

Form 3160-3
(June 2015)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

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		5. Lease Serial No. NMNM014778 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. SHANGHAI ROOSTER 22-27 FEDERAL 905H
2. Name of Operator XTO ENERGY INCORPORATED		9. API Well No. 30-015-50096
3a. Address 22777 Springwoods Village Parkway Spring TX 77389	3b. Phone No. (include area code) (432)620-6700	10. Field and Pool, or Exploratory WILLOW LAKE BONE SPRING SE
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SWSE / 330 FSL / 2455 FEL / LAT 32.123664 / LONG -103.971665 At proposed prod. zone SWSE / 200 FSL / 2310 FEL / LAT 32.094114 / LONG -103.971072		11. Sec., T. R. M. or Blk. and Survey or Area SEC 15 / T25S / R29E / NMP
14. Distance in miles and direction from nearest town or post office*		12. County or Parish EDDY
13. State NM		
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 330 feet	16. No of acres in lease 1280	17. Spacing Unit dedicated to this well 320
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 35 feet	19. Proposed Depth 10049 feet / 20473 feet	20. BLM/BIA Bond No. in file FED: UTB000138
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3071 feet	22. Approximate date work will start* 06/01/2019	23. Estimated duration 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 (Electronic Submission)	Name (Printed/Typed) Stephanie Rabadue / Ph: (432)620-6714	Date 01/24/2019
Title Regulatory Coordinator		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575)234-5959	Date 07/30/2020
Title Assistant Field Manager Lands & Minerals		
Office 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.

(Continued on page 2)

*(Instructions on page 2)



Additional Operator Remarks

Location of Well

1. SHL: SWSE / 330 FSL / 2455 FEL / TWSP: 25S / RANGE: 29E / SECTION: 15 / LAT: 32.123664 / LONG: -103.971665 (TVD: 0 feet, MD: 0 feet)
PPP: NWNE / 330 FNL / 2310 FEL / TWSP: 25S / RANGE: 29E / SECTION: 22 / LAT: 32.12185 / LONG: -103.971192 (TVD: 10049 feet, MD: 10383 feet)
BHL: SWSE / 200 FSL / 2310 FEL / TWSP: 25S / RANGE: 29E / SECTION: 27 / LAT: 32.094114 / LONG: -103.971072 (TVD: 10049 feet, MD: 20473 feet)

BLM Point of Contact

Name: Candy Vigil

Title: LIE

Phone: 5752345982

Email: cvigil@blm.gov

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Approval Date: 07/30/2020

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: (505) 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 30-015-50096	² Pool Code 96217	³ Pool Name Willow Lake; Bone Spring, SE
⁴ Property Code 333342	⁵ Property Name SHANGHAI ROOSTER 22-27 FED	
⁷ OGRID No. 005380	⁸ Operator Name XTO ENERGY, INC.	⁶ Well Number 905H ⁹ Elevation 3,070'

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
O	15	25 S	29 E		330	SOUTH	2,455	EAST	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
O	27	25 S	29 E		200	SOUTH	2,310	EAST	EDDY

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
320			

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.

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: ____XTO Energy, Inc.____ **OGRID:** ____005380____ **Date:** __9__/_19__/_2022__

II. Type: ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Shanghai Rooster 22-27 Fed 102H		M-15-25S-29E	330'FSL & 541'FWL	2000	3200	3500
Shanghai Rooster 22-27 Fed 104H		N-15-25S-29E	330'FSL & 2150'FWL	2000	3200	3500
Shanghai Rooster 22-27 Fed 105H		15-25S-29E	295'FSL & 242445'FEL	2000	3200	3500
Shanghai Rooster 22-27 Fed 106H		O-15-25S-29E	330'FSL & 2205'FEL	2000	3200	3500
Shanghai Rooster 22-27 Fed 108H		P-15-25S-29E	340'FSL & 910'FEL	2000	3200	3500
Shanghai Rooster 22-27 Fed 121H		M-15-25S-29E	365'FSL & 291 FWL	2000	3200	3500
Shanghai Rooster 22-27 Fed 122H		M-15-25S-29E	365'FSL & 541'FWL	2000	3200	3500
Shanghai Rooster 22-27 Fed 123H		N-15-25S-29E	365'FSL & 1855'FWL	2000	3200	3500
Shanghai Rooster 22-27 Fed 124H		N-15-25S-29E	365'FSL & 2105'FWL	2000	3200	3500
Shanghai Rooster 22-27 Fed 125H		O-15-25S-29E	365'FSL & 2455'FEL	2000	3200	3500
Shanghai Rooster 22-27 Fed 126H		O-15-25S-29E	365'FSL & 2205'FEL	2000	3200	3500
Shanghai Rooster 22-27 Fed 127H		P-15-25S-29E	365'FSL & 1160'FEL	2000	3200	3500
Shanghai Rooster 22-27 Fed 128H		P-15-25S-29E	365'FSL & 910'FEL	2000	3200	3500
Shanghai Rooster 22-27 Fed 161H		M-15-25S-29E	365'FSL & 291'FWI	2000	3200	3500
Shanghai Rooster 22-27 Fed 162H		M-15-25S-29E	365'FSL & 541'FWL	2000	3200	3500
Shanghai Rooster 22-27 Fed 163H		N-15-25S-29E	365'FSL & 1855'FWL	2000	3200	3500
Shanghai Rooster 22-27 Fed 164H		N-15-25S-29E	365'FSL & 2105'FWI	2000	3200	3500
Shanghai Rooster 22-27 Fed 701H		M-15-25S-29E	365'FSL & 291'FWI	2000	3200	3500
Shanghai Rooster 22-27 Fed 702H		M-15-25S-29E	365'FSL & 541'FWL	2000	3200	3500
Shanghai Rooster 22-27 Fed 703H		N-15-25S-29E	365'FSL & 1855'FWI	2000	3200	3500
Shanghai Rooster 22-27 Fed 704H		N-15-25S-29E	295'FSL & 2105'FWI	2000	3200	3500
Shanghai Rooster 22-27 Fed 705H		O-15-25S-29E	3295'FSL & 2455'FEL	2000	3200	3500
Shanghai Rooster 22-27 Fed 706H		O-15-25S-29E	295'FSL & 2205'FEL	2000	3200	3500
Shanghai Rooster 22-27 Fed 707H		P-15-25S-29E	305'FSL & 1160'FEL	2000	3200	3500
Shanghai Rooster 22-27 Fed 708H		P-15-25S-29E	305'FSL & 910'FEL	2000	3200	3500
Shanghai Rooster 22-27 Fed 901H		M-15-25S-29E	330'FSL & 291'FWL	2000	3200	3500
Shanghai Rooster 22-27 Fed 903H		N-15-25S-29E	330'FSL & 1855'FWL	2000	3200	3500
Shanghai Rooster 22-27 Fed 905H		O-15-25S-29E	330'FSL & 2455'FEL	2000	3200	3500
Shanghai Rooster 22-27 Fed 907H		P-15-25S-29E	340'FSL & 1160'FEI	2000	3200	3500

IV. Central Delivery Point Name: _____SR2227 100 CTB_____ [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commence ment Date	Initial Flow Back Date	First Production Date
Shanghai Rooster 22-27 Fed 102H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 104H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 105H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 106H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 108H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 121H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 122H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 123H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 124H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 125H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 126H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 127H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 128H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 161H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 162H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 163H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 164H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 701H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 702H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 703H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 704H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 705H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 706H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 707H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 708H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 901H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 903H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 905H		TBD	TBD	TBD	TBD	TBD
Shanghai Rooster 22-27 Fed 907H		TBD	TBD	TBD	TBD	TBD

VI. Separation Equipment: ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan**EFFECTIVE APRIL 1, 2022**

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☒ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

XIV. Confidentiality: ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☐ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☒ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system.

If Operator checks this box, Operator will select one of the following:

Well Shut-In. ☒ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- (b) power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (f) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (h) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature: <i>Jessica Dooling</i>
Printed Name: Jessica Dooling
Title: Lead Regulatory Coordinator
E-mail Address: Jessica.dooling@exxonmobil.com
Date: 9/19/2022
Phone: 970-769-6048
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

VI. Separation Equipment:

XTO Permian Operating, LLC. production tank batteries include separation equipment designed to efficiently separate gas from liquid phases to optimize gas capture based on projected and estimated volumes from the targeted pool in conjunction with the total number of wells planned to or existing within the facility. Separation equipment is upgraded prior to well being drilled or completed, if determined to be undersized or needed. The separation equipment is designed and built according to the relevant industry specifications (API Specification 12J and ASME Sec VIII Div I). Other recognized industry publications such as the Gas Processors Suppliers Association (GPSA) are referenced when designing separation equipment to optimize gas capture.

