

OCT 29 2019

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NMNM0025533
1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: ☐ Hydraulic Fracturing ☒ Single Zone ☐ Multiple Zone		7. If Unit or CA Agreement, Name and No. POKER LAKE / NMNM071016X
2. Name of Operator XTO PERMIAN OPERATING LLC		8. Lease Name and Well No. POKER LAKE UNIT 18 TWR 152H 326260
3a. Address 6401 Holiday Hill Road, Bldg 5 Midland TX 79707	3b. Phone No. (include area code) (432)682-8873	9. API Well No. 30-015-46429
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NWNW / 40 FNL / 535 FWL / LAT 32.209958 / LONG -103.823949 At proposed prod. zone SWSW / 200 FSL / 750 FWL / LAT 32.181564 / LONG -103.8232		10. Field and Pool, or Exploratory PURPLE SAGE WOLFCAMP GAS
14. Distance in miles and direction from nearest town or post office*		11. Sec., T. R. M. or Blk. and Survey or Area SEC 19 / T24S / R31E / NMP
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 330 feet		12. County or Parish EDDY
16. No of acres in lease 324.37		13. State NM
17. Spacing Unit dedicated to this well 640		
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 35 feet		19. Proposed Depth 12437 feet / 22818 feet
20. BLM/BIA Bond No. in file FED: COB000050		
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3495 feet	22. Approximate date work will start* 11/01/2019	23. Estimated duration 60 days

24. Attachments

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

- | | |
|--|---|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 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). | 6. Such other site specific information and/or plans as may be requested by the BLM. |

25. Signature (Electronic Submission)	Name (Printed/Typed) Kelly Kardos / Ph: (432)620-4374	Date 05/29/2019
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Title
Regulatory Coordinator

Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575)234-5959	Date 10/24/2019
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Title Assistant Field Manager Lands & Minerals	Office CARLSBAD
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Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

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

APPROVED WITH CONDITIONS
Approval Date: 10/24/2019

Rev 11-1-99

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO Permian Operating, LLC.
LEASE NO.:	NMNM-0025533
WELL NAME & NO.:	Poker Lake Unit 18 TWR 152H
SURFACE HOLE FOOTAGE:	0040' FNL & 0535' FWL
BOTTOM HOLE FOOTAGE:	0200' FSL & 0750' FWL Sec. 30, T. 24 S., R 31 E.
LOCATION:	Section 19, T. 24 S., R 31 E., NMPM
COUNTY:	County, New Mexico

Commercial Well Determination

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

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.

A. DRILLING OPERATIONS 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. **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.**

2. 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. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
3. 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 is located, this does not include the dog house or stairway area.
4. **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.**

B. CASING

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.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

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.

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.

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

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.

1. The **18-5/8** inch surface casing shall be set at approximately **690** feet (**in a competent bed below the Magenta Dolomite, which is a Member of the Rustler, and if salt is encountered, set casing at least 25 feet 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 is to include the lead cement slurry.**
 - 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 **13-3/8** inch intermediate casing is:

☐ Cement to surface. If cement does not circulate see B.1.a, c-d above.

Formation below the 13-3/8" shoe to be tested according to Onshore Order

2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

9-5/8" 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 **9-5/8** inch intermediate casing is:

Operator has proposed DV tool at depth of 4200', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

a. First stage to DV tool: _____

- ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage. **Excess calculates to 16% - Additional cement may be required.**

b. Second stage above DV tool:

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

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

5-1/2" Production casing shall be kept fluid filled while running into hole to meet BLM minimum collapse requirements.

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.
- 5. 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.

C. 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 53.
2. Variance approved to use flex line from BOP to choke manifold. 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.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be psi.
4. **Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the 13-3/8" intermediate casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 13-3/8" intermediate casing shoe shall be 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. Operator shall perform the 9-5/8" intermediate casing integrity test to 70% of the casing burst. This will test the multi-bowl seals.
- e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

Variance approved to use a 5M annular. The annular must be tested to full working pressure (5000 psi.)

10M 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 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).
 - a. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.
 - b. 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.

- c. The results of the test shall be reported to the appropriate BLM office.
- d. 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.**
- e. 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.
- f. 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.

D. **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.

E. **DRILL STEM TEST**

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

F. **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 092019



APD ID: 10400042211

Submission Date: 05/29/2019

Highlighted data
reflects the most
recent changes

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 18 TWR

Well Number: 152H

[Show Final Text](#)

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	PERMIAN	3495	0	0	OTHER : Quaternary	NONE	N
2	RUSTLER	2968	527	527	SILTSTONE	USEABLE WATER	N
3	TOP SALT	2597	898	898	SALT	OTHER : Produced Water	N
4	BASE OF SALT	-527	4022	4022	SALT	OTHER : Produced Water	N
5	DELAWARE	-765	4261	4261	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced	N
6	BONE SPRING	-4642	8137	8137	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced	N
7	BONE SPRING 1ST	-5582	9078	9078	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced	N
8	BONE SPRING 2ND	-6362	9858	9858	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced	N
9	BONE SPRING 3RD	-7522	11017	11017	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced	N
10	WOLFCAMP	-7922	11417	11417	SHALE	OTHER,NATURAL GAS,OIL : Produced	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M

Rating Depth: 12437

Equipment: The blow out preventer equipment (BOP) on surface casing temporary wellhead will consist of a 21-1/4" minimum 2M Hydril. MASP should not exceed 1245 psi. Once the permanent wellhead is installed the blow out preventer equipment (BOP) for this well consists of a 13-5/8" minimum 10M Hydril and a 13-5/8" minimum 10M Double Ram BOP. MASP should not exceed 5348 psi.

Requesting Variance? YES

Variance request: XTO requests to utilize centralizers only in the curve after the KOP and only a minimum of one every other joint. 13-3/8" Collapse analyzed using 50% evacuation based on regional experience. 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. 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.

