Form 3160-3
(June 2015)

RECEIVED

DEC 05 2019

DISTRICT II-ARTESIA O.C.D.

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM099147

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☑ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☑ Single Zone ☐ Multiple Zone

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.
CORRAL CANYON 8-32 FEDERAL
103H

2. Name of Operator
XTO ENERGY INCORPORATED

9. API Well No.
30-015-46486

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory
2277 Springwoods Village Parkway Spring TX 77389	(432)620-6700	PURPLE SAGE WOLFCAMP GAS

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface NESW / 2437 FSL / 1846 FWL / LAT 32.144145 / LONG -104.009271

At proposed prod. zone NESW / 2440 FSL / 1590 FWL / LAT 32.173205 / LONG -104.009972

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 8 / T25S / R29E / NMP

14. Distance in miles and direction from nearest town or post office*	12. County or Parish	13. State
8 miles	EDDY	NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
1846 feet	960	640

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
0 feet	9863 feet / 20223 feet	FED: UTB000138

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
2963 feet	10/01/2019	90 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Stephanie Rabadue / Ph: (432)620-6714	08/08/2019

Title
Regulatory Coordinator

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	11/06/2019

Title	Office
Assistant Field Manager Lands & Minerals	CARLSBAD

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

APPROVED WITH CONDITIONS

Approval Date: 11/06/2019

(Continued on page 2)

*(Instructions on page 2)

RWP 12-12-19

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 :	L33090011S13D-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 :	

INSTRUCTIONS

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

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

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

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

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

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

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

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160
PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service wen or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.
ROUTINE USE: Information from the record and/or the record win be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.
EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM conects this information to anow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

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

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Additional Operator Remarks

Location of Well

1. SHL: NESW / 2437 FSL / 1846 FWL / TWSP: 25S / RANGE: 29E / SECTION: 8 / LAT: 32.144145 / LONG: -104.009271 (TVD: 0 feet, MD: 0 feet)
   PPP: SENW / 2310 FNL / 1590 FWL / TWSP: 25S / RANGE: 29E / SECTION: 8 / LAT: 32.145655 / LONG: -104.009271 (TVD: 9863 feet, MD: 10300 feet)
   PPP: SESW / 330 FSL / 1590 FWL / TWSP: 25S / RANGE: 29E / SECTION: 5 / LAT: 32.15224 / LONG: -104.00869 (TVD: 9863 feet, MD: 12500 feet)
   BHL: NESW / 2440 FSL / 1590 FWL / TWSP: 24S / RANGE: 29E / SECTION: 32 / LAT: 32.173205 / LONG: -104.009972 (TVD: 9863 feet, MD: 20223 feet)

BLM Point of Contact

Name:

Title:

Phone:

Email:

Approval Date: 11/06/2019

Review and Appeal Rights

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**XTO Energy, Inc.**
LEASE NO.:	**NMNM-099147**
WELL NAME & NO.:	**Corral Canyon 8-32 Federal 103H**
SURFACE HOLE FOOTAGE:	**2437' FSL & 1846' FWL**
BOTTOM HOLE FOOTAGE	**2440' FSL & 1590' FWL Sec. 32, T. 24 S., R. 29 E.**
LOCATION:	**Section 08, T. 25 S., R. 29 E., NMPM**
COUNTY:	**Eddy County, New Mexico**

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

A. HYDROGEN SULFIDE

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

Medium Cave/Karst
Possibility of water flows in the Salado and Castile.
Possibility of lost circulation in the Rustler, Red Beds, and Delaware.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **530** feet (a minimum of 70 feet (Eddy County) 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 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.

9-5/8'' Intermediate casing shall be kept fluid filled while running into hole to meet BLM minimum collapse requirements.

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

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. DV tool must be 50 feet below previous shoe and minimum of 200 feet above current shoe. The DV tool may be cancelled if cement circulates to surface on the first stage.

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool:

- Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.**

❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

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

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).

2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
    e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Operator to add "COM" to the well name.

Communitization Agreement

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all

such owners and will make those signatures available to the BLM immediately upon request.

- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL REQUIREMENTS

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

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

☐ Eddy County

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

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator

can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

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

5. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

6. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

B. PRESSURE CONTROL

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

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic

pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

5. The appropriate BLM office shall be notified a minimum of 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).

    a. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer.

    b. 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.

    c. The results of the test shall be reported to the appropriate BLM office.

    d. 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.

e. 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.

f. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

JAM 101019

AFMSS

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

Operator Certification Data Report

11/08/2019

Operator Certification

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

NAME: Stephanie Rabadue **Signed on:** 05/17/2018

Title: Regulatory Coordinator

Street Address:

City: **State:** **Zip:**

Phone: (432)620-6714

Email address: stephanie_rabadue@xtoenergy.com

Field Representative

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

AFMSS

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

Application Data Report

11/08/2019

APD ID: 10400045552 **Submission Date:** 08/08/2019

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON 8-32 FEDERAL **Well Number:** 103H

Well Type: CONVENTIONAL GAS WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400045552 **Tie to previous NOS?** N **Submission Date:** 08/08/2019

BLM Office: CARLSBAD **User:** Stephanie Rabadue **Title:** Regulatory Coordinator

Federal/Indian APD: FED **Is the first lease penetrated for production Federal or Indian?** FED

Lease number: NMNM099147 **Lease Acres:** 960

Surface access agreement in place? **Allotted?** **Reservation:**

Agreement in place? NO **Federal or Indian agreement:**

Agreement number:

Agreement name:

Keep application confidential? NO

Permitting Agent? NO **APD Operator:** XTO ENERGY INCORPORATED

Operator letter of designation:

Operator Info

Operator Organization Name: XTO ENERGY INCORPORATED

Operator Address: 2277 Springwoods Village Parkway **Zip:** 77389

Operator PO Box:

Operator City: Spring **State:** TX

Operator Phone: (432)620-6700

Operator Internet Address: Richard_redus@xtoenergy.com

Section 2 - Well Information

Well in Master Development Plan? NO **Master Development Plan name:**

Well in Master SUPO? NO **Master SUPO name:**

Well in Master Drilling Plan? NO **Master Drilling Plan name:**

Well Name: CORRAL CANYON 8-32 FEDERAL **Well Number:** 103H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** PURPLE SAGE WOLFCAMP GAS **Pool Name:**

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

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON 8-32 FEDERAL **Well Number:** 103H

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

Describe other minerals: Produced Water

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

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** CC 8-32 Fed **Number:** 2

Well Class: HORIZONTAL **Number of Legs:** 1

Well Work Type: Drill

Well Type: CONVENTIONAL GAS WELL

Describe Well Type:

Well sub-Type: DELINEATION

Describe sub-type:

Distance to town: 8 Miles **Distance to nearest well:** 0 FT **Distance to lease line:** 1846 FT

Reservoir well spacing assigned acres Measurement: 640 Acres

Well plat: CC_8_32_103H_C102_20190807095804.pdf

Well work start Date: 10/01/2019 **Duration:** 90 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: **Reference Datum:** GROUND LEVEL

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce
SHL Leg #1	2437	FSL	1846	FWL	25S	29E	8	Aliquot NESW	32.144145	-104.009271	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 099147	2963	0	0	N
KOP Leg #1	2437	FSL	1846	FWL	25S	29E	8	Aliquot NESW	32.144145	-104.009271	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 099147	-3812	6775	6775	N
PPP Leg #1	2310	FNL	1590	FWL	25S	29E	8	Aliquot SENW	32.145655	-104.009271	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 055929	-6900	10300	9863	Y

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON 8-32 FEDERAL **Well Number:** 103H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce
PPP Leg #1	330	FSL	1590	FWL	25S	29E	5	Aliquot SESW	32.15224	-104.00869	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 015302	-6900	12500	9863	Y
EXIT Leg #1	2310	FSL	1590	FWL	24S	29E	32	Aliquot NESW	32.172848	-104.009969	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 111533	-6900	20100	9863	Y
BHL Leg #1	2440	FSL	1590	FWL	24S	29E	32	Aliquot NESW	32.173205	-104.009972	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 111533	-6900	20223	9863	Y

APD ID: 10400045552 **Submission Date:** 08/08/2019

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON 8-32 FEDERAL **Well Number:** 103H

Well Type: CONVENTIONAL GAS WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	PERMIAN	2963	0	0	OTHER : Quaternary	NONE	N
2	RUSTLER	2641	322	322	SILTSTONE	USEABLE WATER	N
3	TOP SALT	2276	687	687	SALT	NONE	N
4	BASE OF SALT	363	2600	2600	SALT	NONE	N
5	DELAWARE	160	2803	2803	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced Water	N
6	BONE SPRING	-3593	6556	6556	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced Water	N
7	BONE SPRING 1ST	-4541	7504	7504	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced Water	N
8	BONE SPRING 2ND	-4757	7720	7720	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced Water	N
9	BONE SPRING 3RD	-5599	8562	8562	SANDSTONE	USEABLE WATER,OTHER,NATURAL GAS,OIL : produced	N
10	WOLFCAMP	-6759	9722	9722	SHALE	USEABLE WATER,OTHER,NATURAL GAS,OIL : produced	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M **Rating Depth:** 9863

Equipment: The blow out preventer equipment (BOP) for this well consists of a 13-5/8" minimum 5M Hydril and a 13-5/8" minimum 5M Double Ram BOP.

