

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.5. Lease Serial No.
NMNM25533

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 27. If Unit or CA/Agreement, Name and/or No.
891000303X

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other8. Well Name and No.
POKER LAKE UNIT 18 TWR 127H

2. Name of Operator

XTO PERMIAN OPERATING LLC

Contact: KELLY KARDOS

E-Mail: kelly_kardos@xtoenergy.com

9. API Well No.

30-015-46909-00-X1

3a. Address

6401 HOLIDAY HILL ROAD BLDG 5
MIDLAND, TX 79707

3b. Phone No. (include area code)

Ph: 432-620-4374

10. Field and Pool or Exploratory Area
WOLFCAMP

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 19 T24S R31E NENE 175FNL 816FEL
32.209587 N Lat, 103.811035 W Lon

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			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	Change to Original APD
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> 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.

Accepted 05/18/2020 - KMS NMOCD

14. I hereby certify that the foregoing is true and correct.	
Electronic Submission #510448 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 (20PP2002SE)	
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 ****

Additional data for EC transaction #510448 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 #510448

	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	WOLFCAMP
Well/Facility:	POKER LAKE UNIT 18 TWR 127H Sec 19 T24S R31E Mer NMP NENE 175FNL 816FEL	POKER LAKE UNIT 18 TWR 127H Sec 19 T24S R31E NENE 175FNL 816FEL 32.209587 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 127H
SURFACE HOLE FOOTAGE:	0175' FNL & 0816' FEL
BOTTOM HOLE FOOTAGE:	0200' FSL & 0990' 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	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Potash	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P
Cave/Karst Potential	<input checked="" type="radio"/> Low	<input type="radio"/> Medium	<input type="radio"/> High
Cave/Karst Potential	<input type="radio"/> Critical		
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input type="radio"/> Conventional	<input type="radio"/> Multibowl	<input checked="" type="radio"/> Both
Other	<input type="checkbox"/> 4 String Area	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP
Other	<input type="checkbox"/> Fluid Filled	<input type="checkbox"/> Cement Squeeze	<input type="checkbox"/> Pilot Hole
Special Requirements	<input type="checkbox"/> Water Disposal	<input type="checkbox"/> COM	<input checked="" type="checkbox"/> 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

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

B. CASING

1. The **11-3/4** inch surface casing shall be set at approximately **907** 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 **5000 (5M)** psi.
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 - e. Whenever any seal subject to test pressure is broken, all the tests in 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 127H
 Projected TD: 21931' MD / 11843' TVD
 SHL: 175' FNL & 816' FEL , Section 19, T24S, R31E
 BHL: 200' FSL & 990' FEL , Section 30, T24S, R31E
 Eddy County, NM

Casing Design

The surface fresh water sands will be protected by setting 11-3/4" casing @ 907' (50' above the salt) and circulating cement back to surface. The 7-5/8" intermediate casing will be set at 11080' 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.

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
14-3/4"	0' – 907'	11-3/4"	54	BTC	J-55	New	1.22	5.04	17.35
9-7/8"	0' – 11080'	7-5/8"	29.7	BTC	HCL-80	New	1.58	1.95	2.08
6-3/4"	0' – 10980'	5-1/2"	23	Freedom	P-110	New	1.21	2.09	2.03
6-3/4"	10980' - 21931'	5-1/2"	23	TCSF - semi flush	HCP-110	New	1.21	2.20	2.02

- 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 for the the production casing

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

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 = 1150 psi

Intermediate Casing:

ECP/DV Tool to be set at 4777'

1st Stage

Lead: 1210 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' - 907'	14-3/4"	FW / Native	8.4-8.8	35-40	NC
907' - 11080'	9-7/8"	Brine / Cut Brine / Direct Emulsion	8.6-9.8	30-32	NC
11080' to 21931'	6-3/4"	Cut Brine / WBM / OBM	10.8-11.8	32-36	NC

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

XTO Energy Inc.
Poker Lake Unit 18 TWR 127H
Projected TD: 21931' MD / 11843' TVD
SHL: 175' FNL & 816' FEL , Section 19, T24S, R31E
BHL: 200' FSL & 990' 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	612'	Water
Top of Salt	957'	Water
Base of Salt	4077'	Water
Delaware	4277'	Water
Bone Spring	8152'	Water
1st Bone Spring Ss	9142'	Water/Oil/Gas
2nd Bone Spring Ss	9942'	Water/Oil/Gas
3rd Bone Spring Ss	11105'	Water/Oil/Gas
Wolfcamp	11507'	Water/Oil/Gas
Wolfcamp A	11657'	Water/Oil/Gas
Target/Land Curve	11843'	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 @ 907' (50' above the salt) and circulating cement back to surface. The 7-5/8" intermediate casing will be set at 11080' 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' – 907'	11-3/4"	54	BTC	J-55	New	1.22	5.04	17.35
9-7/8"	0' – 11080'	7-5/8"	29.7	BTC	HCL-80	New	1.58	1.95	2.08
6-3/4"	0' – 10980'	5-1/2"	23	Freedom	P-110	New	1.21	2.09	2.03
6-3/4"	10980' - 21931'	5-1/2"	23	TCSF - semi flush	HCP-110	New	1.21	2.20	2.02

· 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 for the the production casing

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 +/- 907'

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 +/- 11080'

ECP/DV Tool to be set at 4777'

1st Stage

Lead: 1210 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 +/- 21931'

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 5M 3-Ram BOP. MASP should not exceed 4353 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", 5M bradenhead and flange, the BOP test will be limited to 5000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 5M 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' - 907'	14-3/4"	FW / Native	8.4-8.8	35-40	NC
907' - 11080'	9-7/8"	Brine / Cut Brine / Direct Emulsion	8.6-9.8	30-32	NC
11080' to 21931'	6-3/4"	Cut Brine / WBM / OBM	10.8-11.8	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 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 11-3/4" casing.

8. Logging, Coring and Testing Program

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

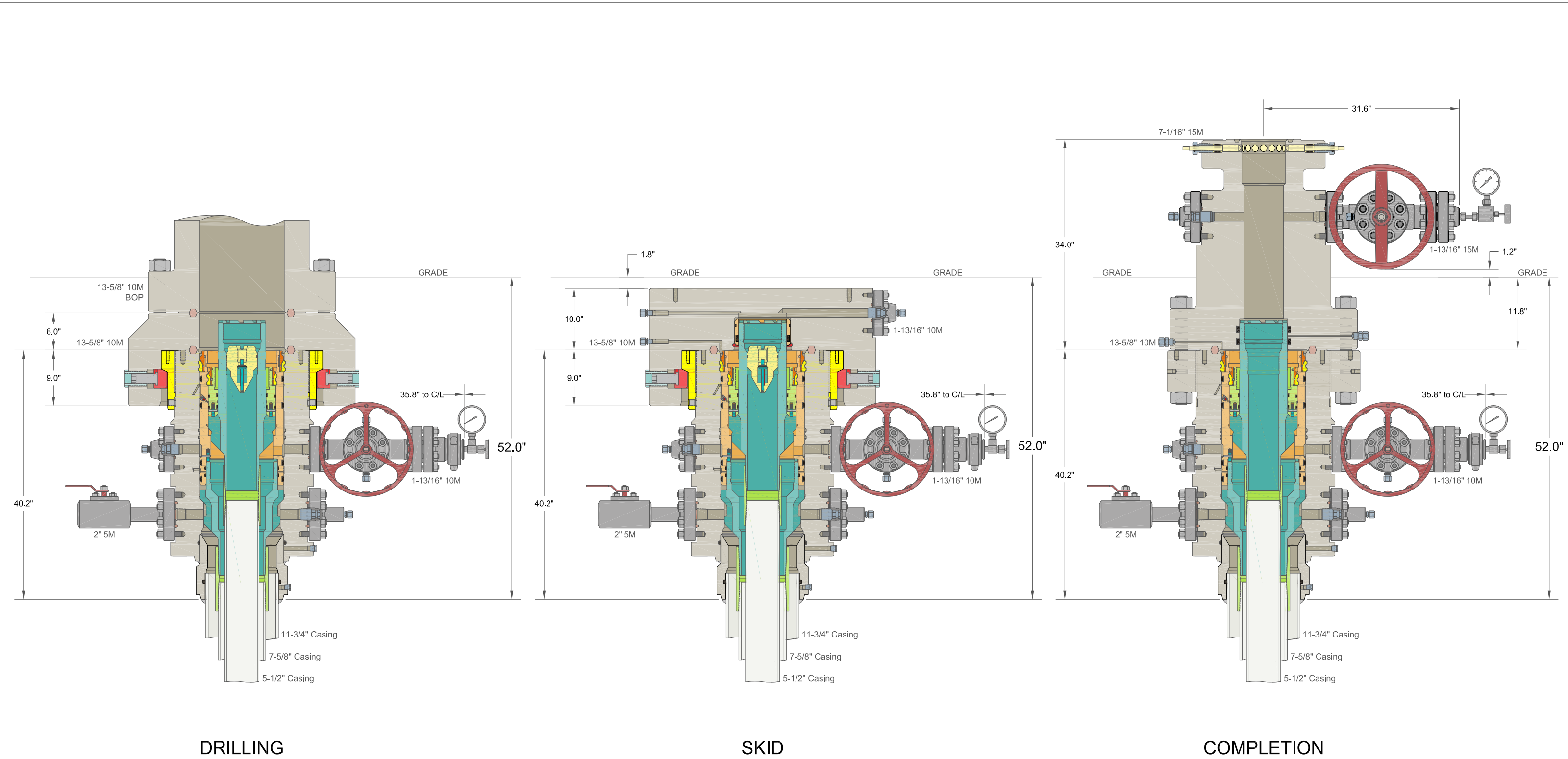
Open hole logging will not be done on this well.

9. Abnormal Pressures and Temperatures / Potential Hazards

None Anticipated. BHT of 155 to 175 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 6959 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.



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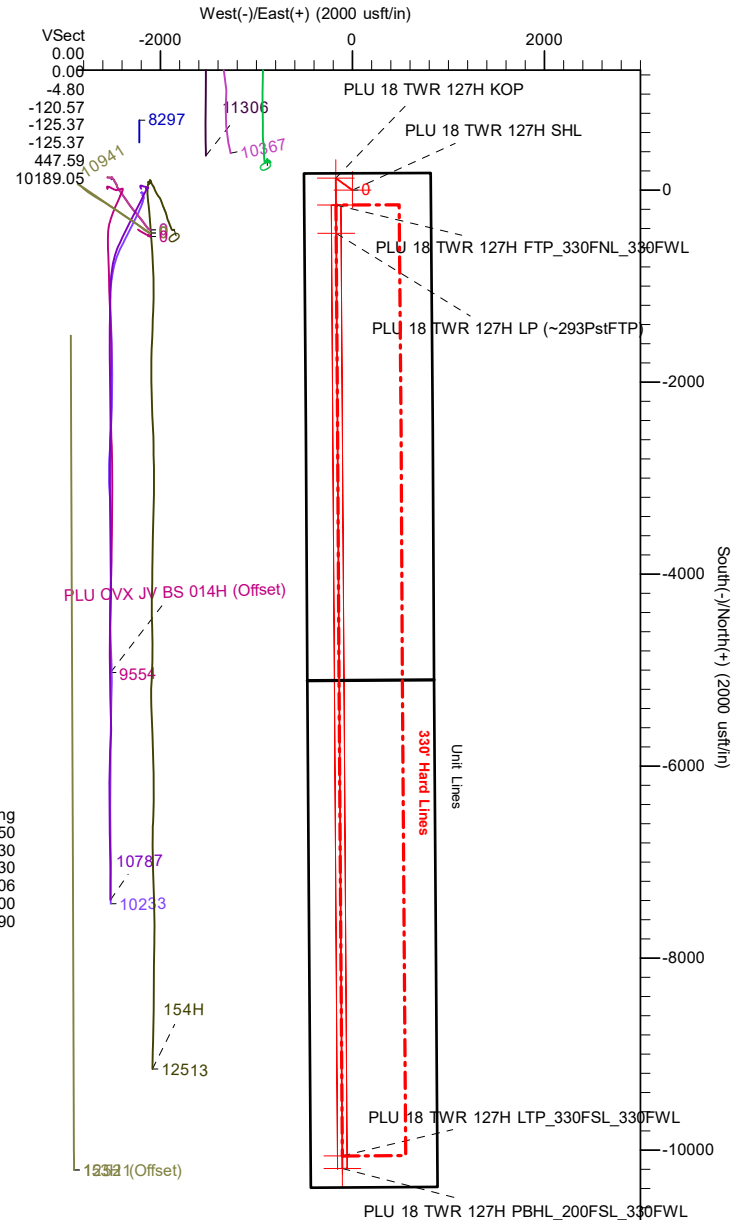
ALL DIMENSIONS APPROXIMATE			
CACTUS WELLHEAD LLC		XTO ENERGY INC POKER LAKE, NM	
30" x 11-3/4" x 7-5/8" x 5-1/2" MBU-3T-SF SOW Wellhead System With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS-SB Tubing Head And 7-5/8" & 5-1/2" Fluted Mandrel Casing Hangers	DRAWN	DLE	09DEC19
	APPRV		
	DRAWING NO. ODE0003261		

