

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**SUNDRY NOTICES AND REPORTS ON WELLS**
Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.**SUBMIT IN TRIPLICATE - Other instructions on page 2**

1. Type of Well ☐ Oil Well ☒ Gas Well ☐ Other		5. Lease Serial No. NMNM25533
2. Name of Operator XTO PERMIAN OPERATING LLC		6. If Indian, Allottee or Tribe Name
Contact: KELLY KARDOS E-Mail: kelly_kardos@xtoenergy.com		7. If Unit or CA/Agreement, Name and/or No. 891000303X
3a. Address 6401 HOLIDAY HILL ROAD BLDG 5 MIDLAND, TX 79707	3b. Phone No. (include area code) Ph: 432-620-4374	8. Well Name and No. POKER LAKE UNIT 18 TWR 157H
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 19 T24S R31E NENE 105FNL 816FEL 32.209778 N Lat, 103.811035 W Lon		9. API Well No. 30-015-46605-00-X1
		10. Field and Pool or Exploratory Area PURPLE SAGE-WOLFCAMP (GAS)
		11. County or Parish, State EDDY COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original APD
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

XTO Permian Operating, LLC requests permission to make the following changes to the original APD:

Change the casing/cement design per the attached drilling program.

XTO requests the following variances:

Batch drill this well if necessary. In doing so, XTO will set each casing string and ensure that the well is cemented properly and the well is static. With floats holding, no pressure on the csg annulus, and the installation of a 10K TA cap as per GE recommendations, XTO will contact the BLM to skid the rig to drill the remaining wells on the pad. Once surface and intermediate strings are all completed, XTO will begin drilling the production hole on each of the wells.

14. I hereby certify that the foregoing is true and correct. Electronic Submission #510446 verified by the BLM Well Information System For XTO PERMIAN OPERATING LLC, sent to the Carlsbad Committed to AFMSS for processing by PRISCILLA PEREZ on 04/11/2020 (20PP2001SE)	
Name (Printed/Typed) KELLY KARDOS	Title REGULATORY COORDINATOR
Signature (Electronic Submission)	Date 04/10/2020

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By <u>JENNIFER SANCHEZ</u>	Title <u>PETROLEUM ENGINEER</u>	Date <u>05/15/2020</u>
Conditions of approval, if any, are attached. Approval of this notice 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.		Office <u>Carlsbad</u>

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.

(Instructions on page 2)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

Accepted 05/18/2020 - KMS NMOCD

Additional data for EC transaction #510446 that would not fit on the form

32. Additional remarks, continued

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. Based on discussions with the BLM on February 27th 2020, 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 (First well will be the deepest Intermediate) 2. When skidding to drill an intermediate section does not penetrate into the Wolfcamp 3. Full BOP test will be required prior to drilling the production hole.

A variance is requested to cement offline for the surface and intermediate casing strings.

Attachments:

Casing/Cement Design

Multibowl Diagram

Revisions to Operator-Submitted EC Data for Sundry Notice #510446

	Operator Submitted	BLM Revised (AFMSS)
Sundry Type:	APDCH NOI	APDCH NOI
Lease:	NMNM25533	NMNM25533
Agreement:	NMNM71016X	891000303X (NMNM71016X)
Operator:	XTO PERMIAN OPERATING, LLC 6401 HOLIDAY HILL RD BLDG 5 MIDLAND, TX 79707 Ph: 432-620-4374	XTO PERMIAN OPERATING LLC 6401 HOLIDAY HILL ROAD BLDG 5 MIDLAND, TX 79707 Ph: 432.683 2277
Admin Contact:	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com Ph: 432-620-4374	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com Ph: 432-620-4374
Tech Contact:	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com Ph: 432-620-4374	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com Ph: 432-620-4374
Location: State: County:	NM EDDY	NM EDDY
Field/Pool:	PURPLE SAGE WOLFCAMP	PURPLE SAGE-WOLFCAMP (GAS)
Well/Facility:	POKER LAKE UNIT 18 TWR 157H Sec 19 T24S R31E Mer NMP NENE 105FNL 816FEL	POKER LAKE UNIT 18 TWR 157H Sec 19 T24S R31E NENE 105FNL 816FEL 32.209778 N Lat, 103.811035 W Lon

PECOS DISTRICT DRILLING DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO Permian Operating, LLC.
LEASE NO.:	NMNM-25533
WELL NAME & NO.:	Poker Lake Unit 18 TWR 157H
SURFACE HOLE FOOTAGE:	0105' FNL & 0816' FEL
BOTTOM HOLE FOOTAGE:	0200' FSL & 1170' FEL Sec. 30, T. 24 S., R 31 E.
LOCATION:	Section 19, T. 24 S., R 31 E., NMPM
COUNTY:	Eddy County, New Mexico

COA

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

Offline cementing is NOT approved.

Possibility of water flows in the Salado and Castile.

Possibility of lost circulation in the Red Beds, Rustler, and Delaware.

Abnormal pressure may be encountered in the 3rd Bone Spring and all subsequent formations.

A. HYDROGEN SULFIDE

- Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.**

B. CASING

1. The **11-3/4** inch surface casing shall be set at approximately **909** feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite and above the salt) 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. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
 - b. Second stage above DV tool:
 - Cement to surface. If cement does not circulate, contact the appropriate BLM office.
3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).
2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M) psi. Variance approved to use a 5M annular. The annular must be tested to full working pressure (5000 psi.)**
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

BOP Break Testing Variance

- Shell testing is not approved for any portion of the hole with a MASP of 5000 psi or greater.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer prior to the commencement of any BOP Break Testing operations.
- A full BOP test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOP test will be required.

D. SPECIAL REQUIREMENTS

Unit Wells

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

Commercial Well Determination

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

GENERAL REQUIREMENTS

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

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

☒ Eddy County

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(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
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for 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.
3. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
4. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
5. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
6. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In 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 when specified), 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).
 - b. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 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 water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
 - c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
 - d. The results of the test shall be reported to the appropriate BLM office.

- e. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- g. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

JAM 05152020

Poker Lake Unit 18 TWR 157H
 Projected TD: 22653' MD / 12555' TVD
 SHL: 105' FNL & 816' FEL , Section 19, T24S, R31E
 BHL: 200' FSL & 1170' FEL , Section 30, T24S, R31E
 Eddy County, NM

Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
14-3/4"	0' – 909'	11-3/4"	54	BTC	J-55	New	1.15	5.03	17.32
9-7-8"	0' – 11801'	7-5/8"	29.7	BTC	HCL-80	New	1.20	1.83	1.95
6-3/4"	0' – 11701'	5-1/2"	23	Freedom	P-110	New	1.21	1.71	1.94
6-3/4"	11701' - 22653'	5-1/2"	23	TCSF - semi flush	HCP-110	New	1.21	1.80	1.93

- XTO requests to not utilize centralizers in the curve and lateral
- 7-5/8" Collapse analyzed using 50% evacuation based on regional experience.
- 5-1/2" Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35
- 5-1/2" 23 ppf casing will be run from surface to 11,750' and crossed over to 5-1/2" 23 ppf semi-flush casing from 11,750' to TD.
- Request to use 5" BTC Float equipment

Cement Program

Surface Casing:

Lead: 280 sxs Halcem-C + 2% CaCl (mixed at 12.8 ppg, 1.87 ft3/sx, 10.13 gal/sx water)
 Tail: 190 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)
 Compressives: 12-hr = 900 psi 24 hr = 1500 psi

Intermediate Casing:

ECP/DV Tool to be set at 4779'

1st Stage

Lead: 1380 sxs Halcem - Class C (mixed at 11.0 ppg, 1.87 ft3/sx, 15.10 gal/sx water)
 Tail: 310 sxs Halcem - Class C (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)
 Compressives: 12-hr = 900 psi 24 hr = 1150 psi

2nd Stage

Lead: 860 sxs Halcem - Class C (mixed at 11.0 ppg, 1.88 ft3/sx, 10.13 gal/sx water)
 Tail: 320 sxs Halcem-Class C (mixed at 14.8 ppg, 1.33 ft3/sx, 5.29 gal/sx water)
 Compressives: 12-hr = 900 psi 24 hr = 1150 psi

Production Casing:

Lead: 20 sxs VersaCem (mixed at 11.5 ppg, 2.69 ft3/sx, 15.00 gal/sx water)
 Tail: 760 sxs VersaCem (mixed at 13.2 ppg, 1.51 ft3/sx, 7.20 gal/sx water)
 Compressives: 12-hr = 800 psi 24 hr = 1500 psi

Mud Circulation Program

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' - 909'	14-3/4"	FW / Native	8.4-8.8	35-40	NC
909' - 11801'	9-7/8"	Brine / Cut Brine / Direct Emulsion	8.6-9.8	30-32	NC
11801' to 22653'	6-3/4"	Cut Brine / WBM / OBM	12.5-13.5	32-36	NC

DRILLING PLAN: BLM COMPLIANCE
(Supplement to BLM 3160-3)

XTO Energy Inc.
Poker Lake Unit 18 TWR 157H
Projected TD: 22653' MD / 12555' TVD
SHL: 105' FNL & 816' FEL , Section 19, T24S, R31E
BHL: 200' FSL & 1170' FEL , Section 30, T24S, R31E
Eddy County, NM

1. Geologic Name of Surface Formation

A. Permian

2. Estimated Tops of Geological Markers & Depths of Anticipated Fresh Water, Oil or Gas

Formation	Well Depth (TVD)	Water/Oil/Gas
Rustler	614'	Water
Top of Salt	959'	Water
Base of Salt	4079'	Water
Delaware	4279'	Water
Bone Spring	8154'	Water
1st Bone Spring Ss	9144'	Water/Oil/Gas
2nd Bone Spring Ss	9944'	Water/Oil/Gas
3rd Bone Spring Ss	11107'	Water/Oil/Gas
Wolfcamp	11509'	Water/Oil/Gas
Wolfcamp A	11659'	Water/Oil/Gas
Wolfcamp D	12454'	Water/Oil/Gas
Target/Land Curve	12555'	Water/Oil/Gas

*** Hydrocarbons @ Brushy Canyon

*** Groundwater depth 40' (per NM State Engineers Office).

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 11-3/4" casing @ 909' (50' above the salt) and circulating cement back to surface. The 7-5/8" intermediate casing will be set at 11801' and bring TOC back to surface. A 6-3/4 inch curve and lateral hole will be drilled to MD/TD and 5-1/2" x 5-1/2" semi-flush casing will be set at TD and cemented back 300' into the 7-5/8" casing shoe.

3. Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
14-3/4"	0' – 909'	11-3/4"	54	BTC	J-55	New	1.15	5.03	17.32
9-7/8"	0' – 11801'	7-5/8"	29.7	BTC	HCL-80	New	1.20	1.83	1.95
6-3/4"	0' – 11701'	5-1/2"	23	Freedom	P-110	New	1.21	1.71	1.94
6-3/4"	11701' - 22653'	5-1/2"	23	TCSF - semi flush	HCP-110	New	1.21	1.80	1.93

· XTO requests to not utilize centralizers in the curve and lateral

· 7-5/8" Collapse analyzed using 50% evacuation based on regional experience.

· 5-1/2" Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35

· Test on Casing will be limited to 70% burst of the casing or 1500 psi, whichever is less

· 5-1/2" 23 ppf casing will be run from surface to 11,750' and crossed over to 5-1/2" 23 ppf semi-flush casing from 11,750' to TD.

