Rec'd 08/28/2020 - 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.: NMNM0000506A

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.: POKER LAKE / NMNM 071016X

8. Lease Name and Well No.: POKER LAKE UNIT 16 TWR 125H

2. Name of Operator: XTO PERMIAN OPERATING LLC

9. API Well No.: 30 015 47373

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

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

10. Field and Pool, or Exploratory: PURPLE SAGE WOLFCAMP GAS/null

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface: NENW / 515 FNL / 2590 FWL / LAT 32.208675 / LONG -103.78292

At proposed prod. zone: SWSE / 200 FSL / 2486 FEL / LAT 32.181604 / LONG -103.782218

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 21/T24S/R31E/NMP

14. Distance in miles and direction from nearest town or post office*

12. County or Parish: EDDY

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 330 feet

16. No of acres in lease: 1845.12

17. Spacing Unit dedicated to this well: 640.0

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

19. Proposed Depth: 11913 feet / 22322 feet

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3506 feet

22. Approximate date work will start*: 07/01/2020

23. Estimated duration: 30 days

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	KELLY KARDOS / Ph: (432) 682-8873	03/11/2020

Title: Regulatory Coordinator

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575) 234-5959	06/30/2020

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: 06/30/2020

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- 47373	98220	Purple Sage; Wolfcamp

[4] Property Code	[5] Property Name	[6] Well Number
328301	POKER LAKE UNIT 16 TWR	125H

[7] OGRID No.	[8] Operator Name	[9] Elevation
373075	XTO PERMIAN OPERATING, LLC.	3,506'

[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
C	21	24 S	31 E		515	NORTH	2,590	WEST	EDDY

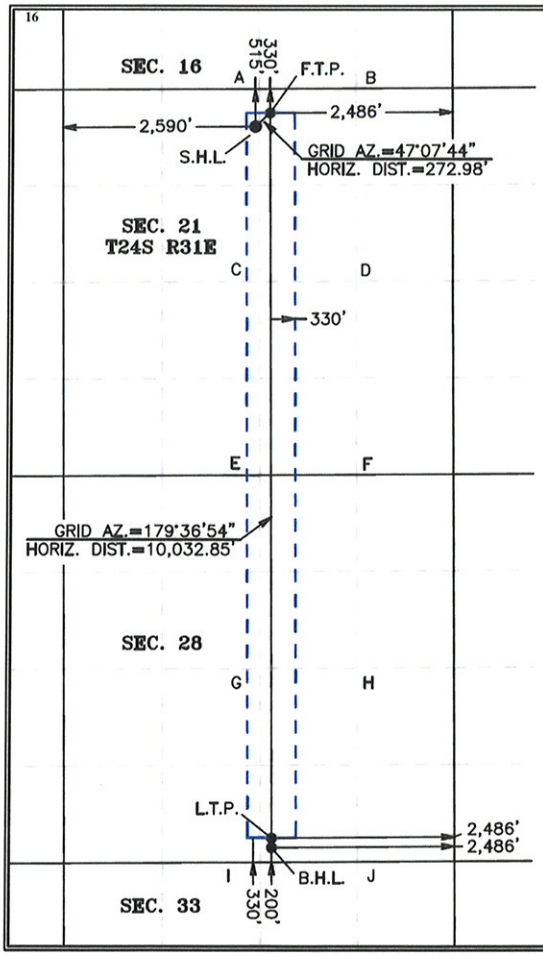
[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	28	24 S	31 E		200	SOUTH	2,486	EAST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
640			

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

16



SHL (NAD83 NME)		LTP (NAD83 NME)	
Y =	440,086.0	Y =	430,369.1
X =	711,572.7	X =	711,839.3
LAT. =	32.208675 °N	LAT. =	32.181962 °N
LONG. =	103.782920 °W	LONG. =	103.782219 °W
FTP (NAD83 NME)		**BHL (NAD83 NME)**	
Y =	440,271.7	Y =	430,239.1
X =	711,772.8	X =	711,840.2
LAT. =	32.209183 °N	LAT. =	32.181604 °N
LONG. =	103.782270 °W	LONG. =	103.782218 °W

CORNER COORDINATES (NAD83 NME)

A - Y =	440,600.9	N ,	X =	711,619.5 E
B - Y =	440,608.3	N ,	X =	712,938.3 E
C - Y =	437,961.7	N ,	X =	711,635.8 E
D - Y =	437,968.6	N ,	X =	712,953.3 E
E - Y =	435,320.2	N ,	X =	711,652.1 E
F - Y =	435,328.1	N ,	X =	712,971.9 E
G - Y =	432,679.1	N ,	X =	711,669.4 E
H - Y =	432,686.9	N ,	X =	712,989.1 E
I - Y =	430,038.2	N ,	X =	711,686.6 E
J - Y =	430,046.0	N ,	X =	713,007.1 E

SHL (NAD27 NME)		LTP (NAD27 NME)	
Y =	440,027.1	Y =	430,310.5
X =	670,388.7	X =	670,654.9
LAT. =	32.208551 °N	LAT. =	32.181838 °N
LONG. =	103.782436 °W	LONG. =	103.781736 °W
FTP (NAD27 NME)		**BHL (NAD27 NME)**	
Y =	440,212.8	Y =	430,180.5
X =	670,588.8	X =	670,655.9
LAT. =	32.209059 °N	LAT. =	32.181480 °N
LONG. =	103.781786 °W	LONG. =	103.781736 °W

CORNER COORDINATES (NAD27 NME)

A - Y =	440,542.0	N ,	X =	670,435.6 E
B - Y =	440,549.4	N ,	X =	671,754.3 E
C - Y =	437,902.8	N ,	X =	670,451.8 E
D - Y =	437,909.8	N ,	X =	671,769.2 E
E - Y =	435,261.5	N ,	X =	670,468.0 E
F - Y =	435,269.4	N ,	X =	671,787.7 E
G - Y =	432,620.4	N ,	X =	670,485.1 E
H - Y =	432,628.2	N ,	X =	671,804.8 E
I - Y =	429,979.6	N ,	X =	670,502.2 E
J - Y =	429,987.4	N ,	X =	671,822.7 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 03/03/2020
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.

03-03-2020
Date of Survey

Signatue and Seal of Professional Surveyor:

MARK DILLON HARP
NEW MEXICO
23786
PROFESSIONAL SURVEYOR

MARK DILLON HARP 23786
Certificate Number

AR/AW 2018010233

P:\PROJECTS\2018\2018010233-XTO-POKER_LAKE_UNIT_16_TWR_125H-EDDY\DWG\2018010233-XTO-POKER_LAKE_UNIT_16_TWR_125H_C-102.dwg

District I
1625 N. French Dr., Hobbs, NM 88240
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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: 01/15/2020

☒ Original Operator & OGRID No.: XTO Permian Operating [373075]

☐ Amended - Reason for Amendment: _____

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, 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: Poker Lake Unit 16 TWR East

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

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Poker Lake Unit 16 TWR 161H		D-21-24S-31E	492' FNL & 400' FWL	4800	Flared/Sold	
Poker Lake Unit 16 TWR 121H		D-21-24S-31E	522' FNL & 400' FWL	3000	Flared/Sold	
Poker Lake Unit 16 TWR 101H		D-21-24S-31E	552' FNL & 400' FWL	2800	Flared/Sold	
Poker Lake Unit 16 TWR 152H		D-21-24S-31E	492' FNL & 700' FWL	4300	Flared/Sold	
Poker Lake Unit 16 TWR 122H		D-21-24S-31E	522' FNL & 700' FWL	3000	Flared/Sold	
Poker Lake Unit 16 TWR 102H		D-21-24S-31E	552' FNL & 700' FWL	2800	Flared/Sold	
Poker Lake Unit 16 TWR 163H		C-21-24S-31E	485' FNL & 2040' FWL	4800	Flared/Sold	
Poker Lake Unit 16 TWR 123H		C-21-24S-31E	515' FNL & 2040' FWL	3000	Flared/Sold	
Poker Lake Unit 16 TWR 103H		C-21-24S-31E	544' FNL & 2040' FWL	2800	Flared/Sold	
Poker Lake Unit 16 TWR 154H		C-21-24S-31E	485' FNL & 2290' FWL	4300	Flared/Sold	
Poker Lake Unit 16 TWR 124H		C-21-24S-31E	515' FNL & 2290' FWL	3000	Flared/Sold	
Poker Lake Unit 16 TWR 104H		C-21-24S-31E	545' FNL & 2290' FWL	2800	Flared/Sold	
Poker Lake Unit 16 TWR 165H		C-21-24S-31E	485' FNL & 2590' FWL	4800	Flared/Sold	
Poker Lake Unit 16 TWR 125H		C-21-24S-31E	515' FNL & 2590' FWL	3000	Flared/Sold	
Poker Lake Unit 16 TWR 105H		C-21-24S-31E	545' FNL & 2590' FWL	2800	Flared/Sold	
Poker Lake Unit 16 TWR 156H		B-21-24S-31E	485' FNL & 2437' FEL	4300	Flared/Sold	
Poker Lake Unit 16 TWR 126H		B-21-24S-31E	515' FNL & 2437' FEL	3000	Flared/Sold	
Poker Lake Unit 16 TWR 106H		B-21-24S-31E	545' FNL & 2437' FEL	2800	Flared/Sold	
Poker Lake Unit 16 TWR 167H		B-21-24S-31E	490' FNL & 1950' FEL	4800	Flared/Sold	
Poker Lake Unit 16 TWR 127H		B-21-24S-31E	520' FNL & 1950' FEL	3000	Flared/Sold	
Poker Lake Unit 16 TWR 107H		B-21-24S-31E	550' FNL & 1950' FEL	2800	Flared/Sold	
Poker Lake Unit 16 TWR 158H		A-21-24S-31E	490' FNL & 1650' FEL	4300	Flared/Sold	
Poker Lake Unit 16 TWR 128H		A-21-24S-31E	520' FNL & 1650' FEL	3000	Flared/Sold	
Poker Lake Unit 16 TWR 108H		A-21-24S-31E	550' FNL & 1650' FEL	2800	Flared/Sold	

