

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.
NMLC064894

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 20 BD 124H

2. Name of Operator

XTO PERMIAN OPERATING LLC

Contact: KELLY KARDOS

E-Mail: kelly_kardos@xtoenergy.com

9. API Well No.

30-015-45623-00-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

PURPLE SAGE-WOLFCAMP (GAS)

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

Sec 20 T25S R30E SESW 955FSL 2005FWL
32.110905 N Lat, 103.905594 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			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original APD
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomple 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 recompletion 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 APD....

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

In addition, XTO requests a variance to be able to batch drill this well if necessary. In doing so, XTO will set 8-5/8" intermediate casing 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 both intermediate strings are all completed, XTO will begin drilling the production hole on each of the wells.

Carlsbad Field Office
OCD Artesia

RECEIVED

NOV 05 2019

DISTRICT/ARTESIA O.C.D.

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #479857 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 08/23/2019 (19PP3048SE)

Name (Printed/Typed) KELLY KARDOS

Title REGULATORY COORDINATOR

Signature (Electronic Submission)

Date 08/22/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By LQNG VO

Title PETROLEUM ENGINEER

Date 10/28/2019

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 Carlsbad

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 ****

RW 11-5-19

PECOS DISTRICT

DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO Permian Operating LLC
LEASE NO.:	NMLC0064894
WELL NAME & NO.:	124H:Poker Lake Unit 20 BD
SURFACE HOLE FOOTAGE:	955'/S & 2005'/W
BOTTOM HOLE FOOTAGE:	200'/S & 2310'/W
LOCATION:	T-25S, R-30E, S20. NMPM
COUNTY:	EDDY, NM

COA

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

XTO is approved for batch drilling the Poker Lake Unit 20 BD 124H after setting the 8-5/8" intermediate casing and the installation of a 10K TA cap.

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Corral Canyon** formation. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

1. The **16 inch** surface casing shall be set at approximately **700 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.

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

2. The minimum required fill of cement behind the **11-3/4** inch intermediate casing shall be set at approximately **3530 feet** is:

- Cement to surface. If cement does not circulate see B.1.a, c-d above.

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

3. The minimum required fill of cement behind the **8-5/8** inch intermediate casing is:

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

4. 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.

Option 1:

- a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M) psi**.

- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **11-3/4"** intermediate casing shoe shall be **3000 (3M)** psi.
- c. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **8-5/8"** intermediate casing shoe shall be **5000 (5M)** psi.

Option 2:

- 1. 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.

D. SPECIAL REQUIREMENT (S)

Unit Wells

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

Commercial Well Determination

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

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

☒ Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)
393-3612

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 Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in 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.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - 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. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 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. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
- c. 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).
- d. 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.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. 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.
- g. 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.
- h. 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.

PROJECTS\2017\2017071050-XTQ-POKER LAKE UNIT 20 BD 124H-EDDY\DWG\2017071050-XTQ-POKER LAKE UNIT 20 BRUSHY DRAW 124H-EDDY.dwg 4/5/2019 9:44:43 AM Adobe PDF

Intent ☒ As Drilled ☐

API # 30-015-45623			
Operator Name: XTO Permian Operating, LLC		Property Name: Poker Lake Unit 20 BD	Well Number 124H

Kick Off Point (KOP)

UL N	Section 20	Township 25S	Range 30E	Lot	Feet 955	From N/S South	Feet 2005	From E/W West	County Eddy
Latitude 32.110905					Longitude -103.905591			NAD NAD83	

First Take Point (FTP)

UL C	Section 29	Township 25S	Range 30E	Lot	Feet 330	From N/S North	Feet 2310	From E/W West	County Eddy
Latitude 32.107378					Longitude -103.904605			NAD NAD83	

Last Take Point (LTP)

UL N	Section 32	Township 25S	Range 30E	Lot	Feet 330	From N/S South	Feet 2310	From E/W West	County Eddy
Latitude 32.079969					Longitude -103.904604			NAD NAD83	

Is this well the defining well for the Horizontal Spacing Unit? ☐ N

Is this well an infill well? ☐ Y

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API # 30-045-45492			
Operator Name: XTO Permian Operating, LLC		Property Name: Poker Lake Unit 20 BD	Well Number 701H

KZ 06/29/2018

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

XTO Energy Inc.
PLU 20 Brushy Draw 124H
Projected TD: 22198' MD / 11137' TVD
SHL: 955' FSL & 2005' FWL , Section 20, T25S, R30E
BHL: 200' FSL & 2310' FWL , Section 32, T25S, R30E
Eddy County, NM

1. Geologic Name of Surface Formation

A. Quaternary

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

Formation	Well Depth (TVD)	Water/Oil/Gas
Rustler	450'	Water
Top of Salt	890'	Water
Base of Salt	3480'	Water
Delaware	3570'	Water
Bone Spring	7460'	Water
1st Bone Spring Ss	8360'	Water/Oil/Gas
2nd Bone Spring Ss	9202'	Water/Oil/Gas
3rd Bone Spring Ss	10290'	Water/Oil/Gas
Wolfcamp	10705'	Water/Oil/Gas
Target/Land Curve	11137'	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 16" inch casing @ 790' (100' above the salt) and circulating cement back to surface. The salt will be isolated by setting 11-3/4" inch casing at 3530' and circulating cement to surface. The second intermediate will isolate from the salt down to the next casing seat by setting 8-5/8" inch casing at 9565' and cemented "500'" into the 11-3/4 inch casing. A 7-7/8" inch curve and lateral hole will be drilled to MD/TD and 5-1/2 inch casing will be set at TD and cemented back 250' into the 8-5/8" casing.

3. Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
18-1/2"	0' - 790'	16"	75	STC	J-55	New	2.48	2.82	11.98
14-3/4"	0' - 3530'	11-3/4"	47	STC	J-55	New	1.17	1.41	2.88
10-5/8"	0' - 9565'	8-5/8"	32	BTC	HCL-80	New	1.19	2.14	2.17
7-7/8"	0' - 22198'	5-1/2"	20	BTC	P-110	New	1.33	1.53	2.18

} Fluid Filled

- XTO requests to utilize centralizers only in the curve after the KOP and only a minimum of one every other joint.
- 11-3/4" Collapse analyzed using 50% evacuation based on regional experience.
- 8-5/8" Collapse analyzed using 33% 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

Wellhead:

Temporary Wellhead

- 16" SOW bottom x 16-3/4" 2M top flange.

Permanent Wellhead – GE RSH Multibowl System

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

B. Tubing Head: 13-5/8" 5M bottom flange x 7-1/16" 10M 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 8-5/8" casing per BLM Onshore Order 2
- Wellhead Manufacturer representative will not be present for BOP test plug installation

ok

4. Cement Program

Surface Casing: 16", 75 New J-55, STC casing to be set at +/- ~~290'~~ 100'

Lead: 270 sxs EconoCem-HLTRRC (mixed at 12.9 ppg, 1.87 ft³/sx, 10.13 gal/sx water)

Tail: 230 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

1st Intermediate Casing: 11-3/4", 47 New J-55, STC casing to be set at +/- 3530'

Lead: 1490 sxs EconoCem-HLTRRC (mixed at 12.9 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

2nd Intermediate Casing: 8-5/8", 32 New HCL-80, BTC casing to be set at +/- 9565'

Lead: 2020 sxs Halcem-C + 2% CaCl (mixed at 12.9 ppg, 1.88 ft³/sx, 9.61 gal/sx water)

Tail: 150 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.33 ft³/sx, 6.39 gal/sx water)

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

Production Casing: 5-1/2", 20 New P-110, BTC casing to be set at +/- 22198'

Lead: 830 sxs NeoCem (mixed at 10.5 ppg, 2.69 ft³/sx, 12.26 gal/sx water)

Tail: 1700 sxs VersaCem (mixed at 13.2 ppg, 1.61 ft³/sx, 8.38 gal/sx water)

Compressives: 12-hr = 1375 psi 24 hr = 2285 psi

5. Pressure Control Equipment

The blow out preventer equipment (BOP) on surface casing temporary wellhead will consist of a 21-1/4" minimum 2M Hydril. MASP should not exceed 1059 psi.

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 Double Ram BOP. MASP should not exceed 4789 psi.

All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 50% 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. When nipping up on the 8-5/8", the BOP will be tested to a minimum of 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.

6. Proposed Mud Circulation System

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' - 290' 100'	18-3/4"	FW/Native	8.4-8.8	35-40	NC
290' 100' - 3530'	14-3/4"	Brine	9.8-10.2	30-32	NC
3530' to 9565'	10-5/8"	FW / Cut Brine	8.7-9.4	30-32	NC
9565' to 22198'	7-7/8"	Cut Brine / Polymer / OBM	12.2 - 12.5	29-32	NC - 20

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

Spud with fresh water/native mud. Drill out from under 16" surface casing with brine solution. A ppg-10.0ppg brine mud will be used while drilling through the salt formation. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Pump speed will be recorded on a daily drilling report after mudding up. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

7. Auxiliary Well Control and Monitoring Equipment

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

OK

8. Logging, Coring and Testing Program

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

OK

Open hole logging will not be done on this well.

9. Abnormal Pressures and Temperatures / Potential Hazards

None Anticipated. BHT of 150 to 170 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 7239 psi.

10. Anticipated Starting Date and Duration of Operations

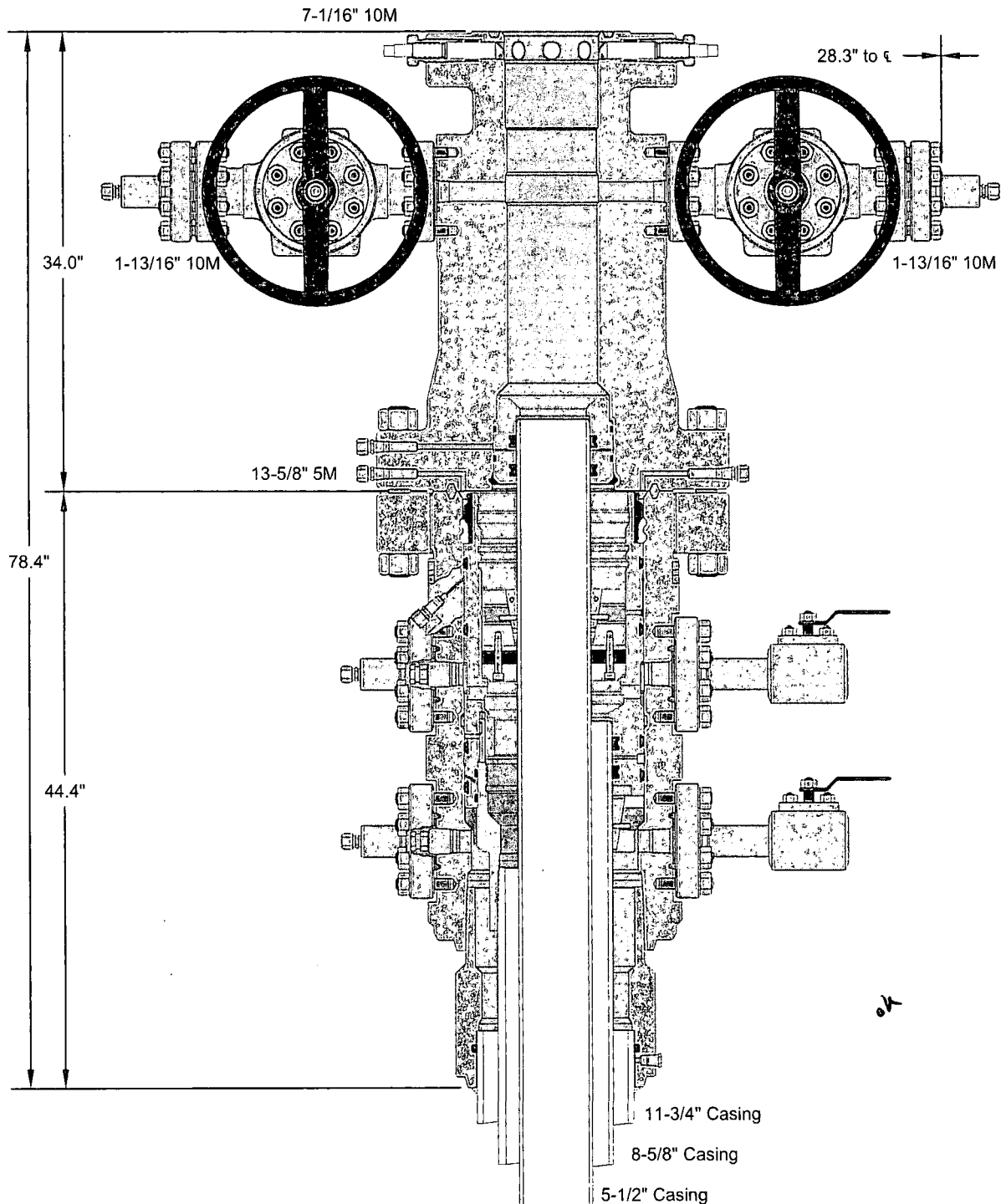
Road and location construction will begin after Santa Fe and BLM have approved the APD. Anticipated spud date will be as soon after Santa Fe and BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 40 days. If production casing is run, an additional 30 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.

XTO requests a variance to be able to batch drill this well if necessary. In doing so, XTO will set 8-5/8" intermediate casing 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 both intermediate strings are all completed, XTO will begin drilling the production hole on each of the wells.

OK



GE Oil & Gas



ALL DIMENSIONS ARE APPROXIMATE

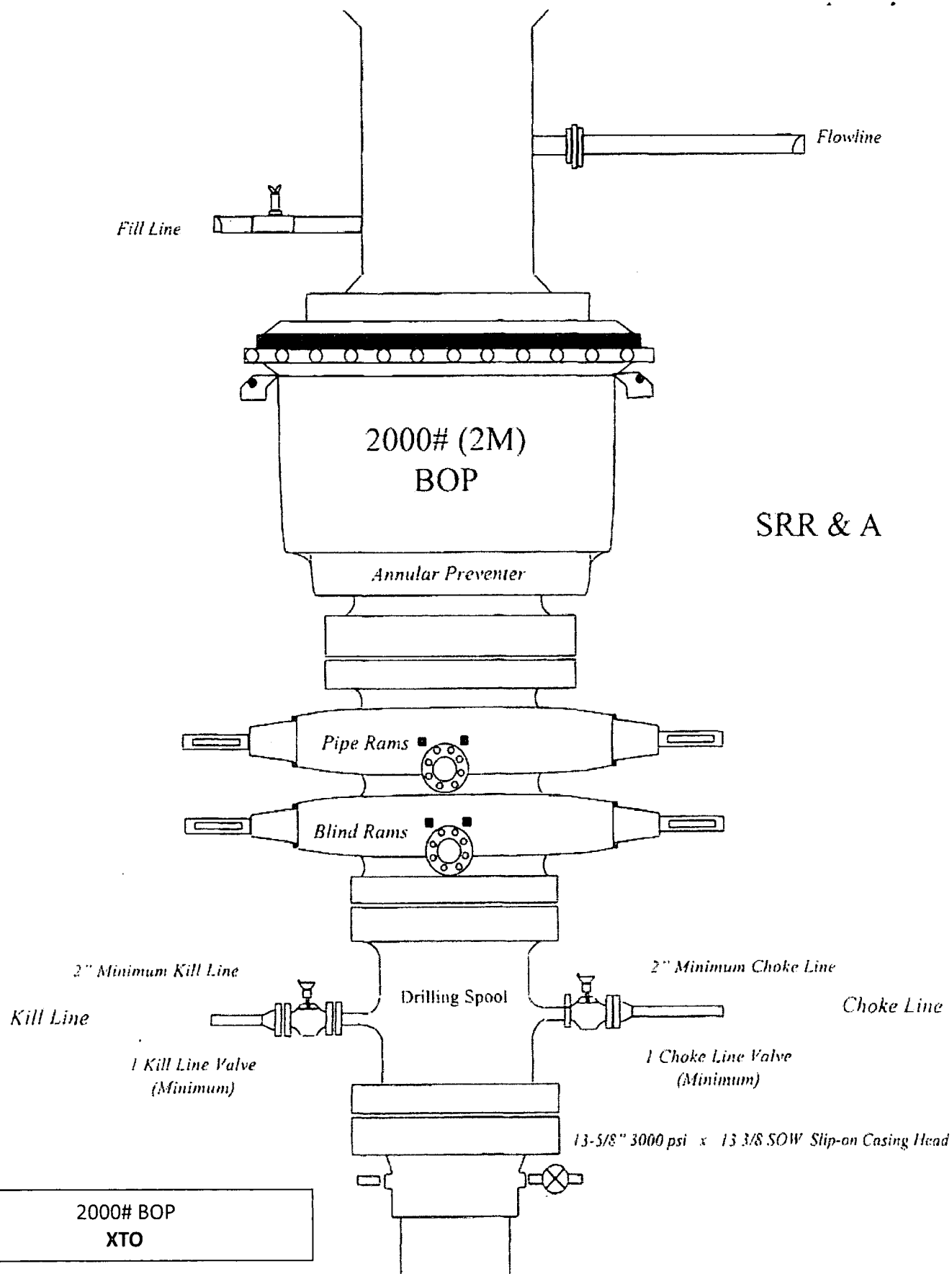
This drawing is the property of GE Oil & Gas Pressure Control LP and is considered confidential. Unless otherwise approved in writing, neither it nor its contents may be used, copied, transmitted or reproduced except for the sole purpose of GE Oil & Gas Pressure Control LP.

