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DISTRICTIGATIESTACCOM         14. 1 hereby certify that the foregoing is true and correct Electronic Submission #45/673 verified by the BLM Well Information System For XTO PERMIN OPERATING LLC, sent to the Carlsbad Committed to AFMSS for processing by JENNIFER SANCHEZ on 03/12/2019 ()         Name (Printed/Typed) KELLY KAFDOS         Signature         (Electronic Submission         Approved         Signature         Centronic Submission         Approved By         Title         Condition cort proved, of any, are attended. Approved built on the subject lease which would efficit the applicant holds legal of extractions there on an the subject lease which would efficit the applicant holds legal of extractions there on an the subject lease which would efficit the applicant holds legal of extractions there on an the subject lease which would efficit the applicant holds legal of extractions there on an the subject lease which would efficit the applicant holds legal of extractions there on an enter of the subject lease which would efficit the applicant holds legal of extractions there on an enter of the subject lease which would efficit the applicant holds legal of extractions there on an enter of the subject lease which would efficit the applicant holds legal of extractions there on an enter of the subject lease which would efficit the applicant holds legal of extractions there on an enter within its jurisdiction.         Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 12/2, make it a crime for any person knowingly and willfully to make to any department o	·	determined that the XTO Permitting	e site is ready for fir	and on the rest of	sults in a multiple ed only after all re	completion or reco quirements, includ	ing reclamatio	new interval, a Form 316 n, have been completed a		
Electronic Submitsion #45/73 verified by the BLM Well Information System For XTO PERMIKN OPERATING LLC, sent to the Carlsbad Committed to AFMSS for processing by JENNIFER SANCHEZ on 03/12/2019 ()         Name (Printed/Tiped)       KELLY KARDOS       Title       REGULATORY COORDINATOR         Signature       (Electronic/Submission)       Date       03/12/2019         Approved By       Title       Date       03/12/2019         Approved By       Title       Date       Date         Conditions of approved By       Title       Date       Date         Conditions of approved By       Title       Date       Date         Title       Date       Date       Date         Title       Date       Date       Date         Approved By       Title       Date       Date         Title       Date       Date       Date         Title       Date       Date       Date         Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 12/2, make it a crime for any person knowingly and willfully to make to any department or agency of the United States an false, fictitious or fraudulent statements or regresentations as to any matter within its jurisdiction.       ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED **		determined that the XTO Permitting	e site is ready for fir	RECEIVED	sults in a multiple ed only after all re add a DV/ECP	completion or reconstruction or reconstruction of the second sec	mpletion in a ing reclamation drilling prog	new interval, a Form 316 n, have been completed : ram	0-4 must be filed once and the operator has	
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## DRILLING PLAN: BLM COMPLIANCE (Supplement to BLM 3160-3)

XTO Energy Inc. PLU 15 Twin Wells Ranch #106H Projected TD: 22179' MD / 11729' TVD SHL: 360' FSL & 1965' FEL , Section 15, T24S, R31E BHL: 200' FSL & 1650' FEL , Section 27, T24S, R31E Eddy County, NM

### 1. Geologic Name of Surface Formation

A. Permian

## 2. Estimated Tops of Geological Markers & Depths of Anticipated Fresh Water, Oil or Gas:

Formation	Well Depth (TVD)	Water/Oil/Gas
Rustler	724'	Water
Top of Salt	1082'	Water
Base of Salt	4268'	Water
Delaware	4491	Water
Bone Spring	8344'	Water/Oil/Gas
1st Bone Spring Ss	9412'	Water/Oil/Gas
2nd Bone Spring Ss	9998'	Water/Oil/Gas
3rd Bone Spring Ss	11245'	Water/Oil/Gas
Wolfcamp	11683'	Water/Oil/Gas
Target/Land Curve	11729'	Water/Oil/Gas

\*\*\* Hydrocarbons @ Brushy Canyon

\*\*\* Groundwater depth 40' (per NM State Engineers Office).