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 Lucid and will be connected to Lucid low/high pressure gathering system located in Eddy County, New Mexico. It will require 271.84' of pipeline to connect the facility to low/high pressure gathering system. XTO provides (periodically) to Lucid a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, XTO and Lucid have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Red Hills Plant, Sec. 13, T24S, R33E or Roadrunner, Sec. 32, T32S, R28E, Eddy County. 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 Lucid system at that time. Based on current information, it is XTO'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

Intent [X] As Drilled [ ]

API #

Operator Name:	Property Name:	Well Number
XTO PERMIAN OPERATING, LLC	POKER LAKE UNIT 16 TWR	125H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
C	21	24S	31E		515	NORTH	2590	WEST	EDDY

Latitude	Longitude	NAD
32.208675	-103.782920	83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
C	21	24S	31E		330	NORTH	2486	EAST	EDDY

Latitude	Longitude	NAD
32.209183	-103.782270	83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
O	28	24S	31E		330	SOUTH	2486	EAST	EDDY

Latitude	Longitude	NAD
32.181962	-103.782219	83

Is this well the defining well for the Horizontal Spacing Unit? [YES]

Is this well an infill well? [NO]

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

API #

Operator Name:	Property Name:	Well Number
XTO PERMIAN OPERATING, LLC		

KZ 06/29/2018

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**XTO Permian Operating, LLC**
LEASE NO.:	**NMNM-0000506A**
WELL NAME & NO.:	**Poker Lake Unit 16 TWR 125H**
SURFACE HOLE FOOTAGE:	**0515' FNL & 2590' FWL**
BOTTOM HOLE FOOTAGE	**0200' FSL & 2486' FEL Sec. 28, T.24 S., R.31 E.**
LOCATION:	**Section 21, T.24 S., R.31 E., NMPM**
COUNTY:	**Eddy County, New Mexico**

COA

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

Possibility of water flows in the Salado and Castile.
Possibility of lost circulation in the Red Beds, Rustler, and Delaware.
Abnormal pressure may be encountered in the 3rd Bone Spring and all subsequent formations.

A. HYDROGEN SULFIDE

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

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **820** feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

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

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

    Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

    a. First stage to DV tool:

        - Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

    b. Second stage above DV tool:

        - Cement to surface. If cement does not circulate, contact the appropriate BLM office.

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. **Excess calculates to 14% - Additional cement may be required.**

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.

D. SPECIAL REQUIREMENT (S)

Unit Wells

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

Commercial Well Determination

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

GENERAL REQUIREMENTS

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

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

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

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

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

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

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

A. CASING

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

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

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

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

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

    b. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer.

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

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

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

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

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

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

JAM 06242020

APD ID: 10400055075 **Submission Date:** 03/11/2020

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 16 TWR **Well Number:** 125H

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
686987	PERMIAN	3506	0	0	OTHER : Quaternary	NONE	N
686978	RUSTLER	2886	620	620	SILTSTONE	USEABLE WATER	N
686979	TOP SALT	2546	960	960	SALT	OTHER : Produced Water	N
686980	BASE OF SALT	-665	4171	4171	SALT	OTHER : Produced Water	N
686976	DELAWARE	-899	4405	4405	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
686977	BONE SPRING	-4724	8230	8230	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
686975	BONE SPRING 1ST	-5784	9290	9290	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
686974	BONE SPRING 2ND	-6500	10006	10006	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
686993	BONE SPRING 3RD	-7624	11130	11130	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
686995	WOLFCAMP	-8093	11599	11599	SHALE	NATURAL GAS, OIL, OTHER : Produced Water	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M **Rating Depth:** 11913

Equipment: the blow out preventer equipment (BOP) will consist of a 13-5/8 minimum 5M Hydril and a 13-5/8 minimum 5M 3-Ram BOP. MASP should not exceed 4503 psi.

Requesting Variance? YES

Variance request: 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. A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test chart will be kept on the rig. Attached is an example of a certification and pressure test chart. The manufacturer does not require anchors. Permanent Wellhead – GE RSH Multibowl System
A. Starting Head (RSH System): 13-3/8" SOW bottom x 13-5/8" 5M top flange 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 Onshore Order 2.

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 16 TWR **Well Number:** 125H

· Wellhead manufacturer representative may not be present for BOP test plug installation XTO requests a variance to be able to batch drill this well if necessary. In doing so, XTO will set each casing string and ensure that the well is cemented properly and the well is static. With floats holding, no pressure on the csg annulus, and the installation of a 10K TA cap as per GE recommendations, XTO will contact the BLM on each rig skid on the pad. Once surface and intermediate strings are all completed, XTO will begin drilling the production hole on each of the wells.

Testing Procedure: All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 70% of the working pressure. When nippling up on the 13-3/8", 5M bradenhead and flange, the BOP test will be limited to 5000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 5M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

Choke Diagram Attachment:

PLU_16_TWR_5MCM_20200311113937.pdf

PLU_16_TWR_10MCM_20200311113951.pdf

BOP Diagram Attachment:

PLU_16_TWR_5M10MBOP_20200304111945.pdf

PLU_16_TWR_5MBOP_20200311114003.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	820	0	810	3506	2696	820	J-55	68	BUTT	5.32	1.25	BUOY	19.41	DRY	19.41
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	10435	0	10435	3506	-6929	10435	HCL-80	40	BUTT	1.38	1.19	DRY	2.19	DRY	2.19
3	PRODUCTION	8.75	5.5	NEW	API	N	0	22322	0	11913	3370	-8407	22322	P-110	20	BUTT	1.56	1.19	DRY	2.03	DRY	2.03

Casing Attachments

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 16 TWR **Well Number:** 125H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

PLU_16_TWR_125H_Csg_20200311114040.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

PLU_16_TWR_125H_Csg_20200311114213.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

PLU_16_TWR_125H_Csg_20200311114255.pdf

Section 4 - Cement

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 16 TWR **Well Number:** 125H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	810	380	1.87	12.8	710.6	100	Halcem-C	2% CaCl
SURFACE	Tail				300	1.35	14.8	405	100	Halcem-C	2% CaCl
INTERMEDIATE	Lead		4320	10435	620	3.45	11	2139	100	Halcem-C	2% CaCl
INTERMEDIATE	Tail				410	1.32	14.8	541.2		Halcem-C	2% CaCl
INTERMEDIATE	Lead	4320	0	10435	920	3.45	11	3174	100	Halcem-C	2%CaCl
INTERMEDIATE	Tail				470	1.32	14.8	620.4	100	Halcem-C	2%CaCl
PRODUCTION	Lead		0	22322	110	1.88	11.5	206.8	20	Halcem-C	2% CaCl
PRODUCTION	Tail				2620	1.33	11.5	3484.6		VersaCem	none

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

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

Describe the mud monitoring system utilized: 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
10435	11913	OTHER : FW / Cut Brine / Poly /	11.2	12							A mud test will be performed every 24 hours to determine:

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 16 TWR **Well Number:** 125H

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
		OBM									density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system
0	810	OTHER : FW/Native	8.4	8.8							A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system
810	10435	OTHER : FW / Cut Brine / Direct Emulsion	8.8	9.8							A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system

Section 6 - Test, Logging, Coring

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

Open hole logging to include Density/Neutron/PE/Dual Laterlog/Spectral Gamma from kick-off point to intermediate casing shoe.