XTO Energy

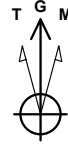
Project: Eddy County, NM (NAD27) NMEZ Grid
 Site: PLU 18 TWR
 Well: 127H
 Wellbore: Lateral
 Design: Plan #1

SECTION DETAILS

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
1749.12	3.74	305.80	1748.94	4.75	-6.59	1.50	305.80
4757.63	3.74	305.80	4751.06	119.45	-165.61	0.00	0.00
5006.75	0.00	0.00	5000.00	124.20	-172.20	1.50	180.00
11269.79	0.00	0.00	11263.04	124.20	-172.20	0.00	0.00
12169.79	90.00	179.62	11836.00	-448.74	-168.44	10.00	179.62
21911.26	90.00	179.62	11836.00	-10190.00	-104.60	0.00	0.00



3500+26 @ 3526.00usft (Citadel1)
 NAD 1927 (NADCON CONUS)

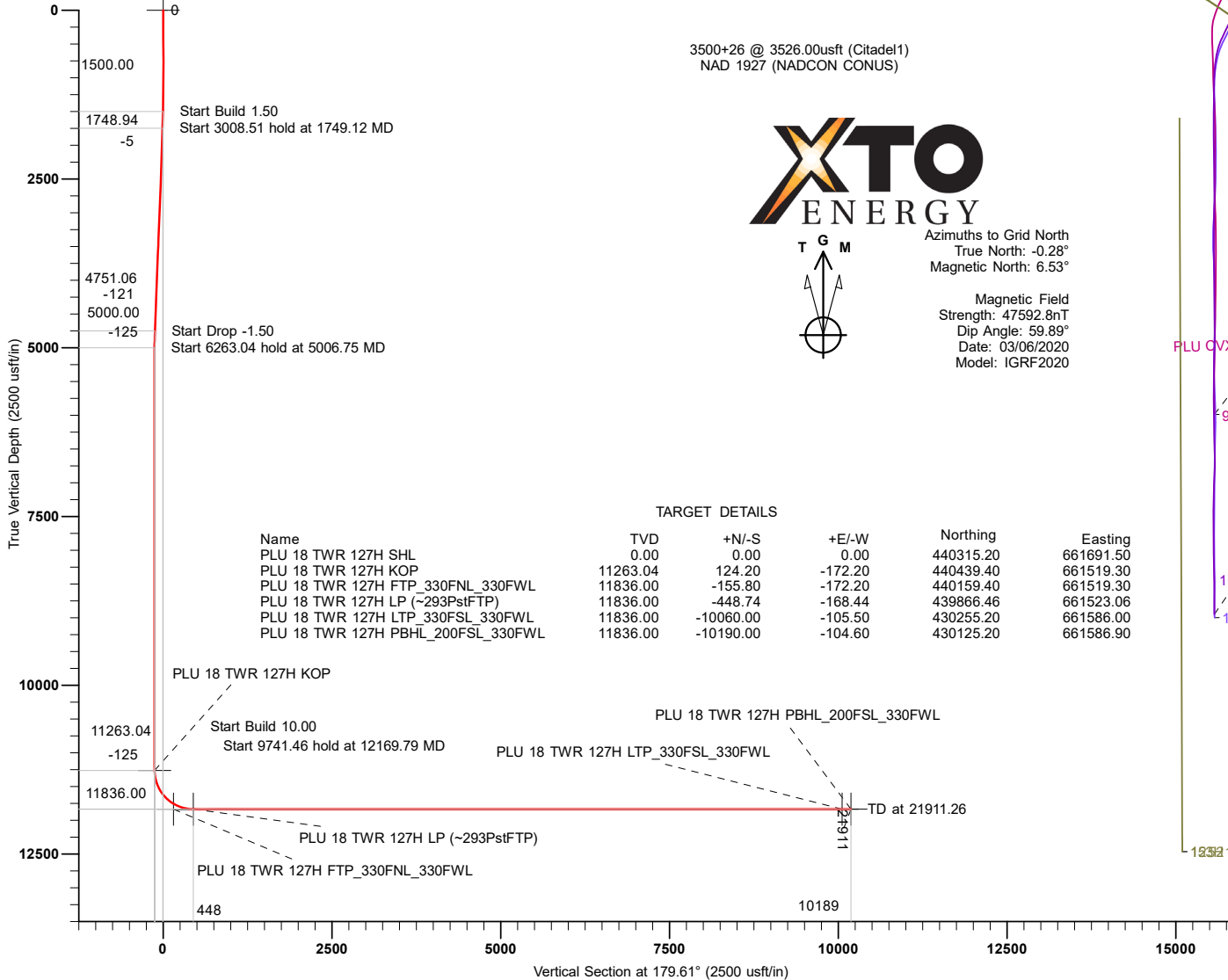


Azimuths to Grid North
 True North: -0.28°
 Magnetic North: 6.53°

Magnetic Field
 Strength: 47592.8nT
 Dip Angle: 59.89°
 Date: 03/06/2020
 Model: IGRF2020

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
PLU 18 TWR 127H SHL	0.00	0.00	0.00	440315.20	661691.50
PLU 18 TWR 127H KOP	11263.04	124.20	-172.20	440439.40	661519.30
PLU 18 TWR 127H FTP_330FNL_330FWL	11836.00	-155.80	-172.20	440159.40	661519.30
PLU 18 TWR 127H LP (~293PstFTP)	11836.00	-448.74	-168.44	439866.46	661523.06
PLU 18 TWR 127H LTP_330FSL_330FWL	11836.00	-10060.00	-105.50	430255.20	661586.00
PLU 18 TWR 127H PBHL_200FSL_330FWL	11836.00	-10190.00	-104.60	430125.20	661586.90



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)

Planning Report

Database:	XTO_EDM	Local Co-ordinate Reference:	Well 127H - Slot PLU 18 TWR 127H SHL
Company:	XTO Energy	TVD Reference:	3500+26 @ 3526.00usft (Citadel1)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3500+26 @ 3526.00usft (Citadel1)
Site:	PLU 18 TWR	North Reference:	Grid
Well:	127H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

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	127H - Slot PLU 18 TWR 127H SHL					
Well Position	+N/-S	481.60 usft	Northing:	440,315.20 usft	Latitude:	32.2094627
	+E/-W	1,857.20 usft	Easting:	661,691.50 usft	Longitude:	-103.8105501
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,500.00 usft

Wellbore	Lateral				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	03/06/20	6.80	59.89	47,592.82432513

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	179.61

Plan Survey Tool Program	Date	03/11/20		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	21,911.26 Plan #1 (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	
1,749.12	3.74	305.80	1,748.94	4.75	-6.59	1.50	1.50	0.00	305.80	
4,757.63	3.74	305.80	4,751.06	119.45	-165.61	0.00	0.00	0.00	0.00	
5,006.75	0.00	0.00	5,000.00	124.20	-172.20	1.50	-1.50	0.00	180.00	
11,269.79	0.00	0.00	11,263.04	124.20	-172.20	0.00	0.00	0.00	0.00	
12,169.79	90.00	179.62	11,836.00	-448.74	-168.44	10.00	10.00	0.00	179.62	
21,911.26	90.00	179.62	11,836.00	-10,190.00	-104.60	0.00	0.00	0.00	0.00	

Planning Report

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Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3500+26 @ 3526.00usft (Citadel1)
Site:	PLU 18 TWR	North Reference:	Grid
Well:	127H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

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	305.80	1,599.99	0.77	-1.06	-0.77	1.50	1.50	0.00
1,700.00	3.00	305.80	1,699.91	3.06	-4.25	-3.09	1.50	1.50	0.00
1,749.12	3.74	305.80	1,748.94	4.75	-6.59	-4.80	1.50	1.50	0.00
1,800.00	3.74	305.80	1,799.72	6.69	-9.28	-6.75	0.00	0.00	0.00
1,900.00	3.74	305.80	1,899.50	10.50	-14.56	-10.60	0.00	0.00	0.00
2,000.00	3.74	305.80	1,999.29	14.32	-19.85	-14.45	0.00	0.00	0.00
2,100.00	3.74	305.80	2,099.08	18.13	-25.13	-18.30	0.00	0.00	0.00
2,200.00	3.74	305.80	2,198.86	21.94	-30.42	-22.15	0.00	0.00	0.00
2,300.00	3.74	305.80	2,298.65	25.75	-35.71	-26.00	0.00	0.00	0.00
2,400.00	3.74	305.80	2,398.44	29.57	-40.99	-29.84	0.00	0.00	0.00
2,500.00	3.74	305.80	2,498.23	33.38	-46.28	-33.69	0.00	0.00	0.00
2,600.00	3.74	305.80	2,598.01	37.19	-51.56	-37.54	0.00	0.00	0.00
2,700.00	3.74	305.80	2,697.80	41.00	-56.85	-41.39	0.00	0.00	0.00
2,800.00	3.74	305.80	2,797.59	44.82	-62.14	-45.24	0.00	0.00	0.00
2,900.00	3.74	305.80	2,897.38	48.63	-67.42	-49.09	0.00	0.00	0.00
3,000.00	3.74	305.80	2,997.16	52.44	-72.71	-52.93	0.00	0.00	0.00
3,100.00	3.74	305.80	3,096.95	56.25	-77.99	-56.78	0.00	0.00	0.00
3,200.00	3.74	305.80	3,196.74	60.07	-83.28	-60.63	0.00	0.00	0.00
3,300.00	3.74	305.80	3,296.53	63.88	-88.56	-64.48	0.00	0.00	0.00
3,400.00	3.74	305.80	3,396.31	67.69	-93.85	-68.33	0.00	0.00	0.00
3,500.00	3.74	305.80	3,496.10	71.50	-99.14	-72.18	0.00	0.00	0.00
3,600.00	3.74	305.80	3,595.89	75.32	-104.42	-76.02	0.00	0.00	0.00
3,700.00	3.74	305.80	3,695.68	79.13	-109.71	-79.87	0.00	0.00	0.00
3,800.00	3.74	305.80	3,795.46	82.94	-114.99	-83.72	0.00	0.00	0.00
3,900.00	3.74	305.80	3,895.25	86.75	-120.28	-87.57	0.00	0.00	0.00
4,000.00	3.74	305.80	3,995.04	90.56	-125.57	-91.42	0.00	0.00	0.00
4,100.00	3.74	305.80	4,094.83	94.38	-130.85	-95.27	0.00	0.00	0.00
4,200.00	3.74	305.80	4,194.61	98.19	-136.14	-99.11	0.00	0.00	0.00
4,300.00	3.74	305.80	4,294.40	102.00	-141.42	-102.96	0.00	0.00	0.00
4,400.00	3.74	305.80	4,394.19	105.81	-146.71	-106.81	0.00	0.00	0.00
4,500.00	3.74	305.80	4,493.98	109.63	-152.00	-110.66	0.00	0.00	0.00
4,600.00	3.74	305.80	4,593.76	113.44	-157.28	-114.51	0.00	0.00	0.00
4,700.00	3.74	305.80	4,693.55	117.25	-162.57	-118.36	0.00	0.00	0.00
4,757.63	3.74	305.80	4,751.06	119.45	-165.61	-120.57	0.00	0.00	0.00
4,800.00	3.10	305.80	4,793.35	120.93	-167.66	-122.07	1.50	-1.50	0.00
4,900.00	1.60	305.80	4,893.26	123.33	-170.99	-124.49	1.50	-1.50	0.00
5,006.75	0.00	0.00	5,000.00	124.20	-172.20	-125.37	1.50	-1.50	0.00
5,100.00	0.00	0.00	5,093.25	124.20	-172.20	-125.37	0.00	0.00	0.00