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 18 TWR

Well Number: 152H

Testing Procedure: All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 50% of the working pressure. When nipping up on the 13-5/8" 10M bradenhead and flange, the BOP test will be limited to 10000 psi. When the 11-3/4" and 8-5/8" casing is set, the packoff seals 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:

PLU_18_TWR_2M3MCM_20190523130558.pdf

PLU_18_TWR_10MCM_20190528095222.pdf

BOP Diagram Attachment:

PLU_18_TWR_Multi_20190523130747.pdf

PLU_18_TWR_2MBOP_20190528095200.pdf

PLU_18_TWR_10MBOP_20190528095233.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	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	24	18.625	NEW	API	N	0	690	0	690			690	J-55	87.5	BUTT	2.02	1.81	DRY	22.77	DRY	22.77
2	INTERMEDIATE	17.5	13.375	NEW	API	N	0	4150	0	4150			4150	HCL-80	68	BUTT	2.31	1.67	DRY	10.41	DRY	10.41
3	INTERMEDIATE	12.25	9.625	NEW	API	N	0	11407	0	11407			11407	HCL-80	40	BUTT	1.27	1.03	BUOY	2.77	DRY	2.77
4	PRODUCTION	8.75	5.5	NEW	API	N	0	22818	0	12437			22818	P-110	17	BUTT	1.39	1.01	DRY	2.05	DRY	2.05

Casing Attachments

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 18 TWR

Well Number: 152H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

PLU_18_TWR_152H_Csg_20190528095653.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

PLU_18_TWR_152H_Csg_20190528095705.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

PLU_18_TWR_152H_Csg_20190528095713.pdf

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 18 TWR

Well Number: 152H

Casing Attachments

Casing ID: 4 String Type: PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

PLU_18_TWR_152H_Csg_20190528095722.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	690	520	1.87	12.8	972.4	100	EconoCem-HLTRRC	None
SURFACE	Tail				550	1.35	14.8	742.5	100	HalCem-C	2% CaCl
INTERMEDIATE	Lead		0	4150	2450	1.88	12.8	4606	100	HalCem-C	2% CaCl
INTERMEDIATE	Tail				850	1.35	14.8	1147.5	100	HalCem-C	2% CaCl
INTERMEDIATE	Lead	4200	0	11407	1130	1.87	12.8	2113.1	100	HalCem-C	2% CaCl
INTERMEDIATE	Tail				390	1.35	14.8	526.5	100	HalCem-C	2% CaCl
INTERMEDIATE	Lead		4250	11407	2050	1.88	12.8	3854	100	HalCem-C	2% CaCl
INTERMEDIATE	Tail				470	1.33	14.8	625.1	100	HalCem-C	2% CaCl
PRODUCTION	Lead		0	22818	1820	1.88	11.5	3421.6	20	HalCem-C	2% CaCl
PRODUCTION	Tail				2610	1.33	13.2	3471.3	20	VersaCem	None

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 18 TWR

Well Number: 152H

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
1140 7	1243 7	OTHER : FW / Cut Brine / Poly / OBM	12.2	12.8							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
4150	1140 7	OTHER : FW / Cut Brine	9.1	9.5							A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system
0	690	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

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 18 TWR

Well Number: 152H

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
											solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system
690	4150	OTHER : Brine/Gel Sweeps	9.8	10.2							A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate 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:

CBL,CNL,DS,GR,MUDLOG

Coring operation description for the well:

No coring will take place on this well.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 8084

Anticipated Surface Pressure: 5347.86

Anticipated Bottom Hole Temperature(F): 170

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

Describe:

Potential loss of circulation through the Capitan Reef.

Contingency Plans geohazards 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

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: POKER LAKE UNIT 18 TWR

Well Number: 152H

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_18_TWR_H2S_DiaE_20190523132628.pdf

PLU_18_TWR_H2S_DiaW_20190523132638.pdf

PLU_18_TWR_H2S_Plan_20190523132617.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

PLU_18_TWR_152H_DD_20190528100421.pdf

Other proposed operations facets description:

The surface fresh water sands will be protected by setting 18-5/8 inch casing @ 690' (208' above the salt) and circulating cement back to surface. The salt will be isolated by setting 13-3/8 inch casing at 4150' and circulating cement to surface. A 12-1/4 inch vertical hole will be drilled to 11407' and 9-5/8 inch casing ran and cemented 500' into the 13-3/8 inch casing. An 8-3/4 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.

Other proposed operations facets attachment:

PLU_18_TWR_GCPE_20191008130621.pdf

PLU_18_TWR_GCPW_20191008130634.pdf

Other Variance attachment:

PLU_18_TWR_FH_20190523132910.pdf



HYDROGEN SULFIDE (H₂S) CONTINGENCY PLAN

Assumed 100 ppm ROE = 3000'

100 ppm H₂S concentration shall trigger activation of this plan.

Emergency Procedures

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

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

Ignition of Gas source

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

Characteristics of H₂S and SO₂

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

Contacting Authorities

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

CARLSBAD OFFICE – EDDY & LEA COUNTIES

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

575-887-7329

XTO PERSONNEL:

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

SHERIFF DEPARTMENTS:

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

NEW MEXICO STATE POLICE:

575-392-5588

FIRE DEPARTMENTS:

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

HOSPITALS:

Carlsbad Medical Emergency	911
Eunice Medical Emergency	575-885-2111
Hobbs Medical Emergency	575-394-2112
Jal Medical Emergency	575-397-9308
Lovington Medical Emergency	575-395-2221
	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 18 TWR
#152H**

OH

Plan: PERMIT

Standard Planning Report

07 May, 2019



Project: Eddy County, NM (NAD-27)
Site: Poker Lake Unit 18 TWR
Well: #152H
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: #152H

Rig Name:
RKB = 32' @ 3527.00usf
Ground Level: 3495.00
+N/-S +E/-W Northing Easting Latitude Longitude
0.00 0.00 440431.20 657696.70 32.2098343 -103.8234639