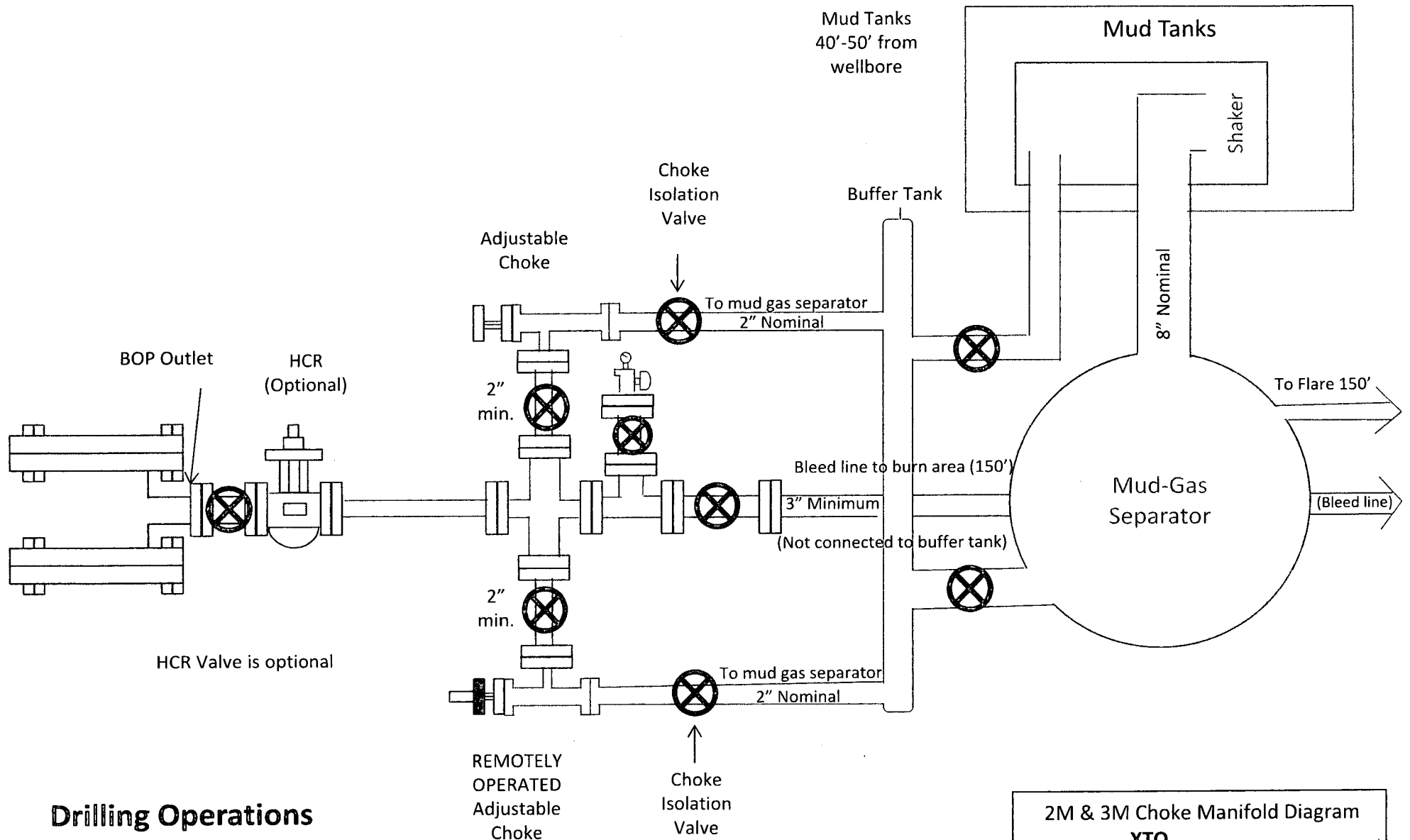
XTO ENERGY, INC.

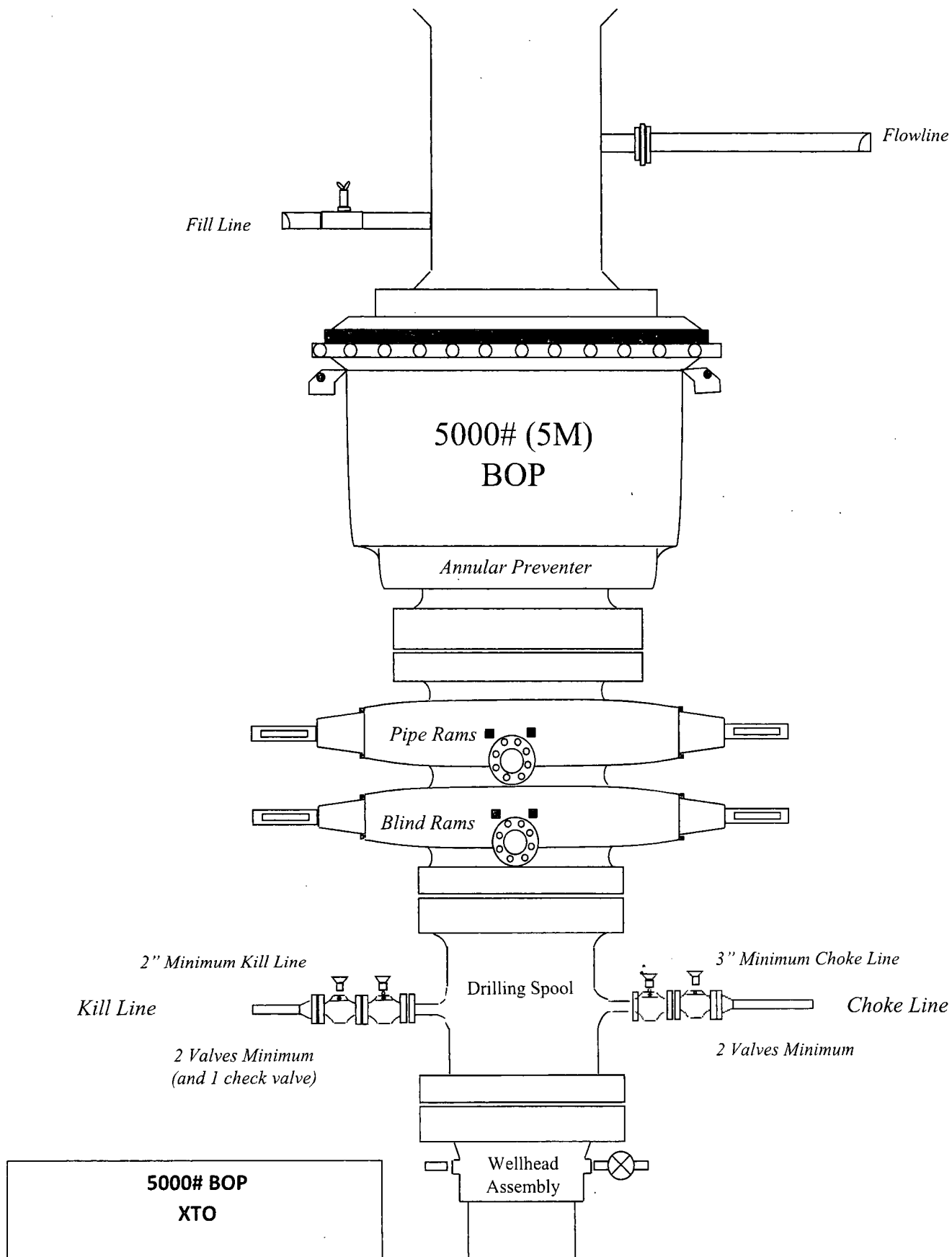
11-3/4" x 8-5/8" x 5-1/2" 10M RSH-2 Wellhead
Assembly, With T-EBS-F Tubing Head

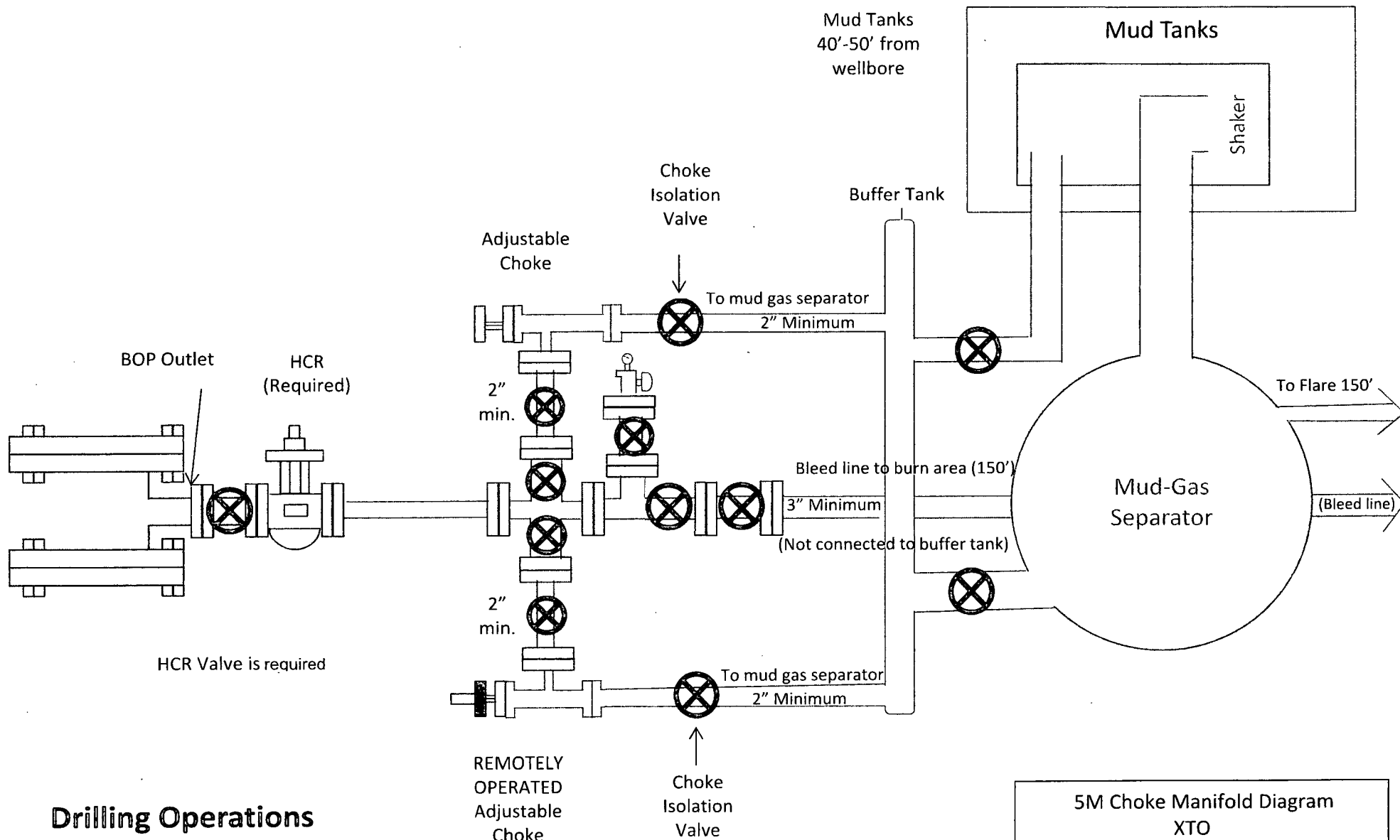
DRAWN	VJK	31OCT16
APPRV	KN	31OCT16

FOR REFERENCE ONLY
DRAWING NO. 10012358

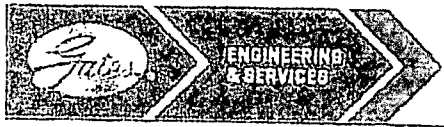








Drilling Operations **Choke Manifold** **5M Service**



GATES E & S NORTH AMERICA, INC
DU-TEX
134 44TH STREET
CORPUS CHRISTI, TEXAS 78405

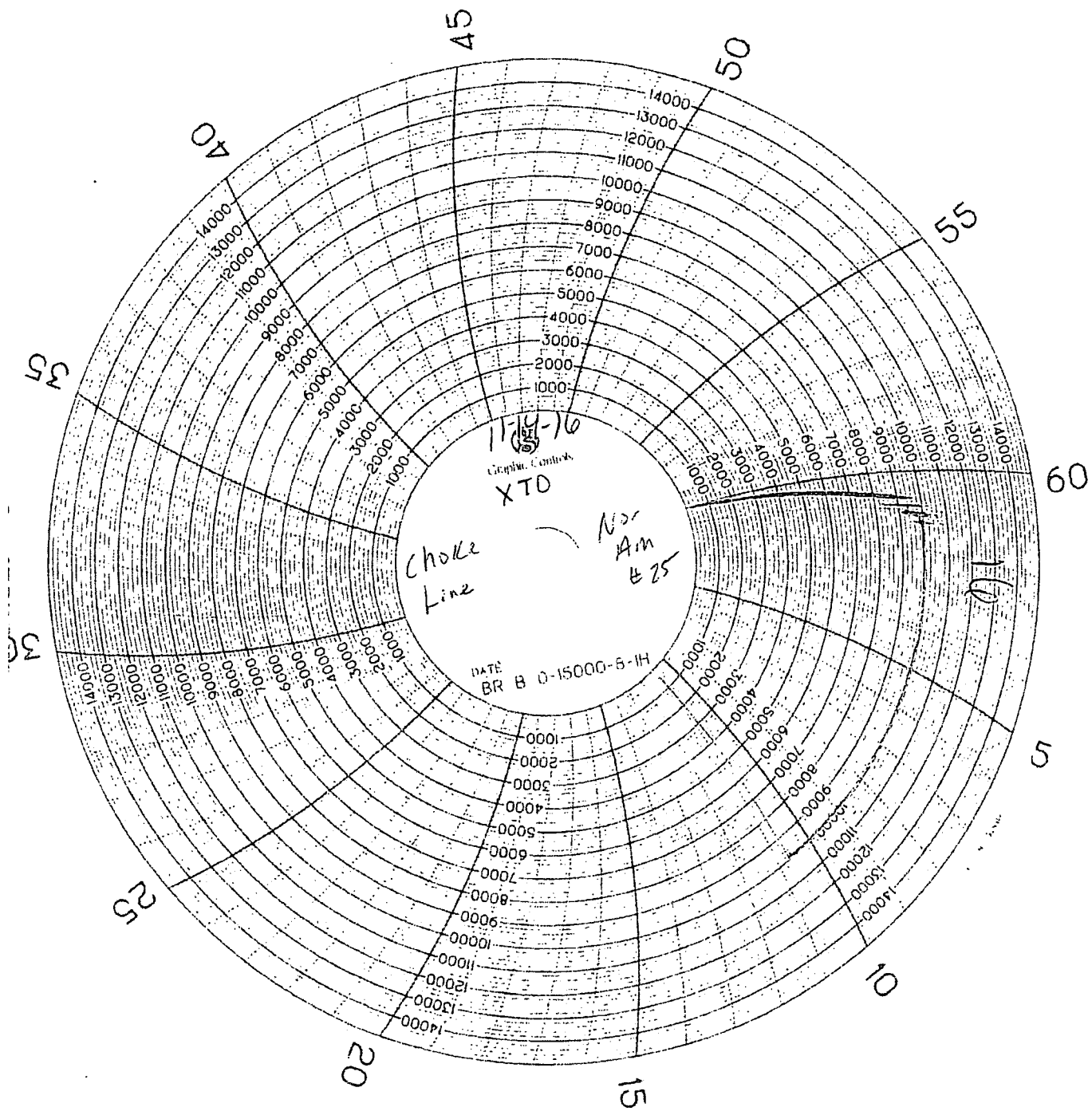
PHONE: 361-887-9807
FAX: 361-887-0812
EMAIL: crpe@s@gates.com
WEB: www.gates.com

GRADE D PRESSURE TEST CERTIFICATE

Customer :	AUSTIN DISTRIBUTING	Test Date:	6/8/2014
Customer Ref. :	PENDING	Hose Serial No.:	D-060814-1
Invoice No. :	201709	Created By:	NORMA
Product Description:	FD3.042.0R41/16.5KFLGE/E LE		
End Fitting 1 :	4 1/16 in.5K FLG	End Fitting 2 :	4 1/16 in.5K FLG
Gates Part No. :	4774-6001	Assembly Code :	L33090011513D-060814-1
Working Pressure :	5,000 PSI	Test Pressure :	7,500 PSI

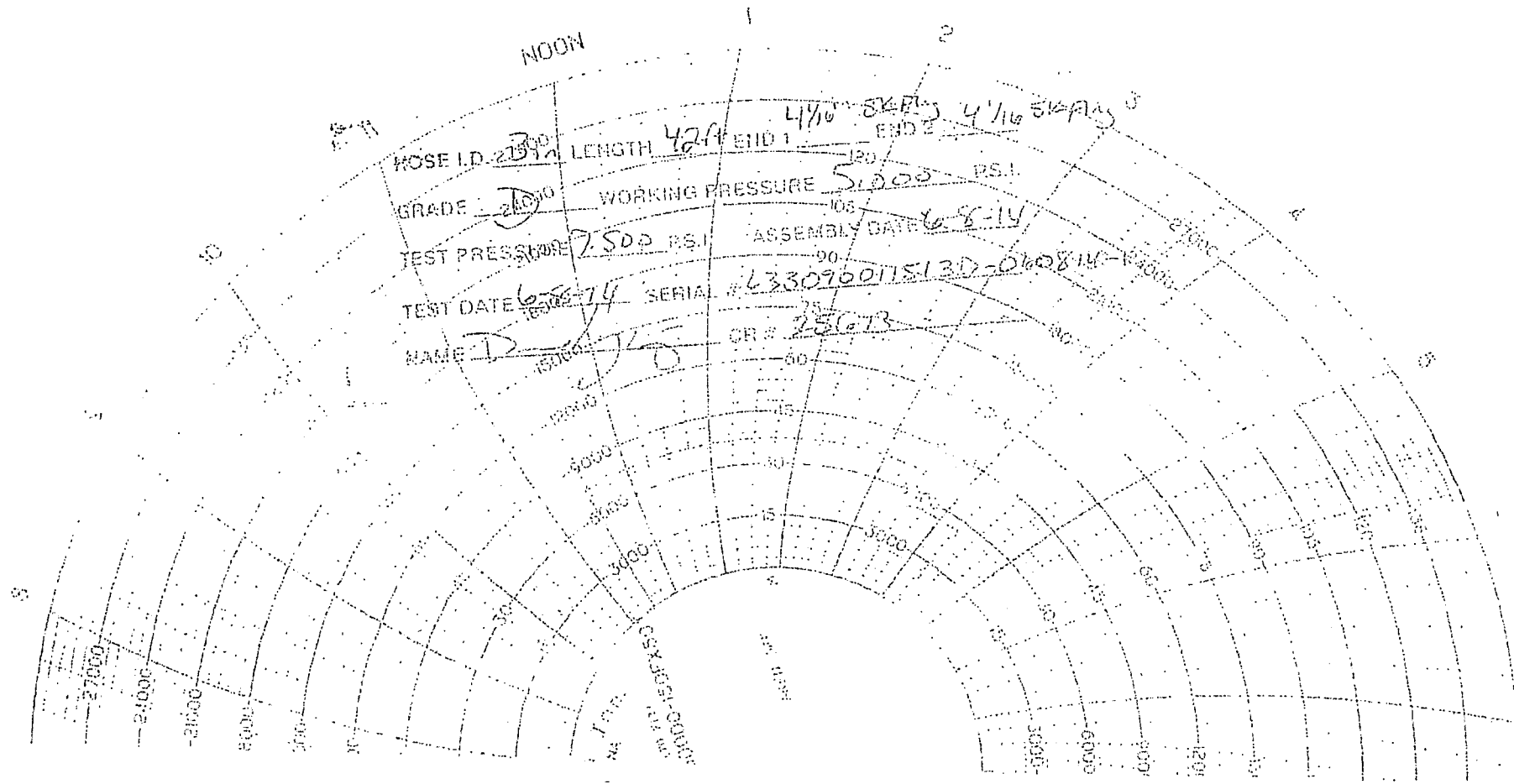
Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 7,500 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.5 times the working pressure per Table 9.

