Rec'd 06/02/2020 - NMOCD

Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM015302

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

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

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

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

8. Lease Name and Well No.
CORRAL CANYON 4 FEDERAL
166H

2. Name of Operator
XTO ENERGY INCORPORATED

9. API Well No.
3001547168

3a. Address
22777 Springwoods Village Parkway, Spring, TX 77389

3b. Phone No. *(include area code)*
(432) 620-6700

10. Field and Pool, or Exploratory
WELCH/null

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface SWSE / 70 FSL / 1980 FEL / LAT 32.15211 / LONG -103.987262
At proposed prod. zone LOT 2 / 200 FNL / 1650 FEL / LAT 32.165968 / LONG -103.986246

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

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
70 feet

16. No of acres in lease
1917.02

17. Spacing Unit dedicated to this well
320.0

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

19. Proposed Depth
10857 feet / 16031 feet

20. BLM/BIA Bond No. in file
FED: UTB000138

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
2973 feet

22. Approximate date work will start*
04/01/2019

23. Estimated duration
90 days

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Stephanie Rabadue / Ph: (432) 620-6700	01/01/2020

Title
Regulatory Coordinator

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575) 234-5959	05/27/2020

Title	Office
Assistant Field Manager Lands & Minerals	Carlsbad Field Office

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

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

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 05/27/2020

Entered - KMS NMOCD

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-015-47168	98220	Purple Sage; Wolfcamp

[4] Property Code	[5] Property Name	[6] Well Number
328260	CORRAL CANYON 4 FEDERAL	166H

[7] OGRID No.	[8] Operator Name	[9] Elevation
005380	XTO ENERGY, INC.	2,973'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	4	25 S	29 E		70	SOUTH	1,980	EAST	EDDY

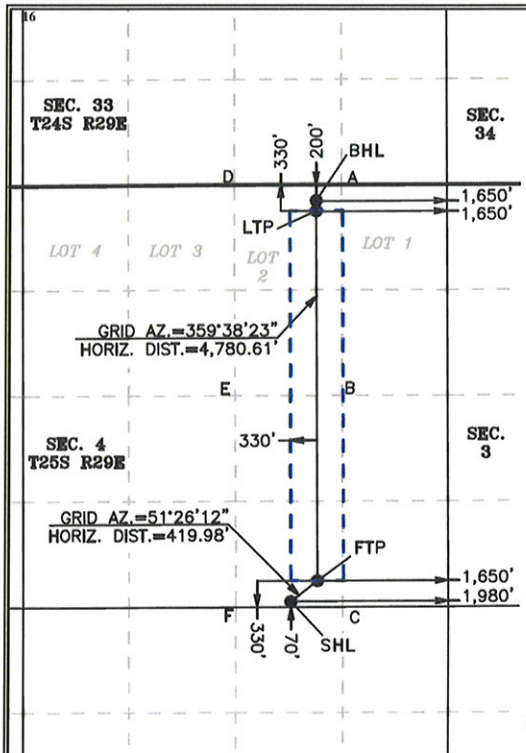
[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
2	4	25 S	29 E		200	NORTH	1,650	EAST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
~~320~~-319.88			

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

LOT 1	–	39.97 ACRES
LOT 2	–	39.91 ACRES
LOT 3	–	39.85 ACRES
LOT 4	–	39.79 ACRES

SHL (NAD83 NME)		LTP (NAD83 NME)	
Y =	419,245.2	Y =	424,157.5
X =	648,438.2	X =	648,737.4
LAT. =	32.152110 °N	LAT. =	32.165611 °N
LONG. =	103.987262 °W	LONG. =	103.986244 °W
FTP (NAD83 NME)		**BHL (NAD83 NME)**	
Y =	419,507.0	Y =	424,287.5
X =	648,766.6	X =	648,736.6
LAT. =	32.152827 °N	LAT. =	32.165968 °N
LONG. =	103.986198 °W	LONG. =	103.986246 °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 =	424,483.2	N ,	X =	647,718.8 E
E - Y =	421,825.5	N ,	X =	647,739.0 E
F - Y =	419,171.8	N ,	X =	647,759.1 E

SHL (NAD27 NME)		LTP (NAD27 NME)	
Y =	419,186.5	Y =	424,098.7
X =	607,254.3	X =	607,553.6
LAT. =	32.151986 °N	LAT. =	32.165487 °N
LONG. =	103.986774 °W	LONG. =	103.985756 °W
FTP (NAD27 NME)		**BHL (NAD27 NME)**	
Y =	419,448.3	Y =	424,228.7
X =	607,582.7	X =	607,552.7
LAT. =	32.152703 °N	LAT. =	32.165844 °N
LONG. =	103.985710 °W	LONG. =	103.985757 °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 =	424,424.4	N ,	X =	606,535.0 E
E - Y =	421,766.7	N ,	X =	606,555.1 E
F - Y =	419,113.1	N ,	X =	606,575.2 E

[17] OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Stephanie Rabadue 11/22/2019
Signature Date

Stephanie Rabadue
Printed Name

stephanie_rabadue@xtoenergy.com
E-mail Address

[18] SURVEYOR CERTIFICATION

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

11-21-2019
Date of Survey

Signatue and Seal of Professional Surveyor:

MARK DILLON HARP NEW MEXICO 23786 PROFESSIONAL SURVEYOR

MARK DILLON HARP 23786
Certificate Number AR 2018010251

P:\PROJECTS\2018\2018010251-XTO-CORRAL_CANYON_4_FEDERAL_166H-EDDY\DWG\2018010251-XTO-CORRAL_CANYON_4_FEDERAL_166H_C102.dwg

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**XTO Energy, Inc.**
LEASE NO.:	**NMNM-015302**
WELL NAME & NO.:	**Corral Canyon 4 Federal 166H**
SURFACE HOLE FOOTAGE:	**0070' FSL & 1980' FEL**
BOTTOM HOLE FOOTAGE	**0200' FNL & 1650' 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

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 **16** inch surface casing shall be set at approximately **636** 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.

2. The minimum required fill of cement behind the **11-3/4** inch intermediate casing is:

    - 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.

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

3. The minimum required fill of cement behind the **8-5/8** 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 should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

4. 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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.

3. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the 11-3/4 inch intermediate casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 11-3/4 inch intermediate casing casing shoe shall be **10,000 (10M)** psi. **Variance approved to use a 5M annular. The annular must be tested to full working pressure (5000 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 intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

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

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

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

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

B. PRESSURE CONTROL

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

2. 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 042320

Operator Certification Data Report

05/29/2020

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: 10400052804 **Submission Date:** 01/01/2020

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON 4 FEDERAL **Well Number:** 166H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400052804 **Tie to previous NOS?** N **Submission Date:** 01/01/2020

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:** 166H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** WELCH **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:** 166H

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 Fed **Number:** 3

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

Well Work Type: Drill

Well Type: CONVENTIONAL GAS WELL

Describe Well Type:

Well sub-Type: DELINEATION

Describe sub-type:

Distance to town: 8 Miles **Distance to nearest well:** 0 FT **Distance to lease line:** 70 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: CC_4_Fed_166H_C102_20191226113209.pdf

Well work start Date: 04/01/2019 **Duration:** 90 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

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

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
SHL Leg #1	70	FSL	1980	FEL	25S	29E	4	Aliquot SWSE	32.15211	-103.987262	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 015302	2973	0	0	Y
KOP Leg #1	70	FSL	1980	FEL	25S	29E	4	Aliquot SWSE	32.15211	-103.987262	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 015302	-2257	5230	5230	Y
PPP Leg #1-1	330	FSL	1650	FWL	25S	29E	4	Aliquot SWSE	32.152827	-103.986198	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 015302	-7926	11250	10899	Y

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON 4 FEDERAL **Well Number:** 166H

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	1650	FEL	25S	29E	4	Lot 2	32.165609	-103.988377	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 015302	-7885	15901	10858	Y
BHL Leg #1	200	FNL	1650	FEL	25S	29E	4	Lot 2	32.165968	-103.986246	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 015302	-7884	16031	10857	Y

APD ID: 10400052804 **Submission Date:** 01/01/2020

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON 4 FEDERAL **Well Number:** 166H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
619650	PERMIAN	2973	0	0	OTHER : Quaternary	NONE	N
619651	RUSTLER	2726	247	247	SILTSTONE	USEABLE WATER	N
619648	TOP SALT	2311	662	662	SALT	NONE	N
619645	BASE OF SALT	246	2727	2727	SALT	NONE	N
619652	DELAWARE	57	2916	2916	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
619653	BONE SPRING	-3714	6687	6687	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
619649	BONE SPRING 1ST	-4565	7538	7538	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
619646	BONE SPRING 2ND	-4911	7884	7884	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
619655	BONE SPRING 3RD	-5710	8683	8683	SANDSTONE	NATURAL GAS, OIL, OTHER, USEABLE WATER : produced water	N
619656	WOLFCAMP	-6904	9877	9877	SHALE	NATURAL GAS, OIL, OTHER, USEABLE WATER : produced water	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M **Rating Depth:** 10857

Equipment: Once the permanent WH is installed on the 13-3/8 casing, the blow out preventer equipment (BOP) will consist of a 13-5/8 minimum 5M Hydril and a 13-5/8 minimum 10M 3-Ram BOP. MASP should not exceed 5176 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. Wellhead: Temporary Wellhead · 16" SOW bottom x 16-3/4" 2M top flange. Permanent Wellhead – GE RSH 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 8-5/8" casing per BLM Onshore Order 2 · Wellhead Manufacturer representative will not be present for BOP test plug installation

Testing Procedure: All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 50% of the working pressure. When nippling up on the 11-3/4", 10M bradenhead and flange, the BOP test will be limited to 10000 psi. When nippling up on the 8-5/8", the BOP will be tested to a minimum of 10000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 10M 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_10MCM_20191226112857.pdf

BOP Diagram Attachment:

CC_4_Fed_10M5MB_20191226112905.pdf

Pressure Rating (PSI): 2M **Rating Depth:** 740

Equipment: The blow out preventer equipment (BOP) for this well consists of a 13-5/8 minimum 2M Hydril and a 13-5/8 minimum 2M 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 manufacturers 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. When nippling up, the BOP test will be limited to 2,000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 2M BOP diagram is attached. Blind rams will be function tested each trip, pipe rams will be function tested each day.

Choke Diagram Attachment:

CC_4_Fed_2MCM_20191226112915.pdf

BOP Diagram Attachment:

CC_4_Fed_2MBOP_20191226112923.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	18.5	16.0	NEW	API	N	0	740	0	740	2974	2234	740	J-55	75	ST&C	3.05	2.94	DRY	12.79	DRY	12.79
2	INTERMEDIATE	14.75	11.75	NEW	API	N	0	2880	0	2880		94	2880	J-55	54	ST&C	2.28	1.19	DRY	3.65	DRY	3.65

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON 4 FEDERAL **Well Number:** 166H

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
3	INTERMEDIATE	10.625	8.625	NEW	API	N	0	10000	0	10000		-7026	10000	HCL-80	32	BUTT	1.67	1.08	DRY	2.29	DRY	2.29
4	PRODUCTION	7.875	5.5	NEW	API	N	0	16031	0	10857	2969	-7883	16031	P-110	20	BUTT	1.45	1.33	DRY	2.62	DRY	2.62

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

CC_4_Fed_166H_Csg_20191226113006.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

CC_4_Fed_166H_Csg_20191226113017.pdf

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON 4 FEDERAL **Well Number:** 166H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

CC_4_Fed_166H_Csg_20191226113029.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

CC_4_Fed_166H_Csg_20191226112953.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	740	220	1.87	12.9	411.4	100	Econocem-HLTRRC	None
SURFACE	Tail				200	1.35	14.8	270	100	Halcem-C	2% CaCl
INTERMEDIATE	Lead		0	2880	1060	1.87	12.9	1982.2	100	EconoCem-HLTRRC	None
INTERMEDIATE	Tail				370	1.35	14.8	499.5	100	Halcem-C	2% CaCl
INTERMEDIATE	Lead	2930	0	2930	540	1.88	12.9	1015.2	100	Halcem-C	2% CaCl

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON 4 FEDERAL **Well Number:** 166H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Tail				150	1.33	14.8	199.5	100	Halcem-C	2%CaCl
INTERMEDIATE	Lead	2701	2701	10000	1350	1.88	12.9	2538	100	Halcem-C	2% CaCl
INTERMEDIATE	Tail				310	1.33	14.8	412.3	100	Halcem-C	2% CaCl
PRODUCTION	Lead		0	16031	810	2.69	10.5	2178.9	30	NeoCem	None
PRODUCTION	Tail				870	1.61	13.2	1400.7	30	VersaCem	None

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

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

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

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	740	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.

