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

5. Lease Serial No.
NMNM0002887D

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.
JAMES RANCH / NMNM 070965X

8. Lease Name and Well No.
JAMES RANCH UNIT DI 7 SAWTOOTH
901H

2. Name of Operator
XTO PERMIAN OPERATING LLC

9. API Well No.
30-015-50088

3a. Address
6401 Holiday Hill Road, Bldg 5, Midland, TX 79707

3b. Phone No. *(include area code)*
(432) 682-8873

10. Field and Pool, or Exploratory
~~GATUNA CANYON~~; BONE SPRING/null

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface LOT 4 / 210 FNL / 1150 FWL / LAT 32.340189 / LONG -103.82189
At proposed prod. zone LOT 2 / 2490 FNL / 330 FWL / LAT 32.304856 / LONG -103.824561

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 6/T23S/R31E/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)
150 feet

16. No of acres in lease
323.67

17. Spacing Unit dedicated to this well
399.9

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
30 feet

19. Proposed Depth
11031 feet / 23465 feet

20. BLM/BIA Bond No. in file
FED: COB000050

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3316 feet

22. Approximate date work will start*
03/01/2020

23. Estimated duration
60 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)	KELLY KARDOS / Ph: (432) 682-8873	10/16/2019

Title
Regulatory Coordinator

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575) 234-5959	11/06/2020

Title	Office
Assistant Field Manager Lands & Minerals	Carlsbad Field Office

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: 11/06/2020

(Continued on page 2)

*(Instructions on page 2)

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- 50088	40295	Los Medanos; Bone Spring	
[4] Property Code	[5] Property Name		[6] Well Number
333473	JAMES RANCH UNIT DI 7 SAWTOOTH		901H
[7] OGRID No.	[8] Operator Name		[9] Elevation
373075	XTO PERMIAN OPERATING, LLC		3,316'

[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
4	6	23 S	31 E		210	NORTH	1,150	WEST	EDDY

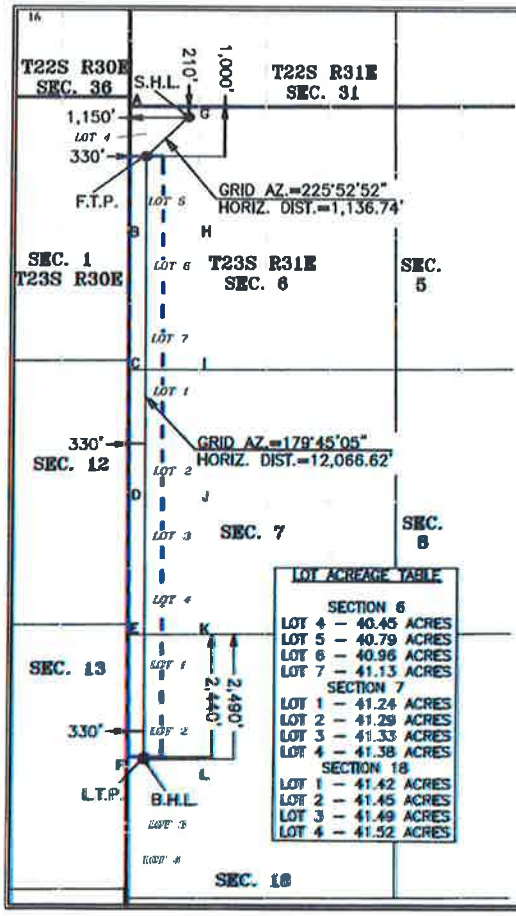
[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
2	18	23 S	31 E		2,490	NORTH	330	WEST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
~~494.45~~ 411.44			

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]



SHL (NAD83 NME)		LTP (NAD83 NME)	
Y =	487,869.8	Y =	475,062.0
X =	699,291.4	X =	698,527.5
LAT. =	32.340189 °N	LAT. =	32.304993 °N
LONG. =	103.821890 °W	LONG. =	103.824561 °W

FTP (NAD83 NME)		BHL (NAD83 NME)	
Y =	487,078.5	Y =	475,012.0
X =	698,475.4	X =	698,527.7
LAT. =	32.338024 °N	LAT. =	32.304856 °N
LONG. =	103.824545 °W	LONG. =	103.824561 °W

CORNER COORDINATES (NAD83 NME)

A	Y = 488,077.9 N	X = 698,141.0 E
B	Y = 485,439.9 N	X = 698,152.5 E
C	Y = 482,796.1 N	X = 698,163.6 E
D	Y = 480,152.5 N	X = 698,173.3 E
E	Y = 477,498.8 N	X = 698,186.6 E
F	Y = 474,872.2 N	X = 698,198.3 E
G	Y = 488,080.3 N	X = 699,478.5 E
H	Y = 485,443.7 N	X = 699,500.8 E
I	Y = 482,801.1 N	X = 699,522.9 E
J	Y = 480,158.2 N	X = 699,536.4 E
K	Y = 477,512.1 N	X = 699,551.6 E
L	Y = 474,878.3 N	X = 699,565.5 E

SHL (NAD27 NME)		LTP (NAD27 NME)	
Y =	487,809.6	Y =	475,002.1
X =	658,109.3	X =	657,344.9
LAT. =	32.340066 °N	LAT. =	32.304870 °N
LONG. =	103.821399 °W	LONG. =	103.824071 °W

FTP (NAD27 NME)		BHL (NAD27 NME)	
Y =	487,018.3	Y =	474,952.1
X =	657,293.2	X =	657,345.1
LAT. =	32.337901 °N	LAT. =	32.304732 °N
LONG. =	103.824054 °W	LONG. =	103.824071 °W

CORNER COORDINATES (NAD27 NME)

A	Y = 488,017.7 N	X = 656,958.9 E
B	Y = 485,379.8 N	X = 656,970.3 E
C	Y = 482,736.0 N	X = 656,981.3 E
D	Y = 480,092.5 N	X = 656,991.5 E
E	Y = 477,438.8 N	X = 657,004.1 E
F	Y = 474,812.3 N	X = 657,015.7 E
G	Y = 488,020.1 N	X = 658,296.4 E
H	Y = 485,383.5 N	X = 658,318.6 E
I	Y = 482,741.1 N	X = 658,340.6 E
J	Y = 480,098.2 N	X = 658,354.0 E
K	Y = 477,452.2 N	X = 658,369.2 E
L	Y = 474,818.0 N	X = 658,382.9 E

[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.

Stephanie Rabadue 10/10/2019
Signature Date

Stephanie Rabadue
Printed Name

stephanie_rabadue@xtoenergy.com
E-mail Address

[18] SURVEYOR CERTIFICATION

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

08-23-2019
Date of Survey

Signature and Seal of Professional Surveyor:

MARK DILLON HARP 23786
Certificate Number

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 Permian Operating LLC_____ **OGRID:** _____373075_____ **Date:** __10__/_18_/_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
James Ranch Unit DI 7 Sawtooth 110H		4-6-23S-31E	240'FNL & 1149'FEL	2000	3200	3500
James Ranch Unit DI 7 Sawtooth 111H		4-6-23S-31E	300'FNL & 1149'FWL	2000	3200	3500
James Ranch Unit DI 7 Sawtooth 112H		1-6-23S-31E	240'FNL & 400'FEL	2000	3200	3500
James Ranch Unit DI 7 Sawtooth 113H		1-6-23S-31E	300'FNL & 400'FEL	2000	3200	3500
James Ranch Unit DI 7 Sawtooth 901H		4-6-23S-31E	210'FNL & 1150'FWL	2000	3200	3500
James Ranch Unit DI 7 Sawtooth 902H		4-6-23S-31E	270'FNL & 1149' FWL	2000	3200	3500
James Ranch Unit DI 7 Sawtooth 903H		1-6-23S-31E	210'FNL & 400'FEl	2000	3200	3500
James Ranch Unit DI 7 Sawtooth 904H		1-6-23S-31E	270'FNL & 400'FEl	2000	3200	3500

IV. Central Delivery Point Name: ____JRU DI 7 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 Commencement Date	Initial Flow Back Date	First Production Date
James Ranch Unit DI 7 Sawtooth 110H		TBD	TBD	TBD	TBD	TBD
James Ranch Unit DI 7 Sawtooth 111H		TBD	TBD	TBD	TBD	TBD
James Ranch Unit DI 7 Sawtooth 112H		TBD	TBD	TBD	TBD	TBD
James Ranch Unit DI 7 Sawtooth 113H		TBD	TBD	TBD	TBD	TBD
James Ranch Unit DI 7 Sawtooth 901H		TBD	TBD	TBD	TBD	TBD
James Ranch Unit DI 7 Sawtooth 902H		TBD	TBD	TBD	TBD	TBD
James Ranch Unit DI 7 Sawtooth 903H		TBD	TBD	TBD	TBD	TBD
James Ranch Unit DI 7 Sawtooth 904H		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: Jessica Dooling
Printed Name: Jessica Dooling
Title: Lead Regulatory Coordinator
E-mail Address: Jessica.dooling@exxonmobil.com
Date: 10/18/2022
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.

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

Drilling Plan Data Report
11/05/2020

APD ID: 10400049542 **Submission Date:** 10/16/2019

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JAMES RANCH UNIT DI 7 SAWTOOTH **Well Number:** 901H

Well Type: OIL 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
563675	PERMIAN	3316	0	0	ALLUVIUM, OTHER : Quaternary	NONE	N
563666	RUSTLER	3009	307	307	SANDSTONE	USEABLE WATER	N
563667	TOP SALT	2559	757	757	SALT	POTASH	N
563668	BASE OF SALT	-420	3736	3736	SALT	POTASH	N
563670	DELAWARE	-659	3975	3975	MARL, SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
563664	BONE SPRING 1ST	-5564	8880	8880	SANDSTONE	NATURAL GAS, OTHER, POTASH : Produced Water	N
563665	BONE SPRING 2ND	-6491	9807	9807	SANDSTONE	NATURAL GAS, OIL, OTHER, POTASH : Produced Water	N
563678	BONE SPRING 3RD	-7349	10665	10665	SANDSTONE	NATURAL GAS, OIL, OTHER, POTASH : Produced Water	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M **Rating Depth:** 11031

Equipment: The blow out preventer equipment (BOP) on surface casing temporary wellhead will consist of a 21-1/4 minimum 2M Hydril. MASP should not exceed 1198 psi. Once the permanent WH is installed on the 13-3/8 casing, the blow out preventer equipment (BOP) will consist of a 13-5/8 minimum 5M Hydril and a 13-5/8 minimum 5M Double Ram BOP. MASP should not exceed 3412 psi.In any instance where 10M BOP is required by BLM, XTO requests a variance to utilize 5M annular with 10M ram preventers (a common BOP configuration, which allows use of 10M rams in unlikely event that pressures exceed 5M).
Requesting Variance? YES

Variance request: · XTO requests to not utilize centralizers in the curve and lateral · 18-5/8" Collapse analyzed using 75% evacuation. Casing to be filled while running. · 13-3/8" Collapse analyzed using 50% evacuation based on regional experience. · 9-5/8" Collapse analyzed using 33% evacuation based on regional experience. · 5-1/2" Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35 · Test on 2M Annular & Casing will be limited to 70% burst of the casing or 1500 psi, whichever is less. 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 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. Permanent Wellhead – GE RSH Multibowl System A. Starting Head: 13-5/8" 5M top flange x 11-3/4" SOW bottom B. Tubing Head: 13-5/8" 5M bottom flange x 7-1/16"

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JAMES RANCH UNIT DI 7 SAWTOOTH **Well Number:** 901H

10M top flange · Wellhead will be installed by manufacturer's representatives. · Manufacturer will monitor welding process to ensure appropriate temperature of seal. · Operator will test the 8-5/8" casing per BLM Onshore Order 2 · Wellhead Manufacturer representative will not be present for BOP test plug installation

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 13-3/8, 5M bradenhead and flange, the BOP test will be limited to 5M psi. When nippling up on the 9-5/8, the BOP will be tested to a minimum of 5M 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:

JRU_7_5MCM_20191015123414.pdf

JRU_7_2MCM_20191015123403.pdf

JRU_DI_7_10MCM_20191015123431.pdf

BOP Diagram Attachment:

JRU_7_2MBOP_20191015123447.pdf

JRU_7_5MBOP_20191015123500.pdf

JRU_DI_7_5M10MBOP_20191015123513.pdf

JRU_7_MBS5.5_20191015123530.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	24	18.625	NEW	API	N	0	732	0	732	3316	2584	732	H-40	87.5	ST&C	1.9	1.36	DRY	8.73	DRY	8.73
2	INTERMEDIATE	17.5	13.375	NEW	API	N	0	3925	0	3925	3316	-609	3925	J-55	68	ST&C	1.61	1.59	DRY	2.53	DRY	2.53
3	INTERMEDIATE	12.25	9.625	NEW	API	N	0	8372	0	8372	3316	-5056	8372	HCL-80	40	LT&C	2.42	1.69	DRY	2.17	DRY	2.17
4	PRODUCTION	8.75	5.5	NEW	API	N	0	23465	0	11031	3316	-7715	23465	P-110	17	BUTT	1.27	1.12	DRY	2.03	DRY	2.03