· Request to use 5" BTC Float equipment

Wellhead:

Permanent Wellhead – Multibowl System

A. Starting Head: 13-5/8" 10M top flange x 11-3/4" SOW bottom

B. Tubing Head: 13-5/8" 10M bottom flange x 7-1/16" 15M top flange

- Wellhead will be installed by manufacturer's representatives.
- Manufacturer will monitor welding process to ensure appropriate temperature of seal.
- Operator will test the 7-5/8" casing per BLM Onshore Order 2
- Wellhead Manufacturer representative will not be present for BOP test plug installation

4. Cement Program

Surface Casing: 11-3/4", 54 New J-55, BTC casing to be set at +/- 909'

Lead: 280 sxs Halcem-C + 2% CaCl (mixed at 12.8 ppg, 1.87 ft3/sx, 10.13 gal/sx water)

Tail: 190 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)

Compressives: 12-hr = 900 psi 24 hr = 1500 psi

TOC: Surface

Intermediate Casing: 7-5/8", 29.7 New HCL-80, BTC casing to be set at +/- 11801'

ECP/DV Tool to be set at 4779'

1st Stage

Lead: 1380 sxs Halcem - Class C (mixed at 11.0 ppg, 1.87 ft3/sx, 15.10 gal/sx water)

Tail: 310 sxs Halcem - Class C (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)

Compressives: 12-hr = 900 psi 24 hr = 1150psi

2nd Stage

Lead: 860 sxs Halcem - Class C (mixed at 11.0 ppg, 1.88 ft3/sx, 10.13 gal/sx water)

Tail: 320 sxs Halcem-Class C (mixed at 14.8 ppg, 1.33 ft3/sx, 5.29 gal/sx water)

Compressives: 12-hr = 900 psi 24 hr = 1150 psi

TOC: Surface

Production Casing: 5-1/2", 23 New HCP-110, TCSF - semi flush casing to be set at +/- 22653'

Lead: 20 sxs VersaCem (mixed at 11.5 ppg, 2.69 ft3/sx, 15.00 gal/sx water)

Tail: 760 sxs VersaCem (mixed at 13.2 ppg, 1.51 ft3/sx, 7.20 gal/sx water)

Compressives 12-hr = 800 psi 24 hr = 1500 psi

TOC: 300' inside previous shoe

5. Pressure Control Equipment

Once the permanent WH is installed on the 11-3/4" casing, the blow out preventer equipment (BOP) will consist of a 13-5/8" minimum 5M Hydril and a 13-5/8" minimum 10M 3-Ram BOP. MASP should not exceed 5725 psi. In any instance where 10M BOP is required by BLM, XTO requests a variance to utilize 5M annular with 10M ram preventers (a common BOP configuration, which allows use of 10M rams in unlikely event that pressures exceed 5M). Also a variance is requested to test the 5M annular to 70% of working pressure at 3500 psi.

All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 70% of the working pressure. When nipping up on the 11-3/4", 10M bradenhead and flange, the BOP test will be limited to 10000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 10M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

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

XTO requests a variance to be able to batch drill this well if necessary. In doing so, XTO will set each casing string and ensure that the well is cemented properly and the well is static. With floats holding, no pressure on the csg annulus, and the installation of a 10K TA cap as per GE recommendations, XTO will contact the BLM on each rig skid on the pad. Once surface and intermediate strings are all completed, XTO will begin drilling the production hole on each of the wells.

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. Based on discussions with the BLM on February 27th 2020, 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 (First well will be the deepest Intermediate) 2. When skidding to drill an intermediate section does not penetrate into the Wolfcamp 3. Full BOP test will be required prior to drilling the production hole

A variance is requested to cement offline for the surface and intermediate casing strings.

6. Proposed Mud Circulation System

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' - 909'	14-3/4"	FW / Native	8.4-8.8	35-40	NC
909' - 11801'	9-7/8"	Brine / Cut Brine / Direct Emulsion	8.6-9.8	30-32	NC
11801' to 22653'	6-3/4"	Cut Brine / WBM / OBM	12.5-13.5	32-36	NC

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

Spud with fresh water/native mud and set 11-3/4" surface casing, isolating the fresh water aquifer. Drill out from under 11-3/4" surface casing with a brine/oil direct emulsion mud system. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Pump speed will be recorded on a daily drilling report after mudding up. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

7. Auxiliary Well Control and Monitoring Equipment

- A. A Kelly cock will be in the drill string at all times.
- B. A full opening drill pipe stabbing valve having appropriate connections will be on the rig floor at all times.
- C. H2S monitors will be on location when drilling below the 11-3/4" casing.

8. Logging, Coring and Testing Program

Mud Logger: Mud Logging Unit (2 man) below intermediate casing.

Open hole logging will not be done on this well.

9. Abnormal Pressures and Temperatures / Potential Hazards

None Anticipated. BHT of 160 to 180 F is anticipated. 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 could occur but is not expected to be a serious problem in this area and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid. The maximum anticipated bottom hole pressure for this well is 8487 psi.

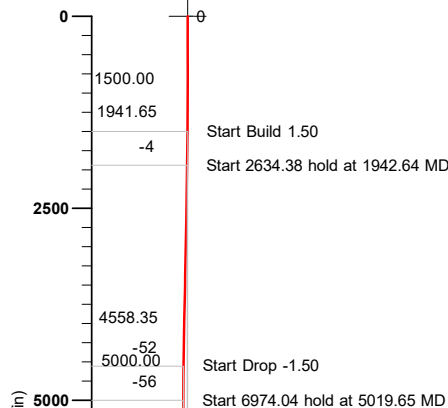
10. Anticipated Starting Date and Duration of Operations

Road and location construction will begin after Santa Fe and BLM have approved the APD. Anticipated spud date will be as soon after Santa Fe and BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 45 days. If production casing is run, an additional 30 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.

XTO Energy

Project: Eddy County, NM (NAD27) NMEZ Grid
 Site: PLU 18 TWR
 Well: 157H
 Wellbore: Lateral
 Design: Plan #2

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00
1942.64	6.64	278.63	1941.65	3.84	-25.33	1.50	278.63
4577.01	6.64	278.63	4558.35	49.56	-326.47	0.00	0.00
5019.65	0.00	0.00	5000.00	53.40	-351.80	1.50	180.00
11993.69	0.00	0.00	11974.04	53.40	-351.80	0.00	0.00
12893.69	90.00	179.62	12547.00	-519.54	-348.04	10.00	179.62
22635.35	90.00	179.62	12547.00	-10261.00	-284.20	0.00	0.00



3502+25 @ 3527.00usft (citadel1Ver)
 NAD 1927 (NADCON CONUS)

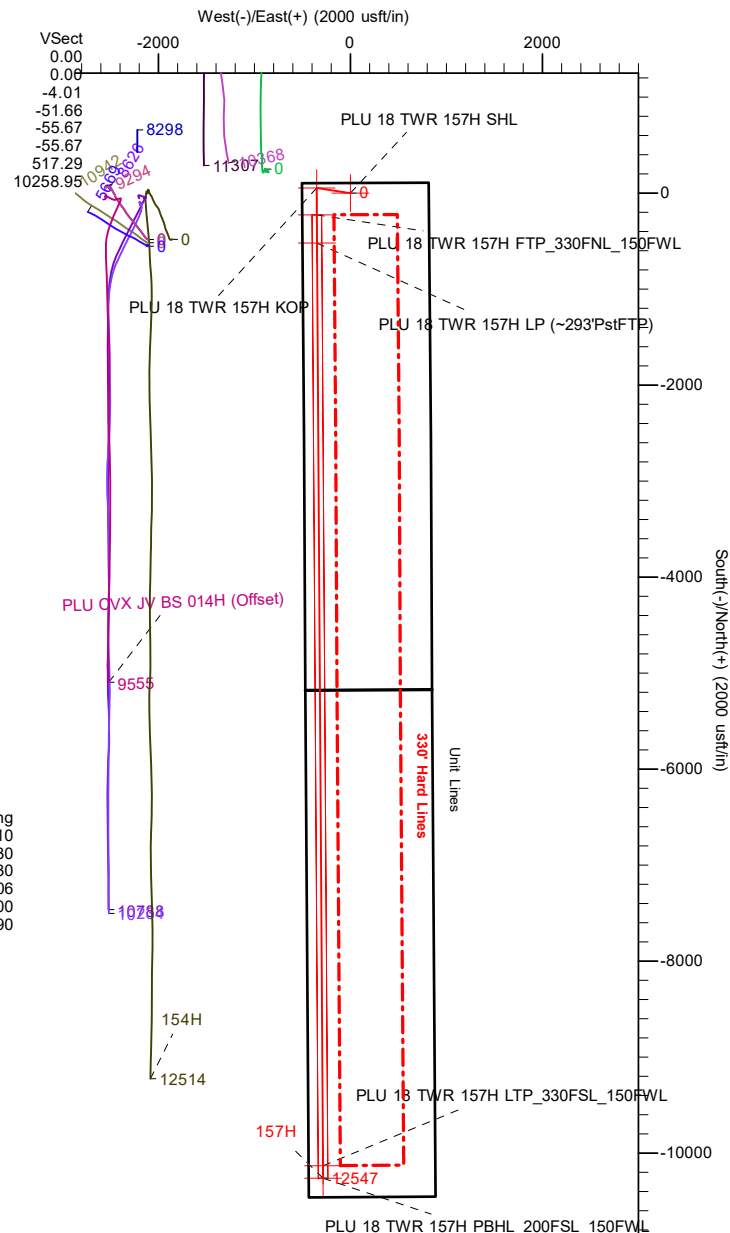
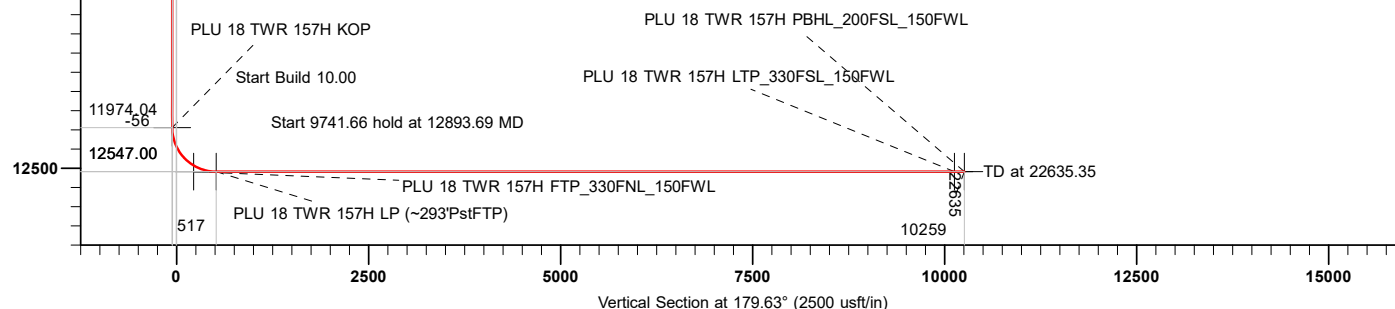


Azimuths to Grid North
 True North: -0.28°
 Magnetic North: 6.53°

Magnetic Field
 Strength: 47592.9nT
 Dip Angle: 59.89°
 Date: 03/06/2020
 Model: IGRF2020

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
PLU 18 TWR 157H SHL	0.00	0.00	0.00	440385.10	661691.10
PLU 18 TWR 157H KOP	11974.04	53.40	-351.80	440438.50	661339.30
PLU 18 TWR 157H FTP_330FNL_150FWL	12547.00	-226.60	-351.80	440158.50	661339.30
PLU 18 TWR 157H LP (~293°PstFTP)	12547.00	-519.54	-348.04	439865.56	661343.06
PLU 18 TWR 157H LTP_330FSL_150FWL	12547.00	-10131.10	-285.10	430254.00	661406.00
PLU 18 TWR 157H PBHL_200FSL_150FWL	12547.00	-10261.00	-284.20	430124.10	661406.90



