

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTCarlsbad Field Office
OCD ArtesiaFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

Lease Serial No.
NMNM06764

SUBMIT IN TRIPLICATE - Other instructions on page 2		6. If Indian, Allottee or Tribe Name
1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other	2. Name of Operator XTO ENERGY, INC Contact: KELLY KARDOS E-Mail: kelly_kardos@xtoenergy.com	7. If Unit or CA/Agreement, Name and/or No.
3a. Address 6401 HOLIDAY HILL RD BLDG 5 MIDLAND, TX 79707	3b. Phone No. (include area code) Ph: 432-620-4374	8. Well Name and No. BUBBLES 22 15 FEDERAL 4H
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 22 T19S R30E Mer NMP NWSE 1932FSL 1451FEL		9. API Well No. 30-015-45256
		10. Field and Pool or Exploratory Area HACKBERRY BONE SPRING NW
		11. County or Parish, State EDDY COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

XTO Energy, Inc. requests permission to drill a pilot hole per the attached procedure....

NM OIL CONSERVATION

ARTESIA DISTRICT

NOV 28 2018

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

RECEIVED

14. I hereby certify that the foregoing is true and correct. Electronic Submission #444433 verified by the BLM Well Information System For XTO ENERGY, INC, sent to the Carlsbad Committed to AFMSS for processing by MUSTAFA HAQUE on 11/26/2018 ()	
Name (Printed/Typed) KELLY KARDOS	Title REGULATORY COORDINATOR
Signature (Electronic Submission)	Date 11/17/2018

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By <u>Mustafa Haque</u>	Title Petroleum Engineer Carlsbad Field Office	Date <u>11-26-2018</u>
Conditions of approval, if any, are attached. Approval of this notice 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.		
Office		

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.

(Instructions on page 2)

** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED **

RUP 12-7-18

DRILLING PLAN: BLM COMPLIANCE

(Supplement to BLM 3160-3)

XTO Energy Inc.

Bubbles 22 15 Federal 4H

Projected TD: 16364' MD / 9483' TVD

SHL: 1931.5' FSL & 1451.2' FEL , Section 22, T19S, R30E

BHL: 200' FNL & 400' FEL , Section 15, T19S, R30E

Eddy County, NM

1. Geologic Name of Surface Formation

A. Quaternary

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

Formation	Well Depth (TVD)	Water/Oil/Gas
Rustler	249'	Water
Top of Salt	504'	Water
Base of Salt	1504'	Water
Capitan Reef	2319'	Water
Delaware	4014'	Water
Brushy Canyon	4614'	Water
Bone Spring	6135'	Water/Oil/Gas
1st Bone Spring Ss	7591'	Water/Oil/Gas
2nd Bone Spring Ss	8378'	Water/Oil/Gas
Wofcamp	9300'	Water/Oil/Gas
Target/Land Curve	9483'	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 18-5/8 inch casing @ 350' (154' above the salt) and circulating cement back to surface. The salt will be isolated by setting 13-3/8 inch casing at 4620' and circulating cement to surface. The Capitan Reef zone will be isolated by setting 9-5/8 inch casing at 4070' with cement to surface in a two stage job. A pilot hole will be drilled to a TVD of 9739', logged, and plugged back with cement. An 8-3/4 inch curve and 8-1/2 inch lateral hole will be drilled to MD/TD and 5-1/2 inch casing will be set at TD and cemented 200' into 6-5/8 inch casing shoe.

on top of Capitan Reef Top

3. Casing Design → SEE COA

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
24"	0' - 350'	18-5/8"	87.5#	STC	H-40	New	3.45	3.93	18.25
17-1/2"	0' - 1520' ^{4620'}	13-3/8"	54.5#	STC	J-55	New	2.89	2.36	6.20
12-1/4"	0' - 4070'	9-5/8"	36#	LTC	J-55	New	1.41	2.10	3.09
8-3/4" x 8-1/2"	0' - 16364'	5-1/2"	17#	BTC	P-110	New	1.12	1.63	2.78

- XTO requests to utilize centralizers only in the curve after the KOP and only a minimum of one every other joint.
- 13-3/8" & 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

WELLHEAD:

Temporary Wellhead

- 18-5/8" SOW bottom x 21-1/4" 2M top flange.

Permanent Wellhead – GE RSH Multibowl System

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

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

- Wellhead will be installed by manufacturer's representatives.
- Manufacturer will monitor welding process to ensure appropriate temperature of seal.

- Operator will test the 9-5/8" casing per BLM Onshore Order 2
- Wellhead manufacturer representative will not be present for BOP test plug installation

4. Cement Program

Surface Casing: 18-5/8", 87.5# New H-40, STC casing to be set at +/- 350'

Lead: 900 sxs EconoCem-HLTRRC (mixed at 12.9 ppg, 1.87 ft³/sx, 10.13 gal/sx water)

Tail: 300 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: 13-3/8", 54.5# New J-55, STC casing to be set at +/- ~~1520'~~ 1650'

Lead: 900 sxs EconoCem-HLTRRC (mixed at 12.9 ppg, 1.87 ft³/sx, 10.13 gal/sx water)

Tail: 300 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: 9-5/8", 36# New J-55, LTC casing to be set at +/- 4070'

ECP/DV Tool to be set at 2394'

1st Stage

Lead: 0 sxs Halcem-C + 2% CaCl (mixed at 12.9 ppg, 1.88 ft³/sx, 9.61 gal/sx water)

Tail: 780 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.33 ft³/sx, 6.39 gal/sx water)

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

2nd Stage

Lead: 630 sxs Halcem-C + 2% CaCl (mixed at 12.9 ppg, 1.88 ft³/sx, 9.61 gal/sx water)

Tail: 230 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.33 ft³/sx, 6.39 gal/sx water)

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

FE COA → *Pilot Hole Isolation Plug for Wolfcamp XY (200 ft w/ 30% excess)*

Tail: 91 sx Class H neat (1.18 ft³/sk) at mixed at 15.6 ppg, set from ~~8690'~~ ^{9239'} to ~~8400'~~

Pilot Hole Isolation Plug for Third Bone Spring (200 ft w/ 30% excess)

Tail: 91 sx Class H neat (1.18 ft³/sk) at mixed at 15.6 ppg, set from 8627' to 8827'

Open Hole Sidetrack Plug (800 ft w/ 30% excess)

Tail: 439 sx Class H neat (0.99 ft³/sk) at mixed at 17.0 ppg, set from 7890' to 8690'

Production Casing: 5-1/2", 17# New P-110, BTC casing to be set at +/- 16364'

Lead: 480 sxs NeoCem (mixed at 10.5 ppg, 2.69 ft³/sx, 12.26 gal/sx water)

Tail: 1660 sxs VersaCem (mixed at 13.2 ppg, 1.61 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) for this well consists of a 21-1/4" minimum 2M Hydril. MASP should not exceed 472 psi.

