

Form 3160-3
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

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

1a. Type of work: ☒ DRILL ☐ REENTER 1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other 1c. Type of Completion: ☐ Hydraulic Fracturing ☒ Single Zone ☐ Multiple Zone		5. Lease Serial No. NMNM015302 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. CORRAL CANYON 4 FEDERAL 108H
2. Name of Operator XTO ENERGY INCORPORATED		9. API Well No. 3001547162
3a. Address 22777 Springwoods Village Parkway, Spring, TX 77389	3b. Phone No. (include area code) (432) 620-6700	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 SESE / 230 FSL / 460 FEL / LAT 32.152558 / LONG -103.982351 At proposed prod. zone LOT 1 / 200 FNL / 330 FEL / LAT 32.165972 / LONG -103.98198		11. Sec., T. R. M. or Blk. and Survey or Area SEC 4/T25S/R29E/NMP
14. Distance in miles and direction from nearest town or post office* 8 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) 230 feet		16. No of acres in lease 1917.02
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 0 feet		17. Spacing Unit dedicated to this well 320.0
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 2996 feet		20. BLM/BIA Bond No. in file FED: UTB000138
22. Approximate date work will start* 04/01/2020		23. Estimated duration 90 days
24. Attachments		

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

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

25. Signature (Electronic Submission) Title Regulatory Coordinator	Name (Printed/Typed) Stephanie Rabadue / Ph: (432) 620-6700	Date 01/15/2020
Approved by (Signature) (Electronic Submission) Title Petroleum Engineer	Name (Printed/Typed) Christopher Walls / Ph: (575) 234-2234 Office Carlsbad Field Office	Date 05/22/2020

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.



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 30-015-47162	² Pool Code 98220	³ Pool Name Purple Sage; Wolfcamp
⁴ Property Code 328260	⁵ Property Name CORRAL CANYON 4 FEDERAL	
⁷ OGRID No. 005380	⁸ Operator Name XTO ENERGY, INC.	⁶ Well Number 108H ⁹ Elevation 2,996'

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
P	4	25 S	29 E		230	SOUTH	460	EAST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
1	4	25 S	29 E		200	NORTH	330	EAST	EDDY

¹² Dedicated Acres 320 319.88	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.

LOT ACREAGE TABLE LOT 1 - 39.97 ACRES LOT 2 - 39.91 ACRES LOT 3 - 39.85 ACRES LOT 4 - 39.79 ACRES	SHL (NAD83 NME) Y = 419,413.1 X = 649,957.7 LAT. = 32.152558 °N LONG. = 103.982351 °W FTP (NAD83 NME) Y = 419,513.9 X = 650,086.6 LAT. = 32.152834 °N LONG. = 103.981933 °W CORNER COORDINATES (NAD83 NME) A - Y = 424,488.9 N , X = 649,052.0 E B - Y = 421,832.7 N , X = 649,070.6 E C - Y = 419,178.7 N , X = 649,088.9 E D - Y = 424,494.6 N , X = 650,385.3 E E - Y = 421,839.9 N , X = 650,402.3 E F - Y = 419,185.6 N , X = 650,418.6 E	LTP (NAD83 NME) Y = 424,163.2 X = 650,057.4 LAT. = 32.165615 °N LONG. = 103.981978 °W BHL (NAD83 NME) Y = 424,293.2 X = 650,056.5 LAT. = 32.165972 °N LONG. = 103.981980 °W	¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Stephanie Rabadue</i> 11/22/2019 Signature Date Stephanie Rabadue Printed Name stephanie_rabadue@xtoenergy.com E-mail Address
	SHL (NAD27 NME) Y = 419,354.4 X = 608,773.7 LAT. = 32.152434 °N LONG. = 103.981863 °W FTP (NAD27 NME) Y = 419,455.1 X = 608,902.6 LAT. = 32.152710 °N LONG. = 103.981445 °W CORNER COORDINATES (NAD27 NME) A - Y = 424,430.0 N , X = 607,868.2 E B - Y = 421,773.9 N , X = 607,886.7 E C - Y = 419,120.0 N , X = 607,904.9 E D - Y = 424,435.7 N , X = 609,201.4 E E - Y = 421,781.0 N , X = 609,218.4 E F - Y = 419,126.8 N , X = 609,234.6 E	LTP (NAD27 NME) Y = 424,104.3 X = 608,873.5 LAT. = 32.165490 °N LONG. = 103.981490 °W BHL (NAD27 NME) Y = 424,234.3 X = 608,872.7 LAT. = 32.165848 °N LONG. = 103.981491 °W	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. 11-21-2019 Date of Survey Signature and Seal of Professional Surveyor: MARK DILLON HARP 23786 Certificate Number AR 2019020489

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO Energy, Inc.
LEASE NO.:	NMNM-015302
WELL NAME & NO.:	Corral Canyon 4 Federal 108H
SURFACE HOLE FOOTAGE:	0230' FSL & 0460' FEL
BOTTOM HOLE FOOTAGE:	0200' FNL & 0330' FEL Sec. 04, T. 25 S., R. 29 E.
LOCATION:	Section 04, T. 25 S., R. 29 E., NMPM
COUNTY:	Eddy County, New Mexico

COA

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

Operator will use a 5M multibowl after setting surface casing. The 12-1/4" intermediate hole section surpasses a 2M rating and a 2M BOP system is NOT approved.

A. HYDROGEN SULFIDE

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

Medium Cave/Karst

Possibility of water flows in the Salado and Castile.

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

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **530** feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.

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

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

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

- a. First stage to DV tool:
 - Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
 - b. Second stage above DV tool:
 - Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.**
- ❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

3. The minimum required fill of cement behind the 5-1/2 inch production casing is:
 - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).
2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

GENERAL REQUIREMENTS

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

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

☒ Eddy County

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

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

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

2. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing 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. A variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer.
 - c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
 - d. The results of the test shall be reported to the appropriate BLM office.
 - e. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
 - f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
 - g. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

JAM 05202020



Operator Certification

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

NAME: Stephanie Rabadue

Signed on: 05/17/2018

Title: Regulatory Coordinator

Street Address: 500 W. Illinois St, Ste 100

City: Midland

State: TX

Zip: 79701

Phone: (432)620-6714

Email address: stephanie_rabadue@xtoenergy.com

Field Representative

Representative Name:

Street Address:

City:

State:

Zip:

Phone:

Email address:



APD ID: 10400052839

Submission Date: 01/15/2020

Highlighted data
reflects the most
recent changes

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON 4 FEDERAL

Well Number: 108H

[Show Final Text](#)

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Section 1 - General

APD ID: 10400052839

Tie to previous NOS? N

Submission Date: 01/15/2020

BLM Office: CARLSBAD

User: Stephanie Rabadue

Title: Regulatory Coordinator

Federal/Indian APD: FED

Is the first lease penetrated for production Federal or Indian? FED

Lease number: NMNM015302

Lease Acres: 1917.02

Surface access agreement in place?

Allotted?