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,MUD LOG/GEOLOGICAL LITHOLOGY LOG,

Coring operation description for the well:

No coring will take place on this well.

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 16 TWR **Well Number:** 125H

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 7124 **Anticipated Surface Pressure:** 4503

Anticipated Bottom Hole Temperature(F): 165

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

Describe:

Potential loss of circulation through the Capitan Reef.

Contingency Plans geoharzards description:

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

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

PLU_16_TWR_H2S_Dia_Pad_2E_20200311085312.pdf

PLU_16_TWR_H2S_Dia_Pad_2W_20200311085439.pdf

PLU_16_TWR_H2S_Plan_20200304122105.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

PLU_16_TWR_125H_DD_20200311115226.pdf

Other proposed operations facets description:

The surface fresh water sands will be protected by setting 13-3/8 inch casing @ 810' (150' above the salt) and circulating cement back to surface. A 12-1/4 inch vertical hole will be drilled to 10435' and 9-5/8 inch casing ran and cemented 200' into the 13-3/8 inch casing. An 8-3/4 inch / 8-1/2 inch curve and lateral hole will be drilled to MD/TD and 5-1/2 casing will be set at TD and cemented back 300' into the 9-5/8 inch casing shoe.

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

Other proposed operations facets attachment:

PLU_16_TWR_GCPE_20200304122649.pdf

PLU_16_TWR_GCPW_20200304122702.pdf

Other Variance attachment:

PLU_16_TWR_FH_20200304122358.pdf

PLU_16_TWR_MBD_20200304122432.pdf

PLU_16_TWR_WWC_20200304122416.pdf

Casing Assumption Worksheet

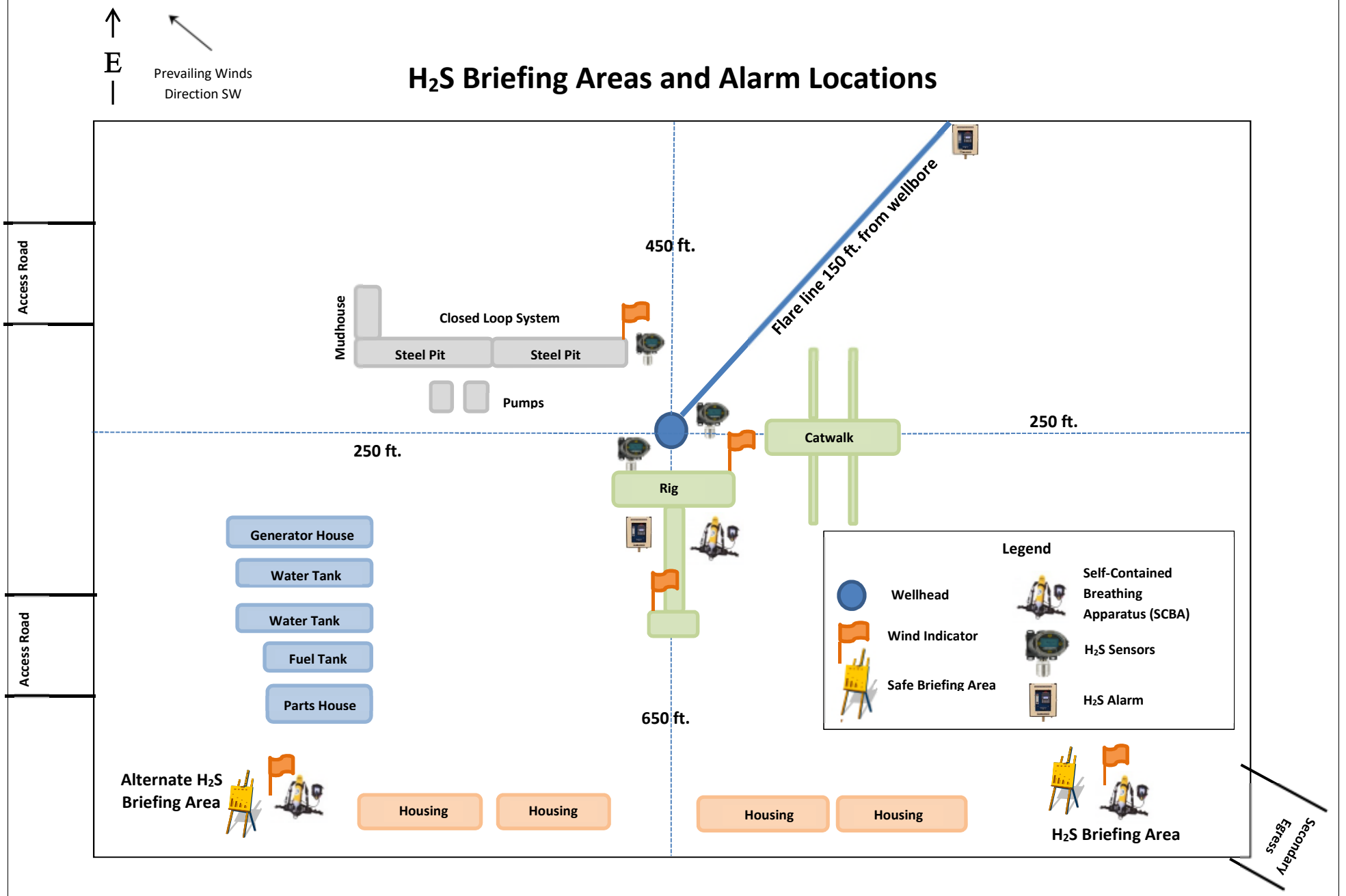
Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17-1/2"	0' – 810'	13-3/8"	68	BTC	J-55	New	1.25	5.32	19.41
12-1/4"	0' – 10435'	9-5/8"	40	BTC	HCL-80	New	1.19	1.38	2.19
8-3/4"	0' – 22322'	5-1/2"	20	BTC	P-110	New	1.18	1.56	2.03

XTO requests to utilize centralizers after KOP and only a minimum of one every 4th joint.
9-5/8" Collapse analyzed using 50% evacuation based on regional experience.
5-1/2" tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35

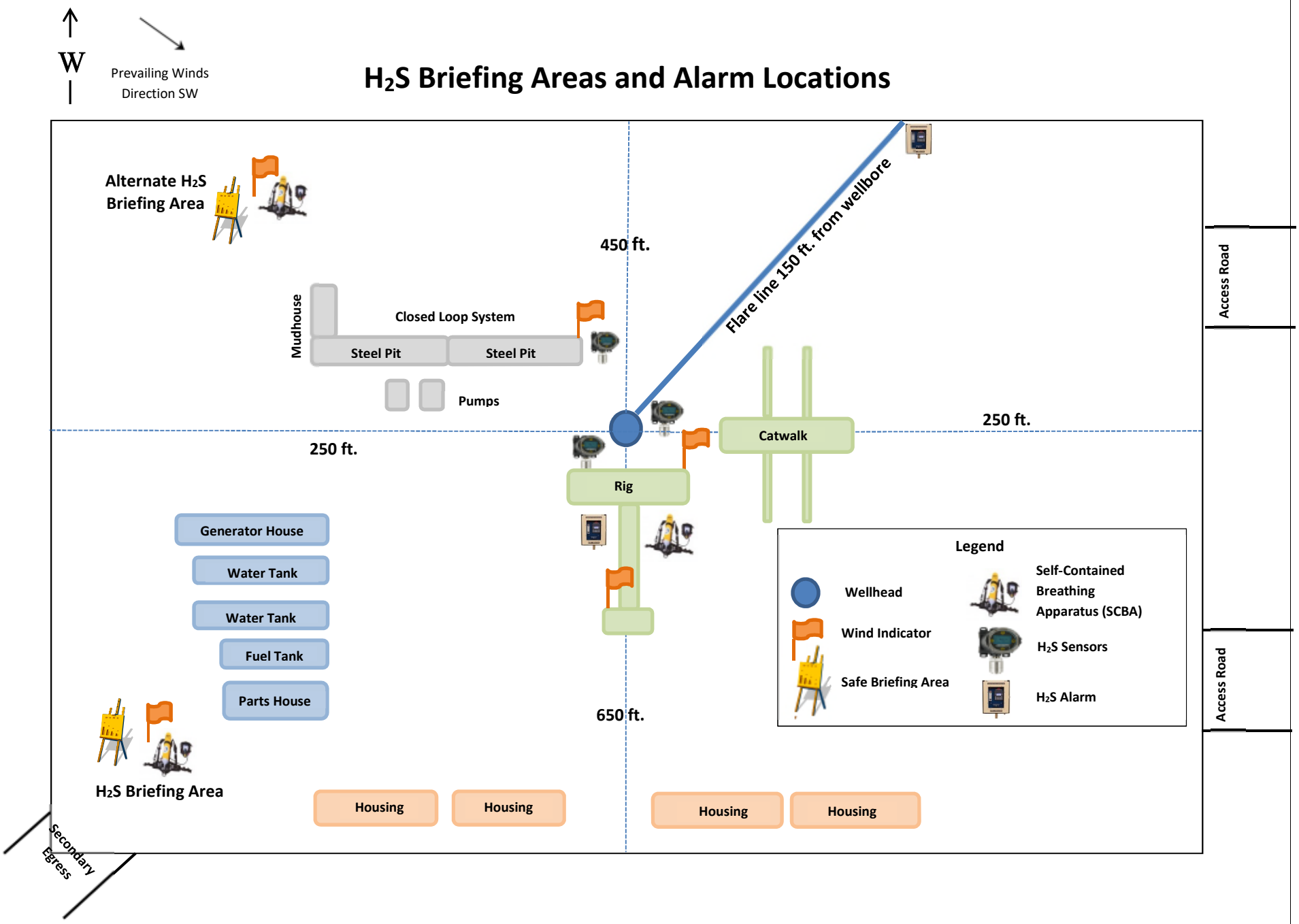
Permanent Wellhead – GE RSH Multibowl System