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON 4 FEDERAL **Well Number:** 166H

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
740	2880	OTHER : Brine/Gel Sweeps	9.8	10.2							A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hrs to determine: density, viscosity, strength, filtration and pH as necessary. Solids control equipment will be used to operate as a closed loop system.
10000	10858	POLYMER	13.2	13.5							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.
2880	10000	OTHER : FW / Cut Brine	8.7	10							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/10000' 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:** 166H

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 7452 **Anticipated Surface Pressure:** 5054

Anticipated Bottom Hole Temperature(F): 150

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

CC_4_Fed_H2S_D_P3_20191226111630.pdf
CC_4_Fed_H2S_Plan_20191226093238.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

CC_4_Fed_166H_DD_20191226113109.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

CC_4_Fed_GCP_20191226100304.pdf

Other Variance attachment:

CC_4_Fed_11.75x5.5MBS_20191226093323.pdf
CC_4_Fed_FH_20191226093331.pdf
CC_4_Fed_WWC_20191226100313.pdf

Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
18-1/2"	0' – 740'	16"	75	STC	J-55	New	2.94	3.05	12.79
14-3/4"	0' – 2880'	11-3/4"	54	STC	J-55	New	1.19	2.28	3.65
10-5/8"	0' – 10000'	8-5/8"	32	BTC	HCL-80	New	1.08	1.67	2.29
7-7/8"	0' – 16031'	5-1/2"	20	BTC	P-110	New	1.33	1.45	2.62

- XTO requests to not utilize centralizers in the curve and lateral
- 11-3/4" Collapse analyzed using 50% evacuation based on regional experience.
- 8-5/8" Collapse analyzed using 33% evacuation based on regional experience.
- 5-1/2" Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35
- Test on 2M Annular & Casing will be limited to 70% burst of the casing or 1500 psi, whichver is less

Wellhead:

Temporary Wellhead

- 16" SOW bottom x 16-3/4" 2M top flange.

Permanent Wellhead – GE RSH 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 8-5/8" casing per BLM Onshore Order 2
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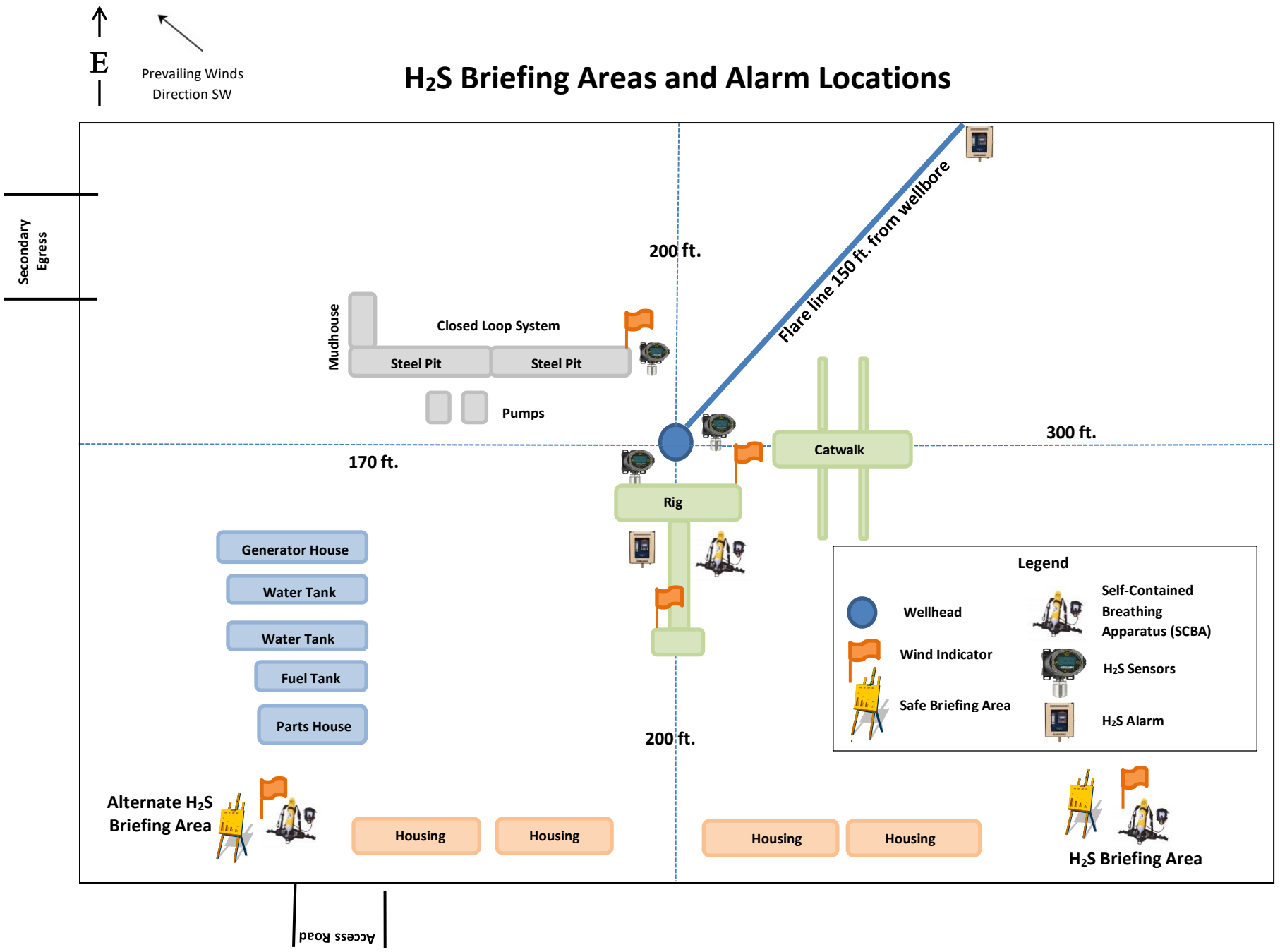
- Manufacturer will monitor welding process to ensure appropriate temperature of seal.
- Operator will test the 8-5/8" casing per BLM Onshore Order 2
- Wellhead Manufacturer representative will not be present for BOP test plug installation

H_2S Briefing Areas and Alarm Locations



HYDROGEN SULFIDE (H2S) CONTINGENCY PLAN

Assumed 100 ppm ROE = 3000'

100 ppm H2S concentration shall trigger activation of this plan.

