CREW: | RD        | REVISION NUMBER: | 1          | SHEET:          | 2 OF 3           |

P:\618.013 XTO Energy - NM\004 Big Eddy Unit - Eddy Wells\12 BEU DI 31 - BEU DI 31 - EDDY Wells\12 BEU DI 31 WEST 10-7 4H\DWG\PACKET\WEST 4H WELL SITE 06-04-2025.dwg



- GENERAL NOTES:**
1. ALL FILL SHALL BE COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY OBTAINED BY AASHTO METHOD T-99. COMPACTION TESTING SHALL BE DONE EVERY 10" ON ALL STRONGBACK AREAS.
  2. STRONGBACK AREA SHALL BE EXCAVATED 12" BELOW SUBGRADE AND BACKFILLED TO FINAL GRADE WITH 20" OF COMPACTED CALICHE.
  3. BEARINGS AND COORDINATES SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATES SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983.
  4. LATITUDE AND LONGITUDE VALUES SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN DATA (NAD83).
  5. REFER TO TOPOGRAPHICAL AND ACCESS ROAD MAP FOR PROPOSED ROAD LOCATION.

**FEATURE WELL LOCATION DETAIL**

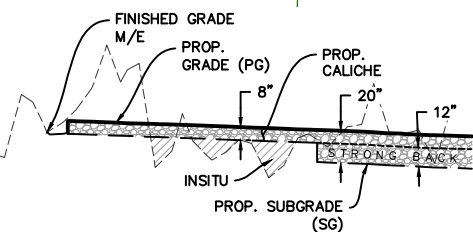
BIG EDDY UNIT DI 31W 10-7 #4H  
2,229' FWL & 955' FSL  
ELEV.= 3,472'  
NAD 83 (NME)  
Y=576,252.2  
X=687,644.1  
LAT.=32.583273°N  
LONG.=103.858329°W  
NAD 27 (NME)  
Y=576,190.3  
X=646,465.0  
LAT.=32.583153°N  
LONG.=103.857826°W

**CUT AND FILL CALCULATIONS**

|                         |             |
|-------------------------|-------------|
| Cut:                    | 27,700 CY   |
| Fill:                   | 27,700 CY   |
| Excess                  | 0 CY        |
| Topsoil/Stockpile (6"): | 26,500 CY   |
| Subsoil/Stockpile (6"): | 0 CY        |
| Allowable Topsoil:      | 5,200 CY    |
| Allowable Subsoil:      | 11,400 CY   |
| Total Caliche:          | 55,000 CY   |
| Cut/Fill Factor:        | 1.0 CY      |
| Max Disturbance:        | 32.47 ACRES |
| Pad Area:               | 32.85 ACRES |
| % Disturbed             | 98.83 %     |

**LEGEND**

- |  |                                   |  |                            |
|--|-----------------------------------|--|----------------------------|
|  | CUT AREA                          |  | TBD WELL                   |
|  | STRONGBACK AREA                   |  | FEATURE WELL LOCATION      |
|  | PROPOSED PAD                      |  | BIGGEST FILL POINT         |
|  | PERMITTED EAST 10-7 WELL LOCATION |  | EXISTING OVERHEAD ELECTRIC |
|  | PERMITTED WEST 10-7 WELL LOCATION |  | EXISTING ROAD              |
|  |                                   |  | PAD FALL OFF               |



TYPICAL SECTION DETAIL  
NOT TO SCALE

I, MARK DILLON HARP, NEW MEXICO PROFESSIONAL SURVEYOR NO. 23786, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

MARK DILLON HARP  
NEW MEXICO PROFESSIONAL LAND SURVEYOR  
NO. 23786



**Manhard CONSULTING**

505 Pecan Street, Suite 201, Fort Worth, TX 76102, ph: 817.865.5344, manhard.com  
Civil Engineers | Surveyors | Water Resource Engineers | Water & Waste Water Engineers  
Construction Managers | Environmental Scientists | Landscape Architects | Planners