DESIGN TARGET DETAILS

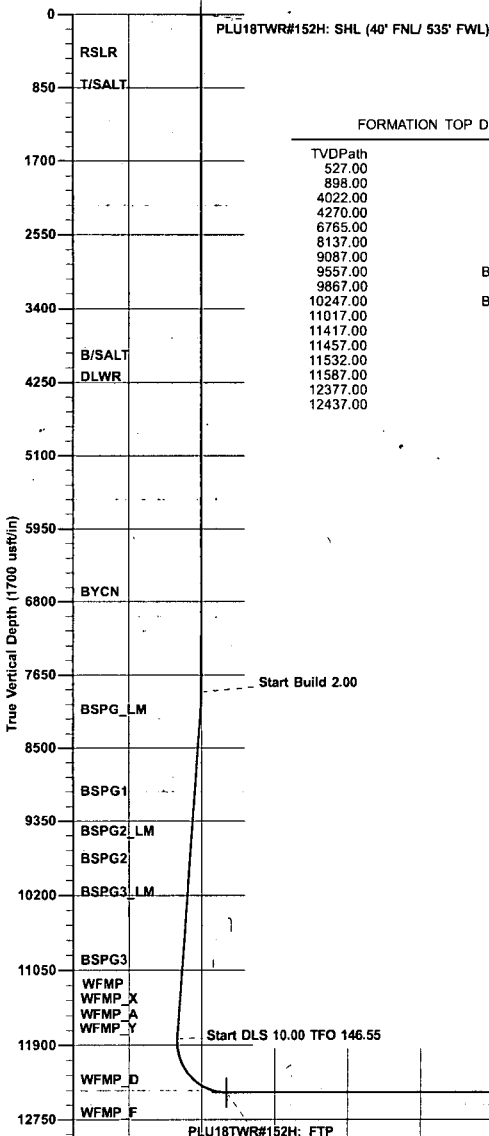
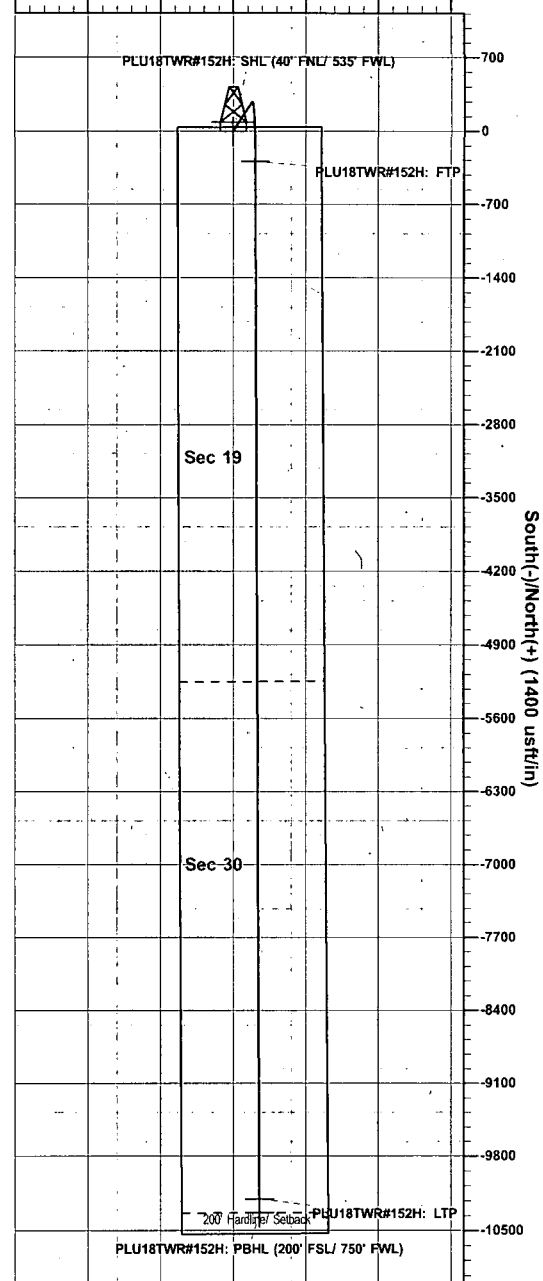
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PLU18TWR#152H: SHL (40' FNL/ 535' FWL)	0.00	0.00	0.00	440431.20	657696.70	32.2098343	-103.8234639	Point
PLU18TWR#152H: FTP	12437.00	-288.90	216.10	440142.30	657912.80	32.2090373	-103.8227697	Point
PLU18TWR#152H: LTP	12437.00	-10197.90	255.00	430233.30	657951.70	32.1817980	-103.8227960	Point
PLU18TWR#152H: PBHL (200' FSL/ 750' FWL)	12437.00	-10327.90	255.50	430103.30	657952.20	32.1814406	-103.8227964	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSecl
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	7845.00	0.00	0.00	7845.00	0.00	0.00	0.00	0.00	0.00
3	8095.11	5.00	33.13	8094.80	9.14	5.96	2.00	33.13	-9.11
4	11837.59	5.00	33.13	11823.02	282.42	184.31	0.00	0.00	-281.71
5	12779.36	90.00	179.78	12437.00	-288.90	216.10	10.00	146.55	289.73
6	22688.44	90.00	179.78	12437.00	-10197.90	254.99	0.00	0.00	10198.80
7	22818.44	90.00	179.78	12437.00	-10327.90	255.50	0.00	0.00	10328.80

West(-)/East(+) (1400 usf/in)

-2100 -1400 -700 0 700 1400 2100



FORMATION TOP DETAILS

TVDPath	Formation
527.00	RSLR
898.00	T/SALT
4022.00	B/SALT
4270.00	DLWR
6765.00	BYCN
8137.00	BSPG_LM
9087.00	BSPG1
9557.00	BSPG2_LM
9867.00	BSPG2
10247.00	BSPG3_LM
11017.00	BSPG3
11417.00	WFMP
11457.00	WFMP_X
11532.00	WFMP_Y
11587.00	WFMP_A
12377.00	WFMP_D
12437.00	LP

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

Vertical Section at 179.78° (1700 usf/in)

Plan: PERMIT (#152H/OH)

Created By: Prototype Well Planning, LLC Date: 6:35, May 07 2019



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #152H
Company:	XTO Energy	TVD Reference:	RKB = 32' @ 3527.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 32' @ 3527.00usft
Site:	Poker Lake Unit 18 TWR	North Reference:	Grid
Well:	#152H	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:		Poker Lake Unit 18 TWR			
Site Position:		Northing:	440,397.40 usft	Latitude:	32.2097382
From:	Map	Easting:	657,946.80 usft	Longitude:	-103.8226558
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.27 °