Emergency Procedures

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

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

Ignition of Gas source

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

Characteristics of H_2S and SO_2

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

Contacting Authorities

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

CARLSBAD OFFICE – EDDY & LEA COUNTIES

3104 E. Greene St., Carlsbad, NM 88220
Carlsbad, NM 575-887-7329

XTO PERSONNEL:

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

SHERIFF DEPARTMENTS:

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

NEW MEXICO STATE POLICE: 575-392-5588

FIRE DEPARTMENTS: 911

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

HOSPITALS: 911

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

AGENT NOTIFICATIONS:

For Lea County:

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

For Eddy County:

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

XTO Energy

Eddy County, NM (NAD-27)
Corral Canyon 4 Fed
#166H

OH

Plan: PERMIT

Standard Planning Report

20 November, 2019

Project: Eddy County, NM (NAD-27)
Site: Corral Canyon 4 Fed
Well: #166H
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: #166H

Rig Name:
RKB = 31' @ 3004.00usft
Ground Level: 2973.00

+N/-S	+E/-W	Northing	Easting	Latittude	Longitude
0.00	0.00	419186.50	607254.30	32.1519860	-103.9867738

DESIGN TARGET DETAILS

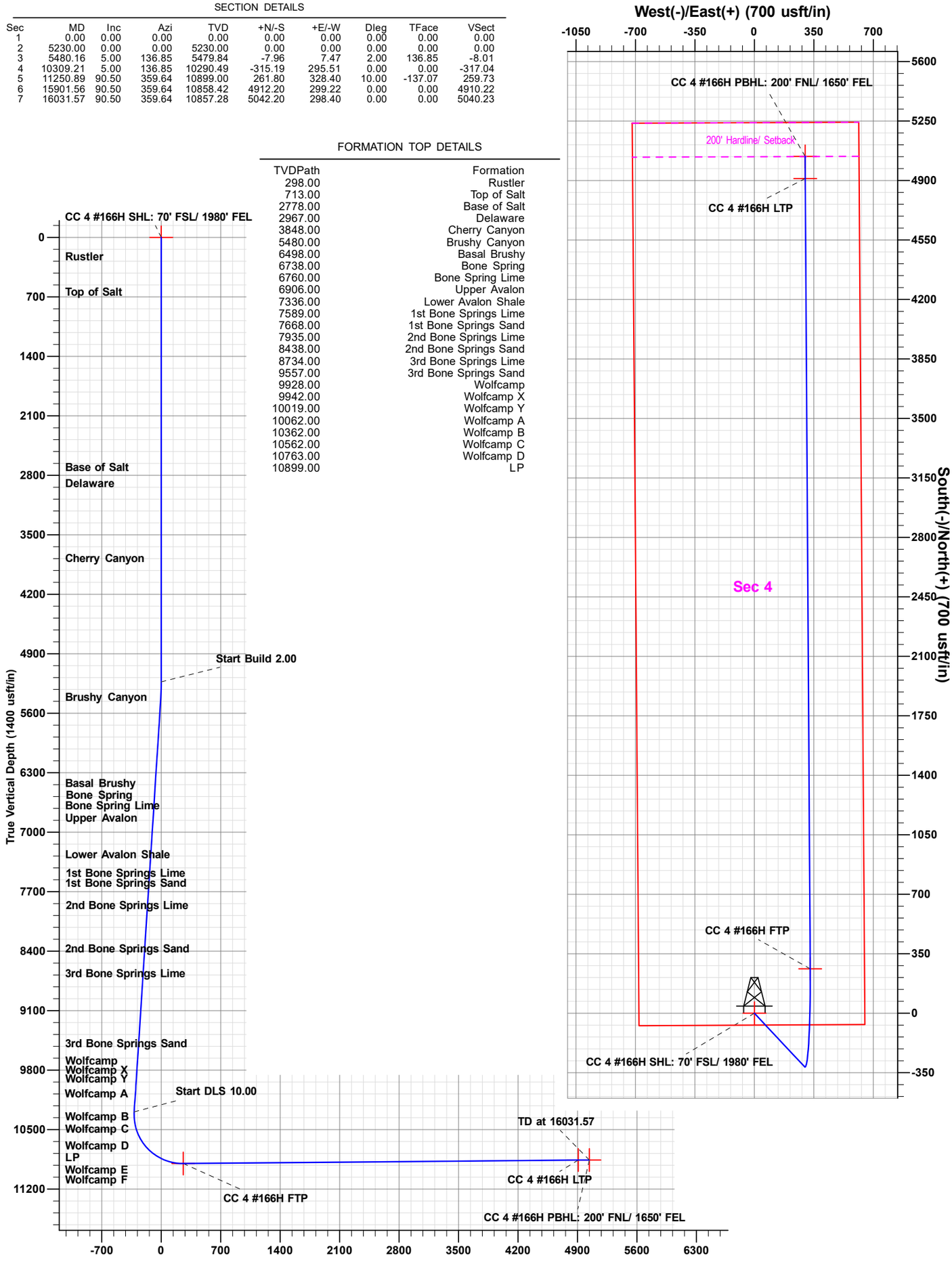
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
CC 4 #166H SHL: 70' FSL/ 1980' FEL	0.00	0.00	0.00	419186.50	607254.30	32.1519860	-103.9867738
CC 4 #166H PBHL: 200' FNL/ 1650' FEL	10857.28	5042.20	298.40	424228.70	607552.70	32.1658442	-103.9857571
CC 4 #166H LTP	10858.42	4912.20	299.30	424098.70	607553.60	32.1654868	-103.9857555
CC 4 #166H FTP	10899.00	261.80	328.40	419448.30	607582.70	32.1527027	-103.9857100

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5230.00	0.00	0.00	5230.00	0.00	0.00	0.00	0.00	0.00
3	5480.16	5.00	136.85	5479.84	-7.96	7.47	2.00	136.85	-8.01
4	10309.21	5.00	136.85	10290.49	-315.19	295.51	0.00	0.00	-317.04
5	11250.89	90.50	359.64	10899.00	261.80	328.40	10.00	-137.07	259.73
6	15901.56	90.50	359.64	10858.42	4912.20	299.22	0.00	0.00	4910.22
7	16031.57	90.50	359.64	10857.28	5042.20	298.40	0.00	0.00	5040.23

FORMATION TOP DETAILS

TVDPath	Formation
298.00	Rustler
713.00	Top of Salt
2778.00	Base of Salt
2967.00	Delaware
3848.00	Cherry Canyon
5480.00	Brushy Canyon
6498.00	Basal Brushy
6738.00	Bone Spring
6760.00	Bone Spring Lime
6906.00	Upper Avalon
7336.00	Lower Avalon Shale
7589.00	1st Bone Springs Lime
7668.00	1st Bone Springs Sand
7935.00	2nd Bone Springs Lime
8438.00	2nd Bone Springs Sand
8734.00	3rd Bone Springs Lime
9557.00	3rd Bone Springs Sand
9928.00	Wolfcamp
9942.00	Wolfcamp X
10019.00	Wolfcamp Y
10062.00	Wolfcamp A
10362.00	Wolfcamp B
10562.00	Wolfcamp C
10763.00	Wolfcamp D
10899.00	LP