Requesting Variance? YES

Variance request: A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test chart will be kept on the rig. Attached is an example of a certification and pressure test chart. The manufacturer does not require anchors. XTO requests to utilize centralizers only in the curve after the KOP and only a minimum of one every other joint. Permanent Wellhead – GE RSH Multibowl System A. Starting Head: 13-5/8" 5M top flange x 13-3/8" 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 9-5/8" casing per BLM Onshore Order 2 Wellhead Manufacturer representative will not be present for BOP test plug installation

Testing Procedure: All BOP testing will be done by an independent service company. Annular pressure tests will be limited

to 50% of the working pressure. When nippling up on the 13-5/8 5M bradenhead and flange, the BOP test will be limited to 5000 psi. When nippling up on the 9-5/8, the BOP will be tested to a minimum of 3000 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.

Choke Diagram Attachment:

CC_8_32_5MCM_20190807083141.pdf

BOP Diagram Attachment:

CC_8_32_5MBOP_20190807083149.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	530	0	530	2968	2438	530	J-55	54.5	ST&C	4.66	1.36	DRY	23.37	DRY	23.37
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	6710	0	6710		-3742	6710	J-55	40	LT&C	1.26	1.14	DRY	2.71	DRY	2.71
3	PRODUCTION	8.75	5.5	NEW	API	N	0	20223	0	9863		-6895	20223	P-110	17	BUTT	1.33	1.01	DRY	2.34	DRY	2.34

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

CC_8_32_103H_Csg_20190807095351.pdf

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON 8-32 FEDERAL **Well Number:** 103H

Casing Attachments

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

CC_8_32_103H_Csg_20190807095402.pdf

Casing ID: 3 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

CC_8_32_103H_Csg_20190807095413.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	530	540	1.35	14.8	729	100	Halcem-C	2% CaCl
INTERMEDIATE	Lead	630	0	630	540	1.35	14.8	729	100	Halcem-C	2% CaCl
INTERMEDIATE	Lead		630	6710	1900	1.88	12.9	3572	100	HalCem-C	2% CaCl

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON 8-32 FEDERAL **Well Number:** 103H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Tail				470	1.33	14.8	625.1	100	Halcem-C	2% CaCl
PRODUCTION	Lead		0	20223	310	2.69	11.5	833.9	30	NeoCem	None
PRODUCTION	Tail		0		2330	1.61	13.2	3751.3	30	VersaCem	None

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: The necessary mud products for weight addition a fluid loss control will be on location at all times.

Describe the mud monitoring system utilized: A Pason or Totco will be used to detect changes in loss or gain of mud volume.

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
6710	9863	OIL-BASED MUD	10.7	11							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 hrs to determine: density, viscosity, strength, filtration and pH as necessary. Solids control equipment will be used to operate as a closed loop system.
0	530	OTHER : FW/Native	8.4	8.8							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 hrs to determine: density,

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON 8-32 FEDERAL **Well Number:** 103H

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
											viscosity, strength, filtration and pH as necessary. Solids control equipment will be used to operate as a closed loop system.
530	6710	OTHER : Brine/Gel Sweeps	9.5	10.2							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 hrs to determine: density, viscosity, strength, filtration and pH as necessary. Solids control equipment will be used to operate as a closed loop system.

Section 6 - Test, Logging, Coring

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

Mud logging Unit (2 man) on below intermediate casing. Catch 20' samples fr/6710' to TD

List of open and cased hole logs run in the well:

CEMENT BOND LOG,COMPENSATED NEUTRON LOG,DIRECTIONAL SURVEY,GAMMA RAY LOG,MUD LOG/GEOLOGIC LITHOLOGY LOG,

Coring operation description for the well:

No coring will take place on this well.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5487 **Anticipated Surface Pressure:** 5487

Anticipated Bottom Hole Temperature(F): 150

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON 8-32 FEDERAL **Well Number:** 103H

Hydrogen sulfide drilling operations plan:

CC_8_32_H2S_P1_3_20190807085702.pdf

CC_8_32_H2S_Plan_20190807085653.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

CC_8_32_103H_DD_20190807095657.pdf

Other proposed operations facets description:

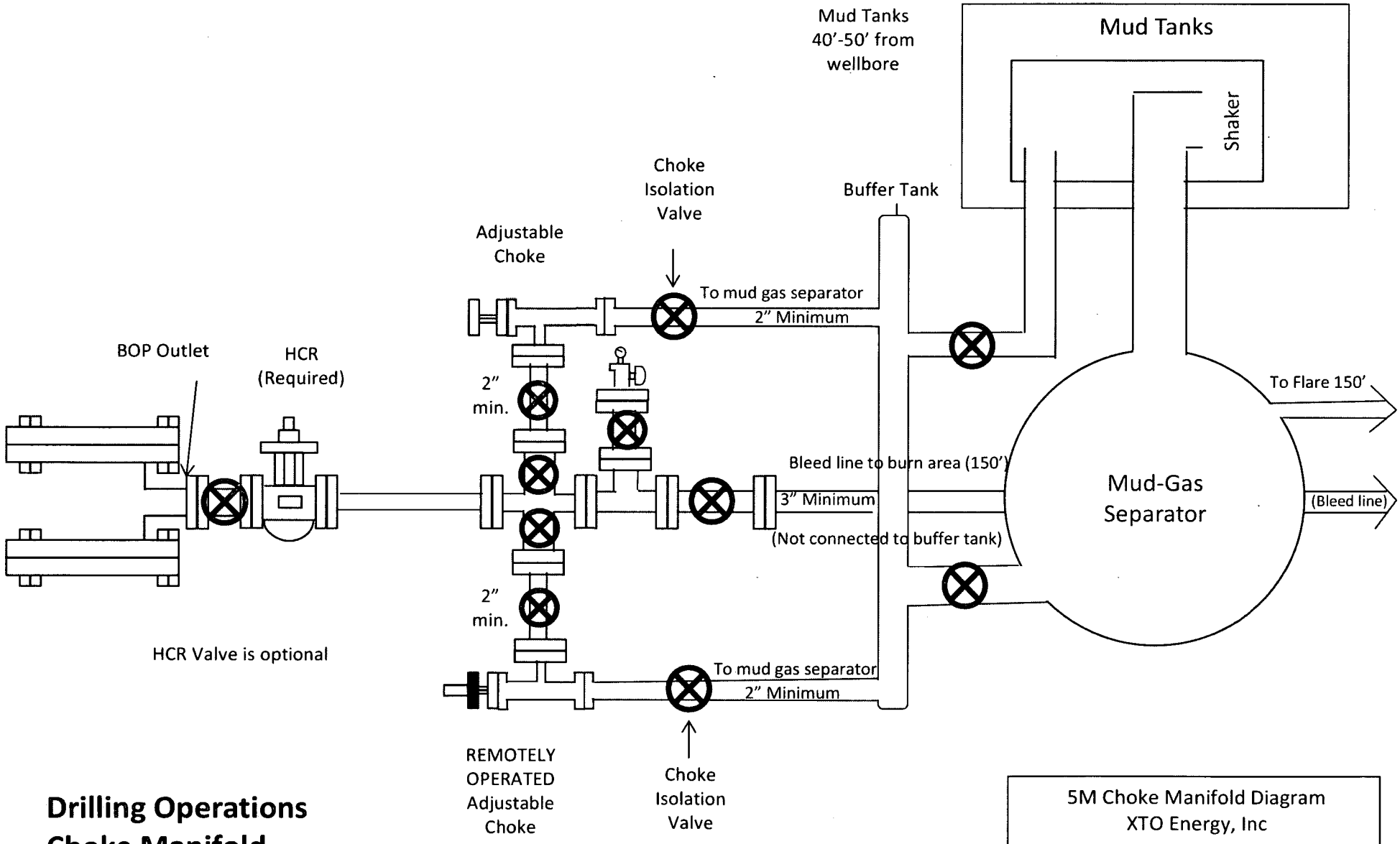
Other proposed operations facets attachment:

CC_8_32_103H_GCP_20190807095705.pdf

Other Variance attachment:

