

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTRECEIVED
OperatorFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018REC'D/MIDLAND
DEC 26 2019

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 purposes.

DISTRICT OFFICE SIAO.C.D.

JAN 03 2020

SUBMIT IN TRIPLICATE - Other instructions on page 2

5. Lease Serial No.
NMNM157756A
6. If Indian, Allottee or Tribe Name
7. If Unit or CA/Agreement, Name and/or No.
891000303X
8. Well Name and No.
POKER LAKE UNIT 29 BS 903H
9. API Well No.
30-015-45920-00-X1
10. Field and Pool or Exploratory Area
WILDCAT
11. County or Parish, State
EDDY COUNTY, NM

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator
XTO PERMIAN OPERATING LLC
- Contact: KELLY KARDOS
E-Mail: kelly_kardos@xtoenergy.com

- 3a. Address
6401 HOLIDAY HILL ROAD BLDG 5
MIDLAND, TX 79707

- 3b. Phone No. (include area code)
Ph: 432-620-4374

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
Sec 29 T25S R31E SENW 2310FNL 1950FWL
32.102207 N Lat, 103.802589 W Lon

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 A
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	PD

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 recomple in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

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

Change formation from WC Bone Spring (Oil) to Purple Sage Wolfcamp (Gas).

Change BHL fr/200'FSL & 1650'FWL in Sec. 5-T26S-R31E to 200'FSL & 1650'FWL in Sec. 32-T25S-R31E.

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

XTO requests to utilize centralizers only in the curve after KOP and only a minimum of one every other joint.

In addition, XTO requests a variance to be able to batch drill these wells if necessary. In doing

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

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

Electronic Submission #494654 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 12/05/2019 (20PP0578SE)

Name (Printed/Typed) KELLY KARDOS

Title REGULATORY COORDINATOR

Signature (Electronic Submission)

Date 12/05/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

APPROVED

Approved By

Title

Date

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

DEC 16 2019

Title 18 U.S.C. Section 1001 and Title 45 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.

BUREAU OF LAND MANAGEMENT
ROSWELL FIELD OFFICE

(Instructions on page 2)

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

1/28/20 KS

Additional data for EC transaction #494654 that would not fit on the form

32. Additional remarks, continued

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

Poker Lake Unit 29 BS 703H ? 30-015-45919

Poker Lake Unit 29 BS 903H ? 30-015-45920

Poker Lake Unit 29 BS 104H ? 30-015-45934

Poker Lake Unit 29 BS 123H ? Waiting on API number

Poker Lake Unit 29 BS 124H ? 30-015-45932

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office
☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-45920	² Pool Code 98220	³ Pool Name PURPLE SAGE; WOLFCAMP
⁴ Property Code	⁵ Property Name POKER LAKE UNIT 29 BS	⁶ Well Number 903H
⁷ OGRID No. 373075	⁸ Operator Name XTO PERMIAN OPERATING, LLC.	⁹ Elevation 3,359'

¹⁰ Surface Location

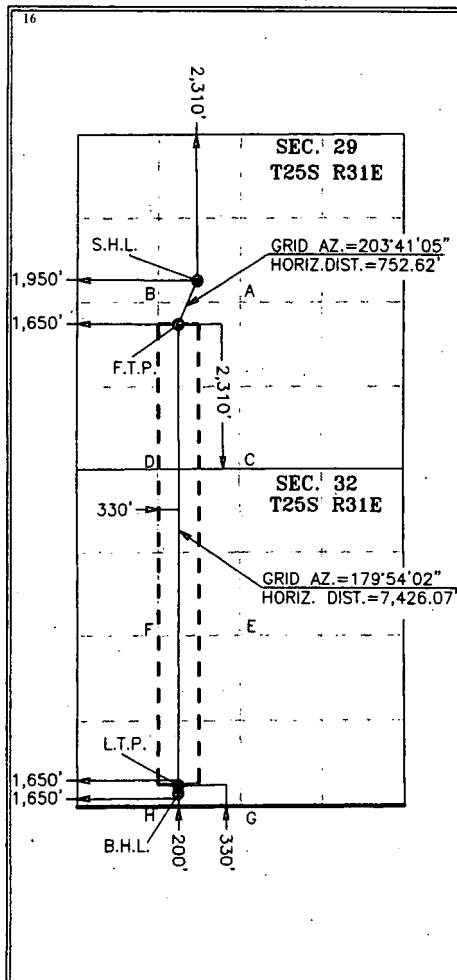
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	29	25 S	31 E		2,310	NORTH	1,950	WEST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	32	25 S	31 E		200	SOUTH	1,650	WEST	EDDY

¹² Dedicated Acres 480	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



GEODETIC COORDINATES

NAD 83 NME
SURFACE LOCATION
Y= 401,323.7
X= 705,680.7
LAT.= 32.102206°N
LONG.= 103.802587°W

LAST TAKE POINT

NAD 83 NME
Y= 393,338.5
X= 705,390.7
LAT.= 32.080260°N
LONG.= 103.803650°W

FIRST TAKE POINT

NAD 83 NME
Y= 400,634.5
X= 705,378.3
LAT.= 32.100316°N
LONG.= 103.803575°W

BOTTOM HOLE LOCATION

NAD 83 NME
Y= 393,208.5
X= 705,391.2
LAT.= 32.079903°N
LONG.= 103.803651°W

CORNER COORDINATES TABLE

NAD 83 NME
A - Y= 400,984.0 N, X= 706,383.3 E
B - Y= 400,975.3 N, X= 705,056.4 E
C - Y= 398,334.2 N, X= 706,368.7 E
D - Y= 398,321.1 N, X= 705,044.2 E
E - Y= 395,671.4 N, X= 706,385.5 E
F - Y= 395,661.7 N, X= 705,058.7 E
G - Y= 393,015.9 N, X= 706,402.2 E
H - Y= 393,006.1 N, X= 705,072.1 E

CORNER COORDINATES TABLE

NAD 27 NME
A - Y= 400,926.1 N, X= 665,197.8 E
B - Y= 400,917.4 N, X= 663,870.9 E
C - Y= 398,276.4 N, X= 665,183.1 E
D - Y= 398,263.3 N, X= 663,858.6 E
E - Y= 395,613.6 N, X= 665,199.8 E
F - Y= 395,603.9 N, X= 663,873.0 E
G - Y= 392,958.2 N, X= 665,216.4 E
H - Y= 392,948.4 N, X= 663,886.3 E

GEODETIC COORDINATES

NAD 27 NME
SURFACE LOCATION
Y= 401,265.8
X= 664,495.2
LAT.= 32.102082°N
LONG.= 103.802109°W

LAST TAKE POINT

NAD 27 NME
Y= 393,280.8
X= 664,204.9
LAT.= 32.080135°N
LONG.= 103.803173°W

FIRST TAKE POINT

NAD 27 NME
Y= 400,576.6
X= 664,192.8
LAT.= 32.100191°N
LONG.= 103.803096°W

BOTTOM HOLE LOCATION

NAD 27 NME
Y= 393,150.8
X= 664,205.4
LAT.= 32.079778°N
LONG.= 103.803173°W

¹⁷ OPERATOR CERTIFICATION

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

Kelly Kardos

12/5/19

Signature

Date

Kelly Kardos

Printed Name

kelly_kardos@xtoenergy.com

E-mail Address

¹⁸ SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

07-08-2019

Date of Survey

Signature and Seal of
Professional Surveyor:

MARK DILLON HARP 23786

Certificate Number

RR

2017071012



Intent ☒ As Drilled ☐

API #
30-015-45920

Operator Name: XTO PERMIAN OPERATING, LLC	Property Name: POKER LAKE UNIT 29 BS	Well Number 903H
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Kick Off Point (KOP)

UL F	Section 29	Township 25S	Range 31E	Lot	Feet 2310	From N/S NORTH	Feet 1950	From E/W WEST	County EDDY
Latitude 32.102206					Longitude -103.802587			NAD 83	

First Take Point (FTP)

UL K	Section 29	Township 25S	Range 31E	Lot	Feet 2310	From N/S SOUTH	Feet 1650	From E/W WEST	County EDDY
Latitude 32.100316					Longitude -103.803575			NAD 83	

Last Take Point (LTP)

UL N	Section 32	Township 25S	Range 31E	Lot	Feet 330	From N/S SOUTH	Feet 1650	From E/W WEST	County EDDY
Latitude 32.080260					Longitude -103.803651			NAD 83	

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 #
30-015-45918

Operator Name: XTO PERMIAN OPERATING, LLC	Property Name: POKER LAKE UNIT 29 BS	Well Number 701H
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KZ 06/29/2018

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

XTO Energy Inc.
PLU 29 Big Sinks 903H
Projected TD: 20387' MD / 12608' TVD
SHL: 2310' FNL & 1950' FWL , Section 29, T25S, R31E
BHL: 200' FSL & 1650' FWL , Section 32, T25S, R31E
Eddy County, NM

1. Geologic Name of Surface Formation

A. Permian

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

Formation	Well Depth (TVD)	Water/Oil/Gas
Rustler	825'	Water
Top of Salt	1188'	Water
Base of Salt	3924'	Water
Delaware	4138'	Water
Bone Spring	8080'	Water/Oil/Gas
1st Bone Spring Ss	9077'	Water/Oil/Gas
2nd Bone Spring Ss	9938'	Water/Oil/Gas
3rd Bone Spring Ss	11032'	Water/Oil/Gas
Wolfcamp	11443'	Water/Oil/Gas
Wolfcamp A	11601'	Water/Oil/Gas
Wolfcamp B	12039'	Water/Oil/Gas
Wolfcamp D	12432'	Water/Oil/Gas
Wolfcamp E	12574'	Water/Oil/Gas
Target/Land Curve	12608'	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 13-3/8 inch casing @ 1030' (158' above the salt) and circulating cement back to surface. The salt will be isolated by setting 9-5/8 inch casing at 3980' and circulating cement to surface. An 8-3/4 inch vertical and curve hole will be drilled and 7 inch casing run and cemented 500' into the 9-5/8 inch casing. A 6 inch curve and lateral hole will be drilled to MD/TD and 4-1/2 inch liner will be set at TD and cemented back 250' into the 7 inch casing shoe.

3. Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17-1/2"	0' – 1030'	13-3/8"	54.5	BTC	J-55	New	2.21	2.40	15.20
12-1/4"	0' – 3980'	9-5/8"	40	BTC	J-55	New	1.26	2.05	3.96
8-3/4"	0' – 11889'	7"	32	BTC	P-110	New	1.31	1.87	2.69
6"	11589' – 20387'	4-1/2"	13.5	BTC	P-110	New	1.31	1.80	2.01

- XTO requests to utilize centralizers only in the curve after the KOP and only a minimum of one every other joint.
- 9-5/8" & 4-1/2" Collapse analyzed using 50% evacuation based on regional experience.
- 4-1/2" tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35

WELLHEAD:

A. Starting Head (RSH System): 13-3/8" SOW bottom x 13-5/8" 10M top flange

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

- Wellhead will be installed by manufacturer's representatives.
- Manufacturer will monitor welding process to ensure appropriate temperature of seal.
- Operator will test the 9-5/8" casing to per Onshore Order 2.
- Wellhead manufacturer representative will not be present for BOP test plug installation

4. Cement Program

Surface Casing: 13-3/8", 54.5 New J-55, BTC casing to be set at +/- 1030'

Lead: 540 sxs EconoCem-HLTRRC (mixed at 12.8 ppg, 1.87 ft³/sx, 10.13 gal/sx water)

Tail: 300 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

Top of Cement: Surface

Intermediate Casing: 9-5/8", 40 New J-55, BTC casing to be set at +/- 3980'

Lead: 1150 sxs Halcem-C + 2% CaCl (mixed at 12.8 ppg, 1.88 ft³/sx, 9.61 gal/sx water)

Tail: 230 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

Top of Cement: Surface

2nd Intermediate Casing: 7", 32 New P-110, BTC casing to be set at +/- 11889'

Lead: 730 sxs Halcem-C + 2% CaCl (mixed at 12.8 ppg, 1.88 ft³/sx, 9.61 gal/sx water)

Tail: 60 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

Top of Cement: 200' inside previous casing shoe

Production Casing: 4-1/2", 13.5 New P-110, BTC casing to be set at +/- 20387'

Tail: 680 sxs VersaCem (mixed at 13.2 ppg, 1.33 ft³/sx, 8.38 gal/sx water)

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

Top of Cement: Top of liner

5. Pressure Control Equipment

The blow out preventer equipment (BOP) for this well consists of a 13-5/8" minimum 10M Hydril and a 13-5/8" minimum 10M Double Ram BOP. MASP should not exceed 5880 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 13-5/8" 10M bradenhead and flange, the BOP test will be limited to 10000 psi. When the 9-5/8" and 7" casing is set, the packoff seals will be tested to a minimum of 10000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 10M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

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

6. Proposed Mud Circulation System

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' to 1030'	17-1/2"	FW/Native	8.4-8.8	35-40	NC
1030' to 3980'	12-1/4"	Brine/Gel Sweeps	9.8-10.2	30-32	NC
3980' to 11889'	8-3/4"	FW / Cut Brine	8.6-9.5	29-32	NC - 20
11889' to 20387'	6"	OBM	12.9-13.5	32-50	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 13-3/8" surface casing with brine solution. A 9.8ppg-10.2ppg 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 13-3/8" casing.

8. Logging, Coring and Testing Program

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

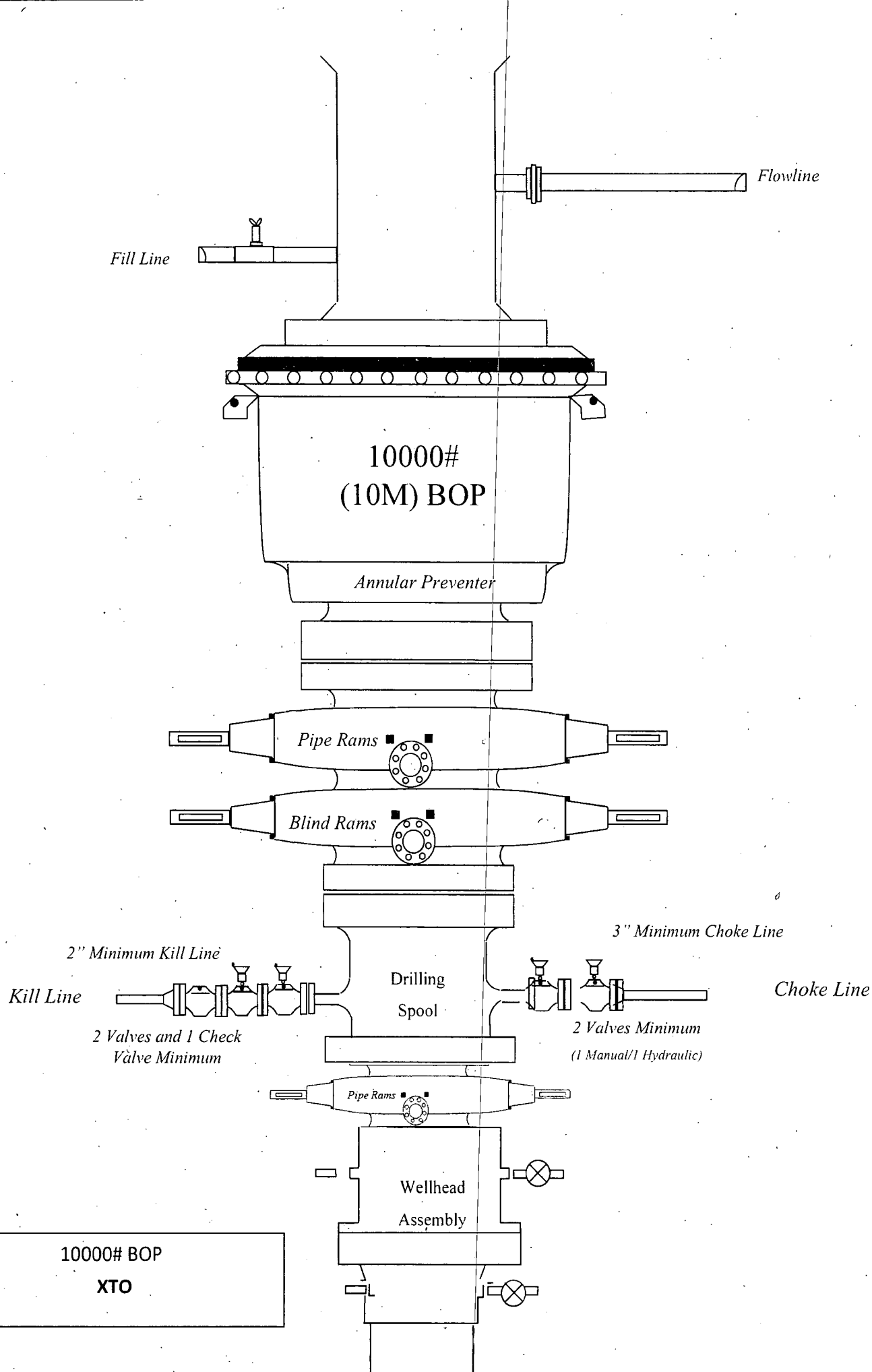
Open hole logging will not be done on this well.