Plan: PERMIT (#166H/OH)

Created By: Matthew May Date: 20:48, 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	[2] Pool Code	[3] Pool Name
30-015-		

[4] Property Code	[5] Property Name	[6] Well Number
	CORRAL CANYON 4 FEDERAL	166H

[7] OGRID No.	[8] Operator Name	[9] Elevation
005380	XTO ENERGY, INC.	2,973'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	4	25 S	29 E		70	SOUTH	1,980	EAST	EDDY

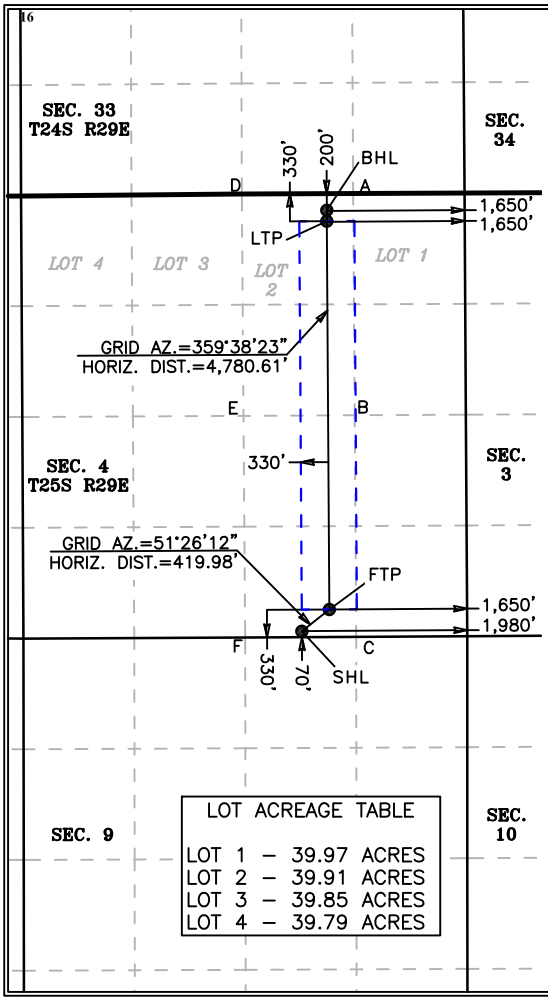
[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
2	4	25 S	29 E		200	NORTH	1,650	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

LOT 1	39.97 ACRES
LOT 2	39.91 ACRES
LOT 3	39.85 ACRES
LOT 4	39.79 ACRES

SHL (NAD83 NME)		LTP (NAD83 NME)	
Y =	419,245.2	Y =	424,157.5
X =	648,438.2	X =	648,737.4
LAT. =	32.152110 °N	LAT. =	32.165611 °N
LONG. =	103.987262 °W	LONG. =	103.986244 °W
FTP (NAD83 NME)		**BHL (NAD83 NME)**	
Y =	419,507.0	Y =	424,287.5
X =	648,766.6	X =	648,736.6
LAT. =	32.152827 °N	LAT. =	32.165968 °N
LONG. =	103.986198 °W	LONG. =	103.986246 °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 =	424,483.2	N ,	X =	647,718.8	E
E - Y =	421,825.5	N ,	X =	647,739.0	E
F - Y =	419,171.8	N ,	X =	647,759.1	E

SHL (NAD27 NME)		LTP (NAD27 NME)	
Y =	419,186.5	Y =	424,098.7
X =	607,254.3	X =	607,553.6
LAT. =	32.151986 °N	LAT. =	32.165487 °N
LONG. =	103.986774 °W	LONG. =	103.985756 °W
FTP (NAD27 NME)		**BHL (NAD27 NME)**	
Y =	419,448.3	Y =	424,228.7
X =	607,582.7	X =	607,552.7
LAT. =	32.152703 °N	LAT. =	32.165844 °N
LONG. =	103.985710 °W	LONG. =	103.985757 °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 =	424,424.4	N ,	X =	606,535.0	E
E - Y =	421,766.7	N ,	X =	606,555.1	E
F - Y =	419,113.1	N ,	X =	606,575.2	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

Signatue and Seal of
Professional Surveyor:

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

MARK DILLON HARP 23786
Certificate Number AR 2018010251

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #166H
Company:	XTO Energy	**TVD Reference:**	RKB = 31' @ 3004.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 31' @ 3004.00usft
Site:	Corral Canyon 4 Fed	**North Reference:**	Grid
Well:	#166H	**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 #166H

Well Position	**+N/-S**	280.90 usft	**Northing:**	419,186.50 usft	**Latitude:**	32.1519860
	+E/-W	1,204.50 usft	**Easting:**	607,254.30 usft	**Longitude:**	-103.9867738
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	2,973.00 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	
5,230.00	0.00	0.00	5,230.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,480.16	5.00	136.85	5,479.84	-7.96	7.47	2.00	2.00	0.00	136.85	
10,309.21	5.00	136.85	10,290.49	-315.19	295.51	0.00	0.00	0.00	0.00	
11,250.89	90.50	359.64	10,899.00	261.80	328.40	10.00	9.08	-14.57	-137.07	CC 4 #166H FTP
15,901.56	90.50	359.64	10,858.42	4,912.20	299.22	0.00	0.00	0.00	0.00	CC 4 #166H LTP
16,031.57	90.50	359.64	10,857.28	5,042.20	298.40	0.00	0.00	0.00	0.00	CC 4 #166H PBHL:

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #166H
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Site:	Corral Canyon 4 Fed	**North Reference:**	Grid
Well:	#166H	**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
298.00	0.00	0.00	298.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
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
713.00	0.00	0.00	713.00	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
2,778.00	0.00	0.00	2,778.00	0.00	0.00	0.00	0.00	0.00	0.00
Base of Salt									
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
2,967.00	0.00	0.00	2,967.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware									
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
3,848.00	0.00	0.00	3,848.00	0.00	0.00	0.00	0.00	0.00	0.00
Cherry Canyon									
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