Well	#152H					
Well Position	+N/-S	33.80 usft	Northing:	440,431.20 usft	Latitude:	32.2098343
	+E/-W	-250.10 usft	Easting:	657,696.70 usft	Longitude:	-103.8234639
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,495.00 usft	

Wellbore:	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	05/06/19	6.87	59.99	47,709

Design:	PERMIT			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	179.78

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,845.00	0.00	0.00	7,845.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,095.11	5.00	33.13	8,094.80	9.14	5.96	2.00	2.00	0.00	33.13	
11,837.59	5.00	33.13	11,823.02	282.42	184.31	0.00	0.00	0.00	0.00	
12,779.36	90.00	179.78	12,437.00	-288.90	216.10	10.00	9.03	15.57	146.55	PLU18TWR#152H:
22,688.44	90.00	179.78	12,437.00	-10,197.90	254.99	0.00	0.00	0.00	0.00	PLU18TWR#152H:
22,818.44	90.00	179.78	12,437.00	-10,327.90	255.50	0.00	0.00	0.00	0.00	PLU18TWR#152H:



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #152H
Company:	XTO Energy	TVD Reference:	RKB = 32' @ 3527.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 32' @ 3527.00usft
Site:	Poker Lake Unit 18 TWR	North Reference:	Grid
Well:	#152H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
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
527.00	0.00	0.00	527.00	0.00	0.00	0.00	0.00	0.00	0.00
RSLR									
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
898.00	0.00	0.00	898.00	0.00	0.00	0.00	0.00	0.00	0.00
T/SALT									
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,022.00	0.00	0.00	4,022.00	0.00	0.00	0.00	0.00	0.00	0.00
B/SALT									
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
4,270.00	0.00	0.00	4,270.00	0.00	0.00	0.00	0.00	0.00	0.00
DLWR									
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00



Planning Report

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Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 32' @ 3527.00usft
Site:	Poker Lake Unit 18 TWR	North Reference:	Grid
Well:	#152H	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)
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,765.00	0.00	0.00	6,765.00	0.00	0.00	0.00	0.00	0.00	0.00
BYCN									
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00
7,845.00	0.00	0.00	7,845.00	0.00	0.00	0.00	0.00	0.00	0.00
7,900.00	1.10	33.13	7,900.00	0.44	0.29	-0.44	2.00	2.00	0.00
8,000.00	3.10	33.13	7,999.92	3.51	2.29	-3.50	2.00	2.00	0.00
8,095.11	5.00	33.13	8,094.80	9.14	5.96	-9.11	2.00	2.00	0.00
8,100.00	5.00	33.13	8,099.66	9.49	6.20	-9.47	0.00	0.00	0.00
8,137.48	5.00	33.13	8,137.00	12.23	7.98	-12.20	0.00	0.00	0.00
BSPG LM									
8,200.00	5.00	33.13	8,199.28	16.80	10.96	-16.75	0.00	0.00	0.00
8,300.00	5.00	33.13	8,298.90	24.10	15.73	-24.04	0.00	0.00	0.00
8,400.00	5.00	33.13	8,398.52	31.40	20.49	-31.32	0.00	0.00	0.00
8,500.00	5.00	33.13	8,498.14	38.70	25.26	-38.61	0.00	0.00	0.00
8,600.00	5.00	33.13	8,597.76	46.00	30.02	-45.89	0.00	0.00	0.00
8,700.00	5.00	33.13	8,697.38	53.31	34.79	-53.17	0.00	0.00	0.00
8,800.00	5.00	33.13	8,797.00	60.61	39.55	-60.46	0.00	0.00	0.00
8,900.00	5.00	33.13	8,896.62	67.91	44.32	-67.74	0.00	0.00	0.00
9,000.00	5.00	33.13	8,996.24	75.21	49.09	-75.02	0.00	0.00	0.00
9,091.11	5.00	33.13	9,087.00	81.87	53.43	-81.66	0.00	0.00	0.00
BSPG1									