Reservation:

Agreement in place? NO

Federal or Indian agreement:

Agreement number:

Agreement name:

Keep application confidential? NO

Permitting Agent? NO

APD Operator: XTO ENERGY INCORPORATED

Operator letter of designation:

Operator Info

Operator Organization Name: XTO ENERGY INCORPORATED

Operator Address: 22777 Springwoods Village Parkway

Zip: 77389

Operator PO Box:

Operator City: Spring

State: TX

Operator Phone: (432)620-6700

Operator Internet Address: Richard_redus@xtoenergy.com

Section 2 - Well Information

Well in Master Development Plan? NO

Master Development Plan name:

Well in Master SUPO? NO

Master SUPO name:

Well in Master Drilling Plan? NO

Master Drilling Plan name:

Well Name: CORRAL CANYON 4 FEDERAL

Well Number: 108H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: PURPLE SAGE
WOLFCAMP GAS

Pool Name:

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

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON 4 FEDERAL

Well Number: 108H

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

Describe other minerals: Produced Water

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

Type of Well Pad: MULTIPLE WELL

Multiple Well Pad Name: CC 4 **Number:** 4

Well Class: HORIZONTAL

Fed

Number of Legs: 1

Well Work Type: Drill

Well Type: CONVENTIONAL GAS WELL

Describe Well Type:

Well sub-Type: DELINEATION

Describe sub-type:

Distance to town: 8 Miles

Distance to nearest well: 0 FT

Distance to lease line: 230 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: CC_4_Fed_108H_C102_20191227111531.pdf

Well work start Date: 04/01/2020

Duration: 90 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83

Vertical Datum: NAVD88

Survey number:

Reference Datum: GROUND LEVEL

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
SHL Leg #1	230	FSL	460	FEL	25S	29E	4	Aliquot SESE	32.152558	-103.982351	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 015302	2996	0	0	Y
KOP Leg #1	230	FSL	460	FEL	25S	29E	4	Aliquot SESE	32.152558	-103.982351	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 015302	-639	3635	3635	Y
PPP Leg #1-1	330	FSL	330	FEL	25S	29E	4	Aliquot NENE	32.152834	-103.981933	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 015302	-7100	10449	10096	Y

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON 4 FEDERAL

Well Number: 108H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
EXIT Leg #1	330	FNL	330	FEL	25S	30E	4	Lot 1	32.165615	- 103.981978	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 015302	- 7059	15109	10055	Y
BHL Leg #1	200	FNL	330	FEL	25S	30E	4	Lot 1	32.165972	- 103.98198	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 015302	- 7058	15239	10054	Y



APD ID: 10400052839

Submission Date: 01/15/2020

Highlighted data
reflects the most
recent changes

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON 4 FEDERAL

Well Number: 108H

[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
620656	PERMIAN	2996	0	0	OTHER : Quaternary	NONE	N
620657	RUSTLER	2347	649	649	SILTSTONE	USEABLE WATER	N
620654	TOP SALT	2284	712	712	SALT	NONE	N
620651	BASE OF SALT	219	2777	2777	SALT	NONE	N
620658	DELAWARE	30	2966	2966	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
620659	BONE SPRING	-3741	6737	6737	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
620655	BONE SPRING 1ST	-4592	7588	7588	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
620652	BONE SPRING 2ND	-4938	7934	7934	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
620661	BONE SPRING 3RD	-5737	8733	8733	SANDSTONE	NATURAL GAS, OIL, OTHER, USEABLE WATER : produced water	N
620662	WOLFCAMP	-7065	10061	10061	SHALE	NATURAL GAS, OIL, OTHER, USEABLE WATER : produced water	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 2M

Rating Depth: 530

Equipment: The blow out preventer equipment (BOP) on surface casing temporary wellhead will consist of a 21-1/4 minimum 2M Hydril.

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.

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 or 1500psi, whichever is greater. All BOP tests will include a low pressure test as per BLM regulations. The 2M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON 4 FEDERAL

Well Number: 108H

Choke Diagram Attachment:

CC_4_Fed_2MCM_20191227112138.pdf

BOP Diagram Attachment:

CC_4_Fed_2MBOP_20191227112147.pdf

Pressure Rating (PSI): 5M

Rating Depth: 10054

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

Requesting Variance? YES

Variance request: A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test chart will be kept on the rig. Attached is an example of a certification and pressure test chart. The manufacturer does not require anchors. XTO requests to utilize centralizers only in the curve after the KOP and only a minimum of one every other joint. Permanent Wellhead – GE RSH Multibowl System A. Starting Head: 13-5/8" 5M top flange x 13-3/8" SOW bottom B. Tubing Head: 13-5/8" 5M bottom flange x 7-1/16" 10M top flange Wellhead will be installed by manufacturer's representatives. Manufacturer will monitor welding process to ensure appropriate temperature of seal. Operator will test the 9-5/8" casing per BLM Onshore Order 2 Wellhead Manufacturer representative will not be present for BOP test plug installation

Testing Procedure: All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 50% of the working pressure. When nipping up on the 13-5/8 5M bradenhead and flange, the BOP test will be limited to 000 psi. When nipping up on the 9-5/8, the BOP will be tested to a minimum of 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:

CC_4_Fed_5MCM_20191227112211.pdf

BOP Diagram Attachment:

CC_4_Fed_5MBOP_20191227112220.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	530	0	530	2996	2466	530	J-55	54.5	ST&C	4.66	1.36	DRY	23.37	DRY	23.37
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	6710	0	6710		-3714	6710	J-55	40	LT&C	1.26	1.11	DRY	2.71	DRY	2.71
3	PRODUCTION	8.75	5.5	NEW	API	N	0	15239	0	10054		-7058	15239	P-110	17	BUTT	1.3	1.01	DRY	2.7	DRY	2.7

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON 4 FEDERAL

Well Number: 108H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

CC_4_Fed_108H_Csg_20191227112251.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

CC_4_Fed_108H_Csg_20191227112307.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

CC_4_Fed_108H_Csg_20191227112319.pdf

Section 4 - Cement

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON 4 FEDERAL

Well Number: 108H

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

INTERMEDIATE	Lead	630	0	630	130	1.35	12.9	175.5	100	Halcem-C	2% CaCl
--------------	------	-----	---	-----	-----	------	------	-------	-----	----------	---------

INTERMEDIATE	Lead	630	630	6710	1900	1.88	12.9	3572	100	HalCem-C	2% CaCl
INTERMEDIATE	Tail				470	14.8	1.33	625.1	100	Halcem-C	2% CaCl
PRODUCTION	Lead		0	1523 9	2800	1.61	13.2	4508	30	NeoCem	None

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

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

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

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
6710	1005 4	OIL-BASED MUD	10.7	11							A Pason or Totco will be used to detect changes in loss or

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON 4 FEDERAL

Well Number: 108H

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
											gain of mud volume. A mud test will be performed every 24 hrs to determine: density, viscosity, strength, filtration and pH as necessary. Solids control equipment will be used to operate as a closed loop system.
0	530	OTHER : FW/Native	8.4	8.8							A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hrs to determine: density, viscosity, strength, filtration and pH as necessary. Solids control equipment will be used to operate as a closed loop system.
530	6710	OTHER : Brine/Gel Sweeps	9.5	10.2							A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hrs to determine: density, viscosity, strength, filtration and pH as necessary. Solids control equipment will be used to operate as a closed loop system.