VII. Operational Practices:**1. Subsection B.**

- During drilling, flare stacks will be located a minimum of 150 feet from the nearest surface hole location. All gas is captured or combusted. If an emergency or malfunction occurs, gas will be flared or vented for public health, safety and the environment and be properly reported to the NMOCD pursuant to 19.15.27.8.G.
- Measure or estimate the volume of natural gas that is vented, flared or beneficially used during drilling, completion and production operations, regardless of the reason or authorization for such venting or flaring.
- At any point in the well life (drilling, completion, production, inactive) an audio, visual and olfactory (AVO) inspection will be performed weekly (at minimum) to confirm that all production equipment is operating properly and there are no leaks or releases except as allowed in Subsection D of 19.15.27.8 NMAC.

2. Subsection C.

- During completion operations, operator does not produce oil or gas but maintains adequate well control through completion operations.

For emergencies, equipment malfunction, or if the operator decides to produce oil and gas during well completion:

- Flowlines will be routed for flowback fluids into a completion or storage tank and, if feasible under well conditions, flare rather than vent and commence operation of a separator as soon as it is technically feasible for a separator to function.
- Measure or estimate the volume of natural gas that is vented, flared or beneficially used during drilling, completion and production operations, regardless of the reason or authorization for such venting or flaring.
- At any point in the well life (drilling, completion, production, inactive) an audio, visual and olfactory (AVO) inspection will be performed weekly (at minimum) to confirm that all production equipment is operating properly and there are no leaks or releases except as allowed in Subsection D of 19.15.27.8 NMAC.

3. Subsection D.

- At any point in the well life (drilling, completion, production, inactive) an audio, visual and olfactory (AVO) inspection will be performed weekly (at minimum) to confirm that all production equipment is operating properly and there are no leaks or releases except as allowed in Subsection D of 19.15.27.8 NMAC.
- Monitor manual liquid unloading for wells on-site or in close proximity (<30 minutes' drive time), take reasonable actions to achieve a stabilized rate and pressure at the earliest practical time, and take reasonable actions to minimize venting to the maximum extent practicable.

- Measure or estimate the volume of natural gas that is vented, flared or beneficially used during drilling, completion and production operations, regardless of the reason or authorization for such venting or flaring.
- 4. Subsection E.
 - All tanks and separation equipment are designed for maximum throughput and pressure to minimize waste.
 - Flare stack was installed prior to May 25, 2021 but has been designed for proper size and combustion efficiency. Flare currently has a continuous pilot and is located more than 100 feet from any known well and storage tanks.
 - At any point in the well life (drilling, completion, production, inactive) an audio, visual and olfactory (AVO) inspection will be performed weekly (at minimum) to confirm that all production equipment is operating properly and there are no leaks or releases except as allowed in Subsection D of 19.15.27.8 NMAC.
- 5. Subsection F.
 - Measurement equipment is installed to measure the volume of natural gas flared from process piping or a flowline piped from the equipment associated with a well and facility associated with the approved application for permit to drill that has an average daily production greater than 60 mcf of natural gas.
 - Measurement equipment installed is not designed or equipped with a manifold to allow diversion of natural gas around the metering equipment, except for the sole purpose of inspecting and servicing the measurement equipment, as noted in NMAC 19.15.27.8 Subsection G.

VIII. Best Management Practices:

1. During completion operations, operator does not produce oil or gas but maintains adequate well control through completion operations.
2. Operator does not flow well (well shut in) during initial production until all flowlines, tank batteries, and oil/gas takeaway are installed, tested, and determined operational.
3. Operator equips storage tanks with an automatic gauging system to reduce venting of natural gas.
4. Operator reduces the number of blowdowns by looking for opportunities to coordinate repair and maintenance activities.
5. Operator combusts natural gas that would otherwise be vented or flared, when feasible.
6. Operator has a flare stack designed in accordance with need and to handle sufficient volume to ensure proper combustion efficiency. Flare stacks are equipped with continuous pilots and securely anchored at least 100 feet (at minimum) from storage tanks and wells.
7. Operator minimizes venting (when feasible) through pump downs of vessels and reducing time required to purge equipment before returning equipment to service.
8. Operator will shut in wells (when feasible) in the event of a takeaway disruption, emergency situation, or other operations where venting or flaring may occur due to equipment failures.



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

Drilling Plan Data Report

08/19/2020

APD ID: 10400037537

Submission Date: 01/24/2019

Highlighted data
reflects the most
recent changes

Operator Name: XTO ENERGY INCORPORATED

Well Name: SHANGHAI ROOSTER 22-27 FEDERAL

Well Number: 905H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
366837	PERMIAN	3071	0	0	OTHER : Quaternary	NONE	N
366838	RUSTLER	2427	644	644	SILTSTONE	USEABLE WATER	N
366835	TOP SALT	2108	963	963	SALT	NONE	N
366832	BASE OF SALT	113	2958	2958	SALT	NONE	N
366839	DELAWARE	-77	3148	3148	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
366840	BONE SPRING	-3839	6910	6910	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
366836	BONE SPRING 1ST	-4781	7852	7852	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
366833	BONE SPRING 2ND	-5630	8701	8701	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
366841	BONE SPRING 3RD	-6677	9748	9748	SANDSTONE	NATURAL GAS, OIL, OTHER, USEABLE WATER : Produced Water	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 3M

Rating Depth: 10049

Equipment: The blow out preventer equipment (BOP) for this well consists of a 13-5/8" minimum 3M Hydril and a 13-5/8" minimum 3M Double Ram BOP. MASP should not exceed 2393 psi.

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.

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 nipping up on the 13-5/8" 3M bradenhead and flange, the BOP test will be limited to 3000 psi. When nipping 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 3M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

Choke Diagram Attachment:

Operator Name: XTO ENERGY INCORPORATED**Well Name:** SHANGHAI ROOSTER 22-27 FEDERAL**Well Number:** 905H

Shanghai_22_27_Fed_3MCM_20181227060722.pdf

BOP Diagram Attachment:

Shanghai_22_27_Fed_3MBOP_20181227060730.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	928	0	928			928	J-55	54.5	ST&C	2.66	1.18	DRY	10.16	DRY	10.16
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	7550	0	7550			7550	L-80	40	LT&C	1.32	2.01	DRY	2.41	DRY	2.41
3	PRODUCTION	8.75	5.5	NEW	API	N	0	20473	0	10049			20473	P-110	17	BUTT	1.47	1.12	DRY	2.31	DRY	2.31

Casing Attachments**Casing ID:** 1 **String Type:** SURFACE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

Shanghai_22_27_Fed_905H_Csg_20181227070400.pdf

Operator Name: XTO ENERGY INCORPORATED**Well Name:** SHANGHAI ROOSTER 22-27 FEDERAL**Well Number:** 905H**Casing Attachments****Casing ID:** 2 **String Type:**INTERMEDIATE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

Shanghai_22_27_Fed_905H_Csg_20181227070409.pdf

Casing ID: 3 **String Type:**PRODUCTION**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

Shanghai_22_27_Fed_905H_Csg_20181227070418.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	928	460	1.87	12.9	860.2	100	EconoCem-HLTRRC	None
SURFACE	Tail		0		300	1.35	14.8	405	100	Halcem-C	2% CaCl
INTERMEDIATE	Lead	1003	0	1003	210	1.33	12.9	279.3	100	Halcem-C	2% CaCl

INTERMEDIATE	Lead	1003	1003	7550	2000	1.88	12.9	3760	100	HalCem-C	2% CaCl
--------------	------	------	------	------	------	------	------	------	-----	----------	---------

Operator Name: XTO ENERGY INCORPORATED**Well Name:** SHANGHAI ROOSTER 22-27 FEDERAL**Well Number:** 905H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Tail		0		230	1.33	14.8	305.9	100	HalCem-C	2% CaCl
PRODUCTION	Lead		0	2047 3	230	2.69	10.5	618.7	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
0	928	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, viscosity, strength, filtration and pH as necessary. Solids control equipment will be used to operate as a closed loop system.
928	7550	OTHER : Brine/Gel Sweeps	9.8	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,

Operator Name: XTO ENERGY INCORPORATED**Well Name:** SHANGHAI ROOSTER 22-27 FEDERAL**Well Number:** 905H

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.
7550	10049	OIL-BASED MUD	9.4	9.7							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/2950' to TD

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

CBL,CNL,DS,GR,MUDLOG

Coring operation description for the well:

No coring will take place on this well.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5068

Anticipated Surface Pressure: 2857.22

Anticipated Bottom Hole Temperature(F): 150

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

Describe:

Contingency Plans geohazards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Operator Name: XTO ENERGY INCORPORATED

Well Name: SHANGHAI ROOSTER 22-27 FEDERAL

Well Number: 905H

Shanghai_22_27_Fed_H2S_Plan_20181227060909.pdf

Shanghai_22_27_Fed_H2S_Dia_3W_20181227060859.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Shanghai_22_27_Fed_905H_DD_20181227070546.pdf