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #152H
Company:	XTO Energy	TVD Reference:	RKB = 32' @ 3527.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 32' @ 3527.00usft
Site:	Poker Lake Unit 18 TWR	North Reference:	Grid
Well:	#152H	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)
9,100.00	5.00	33.13	9,095.86	82.51	53.85	-82.31	0.00	0.00	0.00
9,200.00	5.00	33.13	9,195.47	89.82	58.62	-89.59	0.00	0.00	0.00
9,300.00	5.00	33.13	9,295.09	97.12	63.38	-96.87	0.00	0.00	0.00
9,400.00	5.00	33.13	9,394.71	104.42	68.15	-104.16	0.00	0.00	0.00
9,500.00	5.00	33.13	9,494.33	111.72	72.91	-111.44	0.00	0.00	0.00
9,562.91	5.00	33.13	9,557.00	116.32	75.91	-116.02	0.00	0.00	0.00
BSPG2 LM									
9,600.00	5.00	33.13	9,593.95	119.03	77.68	-118.73	0.00	0.00	0.00
9,700.00	5.00	33.13	9,693.57	126.33	82.44	-126.01	0.00	0.00	0.00
9,800.00	5.00	33.13	9,793.19	133.63	87.21	-133.29	0.00	0.00	0.00
9,874.09	5.00	33.13	9,867.00	139.04	90.74	-138.69	0.00	0.00	0.00
BSPG2									
9,900.00	5.00	33.13	9,892.81	140.93	91.97	-140.58	0.00	0.00	0.00
10,000.00	5.00	33.13	9,992.43	148.23	96.74	-147.86	0.00	0.00	0.00
10,100.00	5.00	33.13	10,092.05	155.54	101.51	-155.14	0.00	0.00	0.00
10,200.00	5.00	33.13	10,191.67	162.84	106.27	-162.43	0.00	0.00	0.00
10,255.55	5.00	33.13	10,247.00	166.89	108.92	-166.47	0.00	0.00	0.00
BSPG3 LM									
10,300.00	5.00	33.13	10,291.28	170.14	111.04	-169.71	0.00	0.00	0.00
10,400.00	5.00	33.13	10,390.90	177.44	115.80	-177.00	0.00	0.00	0.00
10,500.00	5.00	33.13	10,490.52	184.74	120.57	-184.28	0.00	0.00	0.00
10,600.00	5.00	33.13	10,590.14	192.05	125.33	-191.56	0.00	0.00	0.00
10,700.00	5.00	33.13	10,689.76	199.35	130.10	-198.85	0.00	0.00	0.00
10,800.00	5.00	33.13	10,789.38	206.65	134.86	-206.13	0.00	0.00	0.00
10,900.00	5.00	33.13	10,889.00	213.95	139.63	-213.41	0.00	0.00	0.00
11,000.00	5.00	33.13	10,988.62	221.25	144.39	-220.70	0.00	0.00	0.00
11,028.49	5.00	33.13	11,017.00	223.33	145.75	-222.77	0.00	0.00	0.00
BSPG3									
11,100.00	5.00	33.13	11,088.24	228.56	149.16	-227.98	0.00	0.00	0.00
11,200.00	5.00	33.13	11,187.86	235.86	153.93	-235.27	0.00	0.00	0.00
11,300.00	5.00	33.13	11,287.48	243.16	158.69	-242.55	0.00	0.00	0.00
11,400.00	5.00	33.13	11,387.10	250.46	163.46	-249.83	0.00	0.00	0.00
11,430.02	5.00	33.13	11,417.00	252.65	164.89	-252.02	0.00	0.00	0.00
WFMP									
11,470.17	5.00	33.13	11,457.00	255.59	166.80	-254.94	0.00	0.00	0.00
WFMP_X									
11,500.00	5.00	33.13	11,486.71	257.76	168.22	-257.12	0.00	0.00	0.00
11,545.46	5.00	33.13	11,532.00	261.08	170.39	-260.43	0.00	0.00	0.00
WFMP_Y									
11,600.00	5.00	33.13	11,586.33	265.07	172.99	-264.40	0.00	0.00	0.00
11,600.67	5.00	33.13	11,587.00	265.12	173.02	-264.45	0.00	0.00	0.00
WFMP_A									
11,700.00	5.00	33.13	11,685.95	272.37	177.75	-271.68	0.00	0.00	0.00
11,800.00	5.00	33.13	11,785.57	279.67	182.52	-278.97	0.00	0.00	0.00
11,837.59	5.00	33.13	11,823.02	282.42	184.31	-281.71	0.00	0.00	0.00
11,850.00	4.03	42.92	11,835.39	283.19	184.90	-282.48	10.00	-7.87	78.90
11,900.00	3.44	126.63	11,885.31	283.58	187.30	-282.86	10.00	-1.17	167.43
11,950.00	7.58	158.57	11,935.08	279.61	189.71	-278.88	10.00	8.28	63.88
12,000.00	12.37	167.10	11,984.32	271.31	192.12	-270.57	10.00	9.58	17.05
12,050.00	17.28	170.87	12,032.64	258.75	194.49	-258.01	10.00	9.82	7.55
12,100.00	22.23	173.01	12,079.68	242.03	196.82	-241.27	10.00	9.90	4.27
12,150.00	27.19	174.40	12,125.09	221.26	199.09	-220.49	10.00	9.93	2.78
12,200.00	32.17	175.39	12,168.52	196.60	201.27	-195.83	10.00	9.95	1.97