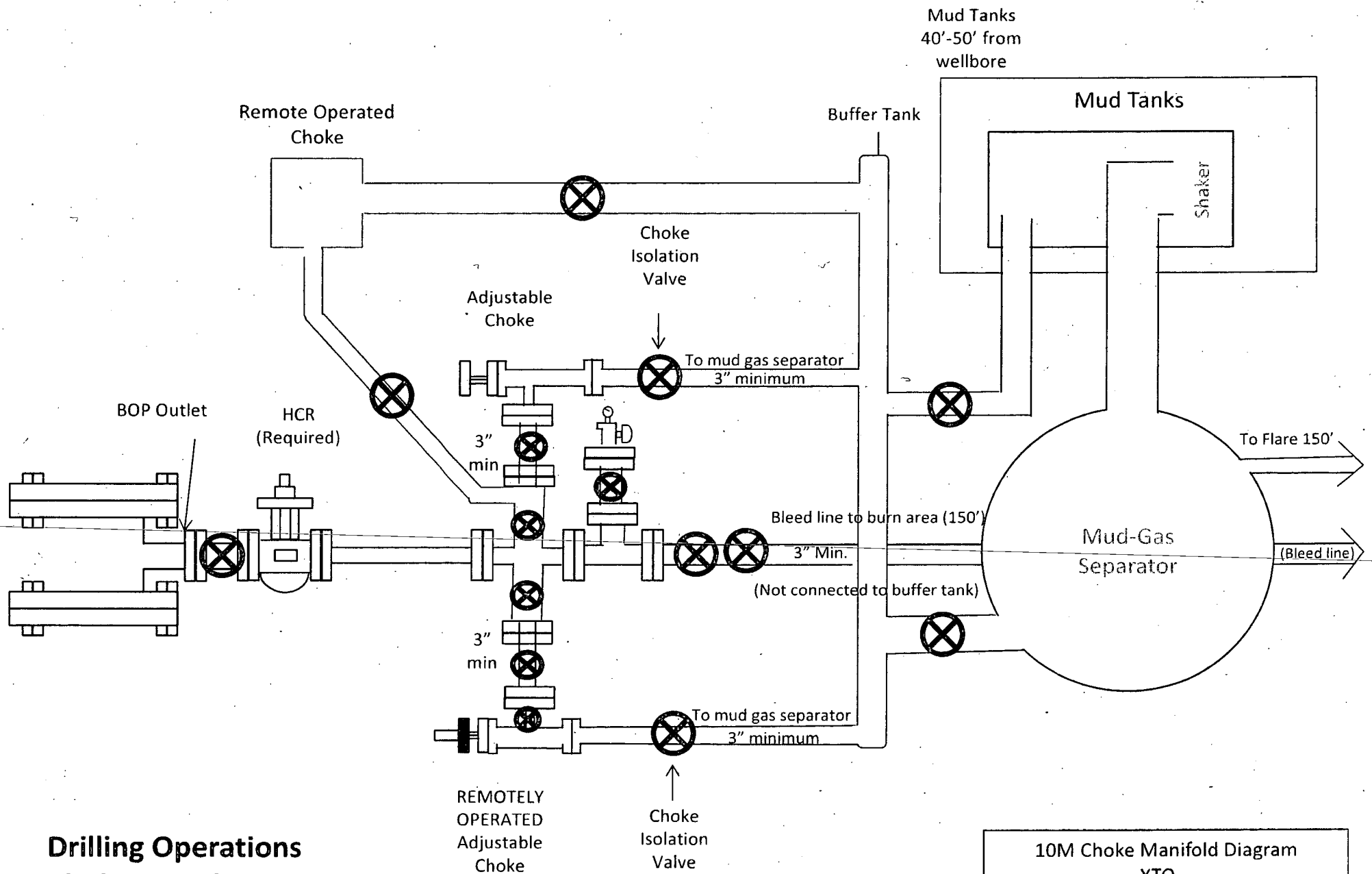
9. Abnormal Pressures and Temperatures / Potential Hazards

None Anticipated. BHT of 160 to 180 F is anticipated. No H2S is expected but monitors will be in place to detect any H2S occurrences. Should these circumstances be encountered the operator and drilling contractor are prepared to take all necessary steps to ensure safety of all personnel and environment. Lost circulation could occur but is not expected to be a serious problem in this area and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid. The maximum anticipated bottom hole pressure for this well is 8654 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.





**Drilling Operations
Choke Manifold
10M Service**

**10M Choke Manifold Diagram
XTO**

10,000 PSI Annular BOP Variance Request

XTO Energy/XTO Permian Op. request a variance to use a 5000 psi annular BOP with a 10,000 psi BOP stack. The component and compatibility tables along with the general well control plans demonstrate how the 5000 psi annular BOP will be protected from pressures that exceed its rated working pressure (RWP). The pressure at which the control of the wellbore is transferred from the annular preventer to another available preventer will not exceed 3500 psi (70% of the RWP of the 5000 psi annular BOPL).

1. Component and Preventer Compatibility Tables

The tables below outline the tubulars and the compatible preventers in use. This table, combined with the drilling fluid, documents that two barriers to flow will be maintained at all times.

8-1/2" Production Hole Section 10M psi Requirement					
Component	OD	Primary Preventer	RWP	Alternate Preventer(s)	RWP
Drillpipe	5.000" or 4.500"	Annular	5M	Upper 3.5"-5.5" VBR Lower 3.5"-5.5" VBR	10M 10M
HWDP	5.000" or 4.500"	Annular	5M	Upper 3.5"-5.5" VBR Lower 3.5"-5.5" VBR	10M 10M
Jars	6.500"	Annular	5M	-	-
DCs and MWD tools	6.500"-8.000"	Annular	5M	-	-
Mud Motor	6.750"-8.000"	Annular	5M	-	-
Production Casing	5-1/2"	Annular	5M	-	-
Open-Hole	-	Blind Rams	10M	-	-

2. Well Control Procedures

Below are the minimal high-level tasks prescribed to assure a proper shut-in while drilling, tripping, running casing, pipe out of the hole (open hole), and moving the BHA through the BOPs. At least one well control drill will be performed weekly per crew to demonstrate compliance with the procedure and well control plan. The well control drill will be recorded in the daily drilling log. The type of drill will be determined by the ongoing operations, but reasonable attempts will be made to vary the type of drill conducted (pit, trip, open hole, choke, etc.). This well control plan will be available for review by rig personnel in the XTO Energy/Permian Operating drilling supervisor's office on location and on the rig floor. All BOP equipment will be tested as per Onshore O&G Order No. 2 with the exception of the 5000 psi annular which will be tested to 70% of its RWP.

General Procedure While Drilling

1. Sound alarm (alert crew)
2. Space out drill string
3. Shut down pumps (stop pumps and rotary)
4. Shut-in well (uppermost applicable BOP, typically annular preventer, first. HCR & choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
 - a. SIDPP & SICP
 - b. Pit gain
 - c. Time
8. Regroup and identify forward plan

9. If pressure has built or is anticipated during the kill to reach 70% or greater of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

General Procedure While Tripping

1. Sound alarm (alert crew)
2. Stab full-opening safety valve & close
3. Space out drill string
4. Shut-in well (uppermost applicable BOP, typically annular preventer, first. HCR & choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
 - a. SIDPP & SICP
 - b. Pit gain
 - c. Time
8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach 70% of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

General Procedure While Running Production Casing

1. Sound alarm (alert crew)
2. Stab crossover and full-opening safety valve and close
3. Space out string
4. Shut-in well (uppermost applicable BOP, typically annular preventer, first. HCR & choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
 - a. SIDPP & SICP
 - b. Pit gain
 - c. Time
8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach 70% or greater of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

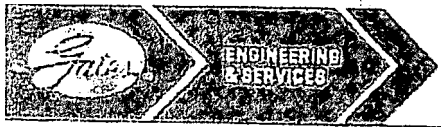
General Procedure With No Pipe In Hole (Open Hole)

1. Sound alarm (alert crew)
2. Shut-in with blind rams (HCR & choke will already be in the closed position)
3. Confirm shut-in
4. Notify toolpusher/company representative
5. Read and record the following:
 - a. SICP
 - b. Pit gain
 - c. Time
6. Regroup and identify forward plan

General Procedures While Pulling BHA Through Stack

1. PRIOR to pulling last joint of drillpipe through stack:
 - a. Perform flow check. If flowing, continue to (b).
 - b. Sound alarm (alert crew)
 - c. Stab full-opening safety valve and close
 - d. Space out drill string with tool joint just beneath the upper variable bore rams
 - e. Shut-in using upper variable bore rams (HCR & choke will already be in the closed position)
 - f. Confirm shut-in
 - g. Notify toolpusher/company representative
 - h. Read and record the following:
 - i. SIDPP & SICP
 - ii. Pit gain
 - iii. Time
 - i. Regroup and identify forward plan
2. With BHA in the stack and compatible ram preventer and pipe combination immediately available:
 - a. Sound alarm (alert crew)
 - b. Stab crossover and full-opening safety valve and close
 - c. Space out drill string with upset just beneath the upper variable bore rams
 - d. Shut-in using upper variable bore rams (HCR & choke will already be in the closed position)
 - e. Confirm shut-in
 - f. Notify toolpusher/company representative
 - g. Read and record the following:
 - i. SIDPP & SICP