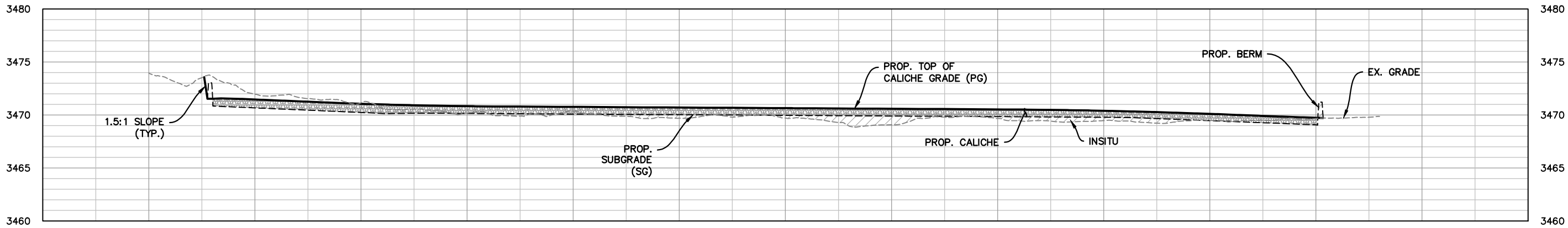
2025 MANHARD CONSULTING, ALL RIGHTS RESERVED

PAD CUT AND FILL EXHIBIT  
BIG EDDY UNIT DI 31W 10-7 4H  
XTO PERMIAN OPERATING, LLC.

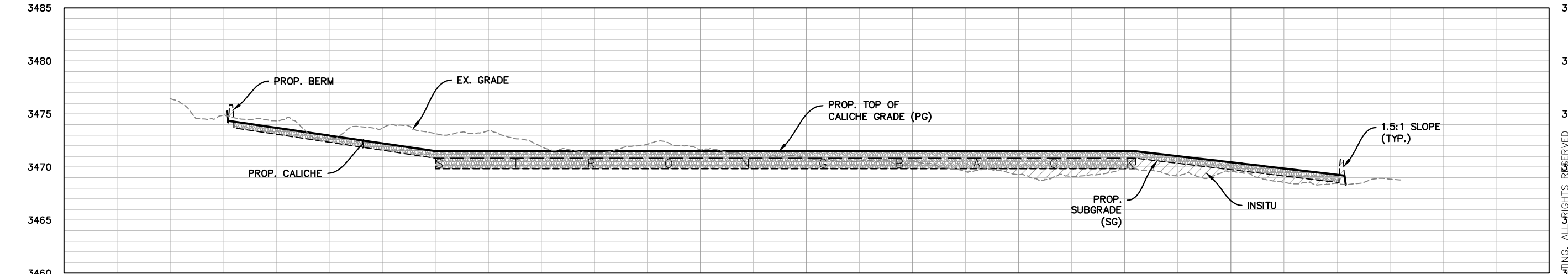
SITUATED IN SECTION 10, TOWNSHIP 20 SOUTH,  
RANGE 31 EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO

DRAWN BY: DB  
RELEASE DATE: 6/5/2025  
SCALE: 1" = 200'  
CODE: 618.013004.11-12

P:\618.013 XTO Energy - NM\004 Big Eddy Unit - Eddy Lea\11 - BEU DI 31 - EDDY Engineering Exhibits\DWGs\PAD DI 31.dwg



CROSS SECTION "A"  
H: 1" = 200'  
V: 1" = 20'



CROSS SECTION "B"  
H: 1" = 200'  
V: 1" = 20'

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Construction Managers | Environmental Scientists | Landscape Architects | Planners

PAD CUT AND FILL EXHIBIT

BIG EDDY UNIT DRILLING ISLAND 31

XTO ENERGY, INC.