The blow out preventer equipment (BOP) for this well consists of a 13-5/8" minimum 3M Hydril and a 13-5/8" minimum 3M Double Ram BOP. MASP should not exceed 2500 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 nipping up on the 13-5/8" 3M bradenhead and flange, the BOP test will be limited to 3000 psi. When nipping up on the 9-5/8", the BOP will be tested to a minimum of 3000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 3M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

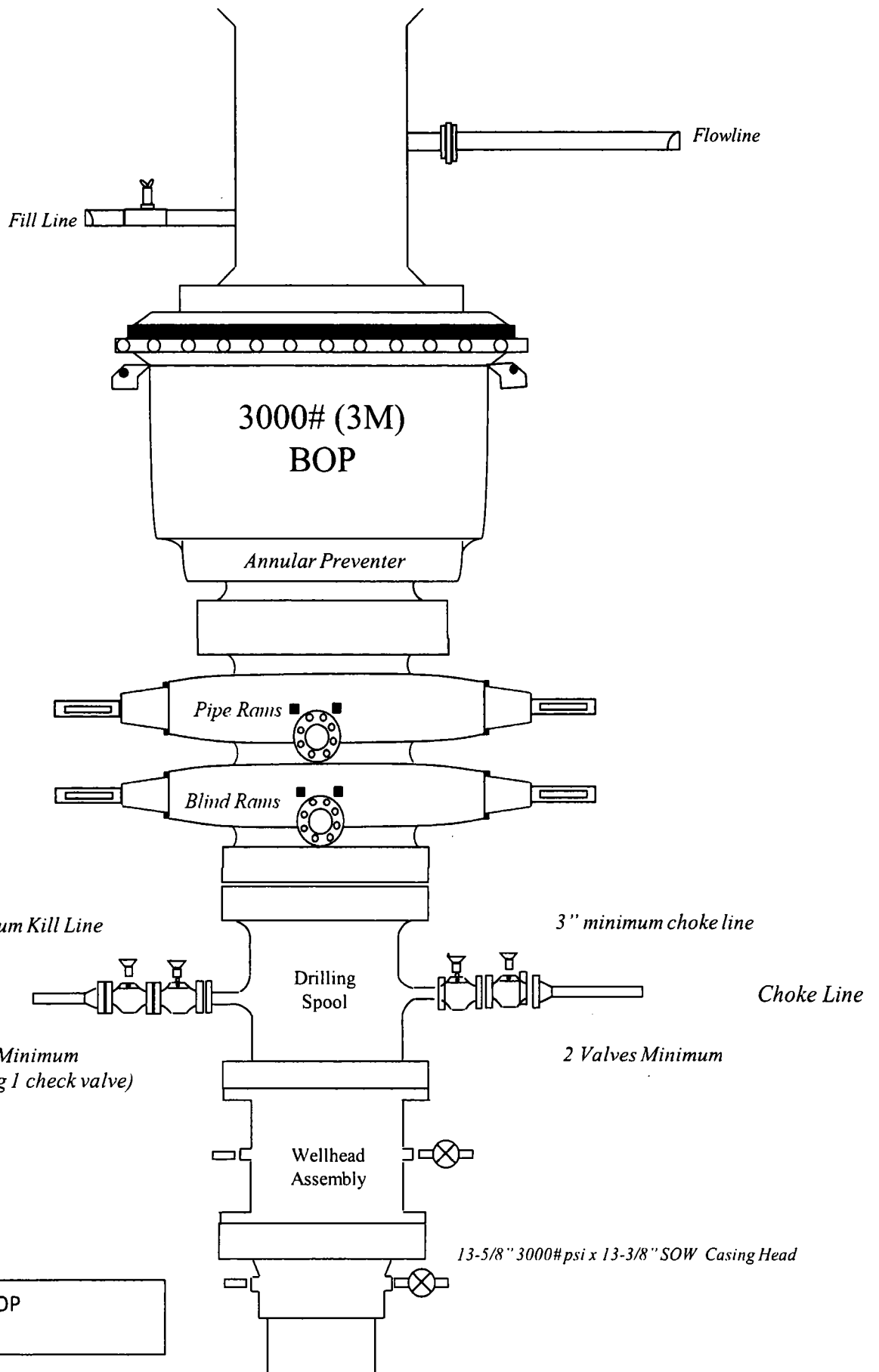
A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test chart will be kept on the rig. Attached is an example of a certification and pressure test chart. The manufacturer does not require anchors.

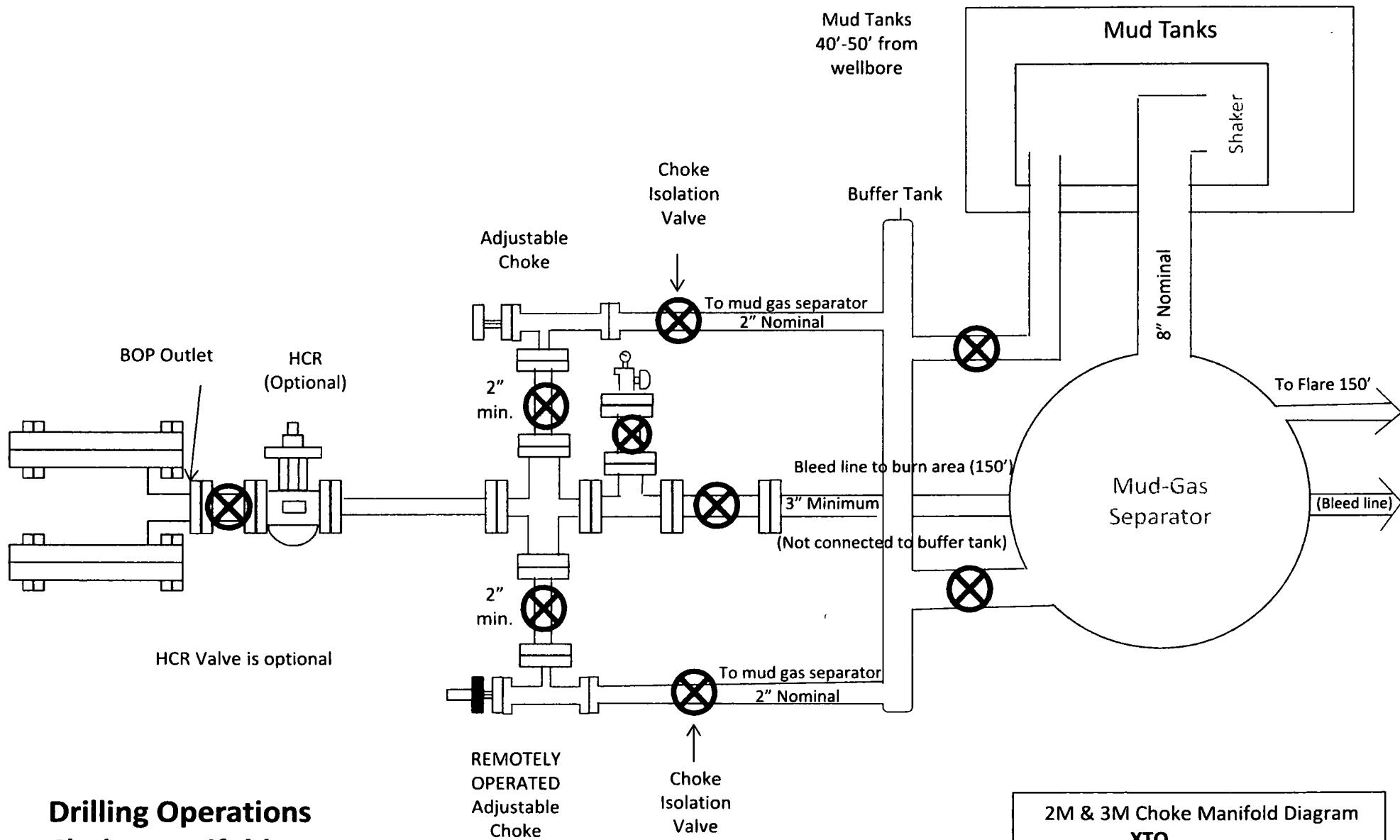
6. Proposed Mud Circulation System

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' - 350'	24"	FW/Native	8.4-8.8	35-40	NC
350' - 1520' 1650'	17-1/2"	Brine	9.8-10.2	30-32	NC
1520' to 4070'	12-1/4"	FW	8.7-9.0	30-32	NC
4070' to 16364'	8-3/4" x 8-1/2"	FW / Cut Brine / Polymer	9 - 9.3	29-32	NC - 20

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

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.