Casing Attachments

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JAMES RANCH UNIT DI 7 SAWTOOTH **Well Number:** 901H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

JRU_7_Sawtooth_901H_Csg_20191016103609.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

JRU_7_Sawtooth_901H_Csg_20191016103631.pdf

Casing ID: 3 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

JRU_7_Sawtooth_901H_Csg_20191016104228.pdf

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JAMES RANCH UNIT DI 7 SAWTOOTH **Well Number:** 901H

Casing Attachments

Casing ID: 4 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

JRU_7_Sawtooth_901H_Csg_20191016103707.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	732	570	1.87	12.9	1065.9	100	EconoCem-HLTRRC	none
SURFACE	Tail				550	1.35	14.8	742.5	100	Halcem-C	2% CaCl
INTERMEDIATE	Lead		0	3925	2690	1.87	12.9	5030.3	100	EconoCem-HLTRRC	none
INTERMEDIATE	Tail				300	1.35	14.8	405	100	HalCem-C	2% CaCl
INTERMEDIATE	Lead		3975	8372	1290	1.88	12.9	2425.19	100	HalCem-C	2% CaCl
INTERMEDIATE	Tail				230	1.33	14.6	305.9	100	HalCem-C	2% CaCl
INTERMEDIATE	Lead	3975	0	8372	1290	1.88	12.9	2425.19	100	Halcem-C	2% CaCl
INTERMEDIATE	Tail				230	1.33	14.8	305.9	100	Halcem-C	2% CaCl
PRODUCTION	Lead		7872	23641	2660	1.61	13.2	4282.6	30	VersaCem	none

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JAMES RANCH UNIT DI 7 SAWTOOTH **Well Number:** 901H

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 and 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
3925	8372	OTHER : FW/Cut Brine	8.7	9.4							A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system
0	732	OTHER : FW/Native	8.4	8.8							A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system
732	3925	OTHER : Brine	9.8	10.2							A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JAMES RANCH UNIT DI 7 SAWTOOTH **Well Number:** 901H

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
											as a closed loop system
8372	11031	OTHER : Cut Brine/Polymer	9.8	10.1							A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system

Section 6 - Test, Logging, Coring

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

Open hole logging will not be done on this well. 2-man mud logging unit below intermediate casing

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: 5871 **Anticipated Surface Pressure:** 3444

Anticipated Bottom Hole Temperature(F): 185

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

Describe:

Potential loss of circulation through the Capitan Reef.

Contingency Plans geoharzards description:

The necessary mud products for weight addition and fluid loss control will be on location at all times.A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system. Lost circulation could occur but is not expected to be a serious problem in this area and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid.

Contingency Plans geohazards attachment:

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JAMES RANCH UNIT DI 7 SAWTOOTH **Well Number:** 901H

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

JRU_7_H2S_Dia_20191015130223.pdf

JRU_7_H2S_Plan_20191015130210.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

JRU_7_Sawtooth_901H_DD_20191016105047.pdf

Other proposed operations facets description:

The surface fresh water sands will be protected by setting 18-5/8" inch casing @ 732' (25' above the salt) and circulating cement back to surface. The salt will be isolated by setting 13-3/8 inch casing at 3925' and circulating cement to surface. The second intermediate will isolate from the salt down to the next casing seat by setting 9-5/8 inch casing at 8372' and cemented back into the 13-3/8 inch casing shoe. A 8-3/4" inch curve and lateral hole will be drilled to MD/TD and 5-1/2 inch casing will be set at TD and cemented back up to 2nd intermediate (estimated TOC 7872 feet) per Potash regulations.

Other proposed operations facets attachment:

JRU_7_GCP_20191015130302.pdf

Other Variance attachment:

JRU_7_FH_20191015130318.pdf

JRU_7_WWC_20191015130332.pdf

Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
24"	0' – 732'	18-5/8"	87.5	STC	H-40	New	1.36	1.90	8.73
17-1/2"	0' – 3925'	13-3/8"	68	STC	J-55	New	1.59	1.61	2.53
12-1/4"	0' – 8372'	9-5/8"	40	LTC	HCL-80	New	1.69	2.42	2.17
8-3/4"	0' – 23465'	5-1/2"	17	BTC	P-110	New	1.12	1.27	2.03

XTO requests to not utilize centralizers in the curve and lateral
18-5/8" Collapse analyzed using 75% evacuation. Casing to be filled while running.
13-3/8" Collapse analyzed using 50% evacuation based on regional experience.
9-5/8" Collapse analyzed using 33% evacuation based on regional experience.
5-1/2" Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35
Test on 2M Annular & Casing will be limited to 70% burst of the casing or 1500 psi, whichever is less

Wellhead:

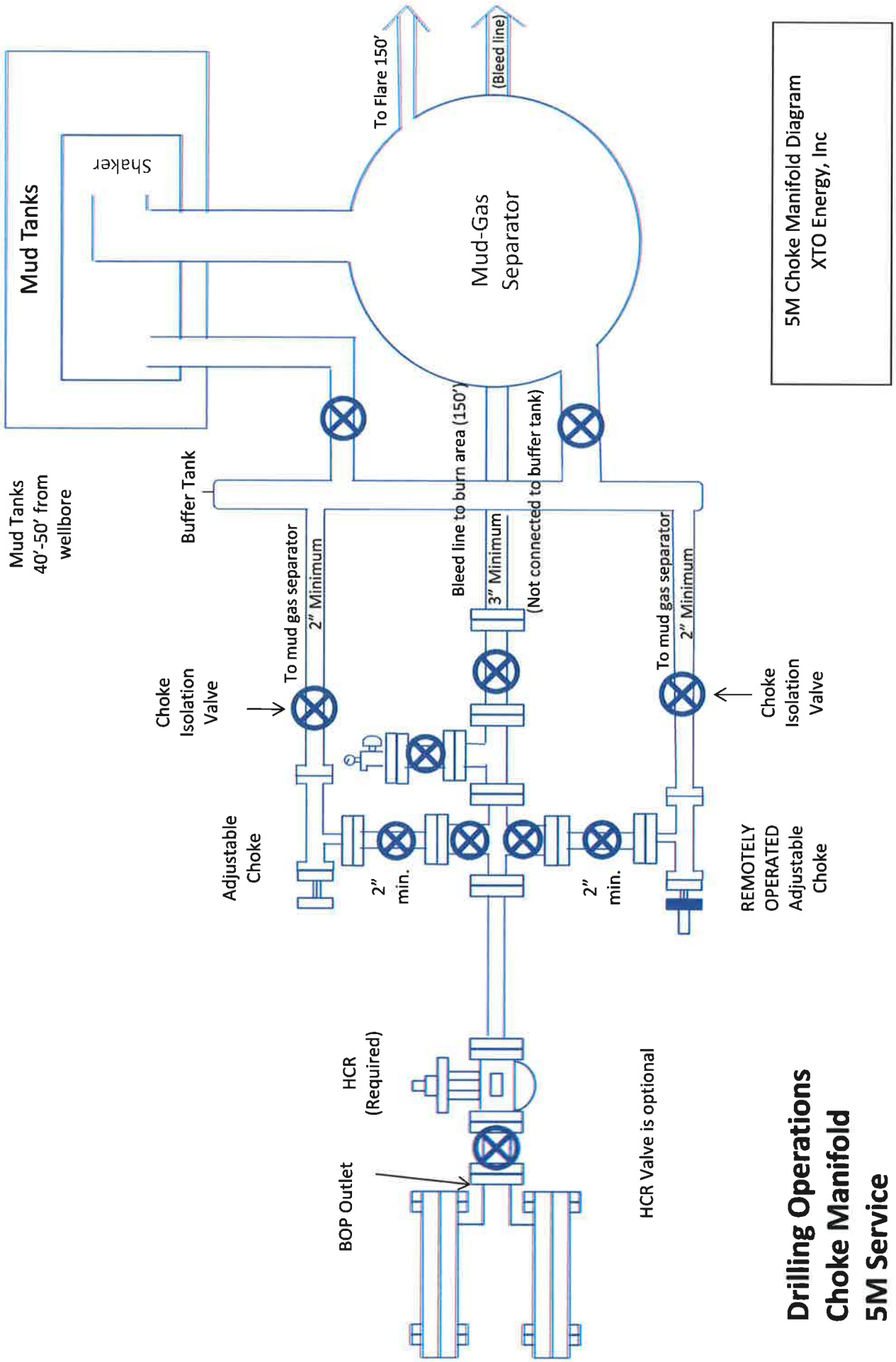
Temporary Wellhead

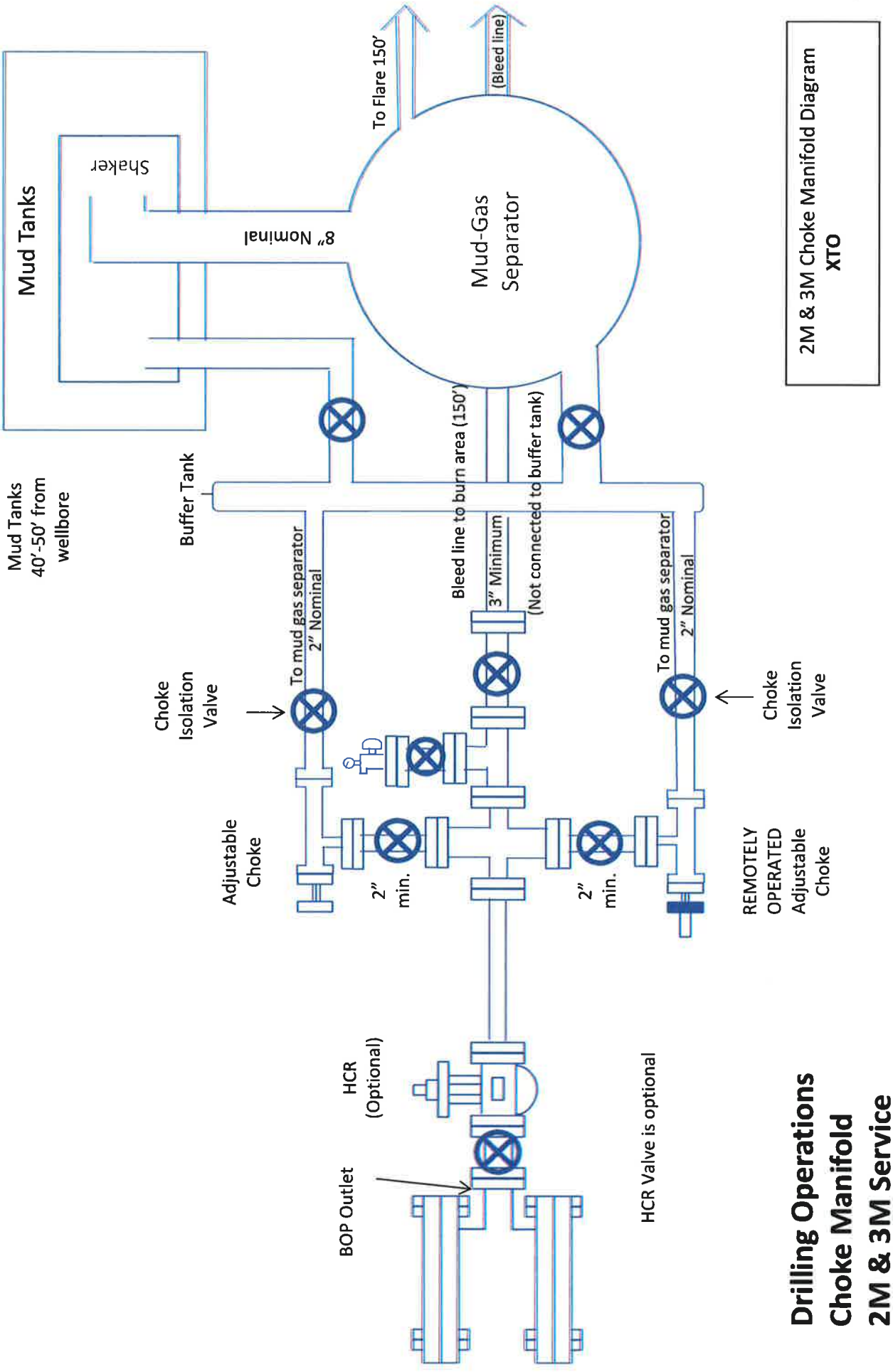
18-5/8" SOW bottom x 21-1/4" 2M top flange.