Quality:	QUALITY	Technical Supervisor :	PRODUCTION
Date :	6/8/2014	Date :	6/8/2014
Signature :		Signature :	



NOON

HOSE I.D. 3 1/2 LENGTH 42 ft END 1 4 1/16 SKF END 2 4 1/16 SKF
GRADE D WORKING PRESSURE 5,000 P.S.I.
TEST PRESSURE 7,500 P.S.I. ASSEMBLY DATE 6-8-14
TEST DATE 6-8-14 SERIAL # L33096011513D-010814-R
NAME D-175 CR # 25673



Project: Eddy County, NM (NAD27) NMEZ Grid
Site: PLU 20 Brushy Draw
Well: PLU 20 BD 124H SHL
Wellbore: 124H Lateral
Design: Plan #1



Azimuths to Grid North
True North: -0.23°
Magnetic North: 6.67°

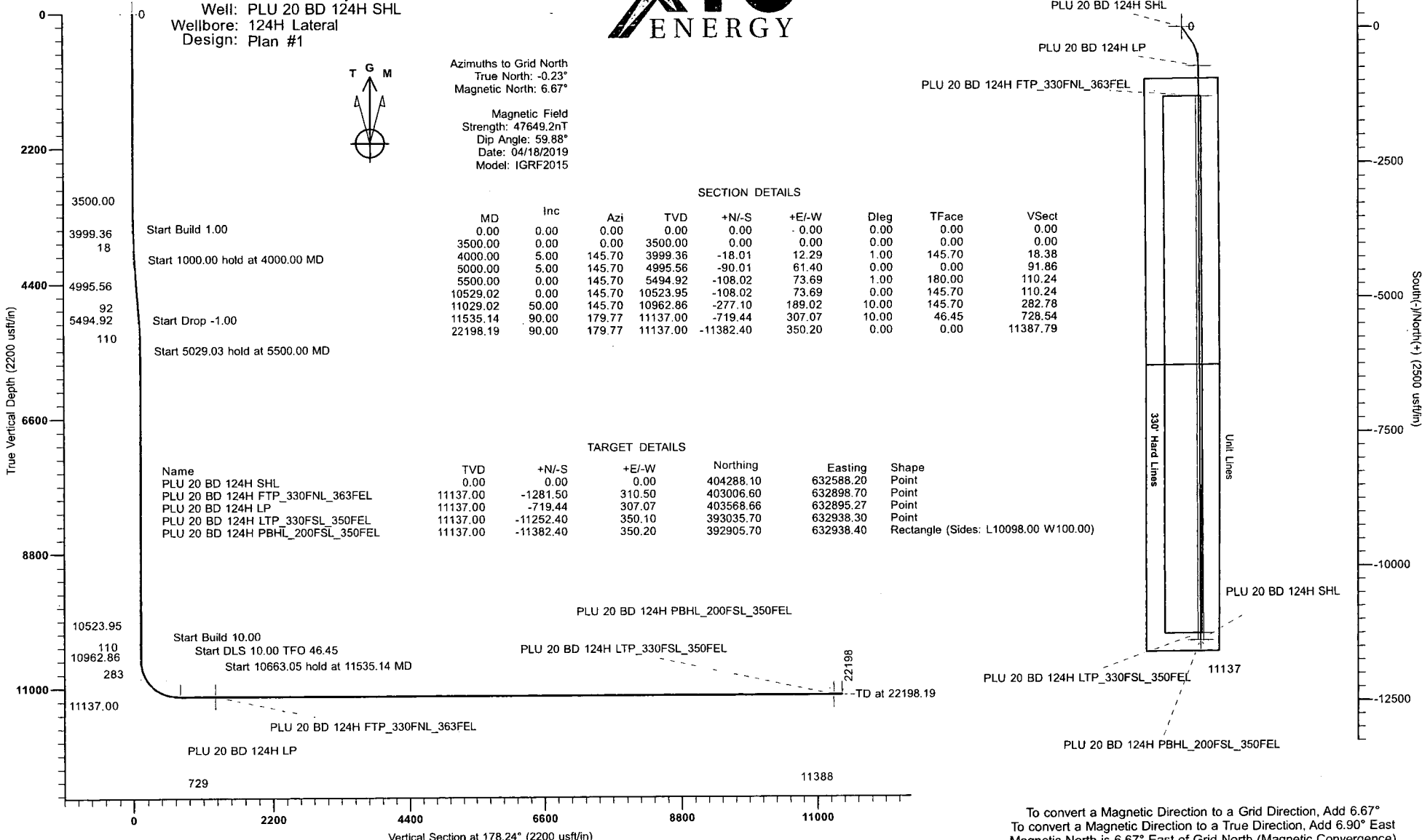
Magnetic Field
Strength: 47649.2nT
Dip Angle: 59.88°
Date: 04/18/2019
Model: IGRF2015

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3500.00	0.00	0.00	3500.00	0.00	0.00	0.00	0.00	0.00
4000.00	5.00	145.70	3999.36	-18.01	12.29	1.00	145.70	18.38
5000.00	5.00	145.70	4995.56	-90.01	61.40	0.00	0.00	91.86
5500.00	0.00	145.70	5494.92	-108.02	73.69	1.00	180.00	110.24
10529.02	0.00	145.70	10523.95	-108.02	73.69	0.00	145.70	110.24
11029.02	50.00	145.70	10962.86	-277.10	189.02	10.00	145.70	282.78
11535.14	90.00	179.77	11137.00	-719.44	307.07	10.00	46.45	728.54
22198.19	90.00	179.77	11137.00	-11382.40	350.20	0.00	0.00	11387.79

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PLU 20 BD 124H SHL	0.00	0.00	0.00	404288.10	632588.20	Point
PLU 20 BD 124H FTP_330FNL_363FEL	11137.00	-1281.50	310.50	403006.60	632898.70	Point
PLU 20 BD 124H LP	11137.00	-719.44	307.07	403568.66	632895.27	Point
PLU 20 BD 124H LTP_330FSL_350FEL	11137.00	-11252.40	350.10	393035.70	632938.30	Point
PLU 20 BD 124H PBHL_200FSL_350FEL	11137.00	-11382.40	350.20	392905.70	632938.40	Rectangle (Sides: L10098.00 W100.00)



To convert a Magnetic Direction to a Grid Direction, Add 6.67°
To convert a Magnetic Direction to a True Direction, Add 6.90° East
Magnetic North is 6.67° East of Grid North (Magnetic Convergence)
Magnetic North is 6.90° East of True North (Magnetic Declination)



Planning Report

Database:	PREDATOR_EDM	Local Co-ordinate Reference:	Well PLU 20 BD 124H SHL - Slot PLU 20 BD 124H SHL
Company:	XTO Energy	TVD Reference:	3162+31 @ 3193.00usft (NabF26)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3162+31 @ 3193.00usft (NabF26)
Site:	PLU 20 Brushy Draw	North Reference:	Grid
Well:	PLU 20 BD 124H SHL	Survey Calculation Method:	Minimum Curvature
Wellbore:	124H 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 20 Brushy Draw		
Site Position:		Northing:	404,287.80 usft
From:	Map	Easting:	632,558.20 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in
		Grid Convergence:	0.23 °

Well	PLU 20 BD 124H SHL - Slot PLU 20 BD 124H SHL					
Well Position	+N/-S	0.30 usft	Northing:	404,288.10 usft	Latitude:	32.1107802
	+E/-W	30.00 usft	Easting:	632,588.20 usft	Longitude:	-103.9051082
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,162.00 usft

Wellbore:	124H Lateral		
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	04/18/19	6.90	59.88	47,649.20985735

Design:	Plan #1		
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Audit Notes:			
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Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
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Vertical Section	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	1.00	0.00	0.00	178.24

Plan Survey Tool Program:	Date:	04/25/19	
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Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	22,198.19	Plan #1 (124H Lateral)	MWD+IFR1+MS
				OWSG MWD + IFR1 + Multi-SI

Planning Report

Database:	PREDATOR_EDM	Local Co-ordinate Reference:	Well PLU 20 BD 124H SHL - Slot PLU 20 BD 124H SHL
Company:	XTO Energy	TVD Reference:	3162+31 @ 3193.00usft (NabF26)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3162+31 @ 3193.00usft (NabF26)
Site:	PLU 20 Brushy Draw	North Reference:	Grid
Well:	PLU 20 BD 124H SHL	Survey Calculation Method:	Minimum Curvature
Wellbore:	124H Lateral		
Design:	Plan #1		

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	
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,000.00	5.00	145.70	3,999.36	-18.01	12.29	1.00	1.00	0.00	145.70	
5,000.00	5.00	145.70	4,995.56	-90.01	61.40	0.00	0.00	0.00	0.00	
5,500.00	0.00	145.70	5,494.92	-108.02	73.69	1.00	-1.00	0.00	180.00	
10,529.02	0.00	145.70	10,523.95	-108.02	73.69	0.00	0.00	0.00	145.70	
11,029.02	50.00	145.70	10,962.86	-277.10	189.02	10.00	10.00	0.00	145.70	
11,535.14	90.00	179.77	11,137.00	-719.44	307.07	10.00	7.90	6.73	46.45	
22,198.19	90.00	179.77	11,137.00	-11,382.40	350.20	0.00	0.00	0.00	0.00	PLU 20 BD 124H PB

Planning Report

Database	PREDATOR_EDM	Local Co-ordinate Reference	Well PLU 20 BD 124H SHL - Slot PLU 20 BD 124H SHL
Company	XTO Energy	TVD Reference	3162+31 @ 3193.00usft (NabF26)
Project	Eddy County, NM (NAD27) NMEZ Grid	MD Reference	3162+31 @ 3193.00usft (NabF26)
Site	PLU 20 Brushy Draw	North Reference	Grid
Well	PLU 20 BD 124H SHL	Survey Calculation Method	Minimum Curvature
Wellbore	124H Lateral		
Design	Plan #1		

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
PLU 20 BD 154H SHL - PLU 20 BD 124H SHL - PLU 20 BD 163H SHL									
1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
PLU 20 BD 123H SHL - PLU 20 BD 104H SHL									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	1.00	145.70	3,600.00	-0.72	0.49	0.74	1.00	1.00	0.00
3,700.00	2.00	145.70	3,699.96	-2.88	1.97	2.94	1.00	1.00	0.00
3,800.00	3.00	145.70	3,799.86	-6.49	4.42	6.62	1.00	1.00	0.00
3,900.00	4.00	145.70	3,899.68	-11.53	7.87	11.77	1.00	1.00	0.00
4,000.00	5.00	145.70	3,999.36	-18.01	12.29	18.38	1.00	1.00	0.00
4,100.00	5.00	145.70	4,098.99	-25.21	17.20	25.73	0.00	0.00	0.00
4,200.00	5.00	145.70	4,198.60	-32.41	22.11	33.08	0.00	0.00	0.00
4,300.00	5.00	145.70	4,298.22	-39.61	27.02	40.42	0.00	0.00	0.00
4,400.00	5.00	145.70	4,397.84	-46.81	31.93	47.77	0.00	0.00	0.00
4,500.00	5.00	145.70	4,497.46	-54.01	36.84	55.12	0.00	0.00	0.00
4,600.00	5.00	145.70	4,597.08	-61.21	41.76	62.47	0.00	0.00	0.00
4,700.00	5.00	145.70	4,696.70	-68.41	46.67	69.81	0.00	0.00	0.00
4,800.00	5.00	145.70	4,796.32	-75.61	51.58	77.16	0.00	0.00	0.00
4,900.00	5.00	145.70	4,895.94	-82.81	56.49	84.51	0.00	0.00	0.00

Planning Report

Database	PREDATOR_EDM	Local Co-ordinate Reference	Well PLU 20 BD 124H SHL - Slot PLU 20 BD 124H SHL
Company	XTO Energy	TVD Reference	3162+31 @ 3193.00usft (NabF26)
Project	Eddy County, NM (NAD27) NMEZ Grid	MD Reference	3162+31 @ 3193.00usft (NabF26)
Site	PLU 20 Brushy Draw	North Reference	Grid
Well	PLU 20 BD 124H SHL	Survey Calculation Method	Minimum Curvature
Wellbore	124H 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)	
5,000.00	5.00	145.70	4,995.56	-90.01	61.40	91.86	0.00	0.00	0.00	
5,100.00	4.00	145.70	5,095.25	-96.49	65.82	98.47	1.00	-1.00	0.00	
5,200.00	3.00	145.70	5,195.06	-101.54	69.26	103.62	1.00	-1.00	0.00	
5,300.00	2.00	145.70	5,294.97	-105.14	71.72	107.29	1.00	-1.00	0.00	
5,400.00	1.00	145.70	5,394.93	-107.30	73.20	109.50	1.00	-1.00	0.00	
5,500.00	0.00	145.70	5,494.92	-108.02	73.69	110.24	1.00	-1.00	0.00	
5,600.00	0.00	145.70	5,594.93	-108.02	73.69	110.24	0.00	0.00	0.00	
5,700.00	0.00	145.70	5,694.93	-108.02	73.69	110.24	0.00	0.00	0.00	
5,800.00	0.00	145.70	5,794.93	-108.02	73.69	110.24	0.00	0.00	0.00	
5,900.00	0.00	145.70	5,894.93	-108.02	73.69	110.24	0.00	0.00	0.00	
6,000.00	0.00	145.70	5,994.93	-108.02	73.69	110.24	0.00	0.00	0.00	
6,100.00	0.00	145.70	6,094.93	-108.02	73.69	110.24	0.00	0.00	0.00	
6,200.00	0.00	145.70	6,194.93	-108.02	73.69	110.24	0.00	0.00	0.00	
6,300.00	0.00	145.70	6,294.93	-108.02	73.69	110.24	0.00	0.00	0.00	
6,400.00	0.00	145.70	6,394.93	-108.02	73.69	110.24	0.00	0.00	0.00	
6,500.00	0.00	145.70	6,494.93	-108.02	73.69	110.24	0.00	0.00	0.00	
6,600.00	0.00	145.70	6,594.93	-108.02	73.69	110.24	0.00	0.00	0.00	
6,700.00	0.00	145.70	6,694.93	-108.02	73.69	110.24	0.00	0.00	0.00	
6,800.00	0.00	145.70	6,794.93	-108.02	73.69	110.24	0.00	0.00	0.00	
6,900.00	0.00	145.70	6,894.93	-108.02	73.69	110.24	0.00	0.00	0.00	
7,000.00	0.00	145.70	6,994.93	-108.02	73.69	110.24	0.00	0.00	0.00	
7,100.00	0.00	145.70	7,094.93	-108.02	73.69	110.24	0.00	0.00	0.00	
7,200.00	0.00	145.70	7,194.93	-108.02	73.69	110.24	0.00	0.00	0.00	
7,300.00	0.00	145.70	7,294.93	-108.02	73.69	110.24	0.00	0.00	0.00	
7,400.00	0.00	145.70	7,394.93	-108.02	73.69	110.24	0.00	0.00	0.00	
7,500.00	0.00	145.70	7,494.93	-108.02	73.69	110.24	0.00	0.00	0.00	
7,600.00	0.00	145.70	7,594.93	-108.02	73.69	110.24	0.00	0.00	0.00	
7,700.00	0.00	145.70	7,694.93	-108.02	73.69	110.24	0.00	0.00	0.00	
7,800.00	0.00	145.70	7,794.93	-108.02	73.69	110.24	0.00	0.00	0.00	
7,900.00	0.00	145.70	7,894.93	-108.02	73.69	110.24	0.00	0.00	0.00	
8,000.00	0.00	145.70	7,994.93	-108.02	73.69	110.24	0.00	0.00	0.00	
8,100.00	0.00	145.70	8,094.93	-108.02	73.69	110.24	0.00	0.00	0.00	
8,200.00	0.00	145.70	8,194.93	-108.02	73.69	110.24	0.00	0.00	0.00	
8,300.00	0.00	145.70	8,294.93	-108.02	73.69	110.24	0.00	0.00	0.00	
8,400.00	0.00	145.70	8,394.93	-108.02	73.69	110.24	0.00	0.00	0.00	
8,500.00	0.00	145.70	8,494.93	-108.02	73.69	110.24	0.00	0.00	0.00	
8,600.00	0.00	145.70	8,594.93	-108.02	73.69	110.24	0.00	0.00	0.00	
8,700.00	0.00	145.70	8,694.93	-108.02	73.69	110.24	0.00	0.00	0.00	
8,800.00	0.00	145.70	8,794.93	-108.02	73.69	110.24	0.00	0.00	0.00	
8,900.00	0.00	145.70	8,894.93	-108.02	73.69	110.24	0.00	0.00	0.00	
9,000.00	0.00	145.70	8,994.93	-108.02	73.69	110.24	0.00	0.00	0.00	
9,100.00	0.00	145.70	9,094.93	-108.02	73.69	110.24	0.00	0.00	0.00	
9,200.00	0.00	145.70	9,194.93	-108.02	73.69	110.24	0.00	0.00	0.00	
9,300.00	0.00	145.70	9,294.93	-108.02	73.69	110.24	0.00	0.00	0.00	
9,400.00	0.00	145.70	9,394.93	-108.02	73.69	110.24	0.00	0.00	0.00	
9,500.00	0.00	145.70	9,494.93	-108.02	73.69	110.24	0.00	0.00	0.00	
9,600.00	0.00	145.70	9,594.93	-108.02	73.69	110.24	0.00	0.00	0.00	
9,700.00	0.00	145.70	9,694.93	-108.02	73.69	110.24	0.00	0.00	0.00	
9,800.00	0.00	145.70	9,794.93	-108.02	73.69	110.24	0.00	0.00	0.00	
9,900.00	0.00	145.70	9,894.93	-108.02	73.69	110.24	0.00	0.00	0.00	
10,000.00	0.00	145.70	9,994.93	-108.02	73.69	110.24	0.00	0.00	0.00	
10,100.00	0.00	145.70	10,094.93	-108.02	73.69	110.24	0.00	0.00	0.00	
10,200.00	0.00	145.70	10,194.93	-108.02	73.69	110.24	0.00	0.00	0.00	