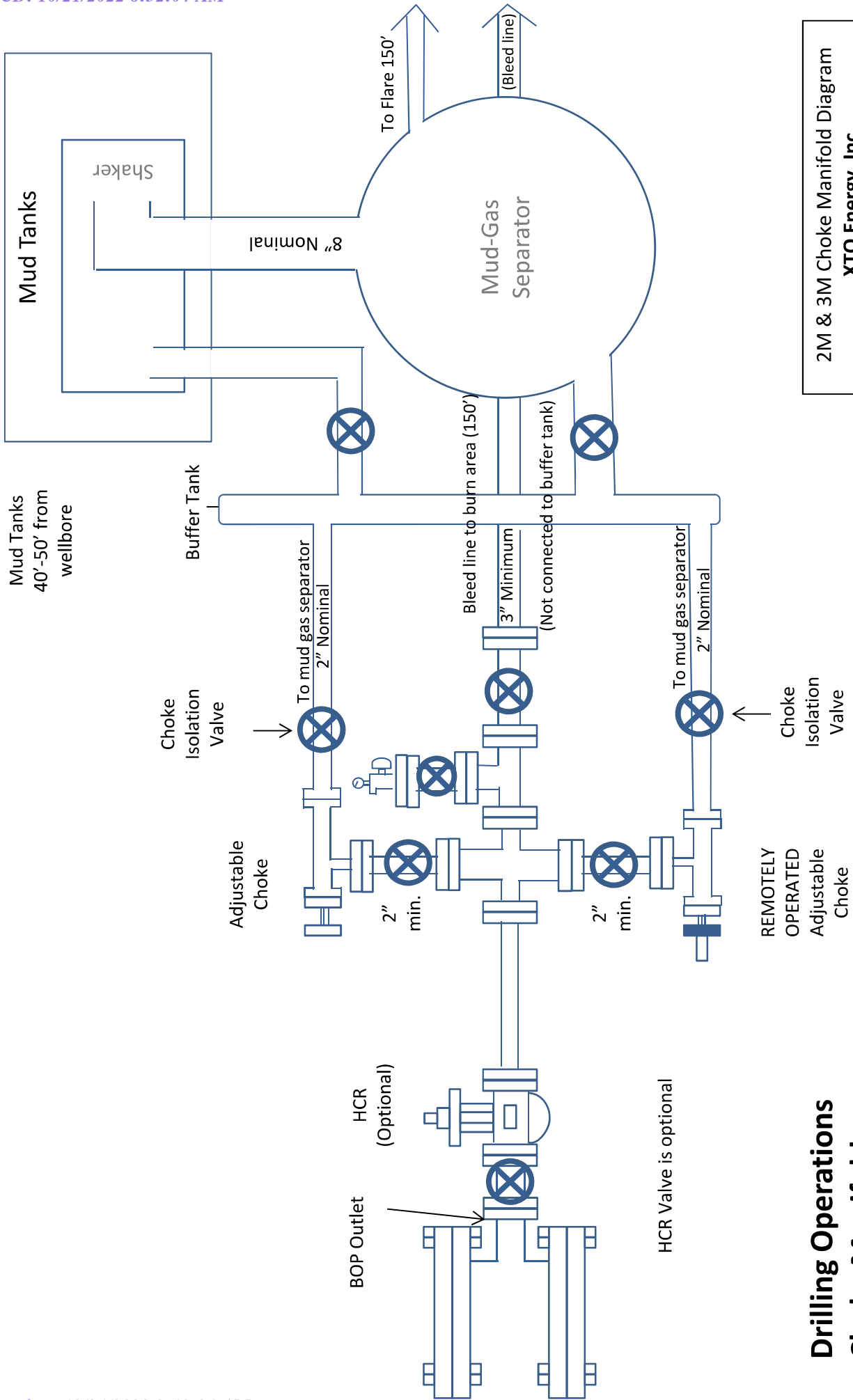
Other proposed operations facets description:

Other proposed operations facets attachment:

Shanghai_22_27_Fed_905H_GCP_20181227070555.pdf

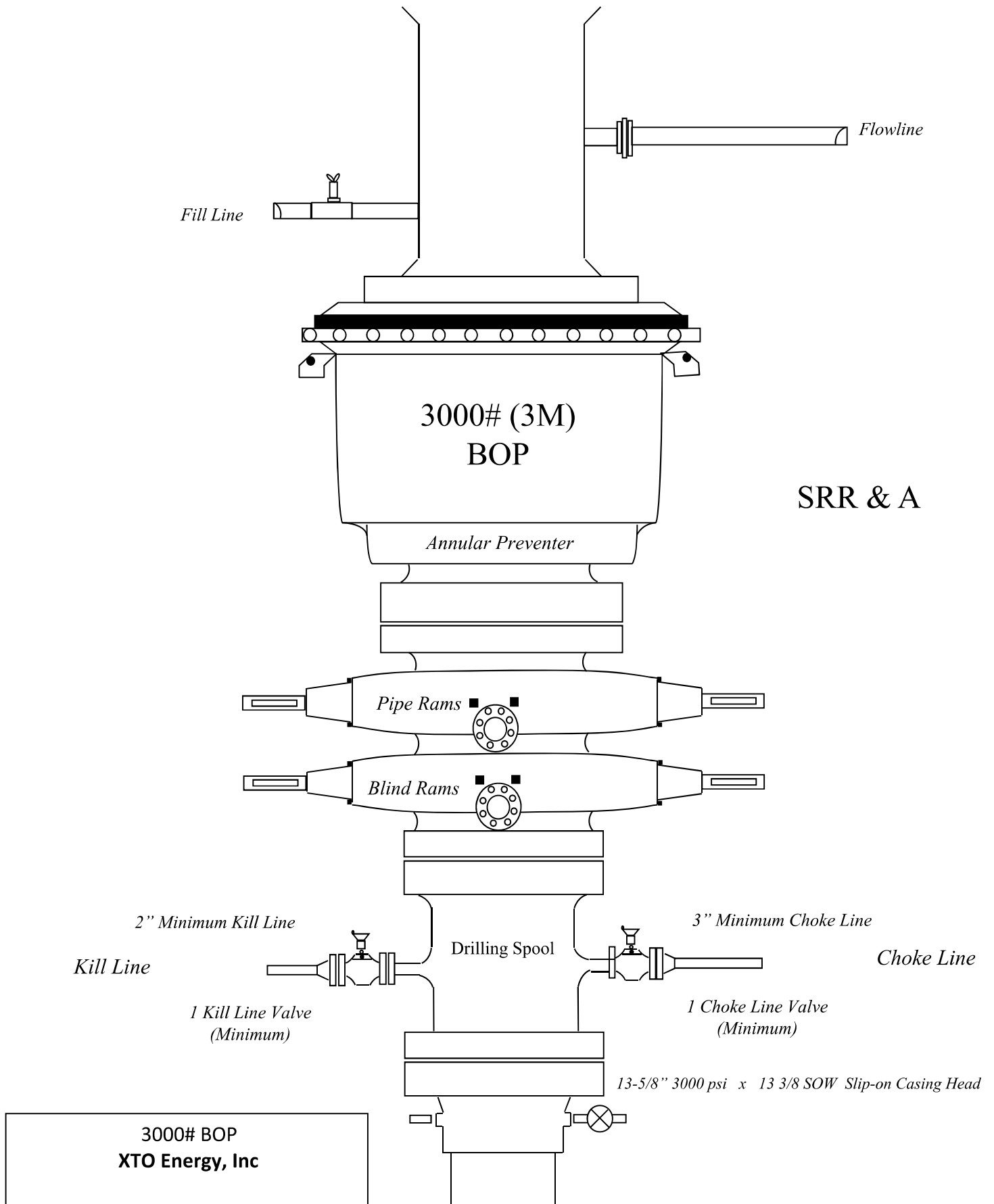
Other Variance attachment:

Shanghai_22_27_Fed_FH_20181227060816.pdf



2M & 3M Choke Manifold Diagram
XTO Energy, Inc

Drilling Operations
Choke Manifold
2M & 3M Service



3. Casing Design									
Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17-1/2"	0' – 928'	13-3/8"	54.5	STC	J-55	New	1.18	2.66	10.16
12-1/4"	0' – 7550'	9-5/8"	40	LTC	L-80	New	2.01	1.32	2.41
8-3/4"	0' – 20473'	5-1/2"	17	BTC	P-110	New	1.12	1.47	2.31
- XTO requests to utilize centralizers only in the curve after the KOP and only a minimum of one every other joint. - 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									
WELLHEAD:									
<u>Permanent Wellhead – GE RSH Multibowl System</u>									
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									