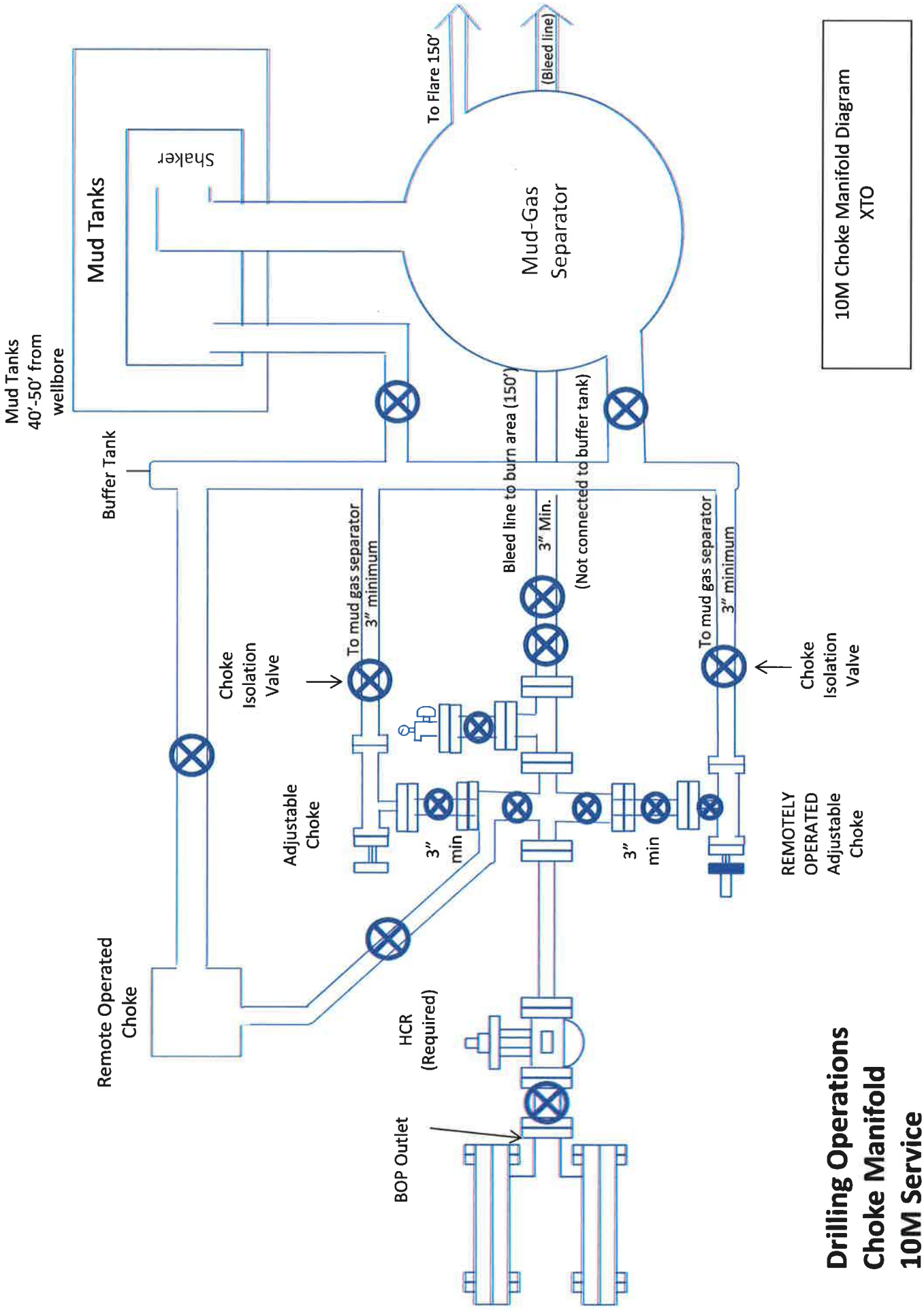
Permanent Wellhead – GE RSH Multibowl System

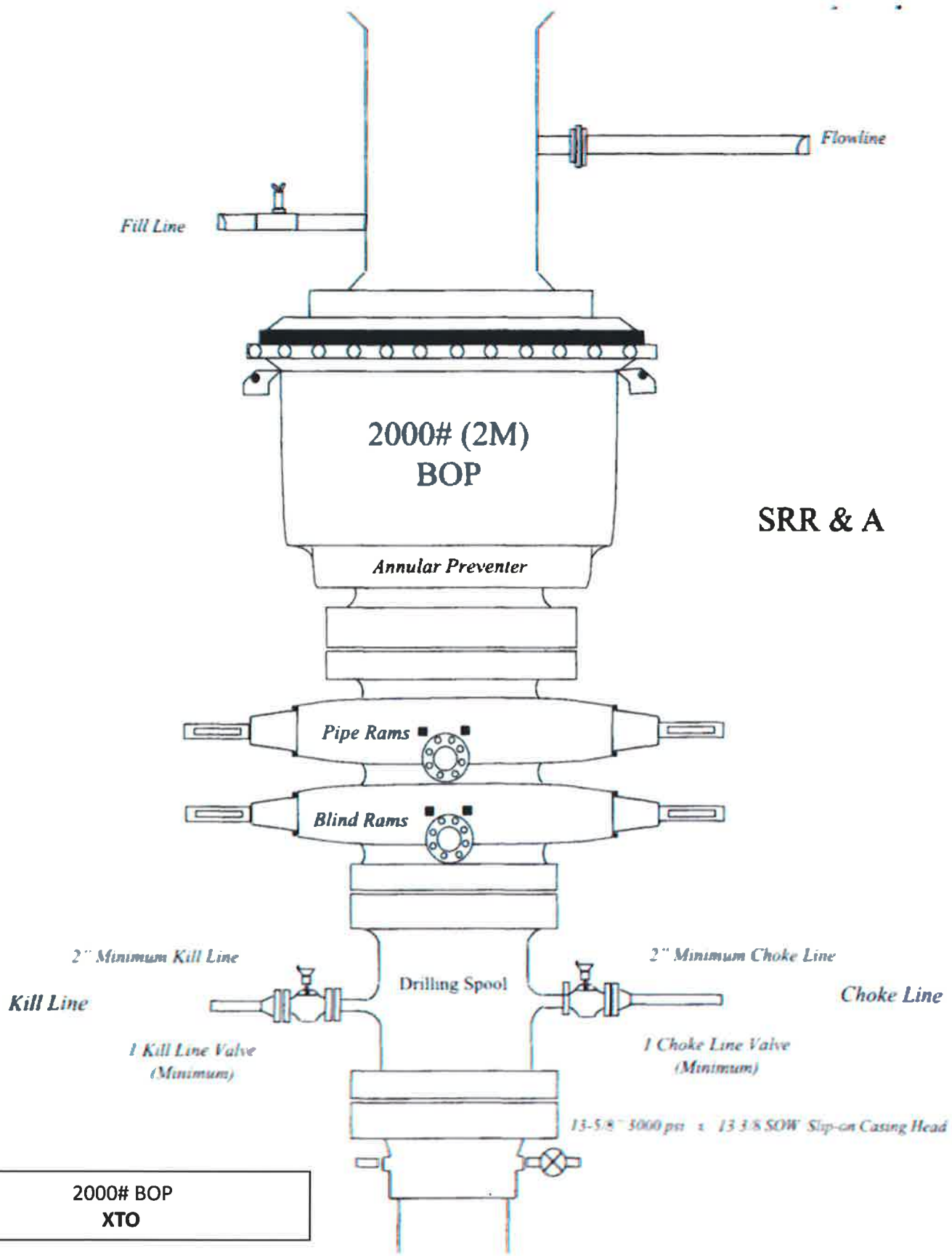
A. Starting Head: 13-5/8" 5M top flange x 13-3/8" SOW bottom
B. Tubing Head: 13-5/8" 5M bottom flange x 7-1/16" 10M top flange

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


5M Choke Manifold Diagram
XTO Energy, Inc
Mud Tanks
Shaker
Mud-Gas Separator
To Flare 150'
(Bleed line)
Mud Tanks 40'-50' from wellbore
Buffer Tank
Bleed line to burn area (150')
(Not connected to buffer tank)
To mud gas separator
2" Minimum
3" Minimum
Choke Isolation Valve
Adjustable Choke
2" min.
REMOTELY OPERATED Adjustable Choke
HCR (Required)
BOP Outlet
HCR Valve is optional
Drilling Operations
Choke Manifold
5M Service

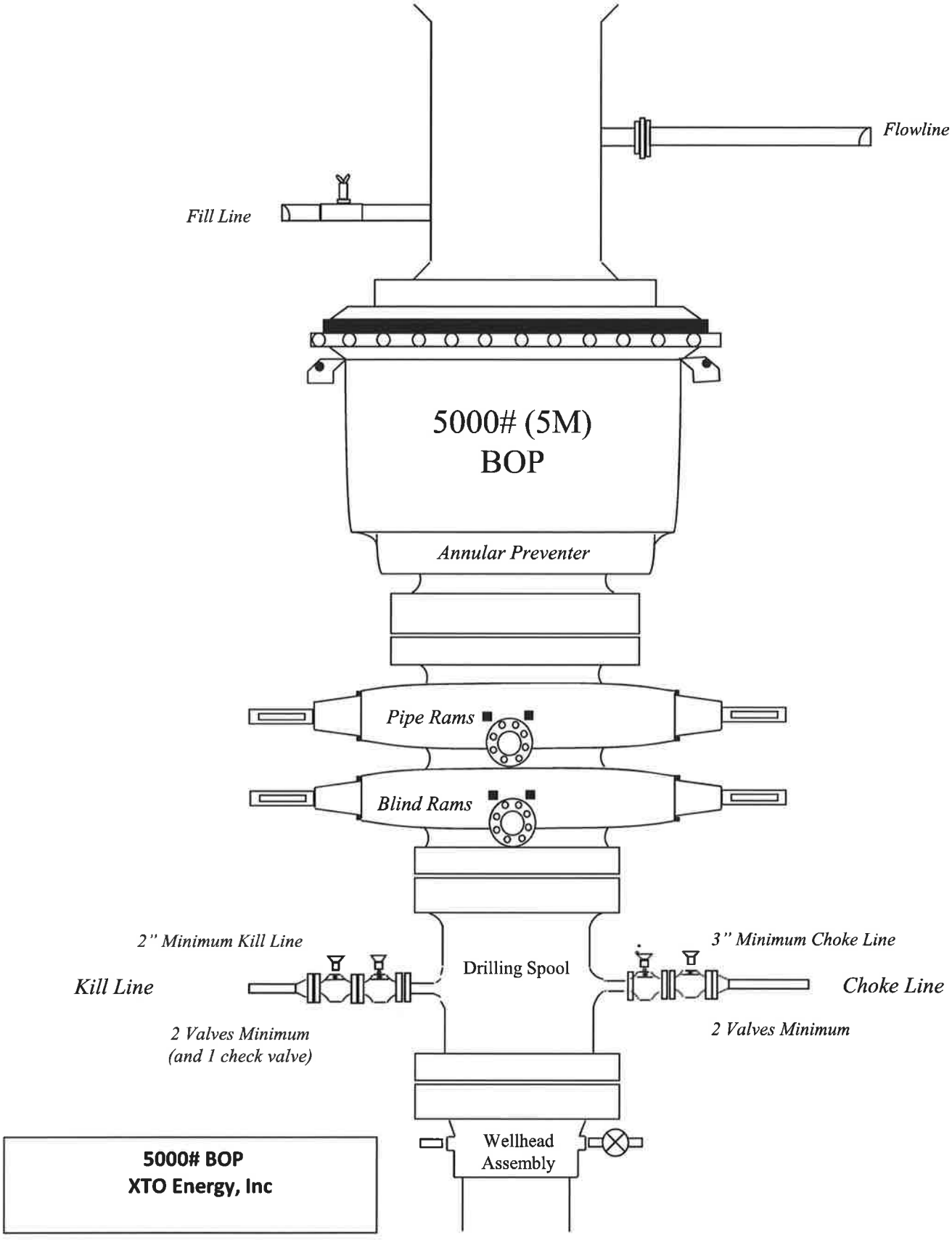

Drilling Operations
Choke Manifold
2M & 3M Service
2M & 3M Choke Manifold Diagram
XTO
Mud Tanks
Shaker
8" Nominal
Mud-Gas Separator
To Flare 150'
(Bleed line)
Mud Tanks 40'-50' from wellbore
Buffer Tank
Bleed line to burn area (150')
3" Minimum
(Not connected to buffer tank)
To mud gas separator
2" Nominal
Choke Isolation Valve
Adjustable Choke
2" min.
REMOTELY OPERATED Adjustable Choke
HCR (Optional)
BOP Outlet
HCR Valve is optional