Planning Report

Database:	PREDATOR_EDM	Local Co-ordinate Reference:	Well PLU 20 BD 124H SHL - Slot PLU 20 BD 124H SHL
Company:	XTO Energy	TVD Reference:	3162+31 @ 3193.00usft (NabF26)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3162+31 @ 3193.00usft (NabF26)
Site:	PLU 20 Brushy Draw	North Reference:	Grid
Well:	PLU 20 BD 124H SHL	Survey Calculation Method:	Minimum Curvature
Wellbore:	124H 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)	
10,300.00	0.00	145.70	10,294.93	-108.02	73.69	110.24	0.00	0.00	0.00	
10,400.00	0.00	145.70	10,394.93	-108.02	73.69	110.24	0.00	0.00	0.00	
10,500.00	0.00	145.70	10,494.93	-108.02	73.69	110.24	0.00	0.00	0.00	
10,529.02	0.00	145.70	10,523.95	-108.02	73.69	110.24	0.00	0.00	0.00	
10,550.00	2.10	145.70	10,544.92	-108.34	73.90	110.56	10.00	10.00	0.00	
10,600.00	7.10	145.70	10,594.74	-111.65	76.16	113.94	10.00	10.00	0.00	
10,650.00	12.10	145.70	10,644.03	-118.53	80.86	120.96	10.00	10.00	0.00	
10,700.00	17.10	145.70	10,692.40	-128.94	87.96	131.58	10.00	10.00	0.00	
10,750.00	22.10	145.70	10,739.49	-142.79	97.40	145.72	10.00	10.00	0.00	
10,800.00	27.10	145.70	10,784.94	-159.98	109.13	163.26	10.00	10.00	0.00	
10,850.00	32.10	145.70	10,828.40	-180.37	123.04	184.07	10.00	10.00	0.00	
10,900.00	37.10	145.70	10,869.54	-203.82	139.03	208.00	10.00	10.00	0.00	
10,950.00	42.10	145.70	10,908.06	-230.14	156.99	234.86	10.00	10.00	0.00	
11,000.00	47.10	145.70	10,943.65	-259.13	176.77	264.44	10.00	10.00	0.00	
11,029.02	50.00	145.70	10,962.86	-277.10	189.02	282.78	10.00	10.00	0.00	
11,050.00	51.46	147.64	10,976.14	-290.67	197.94	296.62	10.00	6.97	9.27	
11,100.00	55.06	151.97	11,006.05	-325.30	218.05	331.85	10.00	7.21	8.66	
11,150.00	58.81	155.93	11,033.33	-362.94	236.42	370.04	10.00	7.49	7.91	
11,200.00	62.66	159.58	11,057.77	-403.30	252.90	410.89	10.00	7.71	7.30	
11,250.00	66.61	162.98	11,079.19	-446.08	267.37	454.10	10.00	7.89	6.81	
11,300.00	70.62	166.19	11,097.43	-490.95	279.72	499.32	10.00	8.03	6.41	
11,350.00	74.69	169.24	11,112.33	-537.57	289.87	546.23	10.00	8.13	6.10	
11,400.00	78.79	172.17	11,123.80	-585.59	297.72	594.46	10.00	8.21	5.86	
11,450.00	82.93	175.02	11,131.75	-634.63	303.22	643.65	10.00	8.27	5.70	
11,500.00	87.08	177.82	11,136.10	-684.32	306.33	693.42	10.00	8.30	5.60	
11,535.14	90.00	179.77	11,137.00	-719.44	307.07	728.54	10.00	8.32	5.56	
PLU 20 BD 124H LP										
11,600.00	90.00	179.77	11,137.00	-784.30	307.33	793.38	0.00	0.00	0.00	
11,700.00	90.00	179.77	11,137.00	-884.30	307.73	893.34	0.00	0.00	0.00	
11,800.00	90.00	179.77	11,137.00	-984.30	308.14	993.31	0.00	0.00	0.00	
11,900.00	90.00	179.77	11,137.00	-1,084.30	308.54	1,093.27	0.00	0.00	0.00	
12,000.00	90.00	179.77	11,137.00	-1,184.30	308.95	1,193.24	0.00	0.00	0.00	
12,097.21	90.00	179.77	11,137.00	-1,281.50	309.34	1,290.41	0.00	0.00	0.00	
PLU 20 BD 154H FTP_330FNL_363FEL - PLU 20 BD 124H FTP_330FNL_363FEL										
12,099.78	90.00	179.77	11,137.00	-1,284.07	309.35	1,292.98	0.00	0.00	0.00	
PLU 20 BD 104H FTP_330FNL_644FWL										
12,100.00	90.00	179.77	11,137.00	-1,284.30	309.35	1,293.20	0.00	0.00	0.00	
12,102.54	90.00	179.77	11,137.00	-1,286.83	309.36	1,295.74	0.00	0.00	0.00	
PLU 20 BD 163H FTP_330FNL_313FWL - PLU 20 BD 123H FTP_330FNL_313FWL										
12,200.00	90.00	179.77	11,137.00	-1,384.29	309.76	1,393.17	0.00	0.00	0.00	
12,300.00	90.00	179.77	11,137.00	-1,484.29	310.16	1,493.13	0.00	0.00	0.00	
12,400.00	90.00	179.77	11,137.00	-1,584.29	310.56	1,593.09	0.00	0.00	0.00	
12,500.00	90.00	179.77	11,137.00	-1,684.29	310.97	1,693.06	0.00	0.00	0.00	
12,600.00	90.00	179.77	11,137.00	-1,784.29	311.37	1,793.02	0.00	0.00	0.00	
12,700.00	90.00	179.77	11,137.00	-1,884.29	311.78	1,892.99	0.00	0.00	0.00	
12,800.00	90.00	179.77	11,137.00	-1,984.29	312.18	1,992.95	0.00	0.00	0.00	
12,900.00	90.00	179.77	11,137.00	-2,084.29	312.59	2,092.92	0.00	0.00	0.00	
13,000.00	90.00	179.77	11,137.00	-2,184.29	312.99	2,192.88	0.00	0.00	0.00	
13,100.00	90.00	179.77	11,137.00	-2,284.29	313.40	2,292.84	0.00	0.00	0.00	
13,200.00	90.00	179.77	11,137.00	-2,384.29	313.80	2,392.81	0.00	0.00	0.00	
13,300.00	90.00	179.77	11,137.00	-2,484.29	314.21	2,492.77	0.00	0.00	0.00	
13,400.00	90.00	179.77	11,137.00	-2,584.28	314.61	2,592.74	0.00	0.00	0.00	

Planning Report

Database	PREDATOR_EDM	Local Co-ordinate Reference	Well PLU 20 BD 124H SHL - Slot PLU 20 BD 124H SHL
Company	XTO Energy	TVD Reference	3162+31 @ 3193.00usft (NabF26)
Project	Eddy County, NM (NAD27) NMEZ Grid	MD Reference	3162+31 @ 3193.00usft (NabF26)
Site	PLU 20 Brushy Draw	North Reference	Grid
Well	PLU 20 BD 124H SHL	Survey Calculation Method	Minimum Curvature
Wellbore	124H 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)
13,500.00	90.00	179.77	11,137.00	-2,684.28	315.01	2,692.70	0.00	0.00	0.00
13,600.00	90.00	179.77	11,137.00	-2,784.28	315.42	2,792.67	0.00	0.00	0.00
13,700.00	90.00	179.77	11,137.00	-2,884.28	315.82	2,892.63	0.00	0.00	0.00
13,800.00	90.00	179.77	11,137.00	-2,984.28	316.23	2,992.59	0.00	0.00	0.00
13,900.00	90.00	179.77	11,137.00	-3,084.28	316.63	3,092.56	0.00	0.00	0.00
14,000.00	90.00	179.77	11,137.00	-3,184.28	317.04	3,192.52	0.00	0.00	0.00
14,100.00	90.00	179.77	11,137.00	-3,284.28	317.44	3,292.49	0.00	0.00	0.00
14,200.00	90.00	179.77	11,137.00	-3,384.28	317.85	3,392.45	0.00	0.00	0.00
14,300.00	90.00	179.77	11,137.00	-3,484.28	318.25	3,492.42	0.00	0.00	0.00
14,400.00	90.00	179.77	11,137.00	-3,584.28	318.65	3,592.38	0.00	0.00	0.00
14,500.00	90.00	179.77	11,137.00	-3,684.28	319.06	3,692.35	0.00	0.00	0.00
14,600.00	90.00	179.77	11,137.00	-3,784.28	319.46	3,792.31	0.00	0.00	0.00
14,700.00	90.00	179.77	11,137.00	-3,884.27	319.87	3,892.27	0.00	0.00	0.00
14,800.00	90.00	179.77	11,137.00	-3,984.27	320.27	3,992.24	0.00	0.00	0.00
14,900.00	90.00	179.77	11,137.00	-4,084.27	320.68	4,092.20	0.00	0.00	0.00
15,000.00	90.00	179.77	11,137.00	-4,184.27	321.08	4,192.17	0.00	0.00	0.00
15,100.00	90.00	179.77	11,137.00	-4,284.27	321.49	4,292.13	0.00	0.00	0.00
15,200.00	90.00	179.77	11,137.00	-4,384.27	321.89	4,392.10	0.00	0.00	0.00
15,300.00	90.00	179.77	11,137.00	-4,484.27	322.30	4,492.06	0.00	0.00	0.00
15,400.00	90.00	179.77	11,137.00	-4,584.27	322.70	4,592.02	0.00	0.00	0.00
15,500.00	90.00	179.77	11,137.00	-4,684.27	323.10	4,691.99	0.00	0.00	0.00
15,600.00	90.00	179.77	11,137.00	-4,784.27	323.51	4,791.95	0.00	0.00	0.00
15,700.00	90.00	179.77	11,137.00	-4,884.27	323.91	4,891.92	0.00	0.00	0.00
15,800.00	90.00	179.77	11,137.00	-4,984.27	324.32	4,991.88	0.00	0.00	0.00
15,900.00	90.00	179.77	11,137.00	-5,084.26	324.72	5,091.85	0.00	0.00	0.00
16,000.00	90.00	179.77	11,137.00	-5,184.26	325.13	5,191.81	0.00	0.00	0.00
16,100.00	90.00	179.77	11,137.00	-5,284.26	325.53	5,291.77	0.00	0.00	0.00
16,200.00	90.00	179.77	11,137.00	-5,384.26	325.94	5,391.74	0.00	0.00	0.00
16,300.00	90.00	179.77	11,137.00	-5,484.26	326.34	5,491.70	0.00	0.00	0.00
16,400.00	90.00	179.77	11,137.00	-5,584.26	326.75	5,591.67	0.00	0.00	0.00
16,500.00	90.00	179.77	11,137.00	-5,684.26	327.15	5,691.63	0.00	0.00	0.00
16,600.00	90.00	179.77	11,137.00	-5,784.26	327.55	5,791.60	0.00	0.00	0.00
16,700.00	90.00	179.77	11,137.00	-5,884.26	327.96	5,891.56	0.00	0.00	0.00
16,800.00	90.00	179.77	11,137.00	-5,984.26	328.36	5,991.52	0.00	0.00	0.00
16,900.00	90.00	179.77	11,137.00	-6,084.26	328.77	6,091.49	0.00	0.00	0.00
17,000.00	90.00	179.77	11,137.00	-6,184.26	329.17	6,191.45	0.00	0.00	0.00
17,100.00	90.00	179.77	11,137.00	-6,284.25	329.58	6,291.42	0.00	0.00	0.00
17,200.00	90.00	179.77	11,137.00	-6,384.25	329.98	6,391.38	0.00	0.00	0.00
17,300.00	90.00	179.77	11,137.00	-6,484.25	330.39	6,491.35	0.00	0.00	0.00
17,400.00	90.00	179.77	11,137.00	-6,584.25	330.79	6,591.31	0.00	0.00	0.00
17,500.00	90.00	179.77	11,137.00	-6,684.25	331.19	6,691.27	0.00	0.00	0.00
17,600.00	90.00	179.77	11,137.00	-6,784.25	331.60	6,791.24	0.00	0.00	0.00
17,700.00	90.00	179.77	11,137.00	-6,884.25	332.00	6,891.20	0.00	0.00	0.00
17,800.00	90.00	179.77	11,137.00	-6,984.25	332.41	6,991.17	0.00	0.00	0.00
17,900.00	90.00	179.77	11,137.00	-7,084.25	332.81	7,091.13	0.00	0.00	0.00
18,000.00	90.00	179.77	11,137.00	-7,184.25	333.22	7,191.10	0.00	0.00	0.00
18,100.00	90.00	179.77	11,137.00	-7,284.25	333.62	7,291.06	0.00	0.00	0.00
18,200.00	90.00	179.77	11,137.00	-7,384.25	334.03	7,391.03	0.00	0.00	0.00
18,300.00	90.00	179.77	11,137.00	-7,484.24	334.43	7,490.99	0.00	0.00	0.00
18,400.00	90.00	179.77	11,137.00	-7,584.24	334.84	7,590.95	0.00	0.00	0.00
18,500.00	90.00	179.77	11,137.00	-7,684.24	335.24	7,690.92	0.00	0.00	0.00
18,600.00	90.00	179.77	11,137.00	-7,784.24	335.64	7,790.88	0.00	0.00	0.00
18,700.00	90.00	179.77	11,137.00	-7,884.24	336.05	7,890.85	0.00	0.00	0.00