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #152H
Company:	XTO Energy	TVD Reference:	RKB = 32' @ 3527.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 32' @ 3527.00usft
Site:	Poker Lake Unit 18 TWR	North Reference:	Grid
Well:	#152H	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)
12,250.00	37.15	176.13	12,209.63	168.25	203.36	-167.47	10.00	9.96	1.49
12,300.00	42.14	176.73	12,248.12	136.42	205.34	-135.63	10.00	9.97	1.18
12,350.00	47.13	177.21	12,283.69	101.36	207.19	-100.56	10.00	9.98	0.98
12,400.00	52.12	177.63	12,316.07	63.32	208.90	-62.52	10.00	9.98	0.83
12,450.00	57.11	177.99	12,345.02	22.60	210.45	-21.79	10.00	9.98	0.72
12,500.00	62.10	178.31	12,370.31	-20.49	211.84	21.30	10.00	9.98	0.65
12,514.65	63.56	178.40	12,377.00	-33.52	212.21	34.33	10.00	9.99	0.61
WFMP D									
12,550.00	67.09	178.61	12,391.75	-65.63	213.05	66.44	10.00	9.99	0.58
12,600.00	72.09	178.88	12,409.19	-112.46	214.07	113.28	10.00	9.99	0.55
12,650.00	77.08	179.14	12,422.48	-160.64	214.90	161.46	10.00	9.99	0.52
12,700.00	82.07	179.39	12,431.52	-209.79	215.53	210.62	10.00	9.99	0.50
12,750.00	87.07	179.63	12,436.25	-259.55	215.95	260.38	10.00	9.99	0.49
12,779.36	90.00	179.78	12,437.00	-288.90	216.10	289.73	10.00	9.99	0.48
LP									
12,800.00	90.00	179.78	12,437.00	-309.54	216.18	310.37	0.00	0.00	0.00
12,900.00	90.00	179.78	12,437.00	-409.54	216.57	410.37	0.00	0.00	0.00
13,000.00	90.00	179.78	12,437.00	-509.54	216.97	510.37	0.00	0.00	0.00
13,100.00	90.00	179.78	12,437.00	-609.54	217.36	610.37	0.00	0.00	0.00
13,200.00	90.00	179.78	12,437.00	-709.54	217.75	710.37	0.00	0.00	0.00
13,300.00	90.00	179.78	12,437.00	-809.53	218.14	810.37	0.00	0.00	0.00
13,400.00	90.00	179.78	12,437.00	-909.53	218.54	910.37	0.00	0.00	0.00
13,500.00	90.00	179.78	12,437.00	-1,009.53	218.93	1,010.37	0.00	0.00	0.00
13,600.00	90.00	179.78	12,437.00	-1,109.53	219.32	1,110.37	0.00	0.00	0.00
13,700.00	90.00	179.78	12,437.00	-1,209.53	219.71	1,210.37	0.00	0.00	0.00
13,800.00	90.00	179.78	12,437.00	-1,309.53	220.11	1,310.37	0.00	0.00	0.00
13,900.00	90.00	179.78	12,437.00	-1,409.53	220.50	1,410.37	0.00	0.00	0.00
14,000.00	90.00	179.78	12,437.00	-1,509.53	220.89	1,510.37	0.00	0.00	0.00
14,100.00	90.00	179.78	12,437.00	-1,609.53	221.28	1,610.37	0.00	0.00	0.00
14,200.00	90.00	179.78	12,437.00	-1,709.53	221.68	1,710.37	0.00	0.00	0.00
14,300.00	90.00	179.78	12,437.00	-1,809.53	222.07	1,810.37	0.00	0.00	0.00
14,400.00	90.00	179.78	12,437.00	-1,909.53	222.46	1,910.37	0.00	0.00	0.00
14,500.00	90.00	179.78	12,437.00	-2,009.53	222.85	2,010.37	0.00	0.00	0.00
14,600.00	90.00	179.78	12,437.00	-2,109.52	223.25	2,110.37	0.00	0.00	0.00
14,700.00	90.00	179.78	12,437.00	-2,209.52	223.64	2,210.37	0.00	0.00	0.00
14,800.00	90.00	179.78	12,437.00	-2,309.52	224.03	2,310.37	0.00	0.00	0.00
14,900.00	90.00	179.78	12,437.00	-2,409.52	224.42	2,410.37	0.00	0.00	0.00
15,000.00	90.00	179.78	12,437.00	-2,509.52	224.82	2,510.37	0.00	0.00	0.00
15,100.00	90.00	179.78	12,437.00	-2,609.52	225.21	2,610.37	0.00	0.00	0.00
15,200.00	90.00	179.78	12,437.00	-2,709.52	225.60	2,710.37	0.00	0.00	0.00
15,300.00	90.00	179.78	12,437.00	-2,809.52	225.99	2,810.37	0.00	0.00	0.00
15,400.00	90.00	179.78	12,437.00	-2,909.52	226.39	2,910.37	0.00	0.00	0.00
15,500.00	90.00	179.78	12,437.00	-3,009.52	226.78	3,010.37	0.00	0.00	0.00
15,600.00	90.00	179.78	12,437.00	-3,109.52	227.17	3,110.37	0.00	0.00	0.00
15,700.00	90.00	179.78	12,437.00	-3,209.52	227.56	3,210.37	0.00	0.00	0.00
15,800.00	90.00	179.78	12,437.00	-3,309.52	227.95	3,310.37	0.00	0.00	0.00
15,900.00	90.00	179.78	12,437.00	-3,409.51	228.35	3,410.37	0.00	0.00	0.00
16,000.00	90.00	179.78	12,437.00	-3,509.51	228.74	3,510.37	0.00	0.00	0.00
16,100.00	90.00	179.78	12,437.00	-3,609.51	229.13	3,610.37	0.00	0.00	0.00
16,200.00	90.00	179.78	12,437.00	-3,709.51	229.52	3,710.37	0.00	0.00	0.00
16,300.00	90.00	179.78	12,437.00	-3,809.51	229.92	3,810.37	0.00	0.00	0.00
16,400.00	90.00	179.78	12,437.00	-3,909.51	230.31	3,910.37	0.00	0.00	0.00
16,500.00	90.00	179.78	12,437.00	-4,009.51	230.70	4,010.37	0.00	0.00	0.00
16,600.00	90.00	179.78	12,437.00	-4,109.51	231.09	4,110.37	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #152H
Company:	XTO Energy	TVD Reference:	RKB = 32' @ 3527.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 32' @ 3527.00usft
Site:	Poker Lake Unit 18 TWR	North Reference:	Grid
Well:	#152H	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)
16,700.00	90.00	179.78	12,437.00	-4,209.51	231.49	4,210.37	0.00	0.00	0.00
16,800.00	90.00	179.78	12,437.00	-4,309.51	231.88	4,310.37	0.00	0.00	0.00
16,900.00	90.00	179.78	12,437.00	-4,409.51	232.27	4,410.37	0.00	0.00	0.00
17,000.00	90.00	179.78	12,437.00	-4,509.51	232.66	4,510.37	0.00	0.00	0.00