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

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

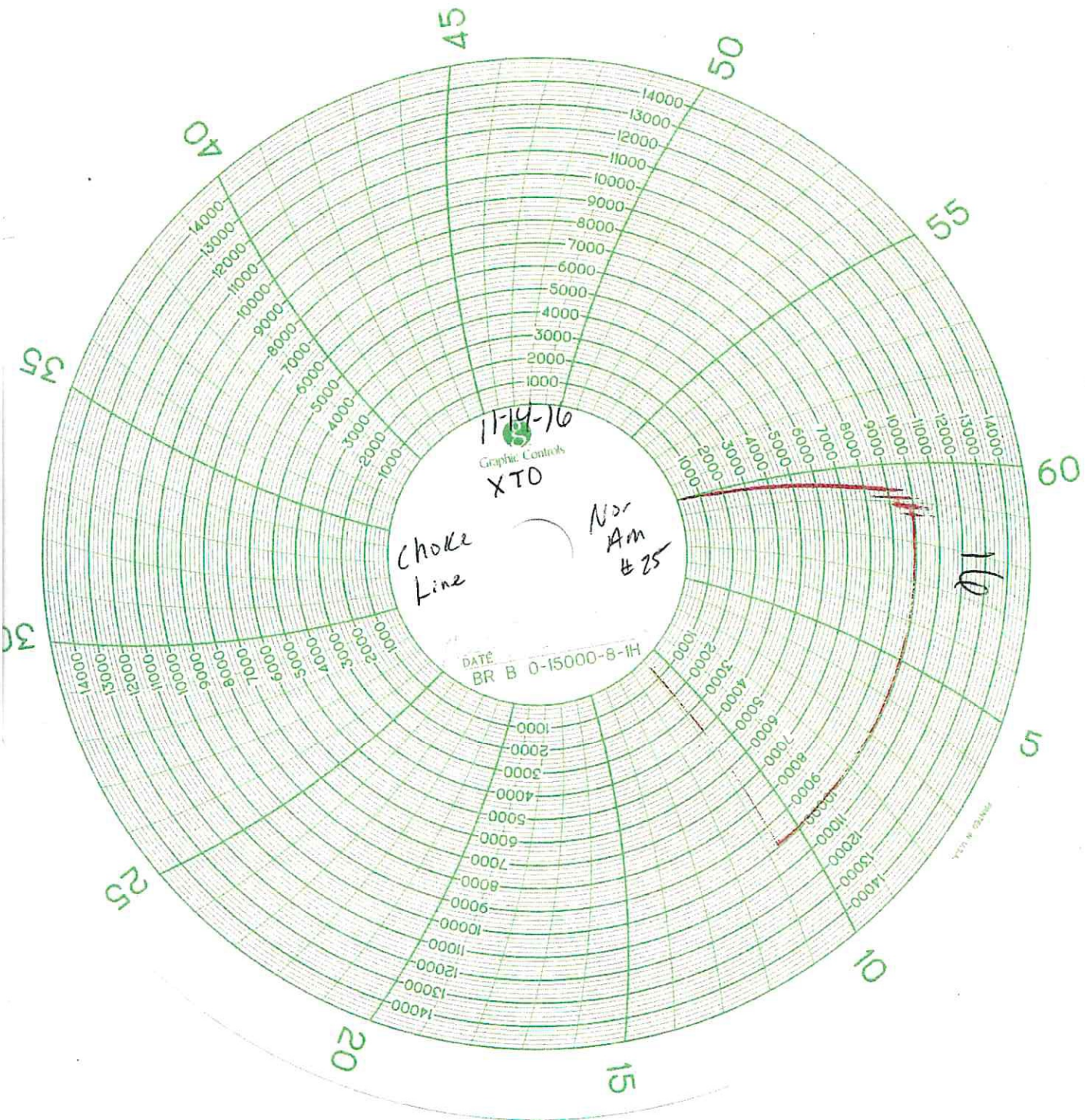
GRADE D PRESSURE TEST CERTIFICATE

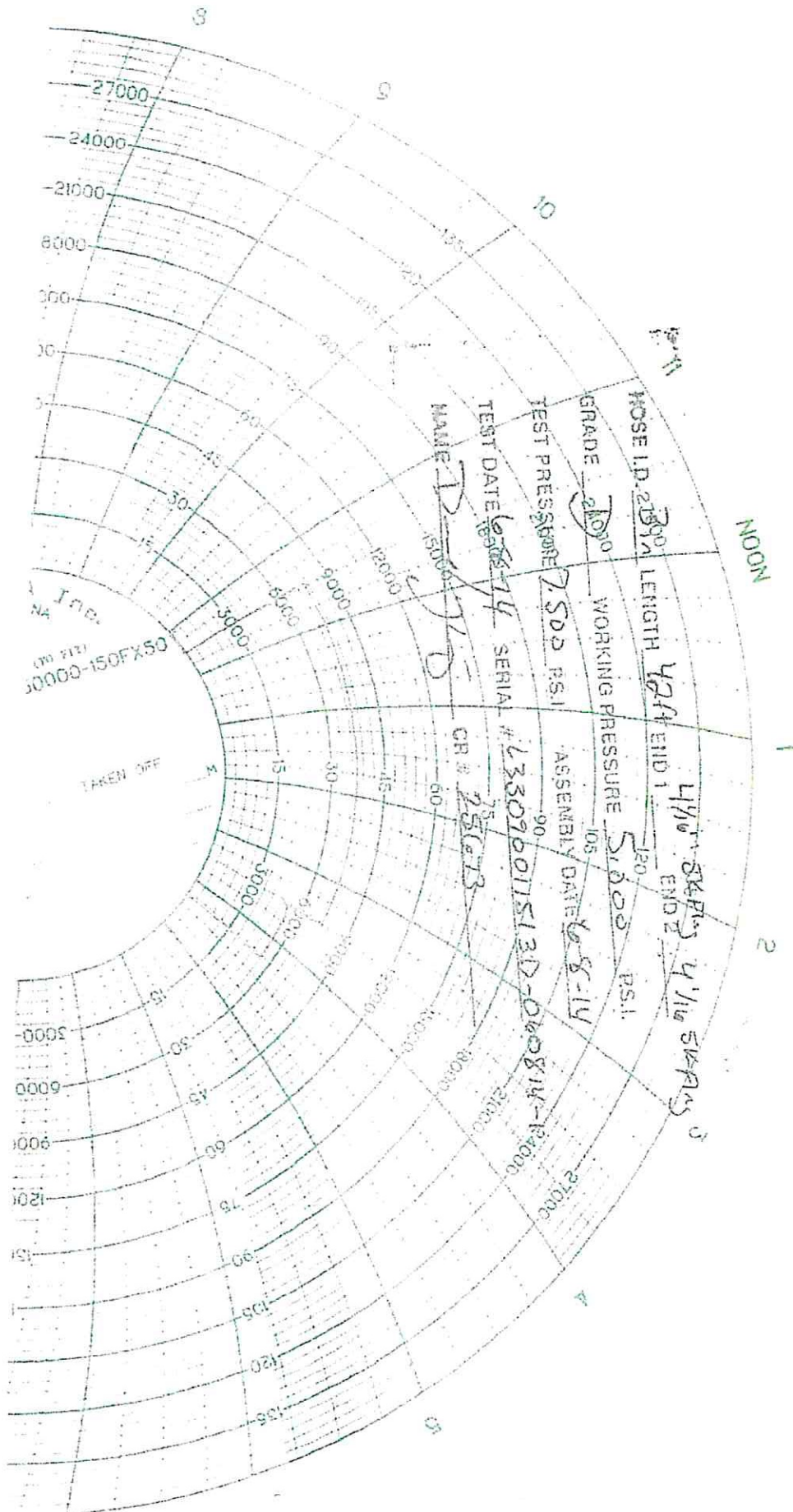
Customer :	AUSTIN DISTRIBUTING	Test Date:	6/8/2014
Customer Ref. :	PENDING	Hose Serial No.:	D-060814-1
Invoice No. :	201709	Created By:	NORMA
Product Description:	FD3.042.0R41/16.5KFLGE/E LE		
End Fitting 1 :	4 1/16 in.5K FLG	End Fitting 2 :	4 1/16 in.5K FLG
Gates Part No. :	4774-6001	Assembly Code :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

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

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

Form PTC - 01 Rev.0 2







XTO Energy

**Eddy County, NM (NAD-27)
Shanghai Rooster 22-27 Fed
#905H**

OH

Plan: PERMIT

Standard Planning Report

27 July, 2018



Project: Eddy County, NM (NAD-27)
 Site: Shanghai Rooster 22-27 Fed
 Well: #905H
 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: #905H

Rig Name:
 GL @ 3070.00usft
 Ground Level: 3070.00
 Northing 612115.50 Easting 32.123540 Latitude 32.123540 Longitude -103.971179