Planning Report

Database:	XTO_EDM	Local Co-ordinate Reference:	Well 127H - Slot PLU 18 TWR 127H SHL
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Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3500+26 @ 3526.00usft (Citadel1)
Site:	PLU 18 TWR	North Reference:	Grid
Well:	127H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

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)
5,200.00	0.00	0.00	5,193.25	124.20	-172.20	-125.37	0.00	0.00	0.00
5,300.00	0.00	0.00	5,293.25	124.20	-172.20	-125.37	0.00	0.00	0.00
5,400.00	0.00	0.00	5,393.25	124.20	-172.20	-125.37	0.00	0.00	0.00
5,500.00	0.00	0.00	5,493.25	124.20	-172.20	-125.37	0.00	0.00	0.00
5,600.00	0.00	0.00	5,593.25	124.20	-172.20	-125.37	0.00	0.00	0.00
5,700.00	0.00	0.00	5,693.25	124.20	-172.20	-125.37	0.00	0.00	0.00
5,800.00	0.00	0.00	5,793.25	124.20	-172.20	-125.37	0.00	0.00	0.00
5,900.00	0.00	0.00	5,893.25	124.20	-172.20	-125.37	0.00	0.00	0.00
6,000.00	0.00	0.00	5,993.25	124.20	-172.20	-125.37	0.00	0.00	0.00
6,100.00	0.00	0.00	6,093.25	124.20	-172.20	-125.37	0.00	0.00	0.00
6,200.00	0.00	0.00	6,193.25	124.20	-172.20	-125.37	0.00	0.00	0.00
6,300.00	0.00	0.00	6,293.25	124.20	-172.20	-125.37	0.00	0.00	0.00
6,400.00	0.00	0.00	6,393.25	124.20	-172.20	-125.37	0.00	0.00	0.00
6,500.00	0.00	0.00	6,493.25	124.20	-172.20	-125.37	0.00	0.00	0.00
6,600.00	0.00	0.00	6,593.25	124.20	-172.20	-125.37	0.00	0.00	0.00
6,700.00	0.00	0.00	6,693.25	124.20	-172.20	-125.37	0.00	0.00	0.00
6,800.00	0.00	0.00	6,793.25	124.20	-172.20	-125.37	0.00	0.00	0.00
6,900.00	0.00	0.00	6,893.25	124.20	-172.20	-125.37	0.00	0.00	0.00
7,000.00	0.00	0.00	6,993.25	124.20	-172.20	-125.37	0.00	0.00	0.00
7,100.00	0.00	0.00	7,093.25	124.20	-172.20	-125.37	0.00	0.00	0.00
7,200.00	0.00	0.00	7,193.25	124.20	-172.20	-125.37	0.00	0.00	0.00
7,300.00	0.00	0.00	7,293.25	124.20	-172.20	-125.37	0.00	0.00	0.00
7,400.00	0.00	0.00	7,393.25	124.20	-172.20	-125.37	0.00	0.00	0.00
7,500.00	0.00	0.00	7,493.25	124.20	-172.20	-125.37	0.00	0.00	0.00
7,600.00	0.00	0.00	7,593.25	124.20	-172.20	-125.37	0.00	0.00	0.00
7,700.00	0.00	0.00	7,693.25	124.20	-172.20	-125.37	0.00	0.00	0.00
7,800.00	0.00	0.00	7,793.25	124.20	-172.20	-125.37	0.00	0.00	0.00
7,900.00	0.00	0.00	7,893.25	124.20	-172.20	-125.37	0.00	0.00	0.00
8,000.00	0.00	0.00	7,993.25	124.20	-172.20	-125.37	0.00	0.00	0.00
8,100.00	0.00	0.00	8,093.25	124.20	-172.20	-125.37	0.00	0.00	0.00
8,200.00	0.00	0.00	8,193.25	124.20	-172.20	-125.37	0.00	0.00	0.00
8,300.00	0.00	0.00	8,293.25	124.20	-172.20	-125.37	0.00	0.00	0.00
8,400.00	0.00	0.00	8,393.25	124.20	-172.20	-125.37	0.00	0.00	0.00
8,500.00	0.00	0.00	8,493.25	124.20	-172.20	-125.37	0.00	0.00	0.00
8,600.00	0.00	0.00	8,593.25	124.20	-172.20	-125.37	0.00	0.00	0.00
8,700.00	0.00	0.00	8,693.25	124.20	-172.20	-125.37	0.00	0.00	0.00
8,800.00	0.00	0.00	8,793.25	124.20	-172.20	-125.37	0.00	0.00	0.00
8,900.00	0.00	0.00	8,893.25	124.20	-172.20	-125.37	0.00	0.00	0.00
9,000.00	0.00	0.00	8,993.25	124.20	-172.20	-125.37	0.00	0.00	0.00
9,100.00	0.00	0.00	9,093.25	124.20	-172.20	-125.37	0.00	0.00	0.00
9,200.00	0.00	0.00	9,193.25	124.20	-172.20	-125.37	0.00	0.00	0.00
9,300.00	0.00	0.00	9,293.25	124.20	-172.20	-125.37	0.00	0.00	0.00
9,400.00	0.00	0.00	9,393.25	124.20	-172.20	-125.37	0.00	0.00	0.00
9,500.00	0.00	0.00	9,493.25	124.20	-172.20	-125.37	0.00	0.00	0.00
9,600.00	0.00	0.00	9,593.25	124.20	-172.20	-125.37	0.00	0.00	0.00
9,700.00	0.00	0.00	9,693.25	124.20	-172.20	-125.37	0.00	0.00	0.00
9,800.00	0.00	0.00	9,793.25	124.20	-172.20	-125.37	0.00	0.00	0.00
9,900.00	0.00	0.00	9,893.25	124.20	-172.20	-125.37	0.00	0.00	0.00
10,000.00	0.00	0.00	9,993.25	124.20	-172.20	-125.37	0.00	0.00	0.00
10,100.00	0.00	0.00	10,093.25	124.20	-172.20	-125.37	0.00	0.00	0.00
10,200.00	0.00	0.00	10,193.25	124.20	-172.20	-125.37	0.00	0.00	0.00
10,300.00	0.00	0.00	10,293.25	124.20	-172.20	-125.37	0.00	0.00	0.00
10,400.00	0.00	0.00	10,393.25	124.20	-172.20	-125.37	0.00	0.00	0.00
10,500.00	0.00	0.00	10,493.25	124.20	-172.20	-125.37	0.00	0.00	0.00

Planning Report

Database:	XTO_EDM	Local Co-ordinate Reference:	Well 127H - Slot PLU 18 TWR 127H SHL
Company:	XTO Energy	TVD Reference:	3500+26 @ 3526.00usft (Citadel1)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3500+26 @ 3526.00usft (Citadel1)
Site:	PLU 18 TWR	North Reference:	Grid
Well:	127H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

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)
10,600.00	0.00	0.00	10,593.25	124.20	-172.20	-125.37	0.00	0.00	0.00
10,700.00	0.00	0.00	10,693.25	124.20	-172.20	-125.37	0.00	0.00	0.00
10,800.00	0.00	0.00	10,793.25	124.20	-172.20	-125.37	0.00	0.00	0.00
10,900.00	0.00	0.00	10,893.25	124.20	-172.20	-125.37	0.00	0.00	0.00
11,000.00	0.00	0.00	10,993.25	124.20	-172.20	-125.37	0.00	0.00	0.00
11,100.00	0.00	0.00	11,093.25	124.20	-172.20	-125.37	0.00	0.00	0.00
11,200.00	0.00	0.00	11,193.25	124.20	-172.20	-125.37	0.00	0.00	0.00
11,269.79	0.00	0.00	11,263.04	124.20	-172.20	-125.37	0.00	0.00	0.00
11,300.00	3.02	179.62	11,293.24	123.40	-172.19	-124.57	10.00	10.00	0.00
11,350.00	8.02	179.62	11,342.99	118.60	-172.16	-119.76	10.00	10.00	0.00
11,400.00	13.02	179.62	11,392.13	109.47	-172.10	-110.64	10.00	10.00	0.00
11,450.00	18.02	179.62	11,440.29	96.09	-172.02	-97.26	10.00	10.00	0.00
11,500.00	23.02	179.62	11,487.11	78.57	-171.90	-79.74	10.00	10.00	0.00
11,550.00	28.02	179.62	11,532.21	57.04	-171.76	-58.21	10.00	10.00	0.00
11,600.00	33.02	179.62	11,575.27	31.65	-171.59	-32.82	10.00	10.00	0.00
11,650.00	38.02	179.62	11,615.95	2.61	-171.40	-3.78	10.00	10.00	0.00
11,700.00	43.02	179.62	11,653.95	-29.86	-171.19	28.70	10.00	10.00	0.00
11,750.00	48.02	179.62	11,688.97	-65.52	-170.96	64.36	10.00	10.00	0.00
11,800.00	53.02	179.62	11,720.75	-104.10	-170.70	102.94	10.00	10.00	0.00
11,850.00	58.02	179.62	11,749.05	-145.31	-170.43	144.14	10.00	10.00	0.00
11,900.00	63.02	179.62	11,773.65	-188.82	-170.15	187.66	10.00	10.00	0.00
11,950.00	68.02	179.62	11,794.36	-234.31	-169.85	233.15	10.00	10.00	0.00
12,000.00	73.02	179.62	11,811.03	-281.43	-169.54	280.27	10.00	10.00	0.00
12,050.00	78.02	179.62	11,823.52	-329.83	-169.22	328.67	10.00	10.00	0.00
12,100.00	83.02	179.62	11,831.75	-379.13	-168.90	377.97	10.00	10.00	0.00
12,150.00	88.02	179.62	11,835.66	-428.96	-168.57	427.80	10.00	10.00	0.00
12,169.79	90.00	179.62	11,836.00	-448.74	-168.44	447.59	10.00	10.00	0.00
12,200.00	90.00	179.62	11,836.00	-478.95	-168.25	477.80	0.00	0.00	0.00
12,300.00	90.00	179.62	11,836.00	-578.95	-167.59	577.80	0.00	0.00	0.00
12,400.00	90.00	179.62	11,836.00	-678.95	-166.94	677.80	0.00	0.00	0.00
12,500.00	90.00	179.62	11,836.00	-778.95	-166.28	777.80	0.00	0.00	0.00
12,600.00	90.00	179.62	11,836.00	-878.94	-165.63	877.80	0.00	0.00	0.00
12,700.00	90.00	179.62	11,836.00	-978.94	-164.97	977.80	0.00	0.00	0.00
12,800.00	90.00	179.62	11,836.00	-1,078.94	-164.31	1,077.80	0.00	0.00	0.00
12,900.00	90.00	179.62	11,836.00	-1,178.94	-163.66	1,177.80	0.00	0.00	0.00
13,000.00	90.00	179.62	11,836.00	-1,278.94	-163.00	1,277.80	0.00	0.00	0.00
13,100.00	90.00	179.62	11,836.00	-1,378.93	-162.35	1,377.80	0.00	0.00	0.00
13,200.00	90.00	179.62	11,836.00	-1,478.93	-161.69	1,477.80	0.00	0.00	0.00
13,300.00	90.00	179.62	11,836.00	-1,578.93	-161.04	1,577.80	0.00	0.00	0.00
13,400.00	90.00	179.62	11,836.00	-1,678.93	-160.38	1,677.80	0.00	0.00	0.00
13,500.00	90.00	179.62	11,836.00	-1,778.92	-159.73	1,777.80	0.00	0.00	0.00
13,600.00	90.00	179.62	11,836.00	-1,878.92	-159.07	1,877.80	0.00	0.00	0.00
13,700.00	90.00	179.62	11,836.00	-1,978.92	-158.42	1,977.80	0.00	0.00	0.00
13,800.00	90.00	179.62	11,836.00	-2,078.92	-157.76	2,077.80	0.00	0.00	0.00
13,900.00	90.00	179.62	11,836.00	-2,178.92	-157.11	2,177.80	0.00	0.00	0.00
14,000.00	90.00	179.62	11,836.00	-2,278.91	-156.45	2,277.80	0.00	0.00	0.00
14,100.00	90.00	179.62	11,836.00	-2,378.91	-155.79	2,377.80	0.00	0.00	0.00
14,200.00	90.00	179.62	11,836.00	-2,478.91	-155.14	2,477.80	0.00	0.00	0.00
14,300.00	90.00	179.62	11,836.00	-2,578.91	-154.48	2,577.80	0.00	0.00	0.00
14,400.00	90.00	179.62	11,836.00	-2,678.91	-153.83	2,677.80	0.00	0.00	0.00
14,500.00	90.00	179.62	11,836.00	-2,778.90	-153.17	2,777.80	0.00	0.00	0.00
14,600.00	90.00	179.62	11,836.00	-2,878.90	-152.52	2,877.80	0.00	0.00	0.00
14,700.00	90.00	179.62	11,836.00	-2,978.90	-151.86	2,977.80	0.00	0.00	0.00
14,800.00	90.00	179.62	11,836.00	-3,078.90	-151.21	3,077.80	0.00	0.00	0.00