- ii. Pit gain
 - iii. Time
- h. Regroup and identify forward plan
- 3. With BHA in the stack and NO compatible ram preventer and pipe combination immediately available:
 - a. Sound alarm (alert crew)
 - b. If possible, pull string clear of the stack and follow "Open Hole" procedure.
 - c. If impossible to pull string clear of the stack:
 - d. Stab crossover, make up one joint/stand of drillpipe and full-opening safety valve and close
 - e. Space out drill string with tooljoint just beneath the upper variable bore ram
 - f. Shut-in using upper variable bore ram (HCR & choke will already be in the closed position)
 - g. Confirm shut-in
 - h. Notify toolpusher/company representative
 - i. Read and record the following:
 - i. SIDPP & SICP
 - ii. Pit gain
 - iii. Time
 - j. Regroup and identify forward plan



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

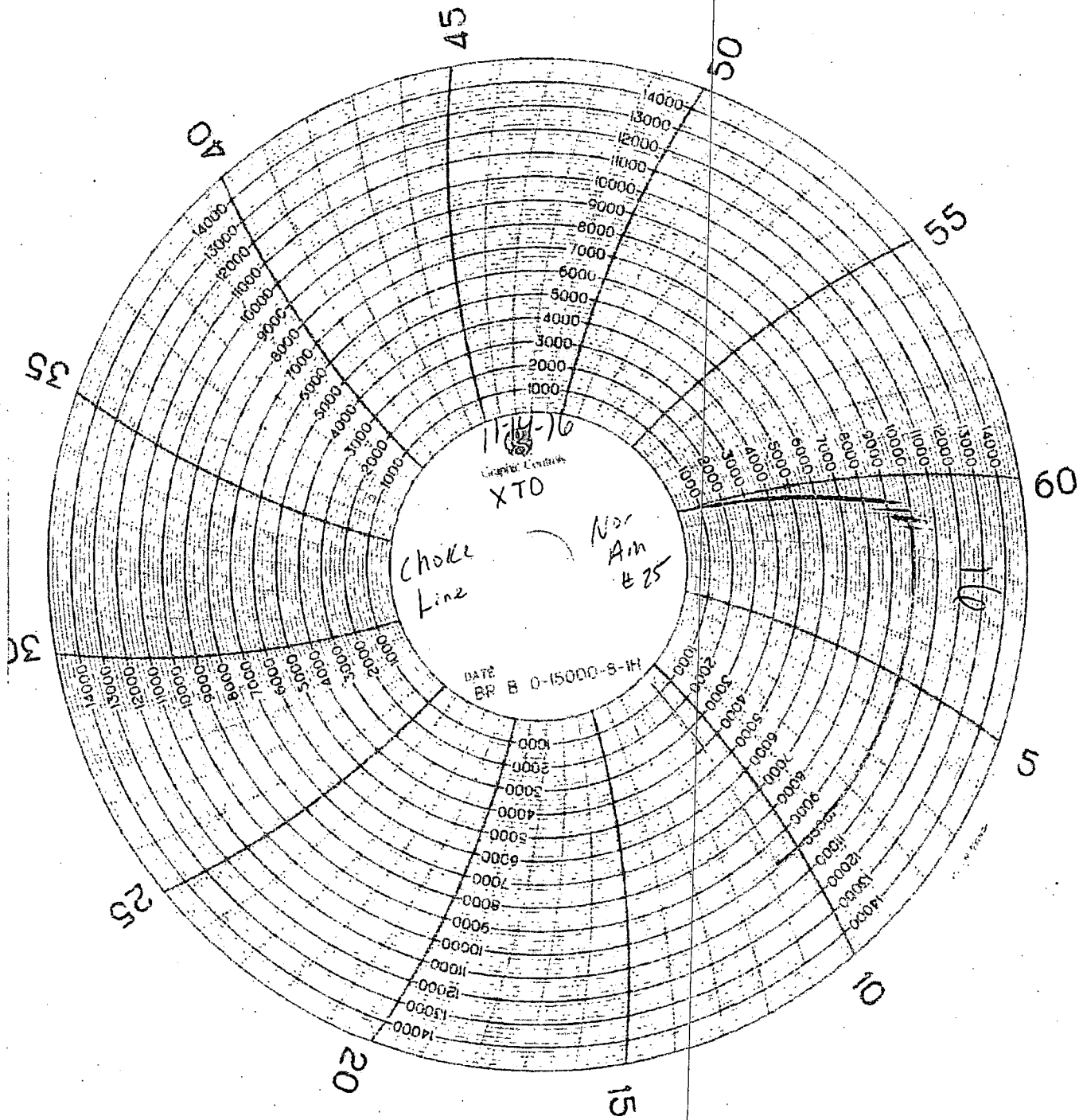
PHONE: 361-887-9807
FAX: 361-887-0812
EMAIL: crpe@s@gates.com
WEB: www.gates.com

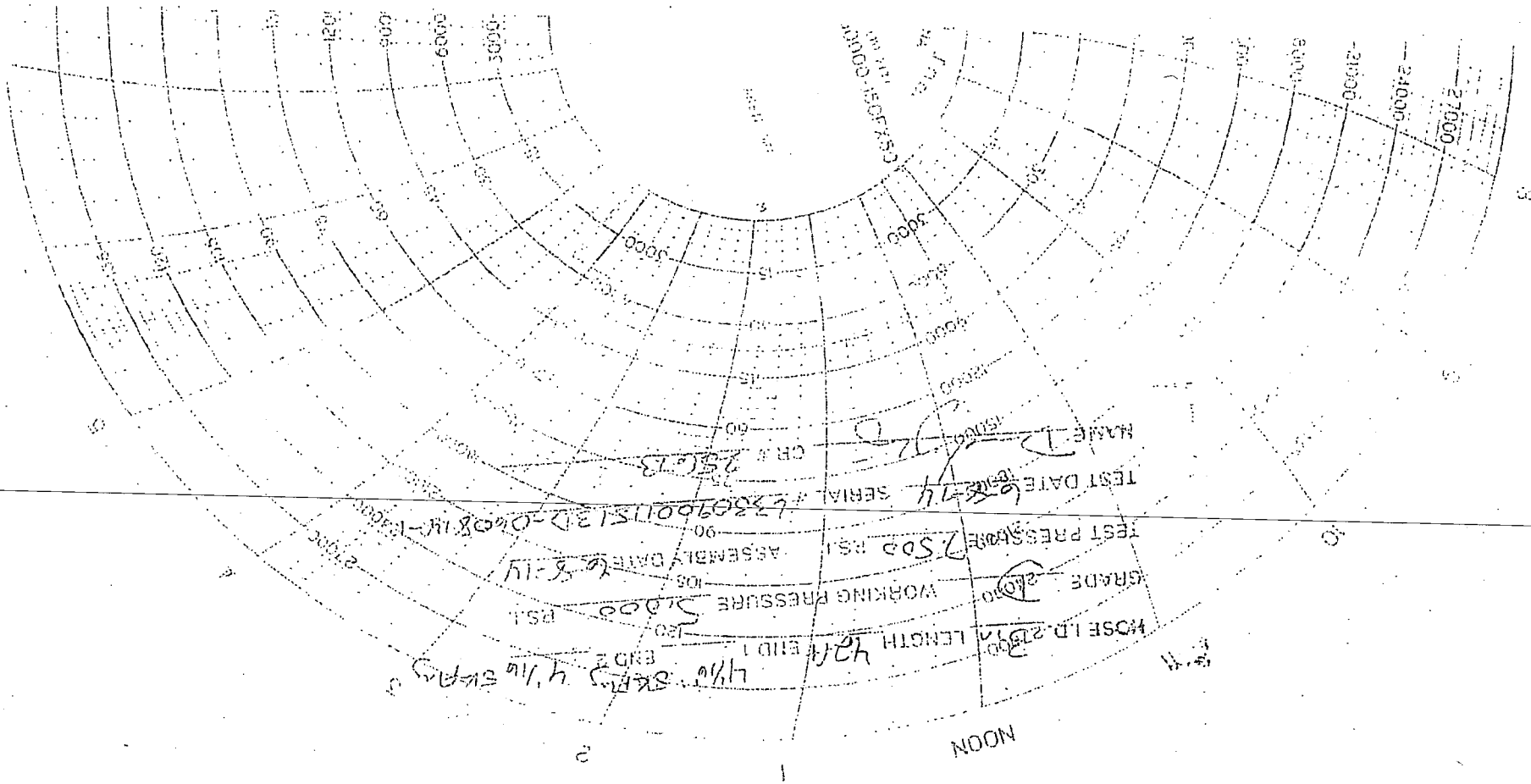
GRADE D PRESSURE TEST CERTIFICATE

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:	FD3.0+2.0R41/16.5KFLGE/E LE		
End Fitting 1 :	4 1/16 in. SK FLG	End Fitting 2 :	4 1/16 in. SK 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:	







Company: XTO Energy
Project: Eddy County, NM (Nad-27 / East Zone)
Site: PLU 29 Big Sinks
Well: #903H
Wellbore: OH
Rig:
Design: Plan #2 / 12/23, November 13 2019