SITUATED IN SECTION 10, TOWNSHIP 20 SOUTH,  
RANGE 31 EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO

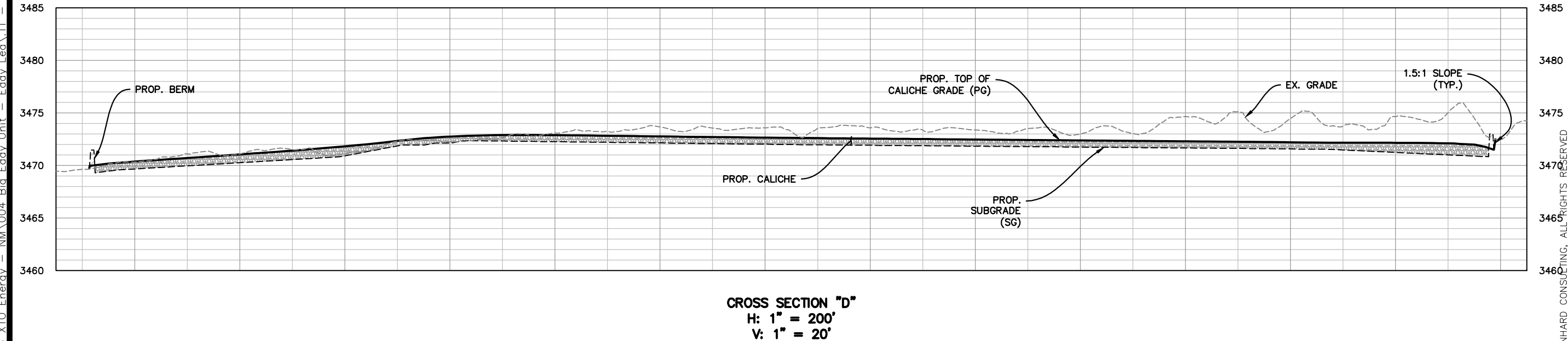
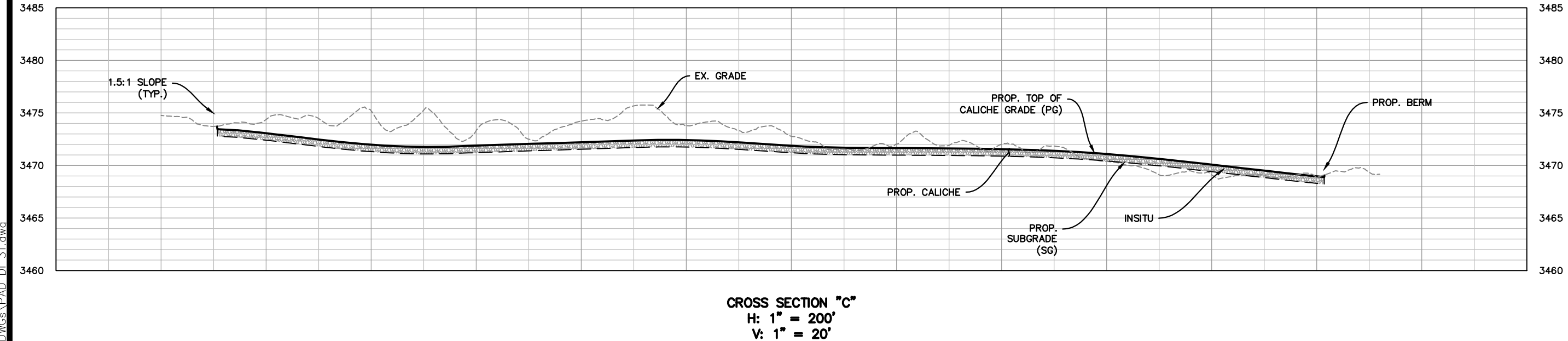
DRAWN BY: DB

RELEASE DATE: 05/29/2025

SCALE: 1" = 100'

CODE: 618.013004.11

P:\618.013 XTO Energy - NM\004 Big Eddy Unit - Eddy Lea\11 - BEU DI 31 - EDDY Engineering Exhibits\DWGs\PAD DI 31.dwg



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Civil Engineers | Surveyors | Water Resource Engineers | Water & Waste Water Engineers  
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PAD CUT AND FILL EXHIBIT

BIG EDDY UNIT DRILLING ISLAND 31

XTO ENERGY, INC.