Section 6 - Test, Logging, Coring

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

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

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

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

Coring operation description for the well:

No coring will take place on this well.

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON 4 FEDERAL

Well Number: 108H

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5594

Anticipated Surface Pressure: 3372

Anticipated Bottom Hole Temperature(F): 150

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

Describe:

Contingency Plans geohazards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

CC_4_Fed_H2S_D_P4_20191227104305.pdf

CC_4_Fed_H2S_Plan_20191227073621.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

CC_4_Fed_108H_DD_20191227112436.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

CC_4_Fed_GCP_20191227073642.pdf

Other Variance attachment:

CC_4_Fed_13.38x5.5MBS_20191227073703.pdf

CC_4_Fed_FH_20191227073654.pdf

Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17-1/2"	0' – 530'	13-3/8"	54.5	STC	J-55	New	1.36	4.66	23.37
12-1/4"	0' – 6710'	9-5/8"	40	LTC	J-55	New	1.11	1.26	2.71
8-3/4"	0' – 15239'	5-1/2"	17	BTC	P-110	New	1.01	1.30	2.70

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

WELLHEAD:*Permanent Wellhead – GE RSH Multibowl System*

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

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

- 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

Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17-1/2"	0' – 530'	13-3/8"	54.5	STC	J-55	New	1.36	4.66	23.37
12-1/4"	0' – 6710'	9-5/8"	40	LTC	J-55	New	1.11	1.26	2.71
8-3/4"	0' – 15239'	5-1/2"	17	BTC	P-110	New	1.01	1.30	2.70

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

WELLHEAD:*Permanent Wellhead – GE RSH Multibowl System*

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

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

- 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

Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17-1/2"	0' – 530'	13-3/8"	54.5	STC	J-55	New	1.36	4.66	23.37
12-1/4"	0' – 6710'	9-5/8"	40	LTC	J-55	New	1.11	1.26	2.71
8-3/4"	0' – 15239'	5-1/2"	17	BTC	P-110	New	1.01	1.30	2.70

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

WELLHEAD:*Permanent Wellhead – GE RSH Multibowl System*

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

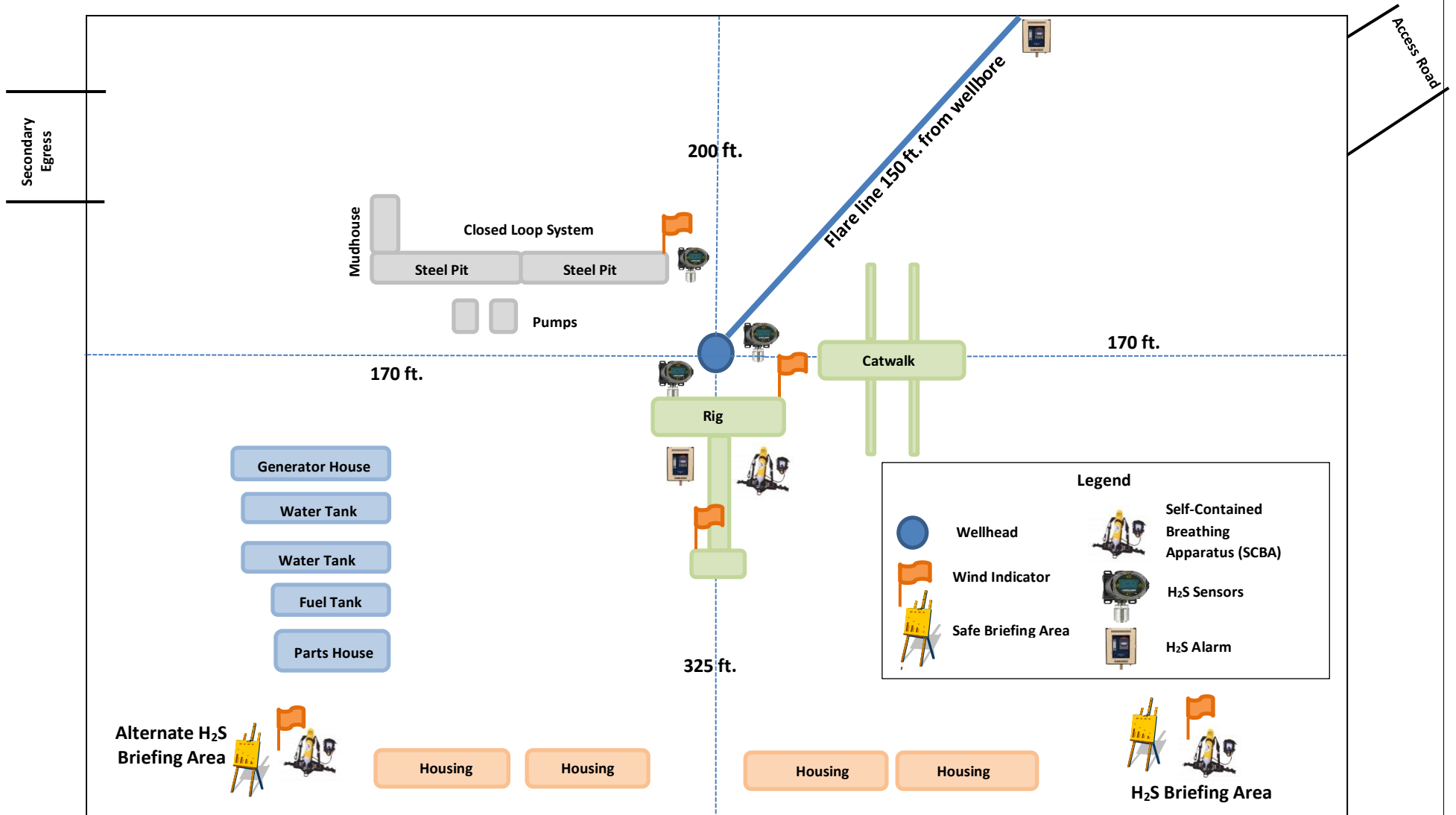
B. Tubing Head: 13-5/8" 5M bottom flange x 7-1/16" 10M top flange

- 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



Prevailing Winds
Direction SW

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)

Corral Canyon 4 Fed

#108H

OH

Plan: PERMIT

Standard Planning Report

20 November, 2019



Project: Eddy County, NM (NAD-27)
Site: Corral Canyon 4 Fed
Well: #108H
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: #108H

Rig Name:		RKB = 25' @ 3021.00usft			
Ground Level:		2996.00			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	419354.40	608773.70	32.1524340	-103.9818627