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 16 inch casing @ 880' (202' above the salt) and circulating cement back to surface. The salt will be isolated by setting 11-3/4 inch'casing at 4320' and circulating cement to surface. A 10-5/8 inch vertical hole will be drilled to 10600' and 8-5/8 inch casing ran and cemented 500' into the 11-3/4 inch casing. An 7-7/8 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 8-5/8 inch casing shoe.

### 3. Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tensio
18-1/2"	0' - 880'	16	65	STC	<b>H-4</b> 0	New	1.27	1.58	10.39
14-3/4"	0' - 4320'	11-3/4"	47	BTC	J-55	New	1.10	1.15	3.07
10-5/8"	0' – 10600'	8-5/8"	32	BTC	HCL-80	New	1:40	1.35	2.38
7-7/8"	0' - 22179'	5-1/2"	17	BTC	P-110	New	1.01	1.93	2.13

XTO requests to utilize centralizers only in the curve after the KOP and only a minimum of one every other joint.

11-3/4" Collapse analyzed using 50% evacuation based on regional experience.

8-5/8" 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

### WELLHEAD:

Temporary Wellhead

• 16" SOW x 16-3/4" 3M top flange

Permanent Wellhead - GE RSH Multibowl System

A. Starting Head (RSH System): 11-3/4" SOW bottom x 13-5/8" 2M 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 8-5/8" casing per Onshore Order 2.

• Wellhead manufacturer representative may not be present for BOP test plug installation

## 4. Cement Program

Surface Casing: 16, 65 New H-40, STC casing to be set at +/- 880'

 Lead: 290 sxs EconoCem-HLTRRC (mixed at 12.8 ppg, 1.87 ft3/sx, 10.13 gal/sx water)

 Tail: 200 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)

 Compressives:
 12-hr =
 900 psi
 24 hr = 1500 psi

1st Intermediate Casing: 11-3/4", 47 New J-55, BTC casing to be set at +/- 4320'

Lead: 1590 sxs Halcem-C + 2% CaCl (mixed at 12.8 ppg, 1.88 ft3/sx, 9.61 gal/sx water)

 Tail: 550 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)

 Compressives:
 12-hr =
 900 psi
 24 hr = 1500 psi

2nd Intermediate Casing (Stage 2): 8-5/8", 32 New HCL-80, BTC casing to be set at +/- 10600' ECP/DV Tool to be set at 4370' 1st Stage

Lead: 790 sxs Halcem-C + 2% CaCl (mixed at 12.8 ppg, 1.87 ft3/sx, 9.61 gal/sx water)

 Tail: 270 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)

 Compressives:
 12-hr =
 900 psi
 24 hr = 1500 psi

2nd Stage

Lead: 1150 sxs Halcem-C + 2% CaCl (mixed at 12.8 ppg, 1.88 ft3/sx, 9.61 gal/sx water)

Tail: 310 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water) Compressives:

Production Casing: 5-1/2", 17 New P-110, BTC casing to be set at +/- 22179'

Lead: 1780 sxs Halcem-C + 2% CaCl (mixed at 11.5 ppg, 1.88 ft3/sx, 9.61 gal/sx water)

 Tail: 1780 sxs VersaCem (mixed at 13.2 ppg, 10764 ft3/sx, 8.38 gal/sx water)

 Compressives:
 12-hr =
 1375 psi
 24 hr = 2285 psi

### 5. Pressure Control 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 1296 psi.

Once the perminent wellhead is installed the blow out preventer equipment (BOP) for this well consists of a 13-5/8" minimum 5M Hydril and a 13-5/8" minimum 5M Double Ram BOP. MASP should not exceed 3824 psi.

All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 50% of the working pressure. When nippling up on the 13-5/8" 5M bradenhead and flange, the BOP test will be limited to 5000 psi. When the 11-3/4" and 8-5/8" casing is set, the packoff seals will be tested to a minimum of 5000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 5M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

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.