17,100.00	90.00	179.78	12,437.00	-4,609.51	233.06	4,610.37	0.00	0.00	0.00
17,200.00	90.00	179.78	12,437.00	-4,709.50	233.45	4,710.37	0.00	0.00	0.00
17,300.00	90.00	179.78	12,437.00	-4,809.50	233.84	4,810.37	0.00	0.00	0.00
17,400.00	90.00	179.78	12,437.00	-4,909.50	234.23	4,910.37	0.00	0.00	0.00
17,500.00	90.00	179.78	12,437.00	-5,009.50	234.63	5,010.37	0.00	0.00	0.00
17,600.00	90.00	179.78	12,437.00	-5,109.50	235.02	5,110.37	0.00	0.00	0.00
17,700.00	90.00	179.78	12,437.00	-5,209.50	235.41	5,210.37	0.00	0.00	0.00
17,800.00	90.00	179.78	12,437.00	-5,309.50	235.80	5,310.37	0.00	0.00	0.00
17,900.00	90.00	179.78	12,437.00	-5,409.50	236.20	5,410.37	0.00	0.00	0.00
18,000.00	90.00	179.78	12,437.00	-5,509.50	236.59	5,510.37	0.00	0.00	0.00
18,100.00	90.00	179.78	12,437.00	-5,609.50	236.98	5,610.37	0.00	0.00	0.00
18,200.00	90.00	179.78	12,437.00	-5,709.50	237.37	5,710.37	0.00	0.00	0.00
18,300.00	90.00	179.78	12,437.00	-5,809.50	237.77	5,810.37	0.00	0.00	0.00
18,400.00	90.00	179.78	12,437.00	-5,909.50	238.16	5,910.37	0.00	0.00	0.00
18,500.00	90.00	179.78	12,437.00	-6,009.49	238.55	6,010.37	0.00	0.00	0.00
18,600.00	90.00	179.78	12,437.00	-6,109.49	238.94	6,110.37	0.00	0.00	0.00
18,700.00	90.00	179.78	12,437.00	-6,209.49	239.34	6,210.37	0.00	0.00	0.00
18,800.00	90.00	179.78	12,437.00	-6,309.49	239.73	6,310.37	0.00	0.00	0.00
18,900.00	90.00	179.78	12,437.00	-6,409.49	240.12	6,410.37	0.00	0.00	0.00
19,000.00	90.00	179.78	12,437.00	-6,509.49	240.51	6,510.37	0.00	0.00	0.00
19,100.00	90.00	179.78	12,437.00	-6,609.49	240.91	6,610.37	0.00	0.00	0.00
19,200.00	90.00	179.78	12,437.00	-6,709.49	241.30	6,710.37	0.00	0.00	0.00
19,300.00	90.00	179.78	12,437.00	-6,809.49	241.69	6,810.37	0.00	0.00	0.00
19,400.00	90.00	179.78	12,437.00	-6,909.49	242.08	6,910.37	0.00	0.00	0.00
19,500.00	90.00	179.78	12,437.00	-7,009.49	242.48	7,010.37	0.00	0.00	0.00
19,600.00	90.00	179.78	12,437.00	-7,109.49	242.87	7,110.37	0.00	0.00	0.00
19,700.00	90.00	179.78	12,437.00	-7,209.49	243.26	7,210.37	0.00	0.00	0.00
19,800.00	90.00	179.78	12,437.00	-7,309.48	243.65	7,310.37	0.00	0.00	0.00
19,900.00	90.00	179.78	12,437.00	-7,409.48	244.05	7,410.37	0.00	0.00	0.00
20,000.00	90.00	179.78	12,437.00	-7,509.48	244.44	7,510.37	0.00	0.00	0.00
20,100.00	90.00	179.78	12,437.00	-7,609.48	244.83	7,610.37	0.00	0.00	0.00
20,200.00	90.00	179.78	12,437.00	-7,709.48	245.22	7,710.37	0.00	0.00	0.00
20,300.00	90.00	179.78	12,437.00	-7,809.48	245.62	7,810.37	0.00	0.00	0.00
20,400.00	90.00	179.78	12,437.00	-7,909.48	246.01	7,910.37	0.00	0.00	0.00
20,500.00	90.00	179.78	12,437.00	-8,009.48	246.40	8,010.37	0.00	0.00	0.00
20,600.00	90.00	179.78	12,437.00	-8,109.48	246.79	8,110.37	0.00	0.00	0.00
20,700.00	90.00	179.78	12,437.00	-8,209.48	247.19	8,210.37	0.00	0.00	0.00
20,800.00	90.00	179.78	12,437.00	-8,309.48	247.58	8,310.37	0.00	0.00	0.00
20,900.00	90.00	179.78	12,437.00	-8,409.48	247.97	8,410.37	0.00	0.00	0.00
21,000.00	90.00	179.78	12,437.00	-8,509.48	248.36	8,510.37	0.00	0.00	0.00
21,100.00	90.00	179.78	12,437.00	-8,609.47	248.76	8,610.37	0.00	0.00	0.00
21,200.00	90.00	179.78	12,437.00	-8,709.47	249.15	8,710.37	0.00	0.00	0.00
21,300.00	90.00	179.78	12,437.00	-8,809.47	249.54	8,810.37	0.00	0.00	0.00
21,400.00	90.00	179.78	12,437.00	-8,909.47	249.93	8,910.37	0.00	0.00	0.00
21,500.00	90.00	179.78	12,437.00	-9,009.47	250.33	9,010.37	0.00	0.00	0.00
21,600.00	90.00	179.78	12,437.00	-9,109.47	250.72	9,110.37	0.00	0.00	0.00
21,700.00	90.00	179.78	12,437.00	-9,209.47	251.11	9,210.37	0.00	0.00	0.00
21,800.00	90.00	179.78	12,437.00	-9,309.47	251.50	9,310.37	0.00	0.00	0.00
21,900.00	90.00	179.78	12,437.00	-9,409.47	251.90	9,410.37	0.00	0.00	0.00
22,000.00	90.00	179.78	12,437.00	-9,509.47	252.29	9,510.37	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #152H
Company:	XTO Energy	TVD Reference:	RKB = 32' @ 3527.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 32' @ 3527.00usft
Site:	Poker Lake Unit 18 TWR	North Reference:	Grid
Well:	#152H	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)
22,100.00	90.00	179.78	12,437.00	-9,609.47	252.68	9,610.37	0.00	0.00	0.00
22,200.00	90.00	179.78	12,437.00	-9,709.47	253.07	9,710.37	0.00	0.00	0.00
22,300.00	90.00	179.78	12,437.00	-9,809.47	253.47	9,810.37	0.00	0.00	0.00
22,400.00	90.00	179.78	12,437.00	-9,909.46	253.86	9,910.37	0.00	0.00	0.00
22,500.00	90.00	179.78	12,437.00	-10,009.46	254.25	10,010.37	0.00	0.00	0.00
22,600.00	90.00	179.78	12,437.00	-10,109.46	254.64	10,110.37	0.00	0.00	0.00
22,688.44	90.00	179.78	12,437.00	-10,197.90	254.99	10,198.80	0.00	0.00	0.00
22,700.00	90.00	179.78	12,437.00	-10,209.46	255.04	10,210.37	0.00	0.00	0.00
22,800.00	90.00	179.78	12,437.00	-10,309.46	255.43	10,310.37	0.00	0.00	0.00
22,818.44	90.00	179.78	12,437.00	-10,327.90	255.50	10,328.81	0.00	0.00	0.00