DESIGN TARGET DETAILS

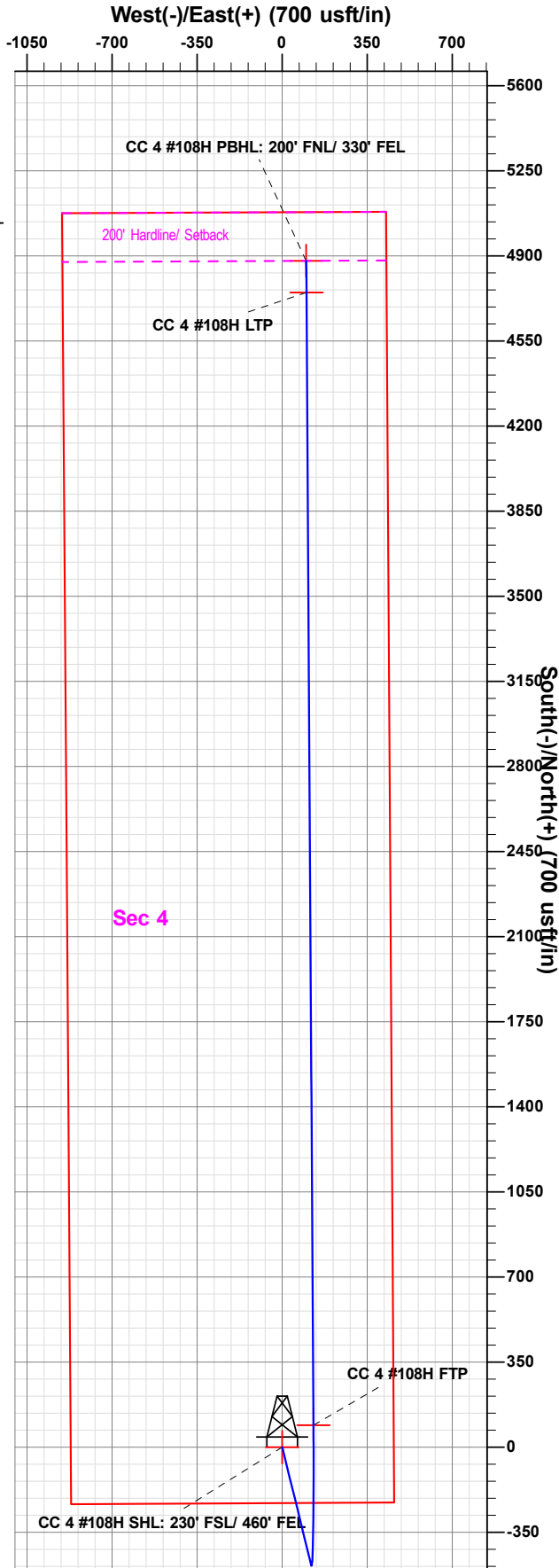
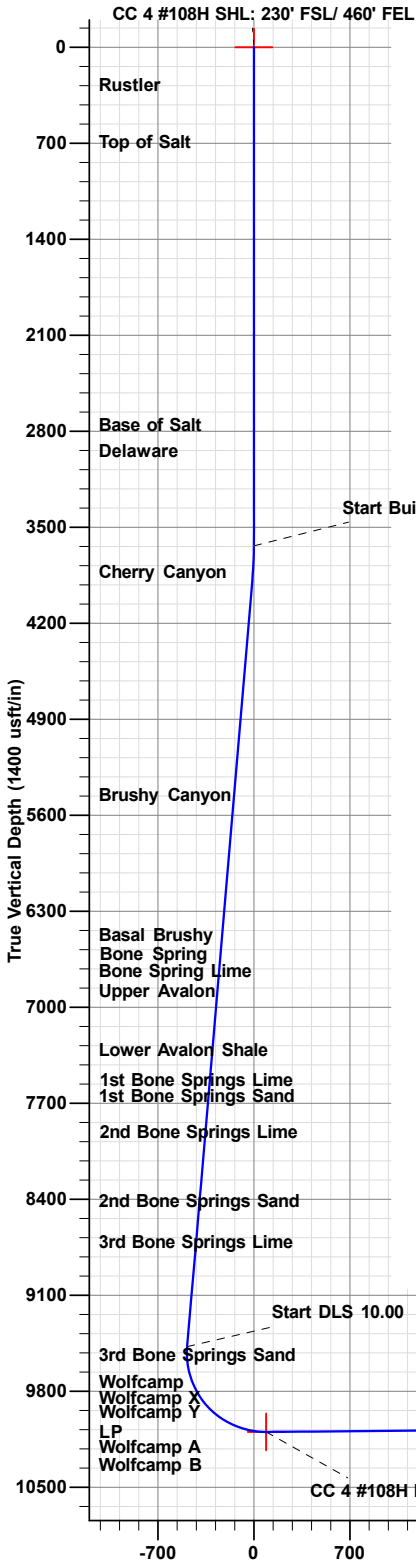
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
CC 4 #108H SHL: 230' FSL/ 460' FEL	0.00	0.00	0.00	419354.40	608773.70	32.1524340	-103.9818627
CC 4 #108H PBHL: 200' FNL/ 330' FEL	10054.20	4879.90	99.00	424234.30	608872.70	32.1658478	-103.9814912
CC 4 #108H LTP	10055.34	4749.90	99.80	424104.30	608873.50	32.1654904	-103.9814900
CC 4 #108H FTP	10096.00	90.70	128.90	419445.10	608902.60	32.1526821	-103.9814452

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	3635.00	0.00	0.00	3635.00	0.00	0.00	0.00	0.00	0.00
3	3884.92	5.00	166.14	3884.61	-10.58	2.61	2.00	166.14	-10.59
4	9496.31	5.00	166.14	9474.65	-485.27	119.70	0.00	0.00	-486.01
5	10449.91	90.50	359.64	10096.00	90.70	128.90	10.00	-166.44	89.89
6	15109.38	90.50	359.64	10055.34	4749.90	99.81	0.00	0.00	4749.18
7	15239.39	90.50	359.64	10054.20	4879.90	99.00	0.00	0.00	4879.18

FORMATION TOP DETAILS

TVDPATH	Formation
345.00	Rustler
760.00	Top of Salt
2825.00	Base of Salt
3014.00	Delaware
3895.00	Cherry Canyon
5527.00	Brushy Canyon
6545.00	Basal Brushy
6785.00	Bone Spring
6807.00	Bone Spring Lime
6953.00	Upper Avalon
7383.00	Lower Avalon Shale
7636.00	1st Bone Springs Lime
7715.00	1st Bone Springs Sand
7982.00	2nd Bone Springs Lime
8485.00	2nd Bone Springs Sand
8781.00	3rd Bone Springs Lime
9604.00	3rd Bone Springs Sand
9975.00	Wolfcamp
9989.00	Wolfcamp X
10066.00	Wolfcamp Y
10096.00	LP



Vertical Section at 359.64° (1400 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: PERMIT (#108H/OH)

Created By: Matthew May Date: 13:12, November 20 2019

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

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-	² Pool Code	³ Pool Name
⁴ Property Code	⁵ Property Name CORRAL CANYON 4 FEDERAL	⁶ Well Number 108H
⁷ OGRID No. 005380	⁸ Operator Name XTO ENERGY, INC.	⁹ Elevation 2,996'

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
P	4	25 S	29 E		230	SOUTH	460	EAST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	4	25 S	29 E		200	NORTH	330	EAST	EDDY