DESIGN TARGET DETAILS

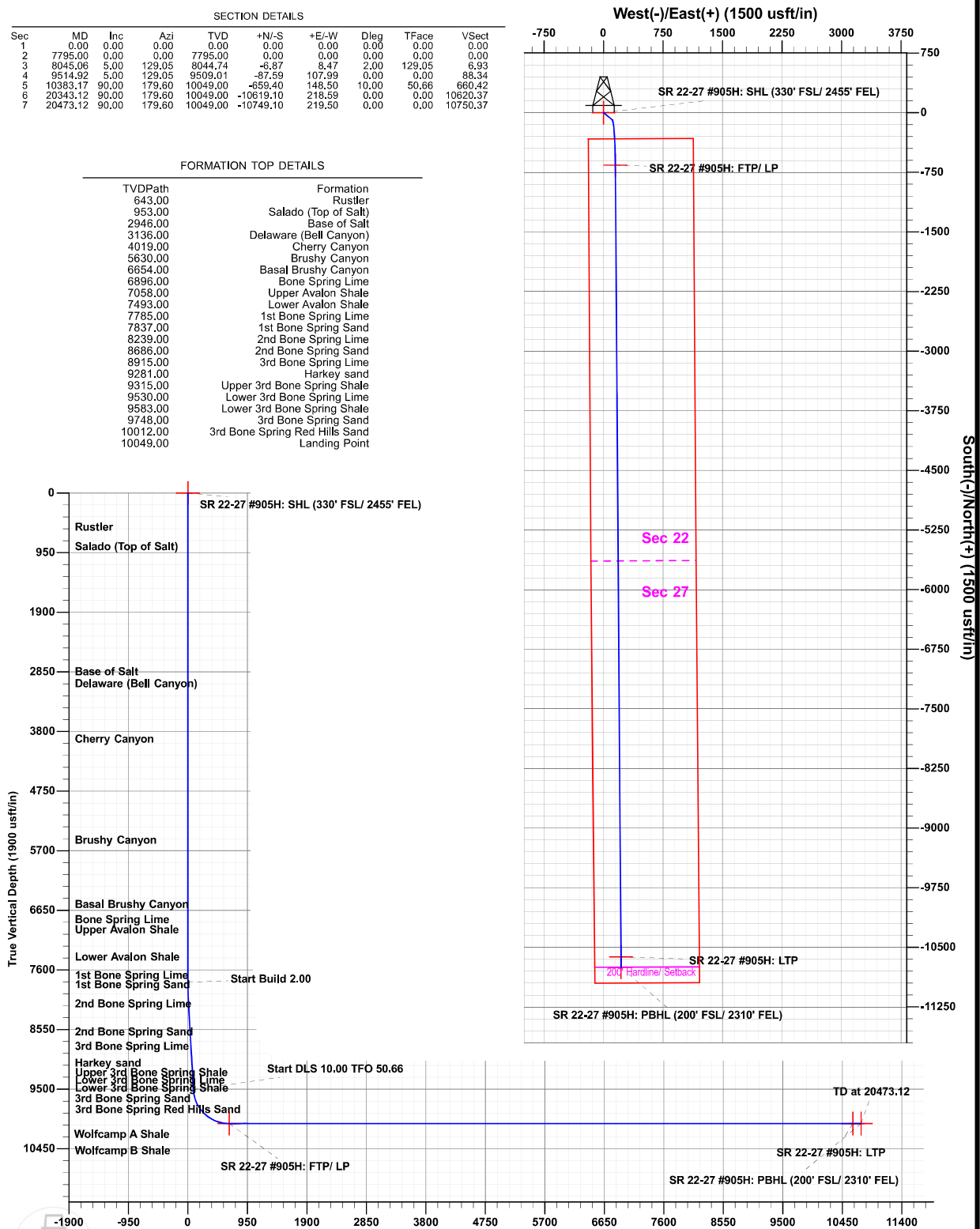
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SR 22-27 #905H: SHL (330' FSL/ 2455' FEL)	0.00	0.00	0.00	408854.70	612115.50	32.123540	-103.971179	Point
SR 22-27 #905H: FTP/ LP	10049.00	-659.40	148.50	408195.30	612264.00	32.121726	-103.970706	Point
SR 22-27 #905H: LTP	10049.00	-10619.10	218.50	398235.60	612334.00	32.094346	-103.970589	Point
SR 22-27 #905H: PBHL (200' FSL/ 2310' FEL)	10049.00	-10749.10	219.50	398105.60	612335.00	32.093989	-103.970587	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	7795.00	0.00	0.00	7795.00	0.00	0.00	0.00	0.00	0.00
3	8045.06	5.00	129.05	8044.74	-6.87	8.47	2.00	129.05	6.93
4	9514.32	5.00	129.05	9509.01	-87.59	107.99	0.00	0.00	88.34
5	10383.17	90.00	179.60	10049.00	-659.40	148.50	10.00	50.66	660.42
6	20343.12	90.00	179.60	10049.00	-10619.10	218.59	0.00	0.00	10620.37
7	20473.12	90.00	179.60	10049.00	-10749.10	219.50	0.00	0.00	10750.37

FORMATION TOP DETAILS

TVDPath	Formation
643.00	Rustler
953.00	Salado (Top of Salt)
2946.00	Base of Salt
3136.00	Delaware (Bell Canyon)
4019.00	Cherry Canyon
5630.00	Brushy Canyon
6654.00	Basal Brushy Canyon
6896.00	Bone Spring Lime
7058.00	Upper Avalon Shale
7483.00	Lower Avalon Shale
7785.00	1st Bone Spring Lime
7837.00	1st Bone Spring Sand
8239.00	2nd Bone Spring Lime
8686.00	2nd Bone Spring Sand
8915.00	3rd Bone Spring Lime
9281.00	Harkey sand
9315.00	Upper 3rd Bone Spring Shale
9530.00	Lower 3rd Bone Spring Lime
9583.00	Lower 3rd Bone Spring Shale
9748.00	3rd Bone Spring Sand
10012.00	3rd Bone Spring Red Hills Sand
10049.00	Landing Point



The customer should only rely on this document after independently verifying all data, targets, coordinates, base and hard lines represented. Any errors or omissions are the sole risk and responsibility of the customer.

Vertical Section at 179.60° (1900 usft/in)

Plan: PERMIT (#905H/OH)

Created By: Matthew May Date: 9:18, July 27 2018



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #905H
Company:	XTO Energy	TVD Reference:	GL @ 3070.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	GL @ 3070.00usft
Site:	Shanghai Rooster 22-27 Fed	North Reference:	Grid
Well:	#905H	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	Shanghai Rooster 22-27 Fed		
Site Position:		Northing:	408,856.20 usft
From:	Map	Easting:	612,365.50 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32.123542
		Longitude:	-103.970372
		Grid Convergence:	0.19 °

Well	#905H		
Well Position	+N/-S	-1.50 usft	Northing: 408,854.70 usft
	+E/-W	-250.00 usft	Easting: 612,115.50 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	32.123540
		Longitude:	-103.971179
		Ground Level:	3,070.00 usft

Wellbore	OH		
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	7/26/2018	7.01	59.89	47,725

Design	PERMIT		
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Audit Notes:			
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Version:	Phase:	PLAN	Tie On Depth:	0.00
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Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	179.60

Plan Sections										
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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	
7,795.00	0.00	0.00	7,795.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,045.06	5.00	129.05	8,044.74	-6.87	8.47	2.00	2.00	0.00	129.05	
9,514.93	5.00	129.05	9,509.01	-87.59	107.99	0.00	0.00	0.00	0.00	
10,383.17	90.00	179.60	10,049.00	-659.40	148.50	10.00	9.79	5.82	50.66	SR 22-27 #905H: F
20,343.12	90.00	179.60	10,049.00	-10,619.10	218.59	0.00	0.00	0.00	0.00	SR 22-27 #905H: L
20,473.12	90.00	179.60	10,049.00	-10,749.10	219.50	0.00	0.00	0.00	0.00	SR 22-27 #905H: P



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #905H
Company:	XTO Energy	TVD Reference:	GL @ 3070.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	GL @ 3070.00usft
Site:	Shanghai Rooster 22-27 Fed	North Reference:	Grid
Well:	#905H	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
SR 22-27 #905H: SHL (330' FSL/ 2455' FEL)									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	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
3,800.00	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
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



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #905H
Company:	XTO Energy	TVD Reference:	GL @ 3070.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	GL @ 3070.00usft
Site:	Shanghai Rooster 22-27 Fed	North Reference:	Grid
Well:	#905H	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)
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
6,600.00	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
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00
7,795.00	0.00	0.00	7,795.00	0.00	0.00	0.00	0.00	0.00	0.00
7,800.00	0.10	129.05	7,800.00	0.00	0.00	0.00	2.00	2.00	0.00
7,900.00	2.10	129.05	7,899.98	-1.21	1.49	1.22	2.00	2.00	0.00
8,000.00	4.10	129.05	7,999.83	-4.62	5.69	4.66	2.00	2.00	0.00
8,045.06	5.00	129.05	8,044.74	-6.87	8.47	6.93	2.00	2.00	0.00
8,100.00	5.00	129.05	8,099.47	-9.89	12.19	9.97	0.00	0.00	0.00
8,200.00	5.00	129.05	8,199.09	-15.38	18.96	15.51	0.00	0.00	0.00
8,300.00	5.00	129.05	8,298.71	-20.87	25.73	21.05	0.00	0.00	0.00
8,400.00	5.00	129.05	8,398.33	-26.36	32.50	26.59	0.00	0.00	0.00
8,500.00	5.00	129.05	8,497.95	-31.86	39.27	32.13	0.00	0.00	0.00
8,600.00	5.00	129.05	8,597.57	-37.35	46.04	37.67	0.00	0.00	0.00
8,700.00	5.00	129.05	8,697.19	-42.84	52.81	43.21	0.00	0.00	0.00
8,800.00	5.00	129.05	8,796.81	-48.33	59.58	48.75	0.00	0.00	0.00
8,900.00	5.00	129.05	8,896.43	-53.82	66.35	54.28	0.00	0.00	0.00
9,000.00	5.00	129.05	8,996.05	-59.31	73.12	59.82	0.00	0.00	0.00
9,100.00	5.00	129.05	9,095.67	-64.81	79.89	65.36	0.00	0.00	0.00
9,200.00	5.00	129.05	9,195.29	-70.30	86.66	70.90	0.00	0.00	0.00
9,300.00	5.00	129.05	9,294.91	-75.79	93.44	76.44	0.00	0.00	0.00
9,400.00	5.00	129.05	9,394.52	-81.28	100.21	81.98	0.00	0.00	0.00
9,500.00	5.00	129.05	9,494.14	-86.77	106.98	87.52	0.00	0.00	0.00
9,514.93	5.00	129.05	9,509.01	-87.59	107.99	88.34	0.00	0.00	0.00
9,550.00	7.72	149.68	9,543.87	-90.59	110.36	91.36	10.00	7.74	58.83
9,600.00	12.30	161.54	9,593.10	-98.54	113.75	99.33	10.00	9.16	23.72
9,650.00	17.11	166.92	9,641.45	-110.77	117.10	111.58	10.00	9.63	10.76
9,700.00	22.01	169.97	9,688.55	-127.17	120.40	128.01	10.00	9.79	6.11
9,750.00	26.94	171.96	9,734.05	-147.62	123.62	148.48	10.00	9.87	3.97
9,800.00	31.89	173.36	9,777.59	-171.97	126.73	172.85	10.00	9.90	2.81
9,850.00	36.86	174.43	9,818.84	-200.04	129.71	200.94	10.00	9.93	2.12
9,900.00	41.83	175.27	9,857.50	-231.60	132.55	232.52	10.00	9.94	1.68



