

orm 3160-3
(June 2015)ORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UN TED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER 1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		5. Lease Serial No. NMLC0006214A 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. POKER LAKE / NMNM 071016X 8. Lease Name and Well No. POKER LAKE UNIT 28 BS 102H
2. Name of Operator XTO PERMIAN OPERATING LLC		9. API Well No. 30 015 47811
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 PURPLE SAGE; WOLFCAMP (GAS)
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SWNW / 2310 FNL / 720 FWL / LAT 32.102219 / LONG -103.789405 At proposed prod. zone SWSW / 200 FSL / 990 FWL / LAT 32.079943 / LONG -103.788593		11. Sec., T. R. M. or Blk. and Survey or Area SEC 28/T25S/R31E/NMP
14. Distance in miles and direction from nearest town or post office* 27 miles		12. County or Parish EDDY
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 720 feet		16. No of acres in lease 17. Spacing Unit dedicated to this well 480.0
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 30 feet		20. BLM/BIA Bond No. in file FED: COB000050
21. Elevations (Show whether D, KDB, RT, GL, etc.) 3329 feet	22. Approximate date work will start* 01/19/2021	23. Estimated duration 45 days
24. Attachments		

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

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

25. Signature (Electronic Submission) Title Regulatory Coordinator	Name (Printed/Typed) STEPHANIE RABADUE / Ph: (432) 682-8873	Date 10/23/2020
Approved by (Signature) (Electronic Submission) Title Assistant Field Manager Lands & Minerals	Name (Printed/Typed) Cody Layton / Ph: (575) 234-5959 Office Carlsbad Field Office	Date 12/04/2020

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.

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.

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

Will require a directional survey with the C-104

SL

(Continued on page 2)

APPROVED WITH CONDITIONS

Approval Date: 12/04/2020

GEO Review

*(Instructions on page 2)

Entered - KMS NMOC

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-47811	² Pool Code 98220	³ Pool Name Purple Sage; Wolfcamp (Gas)
⁴ Property Code 325599	⁵ Property Name POKER LAKE UNIT 28 BS	
⁷ OGRID No. 373075	⁸ Operator Name XTO PERMIAN OPERATING, LLC.	⁶ Well Number 102H
		⁹ Elevation 3,329'

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
E	28	25 S	31 E		2,310	NORTH	720	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
M	33	25 S	31 E		200	SOUTH	990	WEST	EDDY

¹² Dedicated Acres 480	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
--------------------------------------	-------------------------------	----------------------------------	-------------------------

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

<p>16</p> <p>GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y= 401,290.7 X= 668,577.1 LAT.=32.102094°N LONG.= 103.788926°W</p> <p>FIRST TAKE POINT NAD 27 NME Y= 400,605.7 X= 668,846.2 LAT.= 32.100208°N LONG.= 103.788069°W</p> <p>CORNER COORDINATES TABLE NAD 27 NME A - Y= 400,943.7 N, X= 667,857.5 E B - Y= 400,950.1 N, X= 669,189.6 E C - Y= 398,290.7 N, X= 667,847.2 E D - Y= 389,297.4 N, X= 669,180.9 E E - Y= 395,633.0 N, X= 667,863.6 E F - Y= 395,642.6 N, X= 669,196.3 E G - Y= 392,980.7 N, X= 667,880.4 E H - Y= 392,991.5 N, X= 669,211.8 E</p> <p>CORNER COORDINATES TABLE NAD 83 NME A - Y= 401,001.6 N, X= 709,043.1 E B - Y= 401,008.0 N, X= 710,375.2 E C - Y= 398,348.5 N, X= 709,032.9 E D - Y= 398,355.2 N, X= 710,366.6 E E - Y= 395,690.8 N, X= 709,049.4 E F - Y= 395,700.4 N, X= 710,382.1 E G - Y= 393,038.4 N, X= 709,066.3 E H - Y= 393,049.2 N, X= 710,397.7 E</p> <p>LAST TAKE POINT NAD 27 NME Y= 393,318.7 X= 668,868.2 LAT.= 32.080176°N LONG.= 103.788116°W</p> <p>BOTTOM HOLE LOCATION NAD 27 NME Y= 393,188.7 X= 668,869.1 LAT.= 32.079818°N LONG.= 103.788116°W</p>	<p>GEODETIC COORDINATES NAD 83 NME SURFACE LOCATION Y= 401,348.6 X= 709,762.7 LAT.=32.102219°N LONG.= 103.789405°W</p> <p>FIRST TAKE POINT NAD 83 NME Y= 400,663.6 X= 710,031.8 LAT.= 32.100332°N LONG.= 103.788547°W</p> <p>CORNER COORDINATES TABLE NAD 83 NME A - Y= 401,001.6 N, X= 709,043.1 E B - Y= 401,008.0 N, X= 710,375.2 E C - Y= 398,348.5 N, X= 709,032.9 E D - Y= 398,355.2 N, X= 710,366.6 E E - Y= 395,690.8 N, X= 709,049.4 E F - Y= 395,700.4 N, X= 710,382.1 E G - Y= 393,038.4 N, X= 709,066.3 E H - Y= 393,049.2 N, X= 710,397.7 E</p> <p>LAST TAKE POINT NAD 83 NME Y= 393,376.4 X= 710,054.1 LAT.= 32.080300°N LONG.= 103.788594°W</p> <p>BOTTOM HOLE LOCATION NAD 83 NME Y= 393,246.4 X= 710,055.0 LAT.= 32.079943°N LONG.= 103.788593°W</p>		<p>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.</p> <p>Stephanie Rabadue 10/21/2020 Signature Date</p> <p>Stephanie Rabadue Printed Name</p> <p>stephanie_rabadue@xtoenergy.com E-mail Address</p> <p>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.</p> <p>10-21-2020 Date of Survey</p> <p>Signature and Seal of Professional Surveyor:</p> <p>MARK DILLON HARP 23786 Certificate Number</p> <p>JC 2017070983</p>
---	---	--	---

Intent ☐ As Drilled ☐

API #		
Operator Name:	Property Name:	Well Number

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

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

Is this well an infill well? ☐

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

API #		
Operator Name:	Property Name:	Well Number

Additional Operator Remarks

Location of Well

0. SHL: SWNW / 2310 FNL / 720 FWL / TWSP: 25S / RANGE: 31E / SECTION: 28 / LAT: 32.102219 / LONG: -103.789405 (TVD: 7900 feet, MD: 7900 feet)

PPP: NWSW / 2310 FSL / 990 FWL / TWSP: 25S / RANGE: 31E / SECTION: 28 / LAT: 32.100332 / LONG: -103.789405 (TVD: 12592 feet, MD: 13000 feet)

BHL: SWSW / 200 FSL / 990 FWL / TWSP: 25S / RANGE: 31E / SECTION: 33 / LAT: 32.079943 / LONG: -103.788593 (TVD: 12592 feet, MD: 20300 feet)

BLM Point of Contact

Name: Priscilla Perez

Title: Legal Instruments Examiner

Phone: (575) 234-5934

Email: pperez@blm.gov

PECOS DISTRICT

DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO Permian Operating, LLC
LEASE NO.:	NMLC-0006214A
WELL NAME & NO.:	Poker Lake Unit 28 BS 102H
SURFACE HOLE FOOTAGE:	2310' FNL & 0720' FWL
BOTTOM HOLE FOOTAGE:	0200' FSL & 0990' FWL Sec. 33, T.25 S., R.31 E.
LOCATION:	Section 28, T.25 S., R.31 E., NMPM
COUNTY:	Eddy County, New Mexico

COA

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

Medium Cave/Karst

Possibility of water flows in the Salado and Castile.

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

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

A. HYDROGEN SULFIDE

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

B. CASING

1. The **11-3/4** inch surface casing shall be set at approximately **1220** feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.

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

2. The minimum required fill of cement behind the **8-5/8** inch intermediate casing is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.
 - ❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M) psi**.
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

BOP Break Testing Variance

- Shell testing is not approved for any portion of the hole with a MASP of 5000 psi or greater.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer prior to the commencement of any BOP Break Testing operations.
- A full BOP test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOP test will be required.

D. SPECIAL REQUIREMENT (S)

Unit Wells

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

Commercial Well Determination

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

GENERAL REQUIREMENTS

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

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

☒ Eddy County

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

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

A. CASING

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

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. 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).

- c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- d. The results of the test shall be reported to the appropriate BLM office.
- e. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- g. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

JAM 11302020



APD ID: 10400064177

Submission Date: 10/23/2020

Highlighted data
reflects the most
recent changes

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 28 BS

Well Number: 102H

[Show Final Text](#)

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1096994	QUATERNARY	3329	0	0	ALLUVIUM	USEABLE WATER	N
1096995	RUSTLER	2445	884	884	SANDSTONE	USEABLE WATER	N
1096996	TOP SALT	2081	1248	1248	SALT	OTHER : Salt	N
1096997	BASE OF SALT	-655	3984	3984	SALT	NONE	N
1096998	DELAWARE	-869	4198	4198	SANDSTONE, SILTSTONE	NATURAL GAS, OIL, USEABLE WATER	Y
1096999	BONE SPRING	-4811	8140	8140	LIMESTONE, SANDSTONE	NATURAL GAS, OIL, USEABLE WATER	Y
1097000	WOLFCAMP	-8174	11503	11503	LIMESTONE, SANDSTONE, SILTSTONE	NATURAL GAS, OIL, USEABLE WATER	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M

Rating Depth: 12592

Equipment: Once the permanent WH is installed on the 11-3/4" casing, the blow out preventer equipment (BOP) will consist of a 13-5/8 minimum 5M Hydril and a 13-5/8 minimum 5M 3-Ram BOP. MASP should not exceed 4652 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). Also a variance is requested to test the 5M annular to 70% of working pressure at 3500 psi.

Requesting Variance? YES

Variance request: A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test chart will be kept on the rig. Attached is an example of a certification and pressure test chart. The manufacturer does not require anchors. A variance is requested to ONLY test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53. API standard 53 states, that for pad drilling operation, moving from one wellhead to another within 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken. Based on discussions with the BLM on February 27th 2020, we will request permission to ONLY retest broken pressure seals if the following conditions are met: 1. After a full BOP test is conducted on the first well on the pad (First well will be the deepest Intermediate) 2. When skidding to drill an intermediate section does not penetrate into the Wolfcamp 3. Full BOP test will be required prior to drilling the production hole. Permanent Wellhead – Multibowl System A. Starting Head: 13-5/8" 10M top flange x 11-3/4" SOW bottom B. Tubing Head: 13-5/8" 10M bottom flange x 7-1/16" 15M top flange · Wellhead will be installed by manufacturer's representatives. · Manufacturer will monitor welding process to ensure appropriate temperature of seal. · Operator will test the 7-5/8" casing per BLM Onshore Order 2 · Wellhead Manufacturer representative will not be present for BOP test plug installation

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 28 BS

Well Number: 102H

Testing Procedure: All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 70% of the working pressure. When nipping up on the 11-3/4", 5M bradenhead and flange, the BOP test will be limited to 5000 psi. 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:

PLU_28_BS_5MBOP_20201023083040.pdf

BOP Diagram Attachment:

PLU_28_BS_5MCM_20201023083046.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	14.75	11.75	NEW	API	N	0	1220	0	1220	3329	2109	1220	J-55	47	BUTT	2.38	1.17	DRY	8.32	DRY	8.32
2	INTERMEDIATE	10.625	8.625	NEW	API	N	0	10600	0	10600	3329	-7271	10600	HCL-80	32	BUTT	1.43	1.09	DRY	2.16	DRY	2.16
3	PRODUCTION	7.875	5.5	NEW	API	N	0	20348	0	12592	3329	-9263	20348	P-110	20	BUTT	1.47	1.18	DRY	2.14	DRY	2.14

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

PLU_28_BS_102H_Csg_20201023102423.pdf

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 28 BS

Well Number: 102H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

PLU_28_BS_102H_Csg_20201023102340.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

PLU_28_BS_102H_Csg_20201023102350.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	1220	610	1.88	12.8	7808	100	Halc-C	2% CaCl

INTERMEDIATE	Lead	1270	0	1270	80	1.35	14.8	108	100	Halcem-C	2% CaCl
--------------	------	------	---	------	----	------	------	-----	-----	----------	---------

INTERMEDIATE	Lead	1270	1270	1060 0	1840	1.88	12.8	3459. 2	100	Halcem-C	2% CaCl
--------------	------	------	------	-----------	------	------	------	------------	-----	----------	---------

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 28 BS

Well Number: 102H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Tail		1270	1060 0	310	1.33	14.8	19.68	100	Halcem-C	2% CaCl
PRODUCTION	Lead		1030 0	2034 8	1830	1.88	11.5	3440. 4	100	Halcem-C	2% CaCl
PRODUCTION	Tail		1030 0	2034 8	1830	1.35	13.2	2470. 5	100	Versacem	None

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

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

Describe the mud monitoring system utilized: Spud with fresh water/native mud and set 11-3/4" surface casing, isolating the fresh water aquifer. Drill out from under 11-3/4 surface casing with a brine/oil direct emulsion mud system. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Pump speed will be recorded on a daily drilling report after mudding up. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	1220	SPUD MUD	8.4	8.8							
1220	1060 0	OTHER : Brine / Cut Brine / Direct Emulsion	8.4	9.7							
1060 0	1259 2	OTHER : Cut Brine / WBM / OBM	10.8	11.8							

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 28 BS

Well Number: 102H

Section 6 - Test, Logging, Coring

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

Mud Logger: Mud Logging Unit (2 man) below intermediate casing. Open hole logging will not be done on this well.