Planning Report

Database	PREDATOR_EDM	Local Co-ordinate Reference	Well PLU 20 BD 124H SHL - Slot PLU 20 BD 124H SHL
Company	XTO Energy	TVD Reference	3162+31 @ 3193.00usft (NabF26)
Project	Eddy County, NM (NAD27) NMEZ Grid	MD Reference	3162+31 @ 3193.00usft (NabF26)
Site	PLU 20 Brushy Draw	North Reference	Grid
Well	PLU 20 BD 124H SHL	Survey Calculation Method	Minimum Curvature
Wellbore	124H 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)	
18,800.00	90.00	179.77	11,137.00	-7,984.24	336.45	7,990.81	0.00	0.00	0.00	
18,900.00	90.00	179.77	11,137.00	-8,084.24	336.86	8,090.78	0.00	0.00	0.00	
19,000.00	90.00	179.77	11,137.00	-8,184.24	337.26	8,190.74	0.00	0.00	0.00	
19,100.00	90.00	179.77	11,137.00	-8,284.24	337.67	8,290.70	0.00	0.00	0.00	
19,200.00	90.00	179.77	11,137.00	-8,384.24	338.07	8,390.67	0.00	0.00	0.00	
19,300.00	90.00	179.77	11,137.00	-8,484.24	338.48	8,490.63	0.00	0.00	0.00	
19,400.00	90.00	179.77	11,137.00	-8,584.24	338.88	8,590.60	0.00	0.00	0.00	
19,500.00	90.00	179.77	11,137.00	-8,684.24	339.29	8,690.56	0.00	0.00	0.00	
19,600.00	90.00	179.77	11,137.00	-8,784.23	339.69	8,790.53	0.00	0.00	0.00	
19,700.00	90.00	179.77	11,137.00	-8,884.23	340.09	8,890.49	0.00	0.00	0.00	
19,800.00	90.00	179.77	11,137.00	-8,984.23	340.50	8,990.45	0.00	0.00	0.00	
19,900.00	90.00	179.77	11,137.00	-9,084.23	340.90	9,090.42	0.00	0.00	0.00	
20,000.00	90.00	179.77	11,137.00	-9,184.23	341.31	9,190.38	0.00	0.00	0.00	
20,100.00	90.00	179.77	11,137.00	-9,284.23	341.71	9,290.35	0.00	0.00	0.00	
20,200.00	90.00	179.77	11,137.00	-9,384.23	342.12	9,390.31	0.00	0.00	0.00	
20,300.00	90.00	179.77	11,137.00	-9,484.23	342.52	9,490.28	0.00	0.00	0.00	
20,400.00	90.00	179.77	11,137.00	-9,584.23	342.93	9,590.24	0.00	0.00	0.00	
20,500.00	90.00	179.77	11,137.00	-9,684.23	343.33	9,690.20	0.00	0.00	0.00	
20,600.00	90.00	179.77	11,137.00	-9,784.23	343.74	9,790.17	0.00	0.00	0.00	
20,700.00	90.00	179.77	11,137.00	-9,884.23	344.14	9,890.13	0.00	0.00	0.00	
20,800.00	90.00	179.77	11,137.00	-9,984.22	344.54	9,990.10	0.00	0.00	0.00	
20,900.00	90.00	179.77	11,137.00	-10,084.22	344.95	10,090.06	0.00	0.00	0.00	
21,000.00	90.00	179.77	11,137.00	-10,184.22	345.35	10,190.03	0.00	0.00	0.00	
21,100.00	90.00	179.77	11,137.00	-10,284.22	345.76	10,289.99	0.00	0.00	0.00	
21,200.00	90.00	179.77	11,137.00	-10,384.22	346.16	10,389.96	0.00	0.00	0.00	
21,300.00	90.00	179.77	11,137.00	-10,484.22	346.57	10,489.92	0.00	0.00	0.00	
21,400.00	90.00	179.77	11,137.00	-10,584.22	346.97	10,589.88	0.00	0.00	0.00	
21,500.00	90.00	179.77	11,137.00	-10,684.22	347.38	10,689.85	0.00	0.00	0.00	
21,600.00	90.00	179.77	11,137.00	-10,784.22	347.78	10,789.81	0.00	0.00	0.00	
21,700.00	90.00	179.77	11,137.00	-10,884.22	348.18	10,889.78	0.00	0.00	0.00	
21,800.00	90.00	179.77	11,137.00	-10,984.22	348.59	10,989.74	0.00	0.00	0.00	
21,900.00	90.00	179.77	11,137.00	-11,084.22	348.99	11,089.71	0.00	0.00	0.00	
22,000.00	90.00	179.77	11,137.00	-11,184.21	349.40	11,189.67	0.00	0.00	0.00	
22,068.19	90.00	179.77	11,137.00	-11,252.40	349.67	11,257.83	0.00	0.00	0.00	
PLU 20 BD 154H LTP_330FSL_350FEL - PLU 20 BD 124H LTP_330FSL_350FEL										
22,068.22	90.00	179.77	11,137.00	-11,252.43	349.67	11,257.86	0.00	0.00	0.00	
PLU 20 BD 123H LTP_330FSL_320FWL										
22,069.55	90.00	179.77	11,137.00	-11,253.77	349.68	11,259.20	0.00	0.00	0.00	
PLU 20 BD 104H LTP_330FSL_650FWL										
22,070.92	90.00	179.77	11,137.00	-11,255.13	349.69	11,260.56	0.00	0.00	0.00	
PLU 20 BD 163H LTP_330FSL_320FWL										
22,100.00	90.00	179.77	11,137.00	-11,284.21	349.80	11,289.63	0.00	0.00	0.00	
22,198.19	90.00	179.77	11,137.00	-11,382.40	350.20	11,387.79	0.00	0.00	0.00	
PLU 20 BD 124H PBHL_200FSL_350FEL - PLU 20 BD 104H PBHL_200FSL_650FWL - PLU 20 BD 154H PBHL_200FSL_350FEL - PLU 20 BD										

Planning Report

Database	PREDATOR_EDM	Local Co-ordinate Reference	Well PLU 20 BD 124H SHL - Slot PLU 20 BD 124H SHL
Company	XTO Energy	TVD Reference	3162+31 @ 3193.00usft (NabF26)
Project	Eddy County, NM (NAD27) NMEZ Grid	MD Reference	3162+31 @ 3193.00usft (NabF26)
Site	PLU 20 Brushy Draw	North Reference	Grid
Well	PLU 20 BD 124H SHL	Survey Calculation Method	Minimum Curvature
Wellbore	124H Lateral		
Design	Plan #1		

Design Targets									
Target Name	Dip Angle (°)	Dip Dir (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PLU 20 BD 124H SHL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	404,288.10	632,588.20	32.11078021	-103.90510822
PLU 20 BD 124H PBHL - plan hits target center - Rectangle (sides W100.00 H10,098.00 D0.00)	0.00	0.00	11,137.00	-11,382.40	350.20	392,905.70	632,938.40	32.07948646	-103.90412351
PLU 20 BD 124H FTP_3 - plan misses target center by 1.16usft at 12097.21usft MD (11137.00 TVD, -1281.50 N, 309.34 E) - Point	0.00	0.00	11,137.00	-1,281.50	310.50	403,006.60	632,898.70	32.10725401	-103.90412189
PLU 20 BD 124H LTP_3 - plan misses target center by 0.43usft at 22068.19usft MD (11137.00 TVD, -11252.40 N, 349.67 E) - Point	0.00	0.00	11,137.00	-11,252.40	350.10	393,035.70	632,938.30	32.07984383	-103.90412217
PLU 20 BD 124H LP - plan misses target center by 0.01usft at 11535.14usft MD (11137.00 TVD, -719.44 N, 307.07 E) - Point	0.00	0.00	11,137.00	-719.44	307.07	403,568.66	632,895.27	32.10879913	-103.90412574

Anticollision Report

Company:	XTO Energy	Local Co-ordinate Reference:	Well PLU 20 BD 124H SHL - Slot PLU 20 BD 124H SHL
Project:	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference:	3162+31 @ 3193.00usft (NabF26)
Reference Site:	PLU 20 Brushy Draw	MD Reference:	3162+31 @ 3193.00usft (NabF26)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PLU 20 BD 124H SHL	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	124H Lateral	Database:	PREDATOR_EDM
Reference Design:	Plan #1	Offset TVD Reference:	Reference Datum

Reference:	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.00usft	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: 04/25/19		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	22,198.19	Plan #1 (124H Lateral)	MWD+IFR1+MS	OWSG MWD + IFR1 + Multi-Station Correction

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 20 Brushy Draw						
PLU 20 BD 104H SHL - 104H Lateral - Plan #1	3,500.00	3,499.00	30.00	5.38	1.219	Level 2, CC
PLU 20 BD 104H SHL - 104H Lateral - Plan #1	3,600.00	3,599.02	30.46	5.15	1.204	Level 2, ES, SF
PLU 20 BD 123H SHL - 123H Lateral - Plan #1	3,500.00	3,499.00	59.90	35.28	2.433	CC, ES
PLU 20 BD 123H SHL - 123H Lateral - Plan #1	3,600.00	3,598.42	60.86	35.56	2.405	SF
PLU 20 BD 154H SHL - 154H Lateral - Plan #1	3,500.00	3,500.00	30.00	5.38	1.218	Level 2, CC
PLU 20 BD 154H SHL - 154H Lateral - Plan #1	3,600.00	3,599.47	30.40	5.10	1.201	Level 2, ES, SF
PLU 20 BD 163H SHL - 163H Lateral - Plan #1	3,500.00	3,500.00	89.91	65.28	3.651	CC, ES
PLU 20 BD 163H SHL - 163H Lateral - Plan #1	3,600.00	3,598.43	91.25	65.95	3.606	SF

Offset Design: PLU 20 Brushy Draw - PLU 20 BD 104H SHL - 104H Lateral - Plan #1												Offset Site Error: 0.00 usft	
Survey Program: O-MWD+IFR1+MS												Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		N-S (usft)	E-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
1,200.00	1,200.00	1,199.00	1,200.00	4.07	4.07	-90.57	-0.30	-30.00	30.00	21.87	8.13	3.689	
1,300.00	1,300.00	1,299.00	1,300.00	4.43	4.42	-90.57	-0.30	-30.00	30.00	21.15	8.85	3.390	
1,400.00	1,400.00	1,399.00	1,400.00	4.78	4.78	-90.57	-0.30	-30.00	30.00	20.44	9.57	3.136	
1,500.00	1,500.00	1,499.00	1,500.00	5.14	5.14	-90.57	-0.30	-30.00	30.00	19.72	10.28	2.918	
1,600.00	1,600.00	1,599.00	1,600.00	5.50	5.50	-90.57	-0.30	-30.00	30.00	19.00	11.00	2.727	
1,700.00	1,700.00	1,699.00	1,700.00	5.86	5.86	-90.57	-0.30	-30.00	30.00	18.28	11.72	2.561	
1,800.00	1,800.00	1,799.00	1,800.00	6.22	6.22	-90.57	-0.30	-30.00	30.00	17.57	12.43	2.413	
1,900.00	1,900.00	1,899.00	1,900.00	6.58	6.57	-90.57	-0.30	-30.00	30.00	16.85	13.15	2.281	
2,000.00	2,000.00	1,999.00	2,000.00	6.93	6.93	-90.57	-0.30	-30.00	30.00	16.13	13.87	2.163	
2,100.00	2,100.00	2,099.00	2,100.00	7.29	7.29	-90.57	-0.30	-30.00	30.00	15.42	14.58	2.057	
2,200.00	2,200.00	2,199.00	2,200.00	7.65	7.65	-90.57	-0.30	-30.00	30.00	14.70	15.30	1.961	
2,300.00	2,300.00	2,299.00	2,300.00	8.01	8.01	-90.57	-0.30	-30.00	30.00	13.98	16.02	1.873	
2,400.00	2,400.00	2,399.00	2,400.00	8.37	8.37	-90.57	-0.30	-30.00	30.00	13.27	16.74	1.793	
2,500.00	2,500.00	2,499.00	2,500.00	8.73	8.73	-90.57	-0.30	-30.00	30.00	12.55	17.45	1.719	
2,600.00	2,600.00	2,599.00	2,600.00	9.09	9.08	-90.57	-0.30	-30.00	30.00	11.83	18.17	1.651	
2,700.00	2,700.00	2,699.00	2,700.00	9.44	9.44	-90.57	-0.30	-30.00	30.00	11.12	18.89	1.589	
2,800.00	2,800.00	2,799.00	2,800.00	9.80	9.80	-90.57	-0.30	-30.00	30.00	10.40	19.60	1.530	
2,900.00	2,900.00	2,899.00	2,900.00	10.16	10.16	-90.57	-0.30	-30.00	30.00	9.68	20.32	1.476	Level 3

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 PLU 20 BD 124H SHL - Slot PLU 20 BD 124H SHL
Project	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference	3162+31 @ 3193.00usft (NabF26)
Reference Site	PLU 20 Brushy Draw	MD Reference	3162+31 @ 3193.00usft (NabF26)
Site Error	0.00 usft	North Reference	Grid
Reference Well	PLU 20 BD 124H SHL	Survey/Calculation Method	Minimum Curvature
Well Error	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	124H Lateral	Database	PREDATOR_EDM
Reference Design	Plan #1	Offset TVD Reference	Reference Datum

Offset Design: PLU 20 Brushy Draw - PLU 20 BD 104H SHL - 104H 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	Between		Minimum Separation	Separation Factor			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)			Centres (usft)	Ellipses (usft)					
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	Offset Wellbore Centre (N-S) (usft)	Offset Wellbore Centre (E-W) (usft)	Centres (usft)	Ellipses (usft)	Separation (usft)	Separation Factor		
3,000.00	3,000.00	2,999.00	3,000.00	10.52	10.52	-90.57	-0.30	-30.00	30.00	8.96	21.04	1.426	Level 3	
3,100.00	3,100.00	3,099.00	3,100.00	10.88	10.88	-90.57	-0.30	-30.00	30.00	8.25	21.75	1.379	Level 3	
3,200.00	3,200.00	3,199.00	3,200.00	11.24	11.23	-90.57	-0.30	-30.00	30.00	7.53	22.47	1.335	Level 3	
3,300.00	3,300.00	3,299.00	3,300.00	11.59	11.59	-90.57	-0.30	-30.00	30.00	6.81	23.19	1.294	Level 3	
3,400.00	3,400.00	3,399.00	3,400.00	11.95	11.95	-90.57	-0.30	-30.00	30.00	6.10	23.90	1.255	Level 3	
3,500.00	3,500.00	3,499.00	3,500.00	12.31	12.31	-90.57	-0.30	-30.00	30.00	5.38	24.62	1.219	Level 2, CC	
3,600.00	3,600.00	3,599.02	3,600.01	12.65	12.65	123.48	-1.15	-29.96	30.46	5.15	25.30	1.204	Level 2, ES, SF	
3,700.00	3,699.96	3,699.02	3,699.98	12.98	12.97	122.72	-3.75	-29.85	31.83	5.88	25.95	1.226	Level 2	
3,800.00	3,799.86	3,798.99	3,799.86	13.31	13.30	121.57	-8.09	-29.66	34.12	7.52	26.60	1.283	Level 3	
3,900.00	3,899.68	3,898.93	3,899.60	13.64	13.62	120.18	-14.17	-29.39	37.35	10.10	27.26	1.370	Level 3	
4,000.00	3,899.36	3,898.81	3,999.18	13.97	13.95	118.71	-21.98	-29.05	41.53	13.62	27.91	1.488	Level 3	
4,100.00	4,098.99	4,098.69	4,098.68	14.30	14.28	117.39	-30.68	-28.67	46.20	17.63	28.57	1.617		
4,200.00	4,198.60	4,198.58	4,198.19	14.64	14.61	116.31	-39.37	-28.29	50.88	21.65	29.23	1.741		
4,300.00	4,298.22	4,298.46	4,297.69	14.97	14.94	115.42	-48.07	-27.91	55.59	25.69	29.89	1.859		
4,400.00	4,397.84	4,398.35	4,397.20	15.31	15.27	114.66	-56.77	-27.53	60.30	29.74	30.56	1.973		
4,500.00	4,497.46	4,498.24	4,496.71	15.64	15.61	114.02	-65.46	-27.15	65.02	33.79	31.23	2.082		
4,600.00	4,597.08	4,598.12	4,596.21	15.98	15.94	113.46	-74.16	-26.78	69.75	37.84	31.90	2.186		
4,700.00	4,696.70	4,698.01	4,695.72	16.32	16.28	112.97	-82.86	-26.40	74.48	41.90	32.58	2.286		
4,800.00	4,796.32	4,797.89	4,795.22	16.66	16.62	112.55	-91.56	-26.02	79.22	45.97	33.26	2.382		
4,900.00	4,895.94	4,897.78	4,894.73	17.01	16.95	112.17	-100.25	-25.64	83.97	50.03	33.94	2.474		
5,000.00	4,995.56	4,997.67	4,994.23	17.35	17.29	111.83	-108.95	-25.26	88.71	54.09	34.62	2.562		
5,100.00	5,095.25	5,097.84	5,094.10	17.69	17.63	111.56	-116.84	-24.91	93.00	57.69	35.31	2.634		
5,200.00	5,195.06	5,198.08	5,194.15	18.04	17.98	111.38	-122.99	-24.64	96.33	60.33	36.00	2.676		
5,300.00	5,294.97	5,298.36	5,294.33	18.38	18.32	111.25	-127.39	-24.45	98.71	62.03	36.69	2.691		
5,400.00	5,394.93	5,398.67	5,394.60	18.72	18.66	111.17	-130.04	-24.34	100.15	62.77	37.38	2.680		
5,500.00	5,494.92	5,498.99	5,494.92	19.07	19.01	-103.16	-130.94	-24.30	100.63	62.56	38.06	2.644		
5,600.00	5,594.93	5,599.00	5,594.93	19.41	19.35	-103.16	-130.94	-24.30	100.63	61.87	38.75	2.597		
5,700.00	5,694.93	5,699.00	5,694.93	19.76	19.69	-103.16	-130.94	-24.30	100.63	61.18	39.44	2.551		
5,800.00	5,794.93	5,799.00	5,794.93	20.10	20.04	-103.16	-130.94	-24.30	100.63	60.49	40.13	2.507		
5,900.00	5,894.93	5,899.00	5,894.93	20.45	20.38	-103.16	-130.94	-24.30	100.63	59.80	40.82	2.465		
6,000.00	5,994.93	5,999.00	5,994.93	20.80	20.73	-103.16	-130.94	-24.30	100.63	59.11	41.52	2.424		
6,100.00	6,094.93	6,099.00	6,094.93	21.14	21.08	-103.16	-130.94	-24.30	100.63	58.42	42.21	2.384		
6,200.00	6,194.93	6,199.00	6,194.93	21.49	21.42	-103.16	-130.94	-24.30	100.63	57.72	42.90	2.345		
6,300.00	6,294.93	6,299.00	6,294.93	21.84	21.77	-103.16	-130.94	-24.30	100.63	57.03	43.60	2.308		
6,400.00	6,394.93	6,399.00	6,394.93	22.18	22.12	-103.16	-130.94	-24.30	100.63	56.33	44.29	2.272		
6,500.00	6,494.93	6,499.00	6,494.93	22.53	22.46	-103.16	-130.94	-24.30	100.63	55.64	44.99	2.237		
6,600.00	6,594.93	6,599.00	6,594.93	22.88	22.81	-103.16	-130.94	-24.30	100.63	54.94	45.69	2.203		
6,700.00	6,694.93	6,699.00	6,694.93	23.23	23.16	-103.16	-130.94	-24.30	100.63	54.24	46.38	2.170		
6,800.00	6,794.93	6,799.00	6,794.93	23.58	23.51	-103.16	-130.94	-24.30	100.63	53.55	47.08	2.137		
6,900.00	6,894.93	6,899.00	6,894.93	23.93	23.86	-103.16	-130.94	-24.30	100.63	52.85	47.78	2.106		
7,000.00	6,994.93	6,999.00	6,994.93	24.28	24.21	-103.16	-130.94	-24.30	100.63	52.15	48.48	2.076		
7,100.00	7,094.93	7,099.00	7,094.93	24.63	24.56	-103.16	-130.94	-24.30	100.63	51.45	49.18	2.046		
7,200.00	7,194.93	7,199.00	7,194.93	24.98	24.91	-103.16	-130.94	-24.30	100.63	50.75	49.88	2.018		
7,300.00	7,294.93	7,299.00	7,294.93	25.33	25.26	-103.16	-130.94	-24.30	100.63	50.05	50.58	1.990		
7,400.00	7,394.93	7,399.00	7,394.93	25.68	25.61	-103.16	-130.94	-24.30	100.63	49.35	51.28	1.962		
7,500.00	7,494.93	7,499.00	7,494.93	26.03	25.96	-103.16	-130.94	-24.30	100.63	48.65	51.98	1.936		
7,600.00	7,594.93	7,599.00	7,594.93	26.38	26.31	-103.16	-130.94	-24.30	100.63	47.95	52.68	1.910		
7,700.00	7,694.93	7,699.00	7,694.93	26.73	26.66	-103.16	-130.94	-24.30	100.63	47.24	53.38	1.885		
7,800.00	7,794.93	7,799.00	7,794.93	27.08	27.01	-103.16	-130.94	-24.30	100.63	46.54	54.09	1.861		
7,900.00	7,894.93	7,899.00	7,894.93	27.43	27.36	-103.16	-130.94	-24.30	100.63	45.84	54.79	1.837		
8,000.00	7,994.93	7,999.00	7,994.93	27.79	27.71	-103.16	-130.94	-24.30	100.63	45.14	55.49	1.813		