### 6. Proposed Mud Circulation System

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0° to 880'	18-1/2"	FW/Native	8.4-8.8	35-40	NC
880' to 4320'	14-3/4"	Brine/Gel Sweeps	9.8-10.2	30-32	NC
4320' to 10600'	10-5/8"	FW / Cut Brine	9.1-9.5	29-32	NC - 20
10600' to 22179'	7-7/8"	FW / Cut Brine / Polymer/ OBM	10.2-10.8	32-50	NC - 20

The necessary mud products for weight addition and fluid loss control will be on location at all times.

Spud with fresh water/native mud. Drill out from under 16" surface casing with brine solution. A 9.8ppg-10.2ppg brine mud will be used while drilling through the salt formation. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Pump speed will be recorded on a daily drilling report after mudding up. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

### 7. Auxiliary Well Control and Monitoring Equipment

A. A Kelly cock will be in the drill string at all times.

B. A full opening drill pipe stabbing valve having appropriate connections will be on the rig floor at all times.

C. H2S monitors will be on location when drilling below the 13-3/8" casing.

## 8. Logging, Coring and Testing Program

Mud Logger: Mud Logging Unit (2 man) below 1st intermediate casing.

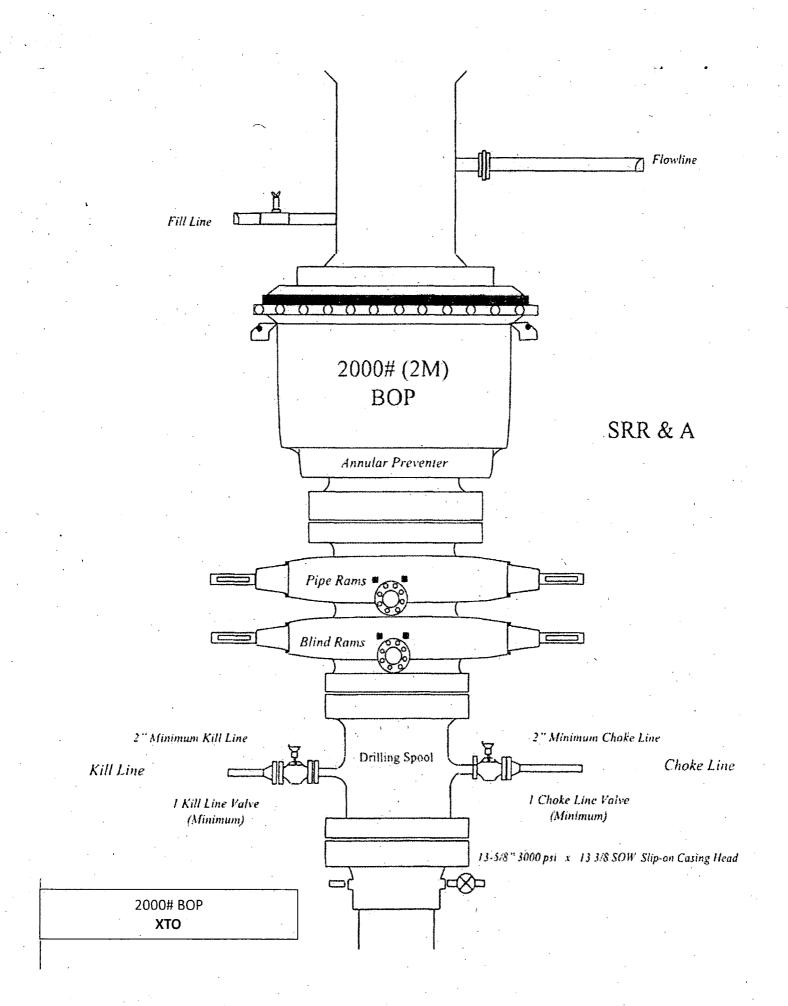
Open hole logging will not be done on this well.