A. Starting Head (RSH System): 13-3/8" SOW bottom x 13-5/8" 5M top flange
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 Onshore Order 2.
   - Wellhead manufacturer representative may not be present for BOP test plug installation

H_2S Briefing Areas and Alarm Locations



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)
Poker Lake Unit 16 TWR
#125H

OH

Plan: PERMIT v2

Standard Planning Report

09 March, 2020

Project: Eddy County, NM (NAD-27)
Site: Poker Lake Unit 16 TWR
Well: #125H
Wellbore: OH
Design: PERMIT v2

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: #125H

Rig Name:
RKB = 31' @ 3537.00usft
Ground Level: 3506.00

+N/-S	+E/-W	Northing	Easting	Latittude	Longitude
0.00	0.00	440027.10	670388.70	32.2085513	-103.7824361

DESIGN TARGET DETAILS

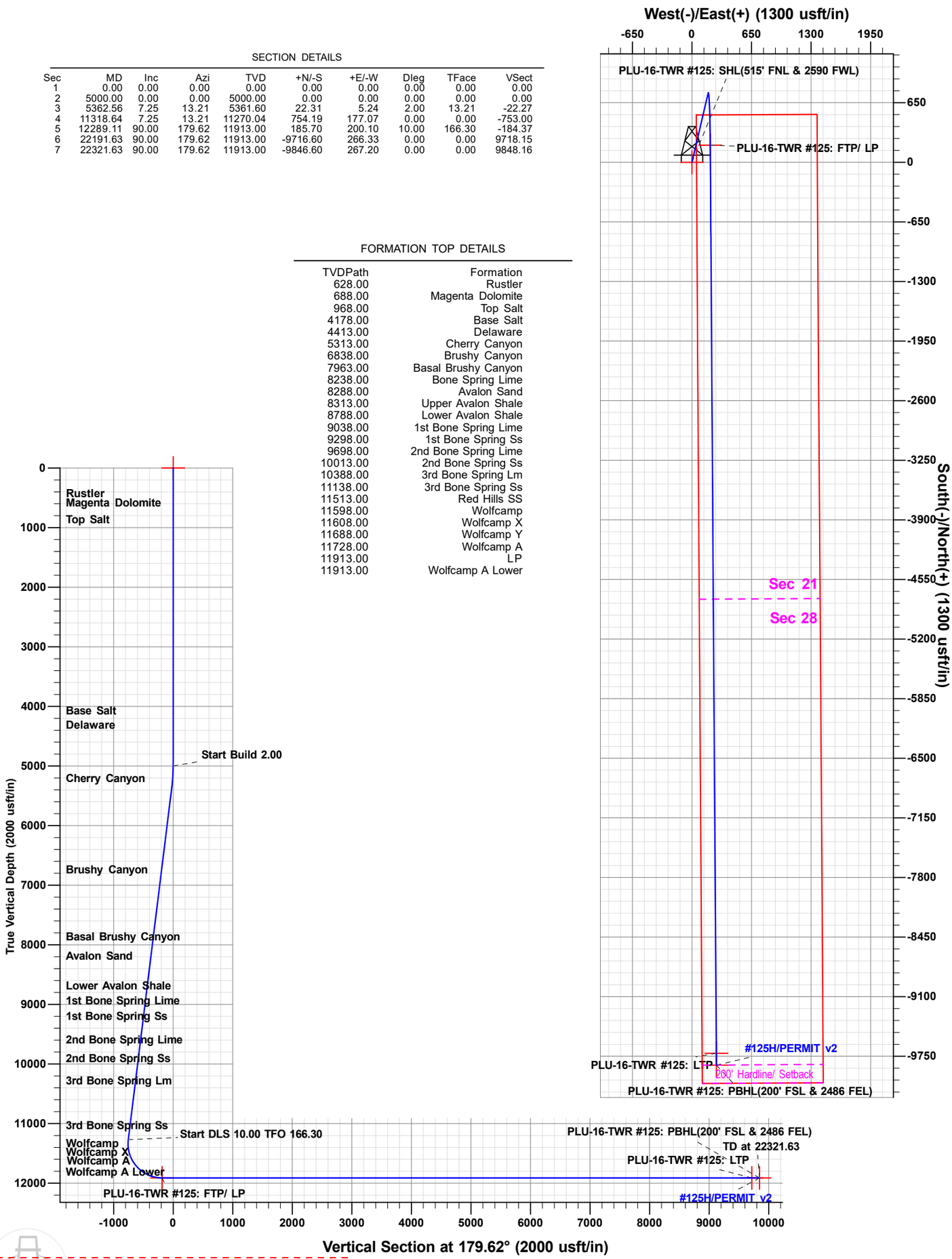
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PLU-16-TWR #125: SHL(515' FNL & 2590 FWL)	0.00	0.00	0.00	440027.10	670388.70	32.2085513	-103.7824361	Point
PLU-16-TWR #125: FTP/ LP	11913.00	185.70	200.10	440212.80	670588.80	32.2090590	-103.7817861	Point
PLU-16-TWR #125: LTP	11913.00	-9716.60	266.20	430310.50	670654.90	32.1818378	-103.7817366	Point
PLU-16-TWR #125: PBHL(200' FSL & 2486 FEL)	11913.00	-9846.60	267.20	430180.50	670655.90	32.1814805	-103.7817355	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5000.00	0.00	0.00	5000.00	0.00	0.00	0.00	0.00	0.00
3	5362.56	7.25	13.21	5361.60	22.31	5.24	2.00	13.21	-22.27
4	11318.64	7.25	13.21	11270.04	754.19	177.07	0.00	0.00	-753.00
5	12289.11	90.00	179.62	11913.00	185.70	200.10	10.00	166.30	-184.37
6	22191.63	90.00	179.62	11913.00	-9716.60	266.33	0.00	0.00	9718.15
7	22321.63	90.00	179.62	11913.00	-9846.60	267.20	0.00	0.00	9848.16

FORMATION TOP DETAILS

TVDPath	Formation
628.00	Rustler
688.00	Magenta Dolomite
968.00	Top Salt
4178.00	Base Salt
4413.00	Delaware
5313.00	Cherry Canyon
6838.00	Brushy Canyon
7963.00	Basal Brushy Canyon
8238.00	Bone Spring Lime
8288.00	Avalon Sand
8313.00	Upper Avalon Shale
8788.00	Lower Avalon Shale
9038.00	1st Bone Spring Lime
9298.00	1st Bone Spring Ss
9698.00	2nd Bone Spring Lime
10013.00	2nd Bone Spring Ss
10388.00	3rd Bone Spring Lm
11138.00	3rd Bone Spring Ss
11513.00	Red Hills SS
11598.00	Wolfcamp
11608.00	Wolfcamp X
11688.00	Wolfcamp Y
11728.00	Wolfcamp A
11913.00	LP
11913.00	Wolfcamp A Lower