CORRECTION REFERENCE DATA:
To convert a Magnetic Direction to a Grid Direction, Add 8.528°
To convert a True Direction to a Grid Direction, Subtract 0.282°
To convert a Magnetic Direction to a True Direction, Add 8.791° East
Magnetic Declination: 8.791°
Grid Convergence: 0.282° West
Magnetic Dip Angle: 59.83°
Magnetic Field Strength: 47534.8612540nT

WELL DETAILS: #903H

RKB = 24 @ 3383.00wft
Ground Level: 3359.00
+N-S +E-W Northing Easting Latitude Longitude
0.00 0.00 401255.80 664495.20 32.102082 -103.802109

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Drag	VSet
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	4200.00	0.00	0.00	4200.00	0.00	0.00	0.00	0.00
3	4400.00	3.00	180.00	4399.91	-5.23	0.00	1.50	5.23
4	5355.00	3.00	180.00	5363.59	-55.74	0.00	0.00	55.74
5	5745.55	5.00	267.43	5743.47	-56.45	-16.56	1.50	66.42
6	8754.11	5.00	267.43	8750.56	-78.24	-279.13	0.00	77.35
7	9013.86	0.00	0.00	9000.00	-78.73	-290.00	2.00	78.22
8	11956.84	0.00	0.00	11942.98	-78.73	-290.00	0.00	78.22
9	12456.84	40.00	182.20	12403.34	-246.16	-298.43	8.00	245.65
10	12961.24	90.40	179.90	12608.17	-689.35	-302.62	10.00	689.82
11	20387.09	90.40	179.90	12556.16	-8115.00	-289.80	0.00	8114.48

DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
#903H: SHL (2310' FNL/ 1950' FWL)	0.00	0.00	0.00	401255.80	664495.20	32.102082	-103.802109
#903H: PBHL (200' FSL/ 1650' FWL)	12556.16	-8115.00	-289.80	393150.80	664205.40	32.079778	-103.803173
#903H: LTP	12557.06	-7995.00	-290.30	393280.80	664204.90	32.080135	-103.803173
#903H: FTL/ LP	12608.00	-689.20	-302.40	400576.60	664192.80	32.100191	-103.803096

FORMATION TOP DETAILS

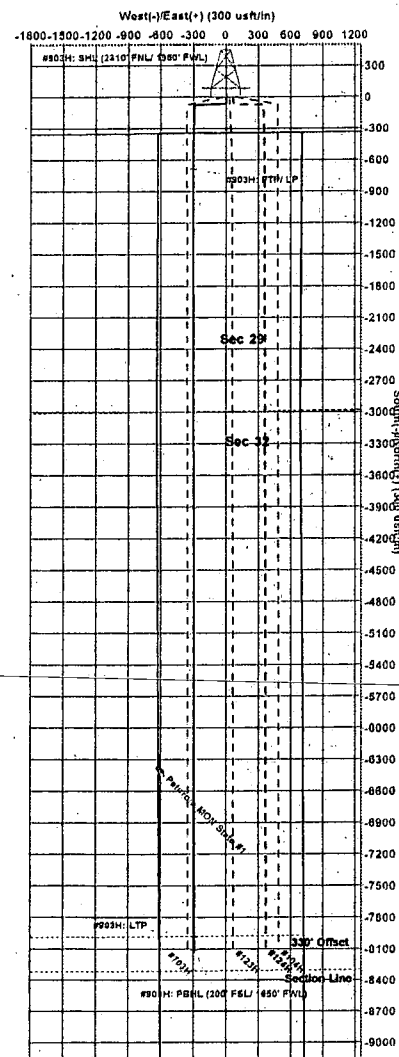
TVDPath	Formation
825.00	Rustler
1188.00	Salado
3924.00	Base of Salt
4138.00	Delaware
5128.00	Cherry Canyon
6814.00	Brushy Canyon
7865.00	Basal Brushy Canyon
8080.00	Bone Spring
8107.00	Bone Spring Lime
9077.00	1st Bone Sand
9489.00	2nd Bone Lime
9938.00	2nd Bone Sand
10160.00	3rd Bone Lime
11032.00	3rd Bone Sand
11354.00	Red Hills
11443.00	Wolfcamp
11472.00	Wolfcamp X
11587.00	Wolfcamp Y
11601.00	Wolfcamp A
12039.00	Wolfcamp B
12432.00	Wolfcamp D
12514.00	Wolfcamp E
12608.00	LP



Azimuth to Grid North
True North: -0.28°
Magnetic North: -5.51°
Magnetic Field
Strength: 47534.86nT
Dip Angle: 59.83°
Declination: -8.791°
Magnet: 158P/2016

PROJECT DETAILS: Eddy County, NM (Nad-27 / East Zone)
Geodetic System: US State Plane 1127 (Exact solution)
Datum: NAD 1983 (NAD83 CONUS)
Elevation: CLAVE 1985
Zone: New Mexico East 2021
System: Datum: Mean Sea Level

Disclaimer:
All true details, boundary lines and other well facts and data are provided as estimates and subject to routine surveys.



Plan: Plan #2 (#903H/OH)

Created By: Derek Stephens Date: 12/23, November 13 2019.



XTO Energy

Eddy County, NM (Nad-27 / East Zone)

PLU 29 Big Sinks

#903H

OH

Plan: Plan #2

Standard Plan With Toolface

13 November, 2019



Wellbenders

Standard Plan With Toolface

Company:	XTO Energy	Local Co-ordinate Reference:	Well #903H
Project:	Eddy County, NM (Nad-27 / East Zone)	TVD Reference:	RKB = 24' @ 3383.00usft
Site:	PLU 29 Big Sinks	MD Reference:	RKB = 24' @ 3383.00usft
Well:	#903H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	WBDS_SQL_2

Project	Eddy County, NM (Nad-27 / East Zone)		
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 29 Big Sinks		
Site Position:		Northing:	401,257.90 usft
From:	Map	Easting:	663,265.10 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in
		Latitude:	32.102077
		Longitude:	-103.806081
		Grid Convergence:	0.280 °

Well:	#903H		
Well Position	+N-S	0.00 usft	Northing: 401,265.80 usft
	+E-W	0.00 usft	Easting: 664,495.20 usft
Position Uncertainty	0.00 usft		Wellhead Elevation: 0.00 usft
			Latitude: 32.102082
			Longitude: -103.802109
			Ground Level: 3,359.00 usft

Wellbore:	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2015	11/13/2019	6.791	59.883	47,594.96128560

Design:	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N-S	+E-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	179.90

Survey Tool Program:	Date 11/13/2019			
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
0.00	20,387.09	Plan #2 (OH)	MWD	MWD - Standard



Wellbenders

Standard Plan With Toolface

Company:	XTO Energy	Local Co-ordinate Reference:	Well #903H
Project:	Eddy County, NM (Nad-27 / East Zone)	TVD Reference:	RKB = 24' @ 3383.00usft
Site:	PLU 29 Big Sinks	MD Reference:	RKB = 24' @ 3383.00usft
Well:	#903H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	WBDS_SQL_2

Planned Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100ft)	Buile (°/100ft)	Turn (°/100ft)	TFace (°)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000



Wellbenders Standard Plan With Toolface

Company:	XTO Energy	Local Co-ordinate Reference:	Well #903H
Project:	Eddy County, NM (Nad-27 / East Zone)	TVD Reference:	RKB = 24' @ 3383.00usft
Site:	PLU 29 Big Sinks	MD Reference:	RKB = 24' @ 3383.00usft
Well:	#903H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	WBDS_SQL_2

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
4,300.00	1.50	180.00	4,299.99	-1.31	0.00	1.31	1.50	1.50	0.00	180.000
4,400.00	3.00	180.00	4,399.91	-5.23	0.00	5.23	1.50	1.50	0.00	0.000
4,500.00	3.00	180.00	4,499.77	-10.47	0.00	10.47	0.00	0.00	0.00	0.000
4,600.00	3.00	180.00	4,599.63	-15.70	0.00	15.70	0.00	0.00	0.00	0.000
4,700.00	3.00	180.00	4,699.50	-20.94	0.00	20.94	0.00	0.00	0.00	0.000
4,800.00	3.00	180.00	4,799.36	-26.17	0.00	26.17	0.00	0.00	0.00	0.000
4,900.00	3.00	180.00	4,899.22	-31.40	0.00	31.40	0.00	0.00	0.00	0.000
5,000.00	3.00	180.00	4,999.09	-36.64	0.00	36.64	0.00	0.00	0.00	0.000
5,100.00	3.00	180.00	5,098.95	-41.87	0.00	41.87	0.00	0.00	0.00	0.000
5,200.00	3.00	180.00	5,198.81	-47.10	0.00	47.10	0.00	0.00	0.00	0.000
5,300.00	3.00	180.00	5,298.68	-52.34	0.00	52.34	0.00	0.00	0.00	0.000



Wellbenders

Standard Plan With Toolface

Company:	XTO Energy	Local Co-ordinate Reference:	Well #903H
Project:	Eddy County, NM (Nad-27 / East Zone)	TVD Reference:	RKB = 24' @ 3383.00usft
Site:	PLU 29 Big Sinks	MD Reference:	RKB = 24' @ 3383.00usft
Well:	#903H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	WBDS_SQL_2