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

CEMENT BOND LOG, DIRECTIONAL SURVEY,

Coring operation description for the well:

No Coring Operations for Well

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 7071

Anticipated Surface Pressure: 4300

Anticipated Bottom Hole Temperature(F): 180

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

Describe:

Contingency Plans geohazards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

PLU_28_BS_H2S_Dia_P1_20201023083411.pdf

PLU_28_BS_H2S_Plan_20201023083416.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

PLU_28_BS_102H_DD_20201124061223.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

PLU_28_BS_GCP_20201124061239.pdf

Other Variance attachment:

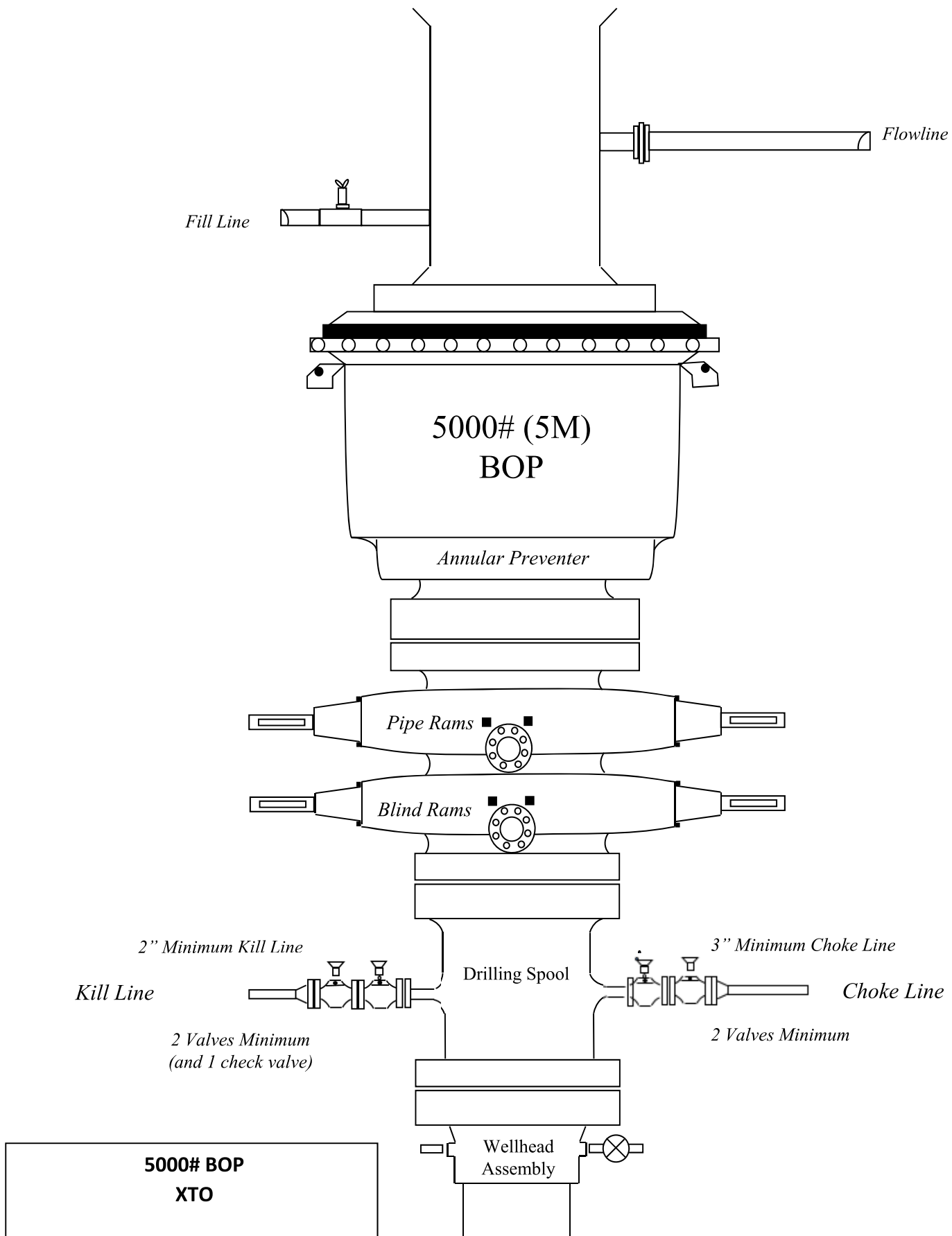
PLU_28_BS_BOP_BTV_20201023083537.pdf

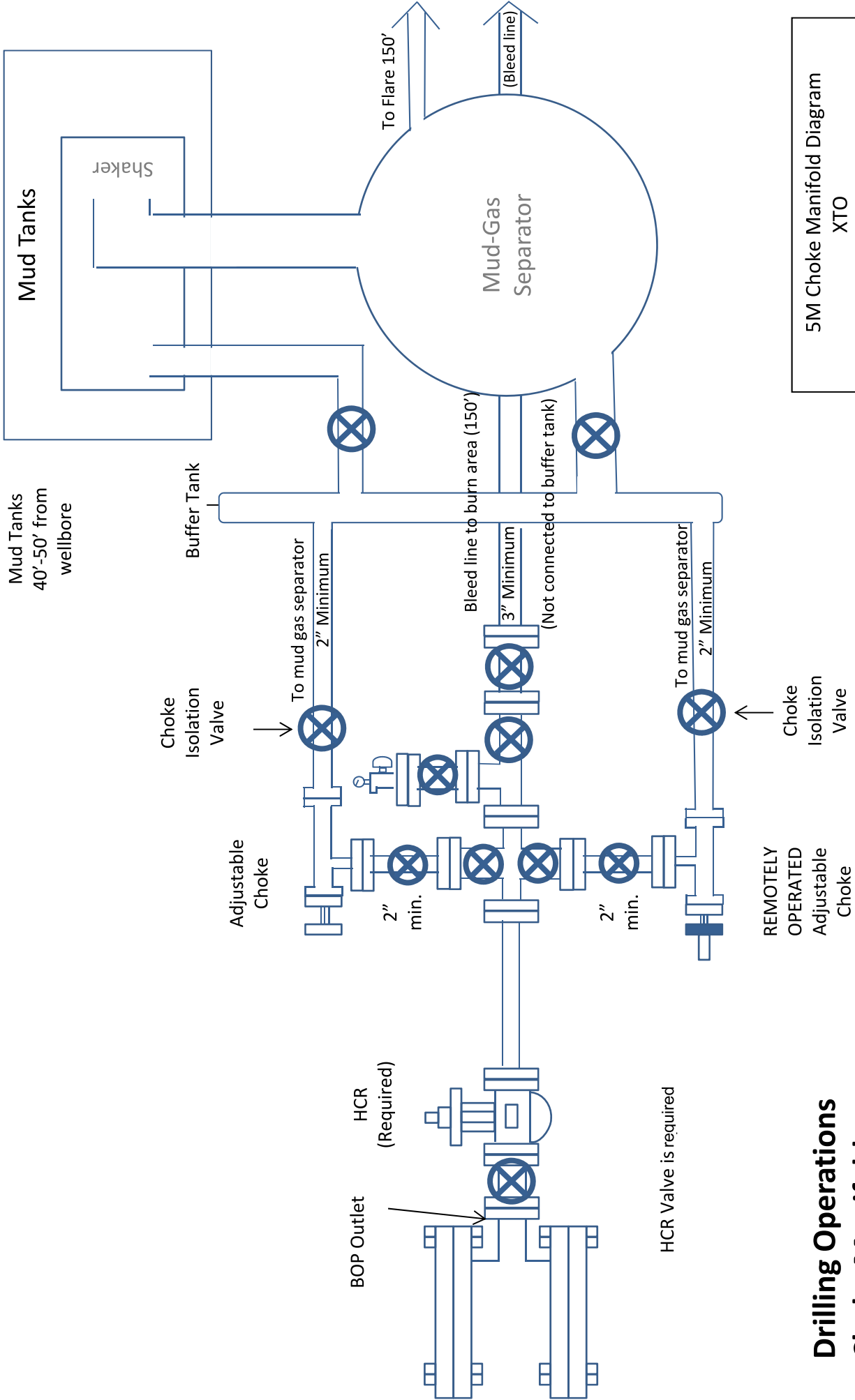
PLU_28_BS_FH_20201023091054.pdf

PLU_28_BS_MBD_20201023083545.PDF

PLU_28_BS_OCV_20201023083553.pdf

PLU_28_BS_Spudder_20201023083559.pdf

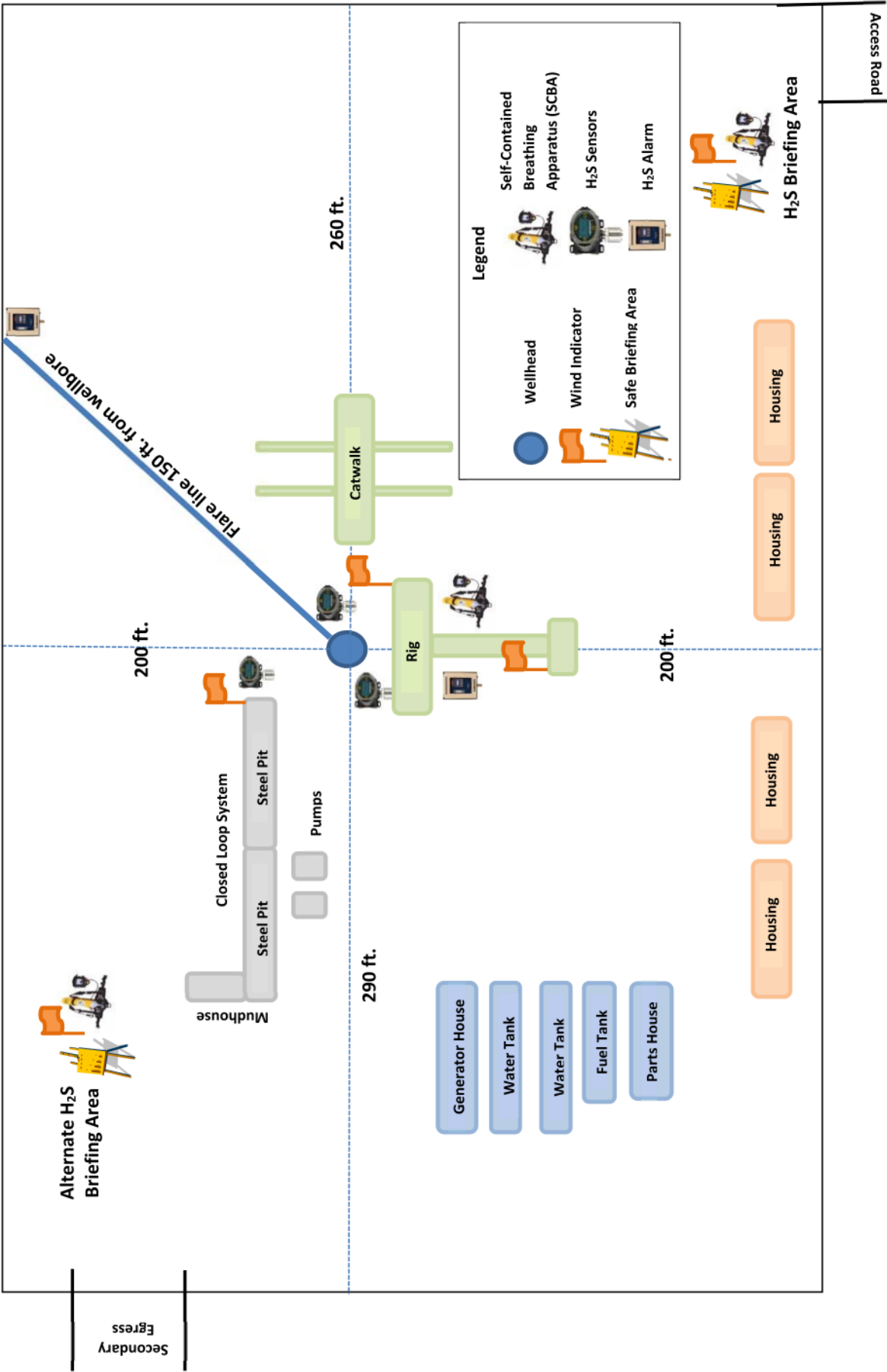
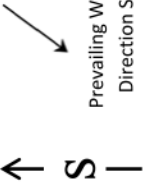




5M Choke Manifold Diagram
XTO

Drilling Operations Choke Manifold 5M Service

H₂S Briefing Areas and Alarm Locations





HYDROGEN SULFIDE (H₂S) CONTINGENCY PLAN

Assumed 100 ppm ROE = 3000'

100 ppm H₂S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing H₂S, the first responder(s) must

- Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- Evacuate any public places encompassed by the 100 ppm ROE.
- Be equipped with H₂S monitors and air packs in order to control the release.
- Use the "buddy system" to ensure no injuries occur during the response
- Take precautions to avoid personal injury during this operation.
- Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- Have received training in the
 - o Detection of H₂S, and
 - o Measures for protection against the gas,
 - o Equipment used for protection and emergency response.

Ignition of Gas source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO₂). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever this is an ignition of the gas.

Characteristics of H₂S and SO₂

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

Contacting Authorities

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

CARLSBAD OFFICE – EDDY & LEA COUNTIES

3104 E. Greene St., Carlsbad, NM 88220
Carlsbad, NM

575-887-7329

XTO PERSONNEL:

Kendall Decker, Drilling Manager	903-521-6477
Milton Turman, Drilling Superintendent	817-524-5107
Jeff Raines, Construction Foreman	432-557-3159
Toady Sanders, EH & S Manager	903-520-1601
Wes McSpadden, Production Foreman	575-441-1147

SHERIFF DEPARTMENTS:

Eddy County	575-887-7551
Lea County	575-396-3611

NEW MEXICO STATE POLICE:

575-392-5588

FIRE DEPARTMENTS:

	911
Carlsbad	575-885-2111
Eunice	575-394-2111