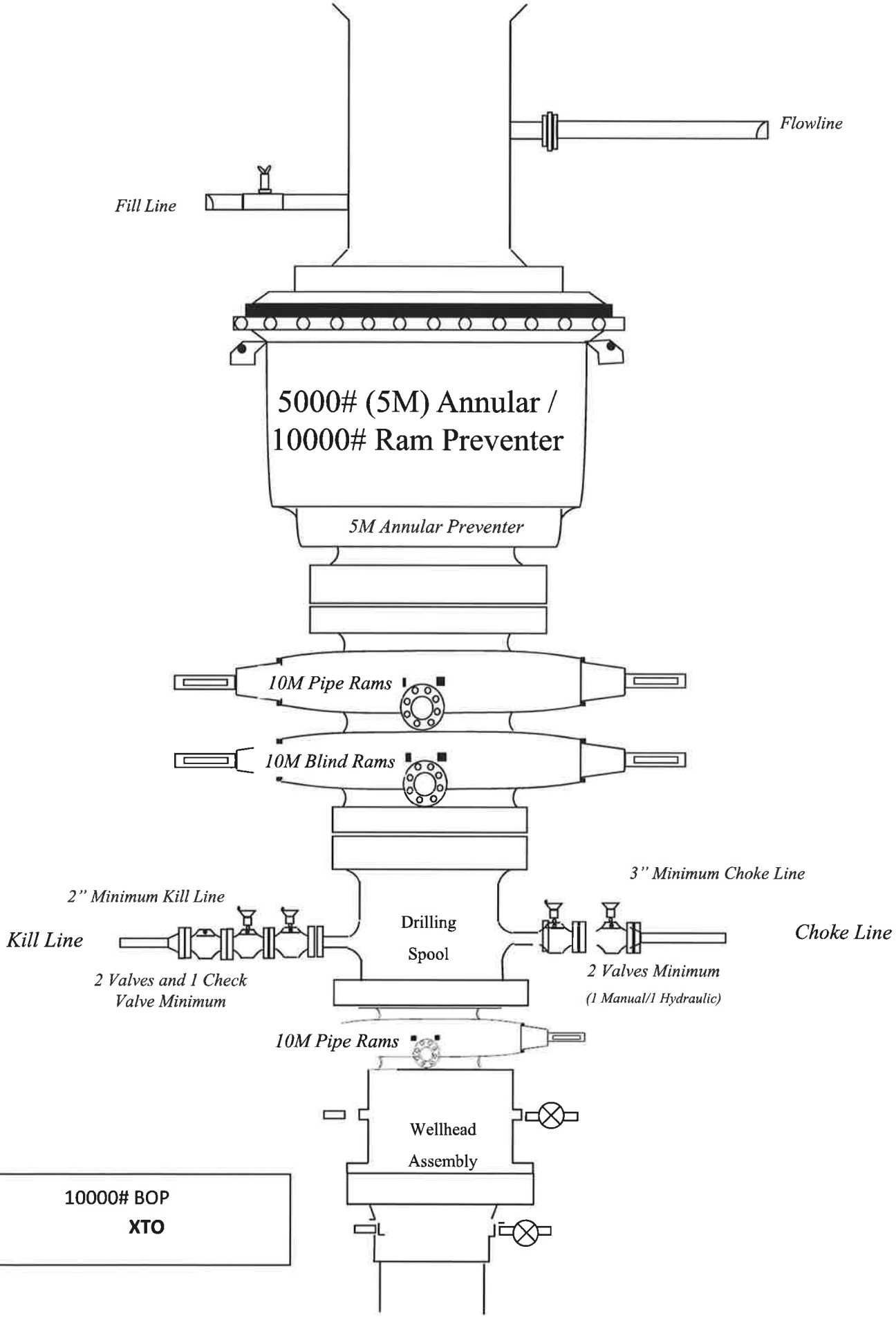

Mud Tanks
40'-50' from wellbore
Mud Tanks
Shaker
Mud-Gas Separator
To Flare 150'
(Bleed line)
10M Choke Manifold Diagram
XTO
Buffer Tank
Bleed line to burn area (150')
3" Min.
(Not connected to buffer tank)
To mud gas separator
3" minimum
To mud gas separator
3" minimum
Choke Isolation Valve
Choke Isolation Valve
Adjustable Choke
3" min
3" min
REMOTELY OPERATED Adjustable Choke
Remote Operated Choke
HCR (Required)
BOP Outlet
Drilling Operations
Choke Manifold
10M Service



SRR & A

2000# BOP
XTO


Flowline
Fill Line
5000# (5M)
BOP
Annular Preventer
Pipe Rams
Blind Rams
2" Minimum Kill Line
3" Minimum Choke Line
Kill Line
Drilling Spool
Choke Line
2 Valves Minimum
(and 1 check valve)
2 Valves Minimum
Wellhead
Assembly
5000# BOP
XTO Energy, Inc


Flowline
Fill Line
5000# (5M) Annular /
10000# Ram Preventer
5M Annular Preventer
10M Pipe Rams
10M Blind Rams
3" Minimum Choke Line
2" Minimum Kill Line
Kill Line
Drilling
Spool
Choke Line
2 Valves and 1 Check
Valve Minimum
2 Valves Minimum
(1 Manual/1 Hydraulic)
10M Pipe Rams
Wellhead
Assembly
10000# BOP
XTO

10,000 PSI Annular BOP Variance Request

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

1. Component and Preventer Compatibility Tables

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

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

2. Well Control Procedures

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

General Procedure While Drilling

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

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

General Procedure While Tripping

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

General Procedure While Running Production Casing

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

General Procedure With No Pipe In Hole (Open Hole)

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

General Procedures While Pulling BHA Through Stack

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

ii. Pit gain
iii. Time

h. Regroup and identify forward plan

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

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

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

GRADE D PRESSURE TEST CERTIFICATE

Customer :	AUSTIN DISTRIBUTING	Test Date:	6/8/2014
Customer Ref. :	PENDING	Hose Serial No.:	D-060814-1
Invoice No. :	201709	Created By:	NORMA

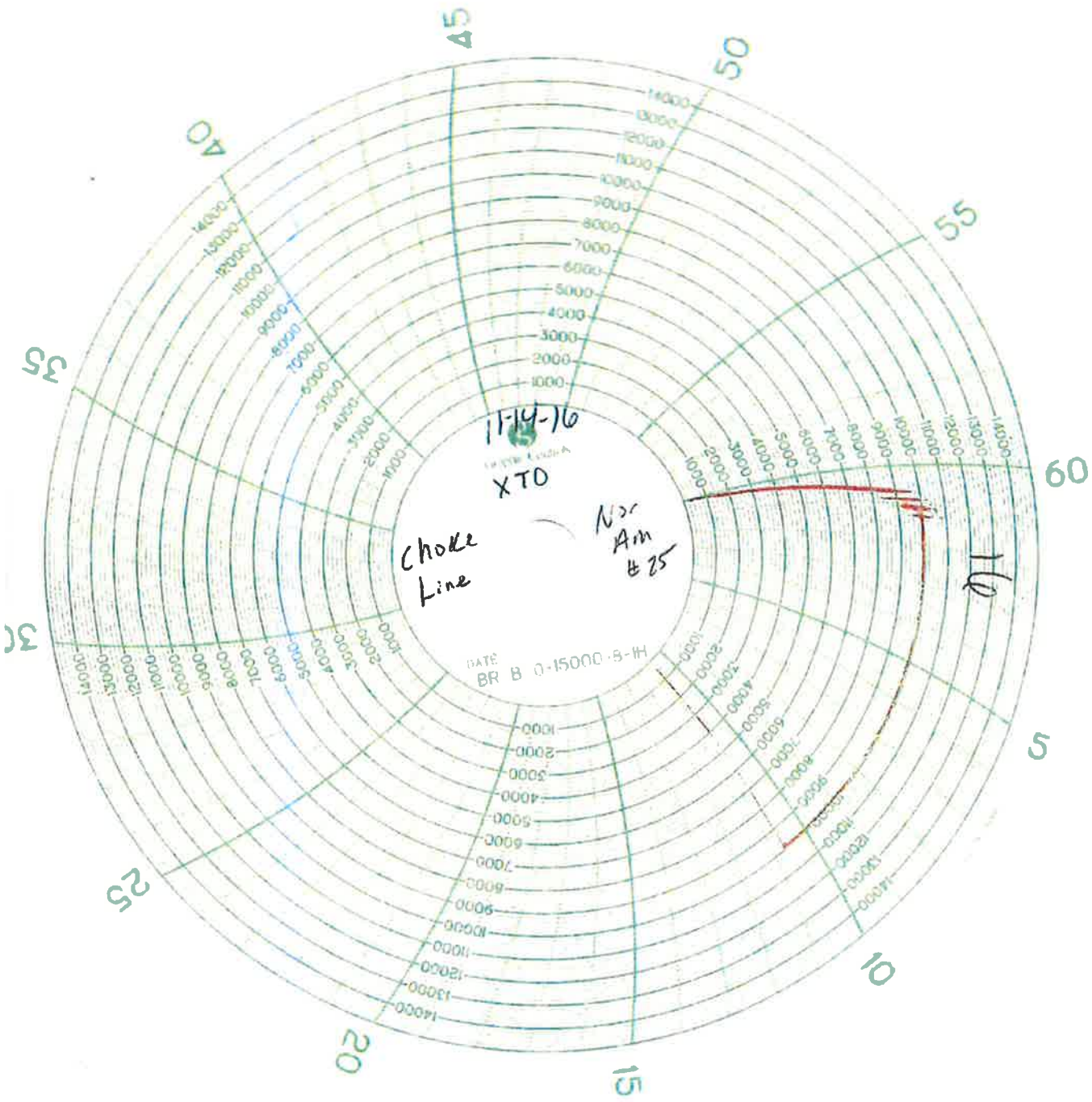
Product Description: FD3.042.0R41/16.5KFLGE/E LE

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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XTO
Choke Line
Nor Am #25
DATE
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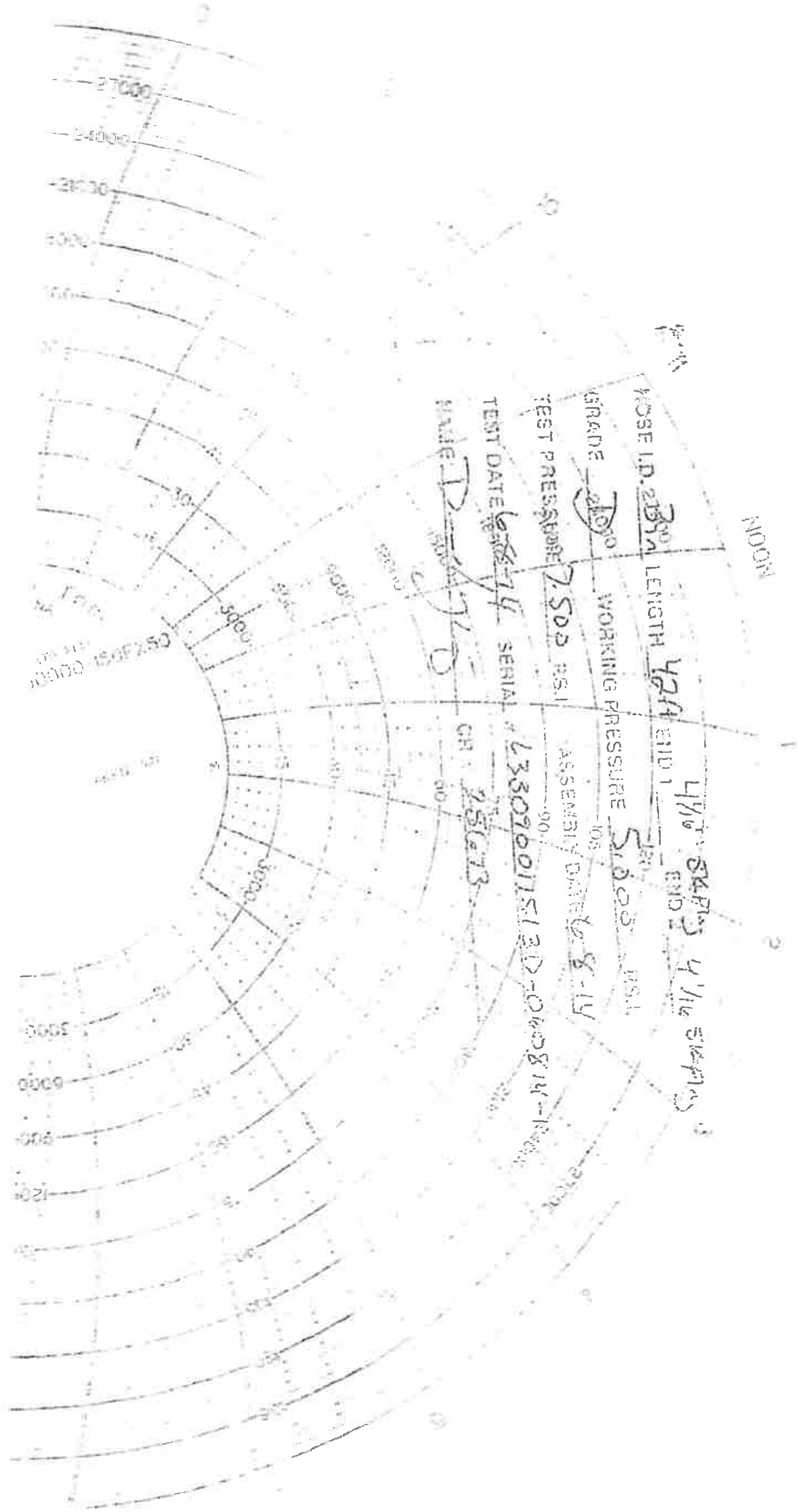
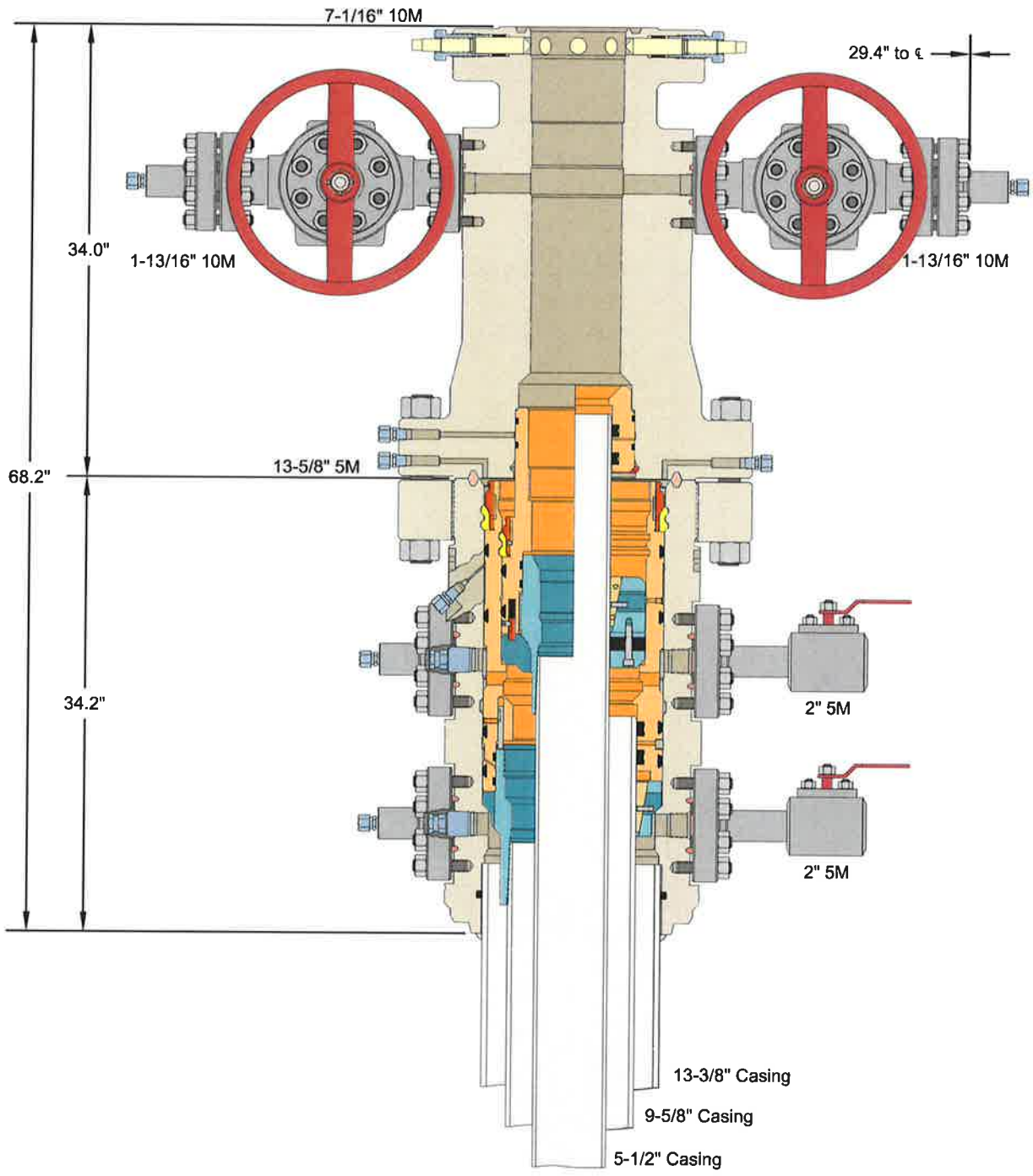