SITUATED IN SECTION 10, TOWNSHIP 20 SOUTH,  
RANGE 31 EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO

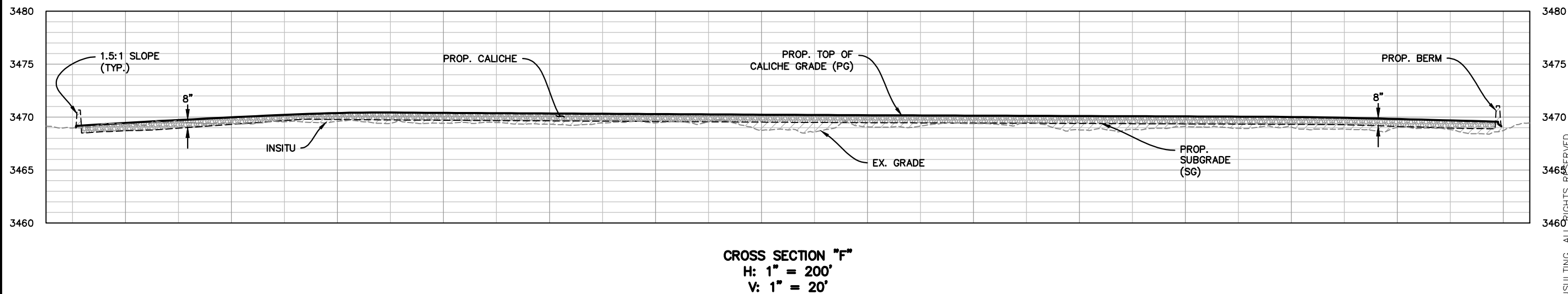
DRAWN BY: DB

RELEASE DATE: 05/29/2025

SCALE: 1" = 100'

CODE: 618.013004.11





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**XTO EXHIBIT**  
**BIG EDDY UNIT DRILLING ISLAND 31**

**XTO ENERGY, INC.**

**SITUATED IN SECTION 10, TOWNSHIP 20 SOUTH,  
RANGE 31 EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO**

**DRAWN BY:**

Y:

**RELEASE DATE:**

LEASE DATE:

37

37

**CODE:**

CODE:





## Surface Use Plan of Operations

---

### A. The Surface Use Plan of Operations Must:

1. Access road will be a combination of existing and proposed access to the Big Eddy Unit DI 31 Drill Island.
2. XTO Permian Operating LLC. Will provide for safe operations, adequate protection of surface resources, groundwater, and other environmental components.
3. Interim Reclamation will not be completed for the Drill Island
4. XTO Permian Operating LLC. will use the Gold Book standards for Best Management Practices

## Surface Use Plan

---

### 1 Existing Roads

- a. From the intersection of Highway 62/180 (Carlsbad Highway) and Highway 243 (Buffalo Grass Road), go west on highway 62/180 for approximately 1.2 miles. Turn right (North) onto lease road and go approximately 3.5 miles. Turn left (West) onto lease road and go approximately .8 miles, arriving at the proposed access road and the location is to the North. No access road improvements will be needed; however, existing roads will be maintained in a condition the same as or better than before operations began.

### 2 New or Upgraded Access Roads: A total of 4,752' or 0.9 miles of new road will be necessary to access the Big Eddy Unit DI 31. Plat showing the proposed access roads is attached in SUPO section-2 of the individual APDs.

- i. **Road Width:** 20' drivable surface
- ii. **Maximum Grade:** 3%
- iii. **Crown design:** 2% slope
- iv. **Turnouts:** NA
- v. **Drainage and ditch design:** The access road and associated drainage structures will be constructed and maintained in accordance with road guidelines contained in the joint BLM/USFS publication: Surface Operating Standards for Oil and Gas Exploration and Development, The Gold Book, Fourth Edition and/or BLM Manual Section 9113 concerning road construction standards on projects subject to federal jurisdiction.
- vi. **On-site and off-site erosion control:** Erosion features are equal to or less than surrounding area and erosion control is sufficient so that water naturally infiltrates into the soil
- vii. **Revegetation of disturbed areas:** 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.
- viii. **Location and size of culverts and/or bridges:** NA
- ix. **Fence Cuts:** NA
- x. **Major cuts and fills:** NA
- xi. **Source and storage of topsoil:** Approximately 6 inches of topsoil (root zone) will be stripped from the proposed access road prior to any further construction activity. The topsoil will be seeded with the proper seed mix designated by the BLM.
- xii. **Type of surfacing materials:** Surface material will be native caliche.

### 3 Location of Existing Wells

- a. See attached 1-mile radius well map.