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

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

¹⁶ LOT ACREAGE TABLE <table><tr><td>LOT 1</td><td>-</td><td>39.97 ACRES</td></tr><tr><td>LOT 2</td><td>-</td><td>39.91 ACRES</td></tr><tr><td>LOT 3</td><td>-</td><td>39.85 ACRES</td></tr><tr><td>LOT 4</td><td>-</td><td>39.79 ACRES</td></tr></table>	LOT 1	-	39.97 ACRES	LOT 2	-	39.91 ACRES	LOT 3	-	39.85 ACRES	LOT 4	-	39.79 ACRES	SHL (NAD83 NME) Y = 419,413.1 X = 649,957.7 LAT. = 32.152558 °N LONG. = 103.982351 °W LTP (NAD83 NME) Y = 424,163.2 X = 650,057.4 LAT. = 32.165615 °N LONG. = 103.981978 °W FTP (NAD83 NME) Y = 419,513.9 X = 650,086.6 LAT. = 32.152834 °N LONG. = 103.981933 °W BHL (NAD83 NME) Y = 424,293.2 X = 650,056.5 LAT. = 32.165972 °N LONG. = 103.981980 °W CORNER COORDINATES (NAD83 NME) A - Y = 424,488.9 N , X = 649,052.0 E B - Y = 421,832.7 N , X = 649,070.6 E C - Y = 419,178.7 N , X = 649,088.9 E D - Y = 424,494.6 N , X = 650,385.3 E E - Y = 421,839.9 N , X = 650,402.3 E F - Y = 419,185.6 N , X = 650,418.6 E SHL (NAD27 NME) Y = 419,354.4 X = 608,773.7 LAT. = 32.152434 °N LONG. = 103.981863 °W LTP (NAD27 NME) Y = 424,104.3 X = 608,873.5 LAT. = 32.165490 °N LONG. = 103.981490 °W FTP (NAD27 NME) Y = 419,455.1 X = 608,902.6 LAT. = 32.152710 °N LONG. = 103.981445 °W BHL (NAD27 NME) Y = 424,234.3 X = 608,872.7 LAT. = 32.165848 °N LONG. = 103.981491 °W CORNER COORDINATES (NAD27 NME) A - Y = 424,430.0 N , X = 607,868.2 E B - Y = 421,773.9 N , X = 607,886.7 E C - Y = 419,120.0 N , X = 607,904.9 E D - Y = 424,435.7 N , X = 609,201.4 E E - Y = 421,781.0 N , X = 609,218.4 E F - Y = 419,126.8 N , X = 609,234.6 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. Signature _____ Date _____ Printed Name _____ E-mail Address _____ ¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. 11-14-2019 Date of Survey Signature and Seal of Professional Surveyor: _____ PRELIMINARY, THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE AND SHALL NOT BE USED OR VIEWED OR RELIED UPON AS A FINAL SURVEY DOCUMENT MARK DILLON HARP 23786 Certificate Number AR 2019020489
LOT 1	-	39.97 ACRES												
LOT 2	-	39.91 ACRES												
LOT 3	-	39.85 ACRES												
LOT 4	-	39.79 ACRES												



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #108H
Company:	XTO Energy	TVD Reference:	RKB = 25' @ 3021.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 25' @ 3021.00usft
Site:	Corral Canyon 4 Fed	North Reference:	Grid
Well:	#108H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

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

Site		Corral Canyon 4 Fed			
Site Position:		Northing:	418,905.60 usft	Latitude:	32.1512244
From:	Map	Easting:	606,049.80 usft	Longitude:	-103.9906686
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.18 °

Well	#108H					
Well Position	+N/-S	448.80 usft	Northing:	419,354.40 usft	Latitude:	32.1524340
	+E/-W	2,723.90 usft	Easting:	608,773.70 usft	Longitude:	-103.9818627
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	2,996.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	11/20/19	6.88	59.90	47,606

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	359.64

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	
3,635.00	0.00	0.00	3,635.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,884.92	5.00	166.14	3,884.61	-10.58	2.61	2.00	2.00	0.00	166.14	
9,496.31	5.00	166.14	9,474.65	-485.27	119.70	0.00	0.00	0.00	0.00	
10,449.91	90.50	359.64	10,096.00	90.70	128.90	10.00	8.97	-17.46	-166.44	CC 4 #108H FTP
15,109.38	90.50	359.64	10,055.34	4,749.90	99.81	0.00	0.00	0.00	0.00	CC 4 #108H LTP
15,239.39	90.50	359.64	10,054.20	4,879.90	99.00	0.00	0.00	0.00	0.00	CC 4 #108H PBHL:



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #108H
Company:	XTO Energy	TVD Reference:	RKB = 25' @ 3021.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 25' @ 3021.00usft
Site:	Corral Canyon 4 Fed	North Reference:	Grid
Well:	#108H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
345.00	0.00	0.00	345.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
760.00	0.00	0.00	760.00	0.00	0.00	0.00	0.00	0.00	0.00
Top of Salt									
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
2,825.00	0.00	0.00	2,825.00	0.00	0.00	0.00	0.00	0.00	0.00
Base of Salt									
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
3,014.00	0.00	0.00	3,014.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware									
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
3,635.00	0.00	0.00	3,635.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	1.30	166.14	3,699.99	-0.72	0.18	-0.72	2.00	2.00	0.00
3,800.00	3.30	166.14	3,799.91	-4.61	1.14	-4.62	2.00	2.00	0.00
3,884.92	5.00	166.14	3,884.61	-10.58	2.61	-10.59	2.00	2.00	0.00
3,895.36	5.00	166.14	3,895.00	-11.46	2.83	-11.48	0.00	0.00	0.00
Cherry Canyon									
3,900.00	5.00	166.14	3,899.63	-11.85	2.92	-11.87	0.00	0.00	0.00
4,000.00	5.00	166.14	3,999.25	-20.31	5.01	-20.34	0.00	0.00	0.00
4,100.00	5.00	166.14	4,098.87	-28.77	7.10	-28.82	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #108H
Company:	XTO Energy	TVD Reference:	RKB = 25' @ 3021.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 25' @ 3021.00usft
Site:	Corral Canyon 4 Fed	North Reference:	Grid
Well:	#108H	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)
4,200.00	5.00	166.14	4,198.48	-37.23	9.18	-37.29	0.00	0.00	0.00
4,300.00	5.00	166.14	4,298.10	-45.69	11.27	-45.76	0.00	0.00	0.00
4,400.00	5.00	166.14	4,397.72	-54.15	13.36	-54.23	0.00	0.00	0.00
4,500.00	5.00	166.14	4,497.34	-62.61	15.44	-62.71	0.00	0.00	0.00
4,600.00	5.00	166.14	4,596.96	-71.07	17.53	-71.18	0.00	0.00	0.00
4,700.00	5.00	166.14	4,696.58	-79.53	19.62	-79.65	0.00	0.00	0.00
4,800.00	5.00	166.14	4,796.20	-87.99	21.70	-88.12	0.00	0.00	0.00
4,900.00	5.00	166.14	4,895.82	-96.45	23.79	-96.59	0.00	0.00	0.00
5,000.00	5.00	166.14	4,995.44	-104.91	25.88	-105.07	0.00	0.00	0.00
5,100.00	5.00	166.14	5,095.06	-113.37	27.96	-113.54	0.00	0.00	0.00
5,200.00	5.00	166.14	5,194.68	-121.82	30.05	-122.01	0.00	0.00	0.00
5,300.00	5.00	166.14	5,294.30	-130.28	32.14	-130.48	0.00	0.00	0.00
5,400.00	5.00	166.14	5,393.92	-138.74	34.22	-138.96	0.00	0.00	0.00
5,500.00	5.00	166.14	5,493.54	-147.20	36.31	-147.43	0.00	0.00	0.00
5,533.59	5.00	166.14	5,527.00	-150.04	37.01	-150.27	0.00	0.00	0.00
Brushy Canyon									
5,600.00	5.00	166.14	5,593.16	-155.66	38.40	-155.90	0.00	0.00	0.00
5,700.00	5.00	166.14	5,692.78	-164.12	40.48	-164.37	0.00	0.00	0.00
5,800.00	5.00	166.14	5,792.40	-172.58	42.57	-172.85	0.00	0.00	0.00
5,900.00	5.00	166.14	5,892.02	-181.04	44.66	-181.32	0.00	0.00	0.00
6,000.00	5.00	166.14	5,991.64	-189.50	46.74	-189.79	0.00	0.00	0.00
6,100.00	5.00	166.14	6,091.26	-197.96	48.83	-198.26	0.00	0.00	0.00
6,200.00	5.00	166.14	6,190.88	-206.42	50.92	-206.73	0.00	0.00	0.00
6,300.00	5.00	166.14	6,290.50	-214.88	53.00	-215.21	0.00	0.00	0.00
6,400.00	5.00	166.14	6,390.12	-223.34	55.09	-223.68	0.00	0.00	0.00
6,500.00	5.00	166.14	6,489.74	-231.80	57.18	-232.15	0.00	0.00	0.00
6,555.47	5.00	166.14	6,545.00	-236.49	58.33	-236.85	0.00	0.00	0.00
Basal Brushy									
6,600.00	5.00	166.14	6,589.36	-240.26	59.26	-240.62	0.00	0.00	0.00
6,700.00	5.00	166.14	6,688.98	-248.72	61.35	-249.10	0.00	0.00	0.00
6,796.39	5.00	166.14	6,785.00	-256.87	63.36	-257.26	0.00	0.00	0.00
Bone Spring									
6,800.00	5.00	166.14	6,788.60	-257.17	63.44	-257.57	0.00	0.00	0.00
6,818.47	5.00	166.14	6,807.00	-258.74	63.82	-259.13	0.00	0.00	0.00
Bone Spring Lime									
6,900.00	5.00	166.14	6,888.22	-265.63	65.52	-266.04	0.00	0.00	0.00
6,965.03	5.00	166.14	6,953.00	-271.14	66.88	-271.55	0.00	0.00	0.00
Upper Avalon									
7,000.00	5.00	166.14	6,987.84	-274.09	67.61	-274.51	0.00	0.00	0.00
7,100.00	5.00	166.14	7,087.46	-282.55	69.70	-282.99	0.00	0.00	0.00
7,200.00	5.00	166.14	7,187.08	-291.01	71.78	-291.46	0.00	0.00	0.00
7,300.00	5.00	166.14	7,286.70	-299.47	73.87	-299.93	0.00	0.00	0.00
7,396.67	5.00	166.14	7,383.00	-307.65	75.89	-308.12	0.00	0.00	0.00
Lower Avalon Shale									
7,400.00	5.00	166.14	7,386.32	-307.93	75.96	-308.40	0.00	0.00	0.00
7,500.00	5.00	166.14	7,485.94	-316.39	78.04	-316.87	0.00	0.00	0.00
7,600.00	5.00	166.14	7,585.55	-324.85	80.13	-325.35	0.00	0.00	0.00
7,650.64	5.00	166.14	7,636.00	-329.13	81.19	-329.64	0.00	0.00	0.00
1st Bone Springs Lime									
7,700.00	5.00	166.14	7,685.17	-333.31	82.22	-333.82	0.00	0.00	0.00
7,729.94	5.00	166.14	7,715.00	-335.84	82.84	-336.36	0.00	0.00	0.00
1st Bone Springs Sand									
7,800.00	5.00	166.14	7,784.79	-341.77	84.30	-342.29	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #108H
Company:	XTO Energy	TVD Reference:	RKB = 25' @ 3021.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 25' @ 3021.00usft
Site:	Corral Canyon 4 Fed	North Reference:	Grid
Well:	#108H	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)
7,900.00	5.00	166.14	7,884.41	-350.23	86.39	-350.76	0.00	0.00	0.00
7,997.96	5.00	166.14	7,982.00	-358.51	88.43	-359.06	0.00	0.00	0.00
2nd Bone Springs Lime									
8,000.00	5.00	166.14	7,984.03	-358.69	88.48	-359.24	0.00	0.00	0.00
8,100.00	5.00	166.14	8,083.65	-367.15	90.56	-367.71	0.00	0.00	0.00
8,200.00	5.00	166.14	8,183.27	-375.61	92.65	-376.18	0.00	0.00	0.00
8,300.00	5.00	166.14	8,282.89	-384.07	94.74	-384.65	0.00	0.00	0.00
8,400.00	5.00	166.14	8,382.51	-392.52	96.82	-393.13	0.00	0.00	0.00
8,500.00	5.00	166.14	8,482.13	-400.98	98.91	-401.60	0.00	0.00	0.00
8,502.88	5.00	166.14	8,485.00	-401.23	98.97	-401.84	0.00	0.00	0.00
2nd Bone Springs Sand									
8,600.00	5.00	166.14	8,581.75	-409.44	101.00	-410.07	0.00	0.00	0.00
8,700.00	5.00	166.14	8,681.37	-417.90	103.08	-418.54	0.00	0.00	0.00
8,800.00	5.00	166.14	8,780.99	-426.36	105.17	-427.01	0.00	0.00	0.00
8,800.01	5.00	166.14	8,781.00	-426.36	105.17	-427.02	0.00	0.00	0.00
3rd Bone Springs Lime									
8,900.00	5.00	166.14	8,880.61	-434.82	107.26	-435.49	0.00	0.00	0.00
9,000.00	5.00	166.14	8,980.23	-443.28	109.34	-443.96	0.00	0.00	0.00