Plan: PERMIT v2 (#125H/OH)

Created By: Matthew May Date: 17:13, March 09 2020

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #125H
Company:	XTO Energy	**TVD Reference:**	RKB = 31' @ 3537.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 31' @ 3537.00usft
Site:	Poker Lake Unit 16 TWR	**North Reference:**	Grid
Well:	#125H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT v2		

Project Eddy County, NM (NAD-27)

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site Poker Lake Unit 16 TWR

Site Position:		**Northing:**	440,861.50 usft	**Latitude:**	32.2108713
From:	Map	**Easting:**	668,513.80 usft	**Longitude:**	-103.7884840
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.29 °

Well #125H

Well Position	**+N/-S**	-834.40 usft	**Northing:**	440,027.10 usft	**Latitude:**	32.2085514
	+E/-W	1,874.90 usft	**Easting:**	670,388.70 usft	**Longitude:**	-103.7824361
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	3,506.00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	04/16/18	6.96	60.00	47,821

Design PERMIT v2

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	179.62

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	
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,362.56	7.25	13.21	5,361.60	22.31	5.24	2.00	2.00	0.00	13.21	
11,318.64	7.25	13.21	11,270.04	754.19	177.07	0.00	0.00	0.00	0.00	
12,289.11	90.00	179.62	11,913.00	185.70	200.10	10.00	8.53	17.15	166.30	PLU-16-TWR #125
22,191.63	90.00	179.62	11,913.00	-9,716.60	266.33	0.00	0.00	0.00	0.00	PLU-16-TWR #125
22,321.64	90.00	179.62	11,913.00	-9,846.60	267.20	0.00	0.00	0.00	0.00	PLU-16-TWR #125

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #125H
Company:	XTO Energy	**TVD Reference:**	RKB = 31' @ 3537.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 31' @ 3537.00usft
Site:	Poker Lake Unit 16 TWR	**North Reference:**	Grid
Well:	#125H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT v2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
628.00	0.00	0.00	628.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
688.00	0.00	0.00	688.00	0.00	0.00	0.00	0.00	0.00	0.00
Magenta Dolomite									
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
968.00	0.00	0.00	968.00	0.00	0.00	0.00	0.00	0.00	0.00
Top Salt									
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,178.00	0.00	0.00	4,178.00	0.00	0.00	0.00	0.00	0.00	0.00
Base Salt									
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,413.00	0.00	0.00	4,413.00	0.00	0.00	0.00	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #125H
Company:	XTO Energy	**TVD Reference:**	RKB = 31' @ 3537.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 31' @ 3537.00usft
Site:	Poker Lake Unit 16 TWR	**North Reference:**	Grid
Well:	#125H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT v2		

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)
Delaware									
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	2.00	13.21	5,099.98	1.70	0.40	-1.70	2.00	2.00	0.00
5,200.00	4.00	13.21	5,199.84	6.79	1.60	-6.78	2.00	2.00	0.00
5,300.00	6.00	13.21	5,299.45	15.28	3.59	-15.25	2.00	2.00	0.00
5,313.63	6.27	13.21	5,313.00	16.70	3.92	-16.67	2.00	2.00	0.00
Cherry Canyon									
5,362.56	7.25	13.21	5,361.60	22.31	5.24	-22.27	2.00	2.00	0.00
5,400.00	7.25	13.21	5,398.73	26.91	6.32	-26.86	0.00	0.00	0.00
5,500.00	7.25	13.21	5,497.93	39.19	9.20	-39.13	0.00	0.00	0.00
5,600.00	7.25	13.21	5,597.13	51.48	12.09	-51.40	0.00	0.00	0.00
5,700.00	7.25	13.21	5,696.33	63.77	14.97	-63.67	0.00	0.00	0.00
5,800.00	7.25	13.21	5,795.53	76.06	17.86	-75.94	0.00	0.00	0.00
5,900.00	7.25	13.21	5,894.73	88.35	20.74	-88.21	0.00	0.00	0.00
6,000.00	7.25	13.21	5,993.93	100.63	23.63	-100.47	0.00	0.00	0.00
6,100.00	7.25	13.21	6,093.14	112.92	26.51	-112.74	0.00	0.00	0.00
6,200.00	7.25	13.21	6,192.34	125.21	29.40	-125.01	0.00	0.00	0.00
6,300.00	7.25	13.21	6,291.54	137.50	32.28	-137.28	0.00	0.00	0.00
6,400.00	7.25	13.21	6,390.74	149.79	35.17	-149.55	0.00	0.00	0.00
6,500.00	7.25	13.21	6,489.94	162.07	38.05	-161.82	0.00	0.00	0.00
6,600.00	7.25	13.21	6,589.14	174.36	40.94	-174.09	0.00	0.00	0.00
6,700.00	7.25	13.21	6,688.34	186.65	43.82	-186.36	0.00	0.00	0.00
6,800.00	7.25	13.21	6,787.54	198.94	46.71	-198.62	0.00	0.00	0.00
6,850.87	7.25	13.21	6,838.00	205.19	48.17	-204.86	0.00	0.00	0.00
Brushy Canyon									
6,900.00	7.25	13.21	6,886.74	211.23	49.59	-210.89	0.00	0.00	0.00
7,000.00	7.25	13.21	6,985.94	223.51	52.48	-223.16	0.00	0.00	0.00
7,100.00	7.25	13.21	7,085.14	235.80	55.36	-235.43	0.00	0.00	0.00
7,200.00	7.25	13.21	7,184.34	248.09	58.25	-247.70	0.00	0.00	0.00
7,300.00	7.25	13.21	7,283.54	260.38	61.13	-259.97	0.00	0.00	0.00
7,400.00	7.25	13.21	7,382.74	272.67	64.02	-272.24	0.00	0.00	0.00
7,500.00	7.25	13.21	7,481.94	284.95	66.90	-284.50	0.00	0.00	0.00
7,600.00	7.25	13.21	7,581.14	297.24	69.79	-296.77	0.00	0.00	0.00
7,700.00	7.25	13.21	7,680.34	309.53	72.67	-309.04	0.00	0.00	0.00
7,800.00	7.25	13.21	7,779.54	321.82	75.56	-321.31	0.00	0.00	0.00
7,900.00	7.25	13.21	7,878.74	334.11	78.44	-333.58	0.00	0.00	0.00
7,984.94	7.25	13.21	7,963.00	344.54	80.89	-344.00	0.00	0.00	0.00
Basal Brushy Canyon									
8,000.00	7.25	13.21	7,977.94	346.39	81.33	-345.85	0.00	0.00	0.00
8,100.00	7.25	13.21	8,077.14	358.68	84.21	-358.12	0.00	0.00	0.00
8,200.00	7.25	13.21	8,176.34	370.97	87.10	-370.38	0.00	0.00	0.00
8,262.16	7.25	13.21	8,238.00	378.61	88.89	-378.01	0.00	0.00	0.00
Bone Spring Lime									
8,300.00	7.25	13.21	8,275.54	383.26	89.98	-382.65	0.00	0.00	0.00
8,312.56	7.25	13.21	8,288.00	384.80	90.34	-384.19	0.00	0.00	0.00
Avalon Sand									
8,337.76	7.25	13.21	8,313.00	387.90	91.07	-387.29	0.00	0.00	0.00
Upper Avalon Shale									

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #125H
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Site:	Poker Lake Unit 16 TWR	**North Reference:**	Grid
Well:	#125H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT v2		