#### 4 Location of existing and/or proposed production facilities.

##### a. Production Facilities.

- i. **Facilities:** Some Production Facilities will be located on the Big Eddy Unit DI 31 well pad. The same is being shown on the facility layout attached in sec 4 & the well site plat on section - 9 of SUPO as "Facility Village". The main facility is the existing Big Eddy Unit DI 30 Tank Battery which is located in the NWSE, NESE, SWSE and SESE Section 15-20S-31E, Eddy County, New Mexico.
- ii. **Flowlines:** In the event the wells are found productive, 4" composite flex pipe/steel surface flowlines (maximum safety pressure rating: 750 psi/ operating pressure: 125 psi) or, 22" or less composite flex pipe/steel buried flowlines (maximum safety pressure rating: 1400 psi/operating pressure: 750 psi or less) will be laid within proposed lease road corridors from the proposed wells to the existing Big Eddy Unit DI 30 Tank Battery. The distance of proposed lines will be approximately 4479.49' or less based on the location of the well pad in conjunction with the facility location. A plat of the proposed flowline route for the lease is attached.
- iii. **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 with earth-tone colors such as 'shale green' that reduce the visual impacts of the built environment.
- iv. **Electrical.** All lines will be the primary 115 KV to properly run the expected production equipment. 3247.36' of electrical will be run from the anticipated tie-in point with a request for 30 ROW construction and maintenance buffer. This distance is a max. approximation and may vary based on lease road corridors, varying elevations and terrain in the area. A plat of the proposed electrical is attached.

#### 5 Location and Types of Water Supply.

The wells will be drilled using a combination of water mud systems as outlined in the Drilling Program. The water will be trucked by a 3rd party vendor 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 supplied by Texas Pacific Water Resources (TPWR) for sale to XTO Permian Operating, LLC. from Section 13, T17S-R33E, Lea County, New Mexico. In the event TPWR does not have the appropriate water for XTO Permian Operating, LLC at time of drilling and completion, then XTO Permian Operating, LLC water will come from Intrepid Potash Company with the location of the water being in Section 6, T25S-R29E, Eddy County, New Mexico.

Anticipated water usage for drilling includes an estimated 35,000 barrels 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 as needed. Well completion is expected to require approximately 300,000 barrels of water per horizontal well. Actual water volumes used during operations depend on the depth of the well and length of horizontal sections.

#### 6 Construction Materials.

- a. Construction, reclamation, and/or routine maintenance will not be conducted during periods when the soil conditions for construction could lead to impacts to the surrounding environment, or when watershed damage is likely to occur because of these activities.
- b. Any construction material that may be required for surfacing of the drill pad and access road will be from a contractor having a permitted source of materials within the general area. No construction materials will be removed from federal lands without prior approval from the appropriate surface management agency. All roads and well pads will be constructed of 6" rolled and compacted caliche.
- c. Anticipated Caliche Locations:
  - i. Caliche Pit: 32.555087, -103.837452

## 7 Methods for Handling Waste

- a. **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.
- b. **Drilling Fluids.** Drilling fluids will be contained in steel mud pits and then taken to a NMOCD approved commercial disposal facility.
- c. **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.
- d. **Sewage.** 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.
- e. **Garbage and Other Waste Materials.** 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.
- f. **Debris.** Immediately after removal of the drilling rig, all debris and other waste materials not contained in the trash cage will be cleaned and removed from the well location. No potential adverse materials or substances will be left on location.
- g. **Hazardous Materials.**
  - i. All drilling wastes identified as hazardous substances by the Comprehensive Environmental Response Compensation Liability Act (CERCLA) removed from the location and not reused at another drilling location will be disposed of at a hazardous waste facility approved by the U.S. Environmental Protection Agency (EPA).
  - ii. XTO Permian Operating L.P. and its contractors will comply with all applicable Federal, State and local laws and regulations and existing or hereafter enacted promulgated, regarding any hazardous material, as defined in this paragraph, that will be used, produced, transported or stored on the oil and gas lease. "Hazardous material" means any substance, pollutant or contaminant that is listed as hazardous under the CERCLA of 1980, as amended, 42 U.S.C 9601 et seq., and its regulation. The definition of hazardous substances under CERCLA includes any "hazardous waste" as defined in the RCRA of 1976, as amended, 42 U.S.C. 6901 et seq., and its regulations. The term hazardous material also includes any nuclear or nuclear by-product material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq. The term does not include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCLA Section 101 (14) U.S.C. 9601 (14) nor does the term include natural gas.
  - iii. No hazardous substances or wastes will be stored on the location after completion of the well.
  - iv. Chemicals brought to location will be on the Toxic Substance Control Act (TSCA) approved inventory list.
  - v. All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in Notice to Lessees (NTL) 3A will be reported to the BLM Carlsbad Field Office. Major events will be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days.