Hobbs	575-397-9308
Jal	575-395-2221
Lovington	575-396-2359

HOSPITALS:

	911
Carlsbad Medical Emergency	575-885-2111
Eunice Medical Emergency	575-394-2112
Hobbs Medical Emergency	575-397-9308
Jal Medical Emergency	575-395-2221
Lovington Medical Emergency	575-396-2359

AGENT NOTIFICATIONS:

For Lea County:

Bureau of Land Management – Hobbs	575-393-3612
New Mexico Oil Conservation Division – Hobbs	575-393-6161

For Eddy County:

Bureau of Land Management - Carlsbad	575-234-5972
New Mexico Oil Conservation Division - Artesia	575-748-1283



XTO Energy

**Eddy County, NM (NAD-27)
Poker Lake Unit 28 Big Sinks
#102H**

OH

Plan: PERMITv2

Standard Planning Report

06 October, 2020



Project: Eddy County, NM (NAD-27)
Site: Poker Lake Unit 28 Big Sinks
Well: #102H
Wellbore: OH
Design: PERMITv2

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: #102H

Rig Name:
RKB = 33' @ 3362.00usft
Ground Level: 3329.00
+N/-S +E/-W Northing Easting Latitude Longitude
0.00 0.00 401290.70 668577.10 32.1020942 -103.7889264

DESIGN TARGET DETAILS

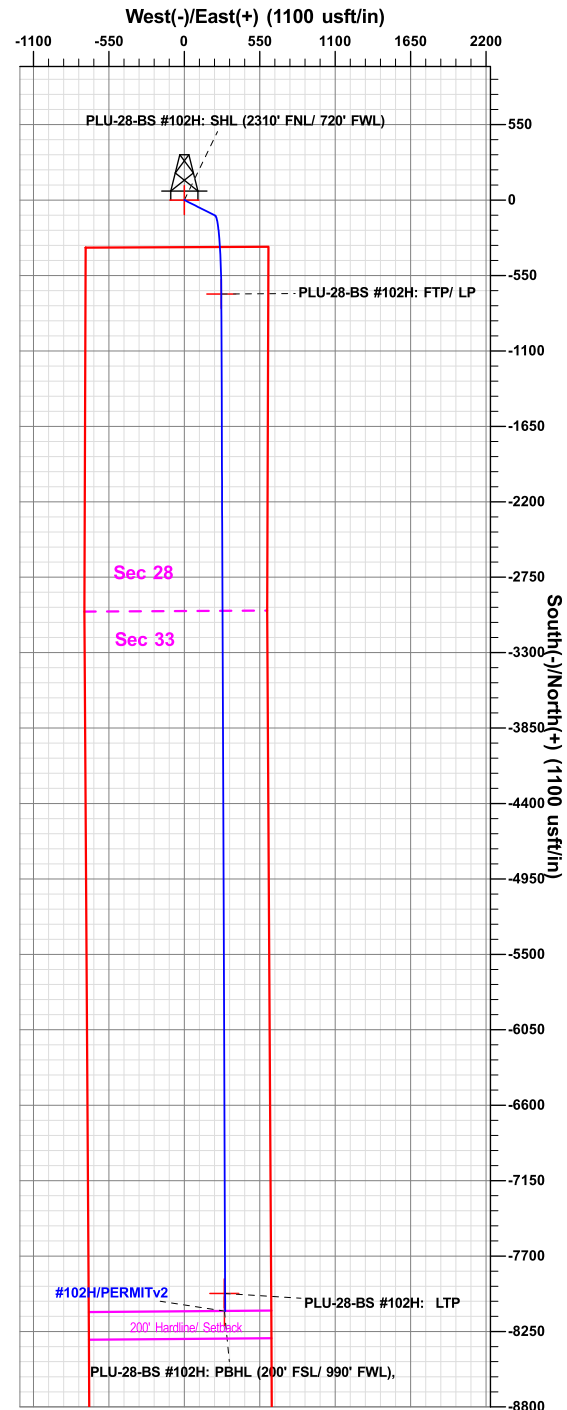
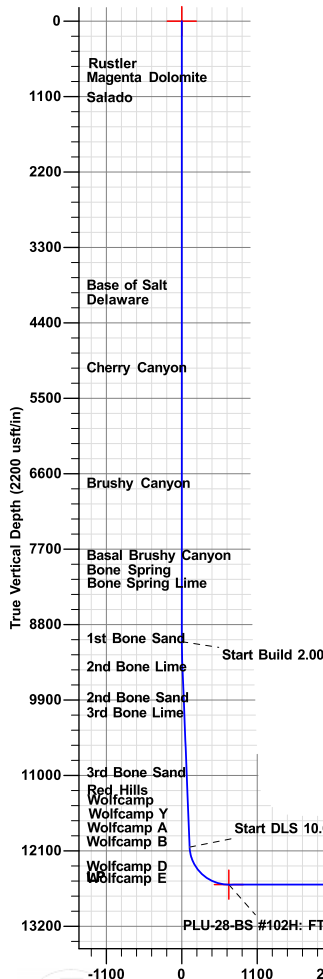
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PLU-28-BS #102H: SHL (2310' FNL/ 720' FWL)	0.00	0.00	0.00	401290.70	668577.10	32.1020942	-103.7889264	Point
PLU-28-BS #102H: LTP	12592.00	-7972.00	291.10	393318.70	668868.20	32.0801757	-103.7881165	Point
PLU-28-BS #102H: FTP/ LP	12592.00	-685.00	269.10	400605.70	668846.20	32.1002075	-103.7880886	Point
PLU-28-BS #102H: PBHL (200' FSL/ 990' FWL),	12592.00	-8102.00	292.00	393186.70	668869.10	32.0798183	-103.7881157	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	9050.00	0.00	0.00	9050.00	0.00	0.00	0.00	0.00	0.00
3	9299.90	5.00	116.69	9299.59	-4.89	9.73	2.00	116.69	4.93
4	12054.09	5.00	116.69	12043.30	-112.65	224.12	0.00	0.00	113.51
5	12931.49	90.00	179.78	12592.00	-685.00	269.10	10.00	63.18	686.03
6	20348.53	90.00	179.78	12592.00	-8101.98	297.38	0.00	0.00	8103.06

FORMATION TOP DETAILS

TVDPath	Formation
862.00	Rustler
932.00	Magenta Dolomite
1225.00	Salado
3961.00	Base of Salt
4175.00	Delaware
5165.00	Cherry Canyon
6851.00	Brushy Canyon
7902.00	Basal Brushy Canyon
8117.00	Bone Spring
8144.00	Bone Spring Lime
9114.00	1st Bone Sand
9526.00	2nd Bone Lime
9875.00	2nd Bone Sand
10197.00	3rd Bone Lime
11069.00	3rd Bone Sand
11391.00	Red Hills
11480.00	Wolfcamp
11509.00	Wolfcamp X
11604.00	Wolfcamp Y
11638.00	Wolfcamp A
12076.00	Wolfcamp B
12469.00	Wolfcamp D
12592.00	LP



Vertical Section at 179.78° (2200 usft/in)

The customer should only rely on this document after independently verifying all paths, targets, coordinates, lease and hard lines represented. Any decisions made or wells drilled utilizing this or any other information supplied by Prototype are at the sole risk and responsibility of the USER.