9,100.00	5.00	166.14	9,079.85	-451.74	111.43	-452.43	0.00	0.00	0.00
9,200.00	5.00	166.14	9,179.47	-460.20	113.52	-460.90	0.00	0.00	0.00
9,300.00	5.00	166.14	9,279.09	-468.66	115.60	-469.38	0.00	0.00	0.00
9,400.00	5.00	166.14	9,378.71	-477.12	117.69	-477.85	0.00	0.00	0.00
9,496.31	5.00	166.14	9,474.65	-485.27	119.70	-486.01	0.00	0.00	0.00
9,500.00	4.64	165.07	9,478.33	-485.57	119.78	-486.31	10.00	-9.70	-28.98
9,550.00	1.28	66.14	9,528.27	-487.30	120.81	-488.05	10.00	-6.73	-197.86
9,600.00	5.63	11.61	9,578.18	-484.67	121.81	-485.42	10.00	8.71	-109.06
9,626.01	8.19	7.81	9,604.00	-481.58	122.32	-482.34	10.00	9.85	-14.61
3rd Bone Springs Sand									
9,650.00	10.57	5.94	9,627.66	-477.70	122.78	-478.46	10.00	9.92	-7.81
9,700.00	15.55	3.86	9,676.36	-466.44	123.71	-467.21	10.00	9.96	-4.15
9,750.00	20.54	2.78	9,723.88	-450.98	124.58	-451.75	10.00	9.98	-2.17
9,800.00	25.53	2.10	9,769.88	-431.44	125.40	-432.22	10.00	9.99	-1.35
9,850.00	30.53	1.64	9,814.00	-407.96	126.16	-408.74	10.00	9.99	-0.93
9,900.00	35.53	1.29	9,855.91	-380.72	126.85	-381.51	10.00	9.99	-0.69
9,950.00	40.52	1.02	9,895.28	-349.94	127.47	-350.73	10.00	9.99	-0.54
10,000.00	45.52	0.80	9,931.82	-315.84	128.01	-316.64	10.00	10.00	-0.44
10,050.00	50.52	0.62	9,965.26	-278.69	128.47	-279.49	10.00	10.00	-0.37
10,065.58	52.08	0.56	9,975.00	-266.53	128.59	-267.33	10.00	10.00	-0.34
Wolfcamp									
10,088.98	54.42	0.49	9,989.00	-247.78	128.77	-248.59	10.00	10.00	-0.32
Wolfcamp X									
10,100.00	55.52	0.46	9,995.33	-238.76	128.84	-239.56	10.00	10.00	-0.30
10,150.00	60.52	0.31	10,021.80	-196.36	129.13	-197.17	10.00	10.00	-0.28
10,200.00	65.51	0.19	10,044.48	-151.82	129.32	-152.63	10.00	10.00	-0.26
10,250.00	70.51	0.07	10,063.20	-105.47	129.42	-106.28	10.00	10.00	-0.24
10,258.59	71.37	0.05	10,066.00	-97.35	129.43	-98.16	10.00	10.00	-0.23
Wolfcamp Y									
10,300.00	75.51	359.95	10,077.80	-57.67	129.43	-58.48	10.00	10.00	-0.22
10,350.00	80.51	359.85	10,088.18	-8.78	129.34	-9.59	10.00	10.00	-0.21
10,400.00	85.51	359.74	10,094.26	40.84	129.17	40.02	10.00	10.00	-0.21
10,449.91	90.50	359.64	10,096.00	90.70	128.90	89.89	10.00	10.00	-0.20
LP									
10,500.00	90.50	359.64	10,095.56	140.79	128.59	139.98	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #108H
Company:	XTO Energy	TVD Reference:	RKB = 25' @ 3021.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 25' @ 3021.00usft
Site:	Corral Canyon 4 Fed	North Reference:	Grid
Well:	#108H	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)
10,600.00	90.50	359.64	10,094.69	240.78	127.96	239.97	0.00	0.00	0.00
10,700.00	90.50	359.64	10,093.82	340.78	127.34	339.97	0.00	0.00	0.00
10,800.00	90.50	359.64	10,092.95	440.77	126.71	439.97	0.00	0.00	0.00
10,900.00	90.50	359.64	10,092.07	540.76	126.09	539.96	0.00	0.00	0.00
11,000.00	90.50	359.64	10,091.20	640.76	125.47	639.96	0.00	0.00	0.00
11,100.00	90.50	359.64	10,090.33	740.75	124.84	739.95	0.00	0.00	0.00
11,200.00	90.50	359.64	10,089.45	840.75	124.22	839.95	0.00	0.00	0.00
11,300.00	90.50	359.64	10,088.58	940.74	123.59	939.95	0.00	0.00	0.00
11,400.00	90.50	359.64	10,087.71	1,040.74	122.97	1,039.94	0.00	0.00	0.00
11,500.00	90.50	359.64	10,086.84	1,140.73	122.34	1,139.94	0.00	0.00	0.00
11,600.00	90.50	359.64	10,085.96	1,240.72	121.72	1,239.93	0.00	0.00	0.00
11,700.00	90.50	359.64	10,085.09	1,340.72	121.10	1,339.93	0.00	0.00	0.00
11,800.00	90.50	359.64	10,084.22	1,440.71	120.47	1,439.93	0.00	0.00	0.00
11,900.00	90.50	359.64	10,083.35	1,540.71	119.85	1,539.92	0.00	0.00	0.00
12,000.00	90.50	359.64	10,082.47	1,640.70	119.22	1,639.92	0.00	0.00	0.00
12,100.00	90.50	359.64	10,081.60	1,740.70	118.60	1,739.92	0.00	0.00	0.00
12,200.00	90.50	359.64	10,080.73	1,840.69	117.97	1,839.91	0.00	0.00	0.00
12,300.00	90.50	359.64	10,079.86	1,940.68	117.35	1,939.91	0.00	0.00	0.00
12,400.00	90.50	359.64	10,078.98	2,040.68	116.73	2,039.90	0.00	0.00	0.00
12,500.00	90.50	359.64	10,078.11	2,140.67	116.10	2,139.90	0.00	0.00	0.00
12,600.00	90.50	359.64	10,077.24	2,240.67	115.48	2,239.90	0.00	0.00	0.00
12,700.00	90.50	359.64	10,076.36	2,340.66	114.85	2,339.89	0.00	0.00	0.00
12,800.00	90.50	359.64	10,075.49	2,440.65	114.23	2,439.89	0.00	0.00	0.00
12,900.00	90.50	359.64	10,074.62	2,540.65	113.60	2,539.89	0.00	0.00	0.00
13,000.00	90.50	359.64	10,073.75	2,640.64	112.98	2,639.88	0.00	0.00	0.00
13,100.00	90.50	359.64	10,072.87	2,740.64	112.36	2,739.88	0.00	0.00	0.00
13,200.00	90.50	359.64	10,072.00	2,840.63	111.73	2,839.87	0.00	0.00	0.00
13,300.00	90.50	359.64	10,071.13	2,940.63	111.11	2,939.87	0.00	0.00	0.00
13,400.00	90.50	359.64	10,070.26	3,040.62	110.48	3,039.87	0.00	0.00	0.00
13,500.00	90.50	359.64	10,069.38	3,140.61	109.86	3,139.86	0.00	0.00	0.00
13,600.00	90.50	359.64	10,068.51	3,240.61	109.23	3,239.86	0.00	0.00	0.00
13,700.00	90.50	359.64	10,067.64	3,340.60	108.61	3,339.85	0.00	0.00	0.00
13,800.00	90.50	359.64	10,066.77	3,440.60	107.99	3,439.85	0.00	0.00	0.00
13,900.00	90.50	359.64	10,065.89	3,540.59	107.36	3,539.85	0.00	0.00	0.00
14,000.00	90.50	359.64	10,065.02	3,640.59	106.74	3,639.84	0.00	0.00	0.00
14,100.00	90.50	359.64	10,064.15	3,740.58	106.11	3,739.84	0.00	0.00	0.00
14,200.00	90.50	359.64	10,063.27	3,840.57	105.49	3,839.84	0.00	0.00	0.00
14,300.00	90.50	359.64	10,062.40	3,940.57	104.86	3,939.83	0.00	0.00	0.00
14,400.00	90.50	359.64	10,061.53	4,040.56	104.24	4,039.83	0.00	0.00	0.00
14,500.00	90.50	359.64	10,060.66	4,140.56	103.62	4,139.82	0.00	0.00	0.00
14,600.00	90.50	359.64	10,059.78	4,240.55	102.99	4,239.82	0.00	0.00	0.00
14,700.00	90.50	359.64	10,058.91	4,340.55	102.37	4,339.82	0.00	0.00	0.00
14,800.00	90.50	359.64	10,058.04	4,440.54	101.74	4,439.81	0.00	0.00	0.00
14,900.00	90.50	359.64	10,057.17	4,540.53	101.12	4,539.81	0.00	0.00	0.00
15,000.00	90.50	359.64	10,056.29	4,640.53	100.49	4,639.81	0.00	0.00	0.00
15,109.38	90.50	359.64	10,055.34	4,749.90	99.81	4,749.18	0.00	0.00	0.00
15,200.00	90.50	359.64	10,054.55	4,840.52	99.25	4,839.80	0.00	0.00	0.00
15,239.39	90.50	359.64	10,054.20	4,879.90	99.00	4,879.18	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #108H
Company:	XTO Energy	TVD Reference:	RKB = 25' @ 3021.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 25' @ 3021.00usft
Site:	Corral Canyon 4 Fed	North Reference:	Grid
Well:	#108H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