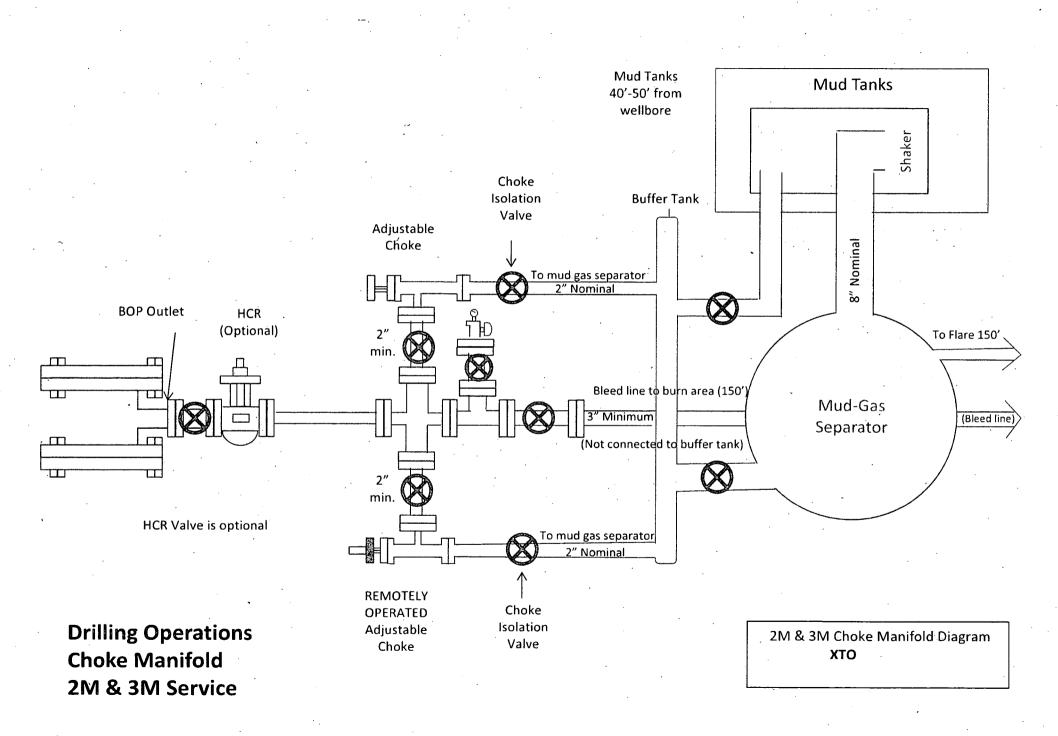
### 9. Abnormal Pressures and Temperatures / Potential Hazards

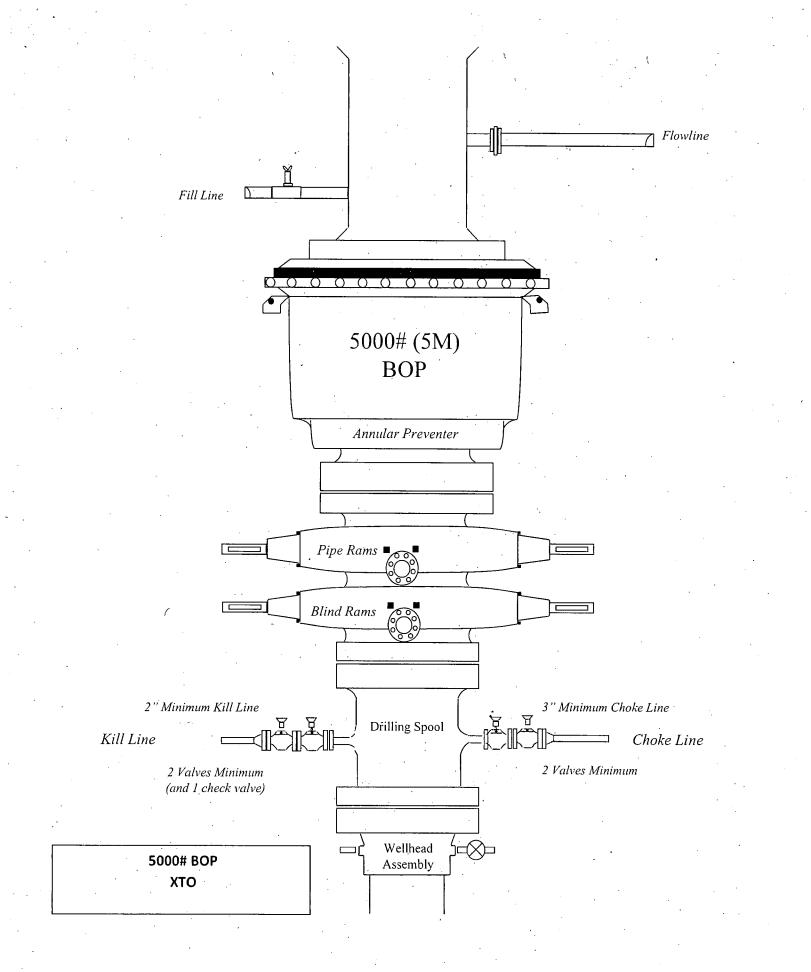
None Anticipated. BHT of 155 to 175 F is anticipated. No H2S is expected but monitors will be in place to detect any H2S occurrences. Should these circumstances be encountered the operator and drilling contractor are prepared to take all necessary steps to ensure safety of all personnel and environment. 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. The maximum anticipated bottom hole pressure for this well is 6404 psi.