Plan: PERMITv2 (#102H/OH)

Created By: Matthew May Date: 9:41, October 06 2020

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

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-	² Pool Code	³ Pool Name
⁴ Property Code	⁵ Property Name POKER LAKE UNIT 28 BS	⁶ Well Number 102H
⁷ OGRID No. 373075	⁸ Operator Name XTO PERMIAN OPERATION, LLC.	⁹ Elevation 3,329'

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
E	28	25 S	31 E		2,310	NORTH	720	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
M	33	25 S	31 E		200	SOUTH	990	WEST	EDDY

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

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

<p>¹⁶</p> <p>GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y= 401,290.7 X= 668,577.1 LAT.=32.102094°N LONG.= 103.788926°W</p> <p>FIRST TAKE POINT NAD 27 NME Y= 400,605.7 X= 668,846.2 LAT.= 32.100208°N LONG.= 103.788069°W</p> <p>CORNER COORDINATES TABLE NAD 27 NME A - Y= 400,943.7 N, X= 667,857.5 E B - Y= 400,950.1 N, X= 669,189.6 E C - Y= 398,290.7 N, X= 667,847.2 E D - Y= 389,297.4 N, X= 669,180.9 E E - Y= 395,633.0 N, X= 667,863.6 E F - Y= 395,642.6 N, X= 669,196.3 E G - Y= 392,980.7 N, X= 667,880.4 E H - Y= 392,991.5 N, X= 669,211.8 E</p> <p>CORNER COORDINATES TABLE NAD 83 NME A - Y= 401,001.6 N, X= 709,043.1 E B - Y= 401,008.0 N, X= 710,375.2 E C - Y= 398,348.5 N, X= 709,032.9 E D - Y= 398,355.2 N, X= 710,366.6 E E - Y= 395,690.8 N, X= 709,049.4 E F - Y= 395,700.4 N, X= 710,382.1 E G - Y= 393,038.4 N, X= 709,066.3 E H - Y= 393,049.2 N, X= 710,397.7 E</p> <p>LAST TAKE POINT NAD 27 NME Y= 393,318.7 X= 668,868.2 LAT.= 32.080176°N LONG.= 103.788116°W</p> <p>BOTTOM HOLE LOCATION NAD 27 NME Y= 393,188.7 X= 668,869.1 LAT.= 32.079818°N LONG.= 103.788116°W</p> <p>GEODETIC COORDINATES NAD 83 NME SURFACE LOCATION Y= 401,348.6 X= 709,762.7 LAT.=32.102219°N LONG.= 103.789405°W</p> <p>FIRST TAKE POINT NAD 83 NME Y= 400,663.6 X= 710,031.8 LAT.= 32.100332°N LONG.= 103.788547°W</p> <p>CORNER COORDINATES TABLE NAD 83 NME A - Y= 401,001.6 N, X= 709,043.1 E B - Y= 401,008.0 N, X= 710,375.2 E C - Y= 398,348.5 N, X= 709,032.9 E D - Y= 398,355.2 N, X= 710,366.6 E E - Y= 395,690.8 N, X= 709,049.4 E F - Y= 395,700.4 N, X= 710,382.1 E G - Y= 393,038.4 N, X= 709,066.3 E H - Y= 393,049.2 N, X= 710,397.7 E</p> <p>LAST TAKE POINT NAD 83 NME Y= 393,376.4 X= 710,054.1 LAT.= 32.080300°N LONG.= 103.788594°W</p> <p>BOTTOM HOLE LOCATION NAD 83 NME Y= 393,246.4 X= 710,055.0 LAT.= 32.079943°N LONG.= 103.788593°W</p>	<p>GRID AZ.=158°32'54" HORIZ. DIST.=736.04'</p> <p>GRID AZ.=179°49'17" HORIZ. DIST.=7,417.20'</p> <p>SEC. 28 SEC. 33 SEC. 4</p> <p>T25S R31E T26S R31E</p>	<p>¹⁷ OPERATOR CERTIFICATION</p> <p>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.</p> <p>Signature _____ Date _____</p> <p>Printed Name _____</p> <p>E-mail Address _____</p> <p>¹⁸ SURVEYOR CERTIFICATION</p> <p>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.</p> <p>10-2-2020 Date of Survey</p> <p>Signature and Seal of Professional Surveyor: _____</p> <p>MARK DILLON HARP 23786 Certificate Number</p> <p>JC 2017070983</p>
---	--	---



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #102H
Company:	XTO Energy	TVD Reference:	RKB = 33' @ 3362.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 33' @ 3362.00usft
Site:	Poker Lake Unit 28 Big Sinks	North Reference:	Grid
Well:	#102H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMITv2		

Project	Eddy County, NM (NAD-27)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Poker Lake Unit 28 Big Sinks				
Site Position:		Northing:	401,295.70 usft	Latitude:	32.1020896
From:	Map	Easting:	669,897.10 usft	Longitude:	-103.7846636
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.29 °

Well	#102H					
Well Position	+N/-S	-5.00 usft	Northing:	401,290.70 usft	Latitude:	32.1020942
	+E/-W	-1,320.00 usft	Easting:	668,577.10 usft	Longitude:	-103.7889264
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,329.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/06/20	6.69	59.87	47,505

Design	PERMITv2			
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	179.78

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	
9,050.00	0.00	0.00	9,050.00	0.00	0.00	0.00	0.00	0.00	0.00	
9,299.90	5.00	116.69	9,299.59	-4.89	9.73	2.00	2.00	0.00	116.69	
12,054.09	5.00	116.69	12,043.30	-112.65	224.12	0.00	0.00	0.00	0.00	
12,931.49	90.00	179.78	12,592.00	-685.00	269.10	10.00	9.69	7.19	63.18	PLU-28-BS #102H:
20,348.53	90.00	179.78	12,592.00	-8,101.98	297.38	0.00	0.00	0.00	0.00	PLU-28-BS #102H:



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #102H
Company:	XTO Energy	TVD Reference:	RKB = 33' @ 3362.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 33' @ 3362.00usft
Site:	Poker Lake Unit 28 Big Sinks	North Reference:	Grid
Well:	#102H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMITv2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #102H
Company:	XTO Energy	TVD Reference:	RKB = 33' @ 3362.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 33' @ 3362.00usft
Site:	Poker Lake Unit 28 Big Sinks	North Reference:	Grid
Well:	#102H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMITv2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	0.00	0.00
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	0.00	0.00
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	0.00	0.00
8,200.00	0.00	0.00	8,200.00	0.00	0.00	0.00	0.00	0.00	0.00
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	0.00	0.00
8,400.00	0.00	0.00	8,400.00	0.00	0.00	0.00	0.00	0.00	0.00
8,500.00	0.00	0.00	8,500.00	0.00	0.00	0.00	0.00	0.00	0.00
8,600.00	0.00	0.00	8,600.00	0.00	0.00	0.00	0.00	0.00	0.00
8,700.00	0.00	0.00	8,700.00	0.00	0.00	0.00	0.00	0.00	0.00
8,800.00	0.00	0.00	8,800.00	0.00	0.00	0.00	0.00	0.00	0.00
8,900.00	0.00	0.00	8,900.00	0.00	0.00	0.00	0.00	0.00	0.00
9,000.00	0.00	0.00	9,000.00	0.00	0.00	0.00	0.00	0.00	0.00
9,050.00	0.00	0.00	9,050.00	0.00	0.00	0.00	0.00	0.00	0.00
9,100.00	1.00	116.69	9,100.00	-0.20	0.39	0.20	2.00	2.00	0.00
9,200.00	3.00	116.69	9,199.93	-1.76	3.51	1.78	2.00	2.00	0.00
9,299.90	5.00	116.69	9,299.59	-4.89	9.73	4.93	2.00	2.00	0.00
9,400.00	5.00	116.69	9,399.30	-8.81	17.52	8.88	0.00	0.00	0.00
9,500.00	5.00	116.69	9,498.92	-12.72	25.31	12.82	0.00	0.00	0.00
9,600.00	5.00	116.69	9,598.54	-16.63	33.09	16.76	0.00	0.00	0.00
9,700.00	5.00	116.69	9,698.16	-20.55	40.88	20.70	0.00	0.00	0.00
9,800.00	5.00	116.69	9,797.78	-24.46	48.66	24.65	0.00	0.00	0.00
9,900.00	5.00	116.69	9,897.40	-28.37	56.45	28.59	0.00	0.00	0.00
10,000.00	5.00	116.69	9,997.02	-32.28	64.23	32.53	0.00	0.00	0.00
10,100.00	5.00	116.69	10,096.64	-36.20	72.01	36.47	0.00	0.00	0.00
10,200.00	5.00	116.69	10,196.26	-40.11	79.80	40.42	0.00	0.00	0.00
10,300.00	5.00	116.69	10,295.88	-44.02	87.58	44.36	0.00	0.00	0.00
10,400.00	5.00	116.69	10,395.50	-47.94	95.37	48.30	0.00	0.00	0.00
10,500.00	5.00	116.69	10,495.12	-51.85	103.15	52.24	0.00	0.00	0.00
10,600.00	5.00	116.69	10,594.74	-55.76	110.94	56.19	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #102H
Company:	XTO Energy	TVD Reference:	RKB = 33' @ 3362.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 33' @ 3362.00usft
Site:	Poker Lake Unit 28 Big Sinks	North Reference:	Grid
Well:	#102H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMITv2		

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)
10,700.00	5.00	116.69	10,694.36	-59.67	118.72	60.13	0.00	0.00	0.00
10,800.00	5.00	116.69	10,793.98	-63.59	126.50	64.07	0.00	0.00	0.00
10,900.00	5.00	116.69	10,893.60	-67.50	134.29	68.01	0.00	0.00	0.00
11,000.00	5.00	116.69	10,993.22	-71.41	142.07	71.96	0.00	0.00	0.00
11,100.00	5.00	116.69	11,092.84	-75.32	149.86	75.90	0.00	0.00	0.00
11,200.00	5.00	116.69	11,192.46	-79.24	157.64	79.84	0.00	0.00	0.00
11,300.00	5.00	116.69	11,292.08	-83.15	165.42	83.78	0.00	0.00	0.00
11,400.00	5.00	116.69	11,391.70	-87.06	173.21	87.73	0.00	0.00	0.00
11,500.00	5.00	116.69	11,491.32	-90.98	180.99	91.67	0.00	0.00	0.00
11,600.00	5.00	116.69	11,590.94	-94.89	188.78	95.61	0.00	0.00	0.00
11,700.00	5.00	116.69	11,690.56	-98.80	196.56	99.55	0.00	0.00	0.00
11,800.00	5.00	116.69	11,790.18	-102.71	204.35	103.50	0.00	0.00	0.00
11,900.00	5.00	116.69	11,889.80	-106.63	212.13	107.44	0.00	0.00	0.00
12,000.00	5.00	116.69	11,989.42	-110.54	219.91	111.38	0.00	0.00	0.00
12,054.09	5.00	116.69	12,043.30	-112.65	224.12	113.51	0.00	0.00	0.00
12,100.00	8.17	146.87	12,088.92	-116.29	227.70	117.16	10.00	6.91	65.74
12,150.00	12.65	159.45	12,138.09	-124.39	231.56	125.28	10.00	8.96	25.16
12,200.00	17.41	165.38	12,186.36	-136.77	235.37	137.67	10.00	9.53	11.87
12,250.00	22.28	168.81	12,233.38	-153.32	239.10	154.23	10.00	9.73	6.85
12,300.00	27.19	171.05	12,278.78	-173.91	242.72	174.84	10.00	9.82	4.48
12,350.00	32.13	172.65	12,322.22	-198.40	246.20	199.34	10.00	9.87	3.20
12,400.00	37.08	173.86	12,363.36	-226.59	249.52	227.55	10.00	9.91	2.42
12,450.00	42.04	174.82	12,401.89	-258.27	252.65	259.24	10.00	9.92	1.92
12,500.00	47.01	175.61	12,437.53	-293.20	255.56	294.18	10.00	9.94	1.59
12,550.00	51.99	176.29	12,469.99	-331.12	258.23	332.11	10.00	9.95	1.35
12,600.00	56.96	176.87	12,499.03	-371.72	260.65	372.72	10.00	9.95	1.18
12,650.00	61.94	177.40	12,524.44	-414.72	262.80	415.72	10.00	9.96	1.05
12,700.00	66.92	177.88	12,546.01	-459.77	264.65	460.78	10.00	9.96	0.96
12,750.00	71.91	178.32	12,563.58	-506.54	266.20	507.56	10.00	9.97	0.89
12,800.00	76.89	178.74	12,577.02	-554.66	267.43	555.69	10.00	9.97	0.84
12,850.00	81.88	179.14	12,586.23	-603.79	268.34	604.81	10.00	9.97	0.81
12,900.00	86.86	179.54	12,591.14	-653.52	268.91	654.55	10.00	9.97	0.79
12,931.49	90.00	179.78	12,592.00	-685.00	269.10	686.03	10.00	9.97	0.78
13,000.00	90.00	179.78	12,592.00	-753.51	269.36	754.54	0.00	0.00	0.00
13,100.00	90.00	179.78	12,592.00	-853.51	269.74	854.54	0.00	0.00	0.00
13,200.00	90.00	179.78	12,592.00	-953.51	270.12	954.54	0.00	0.00	0.00
13,300.00	90.00	179.78	12,592.00	-1,053.51	270.51	1,054.54	0.00	0.00	0.00
13,400.00	90.00	179.78	12,592.00	-1,153.50	270.89	1,154.54	0.00	0.00	0.00
13,500.00	90.00	179.78	12,592.00	-1,253.50	271.27	1,254.54	0.00	0.00	0.00
13,600.00	90.00	179.78	12,592.00	-1,353.50	271.65	1,354.54	0.00	0.00	0.00
13,700.00	90.00	179.78	12,592.00	-1,453.50	272.03	1,454.54	0.00	0.00	0.00
13,800.00	90.00	179.78	12,592.00	-1,553.50	272.41	1,554.54	0.00	0.00	0.00
13,900.00	90.00	179.78	12,592.00	-1,653.50	272.79	1,654.54	0.00	0.00	0.00
14,000.00	90.00	179.78	12,592.00	-1,753.50	273.17	1,754.54	0.00	0.00	0.00
14,100.00	90.00	179.78	12,592.00	-1,853.50	273.56	1,854.54	0.00	0.00	0.00
14,200.00	90.00	179.78	12,592.00	-1,953.50	273.94	1,954.54	0.00	0.00	0.00
14,300.00	90.00	179.78	12,592.00	-2,053.50	274.32	2,054.54	0.00	0.00	0.00
14,400.00	90.00	179.78	12,592.00	-2,153.50	274.70	2,154.54	0.00	0.00	0.00
14,500.00	90.00	179.78	12,592.00	-2,253.50	275.08	2,254.54	0.00	0.00	0.00
14,600.00	90.00	179.78	12,592.00	-2,353.50	275.46	2,354.54	0.00	0.00	0.00
14,700.00	90.00	179.78	12,592.00	-2,453.50	275.84	2,454.54	0.00	0.00	0.00
14,800.00	90.00	179.78	12,592.00	-2,553.49	276.23	2,554.54	0.00	0.00	0.00
14,900.00	90.00	179.78	12,592.00	-2,653.49	276.61	2,654.54	0.00	0.00	0.00
15,000.00	90.00	179.78	12,592.00	-2,753.49	276.99	2,754.54	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #102H
Company:	XTO Energy	TVD Reference:	RKB = 33' @ 3362.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 33' @ 3362.00usft
Site:	Poker Lake Unit 28 Big Sinks	North Reference:	Grid
Well:	#102H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMITv2		