To convert a Magnetic Direction to a Grid Direction, Add 6.53°
 To convert a Magnetic Direction to a True Direction, Add 6.80° East
 Magnetic North is 6.53° East of Grid North (Magnetic Convergence)
 Magnetic North is 6.80° East of True North (Magnetic Declination)

Plan: Plan #2 (157H/Lateral)
 Created By: Mekka Williams
 eSomina Well Design
 mekka@esominawelldesign.com
 15:52, March 12 2020

CHOICE DIRECTIONAL SERVICES LTD
 3795 SCR 1210 Midland, TX 79706
 CAN 780-446-5402 US 432-236-6725



Planning Report

Database:	XTO_EDM	Local Co-ordinate Reference:	Well 157H - Slot PLU 18 TWR 157H SHL
Company:	XTO Energy	TVD Reference:	3502+25 @ 3527.00usft (citadel1Ver)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3502+25 @ 3527.00usft (citadel1Ver)
Site:	PLU 18 TWR	North Reference:	Grid
Well:	157H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #2		

Project	Eddy County, NM (NAD27) NMEZ Grid		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site		PLU 18 TWR				
Site Position:		Northing:	439,833.60 usft	Latitude:	32.2081635	
From:	Map	Easting:	659,834.30 usft	Longitude:	-103.8165621	
Position Uncertainty:		0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	0.28 °

Well	157H - Slot PLU 18 TWR 157H SHL					
Well Position	+N/-S	551.50 usft	Northing:	440,385.10 usft	Latitude:	32.2096549
	+E/-W	1,856.80 usft	Easting:	661,691.10 usft	Longitude:	-103.8105503
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,502.00 usft

Wellbore	Lateral				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	03/06/20	6.80	59.89	47,592.92376694

Design	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	-1.00	0.00	0.00	179.63

Plan Survey Tool Program	Date	03/12/20			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	22,635.36	Plan #2 (Lateral)	MWD+IFR1+MS	
				OWSG MWD + IFR1 + Multi-St	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,942.64	6.64	278.63	1,941.65	3.84	-25.33	1.50	1.50	0.00	278.63	
4,577.01	6.64	278.63	4,558.36	49.56	-326.47	0.00	0.00	0.00	0.00	
5,019.65	0.00	0.00	5,000.00	53.40	-351.80	1.50	-1.50	0.00	180.00	
11,993.69	0.00	0.00	11,974.04	53.40	-351.80	0.00	0.00	0.00	0.00	
12,893.69	90.00	179.62	12,547.00	-519.54	-348.04	10.00	10.00	0.00	179.62	
22,635.36	90.00	179.62	12,547.00	-10,261.00	-284.20	0.00	0.00	0.00	0.00	

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Company:	XTO Energy	TVD Reference:	3502+25 @ 3527.00usft (citadel1Ver)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3502+25 @ 3527.00usft (citadel1Ver)
Site:	PLU 18 TWR	North Reference:	Grid
Well:	157H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	1.50	278.63	1,599.99	0.20	-1.29	-0.20	1.50	1.50	0.00
1,700.00	3.00	278.63	1,699.91	0.79	-5.18	-0.82	1.50	1.50	0.00
1,800.00	4.50	278.63	1,799.69	1.77	-11.64	-1.84	1.50	1.50	0.00
1,900.00	6.00	278.63	1,899.27	3.14	-20.69	-3.27	1.50	1.50	0.00
1,942.64	6.64	278.63	1,941.65	3.84	-25.33	-4.01	1.50	1.50	0.00
2,000.00	6.64	278.63	1,998.63	4.84	-31.89	-5.05	0.00	0.00	0.00
2,100.00	6.64	278.63	2,097.95	6.58	-43.32	-6.85	0.00	0.00	0.00
2,200.00	6.64	278.63	2,197.28	8.31	-54.75	-8.66	0.00	0.00	0.00
2,300.00	6.64	278.63	2,296.61	10.05	-66.18	-10.47	0.00	0.00	0.00
2,400.00	6.64	278.63	2,395.94	11.78	-77.61	-12.28	0.00	0.00	0.00
2,500.00	6.64	278.63	2,495.27	13.52	-89.04	-14.09	0.00	0.00	0.00
2,600.00	6.64	278.63	2,594.60	15.25	-100.47	-15.90	0.00	0.00	0.00
2,700.00	6.64	278.63	2,693.93	16.99	-111.90	-17.71	0.00	0.00	0.00
2,800.00	6.64	278.63	2,793.26	18.72	-123.34	-19.52	0.00	0.00	0.00
2,900.00	6.64	278.63	2,892.59	20.46	-134.77	-21.33	0.00	0.00	0.00
3,000.00	6.64	278.63	2,991.92	22.19	-146.20	-23.14	0.00	0.00	0.00
3,100.00	6.64	278.63	3,091.25	23.93	-157.63	-24.94	0.00	0.00	0.00
3,200.00	6.64	278.63	3,190.58	25.66	-169.06	-26.75	0.00	0.00	0.00
3,300.00	6.64	278.63	3,289.91	27.40	-180.49	-28.56	0.00	0.00	0.00
3,400.00	6.64	278.63	3,389.24	29.13	-191.92	-30.37	0.00	0.00	0.00
3,500.00	6.64	278.63	3,488.57	30.87	-203.36	-32.18	0.00	0.00	0.00
3,600.00	6.64	278.63	3,587.89	32.60	-214.79	-33.99	0.00	0.00	0.00
3,700.00	6.64	278.63	3,687.22	34.34	-226.22	-35.80	0.00	0.00	0.00
3,800.00	6.64	278.63	3,786.55	36.07	-237.65	-37.61	0.00	0.00	0.00
3,900.00	6.64	278.63	3,885.88	37.81	-249.08	-39.42	0.00	0.00	0.00
4,000.00	6.64	278.63	3,985.21	39.54	-260.51	-41.22	0.00	0.00	0.00
4,100.00	6.64	278.63	4,084.54	41.28	-271.94	-43.03	0.00	0.00	0.00
4,200.00	6.64	278.63	4,183.87	43.01	-283.37	-44.84	0.00	0.00	0.00
4,300.00	6.64	278.63	4,283.20	44.75	-294.81	-46.65	0.00	0.00	0.00
4,400.00	6.64	278.63	4,382.53	46.48	-306.24	-48.46	0.00	0.00	0.00
4,500.00	6.64	278.63	4,481.86	48.22	-317.67	-50.27	0.00	0.00	0.00
4,577.01	6.64	278.63	4,558.36	49.56	-326.47	-51.66	0.00	0.00	0.00
4,600.00	6.29	278.63	4,581.20	49.94	-329.03	-52.07	1.50	-1.50	0.00
4,700.00	4.79	278.63	4,680.72	51.39	-338.58	-53.58	1.50	-1.50	0.00
4,800.00	3.29	278.63	4,780.47	52.45	-345.56	-54.68	1.50	-1.50	0.00
4,900.00	1.79	278.63	4,880.37	53.12	-349.95	-55.38	1.50	-1.50	0.00
5,000.00	0.29	278.63	4,980.35	53.39	-351.75	-55.66	1.50	-1.50	0.00
5,019.65	0.00	0.00	5,000.00	53.40	-351.80	-55.67	1.50	-1.50	0.00

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Wellbore:	Lateral		
Design:	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,100.00	0.00	0.00	5,080.35	53.40	-351.80	-55.67	0.00	0.00	0.00
5,200.00	0.00	0.00	5,180.35	53.40	-351.80	-55.67	0.00	0.00	0.00
5,300.00	0.00	0.00	5,280.35	53.40	-351.80	-55.67	0.00	0.00	0.00
5,400.00	0.00	0.00	5,380.35	53.40	-351.80	-55.67	0.00	0.00	0.00
5,500.00	0.00	0.00	5,480.35	53.40	-351.80	-55.67	0.00	0.00	0.00
5,600.00	0.00	0.00	5,580.35	53.40	-351.80	-55.67	0.00	0.00	0.00
5,700.00	0.00	0.00	5,680.35	53.40	-351.80	-55.67	0.00	0.00	0.00
5,800.00	0.00	0.00	5,780.35	53.40	-351.80	-55.67	0.00	0.00	0.00
5,900.00	0.00	0.00	5,880.35	53.40	-351.80	-55.67	0.00	0.00	0.00
6,000.00	0.00	0.00	5,980.35	53.40	-351.80	-55.67	0.00	0.00	0.00
6,100.00	0.00	0.00	6,080.35	53.40	-351.80	-55.67	0.00	0.00	0.00
6,200.00	0.00	0.00	6,180.35	53.40	-351.80	-55.67	0.00	0.00	0.00
6,300.00	0.00	0.00	6,280.35	53.40	-351.80	-55.67	0.00	0.00	0.00
6,400.00	0.00	0.00	6,380.35	53.40	-351.80	-55.67	0.00	0.00	0.00
6,500.00	0.00	0.00	6,480.35	53.40	-351.80	-55.67	0.00	0.00	0.00
6,600.00	0.00	0.00	6,580.35	53.40	-351.80	-55.67	0.00	0.00	0.00
6,700.00	0.00	0.00	6,680.35	53.40	-351.80	-55.67	0.00	0.00	0.00
6,800.00	0.00	0.00	6,780.35	53.40	-351.80	-55.67	0.00	0.00	0.00
6,900.00	0.00	0.00	6,880.35	53.40	-351.80	-55.67	0.00	0.00	0.00
7,000.00	0.00	0.00	6,980.35	53.40	-351.80	-55.67	0.00	0.00	0.00
7,100.00	0.00	0.00	7,080.35	53.40	-351.80	-55.67	0.00	0.00	0.00
7,200.00	0.00	0.00	7,180.35	53.40	-351.80	-55.67	0.00	0.00	0.00
7,300.00	0.00	0.00	7,280.35	53.40	-351.80	-55.67	0.00	0.00	0.00
7,400.00	0.00	0.00	7,380.35	53.40	-351.80	-55.67	0.00	0.00	0.00
7,500.00	0.00	0.00	7,480.35	53.40	-351.80	-55.67	0.00	0.00	0.00
7,600.00	0.00	0.00	7,580.35	53.40	-351.80	-55.67	0.00	0.00	0.00
7,700.00	0.00	0.00	7,680.35	53.40	-351.80	-55.67	0.00	0.00	0.00
7,800.00	0.00	0.00	7,780.35	53.40	-351.80	-55.67	0.00	0.00	0.00
7,900.00	0.00	0.00	7,880.35	53.40	-351.80	-55.67	0.00	0.00	0.00
8,000.00	0.00	0.00	7,980.35	53.40	-351.80	-55.67	0.00	0.00	0.00
8,100.00	0.00	0.00	8,080.35	53.40	-351.80	-55.67	0.00	0.00	0.00
8,200.00	0.00	0.00	8,180.35	53.40	-351.80	-55.67	0.00	0.00	0.00
8,300.00	0.00	0.00	8,280.35	53.40	-351.80	-55.67	0.00	0.00	0.00
8,400.00	0.00	0.00	8,380.35	53.40	-351.80	-55.67	0.00	0.00	0.00
8,500.00	0.00	0.00	8,480.35	53.40	-351.80	-55.67	0.00	0.00	0.00
8,600.00	0.00	0.00	8,580.35	53.40	-351.80	-55.67	0.00	0.00	0.00
8,700.00	0.00	0.00	8,680.35	53.40	-351.80	-55.67	0.00	0.00	0.00
8,800.00	0.00	0.00	8,780.35	53.40	-351.80	-55.67	0.00	0.00	0.00
8,900.00	0.00	0.00	8,880.35	53.40	-351.80	-55.67	0.00	0.00	0.00
9,000.00	0.00	0.00	8,980.35	53.40	-351.80	-55.67	0.00	0.00	0.00
9,100.00	0.00	0.00	9,080.35	53.40	-351.80	-55.67	0.00	0.00	0.00
9,200.00	0.00	0.00	9,180.35	53.40	-351.80	-55.67	0.00	0.00	0.00
9,300.00	0.00	0.00	9,280.35	53.40	-351.80	-55.67	0.00	0.00	0.00
9,400.00	0.00	0.00	9,380.35	53.40	-351.80	-55.67	0.00	0.00	0.00
9,500.00	0.00	0.00	9,480.35	53.40	-351.80	-55.67	0.00	0.00	0.00
9,600.00	0.00	0.00	9,580.35	53.40	-351.80	-55.67	0.00	0.00	0.00
9,700.00	0.00	0.00	9,680.35	53.40	-351.80	-55.67	0.00	0.00	0.00
9,800.00	0.00	0.00	9,780.35	53.40	-351.80	-55.67	0.00	0.00	0.00
9,900.00	0.00	0.00	9,880.35	53.40	-351.80	-55.67	0.00	0.00	0.00
10,000.00	0.00	0.00	9,980.35	53.40	-351.80	-55.67	0.00	0.00	0.00
10,100.00	0.00	0.00	10,080.35	53.40	-351.80	-55.67	0.00	0.00	0.00
10,200.00	0.00	0.00	10,180.35	53.40	-351.80	-55.67	0.00	0.00	0.00
10,300.00	0.00	0.00	10,280.35	53.40	-351.80	-55.67	0.00	0.00	0.00
10,400.00	0.00	0.00	10,380.35	53.40	-351.80	-55.67	0.00	0.00	0.00