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
5,365.00	3.00	180.00	5,363.59	-55.74	0.00	55.74	0.00	0.00	0.00	0.000
5,400.00	2.78	189.50	5,398.54	-57.49	-0.14	57.49	1.50	-0.62	27.14	119.010
5,500.00	2.68	221.29	5,498.43	-61.65	-2.09	61.64	1.50	-0.10	31.79	109.524
5,600.00	3.34	247.33	5,598.30	-64.53	-6.32	64.52	1.50	0.66	26.04	77.768
5,700.00	4.43	262.77	5,698.07	-66.14	-12.84	66.12	1.50	1.09	15.44	51.761
5,745.55	5.00	267.43	5,743.47	-66.45	-16.56	66.42	1.50	1.24	10.22	36.353
5,800.00	5.00	267.43	5,797.71	-66.66	-21.30	66.62	0.00	0.00	0.00	0.000
5,900.00	5.00	267.43	5,897.33	-67.05	-30.00	67.00	0.00	0.00	0.00	0.000
6,000.00	5.00	267.43	5,996.95	-67.44	-38.70	67.38	0.00	0.00	0.00	0.000
6,100.00	5.00	267.43	6,096.57	-67.83	-47.40	67.75	0.00	0.00	0.00	0.000
6,200.00	5.00	267.43	6,196.19	-68.22	-56.09	68.13	0.00	0.00	0.00	0.000
6,300.00	5.00	267.43	6,295.81	-68.62	-64.79	68.50	0.00	0.00	0.00	0.000
6,400.00	5.00	267.43	6,395.43	-69.01	-73.49	68.88	0.00	0.00	0.00	0.000
6,500.00	5.00	267.43	6,495.05	-69.40	-82.19	69.25	0.00	0.00	0.00	0.000
6,600.00	5.00	267.43	6,594.67	-69.79	-90.89	69.63	0.00	0.00	0.00	0.000
6,700.00	5.00	267.43	6,694.29	-70.18	-99.59	70.00	0.00	0.00	0.00	0.000
6,800.00	5.00	267.43	6,793.91	-70.57	-108.28	70.38	0.00	0.00	0.00	0.000
6,900.00	5.00	267.43	6,893.53	-70.96	-116.98	70.76	0.00	0.00	0.00	0.000
7,000.00	5.00	267.43	6,993.15	-71.35	-125.68	71.13	0.00	0.00	0.00	0.000
7,100.00	5.00	267.43	7,092.77	-71.74	-134.38	71.51	0.00	0.00	0.00	0.000
7,200.00	5.00	267.43	7,192.39	-72.13	-143.08	71.88	0.00	0.00	0.00	0.000
7,300.00	5.00	267.43	7,292.01	-72.52	-151.78	72.26	0.00	0.00	0.00	0.000
7,400.00	5.00	267.43	7,391.63	-72.91	-160.48	72.63	0.00	0.00	0.00	0.000
7,500.00	5.00	267.43	7,491.25	-73.30	-169.17	73.01	0.00	0.00	0.00	0.000
7,600.00	5.00	267.43	7,590.87	-73.69	-177.87	73.38	0.00	0.00	0.00	0.000
7,700.00	5.00	267.43	7,690.49	-74.08	-186.57	73.76	0.00	0.00	0.00	0.000
7,800.00	5.00	267.43	7,790.11	-74.48	-195.27	74.13	0.00	0.00	0.00	0.000



Wellbenders

Standard Plan With Toolface

Company:	XTO Energy	Local Co-ordinate Reference:	Well #903H
Project:	Eddy County, NM (Nad-27 / East Zone)	TVD Reference:	RKB = 24' @ 3383.00usft
Site:	PLU 29 Big Sinks	MD Reference:	RKB = 24' @ 3383.00usft
Well:	#903H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	WBDS_SQL_2

Planned Survey:											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)	
7,900.00	5.00	267.43	7,889.73	-74.87	-203.97	74.51	0.00	0.00	0.00	0.00	0.000
8,000.00	5.00	267.43	7,989.35	-75.26	-212.67	74.89	0.00	0.00	0.00	0.00	0.000
8,100.00	5.00	267.43	8,088.97	-75.65	-221.36	75.26	0.00	0.00	0.00	0.00	0.000
8,200.00	5.00	267.43	8,188.60	-76.04	-230.06	75.64	0.00	0.00	0.00	0.00	0.000
8,300.00	5.00	267.43	8,288.22	-76.43	-238.76	76.01	0.00	0.00	0.00	0.00	0.000
8,400.00	5.00	267.43	8,387.84	-76.82	-247.46	76.39	0.00	0.00	0.00	0.00	0.000
8,500.00	5.00	267.43	8,487.46	-77.21	-256.16	76.76	0.00	0.00	0.00	0.00	0.000
8,600.00	5.00	267.43	8,587.08	-77.60	-264.86	77.14	0.00	0.00	0.00	0.00	0.000
8,700.00	5.00	267.43	8,686.70	-77.99	-273.55	77.51	0.00	0.00	0.00	0.00	0.000
8,764.11	5.00	267.43	8,750.56	-78.24	-279.13	77.75	0.00	0.00	0.00	0.00	0.000
8,800.00	4.28	267.43	8,786.33	-78.37	-282.03	77.88	2.00	-2.00	0.00	180.000	
8,900.00	2.28	267.43	8,886.17	-78.63	-287.74	78.13	2.00	-2.00	0.00	180.000	
9,000.00	0.28	267.43	8,986.14	-78.73	-289.97	78.22	2.00	-2.00	0.00	180.000	
9,013.86	0.00	0.00	9,000.00	-78.73	-290.00	78.22	2.00	-2.00	0.00	180.000	
9,100.00	0.00	0.00	9,086.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.00	0.000
9,200.00	0.00	0.00	9,186.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.00	0.000
9,300.00	0.00	0.00	9,286.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.00	0.000
9,400.00	0.00	0.00	9,386.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.00	0.000
9,500.00	0.00	0.00	9,486.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.00	0.000
9,600.00	0.00	0.00	9,586.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.00	0.000
9,700.00	0.00	0.00	9,686.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.00	0.000
9,800.00	0.00	0.00	9,786.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.00	0.000
9,900.00	0.00	0.00	9,886.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.00	0.000
10,000.00	0.00	0.00	9,986.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.00	0.000
10,100.00	0.00	0.00	10,086.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.00	0.000
10,200.00	0.00	0.00	10,186.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.00	0.000
10,300.00	0.00	0.00	10,286.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.00	0.000



Wellbenders

Standard Plan With Toolface

Company:	XTO Energy	Local Co-ordinate Reference:	Well #903H
Project:	Eddy County, NM (Nad-27 / East Zone)	TVD Reference:	RKB = 24' @ 3383.00usft
Site:	PLU 29 Big Sinks	MD Reference:	RKB = 24' @ 3383.00usft
Well:	#903H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	WBDS_SQL_2

Planned Survey:										
MD (usft)	Inc. (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
10,400.00	0.00	0.00	10,386.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.000
10,500.00	0.00	0.00	10,486.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.000
10,600.00	0.00	0.00	10,586.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.000
10,700.00	0.00	0.00	10,686.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.000
10,800.00	0.00	0.00	10,786.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.000
10,900.00	0.00	0.00	10,886.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.000
11,000.00	0.00	0.00	10,986.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.000
11,100.00	0.00	0.00	11,086.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.000
11,200.00	0.00	0.00	11,186.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.000
11,300.00	0.00	0.00	11,286.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.000
11,400.00	0.00	0.00	11,386.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.000
11,500.00	0.00	0.00	11,486.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.000
11,600.00	0.00	0.00	11,586.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.000
11,700.00	0.00	0.00	11,686.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.000
11,800.00	0.00	0.00	11,786.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.000
11,900.00	0.00	0.00	11,886.14	-78.73	-290.00	78.22	0.00	0.00	0.00	0.000
11,956.84	0.00	0.00	11,942.98	-78.73	-290.00	78.22	0.00	0.00	0.00	0.000
12,000.00	3.45	182.20	11,986.11	-80.03	-290.05	79.52	8.00	8.00	0.00	182.200
12,050.00	7.45	182.20	12,035.87	-84.78	-290.23	84.27	8.00	8.00	0.00	0.000
12,100.00	11.45	182.20	12,085.18	-92.98	-290.55	92.47	8.00	8.00	0.00	0.000
12,150.00	15.45	182.20	12,133.80	-104.60	-290.99	104.09	8.00	8.00	0.00	0.000
12,200.00	19.45	182.20	12,181.49	-119.58	-291.57	119.07	8.00	8.00	0.00	0.000
12,250.00	23.45	182.20	12,228.02	-137.85	-292.27	137.34	8.00	8.00	0.00	0.000
12,300.00	27.45	182.20	12,273.16	-159.32	-293.10	158.81	8.00	8.00	0.00	0.000
12,350.00	31.45	182.20	12,316.69	-183.88	-294.04	183.37	8.00	8.00	0.00	0.000
12,400.00	35.45	182.20	12,358.39	-211.42	-295.10	210.90	8.00	8.00	0.00	0.000
12,450.00	39.45	182.20	12,398.08	-241.79	-296.26	241.28	8.00	8.00	0.00	0.000