2M & 3M Choke Manifold Diagram
XTO

Drilling Operations Choke Manifold 2M & 3M Service



Project: Eddy County, NM
 Site: Bubbles 2215 Federal
 Well: Bubbles 2215 Federal #4H
 GL: GL 3314' + 25' KB @ 3339.00usft (Rig TBD)
 SHL Northing: 598131.60
 SHL Easting: 616317.40
 Rig: Rig TBD
 Plan: ST01 plan3



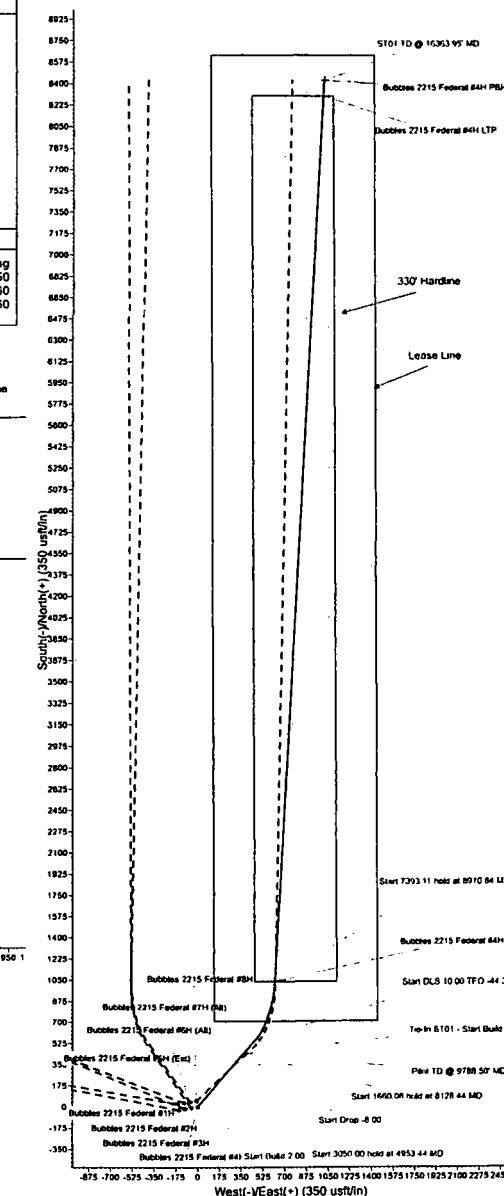
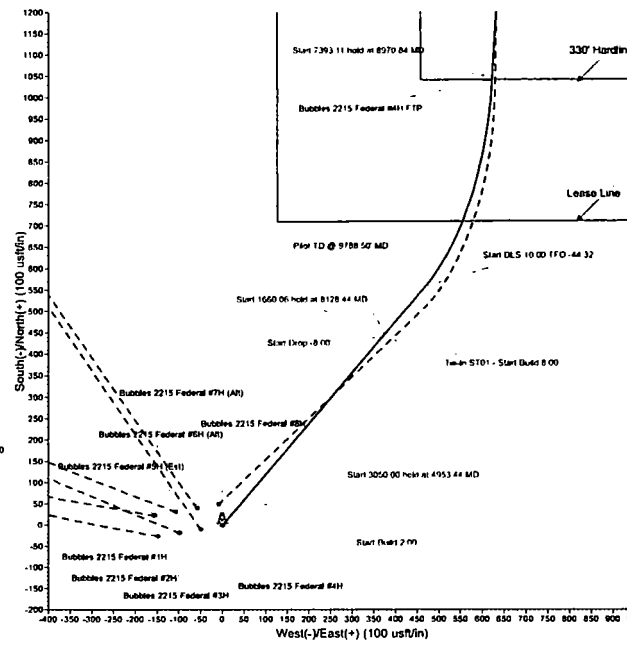
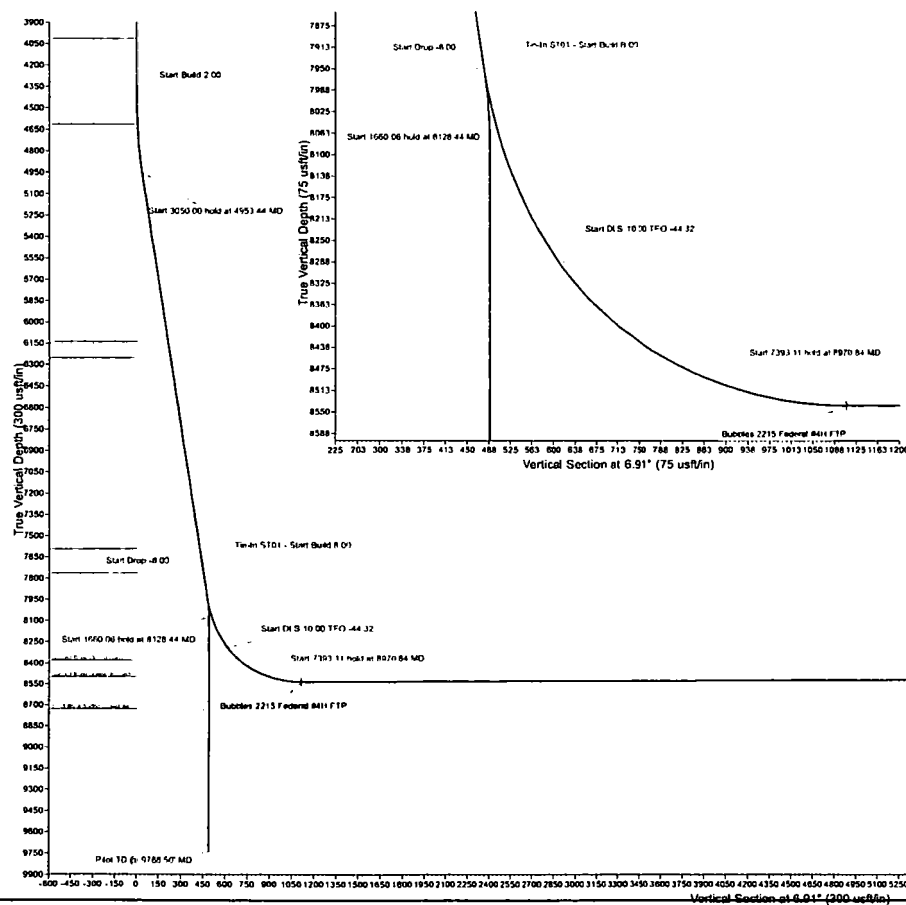
SECTION DETAILS - PILOT HOLE									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4453.44	0.00	0.00	4453.44	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
4953.44	10.00	40.00	4950.91	33.34	27.98	2.00	40.00	36.46	Start 3050.00 hold at 4953.44 MD
8003.44	10.00	40.00	7954.57	439.06	368.41	0.00	0.00	480.19	Start Drop -8.00
8128.44	0.00	0.00	8078.94	447.39	375.41	8.00	180.00	489.31	Start 1660.06 hold at 8128.44 MD
9788.50	0.00	0.00	9739.00	447.39	375.41	0.00	0.00	489.31	Pilot TD @ 9788.50' MD