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #905H
Company:	XTO Energy	TVD Reference:	GL @ 3070.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	GL @ 3070.00usft
Site:	Shanghai Rooster 22-27 Fed	North Reference:	Grid
Well:	#905H	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)
9,950.00	46.81	175.96	9,893.26	-266.41	135.21	267.35	10.00	9.95	1.38
10,000.00	51.79	176.55	9,925.86	-304.23	137.68	305.18	10.00	9.96	1.18
10,050.00	56.77	177.06	9,955.05	-344.74	139.94	345.71	10.00	9.97	1.02
10,100.00	61.75	177.52	9,980.59	-387.66	141.97	388.64	10.00	9.97	0.91
10,150.00	66.74	177.93	10,002.31	-432.64	143.75	433.63	10.00	9.97	0.83
10,200.00	71.73	178.32	10,020.04	-479.35	145.28	480.35	10.00	9.97	0.77
10,250.00	76.71	178.68	10,033.63	-527.44	146.53	528.45	10.00	9.98	0.73
10,300.00	81.70	179.03	10,042.99	-576.53	147.51	577.54	10.00	9.98	0.70
10,350.00	86.69	179.37	10,048.04	-626.25	148.20	627.27	10.00	9.98	0.68
10,383.17	90.00	179.60	10,049.00	-659.40	148.50	660.42	10.00	9.98	0.67
SR 22-27 #905H: FTP/ LP									
10,400.00	90.00	179.60	10,049.00	-676.23	148.62	677.25	0.00	0.00	0.00
10,500.00	90.00	179.60	10,049.00	-776.23	149.32	777.25	0.00	0.00	0.00
10,600.00	90.00	179.60	10,049.00	-876.22	150.03	877.25	0.00	0.00	0.00
10,700.00	90.00	179.60	10,049.00	-976.22	150.73	977.25	0.00	0.00	0.00
10,800.00	90.00	179.60	10,049.00	-1,076.22	151.43	1,077.25	0.00	0.00	0.00
10,900.00	90.00	179.60	10,049.00	-1,176.22	152.14	1,177.25	0.00	0.00	0.00
11,000.00	90.00	179.60	10,049.00	-1,276.21	152.84	1,277.25	0.00	0.00	0.00
11,100.00	90.00	179.60	10,049.00	-1,376.21	153.54	1,377.25	0.00	0.00	0.00
11,200.00	90.00	179.60	10,049.00	-1,476.21	154.25	1,477.25	0.00	0.00	0.00
11,300.00	90.00	179.60	10,049.00	-1,576.21	154.95	1,577.25	0.00	0.00	0.00
11,400.00	90.00	179.60	10,049.00	-1,676.20	155.66	1,677.25	0.00	0.00	0.00
11,500.00	90.00	179.60	10,049.00	-1,776.20	156.36	1,777.25	0.00	0.00	0.00
11,600.00	90.00	179.60	10,049.00	-1,876.20	157.06	1,877.25	0.00	0.00	0.00
11,700.00	90.00	179.60	10,049.00	-1,976.20	157.77	1,977.25	0.00	0.00	0.00
11,800.00	90.00	179.60	10,049.00	-2,076.19	158.47	2,077.25	0.00	0.00	0.00
11,900.00	90.00	179.60	10,049.00	-2,176.19	159.17	2,177.25	0.00	0.00	0.00
12,000.00	90.00	179.60	10,049.00	-2,276.19	159.88	2,277.25	0.00	0.00	0.00
12,100.00	90.00	179.60	10,049.00	-2,376.19	160.58	2,377.25	0.00	0.00	0.00
12,200.00	90.00	179.60	10,049.00	-2,476.18	161.28	2,477.25	0.00	0.00	0.00
12,300.00	90.00	179.60	10,049.00	-2,576.18	161.99	2,577.25	0.00	0.00	0.00
12,400.00	90.00	179.60	10,049.00	-2,676.18	162.69	2,677.25	0.00	0.00	0.00
12,500.00	90.00	179.60	10,049.00	-2,776.18	163.40	2,777.25	0.00	0.00	0.00
12,600.00	90.00	179.60	10,049.00	-2,876.17	164.10	2,877.25	0.00	0.00	0.00
12,700.00	90.00	179.60	10,049.00	-2,976.17	164.80	2,977.25	0.00	0.00	0.00
12,800.00	90.00	179.60	10,049.00	-3,076.17	165.51	3,077.25	0.00	0.00	0.00
12,900.00	90.00	179.60	10,049.00	-3,176.17	166.21	3,177.25	0.00	0.00	0.00
13,000.00	90.00	179.60	10,049.00	-3,276.16	166.91	3,277.25	0.00	0.00	0.00
13,100.00	90.00	179.60	10,049.00	-3,376.16	167.62	3,377.25	0.00	0.00	0.00
13,200.00	90.00	179.60	10,049.00	-3,476.16	168.32	3,477.25	0.00	0.00	0.00
13,300.00	90.00	179.60	10,049.00	-3,576.16	169.02	3,577.25	0.00	0.00	0.00
13,400.00	90.00	179.60	10,049.00	-3,676.15	169.73	3,677.25	0.00	0.00	0.00
13,500.00	90.00	179.60	10,049.00	-3,776.15	170.43	3,777.25	0.00	0.00	0.00
13,600.00	90.00	179.60	10,049.00	-3,876.15	171.14	3,877.25	0.00	0.00	0.00
13,700.00	90.00	179.60	10,049.00	-3,976.15	171.84	3,977.25	0.00	0.00	0.00
13,800.00	90.00	179.60	10,049.00	-4,076.14	172.54	4,077.25	0.00	0.00	0.00
13,900.00	90.00	179.60	10,049.00	-4,176.14	173.25	4,177.25	0.00	0.00	0.00
14,000.00	90.00	179.60	10,049.00	-4,276.14	173.95	4,277.25	0.00	0.00	0.00
14,100.00	90.00	179.60	10,049.00	-4,376.14	174.65	4,377.25	0.00	0.00	0.00
14,200.00	90.00	179.60	10,049.00	-4,476.13	175.36	4,477.25	0.00	0.00	0.00
14,300.00	90.00	179.60	10,049.00	-4,576.13	176.06	4,577.25	0.00	0.00	0.00
14,400.00	90.00	179.60	10,049.00	-4,676.13	176.77	4,677.25	0.00	0.00	0.00
14,500.00	90.00	179.60	10,049.00	-4,776.13	177.47	4,777.25	0.00	0.00	0.00
14,600.00	90.00	179.60	10,049.00	-4,876.12	178.17	4,877.25	0.00	0.00	0.00