NOON
HOSE I.D. LENGTH END 1 END 2
GRADE WORKING PRESSURE PSI
TEST PRESSURE 7,500 PSI ASSEMBLY DATE
TEST DATE SERIAL #
MADE CB

GE Oil & Gas



ALL DIMENSIONS ARE APPROXIMATE

XTO ENERGY, INC.

13-3/8" x 9-5/8" x 5-1/2" 10M RSH-2 Wellhead Assembly, With T-EBS-F Tubing Head

DRAWN	VJK	16FEB17
APPRV	KN	16FEB17

FOR REFERENCE ONLY
DRAWING NO. 10012842

XTO Energy

Eddy County, NM (NAD-27)
James Ranch Unit DI 7 Sawtooth
#901H

OH

Plan: PERMIT

Standard Planning Report

08 October, 2019

XTO ENERGY

Project: Eddy County, NM (NAD-27)
Site: James Ranch Unit DI 7 Sawtooth
Well: #901H
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: #901H

Rig Name:
RKB=25' @ 3341.00usft
Ground Level: 3316.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	487809.60	658109.30	32.340066	-103.821399

DESIGN TARGET DETAILS

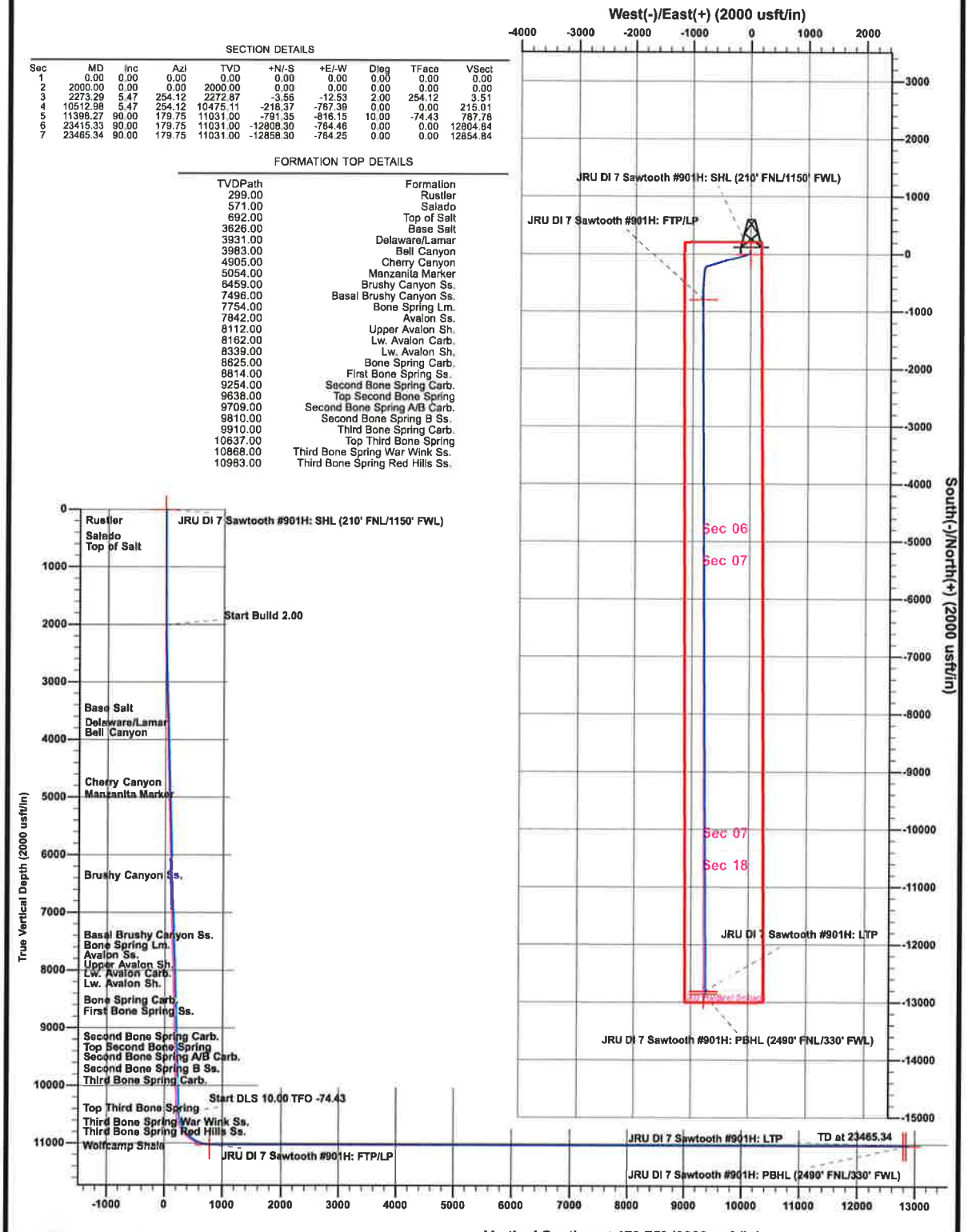
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
JRU DI 7 Sawtooth #901H: SHL (210' FNL/1150' FWL)	0.00	0.00	0.00	487809.60	658109.30	32.340066	-103.821399	Point
JRU DI 7 Sawtooth #901H: FTP/LP	11031.00	-791.35	-816.15	487018.30	657293.20	32.337901	-103.824054	Point
JRU DI 7 Sawtooth #901H: LTP	11031.00	-12808.30	-764.45	475002.10	657344.90	32.304870	-103.824071	Point
JRU DI 7 Sawtooth #901H: PBHL (2490' FNL/330' FWL)	11031.00	-12858.30	-764.25	474952.10	657345.10	32.304732	-103.824071	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	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00
3	2273.29	5.47	254.12	2272.87	-3.56	-12.53	2.00	254.12	3.51
4	10512.98	5.47	254.12	10475.11	-218.37	-767.39	0.00	0.00	215.01
5	11398.27	90.00	179.75	11031.00	-791.35	-816.15	10.00	-74.43	787.78
6	23415.33	90.00	179.75	11031.00	-12808.30	-764.46	0.00	0.00	12804.84
7	23465.34	90.00	179.75	11031.00	-12858.30	-764.25	0.00	0.00	12854.84

FORMATION TOP DETAILS

TVDPath	Formation
299.00	Rustler
571.00	Salado
692.00	Top of Salt
3626.00	Base Salt
3931.00	Delaware/Lamar
3983.00	Bell Canyon
4905.00	Cherry Canyon
5054.00	Manzanita Marker
6459.00	Brushy Canyon Ss.
7496.00	Basal Brushy Canyon Ss.
7754.00	Bone Spring Lm.
7842.00	Avalon Ss.
8112.00	Upper Avalon Sh.
8162.00	Lw. Avalon Carb.
8339.00	Lw. Avalon Sh.
8625.00	Bone Spring Carb.
8814.00	First Bone Spring Ss.
9254.00	Second Bone Spring Carb.
9638.00	Top Second Bone Spring
9709.00	Second Bone Spring A/B Carb.
9810.00	Second Bone Spring B Ss.
9910.00	Third Bone Spring Carb.
10637.00	Top Third Bone Spring
10868.00	Third Bone Spring War Wink Ss.
10983.00	Third Bone Spring Red Hills Ss.



Plan: PERMIT (#901H/OH)

Created By: Matthew May Date: 18:44, October 08 2019

XTO ENERGY

Prototype Well Planning LLC
Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well #901H
Company:	XTO Energy	**TVD Reference:**	RKB=25' @ 3341.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB=25' @ 3341.00usft
Site:	James Ranch Unit DI 7 Sawtooth	**North Reference:**	Grid
Well:	#901H	**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		Using geodetic scale factor

Site	James Ranch Unit DI 7 Sawtooth				
Site Position:		**Northing:**	487,779.70 usft	**Latitude:**	32.339984
From:	Map	**Easting:**	658,109.30 usft	**Longitude:**	-103.821400
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.27 °

Well	#901H				
Well Position	**+N/-S**	29.90 usft	**Northing:**	487,809.60 usft	**Latitude:**	32.340066
	+E/-W	0.00 usft	**Easting:**	658,109.30 usft	**Longitude:**	-103.821399
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	3,316.00 usft

Wellbore	OH			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2015	10/8/2019	6.83	60.10	47,744

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	179.75	

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	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,273.29	5.47	254.12	2,272.87	-3.56	-12.53	2.00	2.00	0.00	254.12	
10,512.98	5.47	254.12	10,475.11	-218.37	-767.39	0.00	0.00	0.00	0.00	
11,398.27	90.00	179.75	11,031.00	-791.35	-816.15	10.00	9.55	-8.40	-74.43	JRU DI 7 Sawtooth #9
23,415.33	90.00	179.75	11,031.00	-12,808.30	-764.46	0.00	0.00	0.00	0.00	JRU DI 7 Sawtooth #9
23,465.34	90.00	179.75	11,031.00	-12,858.30	-764.25	0.00	0.00	0.00	0.00	JRU DI 7 Sawtooth #9