### 10. Anticipated Starting Date and Duration of Operations

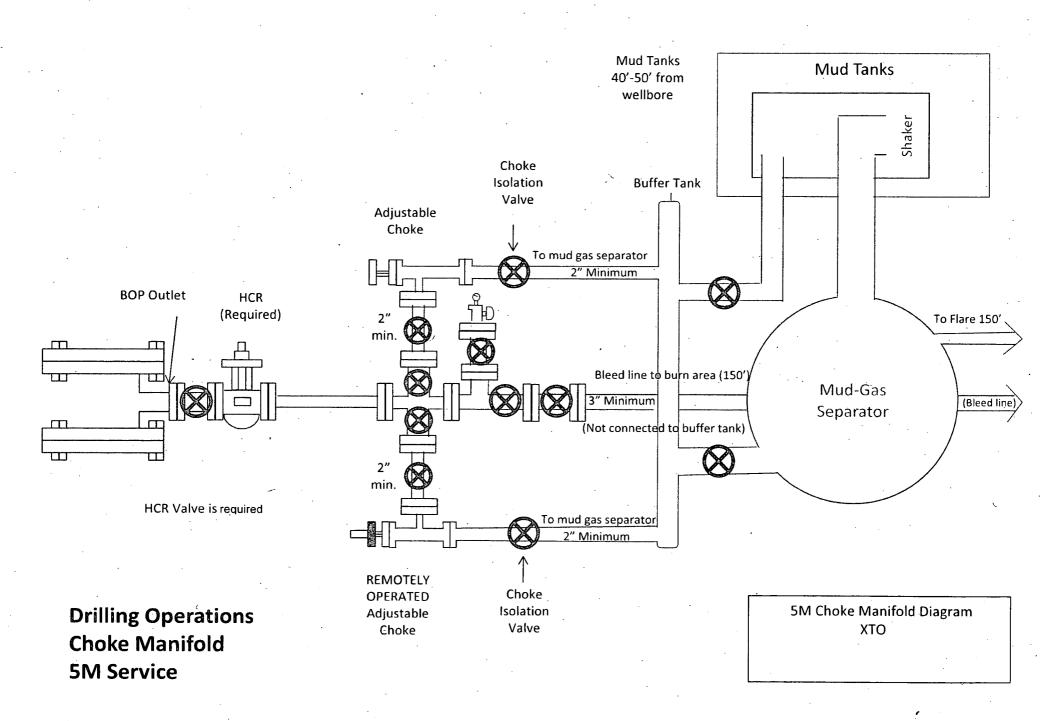
Road and location construction will begin after Santa Fe and BLM have approved the APD. Anticipated spud date will be as soon after Santa Fe and BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 40 days. If production casing is run, an additional 30 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.