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #905H
Company:	XTO Energy	TVD Reference:	GL @ 3070.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	GL @ 3070.00usft
Site:	Shanghai Rooster 22-27 Fed	North Reference:	Grid
Well:	#905H	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)
14,700.00	90.00	179.60	10,049.00	-4,976.12	178.88	4,977.25	0.00	0.00	0.00
14,800.00	90.00	179.60	10,049.00	-5,076.12	179.58	5,077.25	0.00	0.00	0.00
14,900.00	90.00	179.60	10,049.00	-5,176.12	180.28	5,177.25	0.00	0.00	0.00
15,000.00	90.00	179.60	10,049.00	-5,276.12	180.99	5,277.25	0.00	0.00	0.00
15,100.00	90.00	179.60	10,049.00	-5,376.11	181.69	5,377.25	0.00	0.00	0.00
15,200.00	90.00	179.60	10,049.00	-5,476.11	182.39	5,477.25	0.00	0.00	0.00
15,300.00	90.00	179.60	10,049.00	-5,576.11	183.10	5,577.25	0.00	0.00	0.00
15,400.00	90.00	179.60	10,049.00	-5,676.11	183.80	5,677.25	0.00	0.00	0.00
15,500.00	90.00	179.60	10,049.00	-5,776.10	184.51	5,777.25	0.00	0.00	0.00
15,600.00	90.00	179.60	10,049.00	-5,876.10	185.21	5,877.25	0.00	0.00	0.00
15,700.00	90.00	179.60	10,049.00	-5,976.10	185.91	5,977.25	0.00	0.00	0.00
15,800.00	90.00	179.60	10,049.00	-6,076.10	186.62	6,077.25	0.00	0.00	0.00
15,900.00	90.00	179.60	10,049.00	-6,176.09	187.32	6,177.25	0.00	0.00	0.00
16,000.00	90.00	179.60	10,049.00	-6,276.09	188.02	6,277.25	0.00	0.00	0.00
16,100.00	90.00	179.60	10,049.00	-6,376.09	188.73	6,377.25	0.00	0.00	0.00
16,200.00	90.00	179.60	10,049.00	-6,476.09	189.43	6,477.25	0.00	0.00	0.00
16,300.00	90.00	179.60	10,049.00	-6,576.08	190.13	6,577.25	0.00	0.00	0.00
16,400.00	90.00	179.60	10,049.00	-6,676.08	190.84	6,677.25	0.00	0.00	0.00
16,500.00	90.00	179.60	10,049.00	-6,776.08	191.54	6,777.25	0.00	0.00	0.00
16,600.00	90.00	179.60	10,049.00	-6,876.08	192.25	6,877.25	0.00	0.00	0.00
16,700.00	90.00	179.60	10,049.00	-6,976.07	192.95	6,977.25	0.00	0.00	0.00
16,800.00	90.00	179.60	10,049.00	-7,076.07	193.65	7,077.25	0.00	0.00	0.00
16,900.00	90.00	179.60	10,049.00	-7,176.07	194.36	7,177.25	0.00	0.00	0.00
17,000.00	90.00	179.60	10,049.00	-7,276.07	195.06	7,277.25	0.00	0.00	0.00
17,100.00	90.00	179.60	10,049.00	-7,376.06	195.76	7,377.25	0.00	0.00	0.00
17,200.00	90.00	179.60	10,049.00	-7,476.06	196.47	7,477.25	0.00	0.00	0.00
17,300.00	90.00	179.60	10,049.00	-7,576.06	197.17	7,577.25	0.00	0.00	0.00
17,400.00	90.00	179.60	10,049.00	-7,676.06	197.88	7,677.25	0.00	0.00	0.00
17,500.00	90.00	179.60	10,049.00	-7,776.05	198.58	7,777.25	0.00	0.00	0.00
17,600.00	90.00	179.60	10,049.00	-7,876.05	199.28	7,877.25	0.00	0.00	0.00
17,700.00	90.00	179.60	10,049.00	-7,976.05	199.99	7,977.25	0.00	0.00	0.00
17,800.00	90.00	179.60	10,049.00	-8,076.05	200.69	8,077.25	0.00	0.00	0.00
17,900.00	90.00	179.60	10,049.00	-8,176.04	201.39	8,177.25	0.00	0.00	0.00
18,000.00	90.00	179.60	10,049.00	-8,276.04	202.10	8,277.25	0.00	0.00	0.00
18,100.00	90.00	179.60	10,049.00	-8,376.04	202.80	8,377.25	0.00	0.00	0.00
18,200.00	90.00	179.60	10,049.00	-8,476.04	203.50	8,477.25	0.00	0.00	0.00
18,300.00	90.00	179.60	10,049.00	-8,576.03	204.21	8,577.25	0.00	0.00	0.00
18,400.00	90.00	179.60	10,049.00	-8,676.03	204.91	8,677.25	0.00	0.00	0.00
18,500.00	90.00	179.60	10,049.00	-8,776.03	205.62	8,777.25	0.00	0.00	0.00
18,600.00	90.00	179.60	10,049.00	-8,876.03	206.32	8,877.25	0.00	0.00	0.00
18,700.00	90.00	179.60	10,049.00	-8,976.02	207.02	8,977.25	0.00	0.00	0.00
18,800.00	90.00	179.60	10,049.00	-9,076.02	207.73	9,077.25	0.00	0.00	0.00
18,900.00	90.00	179.60	10,049.00	-9,176.02	208.43	9,177.25	0.00	0.00	0.00
19,000.00	90.00	179.60	10,049.00	-9,276.02	209.13	9,277.25	0.00	0.00	0.00
19,100.00	90.00	179.60	10,049.00	-9,376.01	209.84	9,377.25	0.00	0.00	0.00
19,200.00	90.00	179.60	10,049.00	-9,476.01	210.54	9,477.25	0.00	0.00	0.00
19,300.00	90.00	179.60	10,049.00	-9,576.01	211.25	9,577.25	0.00	0.00	0.00
19,400.00	90.00	179.60	10,049.00	-9,676.01	211.95	9,677.25	0.00	0.00	0.00
19,500.00	90.00	179.60	10,049.00	-9,776.00	212.65	9,777.25	0.00	0.00	0.00
19,600.00	90.00	179.60	10,049.00	-9,876.00	213.36	9,877.25	0.00	0.00	0.00
19,700.00	90.00	179.60	10,049.00	-9,976.00	214.06	9,977.25	0.00	0.00	0.00
19,800.00	90.00	179.60	10,049.00	-10,076.00	214.76	10,077.25	0.00	0.00	0.00
19,900.00	90.00	179.60	10,049.00	-10,175.99	215.47	10,177.25	0.00	0.00	0.00
20,000.00	90.00	179.60	10,049.00	-10,275.99	216.17	10,277.25	0.00	0.00	0.00



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #905H
Company:	XTO Energy	TVD Reference:	GL @ 3070.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	GL @ 3070.00usft
Site:	Shanghai Rooster 22-27 Fed	North Reference:	Grid
Well:	#905H	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)
20,100.00	90.00	179.60	10,049.00	-10,375.99	216.87	10,377.25	0.00	0.00	0.00
20,200.00	90.00	179.60	10,049.00	-10,475.99	217.58	10,477.25	0.00	0.00	0.00
20,300.00	90.00	179.60	10,049.00	-10,575.98	218.28	10,577.25	0.00	0.00	0.00
20,343.12	90.00	179.60	10,049.00	-10,619.10	218.59	10,620.37	0.00	0.00	0.00
SR 22-27 #905H: LTP									
20,400.00	90.00	179.60	10,049.00	-10,675.98	218.99	10,677.25	0.00	0.00	0.00
20,473.12	90.00	179.60	10,049.00	-10,749.10	219.50	10,750.37	0.00	0.00	0.00
SR 22-27 #905H: PBHL (200' FSL/ 2310' FEL)									

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
SR 22-27 #905H: SHL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	408,854.70	612,115.50	32.123540	-103.971179
SR 22-27 #905H: LTF - plan misses target center by 0.09usft at 20343.12usft MD (10049.00 TVD, -10619.10 N, 218.59 E) - Point	0.00	0.00	10,049.00	-10,619.10	218.50	398,235.60	612,334.00	32.094346	-103.970589
SR 22-27 #905H: FTF - plan hits target center - Point	0.00	0.00	10,049.00	-659.40	148.50	408,195.30	612,264.00	32.121726	-103.970707
SR 22-27 #905H: PBH - plan hits target center - Point	0.00	0.00	10,049.00	-10,749.10	219.50	398,105.60	612,335.00	32.093989	-103.970587



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #905H
Company:	XTO Energy	TVD Reference:	GL @ 3070.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	GL @ 3070.00usft
Site:	Shanghai Rooster 22-27 Fed	North Reference:	Grid
Well:	#905H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
643.00	643.00	Rustler			
953.00	953.00	Salado (Top of Salt)			
2,946.00	2,946.00	Base of Salt			
3,136.00	3,136.00	Delaware (Bell Canyon)			
4,019.00	4,019.00	Cherry Canyon			
5,630.00	5,630.00	Brushy Canyon			
6,654.00	6,654.00	Basal Brushy Canyon			
6,896.00	6,896.00	Bone Spring Lime			
7,058.00	7,058.00	Upper Avalon Shale			
7,493.00	7,493.00	Lower Avalon Shale			
7,785.00	7,785.00	1st Bone Spring Lime			
7,837.00	7,837.00	1st Bone Spring Sand			
8,240.06	8,239.00	2nd Bone Spring Lime			
8,688.77	8,686.00	2nd Bone Spring Sand			
8,918.64	8,915.00	3rd Bone Spring Lime			
9,286.04	9,281.00	Harkey sand			
9,320.17	9,315.00	Upper 3rd Bone Spring Shale			
9,536.02	9,530.00	Lower 3rd Bone Spring Lime			
9,589.68	9,583.00	Lower 3rd Bone Spring Shale			
9,765.76	9,748.00	3rd Bone Spring Sand			
10,175.90	10,012.00	3rd Bone Spring Red Hills Sand			
10,383.17	10,049.00	Landing Point			

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO Energy, Inc.
LEASE NO.:	NMNM-014778
WELL NAME & NO.:	Shanghai Rooster 22-27 905H
SURFACE HOLE FOOTAGE:	0330' FSL & 2455' FEL
BOTTOM HOLE FOOTAGE:	0200' FSL & 2310' FEL Sec. 27, T.25 S., R.29 E.
LOCATION:	Section 15, T.25 S., R.29 E., NMPM
COUNTY:	Eddy County, New Mexico

COA

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

Possibility of water flows in the Salado and Castile.