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 PLU 20 BD 124H SHL - Slot PLU 20 BD 124H SHL
Project:	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference:	3162+31 @ 3193.00usft (NabF26)
Reference Site:	PLU 20 Brushy Draw	MDI Reference:	3162+31 @ 3193.00usft (NabF26)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PLU 20 BD 124H SHL	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	124H Lateral	Database:	PREDATOR_EDM
Reference Design:	Plan #1	Offset TVD Reference:	Reference Datum

Offset Design: PLU 20 Brushy Draw - PLU 20 BD 104H SHL - 104H Lateral - Plan #1													Offset Site Error: 0.00 usft	
Survey Program: 0-MWD-HFR1-MS													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis		Distance		Warning						
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning		
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(deg)	(usft)	E-W (usft)	N-S (usft)	(usft)				
8,100.00	8,094.93	8,099.00	8,094.93	28.14	28.06	-103.16	-130.94	-24.30	100.63	44.43	56.20	1.791		
8,200.00	8,194.93	8,199.00	8,194.93	28.49	28.41	-103.16	-130.94	-24.30	100.63	43.73	56.90	1.769		
8,300.00	8,294.93	8,299.00	8,294.93	28.84	28.77	-103.16	-130.94	-24.30	100.63	43.02	57.60	1.747		
8,400.00	8,394.93	8,399.00	8,394.93	29.19	29.12	-103.16	-130.94	-24.30	100.63	42.32	58.31	1.726		
8,500.00	8,494.93	8,499.00	8,494.93	29.55	29.47	-103.16	-130.94	-24.30	100.63	41.61	59.01	1.705		
8,600.00	8,594.93	8,599.00	8,594.93	29.90	29.82	-103.16	-130.94	-24.30	100.63	40.91	59.72	1.685		
8,700.00	8,694.93	8,699.00	8,694.93	30.25	30.18	-103.16	-130.94	-24.30	100.63	40.20	60.42	1.665		
8,800.00	8,794.93	8,799.00	8,794.93	30.61	30.53	-103.16	-130.94	-24.30	100.63	39.50	61.13	1.646		
8,900.00	8,894.93	8,899.00	8,894.93	30.96	30.88	-103.16	-130.94	-24.30	100.63	38.79	61.84	1.627		
9,000.00	8,994.93	8,999.00	8,994.93	31.31	31.23	-103.16	-130.94	-24.30	100.63	38.09	62.54	1.609		
9,100.00	9,094.93	9,099.00	9,094.93	31.67	31.59	-103.16	-130.94	-24.30	100.63	37.38	63.25	1.591		
9,200.00	9,194.93	9,199.00	9,194.93	32.02	31.94	-103.16	-130.94	-24.30	100.63	36.67	63.95	1.573		
9,300.00	9,294.93	9,299.00	9,294.93	32.37	32.29	-103.16	-130.94	-24.30	100.63	35.97	64.66	1.556		
9,400.00	9,394.93	9,399.00	9,394.93	32.73	32.65	-103.16	-130.94	-24.30	100.63	35.26	65.37	1.539		
9,500.00	9,494.93	9,499.00	9,494.93	33.08	33.00	-103.16	-130.94	-24.30	100.63	34.55	66.08	1.523		
9,600.00	9,594.93	9,599.00	9,594.93	33.43	33.35	-103.16	-130.94	-24.30	100.63	33.84	66.78	1.507		
9,700.00	9,694.93	9,699.00	9,694.93	33.79	33.71	-103.16	-130.94	-24.30	100.63	33.14	67.49	1.491 Level 3		
9,800.00	9,794.93	9,799.00	9,794.93	34.14	34.06	-103.16	-130.94	-24.30	100.63	32.43	68.20	1.475 Level 3		
9,900.00	9,894.93	9,899.00	9,894.93	34.50	34.42	-103.16	-130.94	-24.30	100.63	31.72	68.91	1.460 Level 3		
10,000.00	9,994.93	9,999.00	9,994.93	34.85	34.77	-103.16	-130.94	-24.30	100.63	31.01	69.62	1.445 Level 3		
10,100.00	10,094.93	10,099.00	10,094.93	35.20	35.12	-103.16	-130.94	-24.30	100.63	30.30	70.32	1.431 Level 3		
10,200.00	10,194.93	10,199.00	10,194.93	35.56	35.48	-103.16	-130.94	-24.30	100.63	29.59	71.03	1.417 Level 3		
10,209.09	10,204.01	10,208.09	10,204.01	35.59	35.51	-103.16	-130.94	-24.30	100.63	29.53	71.10	1.415 Level 3		
10,300.00	10,294.93	10,297.13	10,293.01	35.91	35.83	-104.14	-132.70	-24.29	101.06	29.34	71.72	1.409 Level 3		
10,400.00	10,394.93	10,390.68	10,385.26	36.27	36.16	-112.01	-147.61	-24.23	106.06	34.02	72.04	1.472 Level 3		
10,500.00	10,494.93	10,477.30	10,467.47	36.62	36.46	-124.25	-174.62	-24.12	121.47	50.46	71.02	1.710		
10,600.00	10,594.74	10,555.73	10,537.65	36.98	36.72	77.22	-209.52	-23.99	151.22	82.59	68.63	2.203		
10,700.00	10,692.40	10,629.32	10,598.58	37.33	36.96	68.47	-250.68	-23.82	190.05	123.78	66.27	2.868		
10,800.00	10,784.94	10,700.00	10,651.68	37.68	37.17	63.06	-297.26	-23.64	232.87	168.38	64.49	3.611		
17,200.00	11,137.00	16,833.82	10,821.00	62.97	62.28	46.20	-6,385.56	0.43	456.57	341.32	115.25	3.961		
17,300.00	11,137.00	16,933.82	10,821.00	63.58	62.89	46.20	-6,485.56	0.83	456.58	340.02	116.56	3.917		
17,400.00	11,137.00	17,033.82	10,821.00	64.18	63.50	46.20	-6,585.56	1.22	456.59	338.71	117.88	3.873		
17,500.00	11,137.00	17,133.82	10,821.00	64.79	64.12	46.20	-6,685.55	1.62	456.59	337.39	119.20	3.830		
17,600.00	11,137.00	17,233.82	10,821.00	65.41	64.74	46.21	-6,785.55	2.01	456.60	336.07	120.53	3.788		
17,700.00	11,137.00	17,333.82	10,821.00	66.02	65.37	46.21	-6,885.55	2.41	456.61	334.74	121.86	3.747		
17,800.00	11,137.00	17,433.82	10,821.00	66.64	65.99	46.21	-6,985.55	2.81	456.61	333.41	123.20	3.706		
17,900.00	11,137.00	17,533.82	10,821.00	67.27	66.62	46.21	-7,085.55	3.20	456.62	332.08	124.54	3.666		
18,000.00	11,137.00	17,633.82	10,821.00	67.89	67.26	46.21	-7,185.55	3.60	456.63	330.74	125.89	3.627		
18,100.00	11,137.00	17,733.82	10,821.00	68.52	67.89	46.21	-7,285.55	3.99	456.63	329.39	127.24	3.589		
18,200.00	11,137.00	17,833.82	10,821.00	69.15	68.53	46.21	-7,385.55	4.39	456.64	328.04	128.60	3.551		
18,300.00	11,137.00	17,933.82	10,821.00	69.79	69.17	46.21	-7,485.55	4.78	456.65	326.69	129.96	3.514		
18,400.00	11,137.00	18,033.82	10,821.00	70.42	69.82	46.21	-7,585.55	5.18	456.65	325.33	131.32	3.477		
18,500.00	11,137.00	18,133.82	10,821.00	71.06	70.46	46.21	-7,685.55	5.57	456.66	323.97	132.69	3.441		
18,600.00	11,137.00	18,233.82	10,821.00	71.70	71.11	46.21	-7,785.55	5.97	456.67	322.60	134.07	3.406		
18,700.00	11,137.00	18,333.82	10,821.00	72.35	71.76	46.21	-7,885.55	6.36	456.67	321.23	135.44	3.372		
18,800.00	11,137.00	18,433.82	10,821.00	72.99	72.42	46.22	-7,985.54	6.76	456.68	319.86	136.82	3.338		
18,900.00	11,137.00	18,533.82	10,821.00	73.64	73.07	46.22	-8,085.54	7.15	456.69	318.48	138.21	3.304		
19,000.00	11,137.00	18,633.82	10,821.00	74.29	73.73	46.22	-8,185.54	7.55	456.69	317.10	139.59	3.272		
19,100.00	11,137.00	18,733.82	10,821.00	74.95	74.39	46.22	-8,285.54	7.95	456.70	315.72	140.98	3.239		
19,200.00	11,137.00	18,833.82	10,821.00	75.60	75.05	46.22	-8,385.54	8.34	456.71	314.33	142.38	3.208		
19,300.00	11,137.00	18,933.82	10,821.00	76.26	75.71	46.22	-8,485.54	8.74	456.71	312.94	143.77	3.177		

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 PLU 20 BD 124H SHL - Slot PLU 20 BD 124H SHL
Project:	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference:	3162+31 @ 3193.00usft (NabF26)
Reference Site:	PLU 20 Brushy Draw	MD/Reference:	3162+31 @ 3193.00usft (NabF26)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PLU 20 BD 124H SHL	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	124H Lateral	Database:	PREDATOR_EDM
Reference Design:	Plan #1	Offset/TVD Reference:	Reference Datum

Offset Design: PLU 20 Brushy Draw - PLU 20 BD 104H SHL - 104H Lateral - Plan #1													Offset Site Error:	
Survey Program: 0-MWD-IFR1-MS													0.00 usft	
Reference		Offset		Semi-Major Axis		Distance		Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	N/S (usft)	E/W (usft)	(usft)	(usft)	(usft)	(usft)		
19,400.00	11,137.00	19,033.82	10,821.00	76.92	76.38	46.22	-8,585.54	9.13	456.72	311.55	145.17	3.146		
19,500.00	11,137.00	19,133.82	10,821.00	77.58	77.04	46.22	-8,685.54	9.53	456.73	310.15	146.57	3.116		
19,600.00	11,137.00	19,233.82	10,821.00	78.24	77.71	46.22	-8,785.54	9.92	456.73	308.75	147.98	3.086		
19,700.00	11,137.00	19,333.82	10,821.00	78.91	78.38	46.22	-8,885.54	10.32	456.74	307.35	149.39	3.057		
19,800.00	11,137.00	19,433.82	10,821.00	79.57	79.06	46.22	-8,985.54	10.71	456.75	305.95	150.80	3.029		
19,900.00	11,137.00	19,533.82	10,821.00	80.24	79.73	46.22	-9,085.54	11.11	456.75	304.54	152.21	3.001		
20,000.00	11,137.00	19,633.82	10,821.00	80.91	80.41	46.22	-9,185.54	11.50	456.76	303.13	153.63	2.973		
20,100.00	11,137.00	19,733.82	10,821.00	81.58	81.08	46.23	-9,285.53	11.90	456.77	301.72	155.05	2.946		
20,200.00	11,137.00	19,833.82	10,821.00	82.26	81.76	46.23	-9,385.53	12.29	456.77	300.30	156.47	2.919		
20,300.00	11,137.00	19,933.82	10,821.00	82.93	82.44	46.23	-9,485.53	12.69	456.78	298.89	157.89	2.893		
20,400.00	11,137.00	20,033.82	10,821.00	83.61	83.12	46.23	-9,585.53	13.08	456.79	297.47	159.32	2.867		
20,500.00	11,137.00	20,133.82	10,821.00	84.29	83.81	46.23	-9,685.53	13.48	456.79	296.05	160.74	2.842		
20,600.00	11,137.00	20,233.82	10,821.00	84.97	84.49	46.23	-9,785.53	13.88	456.80	294.62	162.17	2.817		
20,700.00	11,137.00	20,333.82	10,821.00	85.65	85.18	46.23	-9,885.53	14.27	456.81	293.20	163.61	2.792		
20,800.00	11,137.00	20,433.82	10,821.00	86.33	85.87	46.23	-9,985.53	14.67	456.81	291.77	165.04	2.768		
20,900.00	11,137.00	20,533.82	10,821.00	87.01	86.56	46.23	-10,085.53	15.06	456.82	290.34	166.48	2.744		
21,000.00	11,137.00	20,633.82	10,821.00	87.70	87.25	46.23	-10,185.53	15.46	456.82	288.91	167.92	2.721		
21,100.00	11,137.00	20,733.82	10,821.00	88.39	87.94	46.23	-10,285.53	15.85	456.83	287.48	169.36	2.697		
21,200.00	11,137.00	20,833.82	10,821.00	89.07	88.63	46.23	-10,385.53	16.25	456.84	286.04	170.80	2.675		
21,300.00	11,137.00	20,933.82	10,821.00	89.76	89.32	46.24	-10,485.52	16.64	456.84	284.60	172.24	2.652		
21,400.00	11,137.00	21,033.82	10,821.00	90.45	90.02	46.24	-10,585.52	17.04	456.85	283.16	173.69	2.630		
21,500.00	11,137.00	21,133.82	10,821.00	91.15	90.71	46.24	-10,685.52	17.43	456.86	281.72	175.13	2.609		
21,600.00	11,137.00	21,233.82	10,821.00	91.84	91.41	46.24	-10,785.52	17.83	456.86	280.28	176.58	2.587		
21,700.00	11,137.00	21,333.82	10,821.00	92.53	92.11	46.24	-10,885.52	18.22	456.87	278.84	178.03	2.566		
21,800.00	11,137.00	21,433.82	10,821.00	93.23	92.81	46.24	-10,985.52	18.62	456.88	277.39	179.49	2.545		
21,900.00	11,137.00	21,533.82	10,821.00	93.92	93.51	46.24	-11,085.52	19.02	456.88	275.94	180.94	2.525		
22,000.00	11,137.00	21,633.82	10,821.00	94.62	94.21	46.24	-11,185.52	19.41	456.89	274.50	182.40	2.505		
22,100.00	11,137.00	21,733.82	10,821.00	95.32	94.91	46.24	-11,285.52	19.81	456.90	273.05	183.85	2.485		
22,198.19	11,137.00	21,832.01	10,821.00	96.01	95.60	46.24	-11,383.71	20.19	456.90	271.62	185.28	2.466		

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 PLU 20 BD 124H SHL - Slot PLU 20 BD 124H SHL
Project:	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference:	3162+31 @ 3193.00usft (NabF26)
Reference Site:	PLU 20 Brushy Draw	MD Reference:	3162+31 @ 3193.00usft (NabF26)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PLU 20 BD 124H SHL	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	124H Lateral	Database:	PREDATOR_EDM
Reference Design:	Plan #1	Offset TVD Reference:	Reference Datum