## 8 Ancillary facilities: None

## 9 Well Site Layout

1. **Rig Plat Diagrams:** There is one (1) multi-well pad in the Big Eddy Unit DI 31 development area anticipated. This will allow enough space for cuts and fills and storm water control. A well list is attached to this application. No interim reclamation is anticipated after the drilling and completion of all wells on the pad. The size of the drill island is expected to be 1350'x1060' (based on maximum footages of the longest 2-sides) for 90 wells over the project development life. Topsoil will be used for reclamation projects within Big Eddy Unit
2. **Closed-Loop System:** 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.
3. All equipment and vehicles will be confined to the approved disturbed areas of this APD (i.e., access road, well pad and topsoil storage areas).
4. A well site layout is attached.

## 10 Plans for Surface Reclamation:

- a. No surface reclamation is planned for this well. XTO Permian, Operating, LLC. requests a variance to interim reclamation until all wells on the drill island have been drilled and completed, at which time, XTO Permian, Operating, LLC will contact the appropriate BLM personnel to discuss appropriate interim reclamation plans.
- b. *Non-Commercial Well (Not Productive), Interim & Final Reclamation:*
  - i. *Definition:* Reclamation includes disturbed areas where the original landform and a natural vegetative community will be restored, and it is anticipated the site will not be disturbed for future development.
- c. *Reclamation Standards:*
  - i. The portions of the pad not essential to production facilities or space required for workover operations will be reclaimed and seeded as per BLM requirements for interim reclamation. (See Interim Reclamation plats attached).
  - ii. All equipment and trash will be removed, and the surfacing material will be removed from the well pad and road and transported to the original caliche pit or used to maintain other roads. The location will then be ripped and seeded.
  - iii. The original stockpiled 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
  - iv. 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.
  - v. Erosion features are equal to or less than surrounding area and erosion control is sufficient so that water naturally infiltrates into the soil and gulying, head cutting, slumping, and deep or excessive rills (greater than 3 inches) are not observed.



- vi. The site will be free of State-or County-listed noxious weeds, oil field debris and equipment, and contaminated soil. Invasive and non-native weeds will be controlled.
- vii. Seeding:
  - 1. Seedbed Preparation: 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.
  - 2. 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.
  - 3. Seed Application. 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.
- viii. If the site is harrowed or dragged, seed will be covered by no more than 0.25 inch of soil.

## 11 Surface Ownership

- a. 100% of the Big Eddy Unit DI 31 is under the administrative jurisdiction of the Bureau of Land Management.
- b. The surface is multiple use with the primary uses of the region for grazing and for the production of oil and gas.

## 12 Other Information

- a. Drill Island
  - i. **Drill Island**. The proposed drill island is requested as use for oil and gas operations inside of the Secretary's Order of Potash Area (SOPA). The island requested will be used for surface hole locations for wells productive of oil and gas with no surface hole planned outside of the boundary of the on sited and approved drill island. The total size of the Drill Island is 32.85 acres, to include a Facility Village, Drill Island Falloff and Production area. The total Production area of the drill island is: 850'x660'. Total penetrable space in is 12.88 acres.
    - 1. Drill Island: 32.85 acres [CenterPoint: 655' FSL & 2474' FWL, Sec 10-T20S-R31E]
      - a. The total size of the island, including pad fall off, is anticipated to be: 1350'x1060'
      - b. A current detailed plat of the drill island is attached depicting the anticipated wells planned on the island.
  - ii. **Well Sites**. One (1) 850'x660' or 12.88 acres.
  - iii. The wellbore paths will not leave the 850'x660' or 12.88 acres drill island until the salt zone is cased and protected pursuant to NMOCD Order R-111-Q.
  - iv. A full list of XTO Permian Operating, LLC wells anticipated to be located on Big Eddy Unit DI 31 is attached.
  - v. Approval of the drill island does not constitute approval to drill. An APD must be submitted and approved for each well located on the drill island prior to any surface disturbance or drilling activity.