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)
15,100.00	90.00	179.78	12,592.00	-2,853.49	277.37	2,854.54	0.00	0.00	0.00
15,200.00	90.00	179.78	12,592.00	-2,953.49	277.75	2,954.54	0.00	0.00	0.00
15,300.00	90.00	179.78	12,592.00	-3,053.49	278.13	3,054.54	0.00	0.00	0.00
15,400.00	90.00	179.78	12,592.00	-3,153.49	278.51	3,154.54	0.00	0.00	0.00
15,500.00	90.00	179.78	12,592.00	-3,253.49	278.89	3,254.54	0.00	0.00	0.00
15,600.00	90.00	179.78	12,592.00	-3,353.49	279.28	3,354.54	0.00	0.00	0.00
15,700.00	90.00	179.78	12,592.00	-3,453.49	279.66	3,454.54	0.00	0.00	0.00
15,800.00	90.00	179.78	12,592.00	-3,553.49	280.04	3,554.54	0.00	0.00	0.00
15,900.00	90.00	179.78	12,592.00	-3,653.49	280.42	3,654.54	0.00	0.00	0.00
16,000.00	90.00	179.78	12,592.00	-3,753.49	280.80	3,754.54	0.00	0.00	0.00
16,100.00	90.00	179.78	12,592.00	-3,853.49	281.18	3,854.54	0.00	0.00	0.00
16,200.00	90.00	179.78	12,592.00	-3,953.48	281.56	3,954.54	0.00	0.00	0.00
16,300.00	90.00	179.78	12,592.00	-4,053.48	281.95	4,054.54	0.00	0.00	0.00
16,400.00	90.00	179.78	12,592.00	-4,153.48	282.33	4,154.54	0.00	0.00	0.00
16,500.00	90.00	179.78	12,592.00	-4,253.48	282.71	4,254.54	0.00	0.00	0.00
16,600.00	90.00	179.78	12,592.00	-4,353.48	283.09	4,354.54	0.00	0.00	0.00
16,700.00	90.00	179.78	12,592.00	-4,453.48	283.47	4,454.54	0.00	0.00	0.00
16,800.00	90.00	179.78	12,592.00	-4,553.48	283.85	4,554.54	0.00	0.00	0.00
16,900.00	90.00	179.78	12,592.00	-4,653.48	284.23	4,654.54	0.00	0.00	0.00
17,000.00	90.00	179.78	12,592.00	-4,753.48	284.61	4,754.54	0.00	0.00	0.00
17,100.00	90.00	179.78	12,592.00	-4,853.48	285.00	4,854.54	0.00	0.00	0.00
17,200.00	90.00	179.78	12,592.00	-4,953.48	285.38	4,954.54	0.00	0.00	0.00
17,300.00	90.00	179.78	12,592.00	-5,053.48	285.76	5,054.54	0.00	0.00	0.00
17,400.00	90.00	179.78	12,592.00	-5,153.48	286.14	5,154.54	0.00	0.00	0.00
17,500.00	90.00	179.78	12,592.00	-5,253.48	286.52	5,254.54	0.00	0.00	0.00
17,600.00	90.00	179.78	12,592.00	-5,353.47	286.90	5,354.54	0.00	0.00	0.00
17,700.00	90.00	179.78	12,592.00	-5,453.47	287.28	5,454.54	0.00	0.00	0.00
17,800.00	90.00	179.78	12,592.00	-5,553.47	287.67	5,554.54	0.00	0.00	0.00
17,900.00	90.00	179.78	12,592.00	-5,653.47	288.05	5,654.54	0.00	0.00	0.00
18,000.00	90.00	179.78	12,592.00	-5,753.47	288.43	5,754.54	0.00	0.00	0.00
18,100.00	90.00	179.78	12,592.00	-5,853.47	288.81	5,854.54	0.00	0.00	0.00
18,200.00	90.00	179.78	12,592.00	-5,953.47	289.19	5,954.54	0.00	0.00	0.00
18,300.00	90.00	179.78	12,592.00	-6,053.47	289.57	6,054.54	0.00	0.00	0.00
18,400.00	90.00	179.78	12,592.00	-6,153.47	289.95	6,154.54	0.00	0.00	0.00
18,500.00	90.00	179.78	12,592.00	-6,253.47	290.33	6,254.54	0.00	0.00	0.00
18,600.00	90.00	179.78	12,592.00	-6,353.47	290.72	6,354.54	0.00	0.00	0.00
18,700.00	90.00	179.78	12,592.00	-6,453.47	291.10	6,454.54	0.00	0.00	0.00
18,800.00	90.00	179.78	12,592.00	-6,553.47	291.48	6,554.54	0.00	0.00	0.00
18,900.00	90.00	179.78	12,592.00	-6,653.47	291.86	6,654.54	0.00	0.00	0.00
19,000.00	90.00	179.78	12,592.00	-6,753.46	292.24	6,754.54	0.00	0.00	0.00
19,100.00	90.00	179.78	12,592.00	-6,853.46	292.62	6,854.54	0.00	0.00	0.00
19,200.00	90.00	179.78	12,592.00	-6,953.46	293.00	6,954.54	0.00	0.00	0.00
19,300.00	90.00	179.78	12,592.00	-7,053.46	293.39	7,054.54	0.00	0.00	0.00
19,400.00	90.00	179.78	12,592.00	-7,153.46	293.77	7,154.54	0.00	0.00	0.00
19,500.00	90.00	179.78	12,592.00	-7,253.46	294.15	7,254.54	0.00	0.00	0.00
19,600.00	90.00	179.78	12,592.00	-7,353.46	294.53	7,354.54	0.00	0.00	0.00
19,700.00	90.00	179.78	12,592.00	-7,453.46	294.91	7,454.54	0.00	0.00	0.00
19,800.00	90.00	179.78	12,592.00	-7,553.46	295.29	7,554.54	0.00	0.00	0.00
19,900.00	90.00	179.78	12,592.00	-7,653.46	295.67	7,654.54	0.00	0.00	0.00
20,000.00	90.00	179.78	12,592.00	-7,753.46	296.05	7,754.54	0.00	0.00	0.00
20,100.00	90.00	179.78	12,592.00	-7,853.46	296.44	7,854.54	0.00	0.00	0.00
20,200.00	90.00	179.78	12,592.00	-7,953.46	296.82	7,954.54	0.00	0.00	0.00
20,300.00	90.00	179.78	12,592.00	-8,053.45	297.20	8,054.54	0.00	0.00	0.00
20,348.53	90.00	179.78	12,592.00	-8,101.98	297.38	8,103.06	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #102H
Company:	XTO Energy	TVD Reference:	RKB = 33' @ 3362.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 33' @ 3362.00usft
Site:	Poker Lake Unit 28 Big Sinks	North Reference:	Grid
Well:	#102H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMITv2		

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)
-----------------------	-----------------	-------------	-----------------------	--------------	--------------	-------------------------	-------------------------	------------------------	-----------------------

Design Targets

Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PLU-28-BS #102H: SI	- plan hits target center	0.00	0.00	0.00	0.00	0.00	401,290.70	668,577.10	32.1020942	-103.7889264
	- Point									
PLU-28-BS #102H: PI	- plan misses target center by 5.38usft at 20348.53usft MD (12592.00 TVD, -8101.98 N, 297.38 E)	0.00	0.00	12,592.00	-8,102.00	292.00	393,188.70	668,869.10	32.0798184	-103.7881157
	- Point									
PLU-28-BS #102H: L	- plan misses target center by 5.79usft at 20218.52usft MD (12592.00 TVD, -7971.98 N, 296.89 E)	0.00	0.00	12,592.00	-7,972.00	291.10	393,318.70	668,868.20	32.0801757	-103.7881165
	- Point									
PLU-28-BS #102H: F	- plan hits target center	0.00	0.00	12,592.00	-685.00	269.10	400,605.70	668,846.20	32.1002075	-103.7880686
	- Point									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
862.00	862.00	Rustler			
932.00	932.00	Magenta Dolomite			
1,225.00	1,225.00	Salado			
3,961.00	3,961.00	Base of Salt			
4,175.00	4,175.00	Delaware			
5,165.00	5,165.00	Cherry Canyon			
6,851.00	6,851.00	Brushy Canyon			
7,902.00	7,902.00	Basal Brushy Canyon			
8,117.00	8,117.00	Bone Spring			
8,144.00	8,144.00	Bone Spring Lime			
9,114.01	9,114.00	1st Bone Sand			
9,527.18	9,526.00	2nd Bone Lime			
9,977.90	9,975.00	2nd Bone Sand			
10,200.74	10,197.00	3rd Bone Lime			
11,076.07	11,069.00	3rd Bone Sand			
11,399.30	11,391.00	Red Hills			
11,488.64	11,480.00	Wolfcamp			
11,517.75	11,509.00	Wolfcamp X			
11,613.11	11,604.00	Wolfcamp Y			
11,647.24	11,638.00	Wolfcamp A			
12,086.97	12,076.00	Wolfcamp B			
12,548.40	12,469.00	Wolfcamp D			
12,931.40	12,592.00	LP			



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #102H
Company:	XTO Energy	TVD Reference:	RKB = 33' @ 3362.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 33' @ 3362.00usft
Site:	Poker Lake Unit 28 Big Sinks	North Reference:	Grid
Well:	#102H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMITv2		

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Submit Original
to Appropriate
District Office

GAS CAPTURE PLAN

Date: 10/23/2020_____

☒ Original

Operator & OGRID No.: XTO Permian Operating, LLC [373075]