SECTION DETAILS - ST01 HOLE									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
8003.44	10.00	40.00	7954.57	439.06	368.41	0.00	0.00	480.19	Tie-in ST01 - Start Build 8.00
8378.44	40.00	40.00	8290.57	559.08	469.12	8.00	0.00	611.46	Start DLS 10.00 TFO -44.32
8970.84	90.19	3.10	8539.00	1044.76	621.34	10.00	-44.32	1111.92	Start 7393.11 hold at 8970.84 MD
16363.95	90.19	3.10	8514.00	8427.00	1021.20	0.00	0.00	8488.65	ST01 TD @ 16363.95' MD



FORMATION TOP DETAILS			
TVDPath	MDPath	Formation	
249.00	249.00	Rustler	
504.00	504.00	Top Salt	
1504.00	1504.00	Base Salt	
1689.00	1689.00	Yates	
2319.00	2319.00	Capitan	
4014.00	4014.00	Delaware	
4814.00	4614.08	Brushy Canyon	
6135.00	6155.80	Bone Spring	
6251.00	6273.59	Avaton Sand	
7591.00	7634.26	First Bone Spring Sand	
7763.00	7808.92	Second Bone Spring Limestone	
8378.00	8501.41	Second Bone Spring Sand	
8497.00	8734.94	Second Bone Spring 'B' Sand	

DESIGN TARGET DETAILS					
Name	TVD	+N/-S	+E/-W	Northing	Easting
Bubbles 2215 Federal #4H FTP	8539.00	1040.40	622.10	599172.00	616939.50
Bubbles 2215 Federal #4H LTP	8514.00	8297.00	1014.20	608428.60	617331.60
Bubbles 2215 Federal #4H PBHL	8514.00	8427.00	1021.20	606558.60	617338.60





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ARTESIA DISTRICT
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XTO Energy

**Eddy County, NM
Bubbles 2215 Federal
Bubbles 2215 Federal #4H**

ST01

Plan: ST01 plan3

Standard Planning Report

16 November, 2018





Database: EDM 5000.14 Single User Db
Company: XTO Energy
Project: Eddy County, NM
Site: Bubbles 2215 Federal
Well: Bubbles 2215 Federal #4H
Wellbore: ST01
Design: ST01 plan3

Local Co-ordinate Reference: Well Bubbles 2215 Federal #4H
TVD Reference: GL 3314' + 25' KB @ 3339.00usft (Rig TBD)
MD Reference: GL 3314' + 25' KB @ 3339.00usft (Rig TBD)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Eddy County, NM		
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		Bubbles 2215 Federal			
Site Position:		Northing:	598,106.00 usft	Latitude:	32° 38' 37.422 N
From:	Map	Easting:	616,169.60 usft	Longitude:	103° 57' 21.337 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.20 °

Well	Bubbles 2215 Federal #4H					
Well Position	+N/-S	25.60 usft	Northing:	598,131.60 usft	Latitude:	32° 38' 37.670 N
	+E/-W	147.80 usft	Easting:	616,317.40 usft	Longitude:	103° 57' 19.607 W
Position Uncertainty	0.00 usft		Wellhead Elevation:		Ground Level:	3,314.00 usft

Wellbore ST01

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	11/16/18	7.37	60.48	48,175.10000000

Design ST01 plan3

Audit Notes:

Version:	Phase:	PROTOTYPE	Tie On Depth:	8,003.44
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	6.91

Plan Survey Tool Program Date 11/16/18

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	8,003.44	16,363.95	ST01 plan3 (ST01)	MWD	
				MWD - Standard	

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
8,003.44	10.00	40.00	7,954.57	439.06	368.41	0.00	0.00	0.00	0.00	
8,378.44	40.00	40.00	8,290.57	559.08	469.12	8.00	8.00	0.00	0.00	
8,970.84	90.19	3.10	8,539.00	1,044.76	621.34	10.00	8.47	-6.23	-44.32	
16,363.95	90.19	3.10	8,514.00	8,427.00	1,021.20	0.00	0.00	0.00	0.00	



Planning Report



Database: EDM 5000.14 Single User Db
Company: XTO Energy
Project: Eddy County, NM
Site: Bubbles 2215 Federal
Well: Bubbles 2215 Federal #4H
Wellbore: ST01
Design: ST01 plan3

Local Co-ordinate Reference: Well Bubbles 2215 Federal #4H
TVD Reference: GL 3314' + 25' KB @ 3339.00usft (Rig TBD)
MD Reference: GL 3314' + 25' KB @ 3339.00usft (Rig TBD)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
8,003.44	10.00	40.00	7,954.57	439.06	368.41	480.19	0.00	0.00	0.00
Tie-In ST01 - Start Build 8.00									
8,100.00	17.72	40.00	8,048.25	456.77	383.27	499.56	8.00	8.00	0.00
8,200.00	25.72	40.00	8,141.07	485.10	407.05	530.54	8.00	8.00	0.00
8,300.00	33.72	40.00	8,227.84	523.05	438.89	572.05	8.00	8.00	0.00
8,378.44	40.00	40.00	8,290.57	559.08	469.12	611.46	8.00	8.00	0.00
Start DLS 10.00 TFO -44.32									
8,400.00	41.57	37.73	8,306.89	570.05	477.96	623.41	10.00	7.26	-10.53
8,500.00	49.30	28.81	8,377.08	629.65	516.62	687.23	10.00	7.74	-8.92
8,600.00	57.58	21.81	8,436.64	702.24	550.66	763.39	10.00	8.28	-7.00
8,700.00	66.18	16.02	8,483.75	785.61	579.04	849.56	10.00	8.60	-5.80
8,800.00	74.97	10.95	8,516.98	877.22	600.89	943.13	10.00	8.79	-5.06
8,900.00	83.87	6.29	8,535.34	974.29	615.55	1,041.27	10.00	8.89	-4.66
8,966.57	89.81	3.29	8,539.01	1,040.49	621.10	1,107.65	10.00	8.93	-4.51
Bubbles 2215 Federal #4H FTP									
8,970.84	90.19	3.10	8,539.00	1,044.76	621.34	1,111.92	10.00	8.93	-4.49
Start 7393.11 hold at 8970.84 MD									
9,000.00	90.19	3.10	8,538.91	1,073.87	622.91	1,141.01	0.00	0.00	0.00
9,100.00	90.19	3.10	8,538.57	1,173.72	628.32	1,240.79	0.00	0.00	0.00
9,200.00	90.19	3.10	8,538.23	1,273.58	633.73	1,340.56	0.00	0.00	0.00
9,300.00	90.19	3.10	8,537.89	1,373.43	639.14	1,440.34	0.00	0.00	0.00
9,400.00	90.19	3.10	8,537.55	1,473.28	644.55	1,540.12	0.00	0.00	0.00
9,500.00	90.19	3.10	8,537.22	1,573.13	649.96	1,639.90	0.00	0.00	0.00
9,600.00	90.19	3.10	8,536.88	1,672.99	655.36	1,739.68	0.00	0.00	0.00
9,700.00	90.19	3.10	8,536.54	1,772.84	660.77	1,839.46	0.00	0.00	0.00
9,800.00	90.19	3.10	8,536.20	1,872.69	666.18	1,939.24	0.00	0.00	0.00
9,900.00	90.19	3.10	8,535.86	1,972.55	671.59	2,039.01	0.00	0.00	0.00
10,000.00	90.19	3.10	8,535.52	2,072.40	677.00	2,138.79	0.00	0.00	0.00
10,100.00	90.19	3.10	8,535.19	2,172.25	682.41	2,238.57	0.00	0.00	0.00
10,200.00	90.19	3.10	8,534.85	2,272.11	687.82	2,338.35	0.00	0.00	0.00
10,300.00	90.19	3.10	8,534.51	2,371.96	693.22	2,438.13	0.00	0.00	0.00
10,400.00	90.19	3.10	8,534.17	2,471.81	698.63	2,537.91	0.00	0.00	0.00
10,500.00	90.19	3.10	8,533.83	2,571.66	704.04	2,637.69	0.00	0.00	0.00
10,600.00	90.19	3.10	8,533.49	2,671.52	709.45	2,737.46	0.00	0.00	0.00
10,700.00	90.19	3.10	8,533.16	2,771.37	714.86	2,837.24	0.00	0.00	0.00
10,800.00	90.19	3.10	8,532.82	2,871.22	720.27	2,937.02	0.00	0.00	0.00
10,900.00	90.19	3.10	8,532.48	2,971.08	725.68	3,036.80	0.00	0.00	0.00
11,000.00	90.19	3.10	8,532.14	3,070.93	731.08	3,136.58	0.00	0.00	0.00
11,100.00	90.19	3.10	8,531.80	3,170.78	736.49	3,236.36	0.00	0.00	0.00
11,200.00	90.19	3.10	8,531.47	3,270.64	741.90	3,336.13	0.00	0.00	0.00
11,300.00	90.19	3.10	8,531.13	3,370.49	747.31	3,435.91	0.00	0.00	0.00
11,400.00	90.19	3.10	8,530.79	3,470.34	752.72	3,535.69	0.00	0.00	0.00
11,500.00	90.19	3.10	8,530.45	3,570.20	758.13	3,635.47	0.00	0.00	0.00
11,600.00	90.19	3.10	8,530.11	3,670.05	763.54	3,735.25	0.00	0.00	0.00
11,700.00	90.19	3.10	8,529.77	3,769.90	768.95	3,835.03	0.00	0.00	0.00
11,800.00	90.19	3.10	8,529.44	3,869.75	774.35	3,934.81	0.00	0.00	0.00
11,900.00	90.19	3.10	8,529.10	3,969.61	779.76	4,034.58	0.00	0.00	0.00
12,000.00	90.19	3.10	8,528.76	4,069.46	785.17	4,134.36	0.00	0.00	0.00
12,100.00	90.19	3.10	8,528.42	4,169.31	790.58	4,234.14	0.00	0.00	0.00
12,200.00	90.19	3.10	8,528.08	4,269.17	795.99	4,333.92	0.00	0.00	0.00
12,300.00	90.19	3.10	8,527.75	4,369.02	801.40	4,433.70	0.00	0.00	0.00
12,400.00	90.19	3.10	8,527.41	4,468.87	806.81	4,533.48	0.00	0.00	0.00
12,500.00	90.19	3.10	8,527.07	4,568.73	812.21	4,633.26	0.00	0.00	0.00
12,600.00	90.19	3.10	8,526.73	4,668.58	817.62	4,733.03	0.00	0.00	0.00