Planning Report

Database:	XTO_EDM	Local Co-ordinate Reference:	Well 157H - Slot PLU 18 TWR 157H SHL
Company:	XTO Energy	TVD Reference:	3502+25 @ 3527.00usft (citadel1Ver)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3502+25 @ 3527.00usft (citadel1Ver)
Site:	PLU 18 TWR	North Reference:	Grid
Well:	157H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #2		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
10,500.00	0.00	0.00	10,480.35	53.40	-351.80	-55.67	0.00	0.00	0.00	
10,600.00	0.00	0.00	10,580.35	53.40	-351.80	-55.67	0.00	0.00	0.00	
10,700.00	0.00	0.00	10,680.35	53.40	-351.80	-55.67	0.00	0.00	0.00	
10,800.00	0.00	0.00	10,780.35	53.40	-351.80	-55.67	0.00	0.00	0.00	
10,900.00	0.00	0.00	10,880.35	53.40	-351.80	-55.67	0.00	0.00	0.00	
11,000.00	0.00	0.00	10,980.35	53.40	-351.80	-55.67	0.00	0.00	0.00	
11,100.00	0.00	0.00	11,080.35	53.40	-351.80	-55.67	0.00	0.00	0.00	
11,200.00	0.00	0.00	11,180.35	53.40	-351.80	-55.67	0.00	0.00	0.00	
11,300.00	0.00	0.00	11,280.35	53.40	-351.80	-55.67	0.00	0.00	0.00	
11,400.00	0.00	0.00	11,380.35	53.40	-351.80	-55.67	0.00	0.00	0.00	
11,500.00	0.00	0.00	11,480.35	53.40	-351.80	-55.67	0.00	0.00	0.00	
11,600.00	0.00	0.00	11,580.35	53.40	-351.80	-55.67	0.00	0.00	0.00	
11,700.00	0.00	0.00	11,680.35	53.40	-351.80	-55.67	0.00	0.00	0.00	
11,800.00	0.00	0.00	11,780.35	53.40	-351.80	-55.67	0.00	0.00	0.00	
11,900.00	0.00	0.00	11,880.35	53.40	-351.80	-55.67	0.00	0.00	0.00	
11,993.69	0.00	0.00	11,974.04	53.40	-351.80	-55.67	0.00	0.00	0.00	
12,000.00	0.63	179.62	11,980.35	53.37	-351.80	-55.64	10.00	10.00	0.00	
12,050.00	5.63	179.62	12,030.26	50.64	-351.78	-52.91	10.00	10.00	0.00	
12,100.00	10.63	179.62	12,079.74	43.57	-351.74	-45.84	10.00	10.00	0.00	
12,150.00	15.63	179.62	12,128.42	32.21	-351.66	-34.48	10.00	10.00	0.00	
12,200.00	20.63	179.62	12,175.92	16.66	-351.56	-18.93	10.00	10.00	0.00	
12,250.00	25.63	179.62	12,221.89	-2.98	-351.43	0.71	10.00	10.00	0.00	
12,300.00	30.63	179.62	12,265.97	-26.54	-351.28	24.28	10.00	10.00	0.00	
12,350.00	35.63	179.62	12,307.83	-53.86	-351.10	51.59	10.00	10.00	0.00	
12,400.00	40.63	179.62	12,347.14	-84.73	-350.89	82.46	10.00	10.00	0.00	
12,450.00	45.63	179.62	12,383.62	-118.90	-350.67	116.63	10.00	10.00	0.00	
12,500.00	50.63	179.62	12,416.98	-156.12	-350.43	153.85	10.00	10.00	0.00	
12,550.00	55.63	179.62	12,446.97	-196.11	-350.16	193.84	10.00	10.00	0.00	
12,600.00	60.63	179.62	12,473.36	-238.55	-349.89	236.29	10.00	10.00	0.00	
12,650.00	65.63	179.62	12,495.95	-283.14	-349.59	280.88	10.00	10.00	0.00	
12,700.00	70.63	179.62	12,514.57	-329.53	-349.29	327.26	10.00	10.00	0.00	
12,750.00	75.63	179.62	12,529.08	-377.36	-348.98	375.10	10.00	10.00	0.00	
12,800.00	80.63	179.62	12,539.36	-426.27	-348.66	424.01	10.00	10.00	0.00	
12,850.00	85.63	179.62	12,545.34	-475.90	-348.33	473.64	10.00	10.00	0.00	
12,893.69	90.00	179.62	12,547.00	-519.54	-348.04	517.29	10.00	10.00	0.00	
12,900.00	90.00	179.62	12,547.00	-525.85	-348.00	523.60	0.00	0.00	0.00	
13,000.00	90.00	179.62	12,547.00	-625.85	-347.35	623.60	0.00	0.00	0.00	
13,100.00	90.00	179.62	12,547.00	-725.85	-346.69	723.60	0.00	0.00	0.00	
13,200.00	90.00	179.62	12,547.00	-825.85	-346.04	823.60	0.00	0.00	0.00	
13,300.00	90.00	179.62	12,547.00	-925.85	-345.38	923.60	0.00	0.00	0.00	
13,400.00	90.00	179.62	12,547.00	-1,025.84	-344.73	1,023.60	0.00	0.00	0.00	
13,500.00	90.00	179.62	12,547.00	-1,125.84	-344.07	1,123.60	0.00	0.00	0.00	
13,600.00	90.00	179.62	12,547.00	-1,225.84	-343.42	1,223.60	0.00	0.00	0.00	
13,700.00	90.00	179.62	12,547.00	-1,325.84	-342.76	1,323.60	0.00	0.00	0.00	
13,800.00	90.00	179.62	12,547.00	-1,425.84	-342.11	1,423.60	0.00	0.00	0.00	
13,900.00	90.00	179.62	12,547.00	-1,525.83	-341.45	1,523.60	0.00	0.00	0.00	
14,000.00	90.00	179.62	12,547.00	-1,625.83	-340.79	1,623.60	0.00	0.00	0.00	
14,100.00	90.00	179.62	12,547.00	-1,725.83	-340.14	1,723.60	0.00	0.00	0.00	
14,200.00	90.00	179.62	12,547.00	-1,825.83	-339.48	1,823.60	0.00	0.00	0.00	
14,300.00	90.00	179.62	12,547.00	-1,925.82	-338.83	1,923.60	0.00	0.00	0.00	
14,400.00	90.00	179.62	12,547.00	-2,025.82	-338.17	2,023.60	0.00	0.00	0.00	
14,500.00	90.00	179.62	12,547.00	-2,125.82	-337.52	2,123.60	0.00	0.00	0.00	
14,600.00	90.00	179.62	12,547.00	-2,225.82	-336.86	2,223.60	0.00	0.00	0.00	
14,700.00	90.00	179.62	12,547.00	-2,325.82	-336.21	2,323.60	0.00	0.00	0.00	