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Site:	Corral Canyon 4 Fed	**North Reference:**	Grid
Well:	#166H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,230.00	0.00	0.00	5,230.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	1.40	136.85	5,299.99	-0.62	0.58	-0.63	2.00	2.00	0.00
5,400.00	3.40	136.85	5,399.90	-3.68	3.45	-3.70	2.00	2.00	0.00
5,480.16	5.00	136.85	5,479.84	-7.96	7.47	-8.01	2.00	2.00	0.00
5,480.32	5.00	136.85	5,480.00	-7.97	7.48	-8.02	0.00	0.00	0.00
Brushy Canyon									
5,500.00	5.00	136.85	5,499.61	-9.23	8.65	-9.28	0.00	0.00	0.00
5,600.00	5.00	136.85	5,599.23	-15.59	14.61	-15.68	0.00	0.00	0.00
5,700.00	5.00	136.85	5,698.84	-21.95	20.58	-22.08	0.00	0.00	0.00
5,800.00	5.00	136.85	5,798.46	-28.31	26.54	-28.48	0.00	0.00	0.00
5,900.00	5.00	136.85	5,898.08	-34.67	32.51	-34.88	0.00	0.00	0.00
6,000.00	5.00	136.85	5,997.70	-41.04	38.47	-41.28	0.00	0.00	0.00
6,100.00	5.00	136.85	6,097.32	-47.40	44.44	-47.68	0.00	0.00	0.00
6,200.00	5.00	136.85	6,196.94	-53.76	50.40	-54.08	0.00	0.00	0.00
6,300.00	5.00	136.85	6,296.56	-60.12	56.37	-60.48	0.00	0.00	0.00
6,400.00	5.00	136.85	6,396.18	-66.48	62.33	-66.87	0.00	0.00	0.00
6,500.00	5.00	136.85	6,495.80	-72.85	68.30	-73.27	0.00	0.00	0.00
6,502.21	5.00	136.85	6,498.00	-72.99	68.43	-73.42	0.00	0.00	0.00
Basal Brushy									
6,600.00	5.00	136.85	6,595.42	-79.21	74.26	-79.67	0.00	0.00	0.00
6,700.00	5.00	136.85	6,695.03	-85.57	80.23	-86.07	0.00	0.00	0.00
6,743.13	5.00	136.85	6,738.00	-88.31	82.80	-88.83	0.00	0.00	0.00
Bone Spring									
6,765.21	5.00	136.85	6,760.00	-89.72	84.12	-90.25	0.00	0.00	0.00
Bone Spring Lime									
6,800.00	5.00	136.85	6,794.65	-91.93	86.19	-92.47	0.00	0.00	0.00
6,900.00	5.00	136.85	6,894.27	-98.29	92.16	-98.87	0.00	0.00	0.00
6,911.77	5.00	136.85	6,906.00	-99.04	92.86	-99.63	0.00	0.00	0.00
Upper Avalon									
7,000.00	5.00	136.85	6,993.89	-104.66	98.12	-105.27	0.00	0.00	0.00
7,100.00	5.00	136.85	7,093.51	-111.02	104.09	-111.67	0.00	0.00	0.00
7,200.00	5.00	136.85	7,193.13	-117.38	110.05	-118.07	0.00	0.00	0.00
7,300.00	5.00	136.85	7,292.75	-123.74	116.02	-124.47	0.00	0.00	0.00
7,343.42	5.00	136.85	7,336.00	-126.51	118.61	-127.25	0.00	0.00	0.00
Lower Avalon Shale									
7,400.00	5.00	136.85	7,392.37	-130.11	121.98	-130.87	0.00	0.00	0.00
7,500.00	5.00	136.85	7,491.99	-136.47	127.95	-137.27	0.00	0.00	0.00
7,597.38	5.00	136.85	7,589.00	-142.66	133.75	-143.50	0.00	0.00	0.00
1st Bone Springs Lime									
7,600.00	5.00	136.85	7,591.61	-142.83	133.91	-143.67	0.00	0.00	0.00
7,676.69	5.00	136.85	7,668.00	-147.71	138.48	-148.58	0.00	0.00	0.00
1st Bone Springs Sand									
7,700.00	5.00	136.85	7,691.22	-149.19	139.88	-150.07	0.00	0.00	0.00
7,800.00	5.00	136.85	7,790.84	-155.55	145.84	-156.47	0.00	0.00	0.00