Planning Report

Database:	XTO_EDM	Local Co-ordinate Reference:	Well 127H - Slot PLU 18 TWR 127H SHL
Company:	XTO Energy	TVD Reference:	3500+26 @ 3526.00usft (Citadel1)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3500+26 @ 3526.00usft (Citadel1)
Site:	PLU 18 TWR	North Reference:	Grid
Well:	127H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

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)
14,900.00	90.00	179.62	11,836.00	-3,178.89	-150.55	3,177.80	0.00	0.00	0.00
15,000.00	90.00	179.62	11,836.00	-3,278.89	-149.90	3,277.80	0.00	0.00	0.00
15,100.00	90.00	179.62	11,836.00	-3,378.89	-149.24	3,377.80	0.00	0.00	0.00
15,200.00	90.00	179.62	11,836.00	-3,478.89	-148.59	3,477.80	0.00	0.00	0.00
15,300.00	90.00	179.62	11,836.00	-3,578.89	-147.93	3,577.80	0.00	0.00	0.00
15,400.00	90.00	179.62	11,836.00	-3,678.88	-147.27	3,677.80	0.00	0.00	0.00
15,500.00	90.00	179.62	11,836.00	-3,778.88	-146.62	3,777.80	0.00	0.00	0.00
15,600.00	90.00	179.62	11,836.00	-3,878.88	-145.96	3,877.80	0.00	0.00	0.00
15,700.00	90.00	179.62	11,836.00	-3,978.88	-145.31	3,977.80	0.00	0.00	0.00
15,800.00	90.00	179.62	11,836.00	-4,078.88	-144.65	4,077.80	0.00	0.00	0.00
15,900.00	90.00	179.62	11,836.00	-4,178.87	-144.00	4,177.80	0.00	0.00	0.00
16,000.00	90.00	179.62	11,836.00	-4,278.87	-143.34	4,277.80	0.00	0.00	0.00
16,100.00	90.00	179.62	11,836.00	-4,378.87	-142.69	4,377.80	0.00	0.00	0.00
16,200.00	90.00	179.62	11,836.00	-4,478.87	-142.03	4,477.80	0.00	0.00	0.00
16,300.00	90.00	179.62	11,836.00	-4,578.86	-141.38	4,577.80	0.00	0.00	0.00
16,400.00	90.00	179.62	11,836.00	-4,678.86	-140.72	4,677.80	0.00	0.00	0.00
16,500.00	90.00	179.62	11,836.00	-4,778.86	-140.06	4,777.80	0.00	0.00	0.00
16,600.00	90.00	179.62	11,836.00	-4,878.86	-139.41	4,877.80	0.00	0.00	0.00
16,700.00	90.00	179.62	11,836.00	-4,978.86	-138.75	4,977.80	0.00	0.00	0.00
16,800.00	90.00	179.62	11,836.00	-5,078.85	-138.10	5,077.80	0.00	0.00	0.00
16,900.00	90.00	179.62	11,836.00	-5,178.85	-137.44	5,177.80	0.00	0.00	0.00
17,000.00	90.00	179.62	11,836.00	-5,278.85	-136.79	5,277.80	0.00	0.00	0.00
17,100.00	90.00	179.62	11,836.00	-5,378.85	-136.13	5,377.80	0.00	0.00	0.00
17,200.00	90.00	179.62	11,836.00	-5,478.85	-135.48	5,477.80	0.00	0.00	0.00
17,300.00	90.00	179.62	11,836.00	-5,578.84	-134.82	5,577.80	0.00	0.00	0.00
17,400.00	90.00	179.62	11,836.00	-5,678.84	-134.17	5,677.80	0.00	0.00	0.00
17,500.00	90.00	179.62	11,836.00	-5,778.84	-133.51	5,777.80	0.00	0.00	0.00
17,600.00	90.00	179.62	11,836.00	-5,878.84	-132.86	5,877.80	0.00	0.00	0.00
17,700.00	90.00	179.62	11,836.00	-5,978.83	-132.20	5,977.80	0.00	0.00	0.00
17,800.00	90.00	179.62	11,836.00	-6,078.83	-131.54	6,077.80	0.00	0.00	0.00
17,900.00	90.00	179.62	11,836.00	-6,178.83	-130.89	6,177.80	0.00	0.00	0.00
18,000.00	90.00	179.62	11,836.00	-6,278.83	-130.23	6,277.80	0.00	0.00	0.00
18,100.00	90.00	179.62	11,836.00	-6,378.83	-129.58	6,377.80	0.00	0.00	0.00
18,200.00	90.00	179.62	11,836.00	-6,478.82	-128.92	6,477.80	0.00	0.00	0.00
18,300.00	90.00	179.62	11,836.00	-6,578.82	-128.27	6,577.80	0.00	0.00	0.00
18,400.00	90.00	179.62	11,836.00	-6,678.82	-127.61	6,677.80	0.00	0.00	0.00
18,500.00	90.00	179.62	11,836.00	-6,778.82	-126.96	6,777.80	0.00	0.00	0.00
18,600.00	90.00	179.62	11,836.00	-6,878.82	-126.30	6,877.80	0.00	0.00	0.00
18,700.00	90.00	179.62	11,836.00	-6,978.81	-125.65	6,977.80	0.00	0.00	0.00
18,800.00	90.00	179.62	11,836.00	-7,078.81	-124.99	7,077.80	0.00	0.00	0.00
18,900.00	90.00	179.62	11,836.00	-7,178.81	-124.34	7,177.80	0.00	0.00	0.00
19,000.00	90.00	179.62	11,836.00	-7,278.81	-123.68	7,277.80	0.00	0.00	0.00
19,100.00	90.00	179.62	11,836.00	-7,378.80	-123.02	7,377.80	0.00	0.00	0.00
19,200.00	90.00	179.62	11,836.00	-7,478.80	-122.37	7,477.80	0.00	0.00	0.00
19,300.00	90.00	179.62	11,836.00	-7,578.80	-121.71	7,577.80	0.00	0.00	0.00
19,400.00	90.00	179.62	11,836.00	-7,678.80	-121.06	7,677.80	0.00	0.00	0.00
19,500.00	90.00	179.62	11,836.00	-7,778.80	-120.40	7,777.80	0.00	0.00	0.00
19,600.00	90.00	179.62	11,836.00	-7,878.79	-119.75	7,877.80	0.00	0.00	0.00
19,700.00	90.00	179.62	11,836.00	-7,978.79	-119.09	7,977.80	0.00	0.00	0.00
19,800.00	90.00	179.62	11,836.00	-8,078.79	-118.44	8,077.80	0.00	0.00	0.00
19,900.00	90.00	179.62	11,836.00	-8,178.79	-117.78	8,177.80	0.00	0.00	0.00
20,000.00	90.00	179.62	11,836.00	-8,278.79	-117.13	8,277.80	0.00	0.00	0.00
20,100.00	90.00	179.62	11,836.00	-8,378.78	-116.47	8,377.80	0.00	0.00	0.00
20,200.00	90.00	179.62	11,836.00	-8,478.78	-115.82	8,477.80	0.00	0.00	0.00

Planning Report

Database:	XTO_EDM	Local Co-ordinate Reference:	Well 127H - Slot PLU 18 TWR 127H SHL
Company:	XTO Energy	TVD Reference:	3500+26 @ 3526.00usft (Citadel1)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3500+26 @ 3526.00usft (Citadel1)
Site:	PLU 18 TWR	North Reference:	Grid
Well:	127H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

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)	
20,300.00	90.00	179.62	11,836.00	-8,578.78	-115.16	8,577.80	0.00	0.00	0.00	
20,400.00	90.00	179.62	11,836.00	-8,678.78	-114.50	8,677.80	0.00	0.00	0.00	
20,500.00	90.00	179.62	11,836.00	-8,778.77	-113.85	8,777.80	0.00	0.00	0.00	
20,600.00	90.00	179.62	11,836.00	-8,878.77	-113.19	8,877.80	0.00	0.00	0.00	
20,700.00	90.00	179.62	11,836.00	-8,978.77	-112.54	8,977.80	0.00	0.00	0.00	
20,800.00	90.00	179.62	11,836.00	-9,078.77	-111.88	9,077.80	0.00	0.00	0.00	
20,900.00	90.00	179.62	11,836.00	-9,178.77	-111.23	9,177.80	0.00	0.00	0.00	
21,000.00	90.00	179.62	11,836.00	-9,278.76	-110.57	9,277.80	0.00	0.00	0.00	
21,100.00	90.00	179.62	11,836.00	-9,378.76	-109.92	9,377.80	0.00	0.00	0.00	
21,200.00	90.00	179.62	11,836.00	-9,478.76	-109.26	9,477.80	0.00	0.00	0.00	
21,300.00	90.00	179.62	11,836.00	-9,578.76	-108.61	9,577.80	0.00	0.00	0.00	
21,400.00	90.00	179.62	11,836.00	-9,678.76	-107.95	9,677.80	0.00	0.00	0.00	
21,500.00	90.00	179.62	11,836.00	-9,778.75	-107.30	9,777.80	0.00	0.00	0.00	
21,600.00	90.00	179.62	11,836.00	-9,878.75	-106.64	9,877.80	0.00	0.00	0.00	
21,700.00	90.00	179.62	11,836.00	-9,978.75	-105.98	9,977.80	0.00	0.00	0.00	
21,800.00	90.00	179.62	11,836.00	-10,078.75	-105.33	10,077.80	0.00	0.00	0.00	
21,900.00	90.00	179.62	11,836.00	-10,178.74	-104.67	10,177.80	0.00	0.00	0.00	
21,911.26	90.00	179.62	11,836.00	-10,190.00	-104.60	10,189.05	0.00	0.00	0.00	