Database: EDM 5000.14 Single User Db
Company: XTO Energy
Project: Eddy County, NM
Site: Bubbles 2215 Federal
Well: Bubbles 2215 Federal #4H
Wellbore: ST01
Design: ST01 plan3

Local Co-ordinate Reference: Well Bubbles 2215 Federal #4H
TVD Reference: GL 3314' + 25' KB @ 3339.00usft (Rig TBD)
MD Reference: GL 3314' + 25' KB @ 3339.00usft (Rig TBD)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
12,700.00	90.19	3.10	8,526.39	4,768.43	823.03	4,832.81	0.00	0.00	0.00
12,800.00	90.19	3.10	8,526.05	4,868.29	828.44	4,932.59	0.00	0.00	0.00
12,900.00	90.19	3.10	8,525.72	4,968.14	833.85	5,032.37	0.00	0.00	0.00
13,000.00	90.19	3.10	8,525.38	5,067.99	839.26	5,132.15	0.00	0.00	0.00
13,100.00	90.19	3.10	8,525.04	5,167.84	844.67	5,231.93	0.00	0.00	0.00
13,200.00	90.19	3.10	8,524.70	5,267.70	850.07	5,331.71	0.00	0.00	0.00
13,300.00	90.19	3.10	8,524.36	5,367.55	855.48	5,431.48	0.00	0.00	0.00
13,400.00	90.19	3.10	8,524.02	5,467.40	860.89	5,531.26	0.00	0.00	0.00
13,500.00	90.19	3.10	8,523.69	5,567.26	866.30	5,631.04	0.00	0.00	0.00
13,600.00	90.19	3.10	8,523.35	5,667.11	871.71	5,730.82	0.00	0.00	0.00
13,700.00	90.19	3.10	8,523.01	5,766.96	877.12	5,830.60	0.00	0.00	0.00
13,800.00	90.19	3.10	8,522.67	5,866.82	882.53	5,930.38	0.00	0.00	0.00
13,900.00	90.19	3.10	8,522.33	5,966.67	887.93	6,030.16	0.00	0.00	0.00
14,000.00	90.19	3.10	8,522.00	6,066.52	893.34	6,129.93	0.00	0.00	0.00
14,100.00	90.19	3.10	8,521.66	6,166.37	898.75	6,229.71	0.00	0.00	0.00
14,200.00	90.19	3.10	8,521.32	6,266.23	904.16	6,329.49	0.00	0.00	0.00
14,300.00	90.19	3.10	8,520.98	6,366.08	909.57	6,429.27	0.00	0.00	0.00
14,400.00	90.19	3.10	8,520.64	6,465.93	914.98	6,529.05	0.00	0.00	0.00
14,500.00	90.19	3.10	8,520.30	6,565.79	920.39	6,628.83	0.00	0.00	0.00
14,600.00	90.19	3.10	8,519.97	6,665.64	925.79	6,728.60	0.00	0.00	0.00
14,700.00	90.19	3.10	8,519.63	6,765.49	931.20	6,828.38	0.00	0.00	0.00
14,800.00	90.19	3.10	8,519.29	6,865.35	936.61	6,928.16	0.00	0.00	0.00
14,900.00	90.19	3.10	8,518.95	6,965.20	942.02	7,027.94	0.00	0.00	0.00
15,000.00	90.19	3.10	8,518.61	7,065.05	947.43	7,127.72	0.00	0.00	0.00
15,100.00	90.19	3.10	8,518.28	7,164.91	952.84	7,227.50	0.00	0.00	0.00
15,200.00	90.19	3.10	8,517.94	7,264.76	958.25	7,327.28	0.00	0.00	0.00
15,300.00	90.19	3.10	8,517.60	7,364.61	963.66	7,427.05	0.00	0.00	0.00
15,400.00	90.19	3.10	8,517.26	7,464.46	969.06	7,526.83	0.00	0.00	0.00
15,500.00	90.19	3.10	8,516.92	7,564.32	974.47	7,626.61	0.00	0.00	0.00
15,600.00	90.19	3.10	8,516.58	7,664.17	979.88	7,726.39	0.00	0.00	0.00
15,700.00	90.19	3.10	8,516.25	7,764.02	985.29	7,826.17	0.00	0.00	0.00
15,800.00	90.19	3.10	8,515.91	7,863.88	990.70	7,925.95	0.00	0.00	0.00
15,900.00	90.19	3.10	8,515.57	7,963.73	996.11	8,025.73	0.00	0.00	0.00
16,000.00	90.19	3.10	8,515.23	8,063.58	1,001.52	8,125.50	0.00	0.00	0.00
16,100.00	90.19	3.10	8,514.89	8,163.44	1,006.92	8,225.28	0.00	0.00	0.00
16,200.00	90.19	3.10	8,514.55	8,263.29	1,012.33	8,325.06	0.00	0.00	0.00
16,233.76	90.19	3.10	8,514.44	8,297.00	1,014.16	8,358.75	0.00	0.00	0.00
Bubbles 2215 Federal #4H LTP									
16,300.00	90.19	3.10	8,514.22	8,363.14	1,017.74	8,424.84	0.00	0.00	0.00
16,363.95	90.19	3.10	8,514.00	8,427.00	1,021.20	8,488.65	0.00	0.00	0.00
ST01 TD @ 16363.95' MD - Bubbles 2215 Federal #4H PBHL									