Wellbenders

Standard Plan With Toolface

Company: XTO Energy
Project: Eddy County, NM (Nad-27 / East Zone)
Site: PLU 29 Big Sinks
Well: #903H
Wellbore: OH
Design: Plan #2

Local Co-ordinate Reference:
TVD Reference: RKB = 24' @ 3383.00usft
MD Reference: RKB = 24' @ 3383.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WBDS_SQL_2

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
12,456.84	40.00	182.20	12,403.34	-246.16	-296.43	245.65	8.00	8.00	0.00	0.000
12,500.00	44.31	181.88	12,435.33	-275.10	-297.46	274.58	10.00	9.99	-0.74	-2.982
12,550.00	49.31	181.56	12,469.54	-311.53	-298.55	311.01	10.00	9.99	-0.63	-2.744
12,600.00	54.30	181.29	12,500.45	-350.80	-299.53	350.28	10.00	9.99	-0.54	-2.528
12,650.00	59.30	181.05	12,527.82	-392.61	-300.38	392.09	10.00	9.99	-0.48	-2.360
12,700.00	64.29	180.84	12,551.44	-436.66	-301.10	436.13	10.00	9.99	-0.43	-2.229
12,750.00	69.29	180.64	12,571.14	-482.59	-301.69	482.07	10.00	9.99	-0.40	-2.127
12,800.00	74.29	180.45	12,586.76	-530.07	-302.15	529.54	10.00	9.99	-0.37	-2.049
12,850.00	79.28	180.28	12,598.19	-578.73	-302.46	578.20	10.00	9.99	-0.35	-1.991
12,900.00	84.28	180.11	12,605.33	-628.20	-302.62	627.67	10.00	9.99	-0.34	-1.951
12,950.00	89.28	179.94	12,608.14	-678.11	-302.64	677.58	10.00	9.99	-0.34	-1.928
12,961.24	90.40	179.90	12,608.17	-689.35	-302.62	688.82	10.00	9.99	-0.33	-1.917
13,000.00	90.40	179.90	12,607.90	-728.11	-302.56	727.58	0.00	0.00	0.00	0.000
13,100.00	90.40	179.90	12,607.20	-828.10	-302.39	827.57	0.00	0.00	0.00	0.000
13,200.00	90.40	179.90	12,606.50	-928.10	-302.21	927.57	0.00	0.00	0.00	0.000
13,300.00	90.40	179.90	12,605.80	-1,028.10	-302.04	1,027.57	0.00	0.00	0.00	0.000
13,400.00	90.40	179.90	12,605.10	-1,128.09	-301.87	1,127.57	0.00	0.00	0.00	0.000
13,500.00	90.40	179.90	12,604.40	-1,228.09	-301.69	1,227.56	0.00	0.00	0.00	0.000
13,600.00	90.40	179.90	12,603.70	-1,328.09	-301.52	1,327.56	0.00	0.00	0.00	0.000
13,700.00	90.40	179.90	12,603.00	-1,428.09	-301.35	1,427.56	0.00	0.00	0.00	0.000
13,800.00	90.40	179.90	12,602.30	-1,528.08	-301.18	1,527.56	0.00	0.00	0.00	0.000
13,900.00	90.40	179.90	12,601.60	-1,628.08	-301.00	1,627.55	0.00	0.00	0.00	0.000
14,000.00	90.40	179.90	12,600.90	-1,728.08	-300.83	1,727.55	0.00	0.00	0.00	0.000
14,100.00	90.40	179.90	12,600.20	-1,828.08	-300.66	1,827.55	0.00	0.00	0.00	0.000
14,200.00	90.40	179.90	12,599.50	-1,928.07	-300.49	1,927.55	0.00	0.00	0.00	0.000
14,300.00	90.40	179.90	12,598.80	-2,028.07	-300.31	2,027.54	0.00	0.00	0.00	0.000
14,400.00	90.40	179.90	12,598.10	-2,128.07	-300.14	2,127.54	0.00	0.00	0.00	0.000



Wellbenders

Standard Plan With Toolface

Company:	XTO Energy	Local Co-ordinate Reference:	Well #903H
Project:	Eddy County, NM (Nad-27 / East Zone)	TVD Reference:	RKB = 24' @ 3383.00usft
Site:	PLU 29 Big Sinks	MD Reference:	RKB = 24' @ 3383.00usft
Well:	#903H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	WBDS_SQL_2

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)	
14,500.00	90.40	179.90	12,597.40	-2,228.07	-299.97	2,227.54	0.00	0.00	0.00	0.000	
14,600.00	90.40	179.90	12,596.69	-2,328.06	-299.79	2,327.54	0.00	0.00	0.00	0.000	
14,700.00	90.40	179.90	12,595.99	-2,428.06	-299.62	2,427.53	0.00	0.00	0.00	0.000	
14,800.00	90.40	179.90	12,595.29	-2,528.06	-299.45	2,527.53	0.00	0.00	0.00	0.000	
14,900.00	90.40	179.90	12,594.59	-2,628.06	-299.28	2,627.53	0.00	0.00	0.00	0.000	
15,000.00	90.40	179.90	12,593.89	-2,728.05	-299.10	2,727.53	0.00	0.00	0.00	0.000	
15,100.00	90.40	179.90	12,593.19	-2,828.05	-298.93	2,827.52	0.00	0.00	0.00	0.000	
15,200.00	90.40	179.90	12,592.49	-2,928.05	-298.76	2,927.52	0.00	0.00	0.00	0.000	
15,300.00	90.40	179.90	12,591.79	-3,028.05	-298.59	3,027.52	0.00	0.00	0.00	0.000	
15,400.00	90.40	179.90	12,591.09	-3,128.04	-298.41	3,127.52	0.00	0.00	0.00	0.000	
15,500.00	90.40	179.90	12,590.39	-3,228.04	-298.24	3,227.51	0.00	0.00	0.00	0.000	
15,600.00	90.40	179.90	12,589.69	-3,328.04	-298.07	3,327.51	0.00	0.00	0.00	0.000	
15,700.00	90.40	179.90	12,588.99	-3,428.03	-297.89	3,427.51	0.00	0.00	0.00	0.000	
15,800.00	90.40	179.90	12,588.29	-3,528.03	-297.72	3,527.51	0.00	0.00	0.00	0.000	
15,900.00	90.40	179.90	12,587.59	-3,628.03	-297.55	3,627.50	0.00	0.00	0.00	0.000	
16,000.00	90.40	179.90	12,586.89	-3,728.03	-297.38	3,727.50	0.00	0.00	0.00	0.000	
16,100.00	90.40	179.90	12,586.19	-3,828.02	-297.20	3,827.50	0.00	0.00	0.00	0.000	
16,200.00	90.40	179.90	12,585.49	-3,928.02	-297.03	3,927.50	0.00	0.00	0.00	0.000	
16,300.00	90.40	179.90	12,584.79	-4,028.02	-296.86	4,027.50	0.00	0.00	0.00	0.000	
16,400.00	90.40	179.90	12,584.09	-4,128.02	-296.69	4,127.49	0.00	0.00	0.00	0.000	
16,500.00	90.40	179.90	12,583.39	-4,228.01	-296.51	4,227.49	0.00	0.00	0.00	0.000	
16,600.00	90.40	179.90	12,582.69	-4,328.01	-296.34	4,327.49	0.00	0.00	0.00	0.000	
16,700.00	90.40	179.90	12,581.99	-4,428.01	-296.17	4,427.49	0.00	0.00	0.00	0.000	
16,800.00	90.40	179.90	12,581.29	-4,528.01	-296.00	4,527.48	0.00	0.00	0.00	0.000	
16,900.00	90.40	179.90	12,580.58	-4,628.00	-295.82	4,627.48	0.00	0.00	0.00	0.000	
17,000.00	90.40	179.90	12,579.88	-4,728.00	-295.65	4,727.48	0.00	0.00	0.00	0.000	
17,100.00	90.40	179.90	12,579.18	-4,828.00	-295.48	4,827.48	0.00	0.00	0.00	0.000	



Wellbenders

Standard Plan With Toolface

Company:	XTO Energy	Local Co-ordinate Reference:	Well #903H
Project:	Eddy County, NM (Nad-27 / East Zone)	TVD Reference:	RKB = 24' @ 3383.00usft
Site:	PLU 29 Big Sinks	MD Reference:	RKB = 24' @ 3383.00usft
Well:	#903H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	WBDS_SQL_2