☐ Amended - Reason for Amendment:_____

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomple to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility: Poker Lake Unit 28 BS CTB East

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Poker Lake Unit 28 BS 701H		E-28-25S-31E	2310'FNL & 600'FWL	5000	Sold	CTB Connected to P/L
Poker Lake Unit 28 BS 703H		E-28-25S-31E	2310'FNL & 1920'FWL	5000	Sold	CTB Connected to P/L
Poker Lake Unit 28 BS 901H		E-28-25S-31E	2310'FNL & 630'FWL	5000	Sold	CTB Connected to P/L
Poker Lake Unit 28 BS 903H		E-28-25S-31E	2310'FNL & 1950'FWL	5000	Sold	CTB Connected to P/L
Poker Lake Unit 28 BS 102H		E-28-25S-31E	2310'FNL & 720'FWL	5000	Sold	CTB Connected to P/L
Poker Lake Unit 28 BS 104H		E-28-25S-31E	2310'FNL & 2040'FWL	5000	Sold	CTB Connected to P/L
Poker Lake Unit 28 BS 122H		E-28-25S-31E	2310'FNL & 690'FWL	5000	Sold	CTB Connected to P/L

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to Gas Transporter and will be connected to Gas Transporter low/high pressure gathering system located in Eddy County, New Mexico. It will require 0 of pipeline to connect the facility to low/high pressure gathering system. XTO Permian Operating, LLC, provides (periodically) to XTO Energy, Inc a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, XTO Permian Operating, LLC, and XTO Energy have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at XTO Energy Processing Plant located in Sec. 1____, Twn. 25S, Rng. 30E, Eddy County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Eddy system at that time. Based on current information, it is XTO Permian Operating, LLC's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
 - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
 - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
 - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

Subject: Request for a Variance Allowing break Testing of the Blowout Preventer Equipment (BOPE)

XTO Energy requests a variance to ONLY test broken pressure seals on the BOPE and function test BOP when skidding a drilling rig between multiple wells on a pad.

Background

Onshore Oil and Gas Order (OOGO) No. 2, Drilling Operations, Sections III.A.2.i.iv.B states that the BOP test must be performed whenever any seal subject to test pressure is broken. The current interpretation of the Bureau of Land Management (BLM) requires a complete BOP test and not just a test of the affected component. OOGO No. 2, Section I.D.2 states, “Some situation may exist either on a well-by-well basis or field-wide basis whereby it is commonly accepted practice to vary a particular minimum standard(s) established in this order. This situation can be resolved by requesting a variance...”. XTO Energy feels the break testing the BOPE is such a situation. Therefore, as per OOGO No. 2, Section IV., XTO Energy submits this request for the variance.

Supporting Documentation

OOGO No. 2 became effective on December 19, 1988 and has remained the standard for regulating BLM onshore drilling operations for over 30 years. During this time there have been significant changes in drilling technology. BLM continues to use the variance request process to allow for the use of modern technology and acceptable engineering practices that have arisen since OOGO No. 2 was originally released. The XTO Energy drilling rig fleet has many modern upgrades that allow the intact BOP stack to be moved between well slots on a multi-well pad, as well as, wellhead designs that incorporate quick connects facilitating release of the BOP from the wellhead without breaking any BOP stack components apart. These technologies have been used extensively offshore, and other regulators, API, and many operators around the world have endorsed break testing as safe and reliable.



Figure 1: Winch System attached to BOP Stack



Figure 2: BOP Winch System

American Petroleum Institute (API) standards, specification and recommended practices are considered the industry standard and are consistently utilized and referenced by the industry. OOGO No. 2 recognizes API recommended Practices (RP) 53 in its original development. API Standard 53, *Well Control Equipment Systems for Drilling Wells* (Fifth Edition, December 2018, Annex C, Table C.4) recognizes break testing as an acceptable practice. Specifically, API Standard 53, Section 5.3.7.1 states “A pressure test of the pressure containing component shall be performed following the disconnection or repair, limited to the affected component.” See Table C.4 below for reference.

62

API STANDARD 53

Table C.4—Initial Pressure Testing, Surface BOP Stacks

Component to be Pressure Tested	Pressure Test—Low Pressure ^{ac} psig (MPa)	Pressure Test—High Pressure ^{ac}	
		Change Out of Component, Elastomer, or Ring Gasket	No Change Out of Component, Elastomer, or Ring Gasket
Annular preventer ^a	250 to 350 (1.72 to 2.41)	RWP of annular preventer	MASP or 70% annular RWP, whichever is lower.
Fixed pipe, variable bore, blind, and BSR preventers ^{bd}	250 to 350 (1.72 to 2.41)	RWP of ram preventer or wellhead system, whichever is lower	ITP
Choke and kill line and BOP side outlet valves below ram preventers (both sides)	250 to 350 (1.72 to 2.41)	RWP of side outlet valve or wellhead system, whichever is lower	ITP
Choke manifold—upstream of chokes ^e	250 to 350 (1.72 to 2.41)	RWP of ram preventers or wellhead system, whichever is lower	ITP
Choke manifold—downstream of chokes ^e	250 to 350 (1.72 to 2.41)	RWP of valve(s), line(s), or MASP for the well program, whichever is lower	
Kelly, kelly valves, drill pipe safety valves, IBOPs	250 to 350 (1.72 to 2.41)	MASP for the well program	

^a Pressure test evaluation periods shall be a minimum of five minutes.

No visible leaks.

The pressure shall remain stable during the evaluation period. The pressure shall not decrease below the intended test pressure.

^b Annular(s) and VBR(s) shall be pressure tested on the largest and smallest OD drill pipe to be used in well program.

^c For pad drilling operations, moving from one wellhead to another within the 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

^d For surface offshore operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented during the initial test. For land operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented at commissioning and annually.

^e Adjustable chokes are not required to be full sealing devices. Pressure testing against a closed choke is not required.

The Bureau of Safety and Environmental Enforcement (BSEE), Department of Interior, has also utilized the API standards, specification and best practices in the development of its offshore oil and gas regulations and incorporates them by reference within its regulations.

Break testing has been approved by the BLM in the past with other operators based on the detailed information provided in this document.

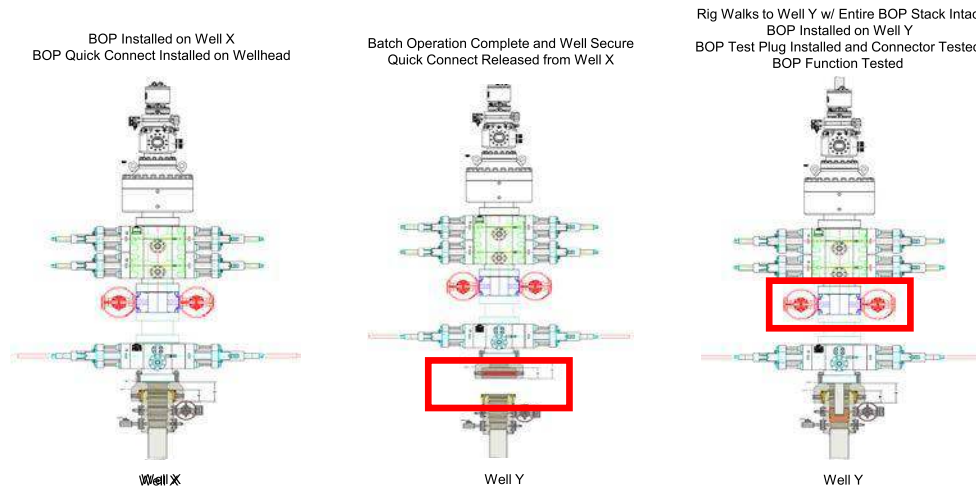
XTO Energy feels break testing and our current procedures meet the intent of OOGO No. 2 and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. XTO Energy's internal standards requires complete BOPE tests more often than that of OOGO No. 2 (Every 21 days). In addition to function testing the annular, pipe rams and blind rams after each BOP nipple up, XTO Energy performs a choke drill with the rig crew prior to drilling out every casing shoe. This is additional training for the rig crew that exceeds the requirements of the OOGO No.2.

Procedures

1. XTO Energy will use this document for our break testing plan for New Mexico Delaware basin. The summary below will be referenced in the APD or Sundry Notice and receive approval prior to implementing this variance.
2. XTO Energy will perform BOP break testing on multi-wells pads where multiple intermediate sections can be drilled and cased within the 21-day BOP test window.
 - a. A full BOP test will be conducted on the first well on the pad.
 - b. The first intermediate hole section drilled on the pad will be the deepest. All of the remaining hole sections will be the same depth or shallower.
 - i. Our Lower WC targets set the intermediate casing shoe no deeper than the Wolfcamp B.
 - ii. Our Upper WC targets set the intermediate casing shoe shallower than the Wolfcamp B.
 - c. A Full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
 - d. A full BOP test will be required prior to drilling any production hole.
3. After performing a complete BOP test on the first well, the intermediate hole section will be drilled and cased, two breaks would be made on the BOP equipment.
 - a. Between the HCV valve and choke line connection
 - b. Between the BOP quick connect and the wellhead
4. The BOP is then lifted and removed from the wellhead by a hydraulic system.
5. After skidding to the next well, the BOP is moved to the wellhead by the same hydraulic system and installed.
6. The connections mentioned in 3a and 3b will then be reconnected.
7. Install test plug into the wellhead using test joint or drill pipe.
8. A shell test is performed against the upper pipe rams testing the two breaks.
9. The shell test will consist of a 250 psi low test and a high test to the value submitted in the APD or Sundry (e.g. 5,000 psi or 10,000psi).
10. Function test will be performed on the following components: lower pipe rams, blind rams, and annular.

11. For a multi-well pad the same two breaks on the BOP would be made and on the next wells and steps 4 through 10 would be repeated.
12. A second break test would only be done if the intermediate hole section being drilled could not be completed within the 21 day BOP test window.

Note: Picture below highlights BOP components that will be tested during batch operations



Summary

A variance is requested to **ONLY** test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53. API Standard 53 states, that for pad drilling operation, moving from one wellhead to another within 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