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
CC 4 #108H SHL: 230' - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	419,354.40	608,773.70	32.1524340	-103.9818627
CC 4 #108H PBHL: 20' - plan hits target center - Point	0.00	0.00	10,054.20	4,879.90	99.00	424,234.30	608,872.70	32.1658478	-103.9814912
CC 4 #108H LTP - plan misses target center by 0.01usft at 15109.38usft MD (10055.34 TVD, 4749.90 N, 99.81 E) - Point	0.00	0.00	10,055.34	4,749.90	99.80	424,104.30	608,873.50	32.1654904	-103.9814900
CC 4 #108H FTP - plan hits target center - Point	0.00	0.00	10,096.00	90.70	128.90	419,445.10	608,902.60	32.1526822	-103.9814452

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
345.00	345.00	Rustler			
760.00	760.00	Top of Salt			
2,825.00	2,825.00	Base of Salt			
3,014.00	3,014.00	Delaware			
3,895.36	3,895.00	Cherry Canyon			
5,533.59	5,527.00	Brushy Canyon			
6,555.47	6,545.00	Basal Brushy			
6,796.39	6,785.00	Bone Spring			
6,818.47	6,807.00	Bone Spring Lime			
6,965.03	6,953.00	Upper Avalon			
7,396.67	7,383.00	Lower Avalon Shale			
7,650.64	7,636.00	1st Bone Springs Lime			
7,729.94	7,715.00	1st Bone Springs Sand			
7,997.96	7,982.00	2nd Bone Springs Lime			
8,502.88	8,485.00	2nd Bone Springs Sand			
8,800.01	8,781.00	3rd Bone Springs Lime			
9,626.01	9,604.00	3rd Bone Springs Sand			
10,065.58	9,975.00	Wolfcamp			
10,088.98	9,989.00	Wolfcamp X			
10,258.59	10,066.00	Wolfcamp Y			
10,449.91	10,096.00	LP			

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: 11/22/2019

☒ Original Operator & OGRID No.: XTO Energy, Inc [005380] _____
☐ 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: Corral Canyon Org CTB

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
Corral Canyon 9-4 Fed 102H		L-9-25S-29E	2112'FSL & 362'FWL	4500MCF/D	Flared/Sold	CTB Connected to PL
Corral Canyon 9-4 Fed 121H		L-9-25S-29E	2081'FSL & 363'FWL	6500MCF/D	Flared/Sold	CTB Connected to PL
Corral Canyon 9-4 Fed 122H		L-9-25S-29E	2051'FSL & 364'FWL	6500MCF/D	Flared/Sold	CTB Connected to PL
Corral Canyon 9-4 Fed 161H		L-9-25S-29E	2021'FS: & 365'FWL	8500MCF/D	Flared/Sold	CTB Connected to PL
Corral Canyon 9-4 Fed 162H		L-9-25S-29E	1991'FSL & 366'FWL	8500MCF/D	Flared/Sold	CTB Connected to PL
Corral Canyon 4 Federal 124H		C-9-25S-29E	145'FNL & 2130'FWL	6500MCF/D	Flared/Sold	CTB Connected to PL
Corral Canyon 4 Federal 104H		C-9-25S-29E	175'FNL & 2130'FWL	4500MCF/D	Flared/Sold	CTB Connected to PL
Corral Canyon 4 Federal 103H		C-9-25S-29E	205'FNL & 2130'FWL	4500MCF/D	Flared/Sold	CTB Connected to PL
Corral Canyon 4 Federal 164H		C-9-25S-29E	235'FNL & 2130'FWL	8500MCF/D	Flared/Sold	CTB Connected to PL
Corral Canyon 4 Federal 163H		C-9-25S-29E	265'FNL & 2130'FWL	8500MCF/D	Flared/Sold	CTB Connected to PL
Corral Canyon 4 Federal 125H		O-4-25S-29E	170'FSL & 2060'FEL	6500MCF/D	Flared/Sold	CTB Connected to PL
Corral Canyon 4 Federal 105H		O-4-25S-29E	170'FSL & 2030'FEL	4500MCF/D	Flared/Sold	CTB Connected to PL
Corral Canyon 4 Federal 126H		O-4-25S-29E	170'FSL & 1980'FEL	6500MCF/D	Flared/Sold	CTB Connected to PL
Corral Canyon 4 Federal 165H		O-4-25S-29E	70'FSL & 2030'FEL	8500MCF/D	Flared/Sold	CTB Connected to PL
Corral Canyon 4 Federal 166H		O-4-25S-29E	70'FSL & 1980'FEL	8500MCF/D	Flared/Sold	CTB Connected to PL
Corral Canyon 4 Federal 108H		P-4-25S-29E	230'FSL & 460'FEL	4500MCF/D	Flared/Sold	CTB Connected to PL
Corral Canyon 4 Federal 127H		P-4-25S-29E	200'FSL & 460'FEL	6500MCF/D	Flared/Sold	CTB Connected to PL
Corral Canyon 4 Federal 107H		P-4-25S-29E	170'FSL & 460'FEL	4500MCF/D	Flared/Sold	CTB Connected to PL
Corral Canyon 4 Federal 168H		P-4-25S-29E	140'FSL & 460'FEL	8500MCF/D	Flared/Sold	CTB Connected to PL
Corral Canyon 4 Federal 167H		P-4-25S-29E	110'FSL & 460'FEL	8500MCF/D	Flared/Sold	CTB Connected to PL

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 Enlink and will be connected to Enlink low/high pressure gathering system located in Loving County, Texas. It will require 0' of pipeline to connect the facility to low/high pressure gathering system. XTO Energy, Inc. provides (periodically) to Enlink a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, XTO Energy, Inc. and Enlink have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Enlink Processing Plant located in Block 27, Section 4, Loving County, Texas. 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 Enlink system at that time. Based on current information, it is XTO Energy, Inc.'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