Planning Report



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 Well: Bubbles 2215 Federal #4H
 Wellbore: ST01
 Design: ST01 plan3

Local Co-ordinate Reference: Well Bubbles 2215 Federal #4H
 TVD Reference: GL 3314' + 25' KB @ 3339.00usft (Rig TBD)
 MD Reference: GL 3314' + 25' KB @ 3339.00usft (Rig TBD)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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
Bubbles 2215 Federal - plan hits target center - Point	0.00	0.00	8,514.00	8,427.00	1,021.20	606,558.60	617,338.60	32° 40' 1.023 N	103° 57' 7.310 W
Bubbles 2215 Federal - plan misses target center by 0.44usft at 16233.76usft MD (8514.44 TVD, 8297.00 N, 1014.16 E) - Point	0.00	0.01	8,514.00	8,297.00	1,014.20	606,428.60	617,331.60	32° 39' 59.737 N	103° 57' 7.398 W
Bubbles 2215 Federal - plan misses target center by 1.01usft at 8966.57usft MD (8539.00 TVD, 1040.48 N, 621.10 E) - Point	0.00	0.00	8,539.00	1,040.40	622.10	599,172.00	616,939.50	32° 38' 47.943 N	103° 57' 12.288 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
249.00	249.00	Rustler			
504.00	504.00	Top Salt			
1,504.00	1,504.00	Base Salt			
1,689.00	1,689.00	Yates			
2,319.00	2,319.00	Capitan			
4,014.00	4,014.00	Delaware			
4,614.08	4,614.00	Brushy Canyon			
6,155.80	6,135.00	Bone Spring			
6,273.59	6,251.00	Avalon Sand			
7,634.26	7,591.00	First Bone Spring Sand			
7,808.92	7,763.00	Second Bone Spring Limestone			
8,501.41	8,378.00	Second Bone Spring Sand			
8,734.94	8,497.00	Second Bone Spring 'B' Sand			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,003.44	7,954.57	439.06	368.41	Tie-In ST01 - Start Build 8.00
8,378.44	8,290.57	559.08	469.12	Start DLS 10.00 TFO -44.32
8,970.84	8,539.00	1,044.76	621.34	Start 7393.11 hold at 8970.84 MD
16,363.95	8,514.00	8,427.00	1,021.20	ST01 TD @ 16363.95' MD



NM OIL CONSERVATION
ARTESIA DISTRICT
NOV 28 2018

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XTO Energy

**Eddy County, NM
Bubbles 2215 Federal
Bubbles 2215 Federal #4H**

Pilot Hole

Plan: Pilot plan3

Standard Planning Report

16 November, 2018





Planning Report



Database: EDM 5000.14 Single User Db
Company: XTO Energy
Project: Eddy County, NM
Site: Bubbles 2215 Federal
Well: Bubbles 2215 Federal #4H
Wellbore: Pilot Hole
Design: Pilot plan3

Local Co-ordinate Reference: Well Bubbles 2215 Federal #4H
TVD Reference: GL 3314' + 25' KB @ 3339.00usft (Rig TBD)
MD Reference: GL 3314' + 25' KB @ 3339.00usft (Rig TBD)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Eddy County, NM		
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	Bubbles 2215 Federal		
Site Position:		Northing:	598,106.00 usft
From:	Map	Easting:	616,169.60 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 38' 37.422 N
		Longitude:	103° 57' 21.337 W
		Grid Convergence:	0.20 °

Well	Bubbles 2215 Federal #4H		
Well Position	+N/-S	25.60 usft	Northing: 598,131.60 usft
	+E/-W	147.80 usft	Easting: 616,317.40 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	Latitude: 32° 38' 37.670 N
			Longitude: 103° 57' 19.607 W
			Ground Level: 3,314.00 usft

Wellbore	Pilot Hole		
Magnetics	Model Name	Sample Date	Declination
	HDGM	11/16/18	(°)
			7.37
			Dip Angle
			(°)
			60.48
			Field Strength
			(nT)
			48,175.10000000

Design	Pilot plan3		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(°)
			6.91

Plan Survey Tool Program	Date 11/16/18		
Depth From	Depth To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
1	0.00	Pilot plan3 (Pilot Hole)	MWD
			MWD - Standard

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(usft)	(usft)	Rate	Rate	Rate	(°)	
(usft)			(usft)			(°/100usft)	(°/100usft)	(°/100usft)		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,453.44	0.00	0.00	4,453.44	0.00	0.00	0.00	0.00	0.00	0.00	
4,953.44	10.00	40.00	4,950.91	33.34	27.98	2.00	2.00	0.00	40.00	
8,003.44	10.00	40.00	7,954.57	439.06	368.41	0.00	0.00	0.00	0.00	
8,128.44	0.00	0.00	8,078.94	447.39	375.41	8.00	-8.00	0.00	180.00	
9,788.50	0.00	0.00	9,739.00	447.39	375.41	0.00	0.00	0.00	0.00	



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North Reference: Grid
Survey Calculation Method: Minimum Curvature

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
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
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
4,200.00	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
4,453.44	0.00	0.00	4,453.44	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
4,500.00	0.93	40.00	4,500.00	0.29	0.24	0.32	2.00	2.00	0.00
4,600.00	2.93	40.00	4,599.94	2.87	2.41	3.14	2.00	2.00	0.00
4,700.00	4.93	40.00	4,699.70	8.12	6.82	8.88	2.00	2.00	0.00
4,800.00	6.93	40.00	4,799.16	16.04	13.46	17.54	2.00	2.00	0.00
4,900.00	8.93	40.00	4,898.19	26.61	22.33	29.10	2.00	2.00	0.00
4,953.44	10.00	40.00	4,950.91	33.34	27.98	36.46	2.00	2.00	0.00



Planning Report



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Survey Calculation Method: Minimum Curvature