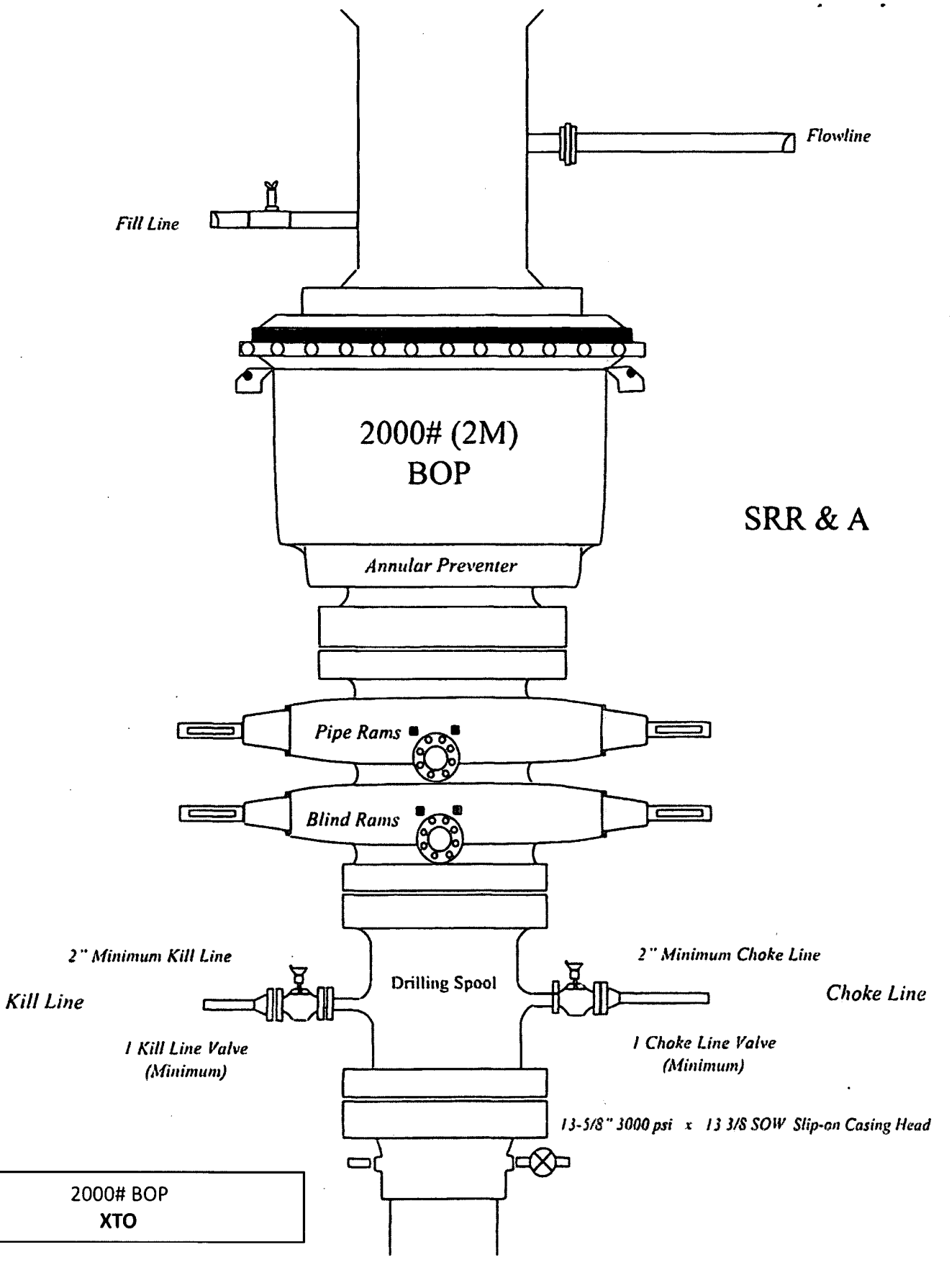
CC_8_32_FH_20190807085927.pdf

CC_8_32_5.5MBS_20190930105912.pdf

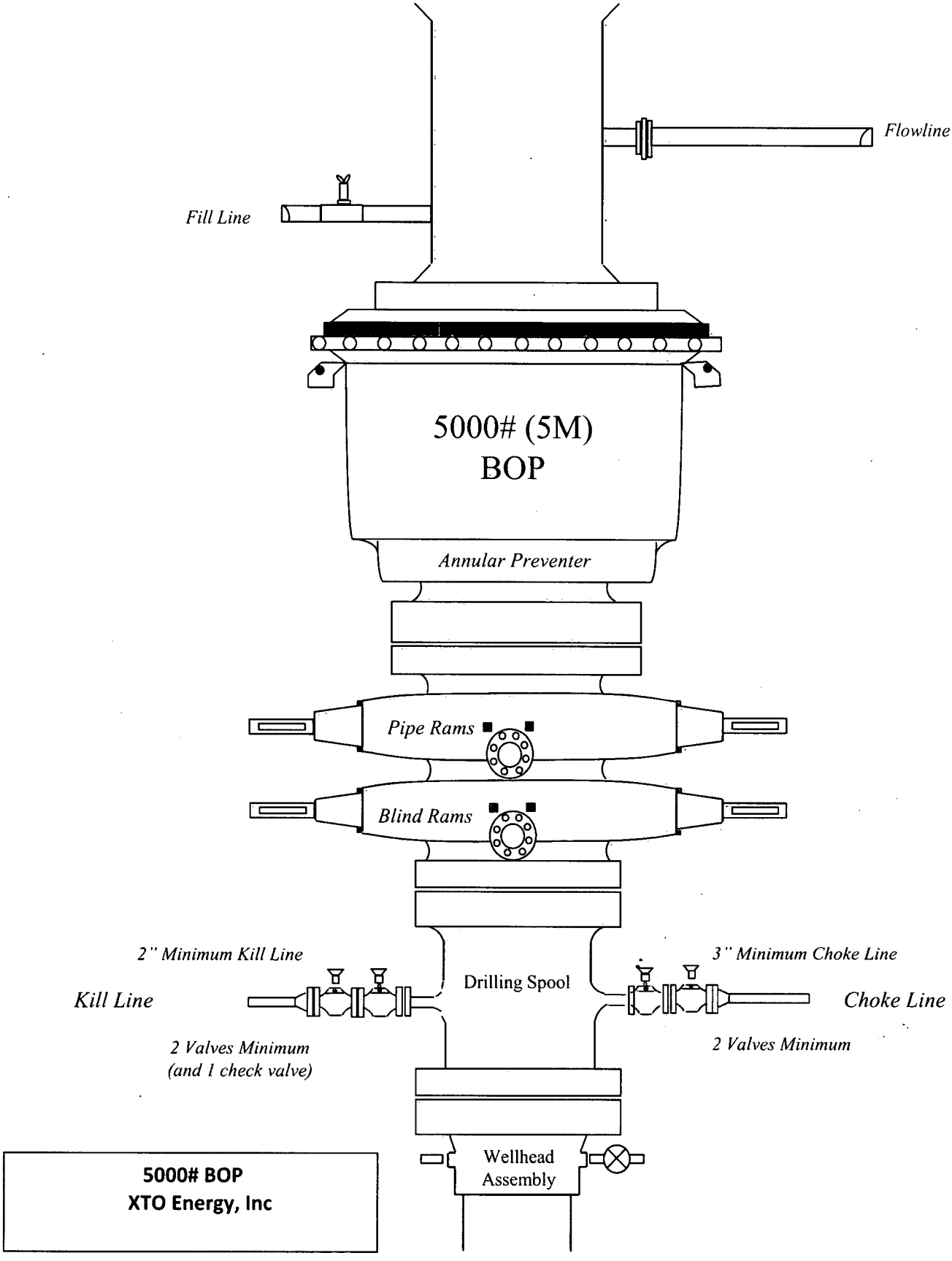


Drilling Operations
Choke Manifold
5M Service

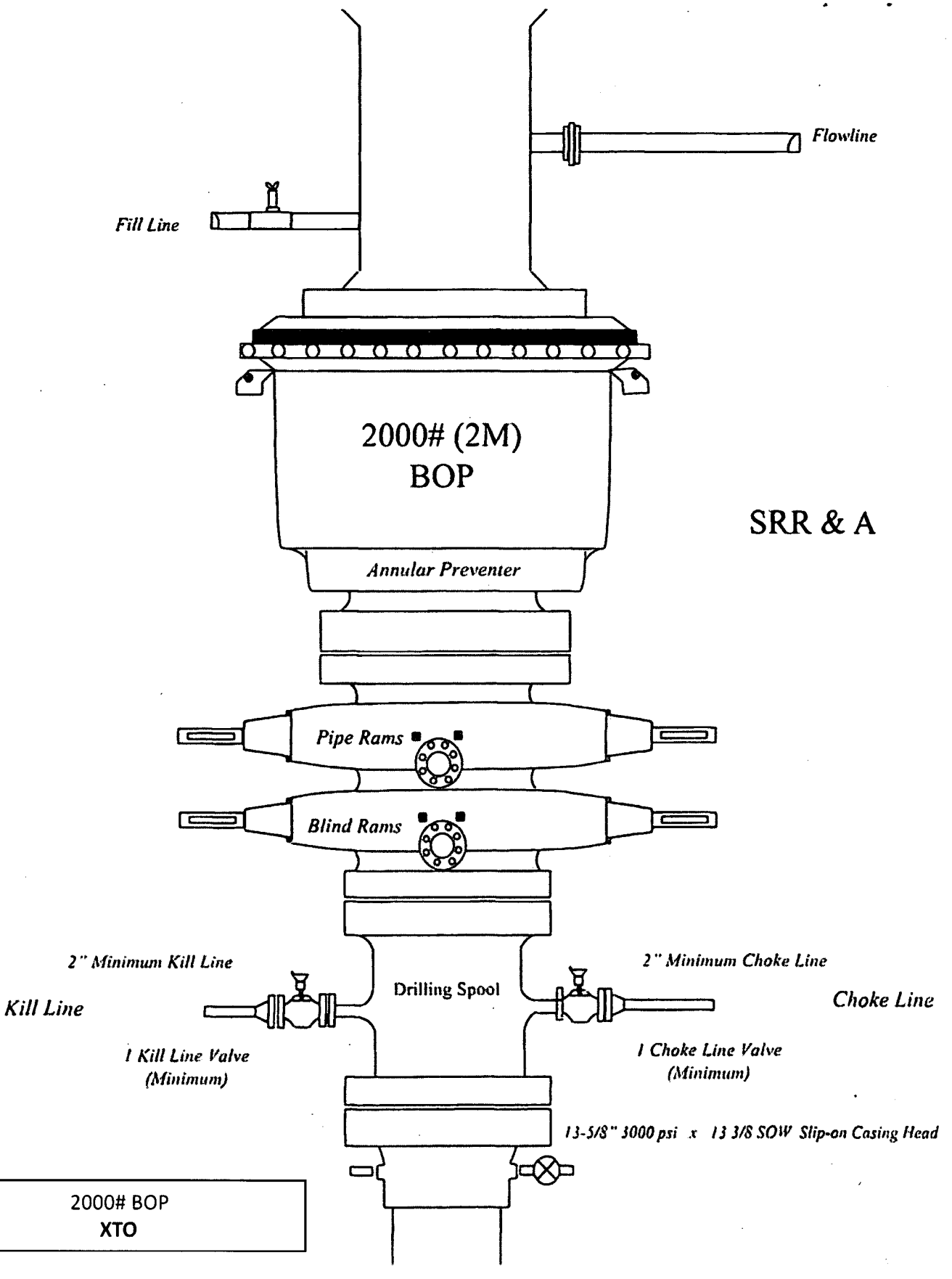
5M Choke Manifold Diagram
XTO Energy, Inc


Flowline
Fill Line
2000# (2M)
BOP
SRR & A
Annular Preventer
Pipe Rams
Blind Rams
2" Minimum Kill Line
Kill Line
Drilling Spool
2" Minimum Choke Line
Choke Line
1 Kill Line Valve
(Minimum)
1 Choke Line Valve
(Minimum)
13-5/8" 3000 psi x 13 3/8 SOW Slip-on Casing Head

2000# BOP
XTO



5000# BOP
XTO Energy, Inc


Flowline
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Kill Line
Drilling Spool
2" Minimum Choke Line
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(Minimum)
1 Choke Line Valve
(Minimum)
13-5/8" 3000 psi x 13 3/8 SOW Slip-on Casing Head

2000# BOP
XTO

Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17-1/2"	0' – 530'	13-3/8"	54.5	STC	J-55	New	1.36	4.66	23.37
12-1/4"	0' – 6710'	9-5/8"	40	LTC	J-55	New	1.14	1.26	2.71
8-3/4"	0' – 20223'	5-1/2"	17	BTC	P-110	New	1.01	1.33	2.34

- XTO requests to not utilize centralizers in the curve and lateral
- 9-5/8" Collapse analyzed using 50% evacuation based on regional experience.
- 5-1/2" tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35