Design Targets										
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
PLU 18 TWR 127H SHL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	440,315.20	661,691.50	32.2094627	-103.8105501	
PLU 18 TWR 127H KOF - plan hits target center - Point	0.00	0.00	11,263.04	124.20	-172.20	440,439.40	661,519.30	32.2098064	-103.8111049	
PLU 18 TWR 127H PBH - plan hits target center - Rectangle (sides W100.00 H10,034.00 D0.00)	0.00	0.00	11,836.00	-10,190.00	-104.60	430,125.20	661,586.90	32.1814529	-103.8110483	
PLU 18 TWR 127H LP (- - plan hits target center - Point	0.00	0.00	11,836.00	-448.74	-168.44	439,866.46	661,523.06	32.2082314	-103.8111017	
PLU 18 TWR 127H FTP - plan misses target center by 70.59usft at 11900.00usft MD (11773.65 TVD, -188.82 N, -170.15 E) - Point	0.00	0.00	11,836.00	-155.80	-172.20	440,159.40	661,519.30	32.2090367	-103.8111093	
PLU 18 TWR 127H LTP - plan misses target center by 0.05usft at 21781.25usft MD (11836.00 TVD, -10060.00 N, -105.45 E) - Point	0.00	0.00	11,836.00	-10,060.00	-105.50	430,255.20	661,586.00	32.1818103	-103.8110492	

Anticollision Report

Company:	XTO Energy	Local Co-ordinate Reference:	Well 127H - Slot PLU 18 TWR 127H SHL
Project:	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference:	3500+26 @ 3526.00usft (Citadel1)
Reference Site:	PLU 18 TWR	MD Reference:	3500+26 @ 3526.00usft (Citadel1)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	127H	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 #1	Offset TVD Reference:	Offset Datum

Reference	Plan #1		
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	03/11/20		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	21,911.26	Plan #1 (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 - 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	17,250.00	17,256.05	442.00	331.49	3.999	CC
107H (Offset) - Lateral - Plan Offset	21,911.26	21,917.31	442.64	269.97	2.563	ES, SF
124H - 124H Lateral - Plan #5						Out of range
125H - Lateral - Plan #1						Out of range
126H - Lateral - Plan #1	21,910.96	21,793.27	672.69	497.03	3.830	CC
126H - Lateral - Plan #1	21,911.26	21,793.27	672.69	497.03	3.829	ES, SF
128H (Offset) - Lateral - Plan Offset	21,100.00	21,326.38	664.10	497.80	3.993	CC
128H (Offset) - Lateral - Plan Offset	21,911.26	22,137.63	664.25	487.11	3.750	ES, SF
153H (Offset) - Lateral - Lateral AsDrilled						Out of range
154H - 154H Lateral - 154H Lateral AsDrilled						Out of range
155H - Lateral - Plan #1						Out of range
157H - Lateral - Plan #1	2,113.21	2,113.15	61.31	45.55	3.891	CC
157H - Lateral - Plan #1	2,200.00	2,199.75	61.57	45.19	3.759	ES
157H - Lateral - Plan #1	11,400.00	11,413.78	180.63	99.04	2.214	SF
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

Anticollision Report

Company:	XTO Energy	Local Co-ordinate Reference:	Well 127H - Slot PLU 18 TWR 127H SHL
Project:	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference:	3500+26 @ 3526.00usft (Citadel1)
Reference Site:	PLU 18 TWR	MD Reference:	3500+26 @ 3526.00usft (Citadel1)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	127H	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 #1	Offset TVD Reference:	Offset Datum

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						
Poker Lake Unit 18 TWR						
102H - 102H lateral - 102H lateral AsDrilled						Out of range
122H - 122H Lateral - 122H Lateral AsDrilled						Out of range
152H (Offset) - 152H ST - 152H ST AsDrilled						Out of range
152H (Offset) - 152offset - 152offset AsDrilled						Out of range
162H - 162H Lateral - 162H Lateral AsDrilled						Out of range
PLU 83 (Offset) - OH - OH IncOnly						Out of range
PLU 98 (Offset) - OH - OH IncOnly						Out of range
PLU80 (Offset) - OH - OH IncOnly						Out of range
PLU86 (Offset) - OH - OH IncOnly						Out of range
PLU99Q (Offset) - OH - OH IncOnly						Out of range

Offset Design													PLU 18 TWR - 107H (Offset) - Lateral - Plan Offset		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					
17,250.00	11,836.00	17,256.05	11,538.00	59.29	59.26	-48.13	-5,526.63	194.00	442.00	331.49	110.52	3.999	CC				
17,300.00	11,836.00	17,306.05	11,538.00	59.56	59.54	-48.13	-5,576.63	194.34	442.01	330.89	111.12	3.978					
17,350.00	11,836.00	17,356.05	11,538.00	59.83	59.82	-48.13	-5,626.62	194.67	442.02	330.29	111.73	3.956					
17,400.00	11,836.00	17,406.05	11,538.00	60.11	60.09	-48.13	-5,676.62	195.01	442.02	329.69	112.33	3.935					
17,450.00	11,836.00	17,456.05	11,538.00	60.38	60.37	-48.14	-5,726.62	195.35	442.03	329.09	112.94	3.914					
17,500.00	11,836.00	17,506.05	11,538.00	60.66	60.65	-48.14	-5,776.62	195.68	442.04	328.49	113.55	3.893					
17,550.00	11,836.00	17,556.05	11,538.00	60.93	60.93	-48.14	-5,826.62	196.02	442.04	327.88	114.17	3.872					
17,600.00	11,836.00	17,606.05	11,538.00	61.21	61.22	-48.14	-5,876.62	196.36	442.05	327.27	114.78	3.851					
17,650.00	11,836.00	17,656.05	11,538.00	61.49	61.50	-48.14	-5,926.62	196.69	442.06	326.66	115.40	3.831					
17,700.00	11,836.00	17,706.05	11,538.00	61.77	61.78	-48.14	-5,976.62	197.03	442.07	326.05	116.02	3.810					
17,750.00	11,836.00	17,756.05	11,538.00	62.05	62.07	-48.14	-6,026.62	197.37	442.07	325.43	116.64	3.790					
17,800.00	11,836.00	17,806.05	11,538.00	62.33	62.35	-48.14	-6,076.61	197.70	442.08	324.82	117.26	3.770					
17,850.00	11,836.00	17,856.05	11,538.00	62.61	62.64	-48.14	-6,126.61	198.04	442.09	324.20	117.88	3.750					
17,900.00	11,836.00	17,906.05	11,538.00	62.90	62.93	-48.14	-6,176.61	198.38	442.09	323.58	118.51	3.730					
17,950.00	11,836.00	17,956.05	11,538.00	63.18	63.22	-48.14	-6,226.61	198.72	442.10	322.96	119.14	3.711					
18,000.00	11,836.00	18,006.05	11,538.00	63.47	63.51	-48.14	-6,276.61	199.05	442.11	322.34	119.77	3.691					
18,050.00	11,836.00	18,056.05	11,538.00	63.75	63.80	-48.15	-6,326.61	199.39	442.11	321.71	120.40	3.672					
18,100.00	11,836.00	18,106.05	11,538.00	64.04	64.09	-48.15	-6,376.61	199.73	442.12	321.09	121.03	3.653					
18,150.00	11,836.00	18,156.05	11,538.00	64.33	64.39	-48.15	-6,426.61	200.06	442.13	320.46	121.67	3.634					
18,200.00	11,836.00	18,206.05	11,538.00	64.62	64.68	-48.15	-6,476.61	200.40	442.13	319.83	122.30	3.615					
18,250.00	11,836.00	18,256.05	11,538.00	64.91	64.98	-48.15	-6,526.60	200.74	442.14	319.20	122.94	3.596					
18,300.00	11,836.00	18,306.05	11,538.00	65.20	65.27	-48.15	-6,576.60	201.07	442.15	318.57	123.58	3.578					
18,350.00	11,836.00	18,356.05	11,538.00	65.50	65.57	-48.15	-6,626.60	201.41	442.15	317.93	124.22	3.559					
18,400.00	11,836.00	18,406.05	11,538.00	65.79	65.87	-48.15	-6,676.60	201.75	442.16	317.30	124.86	3.541					
18,450.00	11,836.00	18,456.05	11,538.00	66.09	66.17	-48.15	-6,726.60	202.08	442.17	316.66	125.51	3.523					
18,500.00	11,836.00	18,506.05	11,538.00	66.38	66.47	-48.15	-6,776.60	202.42	442.17	316.02	126.15	3.505					
18,550.00	11,836.00	18,556.05	11,538.00	66.68	66.77	-48.15	-6,826.60	202.76	442.18	315.38	126.80	3.487					
18,600.00	11,836.00	18,606.05	11,538.00	66.97	67.07	-48.15	-6,876.60	203.09	442.19	314.74	127.44	3.470					
18,650.00	11,836.00	18,656.05	11,538.00	67.27	67.37	-48.15	-6,926.60	203.43	442.19	314.10	128.09	3.452					
18,700.00	11,836.00	18,706.05	11,538.00	67.57	67.67	-48.16	-6,976.59	203.77	442.20	313.46	128.74	3.435					
18,750.00	11,836.00	18,756.05	11,538.00	67.87	67.98	-48.16	-7,026.59	204.10	442.21	312.81	129.40	3.417					
18,800.00	11,836.00	18,806.05	11,538.00	68.17	68.28	-48.16	-7,076.59	204.44	442.22	312.17	130.05	3.400					
18,850.00	11,836.00	18,856.05	11,538.00	68.47	68.59	-48.16	-7,126.59	204.78	442.22	311.52	130.71	3.383					

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 127H - Slot PLU 18 TWR 127H SHL
Project:	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference:	3500+26 @ 3526.00usft (Citadel1)
Reference Site:	PLU 18 TWR	MD Reference:	3500+26 @ 3526.00usft (Citadel1)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	127H	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 #1	Offset TVD Reference:	Offset Datum