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)
Start 3050.00 hold at 4953.44 MD									
5,000.00	10.00	40.00	4,996.76	39.53	33.17	43.24	0.00	0.00	0.00
5,100.00	10.00	40.00	5,095.24	52.84	44.33	57.79	0.00	0.00	0.00
5,200.00	10.00	40.00	5,193.72	66.14	55.50	72.33	0.00	0.00	0.00
5,300.00	10.00	40.00	5,292.20	79.44	66.66	86.88	0.00	0.00	0.00
5,400.00	10.00	40.00	5,390.68	92.74	77.82	101.43	0.00	0.00	0.00
5,500.00	10.00	40.00	5,489.16	106.04	88.98	115.98	0.00	0.00	0.00
5,600.00	10.00	40.00	5,587.64	119.35	100.14	130.53	0.00	0.00	0.00
5,700.00	10.00	40.00	5,686.12	132.65	111.31	145.08	0.00	0.00	0.00
5,800.00	10.00	40.00	5,784.60	145.95	122.47	159.62	0.00	0.00	0.00
5,900.00	10.00	40.00	5,883.09	159.25	133.63	174.17	0.00	0.00	0.00
6,000.00	10.00	40.00	5,981.57	172.56	144.79	188.72	0.00	0.00	0.00
6,100.00	10.00	40.00	6,080.05	185.86	155.95	203.27	0.00	0.00	0.00
6,200.00	10.00	40.00	6,178.53	199.16	167.12	217.82	0.00	0.00	0.00
6,300.00	10.00	40.00	6,277.01	212.46	178.28	232.37	0.00	0.00	0.00
6,400.00	10.00	40.00	6,375.49	225.76	189.44	246.92	0.00	0.00	0.00
6,500.00	10.00	40.00	6,473.97	239.07	200.60	261.46	0.00	0.00	0.00
6,600.00	10.00	40.00	6,572.45	252.37	211.76	276.01	0.00	0.00	0.00
6,700.00	10.00	40.00	6,670.93	265.67	222.92	290.56	0.00	0.00	0.00
6,800.00	10.00	40.00	6,769.41	278.97	234.09	305.11	0.00	0.00	0.00
6,900.00	10.00	40.00	6,867.89	292.28	245.25	319.66	0.00	0.00	0.00
7,000.00	10.00	40.00	6,966.37	305.58	256.41	334.21	0.00	0.00	0.00
7,100.00	10.00	40.00	7,064.85	318.88	267.57	348.75	0.00	0.00	0.00
7,200.00	10.00	40.00	7,163.34	332.18	278.73	363.30	0.00	0.00	0.00
7,300.00	10.00	40.00	7,261.82	345.48	289.90	377.85	0.00	0.00	0.00
7,400.00	10.00	40.00	7,360.30	358.79	301.06	392.40	0.00	0.00	0.00
7,500.00	10.00	40.00	7,458.78	372.09	312.22	406.95	0.00	0.00	0.00
7,600.00	10.00	40.00	7,557.26	385.39	323.38	421.50	0.00	0.00	0.00
7,700.00	10.00	40.00	7,655.74	398.69	334.54	436.04	0.00	0.00	0.00
7,800.00	10.00	40.00	7,754.22	412.00	345.71	450.59	0.00	0.00	0.00
7,900.00	10.00	40.00	7,852.70	425.30	356.87	465.14	0.00	0.00	0.00
8,000.00	10.00	40.00	7,951.18	438.60	368.03	479.69	0.00	0.00	0.00
8,003.44	10.00	40.00	7,954.57	439.06	368.41	480.19	0.00	0.00	0.00
Start Drop -8.00									
8,100.00	2.28	40.00	8,050.50	446.96	375.04	488.83	8.00	-8.00	0.00
8,128.44	0.00	0.00	8,078.94	447.39	375.41	489.31	8.00	-8.00	0.00
Start 1660.06 hold at 8128.44 MD									
8,200.00	0.00	0.00	8,150.50	447.39	375.41	489.31	0.00	0.00	0.00
8,300.00	0.00	0.00	8,250.50	447.39	375.41	489.31	0.00	0.00	0.00
8,400.00	0.00	0.00	8,350.50	447.39	375.41	489.31	0.00	0.00	0.00
8,500.00	0.00	0.00	8,450.50	447.39	375.41	489.31	0.00	0.00	0.00
8,600.00	0.00	0.00	8,550.50	447.39	375.41	489.31	0.00	0.00	0.00
8,700.00	0.00	0.00	8,650.50	447.39	375.41	489.31	0.00	0.00	0.00
8,800.00	0.00	0.00	8,750.50	447.39	375.41	489.31	0.00	0.00	0.00
8,900.00	0.00	0.00	8,850.50	447.39	375.41	489.31	0.00	0.00	0.00
9,000.00	0.00	0.00	8,950.50	447.39	375.41	489.31	0.00	0.00	0.00
9,100.00	0.00	0.00	9,050.50	447.39	375.41	489.31	0.00	0.00	0.00
9,200.00	0.00	0.00	9,150.50	447.39	375.41	489.31	0.00	0.00	0.00
9,300.00	0.00	0.00	9,250.50	447.39	375.41	489.31	0.00	0.00	0.00
9,400.00	0.00	0.00	9,350.50	447.39	375.41	489.31	0.00	0.00	0.00
9,500.00	0.00	0.00	9,450.50	447.39	375.41	489.31	0.00	0.00	0.00
9,600.00	0.00	0.00	9,550.50	447.39	375.41	489.31	0.00	0.00	0.00
9,700.00	0.00	0.00	9,650.50	447.39	375.41	489.31	0.00	0.00	0.00



Planning Report



Database: EDM 5000.14 Single User Db
Company: XTO Energy
Project: Eddy County, NM
Site: Bubbles 2215 Federal
Well: Bubbles 2215 Federal #4H
Wellbore: Pilot Hole
Design: Pilot plan3

Local Co-ordinate Reference: Well Bubbles 2215 Federal #4H
TVD Reference: GL 3314' + 25' KB @ 3339.00usft (Rig TBD)
MD Reference: GL 3314' + 25' KB @ 3339.00usft (Rig TBD)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
9,788.50	0.00	0.00	9,739.00	447.39	375.41	489.31	0.00	0.00	0.00

Pilot TD @ 9788.50' MD

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
249.00	249.00	Rustler			
504.00	504.00	Top Salt			
1,504.00	1,504.00	Base Salt			
1,689.00	1,689.00	Yates			
2,319.00	2,319.00	Capitan			
4,014.00	4,014.00	Delaware			
4,614.08	4,614.00	Brushy Canyon			
6,155.80	6,135.00	Bone Spring			
6,273.59	6,251.00	Avalon Sand			
7,634.26	7,591.00	First Bone Spring Sand			
7,808.92	7,763.00	Second Bone Spring Limestone			
8,427.50	8,378.00	Second Bone Spring Sand			
8,546.50	8,497.00	Second Bone Spring 'B' Sand			
8,776.50	8,727.00	Third Bone Spring Limestone			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,453.44	4,453.44	0.00	0.00	Start Build 2.00
4,953.44	4,950.91	33.34	27.98	Start 3050.00 hold at 4953.44 MD
8,003.44	7,954.57	439.06	368.41	Start Drop -8.00
8,128.44	8,078.94	447.39	375.41	Start 1660.06 hold at 8128.44 MD
9,788.50	9,739.00	447.39	375.41	Pilot TD @ 9788.50' MD