Planning Report

Database:	XTO_EDM	Local Co-ordinate Reference:	Well 157H - Slot PLU 18 TWR 157H SHL
Company:	XTO Energy	TVD Reference:	3502+25 @ 3527.00usft (citadel1Ver)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3502+25 @ 3527.00usft (citadel1Ver)
Site:	PLU 18 TWR	North Reference:	Grid
Well:	157H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
14,800.00	90.00	179.62	12,547.00	-2,425.81	-335.55	2,423.60	0.00	0.00	0.00
14,900.00	90.00	179.62	12,547.00	-2,525.81	-334.90	2,523.60	0.00	0.00	0.00
15,000.00	90.00	179.62	12,547.00	-2,625.81	-334.24	2,623.60	0.00	0.00	0.00
15,100.00	90.00	179.62	12,547.00	-2,725.81	-333.59	2,723.60	0.00	0.00	0.00
15,200.00	90.00	179.62	12,547.00	-2,825.81	-332.93	2,823.60	0.00	0.00	0.00
15,300.00	90.00	179.62	12,547.00	-2,925.80	-332.27	2,923.60	0.00	0.00	0.00
15,400.00	90.00	179.62	12,547.00	-3,025.80	-331.62	3,023.60	0.00	0.00	0.00
15,500.00	90.00	179.62	12,547.00	-3,125.80	-330.96	3,123.60	0.00	0.00	0.00
15,600.00	90.00	179.62	12,547.00	-3,225.80	-330.31	3,223.60	0.00	0.00	0.00
15,700.00	90.00	179.62	12,547.00	-3,325.79	-329.65	3,323.60	0.00	0.00	0.00
15,800.00	90.00	179.62	12,547.00	-3,425.79	-329.00	3,423.60	0.00	0.00	0.00
15,900.00	90.00	179.62	12,547.00	-3,525.79	-328.34	3,523.60	0.00	0.00	0.00
16,000.00	90.00	179.62	12,547.00	-3,625.79	-327.69	3,623.60	0.00	0.00	0.00
16,100.00	90.00	179.62	12,547.00	-3,725.79	-327.03	3,723.60	0.00	0.00	0.00
16,200.00	90.00	179.62	12,547.00	-3,825.78	-326.38	3,823.60	0.00	0.00	0.00
16,300.00	90.00	179.62	12,547.00	-3,925.78	-325.72	3,923.60	0.00	0.00	0.00
16,400.00	90.00	179.62	12,547.00	-4,025.78	-325.07	4,023.60	0.00	0.00	0.00
16,500.00	90.00	179.62	12,547.00	-4,125.78	-324.41	4,123.60	0.00	0.00	0.00
16,600.00	90.00	179.62	12,547.00	-4,225.78	-323.75	4,223.60	0.00	0.00	0.00
16,700.00	90.00	179.62	12,547.00	-4,325.77	-323.10	4,323.60	0.00	0.00	0.00
16,800.00	90.00	179.62	12,547.00	-4,425.77	-322.44	4,423.60	0.00	0.00	0.00
16,900.00	90.00	179.62	12,547.00	-4,525.77	-321.79	4,523.60	0.00	0.00	0.00
17,000.00	90.00	179.62	12,547.00	-4,625.77	-321.13	4,623.60	0.00	0.00	0.00
17,100.00	90.00	179.62	12,547.00	-4,725.76	-320.48	4,723.60	0.00	0.00	0.00
17,200.00	90.00	179.62	12,547.00	-4,825.76	-319.82	4,823.60	0.00	0.00	0.00
17,300.00	90.00	179.62	12,547.00	-4,925.76	-319.17	4,923.60	0.00	0.00	0.00
17,400.00	90.00	179.62	12,547.00	-5,025.76	-318.51	5,023.60	0.00	0.00	0.00
17,500.00	90.00	179.62	12,547.00	-5,125.76	-317.86	5,123.60	0.00	0.00	0.00
17,600.00	90.00	179.62	12,547.00	-5,225.75	-317.20	5,223.60	0.00	0.00	0.00
17,700.00	90.00	179.62	12,547.00	-5,325.75	-316.55	5,323.60	0.00	0.00	0.00
17,800.00	90.00	179.62	12,547.00	-5,425.75	-315.89	5,423.60	0.00	0.00	0.00
17,900.00	90.00	179.62	12,547.00	-5,525.75	-315.23	5,523.60	0.00	0.00	0.00
18,000.00	90.00	179.62	12,547.00	-5,625.75	-314.58	5,623.60	0.00	0.00	0.00
18,100.00	90.00	179.62	12,547.00	-5,725.74	-313.92	5,723.60	0.00	0.00	0.00
18,200.00	90.00	179.62	12,547.00	-5,825.74	-313.27	5,823.60	0.00	0.00	0.00
18,300.00	90.00	179.62	12,547.00	-5,925.74	-312.61	5,923.60	0.00	0.00	0.00
18,400.00	90.00	179.62	12,547.00	-6,025.74	-311.96	6,023.60	0.00	0.00	0.00
18,500.00	90.00	179.62	12,547.00	-6,125.73	-311.30	6,123.60	0.00	0.00	0.00
18,600.00	90.00	179.62	12,547.00	-6,225.73	-310.65	6,223.60	0.00	0.00	0.00
18,700.00	90.00	179.62	12,547.00	-6,325.73	-309.99	6,323.60	0.00	0.00	0.00
18,800.00	90.00	179.62	12,547.00	-6,425.73	-309.34	6,423.60	0.00	0.00	0.00
18,900.00	90.00	179.62	12,547.00	-6,525.73	-308.68	6,523.60	0.00	0.00	0.00
19,000.00	90.00	179.62	12,547.00	-6,625.72	-308.03	6,623.60	0.00	0.00	0.00
19,100.00	90.00	179.62	12,547.00	-6,725.72	-307.37	6,723.60	0.00	0.00	0.00
19,200.00	90.00	179.62	12,547.00	-6,825.72	-306.71	6,823.60	0.00	0.00	0.00
19,300.00	90.00	179.62	12,547.00	-6,925.72	-306.06	6,923.60	0.00	0.00	0.00
19,400.00	90.00	179.62	12,547.00	-7,025.72	-305.40	7,023.60	0.00	0.00	0.00
19,500.00	90.00	179.62	12,547.00	-7,125.71	-304.75	7,123.60	0.00	0.00	0.00
19,600.00	90.00	179.62	12,547.00	-7,225.71	-304.09	7,223.60	0.00	0.00	0.00
19,700.00	90.00	179.62	12,547.00	-7,325.71	-303.44	7,323.60	0.00	0.00	0.00
19,800.00	90.00	179.62	12,547.00	-7,425.71	-302.78	7,423.60	0.00	0.00	0.00
19,900.00	90.00	179.62	12,547.00	-7,525.70	-302.13	7,523.60	0.00	0.00	0.00
20,000.00	90.00	179.62	12,547.00	-7,625.70	-301.47	7,623.60	0.00	0.00	0.00
20,100.00	90.00	179.62	12,547.00	-7,725.70	-300.82	7,723.60	0.00	0.00	0.00

Planning Report

Database:	XTO_EDM	Local Co-ordinate Reference:	Well 157H - Slot PLU 18 TWR 157H SHL
Company:	XTO Energy	TVD Reference:	3502+25 @ 3527.00usft (citadel1Ver)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3502+25 @ 3527.00usft (citadel1Ver)
Site:	PLU 18 TWR	North Reference:	Grid
Well:	157H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #2		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
20,200.00	90.00	179.62	12,547.00	-7,825.70	-300.16	7,823.60	0.00	0.00	0.00	
20,300.00	90.00	179.62	12,547.00	-7,925.70	-299.51	7,923.60	0.00	0.00	0.00	
20,400.00	90.00	179.62	12,547.00	-8,025.69	-298.85	8,023.60	0.00	0.00	0.00	
20,500.00	90.00	179.62	12,547.00	-8,125.69	-298.19	8,123.60	0.00	0.00	0.00	
20,600.00	90.00	179.62	12,547.00	-8,225.69	-297.54	8,223.60	0.00	0.00	0.00	
20,700.00	90.00	179.62	12,547.00	-8,325.69	-296.88	8,323.60	0.00	0.00	0.00	
20,800.00	90.00	179.62	12,547.00	-8,425.68	-296.23	8,423.60	0.00	0.00	0.00	
20,900.00	90.00	179.62	12,547.00	-8,525.68	-295.57	8,523.60	0.00	0.00	0.00	
21,000.00	90.00	179.62	12,547.00	-8,625.68	-294.92	8,623.60	0.00	0.00	0.00	
21,100.00	90.00	179.62	12,547.00	-8,725.68	-294.26	8,723.60	0.00	0.00	0.00	
21,200.00	90.00	179.62	12,547.00	-8,825.68	-293.61	8,823.60	0.00	0.00	0.00	
21,300.00	90.00	179.62	12,547.00	-8,925.67	-292.95	8,923.60	0.00	0.00	0.00	
21,400.00	90.00	179.62	12,547.00	-9,025.67	-292.30	9,023.60	0.00	0.00	0.00	
21,500.00	90.00	179.62	12,547.00	-9,125.67	-291.64	9,123.60	0.00	0.00	0.00	
21,600.00	90.00	179.62	12,547.00	-9,225.67	-290.99	9,223.60	0.00	0.00	0.00	
21,700.00	90.00	179.62	12,547.00	-9,325.67	-290.33	9,323.60	0.00	0.00	0.00	
21,800.00	90.00	179.62	12,547.00	-9,425.66	-289.67	9,423.60	0.00	0.00	0.00	
21,900.00	90.00	179.62	12,547.00	-9,525.66	-289.02	9,523.60	0.00	0.00	0.00	
22,000.00	90.00	179.62	12,547.00	-9,625.66	-288.36	9,623.60	0.00	0.00	0.00	
22,100.00	90.00	179.62	12,547.00	-9,725.66	-287.71	9,723.60	0.00	0.00	0.00	
22,200.00	90.00	179.62	12,547.00	-9,825.65	-287.05	9,823.60	0.00	0.00	0.00	
22,300.00	90.00	179.62	12,547.00	-9,925.65	-286.40	9,923.60	0.00	0.00	0.00	
22,400.00	90.00	179.62	12,547.00	-10,025.65	-285.74	10,023.60	0.00	0.00	0.00	
22,500.00	90.00	179.62	12,547.00	-10,125.65	-285.09	10,123.60	0.00	0.00	0.00	
22,600.00	90.00	179.62	12,547.00	-10,225.65	-284.43	10,223.60	0.00	0.00	0.00	
22,635.36	90.00	179.62	12,547.00	-10,261.00	-284.20	10,258.95	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude		
PLU 18 TWR 157H SHL - hit/miss target - Shape - Point	0.00	0.00	0.00	0.00	0.00	440,385.10	661,691.10	32.2096549 -103.8105503		
PLU 18 TWR 157H KOF - plan hits target center - Point	0.00	0.01	11,974.04	53.40	-351.80	440,438.50	661,339.30	32.2098064 -103.8116869		
PLU 18 TWR 157H LTP - plan misses target center by 0.05usft at 22505.45usft MD (12547.00 TVD, -10131.10 N, -285.05 E) - Point	0.00	0.00	12,547.00	-10,131.10	-285.10	430,254.00	661,406.00	32.1818094 -103.8116310		
PLU 18 TWR 157H LP - plan hits target center - Point	0.00	0.01	12,547.00	-519.54	-348.04	439,865.56	661,343.06	32.2082314 -103.8116837		
PLU 18 TWR 157H PBH - plan hits target center - Rectangle (sides W100.00 H10,034.00 D0.00)	0.00	0.00	12,547.00	-10,261.00	-284.20	430,124.10	661,406.90	32.1814523 -103.8116301		
PLU 18 TWR 157H FTP - plan misses target center by 70.58usft at 12622.61usft MD (12484.06 TVD, -258.47 N, -349.76 E) - Point	0.00	0.00	12,547.00	-226.60	-351.80	440,158.50	661,339.30	32.2090367 -103.8116913		

Planning Report

Database:	XTO_EDM	Local Co-ordinate Reference:	Well 157H - Slot PLU 18 TWR 157H SHL
Company:	XTO Energy	TVD Reference:	3502+25 @ 3527.00usft (citadel1Ver)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3502+25 @ 3527.00usft (citadel1Ver)
Site:	PLU 18 TWR	North Reference:	Grid
Well:	157H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #2		

Anticollision Report

Company:	XTO Energy	Local Co-ordinate Reference:	Well 157H - Slot PLU 18 TWR 157H SHL
Project:	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference:	3502+25 @ 3527.00usft (citadel1Ver)
Reference Site:	PLU 18 TWR	MD Reference:	3502+25 @ 3527.00usft (citadel1Ver)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	157H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral	Database:	XTO_EDM
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference	Plan #2		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 50.00usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum separation factor of 4.00	Error Surface:	Ellipsoid Separation
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	03/12/20		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	22,635.36	Plan #2 (Lateral)	MWD+IFR1+MS	OWSG MWD + IFR1 + Multi-Station Correction

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
PLU 18 TWR						
103H (Offset) - Lateral - Lateral AsDrilled						Out of range
103H (Offset) - Lateral - Offset Plan						Out of range
104H - 104H Lateral - Plan #3						Out of range
105H - Lateral - Plan #1						Out of range
107H (Offset) - Lateral - Plan Offset						Out of range
124H - 124H Lateral - Plan #5						Out of range
125H - Lateral - Plan #1						Out of range
126H - Lateral - Plan #1						Out of range
127H - Lateral - Plan #2	2,113.15	2,113.21	61.31	45.55	3.890	CC
127H - Lateral - Plan #2	2,200.00	2,199.88	61.57	45.18	3.757	ES
127H - Lateral - Plan #2	11,400.00	11,383.49	180.40	98.93	2.214	SF
128H (Offset) - Lateral - Plan Offset						Out of range
153H (Offset) - Lateral - Lateral AsDrilled						Out of range
153H (Offset) - Lateral - Offset Plan						Out of range
154H - 154H Lateral - 154H Lateral AsDrilled						Out of range
155H - Lateral - Plan #2						Out of range
164H (Offset) - Lateral - Lateral AsDrilled						Out of range
164H (Offset) - Lateral 2 - Lateral 2 AsDrilled						Out of range
Patton 18 Fed 6 (Offset) - Offset IncOnly - Offset IncOnly						Out of range
Patton 18 FED 8H (Offset) - 8H - 8H AsDrilled						Out of range
Patton MDP 1-18 Fed 23H (Offset) - Lateral - Lateral AsD						Out of range
Patton MDP 1-18 Fed 73H (Offset) - lateral - lateral AsDr						Out of range
PLU CVX JV BS 014H (Offset) - Lateral - Lateral AsDrille						Out of range
PLU CVX JV BS 35H (Offset) - Lateral - Lateral AsDrilled						Out of range
PLU CVX JV BS 36H (Offset) - Lateral - Lateral AsDrilled						Out of range