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
PLU18TWR#152H: SI	0.00	0.00	0.00	0.00	0.00	440,431.20	657,696.70	32.2098343	-103.8234639
- plan hits target center									
- Point									
PLU18TWR#152H: L1	0.00	0.00	12,437.00	-10,197.90	255.00	430,233.30	657,951.70	32.1817980	-103.8227960
- plan misses target center by 0.01usft at 22688.44usft MD (12437.00 TVD, -10197.90 N, 254.99 E)									
- Point									
PLU18TWR#152H: PI	0.00	0.00	12,437.00	-10,327.90	255.50	430,103.30	657,952.20	32.1814407	-103.8227964
- plan hits target center									
- Point									
PLU18TWR#152H: F	0.00	0.00	12,437.00	-288.90	216.10	440,142.30	657,912.80	32.2090374	-103.8227697
- plan hits target center									
- Point									



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #152H
Company:	XTO Energy	TVD Reference:	RKB = 32' @ 3527.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 32' @ 3527.00usft
Site:	Poker Lake Unit 18 TWR	North Reference:	Grid
Well:	#152H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
527.00	527.00	RSLR			
898.00	898.00	T/SALT			
4,022.00	4,022.00	B/SALT			
4,270.00	4,270.00	DLWR			
6,765.00	6,765.00	BYCN			
8,137.48	8,137.00	BSPG_LM			
9,091.11	9,087.00	BSPG1			
9,562.91	9,557.00	BSPG2_LM			
9,874.09	9,867.00	BSPG2			
10,255.55	10,247.00	BSPG3_LM			
11,028.49	11,017.00	BSPG3			
11,430.02	11,417.00	WFMP			
11,470.17	11,457.00	WFMP_X			
11,545.46	11,532.00	WFMP_Y			
11,600.67	11,587.00	WFMP_A			
12,514.65	12,377.00	WFMP_D			
12,779.36	12,437.00	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

Submit Original
to Appropriate
District Office

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

GAS CAPTURE PLAN

Date: 04/26/2019

☒ Original Operator & OGRID No.: XTO Permian Operating, LLC [373075]
☐ Amended - Reason for Amendment: _____

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

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

Well(s)/Production Facility – Name of facility: Poker Lake Unit 18 TWR West 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
Poker Lake Unit18 TWR 107H		A-19-24S-31E	175'FNL & 566'FEL	2800	Flared/Sold	
Poker Lake Unit18 TWR 121H		1-19-24S-31E	75'FNL & 535'FWL	3000	Flared/Sold	
Poker Lake Unit18 TWR 152H		1-19-24S-31E	40'FNL & 535'FWL	2800	Flared/Sold	
Poker Lake Unit18 TWR 161H		1-19-24S-31E	5'FNL & 535'FWL	4800	Flared/Sold	
Poker Lake Unit18 TWR 162H		1-19-24S-31E	5'FNL & 785'FWL	4800	Flared/Sold	
Poker Lake Unit18 TWR 122H		1-19-24S-31E	40'FNL & 785'FWL	4300	Flared/Sold	
Poker Lake Unit18 TWR 103H		C-19-24S-31E	648'FNL & 2420'FWL	2600	Flared/Sold	
Poker Lake Unit18 TWR 153H		C-19-24S-31E	613'FNL & 2420'FWL	2700	Flared/Sold	
Poker Lake Unit18 TWR 164H		C-19-24S-31E	578'FNL & 2420'FWL	2600	Flared/Sold	
Poker Lake Unit18 TWR 154H		C-19-24S-31E	578'FNL & 2670'FWL	4300	Flared/Sold	
Poker Lake Unit18 TWR 124H		C-19-24S-31E	613'FNL & 2670'FWL	2800	Flared/Sold	
Poker Lake Unit18 TWR 126H		B-19-24S-31E	265'FNL & 1856'FEL	4800	Flared/Sold	
Poker Lake Unit18 TWR 166H		B-19-24S-31E	230'FNL & 1856'FEL	3300	Flared/Sold	
Poker Lake Unit18 TWR 165H		B-19-24S-31E	230'FNL & 2106'FEL	2900	Flared/Sold	
Poker Lake Unit18 TWR 155H		B-19-24S-31E	265'FNL & 2106'FEL	3000	Flared/Sold	
Poker Lake Unit18 TWR 125H		B-19-24S-31E	300'FNL & 2106'FEL	2600	Flared/Sold	
Poker Lake Unit18 TWR 128H		A-19-24S-31E	140'FNL & 566'FEL	2700	Flared/Sold	
Poker Lake Unit18 TWR 158H		A-19-24S-31E	105'FNL & 566'FEL	2600	Flared/Sold	
Poker Lake Unit18 TWR 157H		A-19-24S-31E	105'FNL & 816'FEL	4300	Flared/Sold	
Poker Lake Unit18 TWR 167H		A-19-24S-31E	140'FNL & 816'FEL	4300	Flared/Sold	
Poker Lake Unit18 TWR 127H		A-19-24S-31E	175'FNL & 816'FEL	2800	Flared/Sold	
Poker Lake Unit18 TWR 102H		1-19-24S-31E	75'FNL & 785'FWL	2800	Flared/Sold	
Poker Lake Unit18 TWR 104H		C-19-24S-31E	648'FNL & 2670'FWL	2800	Flared/Sold	
Poker Lake Unit18 TWR 105H		B-19-24S-31E	300'FNL & 1856'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 700.04' of pipeline to connect the facility to low/high pressure gathering system. XTO Permian Operating, LLC 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 Permian Operating, LLC 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

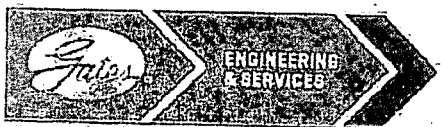
After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. 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 Permian Operating, LLC's belief the system can take this gas upon completion of the well(s).

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

Alternatives to Reduce Flaring

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

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



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

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

GRADE D PRESSURE TEST CERTIFICATE

Customer :	AUSTIN DISTRIBUTING	Test Date:	6/8/2014
Customer Ref. :	PENDING	Hose Serial No.:	D-060814-1
Invoice No. :	201709	Created By:	MORIHA
Product Description:	FD3.042.0R41/16.5KFLGE/E LE		
End Fitting 1 :	4 1/16 in.5K FLG	End Fitting 2 :	4 1/16 in.5K FLG
Gates Part No. :	4774-6001	Assembly Code :	L33090011513D-060814-1
Working Pressure :	5,000 PSI	Test Pressure :	7,500 PSI

Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 7,500 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.5 times the working pressure per Table 9.

Quality:	QUALITY	Technical Supervisor :	PRODUCTION
Date :	6/8/2014	Date :	6/8/2014
Signature :		Signature :	