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

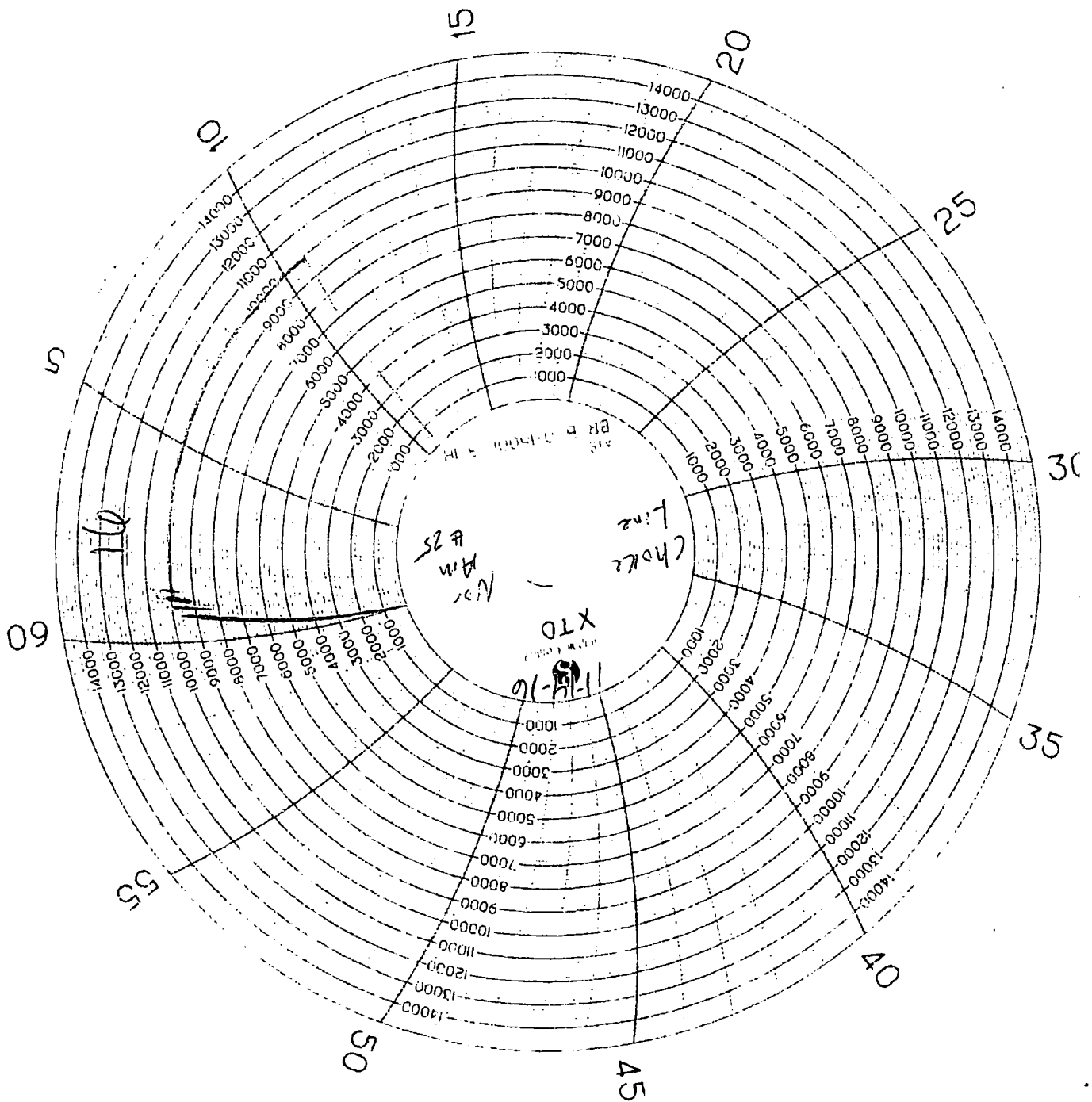
PHONE: 361-887-9807
FAX: 361-887-0812
EMAIL: crpe&s@gates.com
WEB: www.gates.com

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:	NORMA
Product Description:	FD3.0+2.0R41/16.5KFLGE;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

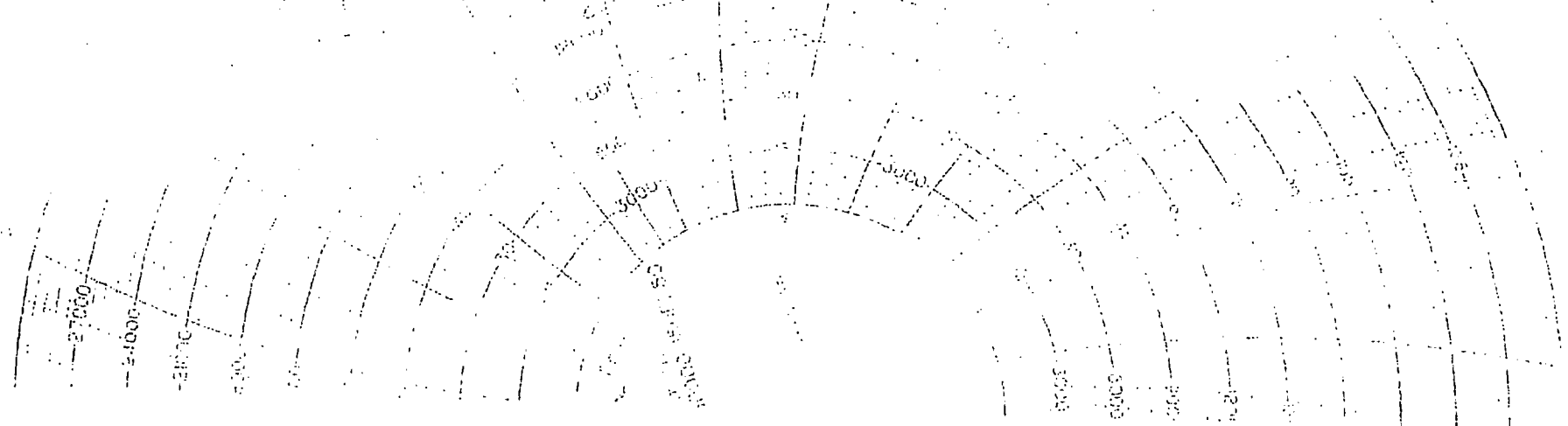
Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 7,500 psi in accordance 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 :	



MOON

HOSE I.D. 2 1/2 IN. LENGTH 42 ft END 1 4 1/2" S&P END 2 4 1/2" S&P
GRADE D WORKING PRESSURE 5,000 P.S.I.
TEST PRESSURE 7,500 P.S.I. ASSEMBLY DATE 6-14
TEST DATE 6-8-14 SERIAL 6330900115130-060814-1000
NAME D-74 CH 28073



PECOS DISTRICT DRILLING OPERATIONS CONDITIONS OF APPROVAL

NM OIL CONSERVATION

ARTESIA DISTRICT

NOV 28 2018

RECEIVED

OPERATOR'S NAME:	XTO ENERGY INC.
LEASE NO.:	NMNM06764
WELL NAME & NO.:	4H – BUBBLE 22 15 FEDERAL
SURFACE HOLE FOOTAGE:	1970'S & 1305'E
BOTTOM HOLE FOOTAGE	200'/N & 400'/E; 15
LOCATION:	Section 22 T.19 S., R.30 E., NMPM
COUNTY:	Eddy County, New Mexico

Potash	☐ None	☐ Secretary	☒ R-111-P
Cave/Karst Potential	☐ Low	☐ Medium	☒ High
Variance	☐ None	☒ Flex Hose	☐ Other
Wellhead	☐ Conventional	☒ Multibowl	
Other	☒ 4 String Area	☒ Capitan Reef	☐ WIPP

All previous COAs still apply, except for the following:

A. CASING

- The minimum required fill of cement behind the 13 3/8 inch first intermediate casing, which shall be set at 1650 feet, 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 cave/karst or potash.

- ❖ In **High Cave/Karst Areas** if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

Pilot hole is required to have a plug from 9739' – 9250'. This plug needs to be tagged. BLM is to be contacted (575-361-2822) prior to tag of bottom plug. Operator can set one plug from bottom of pilot hole to kick-off point and save the WOC time for tagging the first plug. Note plug tops on subsequent drilling report.

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

- Cement should tie-back should tie-back at least **50 feet above the Top of Capitan Reef**. Operator shall provide method of verification.

MHH 11262018

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)

☒ Chaves and Roosevelt Counties

Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.

During office hours call (575) 627-0272.

After office hours call (575)

☒ Eddy County

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

☒ Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)
393-3612

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 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 24 hours. WOC time will be recorded in the driller's log.
3. 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.

4. 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.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. 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.
7. 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.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.