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)	
17,200.00	90.40	179.90	12,578.48	-4,928.00	-295.30	4,927.47	0.00	0.00	0.00	0.000	
17,300.00	90.40	179.90	12,577.78	-5,027.99	-295.13	5,027.47	0.00	0.00	0.00	0.000	
17,400.00	90.40	179.90	12,577.08	-5,127.99	-294.96	5,127.47	0.00	0.00	0.00	0.000	
17,500.00	90.40	179.90	12,576.38	-5,227.99	-294.79	5,227.47	0.00	0.00	0.00	0.000	
17,600.00	90.40	179.90	12,575.68	-5,327.99	-294.61	5,327.46	0.00	0.00	0.00	0.000	
17,700.00	90.40	179.90	12,574.98	-5,427.98	-294.44	5,427.46	0.00	0.00	0.00	0.000	
17,800.00	90.40	179.90	12,574.28	-5,527.98	-294.27	5,527.46	0.00	0.00	0.00	0.000	
17,900.00	90.40	179.90	12,573.58	-5,627.98	-294.10	5,627.46	0.00	0.00	0.00	0.000	
18,000.00	90.40	179.90	12,572.88	-5,727.98	-293.92	5,727.45	0.00	0.00	0.00	0.000	
18,100.00	90.40	179.90	12,572.18	-5,827.97	-293.75	5,827.45	0.00	0.00	0.00	0.000	
18,200.00	90.40	179.90	12,571.48	-5,927.97	-293.58	5,927.45	0.00	0.00	0.00	0.000	
18,300.00	90.40	179.90	12,570.78	-6,027.97	-293.40	6,027.45	0.00	0.00	0.00	0.000	
18,400.00	90.40	179.90	12,570.08	-6,127.96	-293.23	6,127.44	0.00	0.00	0.00	0.000	
18,500.00	90.40	179.90	12,569.38	-6,227.96	-293.06	6,227.44	0.00	0.00	0.00	0.000	
18,600.00	90.40	179.90	12,568.68	-6,327.96	-292.89	6,327.44	0.00	0.00	0.00	0.000	
18,700.00	90.40	179.90	12,567.98	-6,427.96	-292.71	6,427.44	0.00	0.00	0.00	0.000	
18,800.00	90.40	179.90	12,567.28	-6,527.95	-292.54	6,527.43	0.00	0.00	0.00	0.000	
18,900.00	90.40	179.90	12,566.58	-6,627.95	-292.37	6,627.43	0.00	0.00	0.00	0.000	
19,000.00	90.40	179.90	12,565.88	-6,727.95	-292.20	6,727.43	0.00	0.00	0.00	0.000	
19,100.00	90.40	179.90	12,565.18	-6,827.95	-292.02	6,827.43	0.00	0.00	0.00	0.000	
19,200.00	90.40	179.90	12,564.47	-6,927.94	-291.85	6,927.42	0.00	0.00	0.00	0.000	
19,300.00	90.40	179.90	12,563.77	-7,027.94	-291.68	7,027.42	0.00	0.00	0.00	0.000	
19,400.00	90.40	179.90	12,563.07	-7,127.94	-291.50	7,127.42	0.00	0.00	0.00	0.000	
19,500.00	90.40	179.90	12,562.37	-7,227.94	-291.33	7,227.42	0.00	0.00	0.00	0.000	
19,600.00	90.40	179.90	12,561.67	-7,327.93	-291.16	7,327.41	0.00	0.00	0.00	0.000	
19,700.00	90.40	179.90	12,560.97	-7,427.93	-290.99	7,427.41	0.00	0.00	0.00	0.000	
19,800.00	90.40	179.90	12,560.27	-7,527.93	-290.81	7,527.41	0.00	0.00	0.00	0.000	



Wellbenders

Standard Plan With Toolface

Company: XTO Energy
Project: Eddy County, NM (Nad-27 / East Zone)
Site: PLU 29 Big Sinks
Well: #903H
Wellbore: OH
Design: Plan #2

Local Co-ordinate Reference: Well #903H
TVD Reference: RKB = 24' @ 3383.00usft
MD Reference: RKB = 24' @ 3383.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WBDS_SQL_2

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V: Sec (usft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
19,900.00	90.40	179.90	12,559.57	-7,627.93	-290.64	7,627.41	0.00	0.00	0.00	0.000
20,000.00	90.40	179.90	12,558.87	-7,727.92	-290.47	7,727.40	0.00	0.00	0.00	0.000
20,100.00	90.40	179.90	12,558.17	-7,827.92	-290.30	7,827.40	0.00	0.00	0.00	0.000
20,200.00	90.40	179.90	12,557.47	-7,927.92	-290.12	7,927.40	0.00	0.00	0.00	0.000
20,300.00	90.40	179.90	12,556.77	-8,027.92	-289.95	8,027.40	0.00	0.00	0.00	0.000
20,387.09	90.40	179.90	12,556.16	-8,115.00	-289.80	8,114.48	0.00	0.00	0.00	0.000



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Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
12,053.15	12,039.00	Wolfcamp B			
3,924.00	3,924.00	Base of Salt			
825.00	825.00	Rustler			
11,045.86	11,032.00	3rd Bone Sand			
5,129.09	5,128.00	Cherry Canyon			
11,367.86	11,354.00	Red Hills			
9,951.86	9,938.00	2nd Bone Sand			
11,485.86	11,472.00	Wolfcamp X			
7,875.17	7,865.00	Basal Brushy Canyon			
8,090.99	8,080.00	Bone Spring			
8,118.09	8,107.00	Bone Spring Lime			
6,820.16	6,814.00	Brushy Canyon			
4,138.00	4,138.00	Delaware			
12,942.57	12,608.00	LP			
11,456.86	11,443.00	Wolfcamp			
1,188.00	1,188.00	Salado			
11,580.86	11,567.00	Wolfcamp Y			
9,090.86	9,077.00	1st Bone Sand			
9,502.86	9,489.00	2nd Bone Lime			
12,758.24	12,574.00	Wolfcamp E			
10,173.86	10,160.00	3rd Bone Lime			
12,495.37	12,432.00	Wolfcamp D			
11,614.86	11,601.00	Wolfcamp A			

Checked By: _____ Approved By: _____ Date: _____

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO Permian Operating, LLC
LEASE NO.:	NMMN-0157756A
WELL NAME & NO.:	Poker Lake Unit 29 BS 903H
SURFACE HOLE FOOTAGE:	2310' FNL & 1950' FWL
BOTTOM HOLE FOOTAGE:	0200' FSL & 1650' FWL Sec. 32, T. 25 S., R 31 E.
LOCATION:	Section 29, T. 25 S., R 31 E., NMPM
COUNTY:	Eddy County, New Mexico

Commercial Well Determination

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

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.

A. DRILLING OPERATIONS REQUIREMENTS

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

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

☒ **Eddy County**

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

1. **Hydrogen Sulfide (H₂S) monitors shall be installed prior to drilling out the surface shoe. If H₂S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.**
2. 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. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**

3. 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 wells.
4. 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 is located, this does not include the dog house or stairway area.
5. 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.

B. CASING

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.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

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.

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.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Medium Cave/Karst

Possibility of water flows in the Salado and Castile.

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

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

1. The 13-3/8 inch surface casing shall be set at approximately 1030 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**
 - 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 is to include the lead cement slurry.**
 - 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.

Formation below the 13-3/8" shoe to be tested according to Onshore Order

2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.

2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:

- ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.**

If cement does not circulate to surface on the intermediate casing, the cement on the production casing must come to surface.

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

Centralizers required through the curve and a minimum of one every other joint.

3. The minimum required fill of cement behind the 7 inch production casing is:

- ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **Excess calculates to 18% - Additional cement may be required.**

Formation below the 7" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.

4. The minimum required fill of cement behind the 4-1/2 inch production Liner is:

- ☒ Cement as proposed. Operator shall provide method of verification. **Excess calculates to 19% - Additional cement may be required.**

5. 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.

C. 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 53.
2. Variance approved to use flex line from BOP to choke manifold. 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.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M) psi.**

10M 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.

Variance approved to use a 5M annular. The annular must be tested to full working pressure (5000 psi.)

4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer.**
 - c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
 - d. The results of the test shall be reported to the appropriate BLM office.
 - e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
 - f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WASTE MATERIAL AND FLUIDS

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

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

JAM 121619



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Carlsbad Field Office
620 E. Greene St.
Carlsbad, NM 88220-6292



Notice of Change to Procedure – Please Read

To All Operators,

This is to notify you that the Bureau of Land Management (BLM) Carlsbad Field Office will no longer be supplying copies of sundries (3160-5), applications for permit to drill (APDs), or completion reports (3160-4) to the New Mexico Oil Conservation Division (NMOCD).

Effective immediately, to be in compliance with C-104 requirements, the NMOCD is requiring operators to submit a copy of any sundries, APDs, or completion reports processed by the BLM to the appropriate NMOCD office. This change will affect all BLM sundries, APDs, and completion reports in Eddy and Lea counties.

If a copy of a previously processed sundry, APD, or completion report is needed for submission to NMOCD, the Carlsbad Field Office will send a copy to the operator.

If you have any questions, please contact Jonathon Shepard (BLM) 575-234-2237.

Thank you

Note: This notice is being included in multiple communications from the BLM Carlsbad Field Office and you may receive multiple copies.