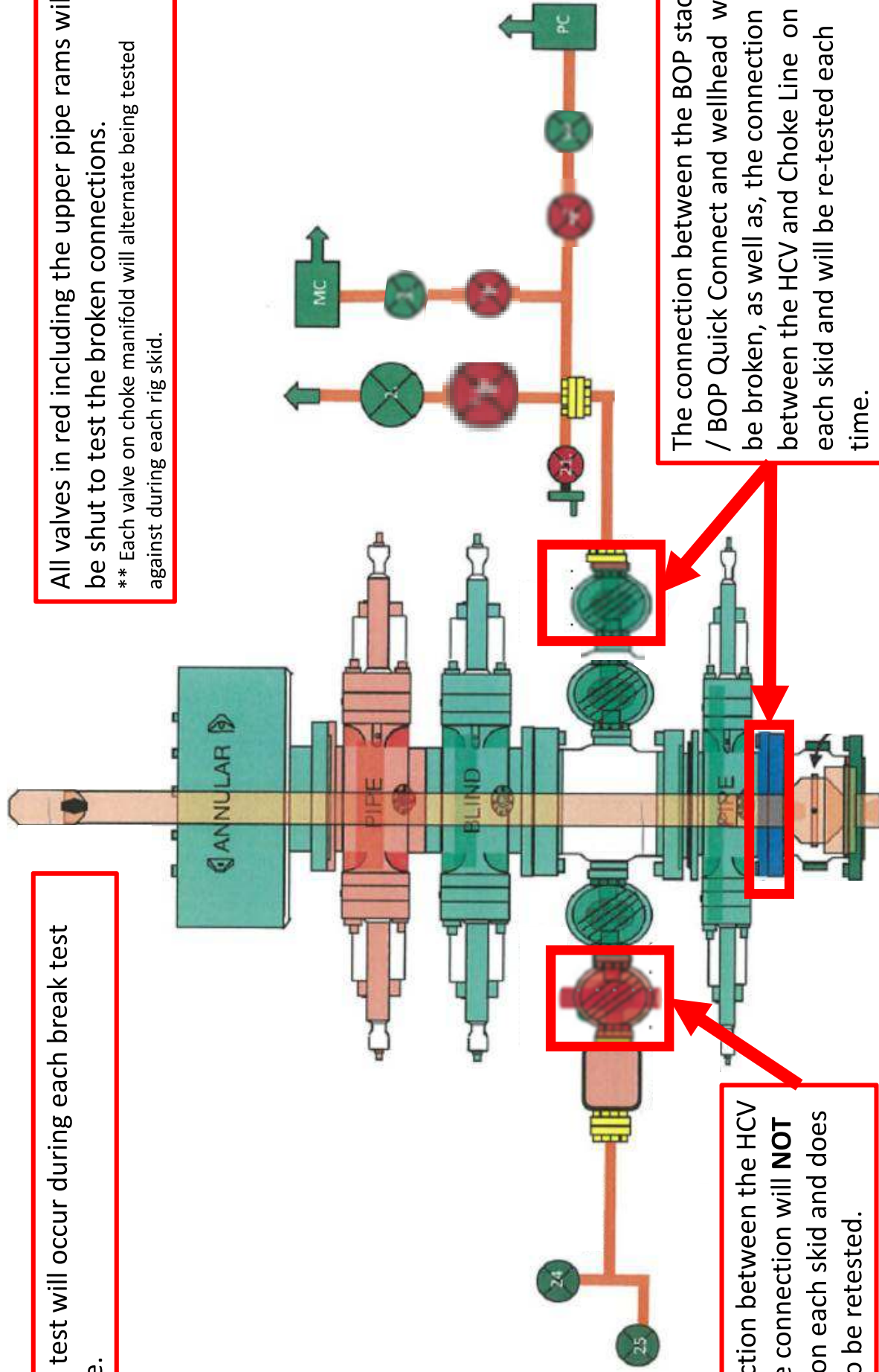
The BOP will be secured by a hydraulic carrier or cradle. The BLM will be contacted if a Well Control event occurs prior to the commencement of a BOPE Break Testing operation.

Based on discussions with the BLM on February 27th 2020 and the supporting documentation submitted to the BLM, we will request permission to **ONLY** retest broken pressure seals if the following conditions are met:

1. After a full BOP test is conducted on the first well on the pad.
2. The first intermediate hole section drilled on the pad will be the deepest. All of the remaining hole sections will be the same depth or shallower.
3. Full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
4. Full BOP test will be required prior to drilling the production hole.

Only **ONE** test will occur during each break test procedure.

All valves in red including the upper pipe rams will be shut to test the broken connections.
** Each valve on choke manifold will alternate being tested against during each rig skid.



The connection between the BOP stack / BOP Quick Connect and wellhead will be broken, as well as, the connection between the HCV and Choke Line on each skid and will be re-tested each time.

The connection between the HCV and kill line connection will **NOT** be broken on each skid and does not need to be retested.



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

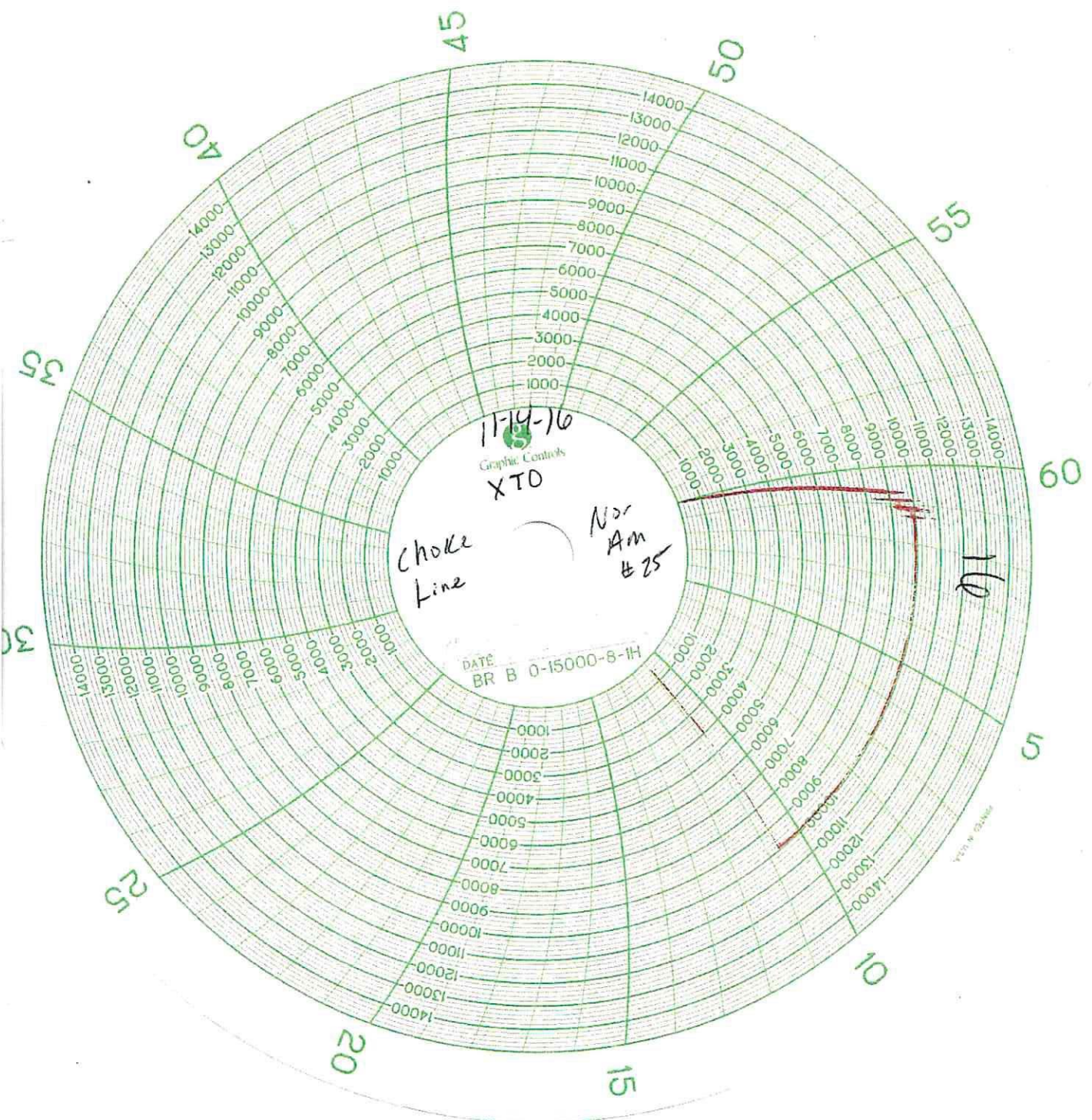
PHONE: 361-887-9807
FAX: 361-887-0812
EMAIL: crpe@s@gates.com
WEB: www.gates.com