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Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 31' @ 3004.00usft
Site:	Corral Canyon 4 Fed	**North Reference:**	Grid
Well:	#166H	**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	136.85	7,890.46	-161.92	151.80	-162.87	0.00	0.00	0.00
7,944.71	5.00	136.85	7,935.00	-164.76	154.47	-165.73	0.00	0.00	0.00
2nd Bone Springs Lime									
8,000.00	5.00	136.85	7,990.08	-168.28	157.77	-169.27	0.00	0.00	0.00
8,100.00	5.00	136.85	8,089.70	-174.64	163.73	-175.67	0.00	0.00	0.00
8,200.00	5.00	136.85	8,189.32	-181.00	169.70	-182.06	0.00	0.00	0.00
8,300.00	5.00	136.85	8,288.94	-187.36	175.66	-188.46	0.00	0.00	0.00
8,400.00	5.00	136.85	8,388.56	-193.73	181.63	-194.86	0.00	0.00	0.00
8,449.63	5.00	136.85	8,438.00	-196.88	184.59	-198.04	0.00	0.00	0.00
2nd Bone Springs Sand									
8,500.00	5.00	136.85	8,488.18	-200.09	187.59	-201.26	0.00	0.00	0.00
8,600.00	5.00	136.85	8,587.80	-206.45	193.56	-207.66	0.00	0.00	0.00
8,700.00	5.00	136.85	8,687.41	-212.81	199.52	-214.06	0.00	0.00	0.00
8,746.76	5.00	136.85	8,734.00	-215.79	202.31	-217.05	0.00	0.00	0.00
3rd Bone Springs Lime									
8,800.00	5.00	136.85	8,787.03	-219.17	205.49	-220.46	0.00	0.00	0.00
8,900.00	5.00	136.85	8,886.65	-225.54	211.45	-226.86	0.00	0.00	0.00
9,000.00	5.00	136.85	8,986.27	-231.90	217.42	-233.26	0.00	0.00	0.00
9,100.00	5.00	136.85	9,085.89	-238.26	223.38	-239.66	0.00	0.00	0.00
9,200.00	5.00	136.85	9,185.51	-244.62	229.35	-246.06	0.00	0.00	0.00
9,300.00	5.00	136.85	9,285.13	-250.99	235.31	-252.46	0.00	0.00	0.00
9,400.00	5.00	136.85	9,384.75	-257.35	241.28	-258.86	0.00	0.00	0.00
9,500.00	5.00	136.85	9,484.37	-263.71	247.24	-265.26	0.00	0.00	0.00
9,572.91	5.00	136.85	9,557.00	-268.35	251.59	-269.92	0.00	0.00	0.00
3rd Bone Springs Sand									
9,600.00	5.00	136.85	9,583.99	-270.07	253.21	-271.66	0.00	0.00	0.00
9,700.00	5.00	136.85	9,683.60	-276.43	259.17	-278.06	0.00	0.00	0.00
9,800.00	5.00	136.85	9,783.22	-282.80	265.14	-284.46	0.00	0.00	0.00
9,900.00	5.00	136.85	9,882.84	-289.16	271.10	-290.86	0.00	0.00	0.00
9,945.33	5.00	136.85	9,928.00	-292.04	273.81	-293.76	0.00	0.00	0.00
Wolfcamp									
9,959.38	5.00	136.85	9,942.00	-292.94	274.64	-294.66	0.00	0.00	0.00
Wolfcamp X									
10,000.00	5.00	136.85	9,982.46	-295.52	277.07	-297.25	0.00	0.00	0.00
10,036.68	5.00	136.85	10,019.00	-297.85	279.25	-299.60	0.00	0.00	0.00
Wolfcamp Y									
10,079.84	5.00	136.85	10,062.00	-300.60	281.83	-302.36	0.00	0.00	0.00
Wolfcamp A									
10,100.00	5.00	136.85	10,082.08	-301.88	283.03	-303.65	0.00	0.00	0.00
10,200.00	5.00	136.85	10,181.70	-308.24	289.00	-310.05	0.00	0.00	0.00
10,309.21	5.00	136.85	10,290.49	-315.19	295.51	-317.04	0.00	0.00	0.00
10,350.00	3.43	82.77	10,331.19	-316.34	297.94	-318.20	10.00	-3.86	-132.56
10,380.89	4.88	43.83	10,362.00	-315.27	299.77	-317.15	10.00	4.70	-126.07
Wolfcamp B									
10,400.00	6.39	31.76	10,381.02	-313.78	300.89	-315.66	10.00	7.90	-63.15
10,450.00	10.95	17.59	10,430.44	-306.88	303.79	-308.79	10.00	9.11	-28.35
10,500.00	15.77	11.83	10,479.07	-295.70	306.62	-297.62	10.00	9.65	-11.51
10,550.00	20.68	8.74	10,526.55	-280.31	309.36	-282.25	10.00	9.81	-6.18
10,588.40	24.48	7.18	10,562.00	-265.71	311.38	-267.66	10.00	9.88	-4.06
Wolfcamp C									
10,600.00	25.62	6.80	10,572.51	-260.83	311.98	-262.79	10.00	9.90	-3.32
10,650.00	30.58	5.45	10,616.60	-237.42	314.47	-239.39	10.00	9.92	-2.70

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #166H
Company:	XTO Energy	**TVD Reference:**	RKB = 31' @ 3004.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 31' @ 3004.00usft
Site:	Corral Canyon 4 Fed	**North Reference:**	Grid
Well:	#166H	**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)
10,700.00	35.55	4.45	10,658.49	-210.25	316.80	-212.24	10.00	9.94	-2.01
10,750.00	40.53	3.66	10,697.86	-179.52	318.97	-181.52	10.00	9.95	-1.57
10,800.00	45.51	3.02	10,734.40	-145.48	320.95	-147.49	10.00	9.96	-1.28
10,842.45	49.74	2.56	10,763.00	-114.16	322.47	-116.19	10.00	9.97	-1.09
Wolfcamp D									
10,850.00	50.50	2.48	10,767.84	-108.37	322.73	-110.40	10.00	9.97	-1.01
10,900.00	55.48	2.02	10,797.93	-68.49	324.29	-70.53	10.00	9.97	-0.93
10,950.00	60.47	1.60	10,824.44	-26.14	325.62	-28.18	10.00	9.98	-0.83
11,000.00	65.46	1.23	10,847.16	18.37	326.72	16.32	10.00	9.98	-0.75
11,050.00	70.45	0.88	10,865.92	64.69	327.57	62.64	10.00	9.98	-0.69
11,100.00	75.44	0.56	10,880.58	112.48	328.16	110.41	10.00	9.98	-0.65
11,150.00	80.43	0.25	10,891.03	161.35	328.50	159.29	10.00	9.98	-0.62
11,200.00	85.42	359.94	10,897.19	210.96	328.58	208.89	10.00	9.98	-0.60
11,250.89	90.50	359.64	10,899.00	261.80	328.40	259.73	10.00	9.98	-0.60
LP									
11,300.00	90.50	359.64	10,898.57	310.91	328.09	308.84	0.00	0.00	0.00
11,400.00	90.50	359.64	10,897.70	410.90	327.46	408.83	0.00	0.00	0.00
11,500.00	90.50	359.64	10,896.83	510.89	326.84	508.83	0.00	0.00	0.00
11,600.00	90.50	359.64	10,895.95	610.89	326.21	608.83	0.00	0.00	0.00
11,700.00	90.50	359.64	10,895.08	710.88	325.58	708.82	0.00	0.00	0.00
11,800.00	90.50	359.64	10,894.21	810.88	324.95	808.82	0.00	0.00	0.00
11,900.00	90.50	359.64	10,893.34	910.87	324.33	908.82	0.00	0.00	0.00
12,000.00	90.50	359.64	10,892.46	1,010.87	323.70	1,008.81	0.00	0.00	0.00
12,100.00	90.50	359.64	10,891.59	1,110.86	323.07	1,108.81	0.00	0.00	0.00
12,200.00	90.50	359.64	10,890.72	1,210.85	322.44	1,208.80	0.00	0.00	0.00
12,300.00	90.50	359.64	10,889.85	1,310.85	321.82	1,308.80	0.00	0.00	0.00
12,400.00	90.50	359.64	10,888.97	1,410.84	321.19	1,408.80	0.00	0.00	0.00
12,500.00	90.50	359.64	10,888.10	1,510.84	320.56	1,508.79	0.00	0.00	0.00
12,600.00	90.50	359.64	10,887.23	1,610.83	319.93	1,608.79	0.00	0.00	0.00
12,700.00	90.50	359.64	10,886.35	1,710.83	319.31	1,708.79	0.00	0.00	0.00
12,800.00	90.50	359.64	10,885.48	1,810.82	318.68	1,808.78	0.00	0.00	0.00
12,900.00	90.50	359.64	10,884.61	1,910.81	318.05	1,908.78	0.00	0.00	0.00
13,000.00	90.50	359.64	10,883.74	2,010.81	317.42	2,008.77	0.00	0.00	0.00
13,100.00	90.50	359.64	10,882.86	2,110.80	316.80	2,108.77	0.00	0.00	0.00
13,200.00	90.50	359.64	10,881.99	2,210.80	316.17	2,208.77	0.00	0.00	0.00
13,300.00	90.50	359.64	10,881.12	2,310.79	315.54	2,308.76	0.00	0.00	0.00
13,400.00	90.50	359.64	10,880.25	2,410.78	314.91	2,408.76	0.00	0.00	0.00
13,500.00	90.50	359.64	10,879.37	2,510.78	314.29	2,508.75	0.00	0.00	0.00
13,600.00	90.50	359.64	10,878.50	2,610.77	313.66	2,608.75	0.00	0.00	0.00
13,700.00	90.50	359.64	10,877.63	2,710.77	313.03	2,708.75	0.00	0.00	0.00
13,800.00	90.50	359.64	10,876.76	2,810.76	312.40	2,808.74	0.00	0.00	0.00
13,900.00	90.50	359.64	10,875.88	2,910.76	311.78	2,908.74	0.00	0.00	0.00
14,000.00	90.50	359.64	10,875.01	3,010.75	311.15	3,008.74	0.00	0.00	0.00
14,100.00	90.50	359.64	10,874.14	3,110.74	310.52	3,108.73	0.00	0.00	0.00
14,200.00	90.50	359.64	10,873.26	3,210.74	309.89	3,208.73	0.00	0.00	0.00
14,300.00	90.50	359.64	10,872.39	3,310.73	309.27	3,308.72	0.00	0.00	0.00
14,400.00	90.50	359.64	10,871.52	3,410.73	308.64	3,408.72	0.00	0.00	0.00
14,500.00	90.50	359.64	10,870.65	3,510.72	308.01	3,508.72	0.00	0.00	0.00
14,600.00	90.50	359.64	10,869.77	3,610.72	307.38	3,608.71	0.00	0.00	0.00
14,700.00	90.50	359.64	10,868.90	3,710.71	306.76	3,708.71	0.00	0.00	0.00
14,800.00	90.50	359.64	10,868.03	3,810.70	306.13	3,808.71	0.00	0.00	0.00
14,900.00	90.50	359.64	10,867.16	3,910.70	305.50	3,908.70	0.00	0.00	0.00
15,000.00	90.50	359.64	10,866.28	4,010.69	304.87	4,008.70	0.00	0.00	0.00
15,100.00	90.50	359.64	10,865.41	4,110.69	304.25	4,108.69	0.00	0.00	0.00