|                    |     |    |      |      |     |     |      |     |   |      |      |      |     |      |      |
|--------------------|-----|----|------|------|-----|-----|------|-----|---|------|------|------|-----|------|------|
| DI 00 0a1t 0000 00 | 003 | 00 | T20S | R31E | 955 | FSL | 2550 | FEL | 0 | T000 | R000 | 000  | 000 | 0244 | 00 0 |
| DI 00 0a1t 0000 00 | 004 | 00 | T20S | R31E | 955 | FSL | 2520 | FEL | 0 | T000 | R000 | 0295 | 000 | 0246 | 00 0 |
| DI 00 0a1t 0000 00 | 005 | 00 | T20S | R31E | 955 | FSL | 2490 | FEL | 0 | T000 | R000 | 0000 | 000 | 0247 | 00 0 |
| DI 00 0a1t 0000 00 | A06 | 00 | T20S | R31E | 955 | FSL | 2460 | FEL | 0 | T20S | R32E | 2200 | 000 | 0249 | 00 0 |
| DI 00 0a1t 0000 00 | A17 | 00 | T20S | R31E | 955 | FSL | 2430 | FEL | 0 | T20S | R32E | 1310 | 000 | 1251 | 00 0 |
| DI 00 0a1t 0000 00 | A18 | 00 | T20S | R31E | 955 | FSL | 2400 | FEL | 0 | T20S | R32E | 440  | 000 | 0253 | 00 0 |
| DI 00 0 0t 0000 00 | 02  | 00 | T20S | R31E | 955 | FSL | 2109 | FWL | 0 | T000 | R000 | 000  | 000 | 00   | 00 0 |
| DI 00 0 0t 0000 00 | 03  | 00 | T20S | R31E | 955 | FSL | 2139 | FWL | 0 | T000 | R000 | 0496 | 000 | 00   | 00 0 |
| DI 00 0 0t 0000 00 | 05  | 00 | T20S | R31E | 955 | FSL | 2199 | FWL | 0 | T000 | R000 | 0552 | 000 | 00   | 00 0 |
| DI 00 0 0t 0000 00 | A6  | 00 | T20S | R31E | 955 | FSL | 2229 | FWL | 0 | T20S | R31E | 1672 | 000 | 00   | 00 0 |
| DI 00 0 0t 0000 00 | A1  | 00 | T20S | R31E | 955 | FSL | 2079 | FWL | 0 | T20S | R31E | 616  | 000 | 00   | 00 0 |
| DI 00 0 0t 0000 00 | 00  | 00 | T20S | R31E | 355 | FSL | 2459 | FWL | 0 | T20S | R31E | 2090 | 000 | 00   | 00 0 |

- b. The XTO Permian Operating, LLC. representatives and BLM NRS were on location for onsite on 12/19/2023.

**Surface:**

Bobby Hankins  
 Execution Planner  
 XTO Energy, Incorporated  
 6401 Holiday Hill Road, Bldg 5  
 Midland, Texas 79707  
 (970) 629-5213  
 bobby.hankins@exxonmobil.com



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

## PWD Data Report

09/29/2025

**APD ID:** 10400098603

**Submission Date:** 05/24/2024

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** BIG EDDY UNIT DI 31W 10-7

**Well Number:** 4H

**Well Type:** OIL WELL

**Well Work Type:** Drill

### Section 1 - General

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

### Section 2 - Lined

Would you like to utilize Lined Pit PWD options? N

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

**PWD surface owner:**

**PWD disturbance (acres):**

**Other PWD Surface Owner Description:**

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

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

**Lined pit**

**Pit liner description:**

**Pit liner manufacturers**

**Precipitated solids disposal:**

**Describe precipitated solids disposal:**

**Precipitated solids disposal**

**Lined pit precipitated solids disposal schedule:**

**Lined pit precipitated solids disposal schedule**

**Lined pit reclamation description:**

**Lined pit reclamation**

**Leak detection system description:**

**Leak detection system**

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** BIG EDDY UNIT DI 31W 10-7