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Site:	James Ranch Unit DI 7 Sawtooth	**North Reference:**	Grid
Well:	#901H	**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
299.00	0.00	0.00	299.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
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
571.00	0.00	0.00	571.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
692.00	0.00	0.00	692.00	0.00	0.00	0.00	0.00	0.00	0.00
Top of Salt									
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	2.00	254.12	2,099.98	-0.48	-1.68	0.47	2.00	2.00	0.00
2,200.00	4.00	254.12	2,199.84	-1.91	-6.71	1.88	2.00	2.00	0.00
2,273.29	5.47	254.12	2,272.87	-3.56	-12.53	3.51	2.00	2.00	0.00
2,300.00	5.47	254.12	2,299.46	-4.26	-14.98	4.20	0.00	0.00	0.00
2,400.00	5.47	254.12	2,399.01	-6.87	-24.14	6.76	0.00	0.00	0.00
2,500.00	5.47	254.12	2,498.55	-9.48	-33.30	9.33	0.00	0.00	0.00
2,600.00	5.47	254.12	2,598.10	-12.08	-42.46	11.90	0.00	0.00	0.00
2,700.00	5.47	254.12	2,697.65	-14.69	-51.62	14.46	0.00	0.00	0.00
2,800.00	5.47	254.12	2,797.19	-17.30	-60.78	17.03	0.00	0.00	0.00
2,900.00	5.47	254.12	2,896.74	-19.90	-69.94	19.60	0.00	0.00	0.00
3,000.00	5.47	254.12	2,996.28	-22.51	-79.10	22.16	0.00	0.00	0.00
3,100.00	5.47	254.12	3,095.83	-25.12	-88.27	24.73	0.00	0.00	0.00
3,200.00	5.47	254.12	3,195.37	-27.72	-97.43	27.30	0.00	0.00	0.00
3,300.00	5.47	254.12	3,294.92	-30.33	-106.59	29.86	0.00	0.00	0.00
3,400.00	5.47	254.12	3,394.46	-32.94	-115.75	32.43	0.00	0.00	0.00
3,500.00	5.47	254.12	3,494.01	-35.54	-124.91	35.00	0.00	0.00	0.00
3,600.00	5.47	254.12	3,593.55	-38.15	-134.07	37.57	0.00	0.00	0.00
3,632.59	5.47	254.12	3,626.00	-39.00	-137.06	38.40	0.00	0.00	0.00
Base Salt									
3,700.00	5.47	254.12	3,693.10	-40.76	-143.23	40.13	0.00	0.00	0.00
3,800.00	5.47	254.12	3,792.64	-43.36	-152.39	42.70	0.00	0.00	0.00
3,900.00	5.47	254.12	3,892.19	-45.97	-161.56	45.27	0.00	0.00	0.00
3,938.99	5.47	254.12	3,931.00	-46.99	-165.13	46.27	0.00	0.00	0.00
Delaware/Lamar									
3,991.23	5.47	254.12	3,983.00	-48.35	-169.91	47.61	0.00	0.00	0.00
Bell Canyon									

XTO ENERGY

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Site:	James Ranch Unit DI 7 Sawtooth	**North Reference:**	Grid
Well:	#901H	**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)
4,000.00	5.47	254.12	3,991.74	-48.58	-170.72	47.83	0.00	0.00	0.00
4,100.00	5.47	254.12	4,091.28	-51.19	-179.88	50.40	0.00	0.00	0.00
4,200.00	5.47	254.12	4,190.83	-53.79	-189.04	52.97	0.00	0.00	0.00
4,300.00	5.47	254.12	4,290.37	-56.40	-198.20	55.53	0.00	0.00	0.00
4,400.00	5.47	254.12	4,389.92	-59.01	-207.36	58.10	0.00	0.00	0.00
4,500.00	5.47	254.12	4,489.46	-61.61	-216.52	60.67	0.00	0.00	0.00
4,600.00	5.47	254.12	4,589.01	-64.22	-225.69	63.23	0.00	0.00	0.00
4,700.00	5.47	254.12	4,688.55	-66.83	-234.85	65.80	0.00	0.00	0.00
4,800.00	5.47	254.12	4,788.10	-69.43	-244.01	68.37	0.00	0.00	0.00
4,900.00	5.47	254.12	4,887.64	-72.04	-253.17	70.94	0.00	0.00	0.00
4,917.44	5.47	254.12	4,905.00	-72.50	-254.77	71.38	0.00	0.00	0.00
Cherry Canyon									
5,000.00	5.47	254.12	4,987.19	-74.65	-262.33	73.50	0.00	0.00	0.00
5,067.12	5.47	254.12	5,054.00	-76.40	-268.48	75.22	0.00	0.00	0.00
Manzanita Marker									
5,100.00	5.47	254.12	5,086.73	-77.25	-271.49	76.07	0.00	0.00	0.00
5,200.00	5.47	254.12	5,186.28	-79.86	-280.65	78.64	0.00	0.00	0.00
5,300.00	5.47	254.12	5,285.82	-82.47	-289.81	81.20	0.00	0.00	0.00
5,400.00	5.47	254.12	5,385.37	-85.08	-298.98	83.77	0.00	0.00	0.00
5,500.00	5.47	254.12	5,484.92	-87.68	-308.14	86.34	0.00	0.00	0.00
5,600.00	5.47	254.12	5,584.46	-90.29	-317.30	88.90	0.00	0.00	0.00
5,700.00	5.47	254.12	5,684.01	-92.90	-326.46	91.47	0.00	0.00	0.00
5,800.00	5.47	254.12	5,783.55	-95.50	-335.62	94.04	0.00	0.00	0.00
5,900.00	5.47	254.12	5,883.10	-98.11	-344.78	96.60	0.00	0.00	0.00
6,000.00	5.47	254.12	5,982.64	-100.72	-353.94	99.17	0.00	0.00	0.00
6,100.00	5.47	254.12	6,082.19	-103.32	-363.11	101.74	0.00	0.00	0.00
6,200.00	5.47	254.12	6,181.73	-105.93	-372.27	104.30	0.00	0.00	0.00
6,300.00	5.47	254.12	6,281.28	-108.54	-381.43	106.87	0.00	0.00	0.00
6,400.00	5.47	254.12	6,380.82	-111.14	-390.59	109.44	0.00	0.00	0.00
6,478.53	5.47	254.12	6,459.00	-113.19	-397.78	111.45	0.00	0.00	0.00
Brushy Canyon Ss.									
6,500.00	5.47	254.12	6,480.37	-113.75	-399.75	112.01	0.00	0.00	0.00
6,600.00	5.47	254.12	6,579.91	-116.36	-408.91	114.57	0.00	0.00	0.00
6,700.00	5.47	254.12	6,679.46	-118.96	-418.07	117.14	0.00	0.00	0.00
6,800.00	5.47	254.12	6,779.00	-121.57	-427.23	119.71	0.00	0.00	0.00
6,900.00	5.47	254.12	6,878.55	-124.18	-436.40	122.27	0.00	0.00	0.00
7,000.00	5.47	254.12	6,978.10	-126.79	-445.56	124.84	0.00	0.00	0.00
7,100.00	5.47	254.12	7,077.64	-129.39	-454.72	127.41	0.00	0.00	0.00
7,200.00	5.47	254.12	7,177.19	-132.00	-463.88	129.97	0.00	0.00	0.00
7,300.00	5.47	254.12	7,276.73	-134.61	-473.04	132.54	0.00	0.00	0.00
7,400.00	5.47	254.12	7,376.28	-137.21	-482.20	135.11	0.00	0.00	0.00
7,500.00	5.47	254.12	7,475.82	-139.82	-491.36	137.67	0.00	0.00	0.00
7,520.27	5.47	254.12	7,496.00	-140.35	-493.22	138.19	0.00	0.00	0.00
Basal Brushy Canyon Ss.									
7,600.00	5.47	254.12	7,575.37	-142.43	-500.53	140.24	0.00	0.00	0.00
7,700.00	5.47	254.12	7,674.91	-145.03	-509.69	142.81	0.00	0.00	0.00
7,779.45	5.47	254.12	7,754.00	-147.10	-516.97	144.85	0.00	0.00	0.00
Bone Spring Lm.									
7,800.00	5.47	254.12	7,774.46	-147.64	-518.85	145.38	0.00	0.00	0.00
7,867.85	5.47	254.12	7,842.00	-149.41	-525.06	147.12	0.00	0.00	0.00
Avalon Ss.									
7,900.00	5.47	254.12	7,874.00	-150.25	-528.01	147.94	0.00	0.00	0.00
8,000.00	5.47	254.12	7,973.55	-152.85	-537.17	150.51	0.00	0.00	0.00

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Design:	PERMIT		

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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)
8,100.00	5.47	254.12	8,073.09	-155.46	-546.33	153.08	0.00	0.00	0.00
8,139.08	5.47	254.12	8,112.00	-156.48	-549.91	154.08	0.00	0.00	0.00
Upper Avalon Sh.									
8,189.31	5.47	254.12	8,162.00	-157.79	-554.51	155.37	0.00	0.00	0.00
Lw. Avalon Carb.									
8,200.00	5.47	254.12	8,172.64	-158.07	-555.49	155.64	0.00	0.00	0.00
8,300.00	5.47	254.12	8,272.18	-160.68	-564.65	158.21	0.00	0.00	0.00
8,367.12	5.47	254.12	8,339.00	-162.42	-570.80	159.93	0.00	0.00	0.00
Lw. Avalon Sh.									
8,400.00	5.47	254.12	8,371.73	-163.28	-573.82	160.78	0.00	0.00	0.00
8,500.00	5.47	254.12	8,471.28	-165.89	-582.98	163.34	0.00	0.00	0.00
8,600.00	5.47	254.12	8,570.82	-168.50	-592.14	165.91	0.00	0.00	0.00
8,654.43	5.47	254.12	8,625.00	-169.91	-597.12	167.31	0.00	0.00	0.00
Bone Spring Carb.									
8,700.00	5.47	254.12	8,670.37	-171.10	-601.30	168.48	0.00	0.00	0.00
8,800.00	5.47	254.12	8,769.91	-173.71	-610.46	171.04	0.00	0.00	0.00
8,844.29	5.47	254.12	8,814.00	-174.86	-614.52	172.18	0.00	0.00	0.00
First Bone Spring Ss.									
8,900.00	5.47	254.12	8,869.46	-176.32	-619.62	173.61	0.00	0.00	0.00
9,000.00	5.47	254.12	8,969.00	-178.92	-628.78	176.18	0.00	0.00	0.00
9,100.00	5.47	254.12	9,068.55	-181.53	-637.95	178.75	0.00	0.00	0.00
9,200.00	5.47	254.12	9,168.09	-184.14	-647.11	181.31	0.00	0.00	0.00
9,286.30	5.47	254.12	9,254.00	-186.39	-655.01	183.53	0.00	0.00	0.00
Second Bone Spring Carb.									
9,300.00	5.47	254.12	9,267.64	-186.74	-656.27	183.88	0.00	0.00	0.00
9,400.00	5.47	254.12	9,367.18	-189.35	-665.43	186.45	0.00	0.00	0.00
9,500.00	5.47	254.12	9,466.73	-191.96	-674.59	189.01	0.00	0.00	0.00
9,600.00	5.47	254.12	9,566.27	-194.56	-683.75	191.58	0.00	0.00	0.00
9,672.05	5.47	254.12	9,638.00	-196.44	-690.35	193.43	0.00	0.00	0.00
Top Second Bone Spring									
9,700.00	5.47	254.12	9,665.82	-197.17	-692.91	194.15	0.00	0.00	0.00
9,743.38	5.47	254.12	9,709.00	-198.30	-696.89	195.26	0.00	0.00	0.00
Second Bone Spring A/B Carb.									
9,800.00	5.47	254.12	9,765.36	-199.78	-702.07	196.71	0.00	0.00	0.00
9,844.84	5.47	254.12	9,810.00	-200.95	-706.18	197.86	0.00	0.00	0.00
Second Bone Spring B Ss.									
9,900.00	5.47	254.12	9,864.91	-202.39	-711.24	199.28	0.00	0.00	0.00
9,945.30	5.47	254.12	9,910.00	-203.57	-715.39	200.44	0.00	0.00	0.00
Third Bone Spring Carb.									
10,000.00	5.47	254.12	9,964.46	-204.99	-720.40	201.85	0.00	0.00	0.00
10,100.00	5.47	254.12	10,064.00	-207.60	-729.56	204.41	0.00	0.00	0.00
10,200.00	5.47	254.12	10,163.55	-210.21	-738.72	206.98	0.00	0.00	0.00
10,300.00	5.47	254.12	10,263.09	-212.81	-747.88	209.55	0.00	0.00	0.00
10,400.00	5.47	254.12	10,362.64	-215.42	-757.04	212.11	0.00	0.00	0.00
10,500.00	5.47	254.12	10,462.18	-218.03	-766.20	214.68	0.00	0.00	0.00
10,512.98	5.47	254.12	10,475.11	-218.37	-767.39	215.01	0.00	0.00	0.00
10,550.00	7.38	225.14	10,511.90	-220.52	-770.77	217.16	10.00	5.16	-78.28
10,600.00	11.44	206.84	10,561.23	-227.22	-775.29	223.83	10.00	8.13	-36.61
10,650.00	16.04	198.45	10,609.79	-238.20	-779.72	234.80	10.00	9.20	-16.78
10,678.52	18.75	195.50	10,637.00	-246.36	-782.19	242.94	10.00	9.51	-10.33
Top Third Bone Spring									
10,700.00	20.82	193.78	10,657.21	-253.40	-784.02	249.97	10.00	9.62	-8.03