Offset Design: PLU 20 Brushy Draw - PLU 20 BD 123H SHL - 123H Lateral - Plan #1													Offset Site Error:
Survey Program: 0-MWD-IFR1-MS													Offset Well Error:
Reference	Offset	Semi-Major Axis	Distance	Warning									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre N-S (usft)	Offset Wellbore Centre E-W (usft)	Between Centroids (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
2,200.00	2,200.00	2,199.00	2,200.00	7.65	7.65	-90.67	-0.70	-59.90	59.90	44.60	15.30	3.915	
2,300.00	2,300.00	2,299.00	2,300.00	8.01	8.01	-90.67	-0.70	-59.90	59.90	43.89	16.02	3.740	
2,400.00	2,400.00	2,399.00	2,400.00	8.37	8.37	-90.67	-0.70	-59.90	59.90	43.17	16.74	3.580	
2,500.00	2,500.00	2,499.00	2,500.00	8.73	8.73	-90.67	-0.70	-59.90	59.90	42.45	17.45	3.432	
2,600.00	2,600.00	2,599.00	2,600.00	9.09	9.08	-90.67	-0.70	-59.90	59.90	41.73	18.17	3.297	
2,700.00	2,700.00	2,699.00	2,700.00	9.44	9.44	-90.67	-0.70	-59.90	59.90	41.02	18.89	3.172	
2,800.00	2,800.00	2,799.00	2,800.00	9.80	9.80	-90.67	-0.70	-59.90	59.90	40.30	19.60	3.056	
2,900.00	2,900.00	2,899.00	2,900.00	10.16	10.16	-90.67	-0.70	-59.90	59.90	39.58	20.32	2.948	
3,000.00	3,000.00	2,999.00	3,000.00	10.52	10.52	-90.67	-0.70	-59.90	59.90	38.87	21.04	2.848	
3,100.00	3,100.00	3,099.00	3,100.00	10.88	10.88	-90.67	-0.70	-59.90	59.90	38.15	21.75	2.754	
3,200.00	3,200.00	3,199.00	3,200.00	11.24	11.23	-90.67	-0.70	-59.90	59.90	37.43	22.47	2.666	
3,300.00	3,300.00	3,299.00	3,300.00	11.59	11.59	-90.67	-0.70	-59.90	59.90	36.72	23.19	2.583	
3,400.00	3,400.00	3,399.00	3,400.00	11.95	11.95	-90.67	-0.70	-59.90	59.90	36.00	23.90	2.506	
3,500.00	3,500.00	3,499.00	3,500.00	12.31	12.31	-90.67	-0.70	-59.90	59.90	35.28	24.62	2.433 CC, ES	
3,600.00	3,600.00	3,598.42	3,598.42	12.65	12.65	123.64	-1.41	-60.36	60.86	35.56	25.30	2.405 SF	
3,700.00	3,699.96	3,697.78	3,698.74	12.98	12.97	123.64	-3.56	-61.76	63.74	37.79	25.95	2.457	
3,800.00	3,799.86	3,797.03	3,797.90	13.31	13.30	123.63	-7.16	-64.09	68.55	41.96	26.59	2.578	
3,900.00	3,899.68	3,896.12	3,896.80	13.64	13.63	123.61	-12.18	-67.35	75.28	48.04	27.23	2.764	
4,000.00	3,899.36	3,894.98	3,895.37	13.97	13.95	123.58	-18.62	-71.54	83.92	56.05	27.87	3.011	
4,100.00	4,098.99	4,094.48	4,094.48	14.30	14.28	123.58	-25.89	-76.26	93.57	65.04	28.53	3.279	
4,200.00	4,198.60	4,194.01	4,193.64	14.64	14.61	123.58	-33.17	-80.98	103.22	74.02	29.20	3.535	
4,300.00	4,298.22	4,293.54	4,292.79	14.97	14.95	123.58	-40.44	-85.71	112.86	83.00	29.86	3.780	
7,400.00	7,394.93	7,399.00	7,394.93	25.68	25.67	-90.66	-110.37	-131.12	204.82	153.49	51.33	3.991	
7,500.00	7,494.93	7,499.00	7,494.93	26.03	26.02	-90.66	-110.37	-131.12	204.82	152.79	52.03	3.937	
7,600.00	7,594.93	7,599.00	7,594.93	26.38	26.37	-90.66	-110.37	-131.12	204.82	152.09	52.73	3.884	
7,700.00	7,694.93	7,699.00	7,694.93	26.73	26.72	-90.66	-110.37	-131.12	204.82	151.39	53.43	3.833	
7,800.00	7,794.93	7,799.00	7,794.93	27.08	27.07	-90.66	-110.37	-131.12	204.82	150.68	54.14	3.783	
7,900.00	7,894.93	7,899.00	7,894.93	27.43	27.43	-90.66	-110.37	-131.12	204.82	149.98	54.84	3.735	
8,000.00	7,994.93	7,999.00	7,994.93	27.79	27.78	-90.66	-110.37	-131.12	204.82	149.28	55.54	3.688	
8,100.00	8,094.93	8,099.00	8,094.93	28.14	28.13	-90.66	-110.37	-131.12	204.82	148.57	56.25	3.641	
8,200.00	8,194.93	8,199.00	8,194.93	28.49	28.48	-90.66	-110.37	-131.12	204.82	147.87	56.95	3.596	
8,300.00	8,294.93	8,299.00	8,294.93	28.84	28.83	-90.66	-110.37	-131.12	204.82	147.16	57.66	3.552	
8,400.00	8,394.93	8,399.00	8,394.93	29.19	29.19	-90.66	-110.37	-131.12	204.82	146.46	58.36	3.510	
8,500.00	8,494.93	8,499.00	8,494.93	29.55	29.54	-90.66	-110.37	-131.12	204.82	145.75	59.07	3.468	
8,600.00	8,594.93	8,599.00	8,594.93	29.90	29.89	-90.66	-110.37	-131.12	204.82	145.05	59.77	3.427	
8,700.00	8,694.93	8,699.00	8,694.93	30.25	30.25	-90.66	-110.37	-131.12	204.82	144.34	60.48	3.387	
8,800.00	8,794.93	8,799.00	8,794.93	30.61	30.60	-90.66	-110.37	-131.12	204.82	143.63	61.18	3.348	
8,900.00	8,894.93	8,899.00	8,894.93	30.96	30.95	-90.66	-110.37	-131.12	204.82	142.93	61.89	3.309	
9,000.00	8,994.93	8,999.00	8,994.93	31.31	31.30	-90.66	-110.37	-131.12	204.82	142.22	62.60	3.272	
9,100.00	9,094.93	9,099.00	9,094.93	31.67	31.66	-90.66	-110.37	-131.12	204.82	141.51	63.30	3.235	
9,200.00	9,194.93	9,199.00	9,194.93	32.02	32.01	-90.66	-110.37	-131.12	204.82	140.81	64.01	3.200	
9,300.00	9,294.93	9,299.00	9,294.93	32.37	32.37	-90.66	-110.37	-131.12	204.82	140.10	64.72	3.165	
9,400.00	9,394.93	9,399.00	9,394.93	32.73	32.72	-90.66	-110.37	-131.12	204.82	139.39	65.43	3.131	
9,500.00	9,494.93	9,499.00	9,494.93	33.08	33.07	-90.66	-110.37	-131.12	204.82	138.69	66.13	3.097	
9,600.00	9,594.93	9,599.00	9,594.93	33.43	33.43	-90.66	-110.37	-131.12	204.82	137.98	66.84	3.064	
9,700.00	9,694.93	9,699.00	9,694.93	33.79	33.78	-90.66	-110.37	-131.12	204.82	137.27	67.55	3.032	
9,800.00	9,794.93	9,799.00	9,794.93	34.14	34.13	-90.66	-110.37	-131.12	204.82	136.56	68.26	3.001	
9,900.00	9,894.93	9,899.00	9,894.93	34.50	34.49	-90.66	-110.37	-131.12	204.82	135.85	68.97	2.970	
10,000.00	9,994.93	9,999.00	9,994.93	34.85	34.84	-90.66	-110.37	-131.12	204.82	135.14	69.67	2.940	
10,100.00	10,094.93	10,099.00	10,094.93	35.20	35.20	-90.66	-110.37	-131.12	204.82	134.44	70.38	2.910	
10,200.00	10,194.93	10,199.00	10,194.93	35.56	35.55	-90.66	-110.37	-131.12	204.82	133.73	71.09	2.881	

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 PLU 20 BD 124H SHL - Slot PLU 20 BD 124H SHL
Project	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference	3162+31 @ 3193.00usft (NabF26)
Reference Site	PLU 20 Brushy Draw	MD Reference	3162+31 @ 3193.00usft (NabF26)
Site Error	0.00 usft	North Reference	Grid
Reference Well	PLU 20 BD 124H SHL	Survey Calculation Method	Minimum Curvature
Well Error	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	124H Lateral	Database	PREDATOR_EDM
Reference Design	Plan #1	Offset TVD Reference	Reference Datum

Offset Design: PLU 20 Brushy Draw - PLU 20 BD 123H SHL - 123H 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		Minimum		Separation		Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside (usft)	Offset Wellbore Centre (N-S) (usft)	Offset Wellbore Centre (E-W) (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
10,300.00	10,294.93	10,299.00	10,294.93	35.91	35.91	-90.66	-110.37	-131.12	204.82	133.02	71.80	2.853	
10,400.00	10,394.93	10,399.00	10,394.93	36.27	36.26	-90.66	-110.37	-131.12	204.82	132.31	72.51	2.825	
10,500.00	10,494.93	10,499.00	10,494.93	36.62	36.62	-90.66	-110.37	-131.12	204.82	131.60	73.22	2.797	
10,600.00	10,594.74	10,587.53	10,583.37	36.98	36.93	123.48	-112.72	-132.64	209.12	135.33	73.79	2.834	
10,700.00	10,692.40	10,668.38	10,662.99	37.33	37.22	122.43	-124.14	-140.07	229.96	155.96	74.00	3.108	
10,800.00	10,784.94	10,743.83	10,734.89	37.68	37.48	120.31	-143.19	-152.43	266.84	192.82	74.01	3.605	
20,300.00	11,137.00	20,296.99	11,138.00	82.93	82.70	90.09	-9,486.92	-317.56	660.09	494.55	165.54	3.987	
20,400.00	11,137.00	20,396.99	11,138.00	83.61	83.38	90.09	-9,586.92	-317.15	660.09	493.19	166.89	3.955	
20,500.00	11,137.00	20,496.99	11,138.00	84.29	84.06	90.09	-9,686.92	-316.75	660.08	491.83	168.25	3.923	
20,600.00	11,137.00	20,596.99	11,138.00	84.97	84.74	90.09	-9,786.92	-316.34	660.08	490.47	169.61	3.892	
20,700.00	11,137.00	20,696.99	11,138.00	85.65	85.42	90.09	-9,886.92	-315.93	660.07	489.10	170.97	3.861	
20,800.00	11,137.00	20,796.99	11,138.00	86.33	86.10	90.09	-9,986.92	-315.52	660.07	487.73	172.34	3.830	
20,900.00	11,137.00	20,896.99	11,138.00	87.01	86.78	90.09	-10,086.92	-315.11	660.07	486.36	173.71	3.800	
21,000.00	11,137.00	20,996.99	11,138.00	87.70	87.47	90.09	-10,186.92	-314.70	660.06	484.98	175.08	3.770	
21,100.00	11,137.00	21,096.99	11,138.00	88.39	88.16	90.09	-10,286.92	-314.30	660.06	483.61	176.45	3.741	
21,200.00	11,137.00	21,196.99	11,138.00	89.07	88.84	90.09	-10,386.92	-313.89	660.06	482.23	177.83	3.712	
21,300.00	11,137.00	21,296.99	11,138.00	89.76	89.53	90.09	-10,486.92	-313.48	660.05	480.84	179.21	3.683	
21,400.00	11,137.00	21,396.99	11,138.00	90.45	90.22	90.09	-10,586.91	-313.07	660.05	479.46	180.59	3.655	
21,500.00	11,137.00	21,496.99	11,138.00	91.15	90.91	90.09	-10,686.91	-312.66	660.04	478.07	181.97	3.627	
21,600.00	11,137.00	21,596.99	11,138.00	91.84	91.61	90.09	-10,786.91	-312.25	660.04	476.68	183.36	3.600	
21,700.00	11,137.00	21,696.99	11,138.00	92.53	92.30	90.09	-10,886.91	-311.85	660.04	475.29	184.75	3.573	
21,800.00	11,137.00	21,796.99	11,138.00	93.23	92.99	90.09	-10,986.91	-311.44	660.03	473.90	186.14	3.546	
21,900.00	11,137.00	21,896.99	11,138.00	93.92	93.69	90.09	-11,086.91	-311.03	660.03	472.50	187.53	3.520	
22,000.00	11,137.00	21,996.99	11,138.00	94.62	94.39	90.09	-11,186.91	-310.62	660.02	471.10	188.92	3.494	
22,100.00	11,137.00	22,096.99	11,138.00	95.32	95.08	90.09	-11,286.91	-310.21	660.02	469.70	190.32	3.468	
22,198.19	11,137.00	22,195.18	11,138.00	96.01	95.63	90.09	-11,385.10	-309.81	660.02	468.47	191.55	3.446	

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

Anticollision Report

Company	XTO Energy	Local Co-ordinate Reference	Well PLU 20 BD 124H SHL - Slot PLU 20 BD 124H SHL
Project	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference	3162+31 @ 3193.00usft (NabF26)
Reference Site	PLU 20 Brushy Draw	MD Reference	3162+31 @ 3193.00usft (NabF26)
Site Error	0.00 usft	North Reference	Grid
Reference Well	PLU 20 BD 124H SHL	Survey Calculation Method	Minimum Curvature
Well Error	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	124H Lateral	Database	PREDATOR_EDM
Reference Design	Plan #1	Offset TVD Reference	Reference Datum