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)
8,400.00	7.25	13.21	8,374.74	395.55	92.87	-394.92	0.00	0.00	0.00
8,500.00	7.25	13.21	8,473.94	407.83	95.75	-407.19	0.00	0.00	0.00
8,600.00	7.25	13.21	8,573.14	420.12	98.64	-419.46	0.00	0.00	0.00
8,700.00	7.25	13.21	8,672.34	432.41	101.52	-431.73	0.00	0.00	0.00
8,800.00	7.25	13.21	8,771.54	444.70	104.40	-444.00	0.00	0.00	0.00
8,816.59	7.25	13.21	8,788.00	446.74	104.88	-446.03	0.00	0.00	0.00
Lower Avalon Shale									
8,900.00	7.25	13.21	8,870.74	456.99	107.29	-456.26	0.00	0.00	0.00
9,000.00	7.25	13.21	8,969.94	469.27	110.17	-468.53	0.00	0.00	0.00
9,068.61	7.25	13.21	9,038.00	477.70	112.15	-476.95	0.00	0.00	0.00
1st Bone Spring Lime									
9,100.00	7.25	13.21	9,069.14	481.56	113.06	-480.80	0.00	0.00	0.00
9,200.00	7.25	13.21	9,168.34	493.85	115.94	-493.07	0.00	0.00	0.00
9,300.00	7.25	13.21	9,267.54	506.14	118.83	-505.34	0.00	0.00	0.00
9,330.70	7.25	13.21	9,298.00	509.91	119.72	-509.11	0.00	0.00	0.00
1st Bone Spring Ss									
9,400.00	7.25	13.21	9,366.74	518.43	121.71	-517.61	0.00	0.00	0.00
9,500.00	7.25	13.21	9,465.94	530.71	124.60	-529.88	0.00	0.00	0.00
9,600.00	7.25	13.21	9,565.14	543.00	127.48	-542.14	0.00	0.00	0.00
9,700.00	7.25	13.21	9,664.34	555.29	130.37	-554.41	0.00	0.00	0.00
9,733.93	7.25	13.21	9,698.00	559.46	131.35	-558.58	0.00	0.00	0.00
2nd Bone Spring Lime									
9,800.00	7.25	13.21	9,763.54	567.58	133.25	-566.68	0.00	0.00	0.00
9,900.00	7.25	13.21	9,862.74	579.87	136.14	-578.95	0.00	0.00	0.00
10,000.00	7.25	13.21	9,961.94	592.15	139.02	-591.22	0.00	0.00	0.00
10,051.47	7.25	13.21	10,013.00	598.48	140.51	-597.53	0.00	0.00	0.00
2nd Bone Spring Ss									
10,100.00	7.25	13.21	10,061.14	604.44	141.91	-603.49	0.00	0.00	0.00
10,200.00	7.25	13.21	10,160.34	616.73	144.79	-615.76	0.00	0.00	0.00
10,300.00	7.25	13.21	10,259.54	629.02	147.68	-628.02	0.00	0.00	0.00
10,400.00	7.25	13.21	10,358.74	641.31	150.56	-640.29	0.00	0.00	0.00
10,429.49	7.25	13.21	10,388.00	644.93	151.41	-643.91	0.00	0.00	0.00
3rd Bone Spring Lm									
10,500.00	7.25	13.21	10,457.94	653.59	153.45	-652.56	0.00	0.00	0.00
10,600.00	7.25	13.21	10,557.14	665.88	156.33	-664.83	0.00	0.00	0.00
10,700.00	7.25	13.21	10,656.35	678.17	159.22	-677.10	0.00	0.00	0.00
10,800.00	7.25	13.21	10,755.55	690.46	162.10	-689.37	0.00	0.00	0.00
10,900.00	7.25	13.21	10,854.75	702.75	164.99	-701.64	0.00	0.00	0.00
11,000.00	7.25	13.21	10,953.95	715.03	167.87	-713.90	0.00	0.00	0.00
11,100.00	7.25	13.21	11,053.15	727.32	170.76	-726.17	0.00	0.00	0.00
11,185.54	7.25	13.21	11,138.00	737.83	173.23	-736.67	0.00	0.00	0.00
3rd Bone Spring Ss									
11,200.00	7.25	13.21	11,152.35	739.61	173.64	-738.44	0.00	0.00	0.00
11,300.00	7.25	13.21	11,251.55	751.90	176.53	-750.71	0.00	0.00	0.00
11,318.64	7.25	13.21	11,270.04	754.19	177.07	-753.00	0.00	0.00	0.00
11,350.00	4.27	23.24	11,301.24	757.19	177.98	-755.99	10.00	-9.51	31.96
11,400.00	2.03	122.07	11,351.18	758.43	179.47	-757.22	10.00	-4.48	197.66
11,450.00	6.32	163.96	11,401.05	755.31	180.98	-754.09	10.00	8.59	83.79
11,500.00	11.22	170.94	11,450.45	747.86	182.50	-746.63	10.00	9.79	13.97
11,550.00	16.18	173.70	11,499.01	736.12	184.04	-734.88	10.00	9.92	5.51
11,564.62	17.63	174.22	11,513.00	731.89	184.48	-730.65	10.00	9.95	3.54
Red Hills SS									
11,600.00	21.16	175.18	11,546.37	720.20	185.56	-718.95	10.00	9.96	2.73

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #125H
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Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 31' @ 3537.00usft
Site:	Poker Lake Unit 16 TWR	**North Reference:**	Grid
Well:	#125H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT v2		

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)
11,650.00	26.14	176.12	11,592.15	700.20	187.06	-698.95	10.00	9.97	1.88
11,656.53	26.79	176.22	11,598.00	697.30	187.26	-696.04	10.00	9.98	1.51
Wolfcamp									
11,667.79	27.92	176.38	11,608.00	692.14	187.59	-690.88	10.00	9.98	1.42
Wolfcamp X									
11,700.00	31.13	176.78	11,636.02	676.30	188.53	-675.03	10.00	9.98	1.23
11,750.00	36.12	177.27	11,677.64	648.65	189.96	-647.38	10.00	9.99	0.98
11,762.93	37.42	177.38	11,688.00	640.92	190.33	-639.64	10.00	9.99	0.83
Wolfcamp Y									
11,800.00	41.12	177.65	11,716.70	617.48	191.34	-616.20	10.00	9.99	0.75
11,815.18	42.64	177.76	11,728.00	607.36	191.75	-606.07	10.00	9.99	0.67
Wolfcamp A									
11,850.00	46.11	177.97	11,752.88	583.03	192.65	-581.74	10.00	9.99	0.61
11,900.00	51.11	178.23	11,785.93	545.55	193.89	-544.25	10.00	9.99	0.53
11,950.00	56.11	178.47	11,815.59	505.33	195.05	-504.02	10.00	9.99	0.46
12,000.00	61.10	178.67	11,841.63	462.68	196.11	-461.37	10.00	9.99	0.41
12,050.00	66.10	178.86	11,863.85	417.91	197.08	-416.60	10.00	9.99	0.37
12,100.00	71.10	179.03	11,882.09	371.39	197.93	-370.06	10.00	9.99	0.35
12,150.00	76.10	179.19	11,896.20	323.44	198.68	-322.12	10.00	10.00	0.33
12,200.00	81.09	179.35	11,906.09	274.45	199.30	-273.12	10.00	10.00	0.31
12,250.00	86.09	179.50	11,911.67	224.78	199.80	-223.45	10.00	10.00	0.30
12,289.06	89.99	179.62	11,913.00	185.75	200.10	-184.42	10.00	10.00	0.30
LP - Wolfcamp A Lower									
12,289.11	90.00	179.62	11,913.00	185.70	200.10	-184.37	10.00	10.00	0.30
12,300.00	90.00	179.62	11,913.00	174.81	200.17	-173.48	0.00	0.00	0.00
12,400.00	90.00	179.62	11,913.00	74.81	200.84	-73.48	0.00	0.00	0.00
12,500.00	90.00	179.62	11,913.00	-25.18	201.51	26.52	0.00	0.00	0.00
12,600.00	90.00	179.62	11,913.00	-125.18	202.18	126.52	0.00	0.00	0.00
12,700.00	90.00	179.62	11,913.00	-225.18	202.85	226.52	0.00	0.00	0.00
12,800.00	90.00	179.62	11,913.00	-325.18	203.52	326.52	0.00	0.00	0.00
12,900.00	90.00	179.62	11,913.00	-425.18	204.19	426.52	0.00	0.00	0.00
13,000.00	90.00	179.62	11,913.00	-525.17	204.85	526.52	0.00	0.00	0.00
13,100.00	90.00	179.62	11,913.00	-625.17	205.52	626.52	0.00	0.00	0.00
13,200.00	90.00	179.62	11,913.00	-725.17	206.19	726.52	0.00	0.00	0.00
13,300.00	90.00	179.62	11,913.00	-825.17	206.86	826.52	0.00	0.00	0.00
13,400.00	90.00	179.62	11,913.00	-925.16	207.53	926.52	0.00	0.00	0.00
13,500.00	90.00	179.62	11,913.00	-1,025.16	208.20	1,026.52	0.00	0.00	0.00
13,600.00	90.00	179.62	11,913.00	-1,125.16	208.87	1,126.52	0.00	0.00	0.00
13,700.00	90.00	179.62	11,913.00	-1,225.16	209.54	1,226.52	0.00	0.00	0.00
13,800.00	90.00	179.62	11,913.00	-1,325.16	210.21	1,326.52	0.00	0.00	0.00
13,900.00	90.00	179.62	11,913.00	-1,425.15	210.87	1,426.52	0.00	0.00	0.00
14,000.00	90.00	179.62	11,913.00	-1,525.15	211.54	1,526.52	0.00	0.00	0.00
14,100.00	90.00	179.62	11,913.00	-1,625.15	212.21	1,626.52	0.00	0.00	0.00
14,200.00	90.00	179.62	11,913.00	-1,725.15	212.88	1,726.52	0.00	0.00	0.00
14,300.00	90.00	179.62	11,913.00	-1,825.14	213.55	1,826.52	0.00	0.00	0.00
14,400.00	90.00	179.62	11,913.00	-1,925.14	214.22	1,926.52	0.00	0.00	0.00
14,500.00	90.00	179.62	11,913.00	-2,025.14	214.89	2,026.52	0.00	0.00	0.00
14,600.00	90.00	179.62	11,913.00	-2,125.14	215.56	2,126.52	0.00	0.00	0.00
14,700.00	90.00	179.62	11,913.00	-2,225.14	216.22	2,226.52	0.00	0.00	0.00
14,800.00	90.00	179.62	11,913.00	-2,325.13	216.89	2,326.52	0.00	0.00	0.00
14,900.00	90.00	179.62	11,913.00	-2,425.13	217.56	2,426.52	0.00	0.00	0.00
15,000.00	90.00	179.62	11,913.00	-2,525.13	218.23	2,526.52	0.00	0.00	0.00
15,100.00	90.00	179.62	11,913.00	-2,625.13	218.90	2,626.52	0.00	0.00	0.00
15,200.00	90.00	179.62	11,913.00	-2,725.12	219.57	2,726.52	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #125H
Company:	XTO Energy	**TVD Reference:**	RKB = 31' @ 3537.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 31' @ 3537.00usft
Site:	Poker Lake Unit 16 TWR	**North Reference:**	Grid
Well:	#125H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT v2		