Offset Design PLU 18 TWR - 107H (Offset) - Lateral - Plan Offset													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		
18,900.00	11,836.00	18,906.05	11,538.00	68.78	68.90	-48.16	-7,176.59	205.12	442.23	310.87	131.36	3.367		
18,950.00	11,836.00	18,956.05	11,538.00	69.08	69.20	-48.16	-7,226.59	205.45	442.24	310.22	132.02	3.350		
19,000.00	11,836.00	19,006.05	11,538.00	69.38	69.51	-48.16	-7,276.59	205.79	442.24	309.57	132.68	3.333		
19,050.00	11,836.00	19,056.05	11,538.00	69.69	69.82	-48.16	-7,326.59	206.13	442.25	308.91	133.34	3.317		
19,100.00	11,836.00	19,106.05	11,538.00	69.99	70.13	-48.16	-7,376.58	206.46	442.26	308.26	134.00	3.300		
19,150.00	11,836.00	19,156.05	11,538.00	70.30	70.44	-48.16	-7,426.58	206.80	442.26	307.60	134.66	3.284		
19,200.00	11,836.00	19,206.05	11,538.00	70.61	70.75	-48.16	-7,476.58	207.14	442.27	306.95	135.32	3.268		
19,250.00	11,836.00	19,256.05	11,538.00	70.91	71.06	-48.16	-7,526.58	207.47	442.28	306.29	135.99	3.252		
19,300.00	11,836.00	19,306.05	11,538.00	71.22	71.37	-48.17	-7,576.58	207.81	442.28	305.63	136.65	3.237		
19,350.00	11,836.00	19,356.05	11,538.00	71.53	71.68	-48.17	-7,626.58	208.15	442.29	304.97	137.32	3.221		
19,400.00	11,836.00	19,406.05	11,538.00	71.84	72.00	-48.17	-7,676.58	208.48	442.30	304.31	137.99	3.205		
19,450.00	11,836.00	19,456.05	11,538.00	72.15	72.31	-48.17	-7,726.58	208.82	442.30	303.65	138.66	3.190		
19,500.00	11,836.00	19,506.05	11,538.00	72.46	72.63	-48.17	-7,776.58	209.16	442.31	302.98	139.33	3.175		
19,550.00	11,836.00	19,556.05	11,538.00	72.78	72.94	-48.17	-7,826.57	209.49	442.32	302.32	140.00	3.159		
19,600.00	11,836.00	19,606.05	11,538.00	73.09	73.26	-48.17	-7,876.57	209.83	442.32	301.65	140.67	3.144		
19,650.00	11,836.00	19,656.05	11,538.00	73.40	73.58	-48.17	-7,926.57	210.17	442.33	300.99	141.34	3.129		
19,700.00	11,836.00	19,706.05	11,538.00	73.72	73.89	-48.17	-7,976.57	210.50	442.34	300.32	142.02	3.115		
19,750.00	11,836.00	19,756.05	11,538.00	74.03	74.21	-48.17	-8,026.57	210.84	442.34	299.65	142.69	3.100		
19,800.00	11,836.00	19,806.05	11,538.00	74.35	74.53	-48.17	-8,076.57	211.18	442.35	298.98	143.37	3.085		
19,850.00	11,836.00	19,856.05	11,538.00	74.66	74.85	-48.17	-8,126.57	211.52	442.36	298.31	144.05	3.071		
19,900.00	11,836.00	19,906.05	11,538.00	74.98	75.17	-48.17	-8,176.57	211.85	442.37	297.64	144.72	3.057		
19,950.00	11,836.00	19,956.05	11,538.00	75.30	75.49	-48.18	-8,226.57	212.19	442.37	296.97	145.40	3.042		
20,000.00	11,836.00	20,006.05	11,538.00	75.61	75.81	-48.18	-8,276.56	212.53	442.38	296.30	146.08	3.028		
20,050.00	11,836.00	20,056.05	11,538.00	75.93	76.13	-48.18	-8,326.56	212.86	442.39	295.62	146.76	3.014		
20,100.00	11,836.00	20,106.05	11,538.00	76.25	76.45	-48.18	-8,376.56	213.20	442.39	294.95	147.45	3.000		
20,150.00	11,836.00	20,156.05	11,538.00	76.57	76.78	-48.18	-8,426.56	213.54	442.40	294.27	148.13	2.987		
20,200.00	11,836.00	20,206.05	11,538.00	76.89	77.10	-48.18	-8,476.56	213.87	442.41	293.59	148.81	2.973		
20,250.00	11,836.00	20,256.05	11,538.00	77.21	77.42	-48.18	-8,526.56	214.21	442.41	292.92	149.50	2.959		
20,300.00	11,836.00	20,306.05	11,538.00	77.53	77.75	-48.18	-8,576.56	214.55	442.42	292.24	150.18	2.946		
20,350.00	11,836.00	20,356.05	11,538.00	77.85	78.07	-48.18	-8,626.56	214.88	442.43	291.56	150.87	2.933		
20,400.00	11,836.00	20,406.05	11,538.00	78.18	78.40	-48.18	-8,676.56	215.22	442.43	290.88	151.56	2.919		
20,450.00	11,836.00	20,456.05	11,538.00	78.50	78.72	-48.18	-8,726.55	215.56	442.44	290.20	152.24	2.906		
20,500.00	11,836.00	20,506.05	11,538.00	78.82	79.05	-48.18	-8,776.55	215.89	442.45	289.51	152.93	2.893		
20,550.00	11,836.00	20,556.05	11,538.00	79.15	79.38	-48.18	-8,826.55	216.23	442.45	288.83	153.62	2.880		
20,600.00	11,836.00	20,606.05	11,538.00	79.47	79.70	-48.19	-8,876.55	216.57	442.46	288.15	154.31	2.867		
20,650.00	11,836.00	20,656.05	11,538.00	79.80	80.03	-48.19	-8,926.55	216.90	442.47	287.46	155.00	2.855		
20,700.00	11,836.00	20,706.05	11,538.00	80.12	80.36	-48.19	-8,976.55	217.24	442.47	286.78	155.70	2.842		
20,750.00	11,836.00	20,756.05	11,538.00	80.45	80.69	-48.19	-9,026.55	217.58	442.48	286.09	156.39	2.829		
20,800.00	11,836.00	20,806.05	11,538.00	80.77	81.02	-48.19	-9,076.55	217.92	442.49	285.41	157.08	2.817		
20,850.00	11,836.00	20,856.05	11,538.00	81.10	81.35	-48.19	-9,126.55	218.25	442.49	284.72	157.78	2.805		
20,900.00	11,836.00	20,906.05	11,538.00	81.43	81.68	-48.19	-9,176.54	218.59	442.50	284.03	158.47	2.792		
20,950.00	11,836.00	20,956.05	11,538.00	81.76	82.01	-48.19	-9,226.54	218.93	442.51	283.34	159.17	2.780		
21,000.00	11,836.00	21,006.05	11,538.00	82.09	82.34	-48.19	-9,276.54	219.26	442.52	282.65	159.86	2.768		
21,050.00	11,836.00	21,056.05	11,538.00	82.41	82.67	-48.19	-9,326.54	219.60	442.52	281.96	160.56	2.756		
21,100.00	11,836.00	21,106.05	11,538.00	82.74	83.00	-48.19	-9,376.54	219.94	442.53	281.27	161.26	2.744		
21,150.00	11,836.00	21,156.05	11,538.00	83.07	83.34	-48.19	-9,426.54	220.27	442.54	280.58	161.96	2.732		
21,200.00	11,836.00	21,206.05	11,538.00	83.40	83.67	-48.20	-9,476.54	220.61	442.54	279.89	162.66	2.721		
21,250.00	11,836.00	21,256.05	11,538.00	83.73	84.00	-48.20	-9,526.54	220.95	442.55	279.19	163.36	2.709		
21,300.00	11,836.00	21,306.05	11,538.00	84.07	84.34	-48.20	-9,576.54	221.28	442.56	278.50	164.06	2.698		
21,350.00	11,836.00	21,356.05	11,538.00	84.40	84.67	-48.20	-9,626.53	221.62	442.56	277.80	164.76	2.686		
21,400.00	11,836.00	21,406.05	11,538.00	84.73	85.00	-48.20	-9,676.53	221.96	442.57	277.11	165.46	2.675		
21,450.00	11,836.00	21,456.05	11,538.00	85.06	85.34	-48.20	-9,726.53	222.29	442.58	276.41	166.16	2.664		

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 127H - Slot PLU 18 TWR 127H SHL
Project:	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference:	3500+26 @ 3526.00usft (Citadel1)
Reference Site:	PLU 18 TWR	MD Reference:	3500+26 @ 3526.00usft (Citadel1)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	127H	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 #1	Offset TVD Reference:	Offset Datum

Offset Design PLU 18 TWR - 107H (Offset) - Lateral - Plan Offset												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	
21,500.00	11,836.00	21,506.05	11,538.00	85.39	85.68	-48.20	-9,776.53	222.63	442.58	275.72	166.87	2.652	
21,550.00	11,836.00	21,556.05	11,538.00	85.73	86.01	-48.20	-9,826.53	222.97	442.59	275.02	167.57	2.641	
21,600.00	11,836.00	21,606.05	11,538.00	86.06	86.35	-48.20	-9,876.53	223.30	442.60	274.32	168.27	2.630	
21,650.00	11,836.00	21,656.05	11,538.00	86.40	86.68	-48.20	-9,926.53	223.64	442.60	273.62	168.98	2.619	
21,700.00	11,836.00	21,706.05	11,538.00	86.73	87.02	-48.20	-9,976.53	223.98	442.61	272.93	169.68	2.608	
21,750.00	11,836.00	21,756.05	11,538.00	87.07	87.36	-48.20	-10,026.52	224.32	442.62	272.23	170.39	2.598	
21,800.00	11,836.00	21,806.05	11,538.00	87.40	87.69	-48.20	-10,076.52	224.65	442.62	271.53	171.10	2.587	
21,850.00	11,836.00	21,856.05	11,538.00	87.74	88.03	-48.21	-10,126.52	224.99	442.63	270.83	171.80	2.576	
21,900.00	11,836.00	21,906.05	11,538.00	88.07	88.37	-48.21	-10,176.52	225.33	442.64	270.13	172.51	2.566	
21,911.26	11,836.00	21,917.31	11,538.00	88.15	88.45	-48.21	-10,187.78	225.40	442.64	269.97	172.67	2.563 ES, SF	

Anticollision Report

Company:	XTO Energy	Local Co-ordinate Reference:	Well 127H - Slot PLU 18 TWR 127H SHL
Project:	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference:	3500+26 @ 3526.00usft (Citadel1)
Reference Site:	PLU 18 TWR	MD Reference:	3500+26 @ 3526.00usft (Citadel1)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	127H	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 #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
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	Warning
21,400.00	11,836.00	21,282.47	11,707.00	84.73	84.33	78.86	-9,683.21	-768.05	672.79	503.99	168.80	3.986	
21,450.00	11,836.00	21,332.47	11,707.00	85.06	84.66	78.86	-9,733.21	-767.71	672.78	503.31	169.47	3.970	
21,500.00	11,836.00	21,382.47	11,707.00	85.39	84.99	78.86	-9,783.21	-767.37	672.77	502.63	170.14	3.954	
21,550.00	11,836.00	21,432.47	11,707.00	85.73	85.32	78.86	-9,833.21	-767.03	672.76	501.95	170.81	3.939	
21,600.00	11,836.00	21,482.47	11,707.00	86.06	85.66	78.86	-9,883.20	-766.70	672.75	501.27	171.48	3.923	
21,650.00	11,836.00	21,532.47	11,707.00	86.40	85.99	78.86	-9,933.20	-766.36	672.74	500.59	172.15	3.908	
21,700.00	11,836.00	21,582.47	11,707.00	86.73	86.32	78.86	-9,983.20	-766.02	672.73	499.91	172.82	3.893	
21,750.00	11,836.00	21,632.47	11,707.00	87.07	86.66	78.86	-10,033.20	-765.68	672.72	499.23	173.49	3.878	
21,800.00	11,836.00	21,682.47	11,707.00	87.40	86.99	78.86	-10,083.20	-765.35	672.71	498.55	174.17	3.863	
21,850.00	11,836.00	21,732.47	11,707.00	87.74	87.33	78.86	-10,133.20	-765.01	672.70	497.87	174.84	3.848	
21,900.00	11,836.00	21,782.47	11,707.00	88.07	87.66	78.86	-10,183.20	-764.67	672.70	497.18	175.51	3.833	
21,910.96	11,836.00	21,793.27	11,707.00	88.15	87.74	78.86	-10,194.00	-764.60	672.69	497.03	175.66	3.830 CC	
21,911.26	11,836.00	21,793.27	11,707.00	88.15	87.74	78.86	-10,194.00	-764.60	672.69	497.03	175.66	3.829 ES, SF	

Anticollision Report

Company:	XTO Energy	Local Co-ordinate Reference:	Well 127H - Slot PLU 18 TWR 127H SHL
Project:	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference:	3500+26 @ 3526.00usft (Citadel1)
Reference Site:	PLU 18 TWR	MD Reference:	3500+26 @ 3526.00usft (Citadel1)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	127H	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 #1	Offset TVD Reference:	Offset Datum