- Test on 2M Annular & Casing will be limited to 70% burst of the casing or 1500 psi, whichver is less

WELLHEAD:

Permanent Wellhead – GE RSH Multibowl System

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

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

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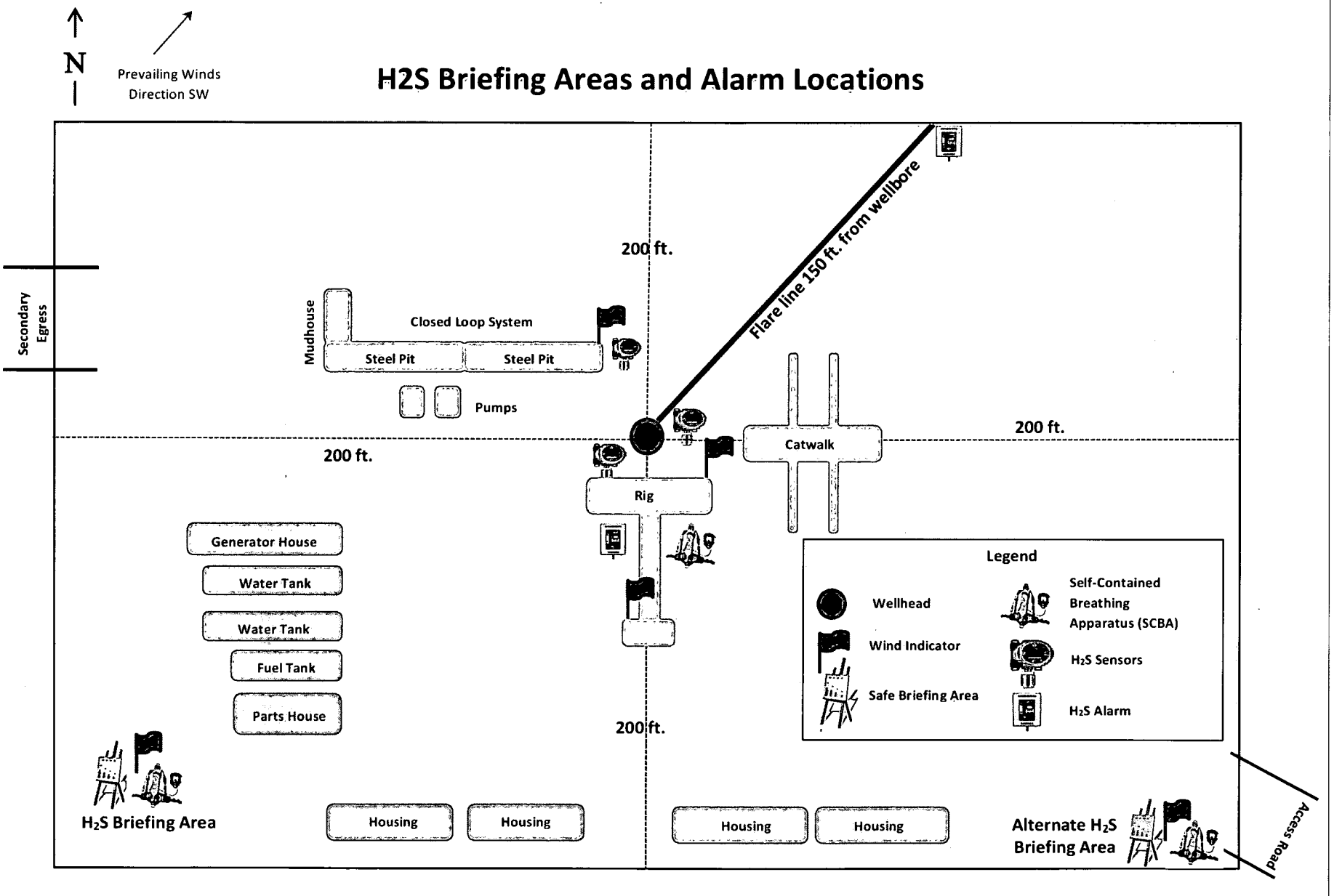
H2S Briefing Areas and Alarm Locations



HYDROGEN SULFIDE (H2S) CONTINGENCY PLAN

Assumed 100 ppm ROE = 3000'

100 ppm H2S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing H_2S, the first responder(s) must

- Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- Evacuate any public places encompassed by the 100 ppm ROE.
- Be equipped with H_2S monitors and air packs in order to control the release.
- Use the "buddy system" to ensure no injuries occur during the response
- Take precautions to avoid personal injury during this operation.
- Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- Have received training in the
  - Detection of H_2S, and
  - Measures for protection against the gas,
  - Equipment used for protection and emergency response.

Ignition of Gas source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO_2). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever this is an ignition of the gas.