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)
15,300.00	90.00	179.62	11,913.00	-2,825.12	220.24	2,826.52	0.00	0.00	0.00
15,400.00	90.00	179.62	11,913.00	-2,925.12	220.91	2,926.52	0.00	0.00	0.00
15,500.00	90.00	179.62	11,913.00	-3,025.12	221.58	3,026.52	0.00	0.00	0.00
15,600.00	90.00	179.62	11,913.00	-3,125.12	222.24	3,126.52	0.00	0.00	0.00
15,700.00	90.00	179.62	11,913.00	-3,225.11	222.91	3,226.52	0.00	0.00	0.00
15,800.00	90.00	179.62	11,913.00	-3,325.11	223.58	3,326.52	0.00	0.00	0.00
15,900.00	90.00	179.62	11,913.00	-3,425.11	224.25	3,426.52	0.00	0.00	0.00
16,000.00	90.00	179.62	11,913.00	-3,525.11	224.92	3,526.52	0.00	0.00	0.00
16,100.00	90.00	179.62	11,913.00	-3,625.10	225.59	3,626.52	0.00	0.00	0.00
16,200.00	90.00	179.62	11,913.00	-3,725.10	226.26	3,726.52	0.00	0.00	0.00
16,300.00	90.00	179.62	11,913.00	-3,825.10	226.93	3,826.52	0.00	0.00	0.00
16,400.00	90.00	179.62	11,913.00	-3,925.10	227.59	3,926.52	0.00	0.00	0.00
16,500.00	90.00	179.62	11,913.00	-4,025.10	228.26	4,026.52	0.00	0.00	0.00
16,600.00	90.00	179.62	11,913.00	-4,125.09	228.93	4,126.52	0.00	0.00	0.00
16,700.00	90.00	179.62	11,913.00	-4,225.09	229.60	4,226.52	0.00	0.00	0.00
16,800.00	90.00	179.62	11,913.00	-4,325.09	230.27	4,326.52	0.00	0.00	0.00
16,900.00	90.00	179.62	11,913.00	-4,425.09	230.94	4,426.52	0.00	0.00	0.00
17,000.00	90.00	179.62	11,913.00	-4,525.08	231.61	4,526.52	0.00	0.00	0.00
17,100.00	90.00	179.62	11,913.00	-4,625.08	232.28	4,626.52	0.00	0.00	0.00
17,200.00	90.00	179.62	11,913.00	-4,725.08	232.95	4,726.52	0.00	0.00	0.00
17,300.00	90.00	179.62	11,913.00	-4,825.08	233.61	4,826.52	0.00	0.00	0.00
17,400.00	90.00	179.62	11,913.00	-4,925.08	234.28	4,926.52	0.00	0.00	0.00
17,500.00	90.00	179.62	11,913.00	-5,025.07	234.95	5,026.52	0.00	0.00	0.00
17,600.00	90.00	179.62	11,913.00	-5,125.07	235.62	5,126.52	0.00	0.00	0.00
17,700.00	90.00	179.62	11,913.00	-5,225.07	236.29	5,226.52	0.00	0.00	0.00
17,800.00	90.00	179.62	11,913.00	-5,325.07	236.96	5,326.52	0.00	0.00	0.00
17,900.00	90.00	179.62	11,913.00	-5,425.06	237.63	5,426.52	0.00	0.00	0.00
18,000.00	90.00	179.62	11,913.00	-5,525.06	238.30	5,526.52	0.00	0.00	0.00
18,100.00	90.00	179.62	11,913.00	-5,625.06	238.96	5,626.52	0.00	0.00	0.00
18,200.00	90.00	179.62	11,913.00	-5,725.06	239.63	5,726.52	0.00	0.00	0.00
18,300.00	90.00	179.62	11,913.00	-5,825.06	240.30	5,826.52	0.00	0.00	0.00
18,400.00	90.00	179.62	11,913.00	-5,925.05	240.97	5,926.52	0.00	0.00	0.00
18,500.00	90.00	179.62	11,913.00	-6,025.05	241.64	6,026.52	0.00	0.00	0.00
18,600.00	90.00	179.62	11,913.00	-6,125.05	242.31	6,126.52	0.00	0.00	0.00
18,700.00	90.00	179.62	11,913.00	-6,225.05	242.98	6,226.52	0.00	0.00	0.00
18,800.00	90.00	179.62	11,913.00	-6,325.04	243.65	6,326.52	0.00	0.00	0.00
18,900.00	90.00	179.62	11,913.00	-6,425.04	244.32	6,426.52	0.00	0.00	0.00
19,000.00	90.00	179.62	11,913.00	-6,525.04	244.98	6,526.52	0.00	0.00	0.00
19,100.00	90.00	179.62	11,913.00	-6,625.04	245.65	6,626.52	0.00	0.00	0.00
19,200.00	90.00	179.62	11,913.00	-6,725.04	246.32	6,726.52	0.00	0.00	0.00
19,300.00	90.00	179.62	11,913.00	-6,825.03	246.99	6,826.52	0.00	0.00	0.00
19,400.00	90.00	179.62	11,913.00	-6,925.03	247.66	6,926.52	0.00	0.00	0.00
19,500.00	90.00	179.62	11,913.00	-7,025.03	248.33	7,026.52	0.00	0.00	0.00
19,600.00	90.00	179.62	11,913.00	-7,125.03	249.00	7,126.52	0.00	0.00	0.00
19,700.00	90.00	179.62	11,913.00	-7,225.02	249.67	7,226.52	0.00	0.00	0.00
19,800.00	90.00	179.62	11,913.00	-7,325.02	250.33	7,326.52	0.00	0.00	0.00
19,900.00	90.00	179.62	11,913.00	-7,425.02	251.00	7,426.52	0.00	0.00	0.00
20,000.00	90.00	179.62	11,913.00	-7,525.02	251.67	7,526.52	0.00	0.00	0.00
20,100.00	90.00	179.62	11,913.00	-7,625.02	252.34	7,626.52	0.00	0.00	0.00
20,200.00	90.00	179.62	11,913.00	-7,725.01	253.01	7,726.52	0.00	0.00	0.00
20,300.00	90.00	179.62	11,913.00	-7,825.01	253.68	7,826.52	0.00	0.00	0.00
20,400.00	90.00	179.62	11,913.00	-7,925.01	254.35	7,926.52	0.00	0.00	0.00
20,500.00	90.00	179.62	11,913.00	-8,025.01	255.02	8,026.52	0.00	0.00	0.00
20,600.00	90.00	179.62	11,913.00	-8,125.00	255.69	8,126.52	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #125H
Company:	XTO Energy	**TVD Reference:**	RKB = 31' @ 3537.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 31' @ 3537.00usft
Site:	Poker Lake Unit 16 TWR	**North Reference:**	Grid
Well:	#125H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT v2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
20,700.00	90.00	179.62	11,913.00	-8,225.00	256.35	8,226.52	0.00	0.00	0.00
20,800.00	90.00	179.62	11,913.00	-8,325.00	257.02	8,326.52	0.00	0.00	0.00
20,900.00	90.00	179.62	11,913.00	-8,425.00	257.69	8,426.52	0.00	0.00	0.00
21,000.00	90.00	179.62	11,913.00	-8,525.00	258.36	8,526.52	0.00	0.00	0.00
21,100.00	90.00	179.62	11,913.00	-8,624.99	259.03	8,626.52	0.00	0.00	0.00
21,200.00	90.00	179.62	11,913.00	-8,724.99	259.70	8,726.52	0.00	0.00	0.00
21,300.00	90.00	179.62	11,913.00	-8,824.99	260.37	8,826.52	0.00	0.00	0.00
21,400.00	90.00	179.62	11,913.00	-8,924.99	261.04	8,926.52	0.00	0.00	0.00
21,500.00	90.00	179.62	11,913.00	-9,024.98	261.70	9,026.52	0.00	0.00	0.00
21,600.00	90.00	179.62	11,913.00	-9,124.98	262.37	9,126.52	0.00	0.00	0.00
21,700.00	90.00	179.62	11,913.00	-9,224.98	263.04	9,226.52	0.00	0.00	0.00
21,800.00	90.00	179.62	11,913.00	-9,324.98	263.71	9,326.52	0.00	0.00	0.00
21,900.00	90.00	179.62	11,913.00	-9,424.97	264.38	9,426.52	0.00	0.00	0.00
22,000.00	90.00	179.62	11,913.00	-9,524.97	265.05	9,526.52	0.00	0.00	0.00
22,100.00	90.00	179.62	11,913.00	-9,624.97	265.72	9,626.52	0.00	0.00	0.00
22,191.63	90.00	179.62	11,913.00	-9,716.60	266.33	9,718.15	0.00	0.00	0.00
22,200.00	90.00	179.62	11,913.00	-9,724.97	266.39	9,726.52	0.00	0.00	0.00
22,300.00	90.00	179.62	11,913.00	-9,824.97	267.06	9,826.52	0.00	0.00	0.00
22,321.64	90.00	179.62	11,913.00	-9,846.60	267.20	9,848.16	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
PLU-16-TWR #125: S - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	440,027.10	670,388.70	32.2085514	-103.7824361
PLU-16-TWR #125: L - plan misses target center by 0.13usft at 22191.63usft MD (11913.00 TVD, -9716.60 N, 266.33 E) - Point	0.00	0.01	11,913.00	-9,716.60	266.20	430,310.50	670,654.90	32.1818378	-103.7817366
PLU-16-TWR #125: F - plan hits target center - Point	0.00	0.00	11,913.00	185.70	200.10	440,212.80	670,588.80	32.2090590	-103.7817861
PLU-16-TWR #125: P - plan hits target center - Point	0.00	0.01	11,913.00	-9,846.60	267.20	430,180.50	670,655.90	32.1814805	-103.7817355