Offset Design	PLU 18 TWR - 127H - Lateral - Plan #2											Offset Site Error:	0.00 usft
Survey Program:	O-MWD+IFR1+MS											Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis			Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
2,100.00	2,097.95	2,100.09	2,099.17	8.14	8.05	-116.45	-51.77	-24.74	61.31	45.65	15.67	3.914	
2,113.15	2,111.01	2,113.21	2,112.26	8.18	8.10	-117.25	-51.27	-25.43	61.31	45.55	15.76	3.890	CC
2,150.00	2,147.62	2,149.98	2,148.96	8.30	8.23	-119.48	-49.87	-27.38	61.36	45.33	16.02	3.829	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	XTO Energy	Local Co-ordinate Reference:	Well 157H - Slot PLU 18 TWR 157H SHL
Project:	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference:	3502+25 @ 3527.00usft (citadel1Ver)
Reference Site:	PLU 18 TWR	MD Reference:	3502+25 @ 3527.00usft (citadel1Ver)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	157H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral	Database:	XTO_EDM
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design PLU 18 TWR - 127H - Lateral - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
2,200.00	2,197.28	2,199.88	2,198.74	8.46	8.40	-122.50	-47.96	-30.01	61.57	45.18	16.39	3.757	ES	
2,250.00	2,246.95	2,249.77	2,248.53	8.63	8.58	-125.49	-46.06	-32.65	61.95	45.20	16.75	3.699		
2,300.00	2,296.61	2,299.67	2,298.32	8.80	8.76	-128.43	-44.16	-35.29	62.50	45.39	17.11	3.652		
2,350.00	2,346.28	2,349.56	2,348.11	8.97	8.94	-131.32	-42.26	-37.93	63.21	45.74	17.48	3.617		
2,400.00	2,395.94	2,399.46	2,397.90	9.14	9.11	-134.13	-40.36	-40.56	64.08	46.24	17.84	3.592		
2,450.00	2,445.61	2,449.35	2,447.69	9.31	9.29	-136.86	-38.45	-43.20	65.10	46.90	18.20	3.577		
2,500.00	2,495.27	2,499.24	2,497.47	9.48	9.47	-139.51	-36.55	-45.84	66.26	47.70	18.56	3.570		
2,550.00	2,544.94	2,549.14	2,547.26	9.66	9.65	-142.05	-34.65	-48.47	67.56	48.65	18.92	3.571		
2,600.00	2,594.60	2,599.03	2,597.05	9.83	9.83	-144.50	-32.75	-51.11	68.99	49.72	19.28	3.579		
2,650.00	2,644.27	2,648.93	2,646.84	10.01	10.01	-146.84	-30.84	-53.75	70.54	50.91	19.63	3.593		
2,700.00	2,693.93	2,698.82	2,696.63	10.19	10.19	-149.08	-28.94	-56.39	72.21	52.22	19.99	3.613		
2,750.00	2,743.60	2,748.72	2,746.41	10.36	10.37	-151.22	-27.04	-59.02	73.97	53.63	20.34	3.637		
2,800.00	2,793.26	2,798.61	2,796.20	10.54	10.55	-153.25	-25.14	-61.66	75.84	55.15	20.69	3.665		
2,850.00	2,842.92	2,848.50	2,845.99	10.72	10.73	-155.19	-23.24	-64.30	77.80	56.76	21.04	3.697		
2,900.00	2,892.59	2,898.40	2,895.78	10.90	10.91	-157.02	-21.33	-66.94	79.84	58.45	21.39	3.732		
2,950.00	2,942.25	2,948.29	2,945.57	11.08	11.09	-158.77	-19.43	-69.57	81.96	60.22	21.74	3.770		
3,000.00	2,991.92	2,998.19	2,995.36	11.26	11.28	-160.42	-17.53	-72.21	84.15	62.06	22.09	3.809		
3,050.00	3,041.58	3,048.08	3,045.14	11.44	11.46	-161.99	-15.63	-74.85	86.41	63.97	22.44	3.851		
3,100.00	3,091.25	3,097.98	3,094.93	11.62	11.64	-163.48	-13.72	-77.49	88.73	65.94	22.79	3.894		
3,150.00	3,140.91	3,147.87	3,144.72	11.81	11.82	-164.90	-11.82	-80.12	91.11	67.97	23.13	3.938		
3,200.00	3,190.58	3,197.76	3,194.51	11.99	12.00	-166.24	-9.92	-82.76	93.54	70.06	23.48	3.984		
6,300.00	6,280.35	6,285.10	6,278.35	23.08	23.11	89.71	54.30	-171.80	180.00	134.67	45.33	3.971		
6,350.00	6,330.35	6,335.10	6,328.35	23.25	23.28	89.71	54.30	-171.80	180.00	134.32	45.69	3.940		
6,400.00	6,380.35	6,385.10	6,378.35	23.42	23.46	89.71	54.30	-171.80	180.00	133.96	46.04	3.910		
6,450.00	6,430.35	6,435.10	6,428.35	23.59	23.64	89.71	54.30	-171.80	180.00	133.61	46.39	3.880		
6,500.00	6,480.35	6,485.10	6,478.35	23.76	23.81	89.71	54.30	-171.80	180.00	133.25	46.75	3.851		
6,550.00	6,530.35	6,535.10	6,528.35	23.93	23.99	89.71	54.30	-171.80	180.00	132.90	47.10	3.822		
6,600.00	6,580.35	6,585.10	6,578.35	24.10	24.16	89.71	54.30	-171.80	180.00	132.55	47.46	3.793		
6,650.00	6,630.35	6,635.10	6,628.35	24.27	24.34	89.71	54.30	-171.80	180.00	132.19	47.81	3.765		
6,700.00	6,680.35	6,685.10	6,678.35	24.44	24.52	89.71	54.30	-171.80	180.00	131.84	48.16	3.737		
6,750.00	6,730.35	6,735.10	6,728.35	24.61	24.69	89.71	54.30	-171.80	180.00	131.49	48.52	3.710		
6,800.00	6,780.35	6,785.10	6,778.35	24.78	24.87	89.71	54.30	-171.80	180.00	131.13	48.87	3.683		
6,850.00	6,830.35	6,835.10	6,828.35	24.95	25.05	89.71	54.30	-171.80	180.00	130.78	49.22	3.657		
6,900.00	6,880.35	6,885.10	6,878.35	25.12	25.22	89.71	54.30	-171.80	180.00	130.42	49.58	3.631		
6,950.00	6,930.35	6,935.10	6,928.35	25.29	25.40	89.71	54.30	-171.80	180.00	130.07	49.93	3.605		
7,000.00	6,980.35	6,985.10	6,978.35	25.46	25.58	89.71	54.30	-171.80	180.00	129.71	50.29	3.579		
7,050.00	7,030.35	7,035.10	7,028.35	25.63	25.76	89.71	54.30	-171.80	180.00	129.36	50.64	3.554		
7,100.00	7,080.35	7,085.10	7,078.35	25.80	25.93	89.71	54.30	-171.80	180.00	129.01	51.00	3.530		
7,150.00	7,130.35	7,135.10	7,128.35	25.97	26.11	89.71	54.30	-171.80	180.00	128.65	51.35	3.505		
7,200.00	7,180.35	7,185.10	7,178.35	26.15	26.29	89.71	54.30	-171.80	180.00	128.30	51.71	3.481		
7,250.00	7,230.35	7,235.10	7,228.35	26.32	26.46	89.71	54.30	-171.80	180.00	127.94	52.06	3.458		
7,300.00	7,280.35	7,285.10	7,278.35	26.49	26.64	89.71	54.30	-171.80	180.00	127.59	52.41	3.434		
7,350.00	7,330.35	7,335.10	7,328.35	26.66	26.82	89.71	54.30	-171.80	180.00	127.23	52.77	3.411		
7,400.00	7,380.35	7,385.10	7,378.35	26.83	27.00	89.71	54.30	-171.80	180.00	126.88	53.12	3.388		
7,450.00	7,430.35	7,435.10	7,428.35	27.00	27.17	89.71	54.30	-171.80	180.00	126.52	53.48	3.366		
7,500.00	7,480.35	7,485.10	7,478.35	27.17	27.35	89.71	54.30	-171.80	180.00	126.17	53.83	3.344		
7,550.00	7,530.35	7,535.10	7,528.35	27.35	27.53	89.71	54.30	-171.80	180.00	125.81	54.19	3.322		
7,600.00	7,580.35	7,585.10	7,578.35	27.52	27.71	89.71	54.30	-171.80	180.00	125.46	54.54	3.300		
7,650.00	7,630.35	7,635.10	7,628.35	27.69	27.88	89.71	54.30	-171.80	180.00	125.10	54.90	3.279		
7,700.00	7,680.35	7,685.10	7,678.35	27.86	28.06	89.71	54.30	-171.80	180.00	124.75	55.25	3.258		
7,750.00	7,730.35	7,735.10	7,728.35	28.03	28.24	89.71	54.30	-171.80	180.00	124.39	55.61	3.237		
7,800.00	7,780.35	7,785.10	7,778.35	28.21	28.42	89.71	54.30	-171.80	180.00	124.04	55.96	3.216		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	XTO Energy	Local Co-ordinate Reference:	Well 157H - Slot PLU 18 TWR 157H SHL
Project:	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference:	3502+25 @ 3527.00usft (citadel1Ver)
Reference Site:	PLU 18 TWR	MD Reference:	3502+25 @ 3527.00usft (citadel1Ver)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	157H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral	Database:	XTO_EDM
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