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

A. HYDROGEN SULFIDE

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

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **928** feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.

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

2. The minimum required fill of cement behind the **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. 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. **Excess calculates to negative 15% - Additional cement will be required.**
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 **3000 (3M)** 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.

GENERAL REQUIREMENTS

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

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

☒ Eddy County

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

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
4. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
5. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
6. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

B. PRESSURE CONTROL

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

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer.
 - c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
 - d. The results of the test shall be reported to the appropriate BLM office.
 - e. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

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

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

JAM 06302020



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 H₂S, 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 H₂S 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
 - o Detection of H₂S, and
 - o Measures for protection against the gas,
 - o 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 (SO₂). 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 H₂S and SO₂

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H ₂ S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO ₂	2.21 Air = 1	2 ppm	N/A	1000 ppm

Contacting Authorities

XTO Energy, Inc. 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 Energy, Inc. 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

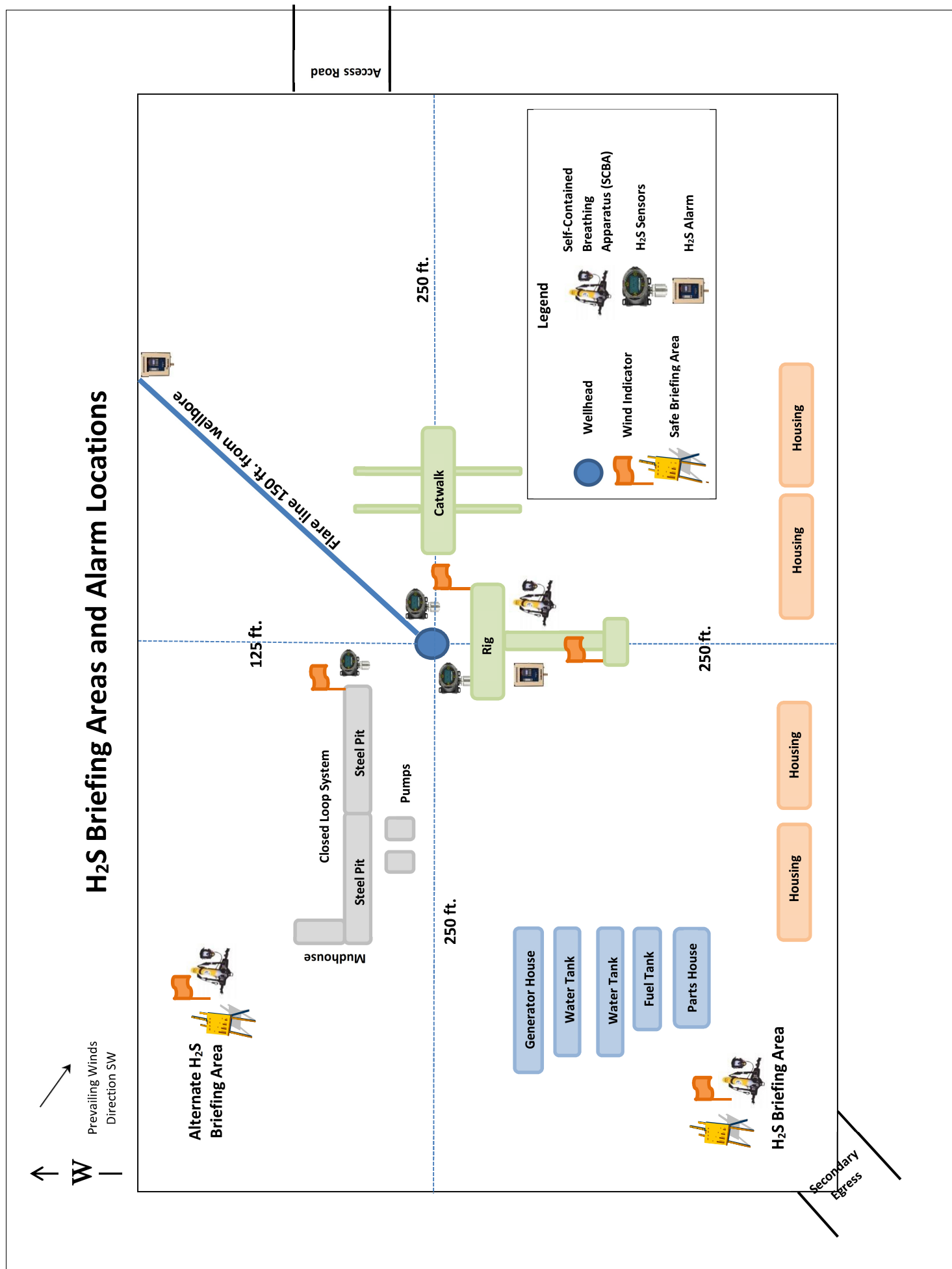
For Eddy County:

Bureau of Land Management - Carlsbad

575-234-5972

New Mexico Oil Conservation Division - Artesia

575-748-1283



Operator Name: XTO ENERGY INCORPORATED**Well Name:** SHANGHAI ROOSTER 22-27 FEDERAL**Well Number:** 905H

of in an approved sewage disposal facility. All state and local laws and regulations pertaining to the disposal of human and solid waste will be complied with. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL

Disposal type description:

Disposal location description: A licensed 3rd party contractor will be used to haul and dispose human waste

Waste type: DRILLING

Waste content description: Fluids

Amount of waste: 500 barrels

Waste disposal frequency : One Time Only

Safe containment description: Steel mud pits

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL

Disposal type description:

Disposal location description: R360 Environmental Solutions, 4507 W Carlsbad HWY, Hobbs, NM 88240, 575-393-1079

Waste type: DRILLING

Waste content description: Cuttings

Amount of waste: 2100 pounds

Waste disposal frequency : One Time Only

Safe containment description: The well will be drilled utilizing a closed-loop mud system. Drill cuttings will be held in roll-off style mud boxes and taken to a New Mexico Oil Conservation Division (NMOCD) approved disposal site.

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL

Disposal type description:

Disposal location description: R360 Environmental Solutions, 4507 W Carlsbad HWY, Hobbs, NM 88240, 575-393-1079

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

Reserve pit length (ft.) **Reserve pit width (ft.)**

Reserve pit depth (ft.) **Reserve pit volume (cu. yd.)**

Is at least 50% of the reserve pit in cut?

Operator Name: XTO ENERGY INCORPORATED**Well Name:** SHANGHAI ROOSTER 22-27 FEDERAL**Well Number:** 905H**Reserve pit liner****Reserve pit liner specifications and installation description**

Cuttings Area

Cuttings Area being used? NO**Are you storing cuttings on location?** YES**Description of cuttings location** Drill cuttings will be held in roll-off style mud boxes and taken to a New Mexico Oil Conservation Division (NMOCD) approved disposal site.**Cuttings area length (ft.)****Cuttings area width (ft.)****Cuttings area depth (ft.)****Cuttings area volume (cu. yd.)****Is at least 50% of the cuttings area in cut?****WCuttings area liner****Cuttings area liner specifications and installation description**

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO**Ancillary Facilities attachment:****Comments:**

Section 9 - Well Site Layout

Well Site Layout Diagram:

Shanghai_22_27_Fed_905H_Well_20200610083135.pdf

Shanghai_22_27_Fed_905H_RL_20200622084227.pdf

Comments: Multi-Well Pad

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance**Multiple Well Pad Name:** SHANGHAI 22-27**Multiple Well Pad Number:** 3**Recontouring attachment:**

Shanghai_22_27_Fed_Int_Rec_P1_20181227060215.pdf

Shanghai_22_27_Fed_Int_Rec_P2_20181227060224.pdf

Shanghai_22_27_Fed_Int_Rec_P3_20181227060233.pdf

Shanghai_22_27_Fed_Int_Rec_P4_20200610083210.pdf

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 Rd., Aztec, NM 87410
 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
 Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 152557

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 152557
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
kpickford	Notify OCD 24 hours prior to casing & cement	10/26/2022
kpickford	Will require a File As Drilled C-102 and a Directional Survey with the C-104	10/26/2022
kpickford	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	10/26/2022
kpickford	Cement is required to circulate on both surface and intermediate1 strings of casing	10/26/2022
kpickford	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	10/26/2022