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #125H
Company:	XTO Energy	**TVD Reference:**	RKB = 31' @ 3537.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 31' @ 3537.00usft
Site:	Poker Lake Unit 16 TWR	**North Reference:**	Grid
Well:	#125H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT v2		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
628.00	628.00	Rustler			
688.00	688.00	Magenta Dolomite			
968.00	968.00	Top Salt			
4,178.00	4,178.00	Base Salt			
4,413.00	4,413.00	Delaware			
5,313.63	5,313.00	Cherry Canyon			
6,850.87	6,838.00	Brushy Canyon			
7,984.94	7,963.00	Basal Brushy Canyon			
8,262.16	8,238.00	Bone Spring Lime			
8,312.56	8,288.00	Avalon Sand			
8,337.76	8,313.00	Upper Avalon Shale			
8,816.59	8,788.00	Lower Avalon Shale			
9,068.61	9,038.00	1st Bone Spring Lime			
9,330.70	9,298.00	1st Bone Spring Ss			
9,733.93	9,698.00	2nd Bone Spring Lime			
10,051.47	10,013.00	2nd Bone Spring Ss			
10,429.49	10,388.00	3rd Bone Spring Lm			
11,185.54	11,138.00	3rd Bone Spring Ss			
11,564.62	11,513.00	Red Hills SS			
11,656.53	11,598.00	Wolfcamp			
11,667.79	11,608.00	Wolfcamp X			
11,762.93	11,688.00	Wolfcamp Y			
11,815.18	11,728.00	Wolfcamp A			
12,289.11	11,913.00	LP			
12,289.11	11,913.00	Wolfcamp A Lower			

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: 01/15/2020

☒ Original Operator & OGRID No.: XTO Permian Operating [373075]

☐ Amended - Reason for Amendment: _____

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, 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: Poker Lake Unit 16 TWR West

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

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Poker Lake Unit 16 TWR 161H		D-21-24S-31E	492' FNL & 400' FWL	4800	Flared/Sold	
Poker Lake Unit 16 TWR 121H		D-21-24S-31E	522' FNL & 400' FWL	3000	Flared/Sold	
Poker Lake Unit 16 TWR 101H		D-21-24S-31E	552' FNL & 400' FWL	2800	Flared/Sold	
Poker Lake Unit 16 TWR 152H		D-21-24S-31E	492' FNL & 700' FWL	4300	Flared/Sold	
Poker Lake Unit 16 TWR 122H		D-21-24S-31E	522' FNL & 700' FWL	3000	Flared/Sold	
Poker Lake Unit 16 TWR 102H		D-21-24S-31E	552' FNL & 700' FWL	2800	Flared/Sold	
Poker Lake Unit 16 TWR 163H		C-21-24S-31E	485' FNL & 2040' FWL	4800	Flared/Sold	
Poker Lake Unit 16 TWR 123H		C-21-24S-31E	515' FNL & 2040' FWL	3000	Flared/Sold	
Poker Lake Unit 16 TWR 103H		C-21-24S-31E	544' FNL & 2040' FWL	2800	Flared/Sold	
Poker Lake Unit 16 TWR 154H		C-21-24S-31E	485' FNL & 2290' FWL	4300	Flared/Sold	
Poker Lake Unit 16 TWR 124H		C-21-24S-31E	515' FNL & 2290' FWL	3000	Flared/Sold	
Poker Lake Unit 16 TWR 104H		C-21-24S-31E	545' FNL & 2290' FWL	2800	Flared/Sold	
Poker Lake Unit 16 TWR 165H		C-21-24S-31E	485' FNL & 2590' FWL	4800	Flared/Sold	
Poker Lake Unit 16 TWR 125H		C-21-24S-31E	515' FNL & 2590' FWL	3000	Flared/Sold	
Poker Lake Unit 16 TWR 105H		C-21-24S-31E	545' FNL & 2590' FWL	2800	Flared/Sold	
Poker Lake Unit 16 TWR 156H		B-21-24S-31E	485' FNL & 2437' FEL	4300	Flared/Sold	
Poker Lake Unit 16 TWR 126H		B-21-24S-31E	515' FNL & 2437' FEL	3000	Flared/Sold	
Poker Lake Unit 16 TWR 106H		B-21-24S-31E	545' FNL & 2437' FEL	2800	Flared/Sold	
Poker Lake Unit 16 TWR 167H		B-21-24S-31E	490' FNL & 1950' FEL	4800	Flared/Sold	
Poker Lake Unit 16 TWR 127H		B-21-24S-31E	520' FNL & 1950' FEL	3000	Flared/Sold	
Poker Lake Unit 16 TWR 107H		B-21-24S-31E	550' FNL & 1950' FEL	2800	Flared/Sold	
Poker Lake Unit 16 TWR 158H		A-21-24S-31E	490' FNL & 1650' FEL	4300	Flared/Sold	
Poker Lake Unit 16 TWR 128H		A-21-24S-31E	520' FNL & 1650' FEL	3000	Flared/Sold	
Poker Lake Unit 16 TWR 108H		A-21-24S-31E	550' FNL & 1650' FEL	2800	Flared/Sold	

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 Lucid and will be connected to Lucid low/high pressure gathering system located in Eddy County, New Mexico. It will require 734.14' of pipeline to connect the facility to low/high pressure gathering system. XTO provides (periodically) to Lucid a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, XTO and Lucid have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Red Hills Plant, Sec. 13, T24S, R33E or Roadrunner, Sec. 32, T32S, R28E, Eddy County. 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 Lucid system at that time. Based on current information, it is XTO'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