Offset Design: PLU 20 Brushy Draw - PLU 20 BD 154H SHL - 154H 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		Offset Wellbore Control		Between Centres		Between Ellipses	Minimum Separation	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	N/S (usft)	E/W (usft)	Centres (usft)	Ellipses (usft)	Separation (usft)	Factor	
1,200.00	1,200.00	1,200.00	1,200.00	4.07	4.07	89.24	0.40	30.00	30.00	21.87	8.13	3.689	
1,300.00	1,300.00	1,300.00	1,300.00	4.43	4.43	89.24	0.40	30.00	30.00	21.15	8.85	3.390	
1,400.00	1,400.00	1,400.00	1,400.00	4.78	4.78	89.24	0.40	30.00	30.00	20.44	9.57	3.136	
1,500.00	1,500.00	1,500.00	1,500.00	5.14	5.14	89.24	0.40	30.00	30.00	19.72	10.28	2.917	
1,600.00	1,600.00	1,600.00	1,600.00	5.50	5.50	89.24	0.40	30.00	30.00	19.00	11.00	2.727	
1,700.00	1,700.00	1,700.00	1,700.00	5.86	5.86	89.24	0.40	30.00	30.00	18.28	11.72	2.560	
1,800.00	1,800.00	1,800.00	1,800.00	6.22	6.22	89.24	0.40	30.00	30.00	17.57	12.44	2.413	
1,900.00	1,900.00	1,900.00	1,900.00	6.58	6.58	89.24	0.40	30.00	30.00	16.85	13.15	2.281	
2,000.00	2,000.00	2,000.00	2,000.00	6.93	6.93	89.24	0.40	30.00	30.00	16.13	13.87	2.163	
2,100.00	2,100.00	2,100.00	2,100.00	7.29	7.29	89.24	0.40	30.00	30.00	15.42	14.59	2.057	
2,200.00	2,200.00	2,200.00	2,200.00	7.65	7.65	89.24	0.40	30.00	30.00	14.70	15.30	1.961	
2,300.00	2,300.00	2,300.00	2,300.00	8.01	8.01	89.24	0.40	30.00	30.00	13.98	16.02	1.873	
2,400.00	2,400.00	2,400.00	2,400.00	8.37	8.37	89.24	0.40	30.00	30.00	13.27	16.74	1.793	
2,500.00	2,500.00	2,500.00	2,500.00	8.73	8.73	89.24	0.40	30.00	30.00	12.55	17.45	1.719	
2,600.00	2,600.00	2,600.00	2,600.00	9.09	9.09	89.24	0.40	30.00	30.00	11.83	18.17	1.651	
2,700.00	2,700.00	2,700.00	2,700.00	9.44	9.44	89.24	0.40	30.00	30.00	11.11	18.89	1.588	
2,800.00	2,800.00	2,800.00	2,800.00	9.80	9.80	89.24	0.40	30.00	30.00	10.40	19.60	1.530	
2,900.00	2,900.00	2,900.00	2,900.00	10.16	10.16	89.24	0.40	30.00	30.00	9.68	20.32	1.476 Level 3	
3,000.00	3,000.00	3,000.00	3,000.00	10.52	10.52	89.24	0.40	30.00	30.00	8.96	21.04	1.426 Level 3	
3,100.00	3,100.00	3,100.00	3,100.00	10.88	10.88	89.24	0.40	30.00	30.00	8.25	21.76	1.379 Level 3	
3,200.00	3,200.00	3,200.00	3,200.00	11.24	11.24	89.24	0.40	30.00	30.00	7.53	22.47	1.335 Level 3	
3,300.00	3,300.00	3,300.00	3,300.00	11.59	11.59	89.24	0.40	30.00	30.00	6.81	23.19	1.294 Level 3	
3,400.00	3,400.00	3,400.00	3,400.00	11.95	11.95	89.24	0.40	30.00	30.00	6.10	23.91	1.255 Level 3	
3,500.00	3,500.00	3,500.00	3,500.00	12.31	12.31	89.24	0.40	30.00	30.00	5.38	24.62	1.218 Level 2, CC	
3,600.00	3,600.00	3,599.47	3,599.47	12.65	12.66	-57.80	0.40	30.86	30.40	5.10	25.30	1.201 Level 2, ES, SF	
3,700.00	3,699.96	3,698.91	3,698.87	12.98	13.00	-61.61	0.40	33.45	31.67	5.74	25.94	1.221 Level 2	
3,800.00	3,799.86	3,798.26	3,798.13	13.31	13.34	-67.26	0.40	37.76	34.08	7.52	26.56	1.283 Level 3	
3,900.00	3,899.68	3,897.50	3,897.18	13.64	13.68	-73.86	0.40	43.78	37.93	10.74	27.19	1.395 Level 3	
4,000.00	3,999.36	3,996.58	3,995.96	13.97	14.02	-80.49	0.40	51.51	43.46	15.63	27.83	1.561	
4,100.00	4,098.99	4,096.22	4,095.22	14.30	14.37	-86.12	0.40	60.19	50.18	21.65	28.54	1.759	
4,200.00	4,198.60	4,195.89	4,194.51	14.64	14.71	-90.39	0.40	68.88	57.28	28.04	29.24	1.959	
4,300.00	4,298.22	4,295.56	4,293.80	14.97	15.06	-93.71	0.40	77.56	64.61	34.68	29.93	2.159	
4,400.00	4,397.84	4,395.23	4,393.09	15.31	15.41	-96.34	0.40	86.25	72.12	41.50	30.63	2.355	
4,500.00	4,497.46	4,494.90	4,492.38	15.64	15.76	-98.48	0.40	94.94	79.76	48.44	31.32	2.547	
4,600.00	4,597.08	4,594.57	4,591.67	15.98	16.10	-100.24	0.40	103.62	87.48	55.47	32.01	2.733	
4,700.00	4,696.70	4,694.24	4,690.96	16.32	16.45	-101.71	0.40	112.31	95.27	62.57	32.70	2.913	
4,800.00	4,796.32	4,793.90	4,790.25	16.66	16.80	-102.96	0.40	121.00	103.12	69.72	33.40	3.087	
4,900.00	4,895.94	4,893.57	4,889.54	17.01	17.15	-104.03	0.40	129.68	111.01	76.91	34.09	3.256	
5,000.00	4,995.56	4,993.24	4,988.83	17.35	17.50	-104.96	0.40	138.37	118.93	84.14	34.79	3.418	
5,100.00	5,095.25	5,092.27	5,088.54	17.69	17.86	-105.74	0.40	146.40	126.15	90.64	35.51	3.553	
5,200.00	5,195.06	5,192.56	5,190.63	18.04	18.21	-106.29	0.40	152.67	131.79	95.56	36.23	3.638	
5,300.00	5,294.97	5,292.97	5,291.94	18.38	18.57	-106.65	0.40	157.16	135.82	98.89	36.94	3.677	
5,400.00	5,394.93	5,392.46	5,393.40	18.72	18.93	-106.86	0.40	159.86	138.25	100.61	37.64	3.673	
5,500.00	5,494.92	5,500.00	5,494.92	19.07	19.28	38.77	0.40	160.76	139.06	100.72	38.34	3.627	
5,600.00	5,594.93	5,600.00	5,594.93	19.41	19.63	38.77	0.40	160.76	139.06	100.02	39.04	3.562	
5,700.00	5,694.93	5,700.00	5,694.93	19.76	19.98	38.77	0.40	160.76	139.06	99.33	39.73	3.500	
5,800.00	5,794.93	5,800.00	5,794.93	20.10	20.33	38.77	0.40	160.76	139.06	98.63	40.43	3.440	
5,900.00	5,894.93	5,900.00	5,894.93	20.45	20.68	38.77	0.40	160.76	139.06	97.93	41.13	3.381	
6,000.00	5,994.93	6,000.00	5,994.93	20.80	21.04	38.77	0.40	160.76	139.06	97.23	41.82	3.325	
6,100.00	6,094.93	6,100.00	6,094.93	21.14	21.39	38.77	0.40	160.76	139.06	96.54	42.52	3.270	
6,200.00	6,194.93	6,200.00	6,194.93	21.49	21.74	38.77	0.40	160.76	139.06	95.84	43.22	3.217	

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 PLU 20 BD 124H SHL - Slot PLU 20 BD 124H SHL
Project:	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference:	3162+31 @ 3193.00usft (NabF26)
Reference Site:	PLU 20 Brushy Draw	MD Reference:	3162+31 @ 3193.00usft (NabF26)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PLU 20 BD 124H SHL	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	124H Lateral	Database:	PREDATOR_EDM
Reference Design:	Plan #1	Offset TVD Reference:	Reference Datum

Offset Design: PLU 20 Brushy Draw - PLU 20 BD 154H SHL - 154H 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	Minimum Separation	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)	Offset Wellbore Centre E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
6,300.00	6,294.93	6,300.00	6,294.93	21.84	22.09	38.77	0.40	160.76	139.06	95.14	43.92	3.166	
6,400.00	6,394.93	6,400.00	6,394.93	22.18	22.44	38.77	0.40	160.76	139.06	94.44	44.62	3.117	
6,500.00	6,494.93	6,500.00	6,494.93	22.53	22.79	38.77	0.40	160.76	139.06	93.74	45.32	3.068	
6,600.00	6,594.93	6,600.00	6,594.93	22.88	23.15	38.77	0.40	160.76	139.06	93.04	46.02	3.022	
6,700.00	6,694.93	6,700.00	6,694.93	23.23	23.50	38.77	0.40	160.76	139.06	92.34	46.72	2.976	
6,800.00	6,794.93	6,800.00	6,794.93	23.58	23.85	38.77	0.40	160.76	139.06	91.63	47.42	2.932	
6,900.00	6,894.93	6,900.00	6,894.93	23.93	24.21	38.77	0.40	160.76	139.06	90.93	48.13	2.889	
7,000.00	6,994.93	7,000.00	6,994.93	24.28	24.56	38.77	0.40	160.76	139.06	90.23	48.83	2.848	
7,100.00	7,094.93	7,100.00	7,094.93	24.63	24.91	38.77	0.40	160.76	139.06	89.53	49.53	2.807	
7,200.00	7,194.93	7,200.00	7,194.93	24.98	25.27	38.77	0.40	160.76	139.06	88.82	50.24	2.768	
7,300.00	7,294.93	7,300.00	7,294.93	25.33	25.62	38.77	0.40	160.76	139.06	88.12	50.94	2.730	
7,400.00	7,394.93	7,400.00	7,394.93	25.68	25.97	38.77	0.40	160.76	139.06	87.41	51.64	2.693	
7,500.00	7,494.93	7,500.00	7,494.93	26.03	26.33	38.77	0.40	160.76	139.06	86.71	52.35	2.656	
7,600.00	7,594.93	7,600.00	7,594.93	26.38	26.68	38.77	0.40	160.76	139.06	86.00	53.05	2.621	
7,700.00	7,694.93	7,700.00	7,694.93	26.73	27.03	38.77	0.40	160.76	139.06	85.30	53.76	2.587	
7,800.00	7,794.93	7,800.00	7,794.93	27.08	27.39	38.77	0.40	160.76	139.06	84.59	54.47	2.553	
7,900.00	7,894.93	7,900.00	7,894.93	27.43	27.74	38.77	0.40	160.76	139.06	83.89	55.17	2.520	
8,000.00	7,994.93	8,000.00	7,994.93	27.79	28.10	38.77	0.40	160.76	139.06	83.18	55.88	2.489	
8,100.00	8,094.93	8,100.00	8,094.93	28.14	28.45	38.77	0.40	160.76	139.06	82.47	56.58	2.458	
8,200.00	8,194.93	8,200.00	8,194.93	28.49	28.81	38.77	0.40	160.76	139.06	81.77	57.29	2.427	
8,300.00	8,294.93	8,300.00	8,294.93	28.84	29.16	38.77	0.40	160.76	139.06	81.06	58.00	2.398	
8,400.00	8,394.93	8,400.00	8,394.93	29.19	29.52	38.77	0.40	160.76	139.06	80.35	58.70	2.369	
8,500.00	8,494.93	8,500.00	8,494.93	29.55	29.87	38.77	0.40	160.76	139.06	79.65	59.41	2.341	
8,600.00	8,594.93	8,600.00	8,594.93	29.90	30.23	38.77	0.40	160.76	139.06	78.94	60.12	2.313	
8,700.00	8,694.93	8,700.00	8,694.93	30.25	30.58	38.77	0.40	160.76	139.06	78.23	60.83	2.286	
8,800.00	8,794.93	8,800.00	8,794.93	30.61	30.94	38.77	0.40	160.76	139.06	77.52	61.54	2.260	
8,900.00	8,894.93	8,900.00	8,894.93	30.96	31.29	38.77	0.40	160.76	139.06	76.81	62.24	2.234	
9,000.00	8,994.93	9,000.00	8,994.93	31.31	31.65	38.77	0.40	160.76	139.06	76.11	62.95	2.209	
9,100.00	9,094.93	9,100.00	9,094.93	31.67	32.00	38.77	0.40	160.76	139.06	75.40	63.66	2.184	
9,200.00	9,194.93	9,200.00	9,194.93	32.02	32.36	38.77	0.40	160.76	139.06	74.69	64.37	2.160	
9,300.00	9,294.93	9,300.00	9,294.93	32.37	32.71	38.77	0.40	160.76	139.06	73.98	65.08	2.137	
9,400.00	9,394.93	9,400.00	9,394.93	32.73	33.07	38.77	0.40	160.76	139.06	73.27	65.79	2.114	
9,500.00	9,494.93	9,500.00	9,494.93	33.08	33.42	38.77	0.40	160.76	139.06	72.56	66.50	2.091	
9,600.00	9,594.93	9,600.00	9,594.93	33.43	33.78	38.77	0.40	160.76	139.06	71.85	67.21	2.069	
9,700.00	9,694.93	9,700.00	9,694.93	33.79	34.14	38.77	0.40	160.76	139.06	71.14	67.92	2.047	
9,800.00	9,794.93	9,800.00	9,794.93	34.14	34.49	38.77	0.40	160.76	139.06	70.43	68.63	2.026	
9,900.00	9,894.93	9,900.00	9,894.93	34.50	34.85	38.77	0.40	160.76	139.06	69.72	69.34	2.006	
10,000.00	9,994.93	10,000.00	9,994.93	34.85	35.20	38.77	0.40	160.76	139.06	69.01	70.05	1.985	
10,100.00	10,094.93	10,100.00	10,094.93	35.20	35.56	38.77	0.40	160.76	139.06	68.30	70.76	1.965	
10,200.00	10,194.93	10,200.00	10,194.93	35.56	35.92	38.77	0.40	160.76	139.06	67.59	71.47	1.946	
10,300.00	10,294.93	10,300.00	10,294.93	35.91	36.27	38.77	0.40	160.76	139.06	66.88	72.18	1.927	
10,400.00	10,394.93	10,400.00	10,394.93	36.27	36.63	38.77	0.40	160.76	139.06	66.17	72.89	1.908	
10,500.00	10,494.93	10,500.00	10,494.93	36.62	36.98	38.77	0.40	160.76	139.06	65.46	73.60	1.889	
10,600.00	10,594.74	10,599.82	10,594.74	36.98	37.34	-108.51	0.40	160.76	140.40	66.09	74.31	1.889	
10,700.00	10,692.40	10,697.47	10,692.40	37.33	37.69	-115.31	0.40	160.76	148.42	73.41	75.01	1.979	
10,800.00	10,784.94	10,790.01	10,784.94	37.68	38.02	-124.68	0.40	160.76	168.48	92.82	75.67	2.227	
10,900.00	10,869.54	10,874.62	10,869.54	38.00	38.32	-133.17	0.40	160.76	205.37	129.12	76.25	2.693	
11,000.00	10,943.65	10,948.72	10,943.65	38.31	38.58	-138.82	0.40	160.76	260.02	183.28	76.75	3.388	
20,400.00	11,137.00	21,112.18	11,758.00	83.61	84.15	-179.99	-9,584.23	343.05	621.00	463.35	155.65	3.990	
20,500.00	11,137.00	21,212.18	11,758.00	84.29	84.82	-179.99	-9,684.23	343.44	621.00	463.86	157.15	3.952	
20,600.00	11,137.00	21,312.18	11,758.00	84.97	85.49	-179.99	-9,784.23	343.84	621.00	462.36	158.64	3.914	

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 PLU 20 BD 124H SHL - Slot PLU 20 BD 124H SHL
Project:	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference:	3162+31 @ 3193.00usft (NabF26)
Reference Site:	PLU 20 Brushy Draw	MD Reference:	3162+31 @ 3193.00usft (NabF26)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PLU 20 BD 124H SHL	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	124H Lateral	Database:	PREDATOR_EDM
Reference Design:	Plan #1	Offset TVD Reference:	Reference Datum

Offset Design: PLU 20 Brushy Draw - PLU 20 BD 154H SHL - 154H Lateral - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IR1-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)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
20,700.00	11,137.00	21,412.18	11,758.00	85.65	86.16	-179.99	-9,884.23	344.24	621.00	460.86	160.14	3.878	
20,800.00	11,137.00	21,512.18	11,758.00	86.33	86.83	-179.99	-9,984.22	344.64	621.00	459.36	161.64	3.842	
20,900.00	11,137.00	21,612.18	11,758.00	87.01	87.50	-179.99	-10,084.22	345.04	621.00	457.86	163.14	3.806	
21,000.00	11,137.00	21,712.18	11,758.00	87.70	88.18	-179.99	-10,184.22	345.43	621.00	456.36	164.65	3.772	
21,100.00	11,137.00	21,812.18	11,758.00	88.39	88.85	-179.99	-10,284.22	345.83	621.00	454.85	166.15	3.738	
21,200.00	11,137.00	21,912.18	11,758.00	89.07	89.53	-179.99	-10,384.22	346.23	621.00	453.35	167.65	3.704	
21,300.00	11,137.00	22,012.18	11,758.00	89.76	90.21	-179.99	-10,484.22	346.63	621.00	451.84	169.16	3.671	
21,400.00	11,137.00	22,112.18	11,758.00	90.45	90.89	-180.00	-10,584.22	347.02	621.00	450.33	170.67	3.639	
21,500.00	11,137.00	22,212.18	11,758.00	91.15	91.57	-180.00	-10,684.22	347.42	621.00	448.82	172.18	3.607	
21,600.00	11,137.00	22,312.18	11,758.00	91.84	92.26	-180.00	-10,784.22	347.82	621.00	447.31	173.69	3.575	
21,700.00	11,137.00	22,412.18	11,758.00	92.53	92.94	-180.00	-10,884.22	348.22	621.00	445.80	175.20	3.545	
21,800.00	11,137.00	22,512.18	11,758.00	93.23	93.63	-180.00	-10,984.22	348.62	621.00	444.29	176.71	3.514	
21,900.00	11,137.00	22,612.18	11,758.00	93.92	94.31	-180.00	-11,084.22	349.01	621.00	442.78	178.22	3.484	
22,000.00	11,137.00	22,712.18	11,758.00	94.62	95.00	-180.00	-11,184.21	349.41	621.00	441.26	179.74	3.455	
22,100.00	11,137.00	22,812.18	11,758.00	95.32	95.69	-180.00	-11,284.21	349.81	621.00	439.75	181.25	3.426	
22,198.19	11,137.00	22,910.36	11,758.00	96.01	96.37	-180.00	-11,382.40	350.20	621.00	438.26	182.74	3.398	

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

Anticollision Report

Company:	XTO Energy	Local Co-ordinate Reference:	Well PLU 20 BD 124H SHL - Slot PLU 20 BD 124H SHL
Project:	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference:	3162+31 @ 3193.00usft (NabF26)
Reference Site:	PLU 20 Brushy Draw	MD Reference:	3162+31 @ 3193.00usft (NabF26)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PLU 20 BD 124H SHL	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	124H Lateral	Database:	PREDATOR_EDM
Reference Design:	Plan #1	Offset TVD Reference:	Reference Datum

Offset Design: PLU 20 Brushy Draw - PLU 20 BD 163H SHL - 163H Lateral - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 30-MWD-IFR1-MS													Offset Well Error:	0.00 usft
Reference	Offset	Semi-Major Axis		Distance		Warning								
Measured	Vertical	Measured	Vertical	Reference	Offset	Highside	Toolface	Offset Wellbore Centre	Between	Minimum	Separation	Factor		
Depth	Depth	Depth	Depth	(usft)	(usft)	(°)		+N/S	+E/W	Centres	Ellipses	(usft)		
(usft)	(usft)	(usft)	(usft)					(usft)	(usft)	(usft)	(usft)			
3,300.00	3,300.00	3,300.00	3,300.00	11.59	11.59	-90.64		-1.00	-89.90	89.91	66.72	23.19	3.877	
3,400.00	3,400.00	3,400.00	3,400.00	11.95	11.95	-90.64		-1.00	-89.90	89.91	66.00	23.91	3.761	
3,500.00	3,500.00	3,500.00	3,500.00	12.31	12.31	-90.64		-1.00	-89.90	89.91	65.28	24.62	3.651 CC, ES	
3,600.00	3,600.00	3,598.43	3,598.43	12.65	12.66	124.11		-1.00	-90.75	91.25	65.95	25.30	3.606 SF	
3,700.00	3,699.96	3,696.73	3,696.69	12.98	12.99	125.36		-1.00	-93.28	95.32	69.37	25.95	3.673	
3,800.00	3,799.86	3,794.75	3,794.62	13.31	13.33	127.22		-1.00	-97.48	102.19	75.59	26.59	3.842	

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