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Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 31' @ 3004.00usft
Site:	Corral Canyon 4 Fed	**North Reference:**	Grid
Well:	#166H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,200.00	90.50	359.64	10,864.54	4,210.68	303.62	4,208.69	0.00	0.00	0.00
15,300.00	90.50	359.64	10,863.67	4,310.68	302.99	4,308.69	0.00	0.00	0.00
15,400.00	90.50	359.64	10,862.79	4,410.67	302.36	4,408.68	0.00	0.00	0.00
15,500.00	90.50	359.64	10,861.92	4,510.66	301.74	4,508.68	0.00	0.00	0.00
15,600.00	90.50	359.64	10,861.05	4,610.66	301.11	4,608.67	0.00	0.00	0.00
15,700.00	90.50	359.64	10,860.17	4,710.65	300.48	4,708.67	0.00	0.00	0.00
15,800.00	90.50	359.64	10,859.30	4,810.65	299.85	4,808.67	0.00	0.00	0.00
15,901.56	90.50	359.64	10,858.42	4,912.20	299.22	4,910.22	0.00	0.00	0.00
16,000.00	90.50	359.64	10,857.56	5,010.63	298.60	5,008.66	0.00	0.00	0.00
16,031.57	90.50	359.64	10,857.28	5,042.20	298.40	5,040.23	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
CC 4 #166H SHL: 70' - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	419,186.50	607,254.30	32.1519860	-103.9867738
CC 4 #166H PBHL: 2(- plan hits target center - Point	0.00	0.00	10,857.28	5,042.20	298.40	424,228.70	607,552.70	32.1658442	-103.9857570
CC 4 #166H LTP - plan misses target center by 0.08usft at 15901.56usft MD (10858.42 TVD, 4912.20 N, 299.22 E) - Point	0.00	0.00	10,858.42	4,912.20	299.30	424,098.70	607,553.60	32.1654868	-103.9857555
CC 4 #166H FTP - plan hits target center - Point	0.00	0.00	10,899.00	261.80	328.40	419,448.30	607,582.70	32.1527027	-103.9857100

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Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 31' @ 3004.00usft
Site:	Corral Canyon 4 Fed	**North Reference:**	Grid
Well:	#166H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
298.00	298.00	Rustler			
713.00	713.00	Top of Salt			
2,778.00	2,778.00	Base of Salt			
2,967.00	2,967.00	Delaware			
3,848.00	3,848.00	Cherry Canyon			
5,480.32	5,480.00	Brushy Canyon			
6,502.21	6,498.00	Basal Brushy			
6,743.13	6,738.00	Bone Spring			
6,765.21	6,760.00	Bone Spring Lime			
6,911.77	6,906.00	Upper Avalon			
7,343.42	7,336.00	Lower Avalon Shale			
7,597.38	7,589.00	1st Bone Springs Lime			
7,676.69	7,668.00	1st Bone Springs Sand			
7,944.71	7,935.00	2nd Bone Springs Lime			
8,449.63	8,438.00	2nd Bone Springs Sand			
8,746.76	8,734.00	3rd Bone Springs Lime			
9,572.91	9,557.00	3rd Bone Springs Sand			
9,945.33	9,928.00	Wolfcamp			
9,959.38	9,942.00	Wolfcamp X			
10,036.68	10,019.00	Wolfcamp Y			
10,079.84	10,062.00	Wolfcamp A			
10,380.89	10,362.00	Wolfcamp B			
10,588.40	10,562.00	Wolfcamp C			
10,842.45	10,763.00	Wolfcamp D			
11,250.89	10,899.00	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, recomplete 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

10,000 PSI Annular BOP Variance Request

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

1. Component and Preventer Compatibility Tables

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

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

2. Well Control Procedures

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

<u>General Procedure While Drilling</u>

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

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

General Procedure While Tripping

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

General Procedure While Running Production Casing

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

General Procedure With No Pipe In Hole (Open Hole)

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

General Procedures While Pulling BHA Through Stack

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

    ii. Pit gain
    iii. Time
h. Regroup and identify forward plan

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