Characteristics of H_2S and SO_2

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H_2S	1.189 Air = I	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO_2	2.21 Air = I	2 ppm	N/A	1000 ppm

Contacting Authorities

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

CARLSBAD OFFICE – EDDY & LEA COUNTIES

3104 E. Greene St., Carlsbad, NM 88220	
Carlsbad, NM	575-887-7329
XTO PERSONNEL:	
Kendall Decker, Drilling Manager	903-521-6477
Milton Turman, Drilling Superintendent	817-524-5107
Jeff Raines, Construction Foreman	432-557-3159
Toady Sanders, EH & S Manager	903-520-1601
Wes McSpadden, Production Foreman	575-441-1147
SHERIFF DEPARTMENTS:	
Eddy County	575-887-7551
Lea County	575-396-3611
NEW MEXICO STATE POLICE:	575-392-5588
FIRE DEPARTMENTS:	911
Carlsbad	575-885-2111
Eunice	575-394-2111
Hobbs	575-397-9308
Jal	575-395-2221
Lovington	575-396-2359
HOSPITALS:	911
Carlsbad Medical Emergency	575-885-2111
Eunice Medical Emergency	575-394-2112
Hobbs Medical Emergency	575-397-9308
Jal Medical Emergency	575-395-2221
Lovington Medical Emergency	575-396-2359
AGENT NOTIFICATIONS:	
For Lea County:	
Bureau of Land Management – Hobbs	575-393-3612
New Mexico Oil Conservation Division – Hobbs	575-393-6161
For Eddy County:	
Bureau of Land Management - Carlsbad	575-234-5972
New Mexico Oil Conservation Division - Artesia	575-748-1283

XTO Energy

Eddy County, NM (NAD-27)
Corral Canyon 8 32 Fed
#103H

OH

Plan: PERMIT

Standard Planning Report

13 May, 2019

XTO ENERGY

Project: Eddy County, NM (NAD-27)
Site: Corral Canyon 8 32 Fed
Well: #103H
Wellbore: OH
Design: PERMIT

PROJECT DETAILS: Eddy County, NM (NAD-27)

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

WELL DETAILS: #103H

Rig Name:
Ref GL @ 2963.00usft
Ground Level: 2963.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	416267.90	600451.70	32.1440210	-104.0087825

DESIGN TARGET DETAILS

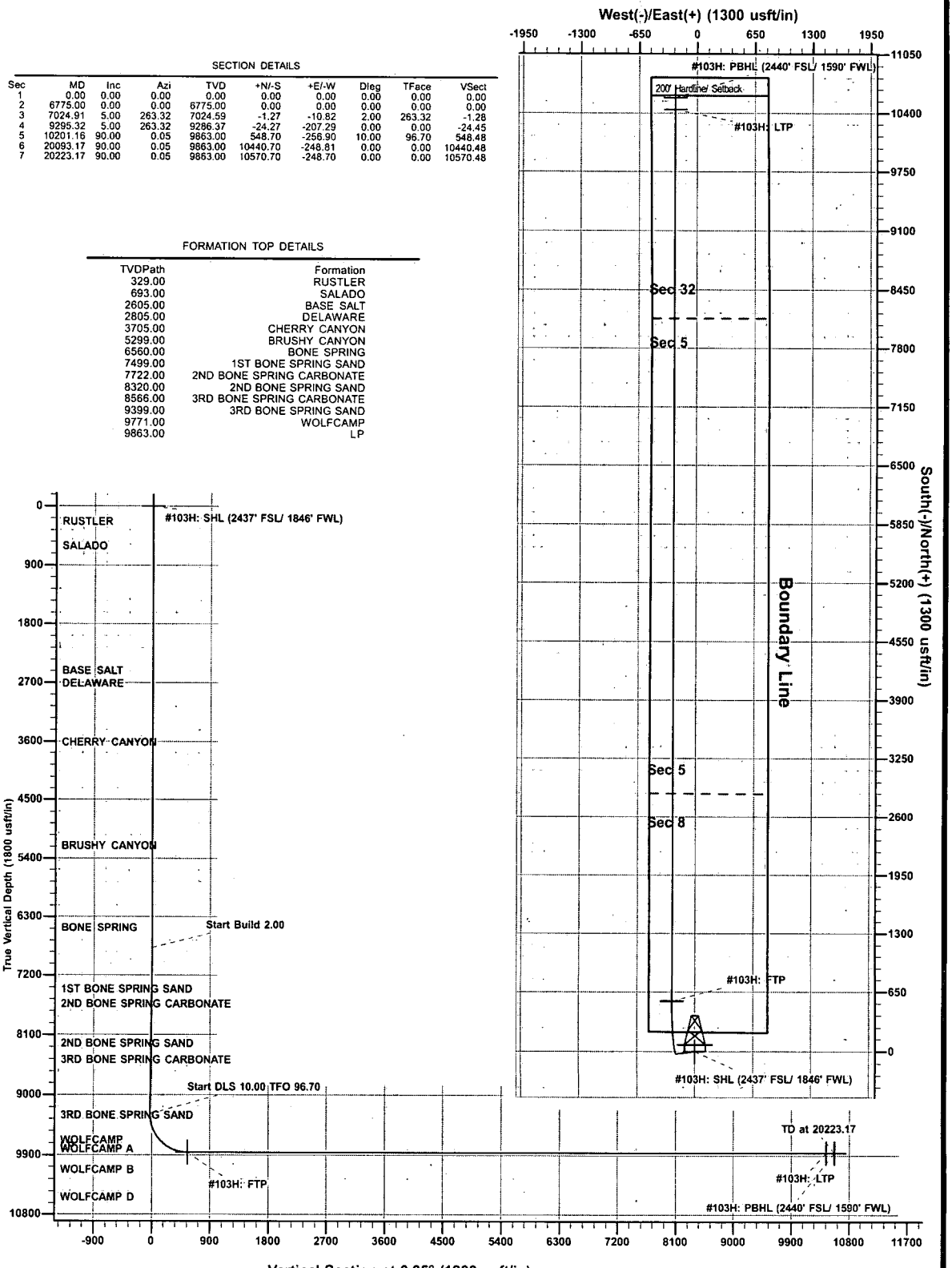
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
#103H: SHL (2437' FSL/ 1846' FWL)	0.00	0.00	0.00	416267.90	600451.70	32.1440210	-104.0087825	Point
#103H: FTP	9863.00	548.70	-256.90	416816.60	600194.80	32.1455315	-104.0096072	Point
#103H: LTP	9863.00	10440.70	-247.40	426708.60	600204.30	32.1727244	-104.0094803	Point
#103H: PBHL (2440' FSL/ 1590' FWL)	9863.00	10570.70	-248.70	426838.60	600203.00	32.1730818	-104.0094832	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	6775.00	0.00	0.00	6775.00	0.00	0.00	0.00	0.00	0.00
3	7024.91	5.00	263.32	7024.59	-1.27	-10.82	2.00	263.32	-1.28
4	9295.32	5.00	263.32	9286.37	-24.27	-207.29	0.00	0.00	-24.45
5	10201.16	90.00	0.05	9863.00	548.70	-256.90	10.00	96.70	548.48
6	20093.17	90.00	0.05	9863.00	10440.70	-248.81	0.00	0.00	10440.48
7	20223.17	90.00	0.05	9863.00	10570.70	-248.70	0.00	0.00	10570.48

FORMATION TOP DETAILS

TVDPath	Formation
329.00	RUSTLER
693.00	SALADO
2605.00	BASE SALT
2805.00	DELAWARE
3705.00	CHERRY CANYON
5299.00	BRUSHY CANYON
6560.00	BONE SPRING
7499.00	1ST BONE SPRING SAND
7722.00	2ND BONE SPRING CARBONATE
8320.00	2ND BONE SPRING SAND
8566.00	3RD BONE SPRING CARBONATE
9399.00	3RD BONE SPRING SAND
9771.00	WOLFCAMP
9863.00	LP



Plan: PERMIT (#103H/OH)

Created By: Matthew May Date: 12:15, May 13 2019

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	[2] Pool Code	[3] Pool Name
30-015-		

[4] Property Code	[5] Property Name	[6] Well Number
	CORRAL CANYON 8-32 FED	103H

[7] OGRID No.	[8] Operator Name	[9] Elevation
005380	XTO ENERGY, INC.	2,963'

[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
K	8	25 S	29 E		2,437	SOUTH	1,846	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
K	32	24 S	29 E		2,440	SOUTH	1,590	WEST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.

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.

[16]

GEODETIC COORDINATES NAD 27 NME
SURFACE LOCATION
Y= 416,267.9
X= 600,451.7
LAT.= 32.144021°N
LONG.= 104.008783°W

GEODETIC COORDINATES NAD 83 NME
SURFACE LOCATION
Y= 416,326.3
X= 641,635.8
LAT.= 32.144145°N
LONG.= 104.009271°W

FIRST TAKE POINT NAD 27 NME
Y= 416,816.6
X= 600,194.8
LAT.= 32.145531°N
LONG.= 104.009607°W

FIRST TAKE POINT NAD 83 NME
Y= 416,875.0
X= 641,378.9
LAT.= 32.145655°N
LONG.= 104.010096°W

CORNER COORDINATES TABLE NAD 27 NME
A - Y= 416,472.0 N, X= 601,266.3 E
B - Y= 416,483.9 N, X= 599,935.6 E
C - Y= 419,118.7 N, X= 601,292.9 E
D - Y= 419,128.5 N, X= 599,934.0 E
E - Y= 421,765.3 N, X= 601,264.1 E
F - Y= 421,771.5 N, X= 599,942.7 E
G - Y= 424,399.3 N, X= 601,265.3 E
H - Y= 424,398.4 N, X= 599,951.3 E
I - Y= 427,059.0 N, X= 601,249.6 E
J - Y= 427,061.2 N, X= 599,930.2 E