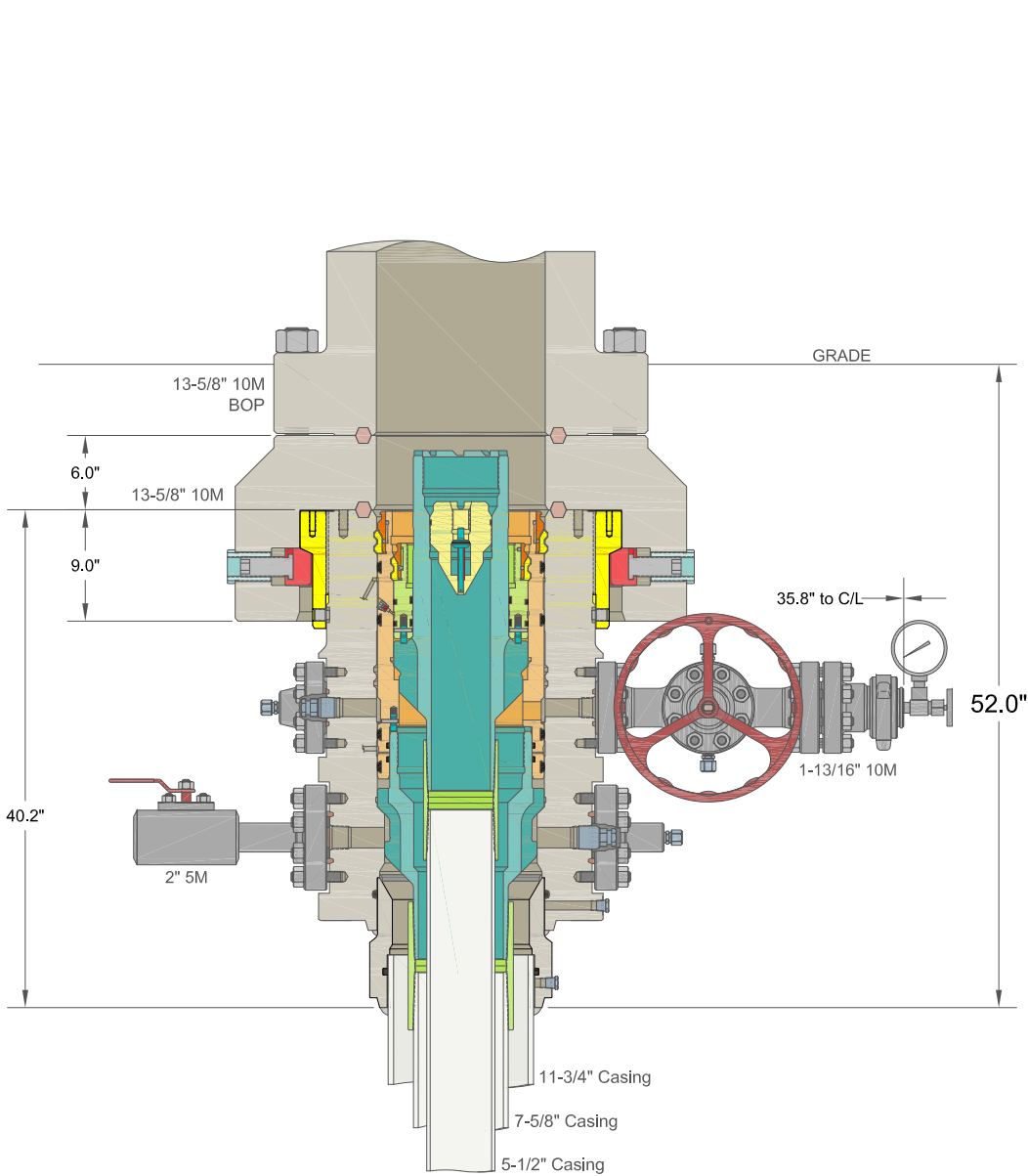
Offset Design PLU 18 TWR - 127H - Lateral - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
7,850.00	7,830.35	7,835.10	7,828.35	28.38	28.60	89.71	54.30	-171.80	180.00	123.68	56.32	3.196		
7,900.00	7,880.35	7,885.10	7,878.35	28.55	28.77	89.71	54.30	-171.80	180.00	123.33	56.67	3.176		
7,950.00	7,930.35	7,935.10	7,928.35	28.72	28.95	89.71	54.30	-171.80	180.00	122.97	57.03	3.156		
8,000.00	7,980.35	7,985.10	7,978.35	28.90	29.13	89.71	54.30	-171.80	180.00	122.62	57.38	3.137		
8,050.00	8,030.35	8,035.10	8,028.35	29.07	29.31	89.71	54.30	-171.80	180.00	122.26	57.74	3.118		
8,100.00	8,080.35	8,085.10	8,078.35	29.24	29.48	89.71	54.30	-171.80	180.00	121.91	58.09	3.098		
8,150.00	8,130.35	8,135.10	8,128.35	29.42	29.66	89.71	54.30	-171.80	180.00	121.55	58.45	3.080		
8,200.00	8,180.35	8,185.10	8,178.35	29.59	29.84	89.71	54.30	-171.80	180.00	121.20	58.80	3.061		
8,250.00	8,230.35	8,235.10	8,228.35	29.76	30.02	89.71	54.30	-171.80	180.00	120.84	59.16	3.043		
8,300.00	8,280.35	8,285.10	8,278.35	29.94	30.20	89.71	54.30	-171.80	180.00	120.49	59.52	3.024		
8,350.00	8,330.35	8,335.10	8,328.35	30.11	30.38	89.71	54.30	-171.80	180.00	120.13	59.87	3.006		
8,400.00	8,380.35	8,385.10	8,378.35	30.28	30.55	89.71	54.30	-171.80	180.00	119.78	60.23	2.989		
8,450.00	8,430.35	8,435.10	8,428.35	30.46	30.73	89.71	54.30	-171.80	180.00	119.42	60.58	2.971		
8,500.00	8,480.35	8,485.10	8,478.35	30.63	30.91	89.71	54.30	-171.80	180.00	119.06	60.94	2.954		
8,550.00	8,530.35	8,535.10	8,528.35	30.80	31.09	89.71	54.30	-171.80	180.00	118.71	61.29	2.937		
8,600.00	8,580.35	8,585.10	8,578.35	30.98	31.27	89.71	54.30	-171.80	180.00	118.35	61.65	2.920		
8,650.00	8,630.35	8,635.10	8,628.35	31.15	31.45	89.71	54.30	-171.80	180.00	118.00	62.00	2.903		
8,700.00	8,680.35	8,685.10	8,678.35	31.33	31.62	89.71	54.30	-171.80	180.00	117.64	62.36	2.886		
8,750.00	8,730.35	8,735.10	8,728.35	31.50	31.80	89.71	54.30	-171.80	180.00	117.29	62.72	2.870		
8,800.00	8,780.35	8,785.10	8,778.35	31.68	31.98	89.71	54.30	-171.80	180.00	116.93	63.07	2.854		
8,850.00	8,830.35	8,835.10	8,828.35	31.85	32.16	89.71	54.30	-171.80	180.00	116.57	63.43	2.838		
8,900.00	8,880.35	8,885.10	8,878.35	32.03	32.34	89.71	54.30	-171.80	180.00	116.22	63.78	2.822		
8,950.00	8,930.35	8,935.10	8,928.35	32.21	32.52	89.71	54.30	-171.80	180.00	115.86	64.14	2.806		
9,000.00	8,980.35	8,985.10	8,978.35	32.39	32.69	89.71	54.30	-171.80	180.00	115.51	64.50	2.791		
9,050.00	9,030.35	9,035.10	9,028.35	32.57	32.87	89.71	54.30	-171.80	180.00	115.15	64.85	2.776		
9,100.00	9,080.35	9,085.10	9,078.35	32.74	33.05	89.71	54.30	-171.80	180.00	114.80	65.21	2.760		
9,150.00	9,130.35	9,135.10	9,128.35	32.92	33.23	89.71	54.30	-171.80	180.00	114.44	65.56	2.745		
9,200.00	9,180.35	9,185.10	9,178.35	33.10	33.41	89.71	54.30	-171.80	180.00	114.08	65.92	2.731		
9,250.00	9,230.35	9,235.10	9,228.35	33.28	33.59	89.71	54.30	-171.80	180.00	113.73	66.27	2.716		
9,300.00	9,280.35	9,285.10	9,278.35	33.46	33.77	89.71	54.30	-171.80	180.00	113.37	66.63	2.701		
9,350.00	9,330.35	9,335.10	9,328.35	33.64	33.94	89.71	54.30	-171.80	180.00	113.02	66.99	2.687		
9,400.00	9,380.35	9,385.10	9,378.35	33.82	34.12	89.71	54.30	-171.80	180.00	112.66	67.34	2.673		
9,450.00	9,430.35	9,435.10	9,428.35	34.00	34.30	89.71	54.30	-171.80	180.00	112.30	67.70	2.659		
9,500.00	9,480.35	9,485.10	9,478.35	34.18	34.48	89.71	54.30	-171.80	180.00	111.95	68.06	2.645		
9,550.00	9,530.35	9,535.10	9,528.35	34.36	34.66	89.71	54.30	-171.80	180.00	111.59	68.41	2.631		
9,600.00	9,580.35	9,585.10	9,578.35	34.54	34.84	89.71	54.30	-171.80	180.00	111.23	68.77	2.618		
9,650.00	9,630.35	9,635.10	9,628.35	34.72	35.02	89.71	54.30	-171.80	180.00	110.88	69.12	2.604		
9,700.00	9,680.35	9,685.10	9,678.35	34.90	35.20	89.71	54.30	-171.80	180.00	110.52	69.48	2.591		
9,750.00	9,730.35	9,735.10	9,728.35	35.08	35.37	89.71	54.30	-171.80	180.00	110.17	69.84	2.577		
9,800.00	9,780.35	9,785.10	9,778.35	35.26	35.55	89.71	54.30	-171.80	180.00	109.81	70.19	2.564		
9,850.00	9,830.35	9,835.10	9,828.35	35.44	35.73	89.71	54.30	-171.80	180.00	109.45	70.55	2.551		
9,900.00	9,880.35	9,885.10	9,878.35	35.62	35.91	89.71	54.30	-171.80	180.00	109.10	70.91	2.539		
9,950.00	9,930.35	9,935.10	9,928.35	35.80	36.09	89.71	54.30	-171.80	180.00	108.74	71.26	2.526		
10,000.00	9,980.35	9,985.10	9,978.35	35.98	36.27	89.71	54.30	-171.80	180.00	108.38	71.62	2.513		
10,050.00	10,030.35	10,035.10	10,028.35	36.16	36.45	89.71	54.30	-171.80	180.00	108.03	71.97	2.501		
10,100.00	10,080.35	10,085.10	10,078.35	36.34	36.63	89.71	54.30	-171.80	180.00	107.67	72.33	2.489		
10,150.00	10,130.35	10,135.10	10,128.35	36.52	36.81	89.71	54.30	-171.80	180.00	107.31	72.69	2.476		
10,200.00	10,180.35	10,185.10	10,178.35	36.70	36.98	89.71	54.30	-171.80	180.00	106.96	73.04	2.464		
10,250.00	10,230.35	10,235.10	10,228.35	36.88	37.16	89.71	54.30	-171.80	180.00	106.60	73.40	2.452		
10,300.00	10,280.35	10,285.10	10,278.35	37.05	37.34	89.71	54.30	-171.80	180.00	106.25	73.76	2.440		
10,350.00	10,330.35	10,335.10	10,328.35	37.23	37.52	89.71	54.30	-171.80	180.00	105.89	74.11	2.429		
10,400.00	10,380.35	10,385.10	10,378.35	37.41	37.70	89.71	54.30	-171.80	180.00	105.53	74.47	2.417		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