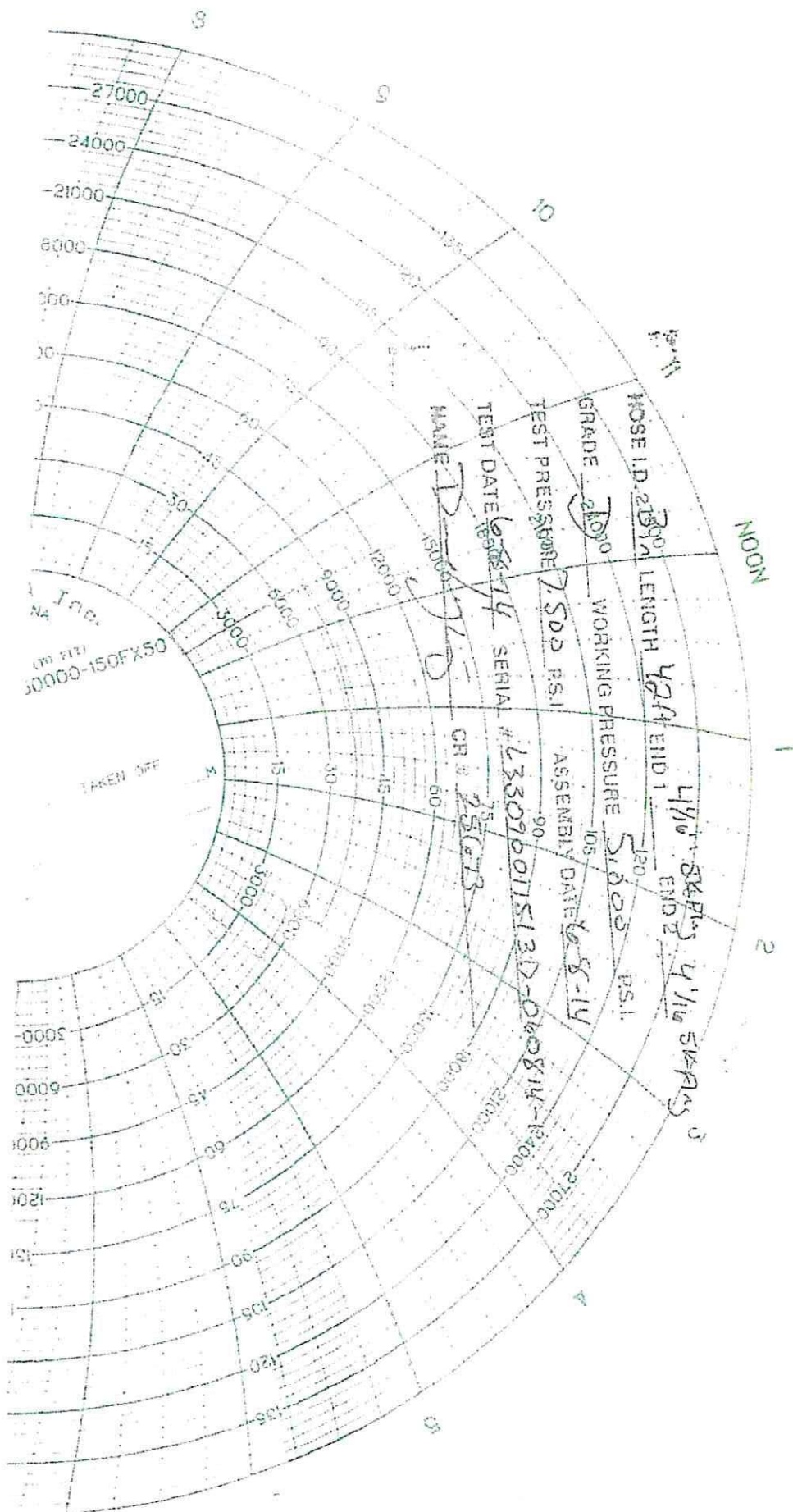
GRADE D PRESSURE TEST CERTIFICATE

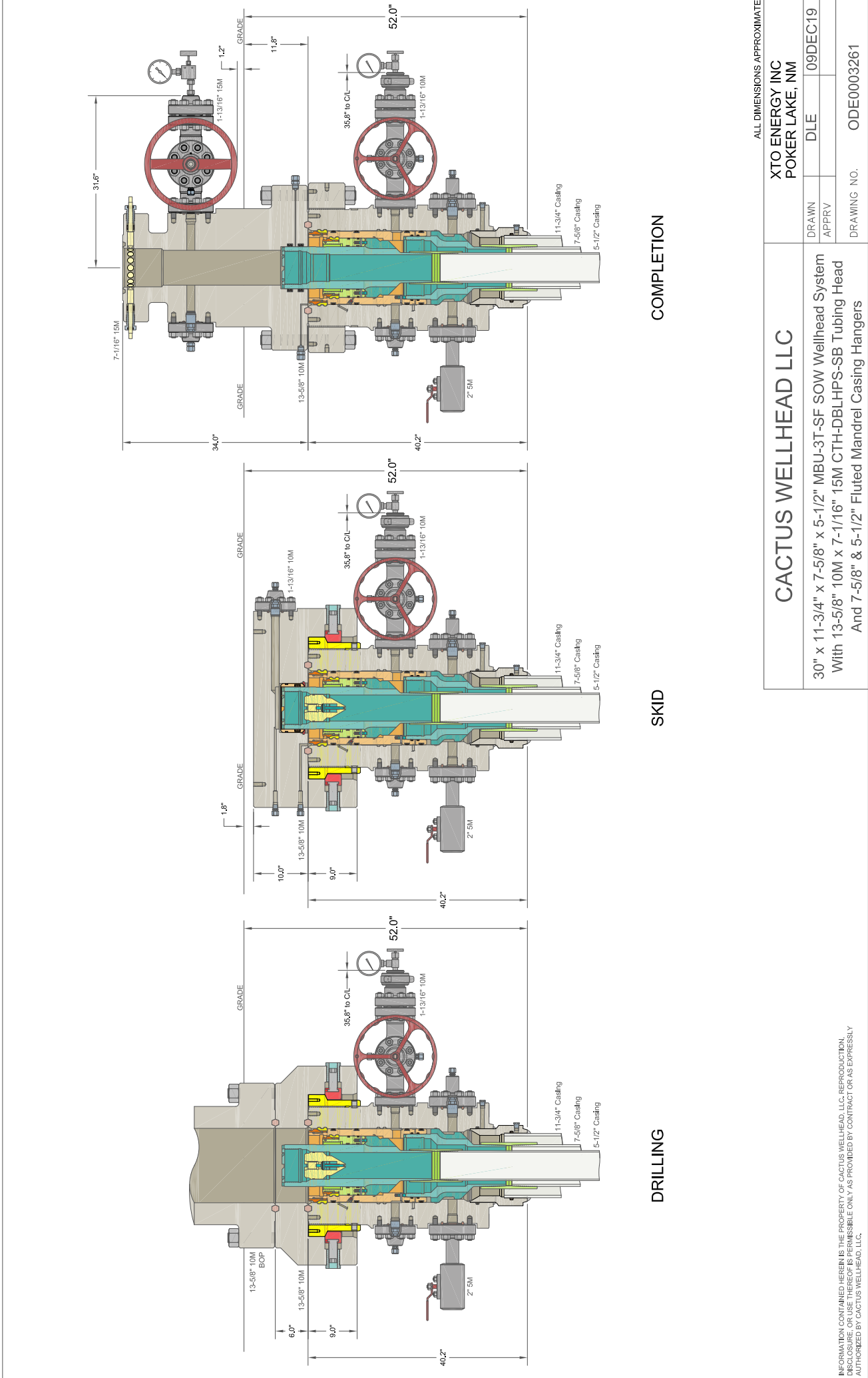
Customer :	AUSTIN DISTRIBUTING	Test Date:	6/8/2014
Customer Ref. :	PENDING	Hose Serial No.:	D-060814-1
Invoice No. :	201709	Created By:	NORMA
Product Description:	FD3.042.0R41/16.5KFLGE/E LE		
End Fitting 1 :	4 1/16 in.5K FLG	End Fitting 2 :	4 1/16 in.5K FLG
Gates Part No. :	4774-6001	Assembly Code :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







INFORMATION CONTAINED HEREIN IS THE PROPERTY OF CACTUS WELLHEAD, LLC. REPRODUCTION, DISCLOSURE, OR USE THEREOF IS PERMISSIBLE ONLY AS PROVIDED BY CONTRACT OR AS EXPRESSLY AUTHORIZED BY CACTUS WELLHEAD, LLC.

ALL DIMENSIONS APPROXIMATE			
CACTUS WELLHEAD LLC		XTO ENERGY INC POKER LAKE, NM	
30" x 11-3/4" x 7-5/8" x 5-1/2" MBU-3T-SF SOW Wellhead System With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS-SB Tubing Head And 7-5/8" & 5-1/2" Fluted Mandrel Casing Hangers		DRAWN APPRV	DLE 09DEC19
		DRAWING NO. ODE0003261	

XTO Permian Operating, LLC Offline Cementing Variance Request

XTO requests the option to cement the surface and intermediate casing strings offline as a prudent batch drilling efficiency of acreage development.

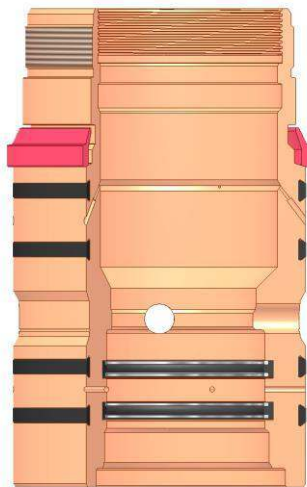
1. Cement Program

No changes to the cement program will take place for offline cementing.

2. Offline Cementing Procedure

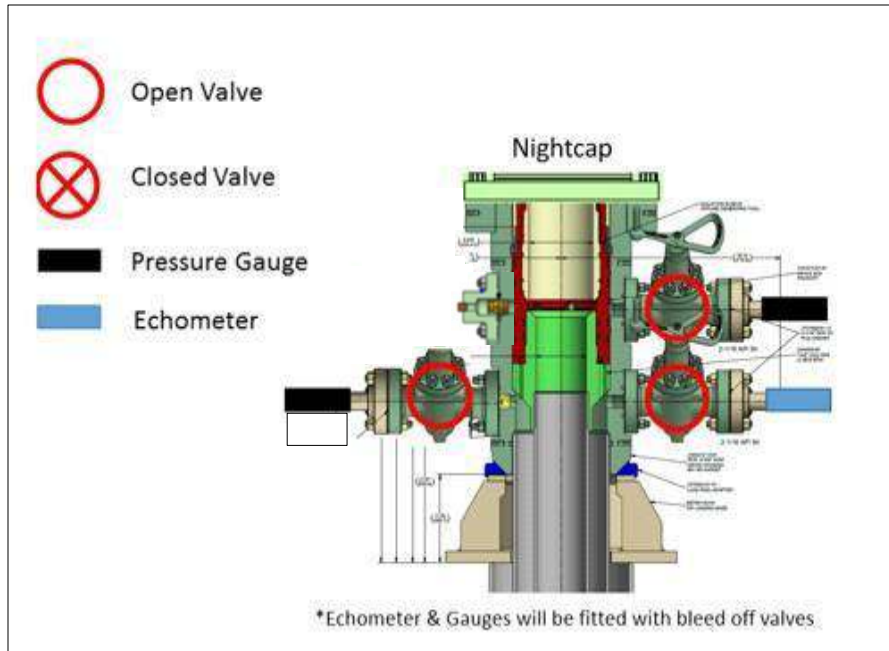
The operational sequence will be as follows. If a well control event occurs, the BLM will be contacted for approval prior to conducting offline cementing operations.

1. Run casing as per normal operations. While running casing, conduct negative pressure test and confirm integrity of the float equipment (float collar and shoe)
2. Land casing with mandrel
3. Fill pipe with kill weight fluid, do not circulate through floats and confirm well is static
4. Set annular packoff shown below and pressure test to confirm integrity of the seal. Pressure ratings of wellhead components and valves is 5,000 psi.
5. After confirmation of both annular barriers and internal barriers, nipple down BOP and install cap flange.
 - a. If any barrier fails to test, the BOP stack will not be nipped down until after the cement job is completed with cement 500ft above the highest formation capable of flow with kill weight mud above or after it has achieved 50-psi compressive strength if kill weight fluid cannot be verified.



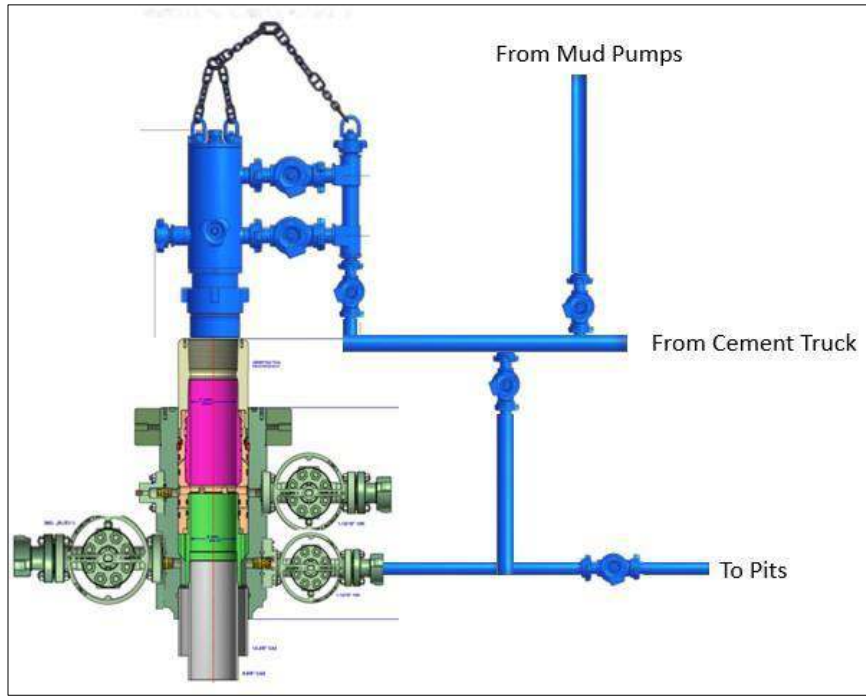
Annular packoff with both external and internal seals

XTO Permian Operating, LLC Offline Cementing Variance Request



6. Skid rig to next well on pad.
7. Confirm well is static before removing cap flange, flange will not be removed and offline cementing operations will not commence until well is under control. If well is not static, casing outlet valves will provide access to both the casing ID and annulus. Rig or third party pump truck will kill well prior to cementing or nipping up for further remediation.
 - a. Well Control Plan
 - i. The Drillers Method will be the primary well control method to regain control of the wellbore prior to cementing, if wellbore conditions do not permit the drillers method other methods of well control may be used
 - ii. Rig pumps or a 3rd party pump will be tied into the upper casing valve to pump down the casing ID
 - iii. A high pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
 - iv. Once influx is circulated out of the hole, kill weight mud will be circulated
 - v. Well will be confirmed static
 - vi. Once confirmed static, cap flange will be removed to allow for offline cementing operations to commence
8. Install offline cement tool
9. Rig up cement equipment

XTO Permian Operating, LLC Offline Cementing Variance Request



Wellhead diagram during offline cementing operations

10. Circulate bottoms up with cement truck
 - a. If gas is present on bottoms up, well will be shut in and returns rerouted through gas buster to handle entrained gas
 - b. Max anticipated time before circulating with cement truck is 6 hrs
11. Perform cement job taking returns from the annulus wellhead valve
12. Confirm well is static and floats are holding after cement job
13. Remove cement equipment, offline cement tools and install night cap with pressure gauge for monitoring.

XTO respectfully requests approval to utilize a spudder rig to pre-set surface casing.

Description of Operations:

1. Spudder rig will move in to drill the surface hole and pre-set surface casing on the well.
 - a. After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
 - b. The spudder rig will utilize fresh water-based mud to drill the surface hole to TD. Solids control will be handled entirely on a closed loop basis. No earth pits will be used.
2. The wellhead will be installed and tested as soon as the surface casing is cut off and WOC time has been reached.
3. A blind flange at the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on two wing valves.
 - a. A means for intervention will be maintained while the drilling rig is not over the well.
4. Spudder rig operations are expected to take 2-3 days per well on the pad.
5. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.
6. Drilling Operations will begin with a larger rig and a BOP stack equal to or greater than the pressure rating that was permitted will be nipped up and tested on the wellhead before drilling operations resume on each well.
 - a. The larger rig will move back onto the location within 180 days from the point at which the wells are secured and the spudder rig is moved off location.
 - b. The BLM will be notified 24 hours before the larger rig moves back on the pre-set locations
7. XTO will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.
8. Once the rig is removed, XTO will secure the wellhead area by placing a guard rail around the cellar area.