XTO ENERGY

Prototype Well Planning LLC

Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well #901H
Company:	XTO Energy	**TVD Reference:**	RKB=25' @ 3341.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB=25' @ 3341.00usft
Site:	James Ranch Unit DI 7 Sawtooth	**North Reference:**	Grid
Well:	#901H	**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)
10,750.00	25.68	190.80	10,703.14	-272.68	-788.17	269.24	10.00	9.72	-5.95
10,800.00	30.59	188.72	10,747.22	-295.91	-792.13	292.45	10.00	9.81	-4.16
10,850.00	35.51	187.17	10,789.12	-322.91	-795.88	319.44	10.00	9.86	-3.10
10,900.00	40.46	185.96	10,828.51	-353.47	-799.38	349.98	10.00	9.89	-2.43
10,950.00	45.41	184.96	10,865.11	-387.37	-802.60	383.86	10.00	9.91	-1.98
10,954.14	45.82	184.89	10,868.00	-390.31	-802.86	386.81	10.00	9.92	-1.80
Third Bone Spring War Wink Ss.									
11,000.00	50.37	184.13	10,898.62	-424.34	-805.53	420.82	10.00	9.92	-1.66
11,050.00	55.34	183.41	10,928.80	-464.09	-808.14	460.56	10.00	9.93	-1.45
11,100.00	60.31	182.76	10,955.42	-506.34	-810.41	502.80	10.00	9.94	-1.28
11,150.00	65.28	182.18	10,978.27	-550.75	-812.33	547.21	10.00	9.95	-1.16
11,161.57	66.44	182.06	10,983.00	-561.30	-812.72	557.75	10.00	9.95	-1.10
Third Bone Spring Red Hills Ss.									
11,200.00	70.26	181.65	10,997.18	-597.00	-813.87	593.44	10.00	9.95	-1.06
11,250.00	75.24	181.14	11,012.00	-644.72	-815.03	641.16	10.00	9.95	-1.01
11,300.00	80.21	180.66	11,022.63	-693.56	-815.80	689.99	10.00	9.96	-0.96
11,350.00	85.19	180.20	11,028.98	-743.13	-816.17	739.57	10.00	9.96	-0.93
11,398.27	90.00	179.75	11,031.00	-791.35	-816.15	787.78	10.00	9.96	-0.92
11,400.00	90.00	179.75	11,031.00	-793.08	-816.14	789.51	0.00	0.00	0.00
11,500.00	90.00	179.75	11,031.00	-893.08	-815.71	889.51	0.00	0.00	0.00
11,600.00	90.00	179.75	11,031.00	-993.07	-815.28	989.51	0.00	0.00	0.00
11,700.00	90.00	179.75	11,031.00	-1,093.07	-814.85	1,089.51	0.00	0.00	0.00
11,800.00	90.00	179.75	11,031.00	-1,193.07	-814.42	1,189.51	0.00	0.00	0.00
11,900.00	90.00	179.75	11,031.00	-1,293.07	-813.99	1,289.51	0.00	0.00	0.00
12,000.00	90.00	179.75	11,031.00	-1,393.07	-813.56	1,389.51	0.00	0.00	0.00
12,100.00	90.00	179.75	11,031.00	-1,493.07	-813.13	1,489.51	0.00	0.00	0.00
12,200.00	90.00	179.75	11,031.00	-1,593.07	-812.70	1,589.51	0.00	0.00	0.00
12,300.00	90.00	179.75	11,031.00	-1,693.07	-812.27	1,689.51	0.00	0.00	0.00
12,400.00	90.00	179.75	11,031.00	-1,793.07	-811.84	1,789.51	0.00	0.00	0.00
12,500.00	90.00	179.75	11,031.00	-1,893.07	-811.41	1,889.51	0.00	0.00	0.00
12,600.00	90.00	179.75	11,031.00	-1,993.07	-810.98	1,989.51	0.00	0.00	0.00
12,700.00	90.00	179.75	11,031.00	-2,093.06	-810.55	2,089.51	0.00	0.00	0.00
12,800.00	90.00	179.75	11,031.00	-2,193.06	-810.12	2,189.51	0.00	0.00	0.00
12,900.00	90.00	179.75	11,031.00	-2,293.06	-809.69	2,289.51	0.00	0.00	0.00
13,000.00	90.00	179.75	11,031.00	-2,393.06	-809.26	2,389.51	0.00	0.00	0.00
13,100.00	90.00	179.75	11,031.00	-2,493.06	-808.83	2,489.51	0.00	0.00	0.00
13,200.00	90.00	179.75	11,031.00	-2,593.06	-808.40	2,589.51	0.00	0.00	0.00
13,300.00	90.00	179.75	11,031.00	-2,693.06	-807.97	2,689.51	0.00	0.00	0.00
13,400.00	90.00	179.75	11,031.00	-2,793.06	-807.54	2,789.51	0.00	0.00	0.00
13,500.00	90.00	179.75	11,031.00	-2,893.06	-807.11	2,889.51	0.00	0.00	0.00
13,600.00	90.00	179.75	11,031.00	-2,993.06	-806.68	2,989.51	0.00	0.00	0.00
13,700.00	90.00	179.75	11,031.00	-3,093.06	-806.25	3,089.51	0.00	0.00	0.00
13,800.00	90.00	179.75	11,031.00	-3,193.05	-805.82	3,189.51	0.00	0.00	0.00
13,900.00	90.00	179.75	11,031.00	-3,293.05	-805.39	3,289.51	0.00	0.00	0.00
14,000.00	90.00	179.75	11,031.00	-3,393.05	-804.96	3,389.51	0.00	0.00	0.00
14,100.00	90.00	179.75	11,031.00	-3,493.05	-804.53	3,489.51	0.00	0.00	0.00
14,200.00	90.00	179.75	11,031.00	-3,593.05	-804.10	3,589.51	0.00	0.00	0.00
14,300.00	90.00	179.75	11,031.00	-3,693.05	-803.67	3,689.51	0.00	0.00	0.00
14,400.00	90.00	179.75	11,031.00	-3,793.05	-803.24	3,789.51	0.00	0.00	0.00
14,500.00	90.00	179.75	11,031.00	-3,893.05	-802.81	3,889.51	0.00	0.00	0.00
14,600.00	90.00	179.75	11,031.00	-3,993.05	-802.38	3,989.51	0.00	0.00	0.00
14,700.00	90.00	179.75	11,031.00	-4,093.05	-801.95	4,089.51	0.00	0.00	0.00
14,800.00	90.00	179.75	11,031.00	-4,193.05	-801.52	4,189.51	0.00	0.00	0.00
14,900.00	90.00	179.75	11,031.00	-4,293.04	-801.09	4,289.51	0.00	0.00	0.00

XTO ENERGY

Prototype Well Planning LLC

Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well #901H
Company:	XTO Energy	**TVD Reference:**	RKB=25' @ 3341.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB=25' @ 3341.00usft
Site:	James Ranch Unit DI 7 Sawtooth	**North Reference:**	Grid
Well:	#901H	**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)
15,000.00	90.00	179.75	11,031.00	-4,393.04	-800.66	4,389.51	0.00	0.00	0.00
15,100.00	90.00	179.75	11,031.00	-4,493.04	-800.23	4,489.51	0.00	0.00	0.00
15,200.00	90.00	179.75	11,031.00	-4,593.04	-799.80	4,589.51	0.00	0.00	0.00
15,300.00	90.00	179.75	11,031.00	-4,693.04	-799.37	4,689.51	0.00	0.00	0.00
15,400.00	90.00	179.75	11,031.00	-4,793.04	-798.94	4,789.51	0.00	0.00	0.00
15,500.00	90.00	179.75	11,031.00	-4,893.04	-798.51	4,889.51	0.00	0.00	0.00
15,600.00	90.00	179.75	11,031.00	-4,993.04	-798.08	4,989.51	0.00	0.00	0.00
15,700.00	90.00	179.75	11,031.00	-5,093.04	-797.65	5,089.51	0.00	0.00	0.00
15,800.00	90.00	179.75	11,031.00	-5,193.04	-797.22	5,189.51	0.00	0.00	0.00
15,900.00	90.00	179.75	11,031.00	-5,293.04	-796.79	5,289.51	0.00	0.00	0.00
16,000.00	90.00	179.75	11,031.00	-5,393.03	-796.36	5,389.51	0.00	0.00	0.00
16,100.00	90.00	179.75	11,031.00	-5,493.03	-795.93	5,489.51	0.00	0.00	0.00
16,200.00	90.00	179.75	11,031.00	-5,593.03	-795.50	5,589.51	0.00	0.00	0.00
16,300.00	90.00	179.75	11,031.00	-5,693.03	-795.07	5,689.51	0.00	0.00	0.00
16,400.00	90.00	179.75	11,031.00	-5,793.03	-794.64	5,789.51	0.00	0.00	0.00
16,500.00	90.00	179.75	11,031.00	-5,893.03	-794.21	5,889.51	0.00	0.00	0.00
16,600.00	90.00	179.75	11,031.00	-5,993.03	-793.78	5,989.51	0.00	0.00	0.00
16,700.00	90.00	179.75	11,031.00	-6,093.03	-793.35	6,089.51	0.00	0.00	0.00
16,800.00	90.00	179.75	11,031.00	-6,193.03	-792.92	6,189.51	0.00	0.00	0.00
16,900.00	90.00	179.75	11,031.00	-6,293.03	-792.49	6,289.51	0.00	0.00	0.00
17,000.00	90.00	179.75	11,031.00	-6,393.03	-792.06	6,389.51	0.00	0.00	0.00
17,100.00	90.00	179.75	11,031.00	-6,493.02	-791.63	6,489.51	0.00	0.00	0.00
17,200.00	90.00	179.75	11,031.00	-6,593.02	-791.20	6,589.51	0.00	0.00	0.00
17,300.00	90.00	179.75	11,031.00	-6,693.02	-790.77	6,689.51	0.00	0.00	0.00
17,400.00	90.00	179.75	11,031.00	-6,793.02	-790.34	6,789.51	0.00	0.00	0.00
17,500.00	90.00	179.75	11,031.00	-6,893.02	-789.91	6,889.51	0.00	0.00	0.00
17,600.00	90.00	179.75	11,031.00	-6,993.02	-789.48	6,989.51	0.00	0.00	0.00
17,700.00	90.00	179.75	11,031.00	-7,093.02	-789.05	7,089.51	0.00	0.00	0.00
17,800.00	90.00	179.75	11,031.00	-7,193.02	-788.62	7,189.51	0.00	0.00	0.00
17,900.00	90.00	179.75	11,031.00	-7,293.02	-788.19	7,289.51	0.00	0.00	0.00
18,000.00	90.00	179.75	11,031.00	-7,393.02	-787.76	7,389.51	0.00	0.00	0.00
18,100.00	90.00	179.75	11,031.00	-7,493.01	-787.33	7,489.51	0.00	0.00	0.00
18,200.00	90.00	179.75	11,031.00	-7,593.01	-786.90	7,589.51	0.00	0.00	0.00
18,300.00	90.00	179.75	11,031.00	-7,693.01	-786.46	7,689.51	0.00	0.00	0.00
18,400.00	90.00	179.75	11,031.00	-7,793.01	-786.03	7,789.51	0.00	0.00	0.00
18,500.00	90.00	179.75	11,031.00	-7,893.01	-785.60	7,889.51	0.00	0.00	0.00
18,600.00	90.00	179.75	11,031.00	-7,993.01	-785.17	7,989.51	0.00	0.00	0.00
18,700.00	90.00	179.75	11,031.00	-8,093.01	-784.74	8,089.51	0.00	0.00	0.00
18,800.00	90.00	179.75	11,031.00	-8,193.01	-784.31	8,189.51	0.00	0.00	0.00
18,900.00	90.00	179.75	11,031.00	-8,293.01	-783.88	8,289.51	0.00	0.00	0.00
19,000.00	90.00	179.75	11,031.00	-8,393.01	-783.45	8,389.51	0.00	0.00	0.00
19,100.00	90.00	179.75	11,031.00	-8,493.01	-783.02	8,489.51	0.00	0.00	0.00
19,200.00	90.00	179.75	11,031.00	-8,593.00	-782.59	8,589.51	0.00	0.00	0.00
19,300.00	90.00	179.75	11,031.00	-8,693.00	-782.16	8,689.51	0.00	0.00	0.00
19,400.00	90.00	179.75	11,031.00	-8,793.00	-781.73	8,789.51	0.00	0.00	0.00
19,500.00	90.00	179.75	11,031.00	-8,893.00	-781.30	8,889.51	0.00	0.00	0.00
19,600.00	90.00	179.75	11,031.00	-8,993.00	-780.87	8,989.51	0.00	0.00	0.00
19,700.00	90.00	179.75	11,031.00	-9,093.00	-780.44	9,089.51	0.00	0.00	0.00
19,800.00	90.00	179.75	11,031.00	-9,193.00	-780.01	9,189.51	0.00	0.00	0.00
19,900.00	90.00	179.75	11,031.00	-9,293.00	-779.58	9,289.51	0.00	0.00	0.00
20,000.00	90.00	179.75	11,031.00	-9,393.00	-779.15	9,389.51	0.00	0.00	0.00
20,100.00	90.00	179.75	11,031.00	-9,493.00	-778.72	9,489.51	0.00	0.00	0.00
20,200.00	90.00	179.75	11,031.00	-9,593.00	-778.29	9,589.51	0.00	0.00	0.00
20,300.00	90.00	179.75	11,031.00	-9,692.99	-777.86	9,689.51	0.00	0.00	0.00