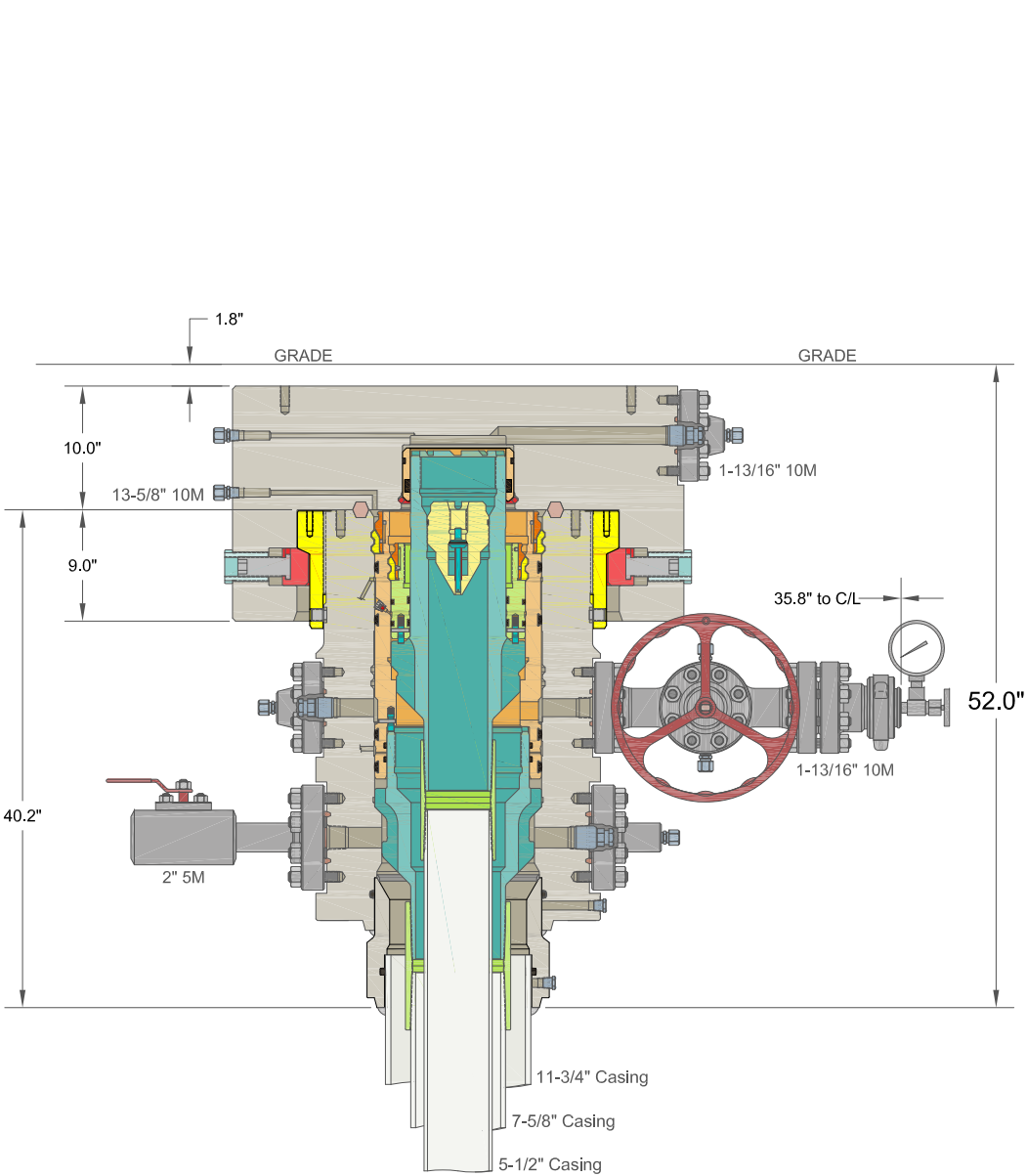
Anticollision Report

Company:	XTO Energy	Local Co-ordinate Reference:	Well 157H - Slot PLU 18 TWR 157H SHL
Project:	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference:	3502+25 @ 3527.00usft (citadel1Ver)
Reference Site:	PLU 18 TWR	MD Reference:	3502+25 @ 3527.00usft (citadel1Ver)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	157H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral	Database:	XTO_EDM
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

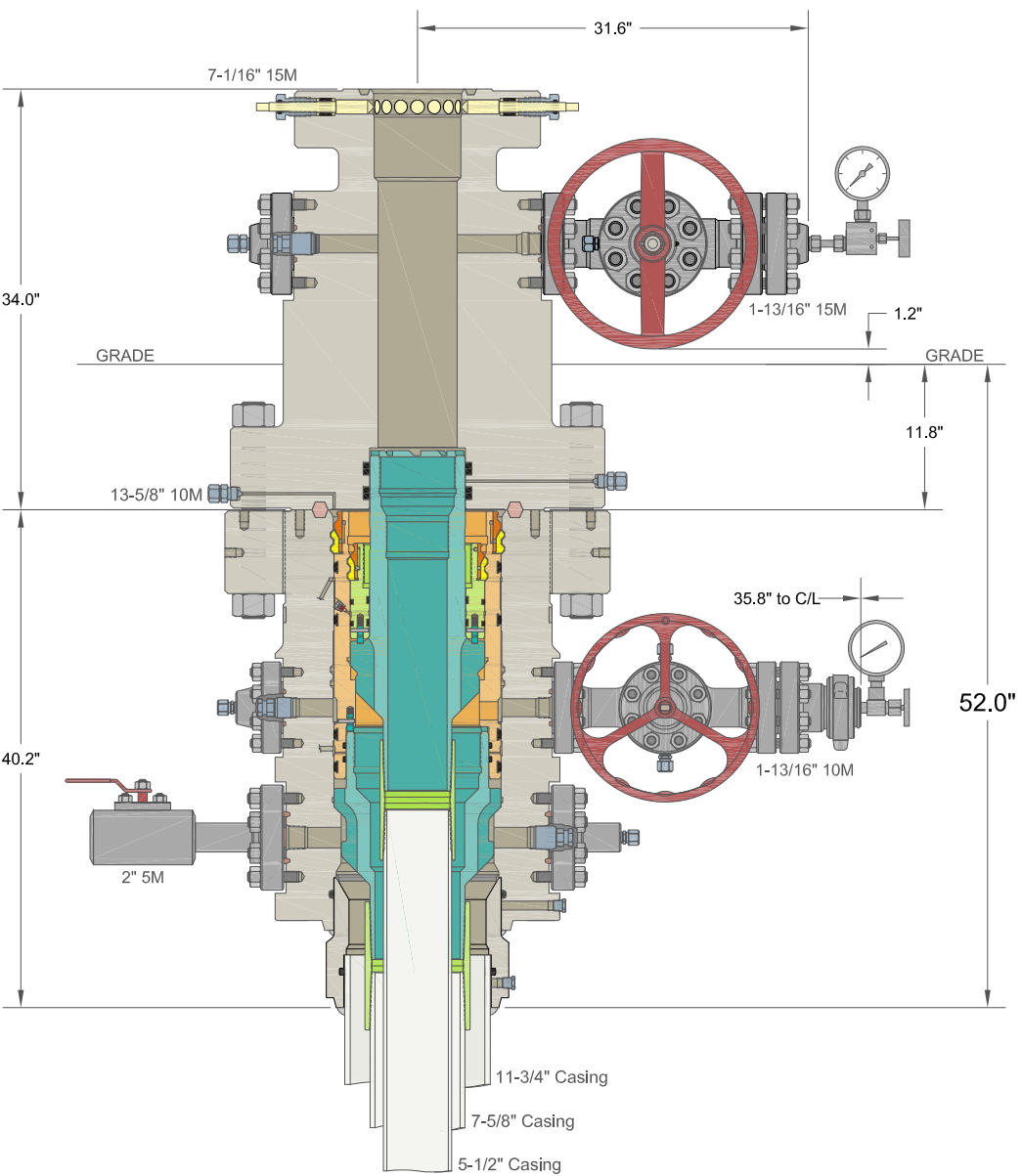
Offset Design													PLU 18 TWR - 127H - Lateral - Plan #2		Offset Site Error:		0.00 usft	
Survey Program: 0-MWD+IFR1+MS													Offset Well Error:		0.00 usft			
Reference		Offset		Semi Major Axis			Distance							Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor						
10,450.00	10,430.35	10,435.10	10,428.35	37.59	37.88	89.71	54.30	-171.80	180.00	105.18	74.83	2.406						
10,500.00	10,480.35	10,485.10	10,478.35	37.77	38.06	89.71	54.30	-171.80	180.00	104.82	75.18	2.394						
10,550.00	10,530.35	10,535.10	10,528.35	37.95	38.24	89.71	54.30	-171.80	180.00	104.46	75.54	2.383						
10,600.00	10,580.35	10,585.10	10,578.35	38.13	38.42	89.71	54.30	-171.80	180.00	104.11	75.90	2.372						
10,650.00	10,630.35	10,635.10	10,628.35	38.31	38.60	89.71	54.30	-171.80	180.00	103.75	76.25	2.361						
10,700.00	10,680.35	10,685.10	10,678.35	38.49	38.77	89.71	54.30	-171.80	180.00	103.39	76.61	2.350						
10,750.00	10,730.35	10,735.10	10,728.35	38.67	38.95	89.71	54.30	-171.80	180.00	103.04	76.97	2.339						
10,800.00	10,780.35	10,785.10	10,778.35	38.85	39.13	89.71	54.30	-171.80	180.00	102.68	77.32	2.328						
10,850.00	10,830.35	10,835.10	10,828.35	39.03	39.31	89.71	54.30	-171.80	180.00	102.32	77.68	2.317						
10,900.00	10,880.35	10,885.10	10,878.35	39.21	39.49	89.71	54.30	-171.80	180.00	101.97	78.04	2.307						
10,950.00	10,930.35	10,935.10	10,928.35	39.39	39.67	89.71	54.30	-171.80	180.00	101.61	78.39	2.296						
11,000.00	10,980.35	10,985.10	10,978.35	39.57	39.85	89.71	54.30	-171.80	180.00	101.25	78.75	2.286						
11,050.00	11,030.35	11,035.10	11,028.35	39.75	40.03	89.71	54.30	-171.80	180.00	100.90	79.11	2.275						
11,100.00	11,080.35	11,085.10	11,078.35	39.93	40.21	89.71	54.30	-171.80	180.00	100.54	79.46	2.265						
11,150.00	11,130.35	11,135.10	11,128.35	40.11	40.39	89.71	54.30	-171.80	180.00	100.18	79.82	2.255						
11,200.00	11,180.35	11,185.10	11,178.35	40.29	40.56	89.71	54.30	-171.80	180.00	99.83	80.18	2.245						
11,250.00	11,230.35	11,235.10	11,228.35	40.47	40.74	89.71	54.30	-171.80	180.00	99.47	80.53	2.235						
11,252.71	11,233.06	11,237.81	11,231.06	40.48	40.75	89.71	54.30	-171.80	180.00	99.45	80.55	2.235						
11,300.00	11,280.35	11,285.09	11,278.34	40.65	40.92	89.79	54.07	-171.80	180.00	99.12	80.88	2.225						
11,350.00	11,330.35	11,334.78	11,327.88	40.83	41.12	90.92	50.50	-171.78	180.05	98.85	81.20	2.217						
11,400.00	11,380.35	11,383.49	11,375.97	41.01	41.34	93.35	42.86	-171.73	180.40	98.93	81.47	2.214 SF						
11,450.00	11,430.35	11,430.58	11,421.69	41.19	41.57	96.90	31.61	-171.65	181.58	99.93	81.66	2.224						
11,500.00	11,480.35	11,475.53	11,464.32	41.37	41.77	101.29	17.41	-171.56	184.34	102.66	81.68	2.257						
11,550.00	11,530.35	11,517.97	11,503.44	41.54	41.95	106.21	0.96	-171.45	189.46	108.06	81.41	2.327						
11,600.00	11,580.35	11,557.69	11,538.85	41.72	42.12	111.31	-17.00	-171.33	197.70	116.96	80.74	2.449						
11,650.00	11,630.35	11,594.59	11,570.56	41.90	42.26	116.30	-35.85	-171.21	209.57	129.92	79.65	2.631						
11,700.00	11,680.35	11,628.68	11,598.73	42.08	42.38	120.97	-55.06	-171.08	225.30	147.10	78.20	2.881						
11,750.00	11,730.35	11,660.06	11,623.60	42.26	42.48	125.20	-74.18	-170.96	244.85	168.30	76.55	3.199						
11,800.00	11,780.35	11,688.88	11,645.49	42.44	42.57	128.96	-92.92	-170.84	267.97	193.15	74.82	3.582						



DRILLING



SKID



COMPLETION

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 POKER LAKE, NM	
30" x 11-3/4" x 7-5/8" x 5-1/2" MBU-3T-SF SOW Wellhead System With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS-SB Tubing Head And 7-5/8" & 5-1/2" Fluted Mandrel Casing Hangers	DRAWN	DLE	09DEC19
	APPRV		
	DRAWING NO. ODE0003261		