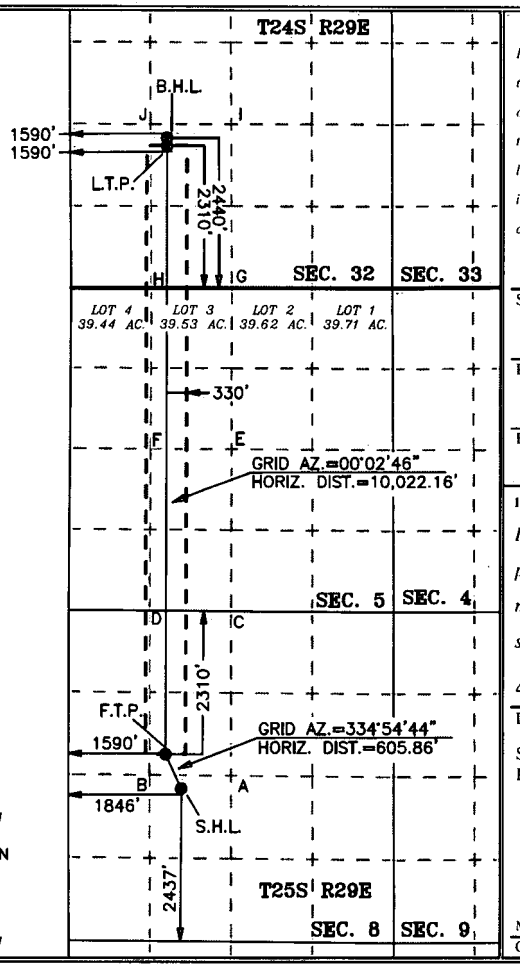
CORNER COORDINATES TABLE NAD 83 NME
A - Y= 416,530.4 N, X= 642,450.5 E
B - Y= 416,542.3 N, X= 641,119.7 E
C - Y= 419,177.2 N, X= 642,447.0 E
D - Y= 419,187.0 N, X= 641,118.1 E
E - Y= 421,823.8 N, X= 642,448.1 E
F - Y= 421,830.0 N, X= 641,126.7 E
G - Y= 424,457.9 N, X= 642,449.2 E
H - Y= 424,457.0 N, X= 641,135.2 E
I - Y= 427,117.7 N, X= 642,433.5 E
J - Y= 427,119.8 N, X= 641,114.0 E

LAST TAKE POINT NAD 27 NME
Y= 426,708.6
X= 600,204.3
LAT.= 32.172724°N
LONG.= 104.009480°W

LAST TAKE POINT NAD 83 NME
Y= 426,767.2
X= 641,388.2
LAT.= 32.172848°N
LONG.= 104.009969°W

BOTTOM HOLE LOCATION NAD 27 NME
Y= 426,838.6
X= 600,203.0
LAT.= 32.173082°N
LONG.= 104.009483°W

BOTTOM HOLE LOCATION NAD 83 NME
Y= 426,897.2
X= 641,386.9
LAT.= 32.173205°N
LONG.= 104.009972°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.

Signature Date

Printed Name

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.

4-22-2019
Date of Survey

Signatue and Seal of Professional Surveyor:

PRELIMINARY, THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE AND SHALL NOT BE USED OR VIEWED OR RELIED UPON AS A FINAL SURVEY DOCUMENT

MARK DILLON HARP 23786
Certificate Number AI 2017091559

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #103H
Company:	XTO Energy	**TVD Reference:**	Ref GL @ 2963.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	Ref GL @ 2963.00usft
Site:	Corral Canyon 8 32 Fed	**North Reference:**	Grid
Well:	#103H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Project	Eddy County, NM (NAD-27)		
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	Corral Canyon 8 32 Fed				
Site Position:		**Northing:**	416,385.50 usft	**Latitude:**	32.1443508
From:	Map	**Easting:**	599,673.60 usft	**Longitude:**	-104.0112953
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.17 °

Well	#103H					
Well Position	**+N/-S**	-117.60 usft	**Northing:**	416,267.90 usft	**Latitude:**	32.1440211
	+E/-W	778.10 usft	**Easting:**	600,451.70 usft	**Longitude:**	-104.0087825
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	2,963.00 usft

Wellbore	OH				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2015	05/13/19	6.94	59.90	47,652

Design	PERMIT				
Audit Notes:					
Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.00	0.00	0.00	0.05	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,775.00	0.00	0.00	6,775.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,024.91	5.00	263.32	7,024.59	-1.27	-10.82	2.00	2.00	0.00	263.32	
9,295.32	5.00	263.32	9,286.37	-24.27	-207.29	0.00	0.00	0.00	0.00	
10,201.16	90.00	0.05	9,863.00	548.70	-256.90	10.00	9.38	10.68	96.70	#103H: FTP
20,093.17	90.00	0.05	9,863.00	10,440.70	-248.81	0.00	0.00	0.00	0.00	#103H: LTP
20,223.17	90.00	0.05	9,863.00	10,570.70	-248.70	0.00	0.00	0.00	0.00	#103H: PBHL (244(

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #103H
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Project:	Eddy County, NM (NAD-27)	**MD Reference:**	Ref GL @ 2963.00usft
Site:	Corral Canyon 8 32 Fed	**North Reference:**	Grid
Well:	#103H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
329.00	0.00	0.00	329.00	0.00	0.00	0.00	0.00	0.00	0.00
RUSTLER									
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
693.00	0.00	0.00	693.00	0.00	0.00	0.00	0.00	0.00	0.00
SALADO									
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
2,605.00	0.00	0.00	2,605.00	0.00	0.00	0.00	0.00	0.00	0.00
BASE SALT									
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
2,805.00	0.00	0.00	2,805.00	0.00	0.00	0.00	0.00	0.00	0.00
DELAWARE									
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	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,705.00	0.00	0.00	3,705.00	0.00	0.00	0.00	0.00	0.00	0.00
CHERRY CANYON									
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #103H
Company:	XTO Energy	**TVD Reference:**	Ref GL @ 2963.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	Ref GL @ 2963.00usft
Site:	Corral Canyon 8 32 Fed	**North Reference:**	Grid
Well:	#103H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,299.00	0.00	0.00	5,299.00	0.00	0.00	0.00	0.00	0.00	0.00
BRUSHY CANYON									
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,560.00	0.00	0.00	6,560.00	0.00	0.00	0.00	0.00	0.00	0.00
BONE SPRING									
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,775.00	0.00	0.00	6,775.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.50	263.32	6,800.00	-0.01	-0.11	-0.01	2.00	2.00	0.00
6,900.00	2.50	263.32	6,899.96	-0.32	-2.71	-0.32	2.00	2.00	0.00
7,000.00	4.50	263.32	6,999.77	-1.03	-8.77	-1.03	2.00	2.00	0.00
7,024.91	5.00	263.32	7,024.59	-1.27	-10.82	-1.28	2.00	2.00	0.00
7,100.00	5.00	263.32	7,099.40	-2.03	-17.32	-2.04	0.00	0.00	0.00
7,200.00	5.00	263.32	7,199.02	-3.04	-25.97	-3.06	0.00	0.00	0.00
7,300.00	5.00	263.32	7,298.64	-4.05	-34.62	-4.08	0.00	0.00	0.00
7,400.00	5.00	263.32	7,398.26	-5.07	-43.28	-5.10	0.00	0.00	0.00
7,500.00	5.00	263.32	7,497.88	-6.08	-51.93	-6.13	0.00	0.00	0.00
7,501.13	5.00	263.32	7,499.00	-6.09	-52.03	-6.14	0.00	0.00	0.00
1ST BONE SPRING SAND									
7,600.00	5.00	263.32	7,597.50	-7.09	-60.58	-7.15	0.00	0.00	0.00
7,700.00	5.00	263.32	7,697.12	-8.11	-69.24	-8.17	0.00	0.00	0.00
7,724.98	5.00	263.32	7,722.00	-8.36	-71.40	-8.42	0.00	0.00	0.00
2ND BONE SPRING CARBONATE									
7,800.00	5.00	263.32	7,796.74	-9.12	-77.89	-9.19	0.00	0.00	0.00
7,900.00	5.00	263.32	7,896.36	-10.13	-86.54	-10.21	0.00	0.00	0.00
8,000.00	5.00	263.32	7,995.98	-11.15	-95.20	-11.23	0.00	0.00	0.00
8,100.00	5.00	263.32	8,095.60	-12.16	-103.85	-12.25	0.00	0.00	0.00
8,200.00	5.00	263.32	8,195.22	-13.17	-112.50	-13.27	0.00	0.00	0.00
8,300.00	5.00	263.32	8,294.83	-14.18	-121.16	-14.29	0.00	0.00	0.00
8,325.26	5.00	263.32	8,320.00	-14.44	-123.34	-14.55	0.00	0.00	0.00
2ND BONE SPRING SAND									
8,400.00	5.00	263.32	8,394.45	-15.20	-129.81	-15.31	0.00	0.00	0.00