XTO ENERGY

Prototype Well Planning LLC

Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well #901H
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Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB=25' @ 3341.00usft
Site:	James Ranch Unit DI 7 Sawtooth	**North Reference:**	Grid
Well:	#901H	**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)
20,400.00	90.00	179.75	11,031.00	-9,792.99	-777.43	9,789.51	0.00	0.00	0.00
20,500.00	90.00	179.75	11,031.00	-9,892.99	-777.00	9,889.51	0.00	0.00	0.00
20,600.00	90.00	179.75	11,031.00	-9,992.99	-776.57	9,989.51	0.00	0.00	0.00
20,700.00	90.00	179.75	11,031.00	-10,092.99	-776.14	10,089.51	0.00	0.00	0.00
20,800.00	90.00	179.75	11,031.00	-10,192.99	-775.71	10,189.51	0.00	0.00	0.00
20,900.00	90.00	179.75	11,031.00	-10,292.99	-775.28	10,289.51	0.00	0.00	0.00
21,000.00	90.00	179.75	11,031.00	-10,392.99	-774.85	10,389.51	0.00	0.00	0.00
21,100.00	90.00	179.75	11,031.00	-10,492.99	-774.42	10,489.51	0.00	0.00	0.00
21,200.00	90.00	179.75	11,031.00	-10,592.99	-773.99	10,589.51	0.00	0.00	0.00
21,300.00	90.00	179.75	11,031.00	-10,692.99	-773.56	10,689.51	0.00	0.00	0.00
21,400.00	90.00	179.75	11,031.00	-10,792.98	-773.13	10,789.51	0.00	0.00	0.00
21,500.00	90.00	179.75	11,031.00	-10,892.98	-772.70	10,889.51	0.00	0.00	0.00
21,600.00	90.00	179.75	11,031.00	-10,992.98	-772.27	10,989.51	0.00	0.00	0.00
21,700.00	90.00	179.75	11,031.00	-11,092.98	-771.84	11,089.51	0.00	0.00	0.00
21,800.00	90.00	179.75	11,031.00	-11,192.98	-771.41	11,189.51	0.00	0.00	0.00
21,900.00	90.00	179.75	11,031.00	-11,292.98	-770.98	11,289.51	0.00	0.00	0.00
22,000.00	90.00	179.75	11,031.00	-11,392.98	-770.55	11,389.51	0.00	0.00	0.00
22,100.00	90.00	179.75	11,031.00	-11,492.98	-770.12	11,489.51	0.00	0.00	0.00
22,200.00	90.00	179.75	11,031.00	-11,592.98	-769.69	11,589.51	0.00	0.00	0.00
22,300.00	90.00	179.75	11,031.00	-11,692.98	-769.26	11,689.51	0.00	0.00	0.00
22,400.00	90.00	179.75	11,031.00	-11,792.98	-768.83	11,789.51	0.00	0.00	0.00
22,500.00	90.00	179.75	11,031.00	-11,892.97	-768.40	11,889.51	0.00	0.00	0.00
22,600.00	90.00	179.75	11,031.00	-11,992.97	-767.97	11,989.51	0.00	0.00	0.00
22,700.00	90.00	179.75	11,031.00	-12,092.97	-767.54	12,089.51	0.00	0.00	0.00
22,800.00	90.00	179.75	11,031.00	-12,192.97	-767.11	12,189.51	0.00	0.00	0.00
22,900.00	90.00	179.75	11,031.00	-12,292.97	-766.68	12,289.51	0.00	0.00	0.00
23,000.00	90.00	179.75	11,031.00	-12,392.97	-766.25	12,389.51	0.00	0.00	0.00
23,100.00	90.00	179.75	11,031.00	-12,492.97	-765.82	12,489.51	0.00	0.00	0.00
23,200.00	90.00	179.75	11,031.00	-12,592.97	-765.39	12,589.51	0.00	0.00	0.00
23,300.00	90.00	179.75	11,031.00	-12,692.97	-764.96	12,689.51	0.00	0.00	0.00
23,400.00	90.00	179.75	11,031.00	-12,792.97	-764.53	12,789.51	0.00	0.00	0.00
23,415.33	90.00	179.75	11,031.00	-12,808.30	-764.46	12,804.84	0.00	0.00	0.00
23,465.34	90.00	179.75	11,031.00	-12,858.30	-764.25	12,854.84	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
JRU DI 7 Sawtooth #901 - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	487,809.60	658,109.30	32.340066	-103.821399
JRU DI 7 Sawtooth #901 - plan hits target center - Point	0.00	0.00	11,031.00	-12,858.30	-764.25	474,952.10	657,345.10	32.304733	-103.824071
JRU DI 7 Sawtooth #901 - plan misses target center by 0.02usft at 23415.33usft MD (11031.00 TVD, -12808.30 N, -764.46 E) - Point	0.00	0.00	11,031.00	-12,808.30	-764.45	475,002.10	657,344.90	32.304870	-103.824071
JRU DI 7 Sawtooth #901 - plan hits target center - Point	0.00	0.00	11,031.00	-791.35	-816.15	487,018.30	657,293.20	32.337901	-103.824054

XTO ENERGY

Prototype Well Planning LLC
Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #901H
Company:	XTO Energy	TVD Reference:	RKB=25' @ 3341.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB=25' @ 3341.00usft
Site:	James Ranch Unit DI 7 Sawtooth	North Reference:	Grid
Well:	#901H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
299.00	299.00	Rustler			
571.00	571.00	Salado			
692.00	692.00	Top of Salt			
3,632.59	3,626.00	Base Salt			
3,938.99	3,931.00	Delaware/Lamar			
3,991.23	3,983.00	Bell Canyon			
4,917.44	4,905.00	Cherry Canyon			
5,067.12	5,054.00	Manzanita Marker			
6,478.53	6,459.00	Brushy Canyon Ss.			
7,520.27	7,496.00	Basal Brushy Canyon Ss.			
7,779.45	7,754.00	Bone Spring Lm.			
7,867.85	7,842.00	Avalon Ss.			
8,139.08	8,112.00	Upper Avalon Sh.			
8,189.31	8,162.00	Lw. Avalon Carb.			
8,367.12	8,339.00	Lw. Avalon Sh.			
8,654.43	8,625.00	Bone Spring Carb.			
8,844.29	8,814.00	First Bone Spring Ss.			
9,286.30	9,254.00	Second Bone Spring Carb.			
9,672.05	9,638.00	Top Second Bone Spring			
9,743.38	9,709.00	Second Bone Spring A/B Carb.			
9,844.84	9,810.00	Second Bone Spring B Ss.			
9,945.30	9,910.00	Third Bone Spring Carb.			
10,678.52	10,637.00	Top Third Bone Spring			
10,954.14	10,868.00	Third Bone Spring War Wink Ss.			
11,161.57	10,983.00	Third Bone Spring Red Hills Ss.			

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO Permian Operating LLC
WELL NAME & NO.:	James Ranch Unit DI 7 Sawtooth 901H
LOCATION:	Sec 6 / 23S / 31E / NMP
COUNTY:	Lea 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

A. HYDROGEN SULFIDE

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

B. CASING

1. The 18 5/8 inch surface casing shall be set at approximately 505' 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 **24 hours in the Potash Area** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)

Approval Date: 11/06/2020

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 **13-3/8** inch intermediate casing is:

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

❖ 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.

❖ In R111 Potash 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 **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 see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

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

- Cement should tie-back at least **500 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 Choose an item. psi. **Variance is approved to use a** Choose an item. **Annular which shall be tested to** Choose an item. **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)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, 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

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

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

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

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

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

A. CASING

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

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

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

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

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

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

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

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

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

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

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

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

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

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

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

f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

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

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

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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

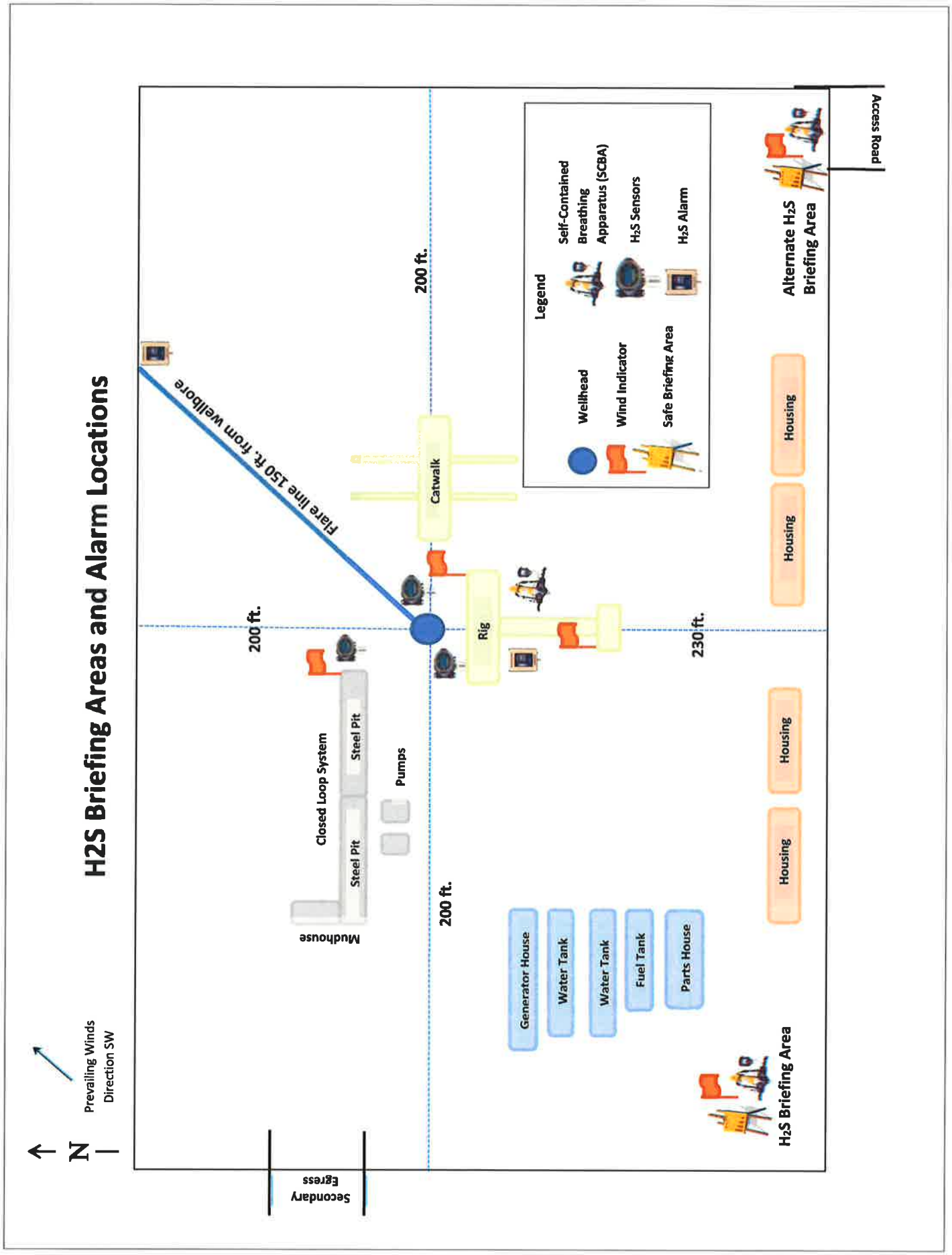
Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H_2S	1.189 Air = I	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO_2	2.21 Air = I	2 ppm	N/A	1000 ppm

Contacting Authorities

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


H2S Briefing Areas and Alarm Locations
N
Prevailing Winds
Direction SW
Secondary
Egress
Mudhouse
Closed Loop System
Steel Pit
Steel Pit
Pumps
Flare line 150 ft. from wellbore
Catwalk
Rig
200 ft.
200 ft.
200 ft.
230 ft.
Legend
Wellhead
Wind Indicator
Safe Briefing Area
Self-Contained Breathing Apparatus (SCBA)
H2S Sensors
H2S Alarm
Alternate H2S Briefing Area
Access Road
Housing
Housing
Housing
Housing
Generator House
Water Tank
Water Tank
Fuel Tank
Parts House
H2S Briefing Area

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JAMES RANCH UNIT DI 7 SAWTOOTH **Well Number:** 901H

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

Disposal type description:

Disposal location description: A licensed 3rd party vendor will be contracted to haul and safely dispose of garbage, junk and non-flammable waste materials.

Reserve Pit

Reserve Pit being used? N

Temporary disposal of produced water into reserve pit? NO

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?

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? Y

Description of cuttings location Cuttings. 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. Drilling Fluids. These will be contained in steel mud pits and then taken to a NMOCD approved commercial disposal facility. Produced Fluids. Water produced from the well during completion will be held temporarily in steel tanks and then taken to a NMOCD approved commercial disposal facility. Oil produced during operations will be stored in tanks until sold.

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?: N

Ancillary Facilities attachment:

Comments:

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 152027

CONDITIONS

Operator: XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	OGRID: 373075
	Action Number: 152027
	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	10/24/2022
kpickford	Will require a File As Drilled C-102 and a Directional Survey with the C-104	10/24/2022
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	10/24/2022
kpickford	Cement is required to circulate on both surface and intermediate1 strings of casing	10/24/2022
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	10/24/2022