Offset Design													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		
21,100.00	11,836.00	21,326.38	11,758.00	82.74	83.70	-83.52	-9,374.32	549.92	664.10	497.80	166.30	3.993 CC		
21,150.00	11,836.00	21,376.38	11,758.00	83.07	84.03	-83.52	-9,424.32	550.26	664.11	497.15	166.97	3.978		
21,200.00	11,836.00	21,426.38	11,758.00	83.40	84.36	-83.52	-9,474.31	550.60	664.12	496.49	167.63	3.962		
21,250.00	11,836.00	21,476.38	11,758.00	83.73	84.70	-83.52	-9,524.31	550.93	664.13	495.84	168.29	3.946		
21,300.00	11,836.00	21,526.38	11,758.00	84.07	85.03	-83.52	-9,574.31	551.27	664.14	495.19	168.96	3.931		
21,350.00	11,836.00	21,576.38	11,758.00	84.40	85.36	-83.52	-9,624.31	551.61	664.15	494.53	169.62	3.915		
21,400.00	11,836.00	21,626.38	11,758.00	84.73	85.69	-83.52	-9,674.31	551.95	664.16	493.87	170.29	3.900		
21,450.00	11,836.00	21,676.38	11,758.00	85.06	86.03	-83.52	-9,724.31	552.28	664.17	493.21	170.95	3.885		
21,500.00	11,836.00	21,726.38	11,758.00	85.39	86.36	-83.52	-9,774.31	552.62	664.18	492.56	171.62	3.870		
21,550.00	11,836.00	21,776.38	11,758.00	85.73	86.69	-83.52	-9,824.31	552.96	664.19	491.90	172.29	3.855		
21,600.00	11,836.00	21,826.38	11,758.00	86.06	87.03	-83.52	-9,874.31	553.29	664.20	491.24	172.96	3.840		
21,650.00	11,836.00	21,876.38	11,758.00	86.40	87.36	-83.52	-9,924.30	553.63	664.20	490.57	173.63	3.825		
21,700.00	11,836.00	21,926.38	11,758.00	86.73	87.70	-83.52	-9,974.30	553.97	664.21	489.91	174.30	3.811		
21,750.00	11,836.00	21,976.38	11,758.00	87.07	88.03	-83.52	-10,024.30	554.30	664.22	489.25	174.97	3.796		
21,800.00	11,836.00	22,026.38	11,758.00	87.40	88.37	-83.52	-10,074.30	554.64	664.23	488.59	175.65	3.782		
21,850.00	11,836.00	22,076.38	11,758.00	87.74	88.71	-83.52	-10,124.30	554.98	664.24	487.92	176.32	3.767		
21,900.00	11,836.00	22,126.38	11,758.00	88.07	89.04	-83.52	-10,174.30	555.31	664.25	487.26	176.99	3.753		
21,911.26	11,836.00	22,137.63	11,758.00	88.15	89.12	-83.52	-10,185.55	555.39	664.25	487.11	177.14	3.750 ES, SF		

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 127H - Slot PLU 18 TWR 127H SHL
Project:	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference:	3500+26 @ 3526.00usft (Citadel1)
Reference Site:	PLU 18 TWR	MD Reference:	3500+26 @ 3526.00usft (Citadel1)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	127H	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 #1	Offset TVD Reference:	Offset Datum

Offset Design													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		
2,100.00	2,099.08	2,099.97	2,097.92	8.05	8.13	36.48	76.47	-43.71	61.31	45.65	15.66	3.915		
2,113.21	2,112.26	2,113.15	2,111.01	8.09	8.18	35.68	76.70	-45.22	61.31	45.55	15.76	3.891 CC		
2,150.00	2,148.97	2,149.86	2,147.48	8.22	8.30	33.45	77.34	-49.42	61.36	45.34	16.02	3.831		
2,200.00	2,198.86	2,199.75	2,197.04	8.40	8.46	30.43	78.21	-55.12	61.57	45.19	16.38	3.759 ES		
2,250.00	2,248.76	2,249.65	2,246.60	8.58	8.63	27.44	79.07	-60.82	61.95	45.21	16.74	3.701		
2,300.00	2,298.65	2,299.54	2,296.16	8.76	8.80	24.50	79.94	-66.53	62.50	45.40	17.10	3.655		
2,350.00	2,348.55	2,349.44	2,345.72	8.93	8.96	21.62	80.80	-72.23	63.21	45.75	17.46	3.621		
2,400.00	2,398.44	2,399.33	2,395.28	9.11	9.13	18.80	81.67	-77.93	64.08	46.26	17.82	3.597		
2,450.00	2,448.33	2,449.23	2,444.84	9.29	9.31	16.07	82.53	-83.64	65.10	46.92	18.17	3.582		
2,500.00	2,498.23	2,499.12	2,494.40	9.47	9.48	13.42	83.40	-89.34	66.26	47.73	18.53	3.576		
2,550.00	2,548.12	2,549.01	2,543.96	9.65	9.65	10.88	84.27	-95.04	67.56	48.68	18.89	3.577		
2,600.00	2,598.01	2,598.91	2,593.52	9.83	9.83	8.43	85.13	-100.75	68.99	49.75	19.24	3.586		
2,650.00	2,647.91	2,648.80	2,643.08	10.01	10.00	6.09	86.00	-106.45	70.54	50.95	19.59	3.600		
2,700.00	2,697.80	2,698.70	2,692.64	10.19	10.18	3.85	86.86	-112.16	72.20	52.26	19.95	3.620		
2,750.00	2,747.70	2,748.59	2,742.20	10.37	10.36	1.71	87.73	-117.86	73.97	53.68	20.30	3.645		
2,800.00	2,797.59	2,798.49	2,791.76	10.56	10.54	-0.32	88.59	-123.56	75.84	55.19	20.65	3.673		
2,850.00	2,847.48	2,848.38	2,841.31	10.74	10.71	-2.26	89.46	-129.27	77.80	56.80	20.99	3.706		
2,900.00	2,897.38	2,898.27	2,890.87	10.92	10.89	-4.09	90.33	-134.97	79.84	58.50	21.34	3.741		
2,950.00	2,947.27	2,948.17	2,940.43	11.10	11.07	-5.84	91.19	-140.67	81.96	60.27	21.69	3.779		
3,000.00	2,997.16	2,998.06	2,989.99	11.28	11.25	-7.49	92.06	-146.38	84.15	62.11	22.04	3.819		
3,050.00	3,047.06	3,047.96	3,039.55	11.46	11.43	-9.06	92.92	-152.08	86.41	64.02	22.38	3.861		
3,100.00	3,096.95	3,097.85	3,089.11	11.64	11.61	-10.55	93.79	-157.78	88.73	66.00	22.73	3.904		
3,150.00	3,146.85	3,147.74	3,138.67	11.82	11.80	-11.97	94.66	-163.49	91.10	68.03	23.07	3.948		
3,200.00	3,196.74	3,197.64	3,188.23	12.01	11.98	-13.31	95.52	-169.19	93.53	70.11	23.42	3.994		
6,250.00	6,243.25	6,264.90	6,245.25	22.98	22.96	-90.29	123.30	-352.20	180.00	134.92	45.08	3.993		
6,300.00	6,293.25	6,314.90	6,295.25	23.16	23.13	-90.29	123.30	-352.20	180.00	134.57	45.44	3.962		
6,350.00	6,343.25	6,364.90	6,345.25	23.33	23.30	-90.29	123.30	-352.20	180.00	134.21	45.79	3.931		
6,400.00	6,393.25	6,414.90	6,395.25	23.51	23.47	-90.29	123.30	-352.20	180.00	133.86	46.14	3.901		
6,450.00	6,443.25	6,464.90	6,445.25	23.69	23.64	-90.29	123.30	-352.20	180.00	133.51	46.50	3.871		
6,500.00	6,493.25	6,514.90	6,495.25	23.86	23.81	-90.29	123.30	-352.20	180.00	133.15	46.85	3.842		
6,550.00	6,543.25	6,564.90	6,545.25	24.04	23.98	-90.29	123.30	-352.20	180.00	132.80	47.20	3.813		
6,600.00	6,593.25	6,614.90	6,595.25	24.22	24.15	-90.29	123.30	-352.20	180.00	132.45	47.56	3.785		
6,650.00	6,643.25	6,664.90	6,645.25	24.39	24.32	-90.29	123.30	-352.20	180.00	132.09	47.91	3.757		
6,700.00	6,693.25	6,714.90	6,695.25	24.57	24.49	-90.29	123.30	-352.20	180.00	131.74	48.26	3.729		
6,750.00	6,743.25	6,764.90	6,745.25	24.75	24.66	-90.29	123.30	-352.20	180.00	131.38	48.62	3.702		
6,800.00	6,793.25	6,814.90	6,795.25	24.92	24.83	-90.29	123.30	-352.20	180.00	131.03	48.97	3.676		
6,850.00	6,843.25	6,864.90	6,845.25	25.10	25.00	-90.29	123.30	-352.20	180.00	130.68	49.33	3.649		
6,900.00	6,893.25	6,914.90	6,895.25	25.28	25.17	-90.29	123.30	-352.20	180.00	130.32	49.68	3.623		
6,950.00	6,943.25	6,964.90	6,945.25	25.45	25.34	-90.29	123.30	-352.20	180.00	129.97	50.04	3.598		
7,000.00	6,993.25	7,014.90	6,995.25	25.63	25.51	-90.29	123.30	-352.20	180.00	129.61	50.39	3.572		
7,050.00	7,043.25	7,064.90	7,045.25	25.81	25.68	-90.29	123.30	-352.20	180.00	129.26	50.74	3.547		
7,100.00	7,093.25	7,114.90	7,095.25	25.98	25.85	-90.29	123.30	-352.20	180.00	128.90	51.10	3.523		
7,150.00	7,143.25	7,164.90	7,145.25	26.16	26.02	-90.29	123.30	-352.20	180.00	128.55	51.45	3.498		
7,200.00	7,193.25	7,214.90	7,195.25	26.34	26.19	-90.29	123.30	-352.20	180.00	128.20	51.81	3.474		
7,250.00	7,243.25	7,264.90	7,245.25	26.51	26.37	-90.29	123.30	-352.20	180.00	127.84	52.16	3.451		
7,300.00	7,293.25	7,314.90	7,295.25	26.69	26.54	-90.29	123.30	-352.20	180.00	127.49	52.52	3.428		
7,350.00	7,343.25	7,364.90	7,345.25	26.87	26.71	-90.29	123.30	-352.20	180.00	127.13	52.87	3.405		
7,400.00	7,393.25	7,414.90	7,395.25	27.05	26.88	-90.29	123.30	-352.20	180.00	126.78	53.23	3.382		
7,450.00	7,443.25	7,464.90	7,445.25	27.22	27.05	-90.29	123.30	-352.20	180.00	126.42	53.58	3.359		
7,500.00	7,493.25	7,514.90	7,495.25	27.40	27.22	-90.29	123.30	-352.20	180.00	126.07	53.94	3.337		
7,550.00	7,543.25	7,564.90	7,545.25	27.58	27.40	-90.29	123.30	-352.20	180.00	125.71	54.29	3.316		
7,600.00	7,593.25	7,614.90	7,595.25	27.76	27.57	-90.29	123.30	-352.20	180.00	125.36	54.64	3.294		

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 127H - Slot PLU 18 TWR 127H SHL
Project:	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference:	3500+26 @ 3526.00usft (Citadel1)
Reference Site:	PLU 18 TWR	MD Reference:	3500+26 @ 3526.00usft (Citadel1)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	127H	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 #1	Offset TVD Reference:	Offset Datum