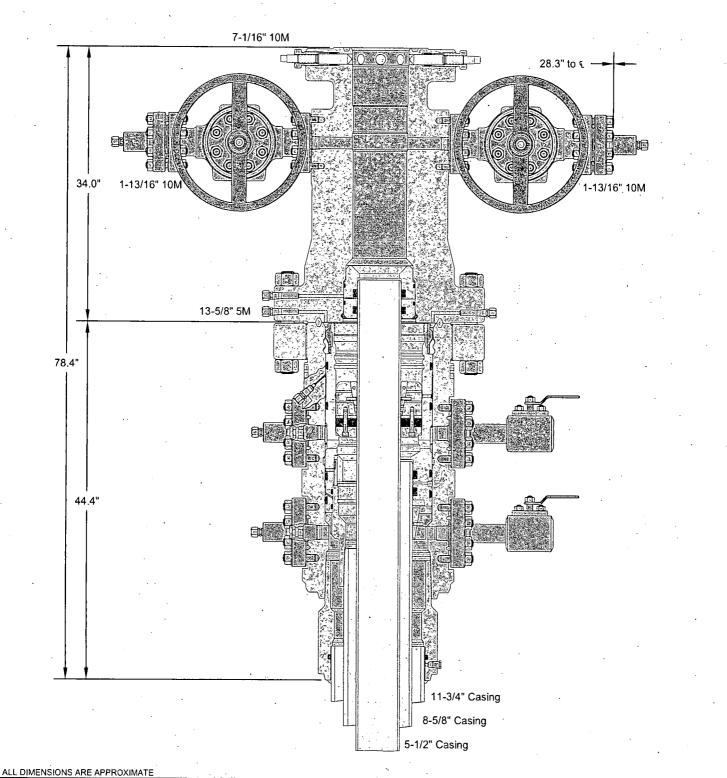




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This drawing is the property of GE Oil & Gas Pressure Control LP and is considered confidential. Unless otherwise approved in writing, neither it nor its contents may be used, copied, transmitted or reproduced except for the sole purpose of GE Oil & Gas Pressure Control LP.	XTO ENERGY, INC.			
11-3/4" x 8-5/8" x 5-1/2" 10M RSH-2 Wellhead	DRAWN	VJK	310CT16	
Assembly, With T-EBS-F Tubing Head	APPRV	KN	310CT16	
Assembly, With I-LDS-F Tubing Head	FOR REFERENCE ONLY DRAWING NO. 10012358			

# PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	XTO Permian Operating, LLC
LEASE NO.:	NMNM-111960
WELL NAME & NO.:	Poker Lake Unit 15 TWR 106H
SURFACE HOLE FOOTAGE:	0360' FSL & 1965' FEL
<b>BOTTOM HOLE FOOTAGE</b>	0200' FSL & 1650' FEL Sec. 27, T. 24 S., R 31 E.
LOCATION:	Section 15, T. 24 S., R 31 E., NMPM
COUNTY:	Eddy County, New Mexico

# The original COAs still stand with the following drilling modifications:

# **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 Potash Areas:

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 for all cement blends, 2) until cement has been in place at least <u>24 hours</u>. WOC time will be recorded in the driller's log.

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.

# Secretary's Potash

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 16 inch surface casing shall be set at approximately 880 feet (in a competent bed <u>below the Magenta Dolomite</u>, which is a <u>Member of the Rustler</u>, 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.

11-3/4" 1<sup>st</sup> Intermediate casing shall be kept fluid filled while running into hole to meet BLM minimum collapse requirements.

- 2. The minimum required fill of cement behind the **11-3/4** inch 1<sup>st</sup> intermediate casing is:
  - Cement to surface. If cement does not circulate see B.1.a, c-d above. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash.

Formation below the 11-3/4" 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. 3. The minimum required fill of cement behind the 8-5/8 inch  $2^{nd}$  intermediate casing is:

Operator has proposed DV tool at depth of 4370', 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.
- b. Second stage above DV tool:
- Cement to surface. If cement does not circulate, contact the appropriate BLM office. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due potash.

Formation below the 8-5/8" 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 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.

4. The minimum required fill of cement behind the 5-1/2 inch production casing is:

Cement should tie-back at least 500 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.