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Site:	Corral Canyon 8 32 Fed	**North Reference:**	Grid
Well:	#103H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,500.00	5.00	263.32	8,494.07	-16.21	-138.46	-16.33	0.00	0.00	0.00
8,572.20	5.00	263.32	8,566.00	-16.94	-144.71	-17.07	0.00	0.00	0.00
3RD BONE SPRING CARBONATE									
8,600.00	5.00	263.32	8,593.69	-17.22	-147.12	-17.35	0.00	0.00	0.00
8,700.00	5.00	263.32	8,693.31	-18.24	-155.77	-18.37	0.00	0.00	0.00
8,800.00	5.00	263.32	8,792.93	-19.25	-164.42	-19.39	0.00	0.00	0.00
8,900.00	5.00	263.32	8,892.55	-20.26	-173.08	-20.41	0.00	0.00	0.00
9,000.00	5.00	263.32	8,992.17	-21.28	-181.73	-21.44	0.00	0.00	0.00
9,100.00	5.00	263.32	9,091.79	-22.29	-190.38	-22.46	0.00	0.00	0.00
9,200.00	5.00	263.32	9,191.41	-23.30	-199.04	-23.48	0.00	0.00	0.00
9,295.32	5.00	263.32	9,286.37	-24.27	-207.29	-24.45	0.00	0.00	0.00
9,300.00	4.97	268.70	9,291.03	-24.30	-207.69	-24.48	10.00	-0.70	114.91
9,350.00	6.96	314.68	9,340.79	-22.21	-212.01	-22.40	10.00	3.99	91.96
9,400.00	11.05	333.64	9,390.17	-15.79	-216.29	-15.98	10.00	8.18	37.90
9,409.01	11.86	335.62	9,399.00	-14.17	-217.06	-14.36	10.00	9.00	21.97
3RD BONE SPRING SAND									
9,450.00	15.67	342.01	9,438.81	-5.06	-220.51	-5.26	10.00	9.30	15.61
9,500.00	20.47	346.59	9,486.33	9.87	-224.63	9.68	10.00	9.60	9.16
9,550.00	25.34	349.48	9,532.37	28.91	-228.61	28.71	10.00	9.75	5.78
9,600.00	30.26	351.48	9,576.59	51.90	-232.43	51.70	10.00	9.83	4.01
9,650.00	35.19	352.97	9,618.64	78.68	-236.06	78.47	10.00	9.87	2.98
9,700.00	40.14	354.14	9,658.21	109.03	-239.47	108.82	10.00	9.90	2.33
9,750.00	45.10	355.08	9,694.99	142.72	-242.64	142.51	10.00	9.92	1.89
9,800.00	50.06	355.88	9,728.71	179.51	-245.54	179.30	10.00	9.93	1.59
9,850.00	55.03	356.56	9,759.10	219.11	-248.15	218.89	10.00	9.94	1.38
9,871.33	57.16	356.83	9,771.00	236.77	-249.16	236.56	10.00	9.95	1.26
WOLFCAMP									
9,900.00	60.01	357.17	9,785.95	261.21	-250.44	260.99	10.00	9.95	1.19
9,950.00	64.98	357.72	9,809.03	305.50	-252.41	305.28	10.00	9.95	1.10
10,000.00	69.96	358.23	9,828.18	351.64	-254.04	351.42	10.00	9.96	1.02
10,050.00	74.94	358.71	9,843.25	399.28	-255.31	399.06	10.00	9.96	0.95
10,100.00	79.92	359.16	9,854.13	448.06	-256.21	447.84	10.00	9.96	0.91
10,150.00	84.90	359.60	9,860.73	497.60	-256.74	497.38	10.00	9.96	0.88
10,201.16	90.00	0.05	9,863.00	548.70	-256.90	548.48	10.00	9.96	0.87
LP									
10,300.00	90.00	0.05	9,863.00	647.54	-256.82	647.31	0.00	0.00	0.00
10,400.00	90.00	0.05	9,863.00	747.54	-256.74	747.31	0.00	0.00	0.00
10,500.00	90.00	0.05	9,863.00	847.54	-256.66	847.31	0.00	0.00	0.00
10,600.00	90.00	0.05	9,863.00	947.54	-256.57	947.31	0.00	0.00	0.00
10,700.00	90.00	0.05	9,863.00	1,047.54	-256.49	1,047.31	0.00	0.00	0.00
10,800.00	90.00	0.05	9,863.00	1,147.54	-256.41	1,147.31	0.00	0.00	0.00
10,900.00	90.00	0.05	9,863.00	1,247.54	-256.33	1,247.31	0.00	0.00	0.00
11,000.00	90.00	0.05	9,863.00	1,347.54	-256.25	1,347.31	0.00	0.00	0.00
11,100.00	90.00	0.05	9,863.00	1,447.54	-256.16	1,447.31	0.00	0.00	0.00
11,200.00	90.00	0.05	9,863.00	1,547.54	-256.08	1,547.31	0.00	0.00	0.00
11,300.00	90.00	0.05	9,863.00	1,647.54	-256.00	1,647.31	0.00	0.00	0.00
11,400.00	90.00	0.05	9,863.00	1,747.54	-255.92	1,747.31	0.00	0.00	0.00
11,500.00	90.00	0.05	9,863.00	1,847.54	-255.84	1,847.31	0.00	0.00	0.00
11,600.00	90.00	0.05	9,863.00	1,947.54	-255.76	1,947.31	0.00	0.00	0.00
11,700.00	90.00	0.05	9,863.00	2,047.54	-255.67	2,047.31	0.00	0.00	0.00
11,800.00	90.00	0.05	9,863.00	2,147.54	-255.59	2,147.31	0.00	0.00	0.00
11,900.00	90.00	0.05	9,863.00	2,247.54	-255.51	2,247.31	0.00	0.00	0.00
12,000.00	90.00	0.05	9,863.00	2,347.54	-255.43	2,347.31	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #103H
Company:	XTO Energy	**TVD Reference:**	Ref GL @ 2963.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	Ref GL @ 2963.00usft
Site:	Corral Canyon 8 32 Fed	**North Reference:**	Grid
Well:	#103H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,100.00	90.00	0.05	9,863.00	2,447.54	-255.35	2,447.31	0.00	0.00	0.00
12,200.00	90.00	0.05	9,863.00	2,547.54	-255.26	2,547.31	0.00	0.00	0.00
12,300.00	90.00	0.05	9,863.00	2,647.54	-255.18	2,647.31	0.00	0.00	0.00
12,400.00	90.00	0.05	9,863.00	2,747.54	-255.10	2,747.31	0.00	0.00	0.00
12,500.00	90.00	0.05	9,863.00	2,847.54	-255.02	2,847.31	0.00	0.00	0.00
12,600.00	90.00	0.05	9,863.00	2,947.54	-254.94	2,947.31	0.00	0.00	0.00
12,700.00	90.00	0.05	9,863.00	3,047.54	-254.86	3,047.31	0.00	0.00	0.00
12,800.00	90.00	0.05	9,863.00	3,147.54	-254.77	3,147.31	0.00	0.00	0.00
12,900.00	90.00	0.05	9,863.00	3,247.54	-254.69	3,247.31	0.00	0.00	0.00
13,000.00	90.00	0.05	9,863.00	3,347.54	-254.61	3,347.31	0.00	0.00	0.00
13,100.00	90.00	0.05	9,863.00	3,447.54	-254.53	3,447.31	0.00	0.00	0.00
13,200.00	90.00	0.05	9,863.00	3,547.54	-254.45	3,547.31	0.00	0.00	0.00
13,300.00	90.00	0.05	9,863.00	3,647.54	-254.36	3,647.31	0.00	0.00	0.00
13,400.00	90.00	0.05	9,863.00	3,747.54	-254.28	3,747.31	0.00	0.00	0.00
13,500.00	90.00	0.05	9,863.00	3,847.54	-254.20	3,847.31	0.00	0.00	0.00
13,600.00	90.00	0.05	9,863.00	3,947.54	-254.12	3,947.31	0.00	0.00	0.00
13,700.00	90.00	0.05	9,863.00	4,047.54	-254.04	4,047.31	0.00	0.00	0.00
13,800.00	90.00	0.05	9,863.00	4,147.54	-253.96	4,147.31	0.00	0.00	0.00
13,900.00	90.00	0.05	9,863.00	4,247.54	-253.87	4,247.31	0.00	0.00	0.00
14,000.00	90.00	0.05	9,863.00	4,347.54	-253.79	4,347.31	0.00	0.00	0.00
14,100.00	90.00	0.05	9,863.00	4,447.54	-253.71	4,447.31	0.00	0.00	0.00
14,200.00	90.00	0.05	9,863.00	4,547.54	-253.63	4,547.31	0.00	0.00	0.00
14,300.00	90.00	0.05	9,863.00	4,647.54	-253.55	4,647.31	0.00	0.00	0.00
14,400.00	90.00	0.05	9,863.00	4,747.54	-253.46	4,747.31	0.00	0.00	0.00
14,500.00	90.00	0.05	9,863.00	4,847.54	-253.38	4,847.31	0.00	0.00	0.00
14,600.00	90.00	0.05	9,863.00	4,947.54	-253.30	4,947.31	0.00	0.00	0.00