Offset Design PLU 18 TWR - 157H - Lateral - Plan #1													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		
7,650.00	7,643.25	7,664.90	7,645.25	27.94	27.74	-90.29	123.30	-352.20	180.00	125.00	55.00	3.273		
7,700.00	7,693.25	7,714.90	7,695.25	28.11	27.91	-90.29	123.30	-352.20	180.00	124.65	55.35	3.252		
7,750.00	7,743.25	7,764.90	7,745.25	28.29	28.08	-90.29	123.30	-352.20	180.00	124.29	55.71	3.231		
7,800.00	7,793.25	7,814.90	7,795.25	28.47	28.26	-90.29	123.30	-352.20	180.00	123.94	56.06	3.211		
7,850.00	7,843.25	7,864.90	7,845.25	28.65	28.43	-90.29	123.30	-352.20	180.00	123.58	56.42	3.190		
7,900.00	7,893.25	7,914.90	7,895.25	28.82	28.60	-90.29	123.30	-352.20	180.00	123.23	56.78	3.170		
7,950.00	7,943.25	7,964.90	7,945.25	29.00	28.77	-90.29	123.30	-352.20	180.00	122.87	57.13	3.151		
8,000.00	7,993.25	8,014.90	7,995.25	29.18	28.95	-90.29	123.30	-352.20	180.00	122.52	57.49	3.131		
8,050.00	8,043.25	8,064.90	8,045.25	29.36	29.12	-90.29	123.30	-352.20	180.00	122.16	57.84	3.112		
8,100.00	8,093.25	8,114.90	8,095.25	29.54	29.29	-90.29	123.30	-352.20	180.00	121.81	58.20	3.093		
8,150.00	8,143.25	8,164.90	8,145.25	29.71	29.47	-90.29	123.30	-352.20	180.00	121.45	58.55	3.074		
8,200.00	8,193.25	8,214.90	8,195.25	29.89	29.64	-90.29	123.30	-352.20	180.00	121.10	58.91	3.056		
8,250.00	8,243.25	8,264.90	8,245.25	30.07	29.81	-90.29	123.30	-352.20	180.00	120.74	59.26	3.037		
8,300.00	8,293.25	8,314.90	8,295.25	30.25	29.99	-90.29	123.30	-352.20	180.00	120.38	59.62	3.019		
8,350.00	8,343.25	8,364.90	8,345.25	30.43	30.16	-90.29	123.30	-352.20	180.00	120.03	59.97	3.001		
8,400.00	8,393.25	8,414.90	8,395.25	30.61	30.33	-90.29	123.30	-352.20	180.00	119.67	60.33	2.984		
8,450.00	8,443.25	8,464.90	8,445.25	30.78	30.51	-90.29	123.30	-352.20	180.00	119.32	60.68	2.966		
8,500.00	8,493.25	8,514.90	8,495.25	30.96	30.68	-90.29	123.30	-352.20	180.00	118.96	61.04	2.949		
8,550.00	8,543.25	8,564.90	8,545.25	31.14	30.85	-90.29	123.30	-352.20	180.00	118.61	61.40	2.932		
8,600.00	8,593.25	8,614.90	8,595.25	31.32	31.03	-90.29	123.30	-352.20	180.00	118.25	61.75	2.915		
8,650.00	8,643.25	8,664.90	8,645.25	31.50	31.20	-90.29	123.30	-352.20	180.00	117.90	62.11	2.898		
8,700.00	8,693.25	8,714.90	8,695.25	31.68	31.38	-90.29	123.30	-352.20	180.00	117.54	62.46	2.882		
8,750.00	8,743.25	8,764.90	8,745.25	31.85	31.55	-90.29	123.30	-352.20	180.00	117.18	62.82	2.865		
8,800.00	8,793.25	8,814.90	8,795.25	32.03	31.73	-90.29	123.30	-352.20	180.00	116.83	63.17	2.849		
8,850.00	8,843.25	8,864.90	8,845.25	32.21	31.90	-90.29	123.30	-352.20	180.00	116.47	63.53	2.833		
8,900.00	8,893.25	8,914.90	8,895.25	32.39	32.08	-90.29	123.30	-352.20	180.00	116.12	63.89	2.818		
8,950.00	8,943.25	8,964.90	8,945.25	32.57	32.26	-90.29	123.30	-352.20	180.00	115.76	64.24	2.802		
9,000.00	8,993.25	9,014.90	8,995.25	32.75	32.44	-90.29	123.30	-352.20	180.00	115.40	64.60	2.787		
9,050.00	9,043.25	9,064.90	9,045.25	32.92	32.62	-90.29	123.30	-352.20	180.00	115.05	64.95	2.771		
9,100.00	9,093.25	9,114.90	9,095.25	33.10	32.80	-90.29	123.30	-352.20	180.00	114.69	65.31	2.756		
9,150.00	9,143.25	9,164.90	9,145.25	33.28	32.98	-90.29	123.30	-352.20	180.00	114.34	65.67	2.741		
9,200.00	9,193.25	9,214.90	9,195.25	33.46	33.15	-90.29	123.30	-352.20	180.00	113.98	66.02	2.726		
9,250.00	9,243.25	9,264.90	9,245.25	33.64	33.33	-90.29	123.30	-352.20	180.00	113.62	66.38	2.712		
9,300.00	9,293.25	9,314.90	9,295.25	33.82	33.51	-90.29	123.30	-352.20	180.00	113.27	66.73	2.697		
9,350.00	9,343.25	9,364.90	9,345.25	34.00	33.69	-90.29	123.30	-352.20	180.00	112.91	67.09	2.683		
9,400.00	9,393.25	9,414.90	9,395.25	34.18	33.87	-90.29	123.30	-352.20	180.00	112.56	67.45	2.669		
9,450.00	9,443.25	9,464.90	9,445.25	34.35	34.05	-90.29	123.30	-352.20	180.00	112.20	67.80	2.655		
9,500.00	9,493.25	9,514.90	9,495.25	34.53	34.23	-90.29	123.30	-352.20	180.00	111.84	68.16	2.641		
9,550.00	9,543.25	9,564.90	9,545.25	34.71	34.41	-90.29	123.30	-352.20	180.00	111.49	68.51	2.627		
9,600.00	9,593.25	9,614.90	9,595.25	34.89	34.59	-90.29	123.30	-352.20	180.00	111.13	68.87	2.614		
9,650.00	9,643.25	9,664.90	9,645.25	35.07	34.77	-90.29	123.30	-352.20	180.00	110.78	69.23	2.600		
9,700.00	9,693.25	9,714.90	9,695.25	35.25	34.95	-90.29	123.30	-352.20	180.00	110.42	69.58	2.587		
9,750.00	9,743.25	9,764.90	9,745.25	35.43	35.13	-90.29	123.30	-352.20	180.00	110.06	69.94	2.574		
9,800.00	9,793.25	9,814.90	9,795.25	35.61	35.31	-90.29	123.30	-352.20	180.00	109.71	70.30	2.561		
9,850.00	9,843.25	9,864.90	9,845.25	35.78	35.49	-90.29	123.30	-352.20	180.00	109.35	70.65	2.548		
9,900.00	9,893.25	9,914.90	9,895.25	35.96	35.67	-90.29	123.30	-352.20	180.00	108.99	71.01	2.535		
9,950.00	9,943.25	9,964.90	9,945.25	36.14	35.85	-90.29	123.30	-352.20	180.00	108.64	71.36	2.522		
10,000.00	9,993.25	10,014.90	9,995.25	36.32	36.03	-90.29	123.30	-352.20	180.00	108.28	71.72	2.510		
10,050.00	10,043.25	10,064.90	10,045.25	36.50	36.21	-90.29	123.30	-352.20	180.00	107.93	72.08	2.497		
10,100.00	10,093.25	10,114.90	10,095.25	36.68	36.39	-90.29	123.30	-352.20	180.00	107.57	72.43	2.485		
10,150.00	10,143.25	10,164.90	10,145.25	36.86	36.57	-90.29	123.30	-352.20	180.00	107.21	72.79	2.473		
10,200.00	10,193.25	10,214.90	10,195.25	37.04	36.75	-90.29	123.30	-352.20	180.00	106.86	73.15	2.461		

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 127H - Slot PLU 18 TWR 127H SHL
Project:	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference:	3500+26 @ 3526.00usft (Citadel1)
Reference Site:	PLU 18 TWR	MD Reference:	3500+26 @ 3526.00usft (Citadel1)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	127H	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 #1	Offset TVD Reference:	Offset Datum

Offset Design													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		
10,250.00	10,243.25	10,264.90	10,245.25	37.22	36.93	-90.29	123.30	-352.20	180.00	106.50	73.50	2.449		
10,300.00	10,293.25	10,314.90	10,295.25	37.39	37.11	-90.29	123.30	-352.20	180.00	106.14	73.86	2.437		
10,350.00	10,343.25	10,364.90	10,345.25	37.57	37.29	-90.29	123.30	-352.20	180.00	105.79	74.22	2.425		
10,400.00	10,393.25	10,414.90	10,395.25	37.75	37.47	-90.29	123.30	-352.20	180.00	105.43	74.57	2.414		
10,450.00	10,443.25	10,464.90	10,445.25	37.93	37.65	-90.29	123.30	-352.20	180.00	105.07	74.93	2.402		
10,500.00	10,493.25	10,514.90	10,495.25	38.11	37.82	-90.29	123.30	-352.20	180.00	104.72	75.29	2.391		
10,550.00	10,543.25	10,564.90	10,545.25	38.29	38.00	-90.29	123.30	-352.20	180.00	104.36	75.64	2.380		
10,600.00	10,593.25	10,614.90	10,595.25	38.47	38.18	-90.29	123.30	-352.20	180.00	104.00	76.00	2.368		
10,650.00	10,643.25	10,664.90	10,645.25	38.65	38.36	-90.29	123.30	-352.20	180.00	103.65	76.36	2.357		
10,700.00	10,693.25	10,714.90	10,695.25	38.83	38.54	-90.29	123.30	-352.20	180.00	103.29	76.71	2.346		
10,750.00	10,743.25	10,764.90	10,745.25	39.00	38.72	-90.29	123.30	-352.20	180.00	102.93	77.07	2.336		
10,800.00	10,793.25	10,814.90	10,795.25	39.18	38.90	-90.29	123.30	-352.20	180.00	102.58	77.43	2.325		
10,850.00	10,843.25	10,864.90	10,845.25	39.36	39.08	-90.29	123.30	-352.20	180.00	102.22	77.78	2.314		
10,900.00	10,893.25	10,914.90	10,895.25	39.54	39.26	-90.29	123.30	-352.20	180.00	101.86	78.14	2.304		
10,950.00	10,943.25	10,964.90	10,945.25	39.72	39.44	-90.29	123.30	-352.20	180.00	101.51	78.50	2.293		
11,000.00	10,993.25	11,014.90	10,995.25	39.90	39.62	-90.29	123.30	-352.20	180.00	101.15	78.85	2.283		
11,050.00	11,043.25	11,064.90	11,045.25	40.08	39.80	-90.29	123.30	-352.20	180.00	100.79	79.21	2.273		
11,100.00	11,093.25	11,114.90	11,095.25	40.26	39.98	-90.29	123.30	-352.20	180.00	100.44	79.57	2.262		
11,150.00	11,143.25	11,164.90	11,145.25	40.44	40.16	-90.29	123.30	-352.20	180.00	100.08	79.92	2.252		
11,200.00	11,193.25	11,214.90	11,195.25	40.62	40.34	-90.29	123.30	-352.20	180.00	99.72	80.28	2.242		
11,250.00	11,243.25	11,264.90	11,245.25	40.79	40.52	-90.29	123.30	-352.20	180.00	99.37	80.63	2.232		
11,250.34	11,243.59	11,265.24	11,245.59	40.79	40.52	90.09	123.30	-352.20	180.00	99.36	80.64	2.232		
11,300.00	11,293.24	11,314.89	11,295.24	40.97	40.70	90.34	123.30	-352.20	180.01	99.02	80.98	2.223		
11,350.00	11,342.99	11,364.64	11,344.99	41.18	40.88	91.85	123.30	-352.20	180.10	98.80	81.30	2.215		
11,400.00	11,392.13	11,413.78	11,394.13	41.42	41.05	94.65	123.30	-352.20	180.63	99.04	81.59	2.214 SF		
11,450.00	11,440.29	11,461.94	11,442.29	41.65	41.23	98.53	123.30	-352.20	182.23	100.36	81.87	2.226		
11,500.00	11,487.11	11,508.75	11,489.11	41.88	41.39	103.21	123.30	-352.20	185.76	103.62	82.14	2.262		
11,550.00	11,532.21	11,553.86	11,534.21	42.09	41.56	108.30	123.30	-352.20	192.22	109.80	82.42	2.332		
11,600.00	11,575.27	11,596.92	11,577.27	42.28	41.71	113.38	123.30	-352.20	202.53	119.80	82.73	2.448		
11,650.00	11,615.95	11,637.60	11,617.95	42.45	41.86	118.07	123.30	-352.20	217.38	134.31	83.06	2.617		
11,700.00	11,653.95	11,675.60	11,655.95	42.60	41.99	122.08	123.30	-352.20	237.11	153.70	83.41	2.843		
11,750.00	11,688.97	11,710.62	11,690.97	42.74	42.12	125.22	123.30	-352.20	261.73	177.98	83.76	3.125		
11,800.00	11,720.75	11,742.40	11,722.75	42.85	42.23	127.38	123.30	-352.20	290.95	206.87	84.08	3.460		
11,850.00	11,749.05	11,770.70	11,751.05	42.94	42.34	128.44	123.30	-352.20	324.33	239.96	84.37	3.844		