**Well Number:** 4H

**Lined pit Monitor description:**

**Lined pit Monitor**

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

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

**Lined pit bond number:**

**Lined pit bond amount:**

**Additional bond information**

### Section 3 - Unlined

**Would you like to utilize Unlined Pit PWD options?** N

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

**PWD disturbance (acres):**

**PWD surface owner:**

**Other PWD Surface Owner Description:**

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

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

**Unlined pit**

**Precipitated solids disposal:**

**Describe precipitated solids disposal:**

**Precipitated solids disposal**

**Unlined pit precipitated solids disposal schedule:**

**Unlined pit precipitated solids disposal schedule**

**Unlined pit reclamation description:**

**Unlined pit reclamation**

**Unlined pit Monitor description:**

**Unlined pit Monitor**

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

**Beneficial use user**

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

**Precipitated Solids Permit**

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

**TDS lab results:**

**Geologic and hydrologic**

**Operator Name:** XTO PERMIAN OPERATING LLC**Well Name:** BIG EDDY UNIT DI 31W 10-7**Well Number:** 4H**State****Unlined Produced Water Pit Estimated****Unlined pit: do you have a reclamation bond for the pit?****Is the reclamation bond a rider under the BLM bond?****Unlined pit bond number:****Unlined pit bond amount:****Additional bond information****Section 4 -****Would you like to utilize Injection PWD options? N****Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****Other PWD Surface Owner Description:****Injection PWD discharge volume (bbl/day):****Injection well mineral owner:****Injection well type:****Injection well number:****Injection well name:****Assigned injection well API number?****Injection well API number:****Injection well new surface disturbance (acres):****Minerals protection information:****Mineral protection****Underground Injection Control (UIC) Permit?****UIC Permit****Section 5 - Surface****Would you like to utilize Surface Discharge PWD options? N****Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****Other PWD Surface Owner Description :****Surface discharge PWD discharge volume (bbl/day):****Surface Discharge NPDES Permit?****Surface Discharge NPDES Permit attachment:****Surface Discharge site facilities information:****Surface discharge site facilities map:**



**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** BIG EDDY UNIT DI 31W 10-7

**Well Number:** 4H

## Section 6 -

**Would you like to utilize Other PWD options?** N

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

**PWD surface owner:**

**PWD disturbance (acres):**

**PWD Surface Owner Description:**

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

**Other PWD type description:**

**Other PWD type**

**Have other regulatory requirements been met?**

**Other regulatory requirements**



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

## Bond Info Data

09/29/2025

**APD ID:** 10400098603

**Submission Date:** 05/24/2024

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** BIG EDDY UNIT DI 31W 10-7

**Well Number:** 4H

**Well Type:** OIL WELL

**Well Work Type:** Drill

Highlighted data  
reflects the most  
recent changes  
[Show Final Text](#)

### Bond

**Federal/Indian APD:** FED

**BLM Bond number:** COB000050

**BIA Bond number:**

**Do you have a reclamation bond?** NO

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

**Is the reclamation bond BLM or Forest Service?**

**BLM reclamation bond number:**

**Forest Service reclamation bond number:**

**Forest Service reclamation bond attachment:**

**Reclamation bond amount:**

**Reclamation bond rider amount:**

**Additional reclamation bond information attachment:**

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

General Information  
Phone: (505) 629-6116

Online Phone Directory  
<https://www.emnrd.nm.gov/oed/contact-us>

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

ACKNOWLEDGMENTS

Action 512662

ACKNOWLEDGMENTS

|                                                                                        |                                                                       |
|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| Operator:<br>XTO PERMIAN OPERATING LLC.<br>6401 HOLIDAY HILL ROAD<br>MIDLAND, TX 79707 | OGRID:<br>373075                                                      |
|                                                                                        | Action Number:<br>512662                                              |
|                                                                                        | Action Type:<br>[C-101] BLM - Federal/Indian Land Lease (Form 3160-3) |

ACKNOWLEDGMENTS

|                                     |                                                                                                                            |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | I hereby certify that no additives containing PFAS chemicals will be added to the completion or recompletion of this well. |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------|

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

General Information  
Phone: (505) 629-6116

Online Phone Directory  
<https://www.emnrd.nm.gov/oecd/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 512662

**CONDITIONS**

|                                                                                        |                                                                       |
|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| Operator:<br>XTO PERMIAN OPERATING LLC.<br>6401 HOLIDAY HILL ROAD<br>MIDLAND, TX 79707 | OGRID:<br>373075                                                      |
|                                                                                        | Action Number:<br>512662                                              |
|                                                                                        | Action Type:<br>[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.                                                                                                                                                                                              | 10/6/2025      |
| slaghuvarapu | If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.                                                                                                                                                                        | 10/6/2025      |
| ward.rikala  | Notify the OCD 24 hours prior to casing & cement.                                                                                                                                                                                                                                 | 10/14/2025     |
| ward.rikala  | File As Drilled C-102 and a directional Survey with C-104 completion packet.                                                                                                                                                                                                      | 10/14/2025     |
| 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.             | 10/14/2025     |
| 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.                              | 10/14/2025     |
| 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. | 10/14/2025     |
| ward.rikala  | Operator must comply with all of the R-111-Q requirements.                                                                                                                                                                                                                        | 10/14/2025     |