14,700.00	90.00	0.05	9,863.00	5,047.54	-253.22	5,047.31	0.00	0.00	0.00
14,800.00	90.00	0.05	9,863.00	5,147.54	-253.14	5,147.31	0.00	0.00	0.00
14,900.00	90.00	0.05	9,863.00	5,247.54	-253.06	5,247.31	0.00	0.00	0.00
15,000.00	90.00	0.05	9,863.00	5,347.54	-252.97	5,347.31	0.00	0.00	0.00
15,100.00	90.00	0.05	9,863.00	5,447.54	-252.89	5,447.31	0.00	0.00	0.00
15,200.00	90.00	0.05	9,863.00	5,547.53	-252.81	5,547.31	0.00	0.00	0.00
15,300.00	90.00	0.05	9,863.00	5,647.53	-252.73	5,647.31	0.00	0.00	0.00
15,400.00	90.00	0.05	9,863.00	5,747.53	-252.65	5,747.31	0.00	0.00	0.00
15,500.00	90.00	0.05	9,863.00	5,847.53	-252.56	5,847.31	0.00	0.00	0.00
15,600.00	90.00	0.05	9,863.00	5,947.53	-252.48	5,947.31	0.00	0.00	0.00
15,700.00	90.00	0.05	9,863.00	6,047.53	-252.40	6,047.31	0.00	0.00	0.00
15,800.00	90.00	0.05	9,863.00	6,147.53	-252.32	6,147.31	0.00	0.00	0.00
15,900.00	90.00	0.05	9,863.00	6,247.53	-252.24	6,247.31	0.00	0.00	0.00
16,000.00	90.00	0.05	9,863.00	6,347.53	-252.16	6,347.31	0.00	0.00	0.00
16,100.00	90.00	0.05	9,863.00	6,447.53	-252.07	6,447.31	0.00	0.00	0.00
16,200.00	90.00	0.05	9,863.00	6,547.53	-251.99	6,547.31	0.00	0.00	0.00
16,300.00	90.00	0.05	9,863.00	6,647.53	-251.91	6,647.31	0.00	0.00	0.00
16,400.00	90.00	0.05	9,863.00	6,747.53	-251.83	6,747.31	0.00	0.00	0.00
16,500.00	90.00	0.05	9,863.00	6,847.53	-251.75	6,847.31	0.00	0.00	0.00
16,600.00	90.00	0.05	9,863.00	6,947.53	-251.66	6,947.31	0.00	0.00	0.00
16,700.00	90.00	0.05	9,863.00	7,047.53	-251.58	7,047.31	0.00	0.00	0.00
16,800.00	90.00	0.05	9,863.00	7,147.53	-251.50	7,147.31	0.00	0.00	0.00
16,900.00	90.00	0.05	9,863.00	7,247.53	-251.42	7,247.31	0.00	0.00	0.00
17,000.00	90.00	0.05	9,863.00	7,347.53	-251.34	7,347.31	0.00	0.00	0.00
17,100.00	90.00	0.05	9,863.00	7,447.53	-251.26	7,447.31	0.00	0.00	0.00
17,200.00	90.00	0.05	9,863.00	7,547.53	-251.17	7,547.31	0.00	0.00	0.00
17,300.00	90.00	0.05	9,863.00	7,647.53	-251.09	7,647.31	0.00	0.00	0.00
17,400.00	90.00	0.05	9,863.00	7,747.53	-251.01	7,747.31	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #103H
Company:	XTO Energy	**TVD Reference:**	Ref GL @ 2963.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	Ref GL @ 2963.00usft
Site:	Corral Canyon 8 32 Fed	**North Reference:**	Grid
Well:	#103H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
17,500.00	90.00	0.05	9,863.00	7,847.53	-250.93	7,847.31	0.00	0.00	0.00
17,600.00	90.00	0.05	9,863.00	7,947.53	-250.85	7,947.31	0.00	0.00	0.00
17,700.00	90.00	0.05	9,863.00	8,047.53	-250.76	8,047.31	0.00	0.00	0.00
17,800.00	90.00	0.05	9,863.00	8,147.53	-250.68	8,147.31	0.00	0.00	0.00
17,900.00	90.00	0.05	9,863.00	8,247.53	-250.60	8,247.31	0.00	0.00	0.00
18,000.00	90.00	0.05	9,863.00	8,347.53	-250.52	8,347.31	0.00	0.00	0.00
18,100.00	90.00	0.05	9,863.00	8,447.53	-250.44	8,447.31	0.00	0.00	0.00
18,200.00	90.00	0.05	9,863.00	8,547.53	-250.36	8,547.31	0.00	0.00	0.00
18,300.00	90.00	0.05	9,863.00	8,647.53	-250.27	8,647.31	0.00	0.00	0.00
18,400.00	90.00	0.05	9,863.00	8,747.53	-250.19	8,747.31	0.00	0.00	0.00
18,500.00	90.00	0.05	9,863.00	8,847.53	-250.11	8,847.31	0.00	0.00	0.00
18,600.00	90.00	0.05	9,863.00	8,947.53	-250.03	8,947.31	0.00	0.00	0.00
18,700.00	90.00	0.05	9,863.00	9,047.53	-249.95	9,047.31	0.00	0.00	0.00
18,800.00	90.00	0.05	9,863.00	9,147.53	-249.86	9,147.31	0.00	0.00	0.00
18,900.00	90.00	0.05	9,863.00	9,247.53	-249.78	9,247.31	0.00	0.00	0.00
19,000.00	90.00	0.05	9,863.00	9,347.53	-249.70	9,347.31	0.00	0.00	0.00
19,100.00	90.00	0.05	9,863.00	9,447.53	-249.62	9,447.31	0.00	0.00	0.00
19,200.00	90.00	0.05	9,863.00	9,547.53	-249.54	9,547.31	0.00	0.00	0.00
19,300.00	90.00	0.05	9,863.00	9,647.53	-249.46	9,647.31	0.00	0.00	0.00
19,400.00	90.00	0.05	9,863.00	9,747.53	-249.37	9,747.31	0.00	0.00	0.00
19,500.00	90.00	0.05	9,863.00	9,847.53	-249.29	9,847.31	0.00	0.00	0.00
19,600.00	90.00	0.05	9,863.00	9,947.53	-249.21	9,947.31	0.00	0.00	0.00
19,700.00	90.00	0.05	9,863.00	10,047.53	-249.13	10,047.31	0.00	0.00	0.00
19,800.00	90.00	0.05	9,863.00	10,147.53	-249.05	10,147.31	0.00	0.00	0.00
19,900.00	90.00	0.05	9,863.00	10,247.53	-248.96	10,247.31	0.00	0.00	0.00
20,000.00	90.00	0.05	9,863.00	10,347.53	-248.88	10,347.31	0.00	0.00	0.00
20,093.17	90.00	0.05	9,863.00	10,440.70	-248.81	10,440.48	0.00	0.00	0.00
20,100.00	90.00	0.05	9,863.00	10,447.53	-248.80	10,447.31	0.00	0.00	0.00
20,200.00	90.00	0.05	9,863.00	10,547.53	-248.72	10,547.31	0.00	0.00	0.00
20,223.17	90.00	0.05	9,863.00	10,570.70	-248.70	10,570.48	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
#103H: SHL (2437' FS - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	416,267.90	600,451.70	32.1440211	-104.0087825
#103H: PBHL (2440' F - plan hits target center - Point	0.00	0.00	9,863.00	10,570.70	-248.70	426,838.60	600,203.00	32.1730818	-104.0094832
#103H: FTP - plan hits target center - Point	0.00	0.00	9,863.00	548.70	-256.90	416,816.60	600,194.80	32.1455316	-104.0096071
#103H: LTP - plan misses target center by 1.41usft at 20093.17usft MD (9863.00 TVD, 10440.70 N, -248.81 E) - Point	0.00	0.00	9,863.00	10,440.70	-247.40	426,708.60	600,204.30	32.1727244	-104.0094803

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #103H
Company:	XTO Energy	**TVD Reference:**	Ref GL @ 2963.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	Ref GL @ 2963.00usft
Site:	Corral Canyon 8 32 Fed	**North Reference:**	Grid
Well:	#103H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
329.00	329.00	RUSTLER			
693.00	693.00	SALADO			
2,605.00	2,605.00	BASE SALT			
2,805.00	2,805.00	DELAWARE			
3,705.00	3,705.00	CHERRY CANYON			
5,299.00	5,299.00	BRUSHY CANYON			
6,560.00	6,560.00	BONE SPRING			
7,501.13	7,499.00	1ST BONE SPRING SAND			
7,724.98	7,722.00	2ND BONE SPRING CARBONATE			
8,325.26	8,320.00	2ND BONE SPRING SAND			
8,572.20	8,566.00	3RD BONE SPRING CARBONATE			
9,409.01	9,399.00	3RD BONE SPRING SAND			
9,871.33	9,771.00	WOLFCAMP			
10,201.16	9,863.00	LP			