

Project: Lea County, NM (NAD27)
 Site: Severus 31 Federal Com
 Well: 4H
 Wellbore: OH
 Design: Plan 1 07-14-15
 Rig: Noram 25

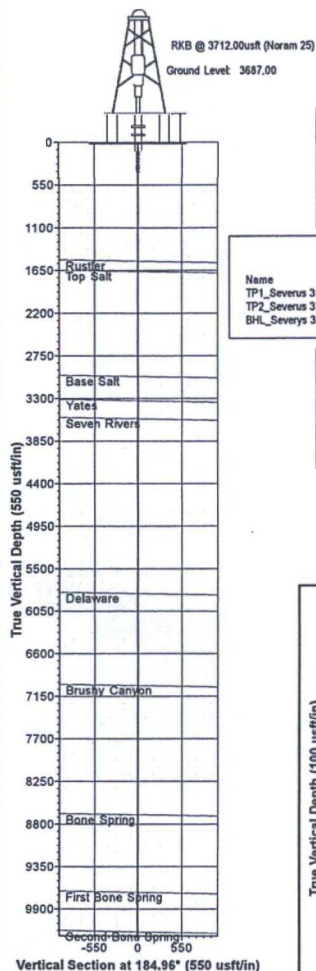


PHOENIX
 TECHNOLOGY SERVICES



Azimuths to Grid North
 True North: -0.39°
 Magnetic North: 6.62°

Magnetic Field
 Strength: 48527.6nT
 Dip Angle: 60.55°
 Date: 7/14/2015
 Model: HDGM



WELL DETAILS						
+N-S	+E-W	Northing	Ground Level	Latitude	Longitude	
0.00	0.00	559984.40	3687.00	32° 32' 14.62248 N	103° 36' 17.20918 W	

SECTION DETAILS													
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSec	Target	Annotation		
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
2	10890.13	0.00	0.00	10890.13	0.00	0.00	0.00	0.00	0.00		KOP, Begin 10°/100' Build		
3	11580.23	89.01	184.96	11283.00	-560.95	-48.65	10.00	184.96	563.06		LP Hold 89.01° Inc		
4	16365.38	89.01	184.96	11345.68	-5327.50	-462.00	0.00	0.00	5347.49		BHL Severus 31 Fed Com 4H		TD at 16365.38' MD

DESIGN TARGET DETAILS										
Name	TVD	+N-S	+E-W	Northing	Eastings	Latitude	Longitude	Shape		
TP1 Severus 31 Fed Com 4H	11283.16	-570.30	-49.50	559414.10	724473.50	32° 32' 8.98266 N	103° 36' 17.83293 W	Point		
TP2 Severus 31 Fed Com 4H	11343.42	-5197.40	-450.70	554787.00	724072.30	32° 31' 23.22417 N	103° 36' 22.88796 W	Point		
BHL Severus 31 Fed Com 4H	11345.68	-5327.50	-462.00	554656.90	724061.00	32° 31' 21.93758 N	103° 36' 23.03029 W	Rectangle (Sides: L4785.15 W100.00)		

CASING DETAILS

No casing data is available

LEGEND

— Plan 1 07-14-15

FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDr
1528.00	1528.00	Rustler	0.99	184.96
1661.00	1661.00	Top Salt	0.99	184.96
3015.00	3015.00	Base Salt	0.99	184.96
3326.00	3326.00	Yates	0.99	184.96
3561.00	3561.00	Seven Rivers	0.99	184.96
5819.00	5819.00	Delaware	0.99	184.96
7009.00	7009.00	Brushy Canyon	0.99	184.96
8679.00	8679.00	Bone Spring	0.99	184.96
9682.00	9682.00	First Bone Spring	0.99	184.96
10193.00	10193.00	Second Bone Spring	0.99	184.96
10641.00	10641.00	Base Second Bone Spring Sand	0.99	184.96

Map System: US State Plane 1927 (Exact solution)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone Name: New Mexico East 3001

Local Origin: Well 4H, Grid North

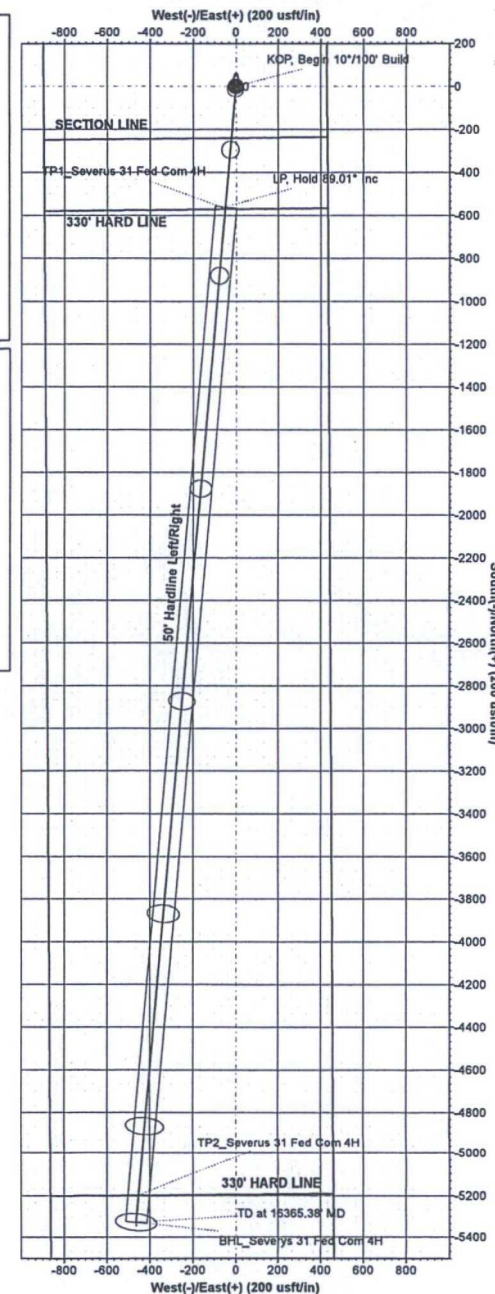
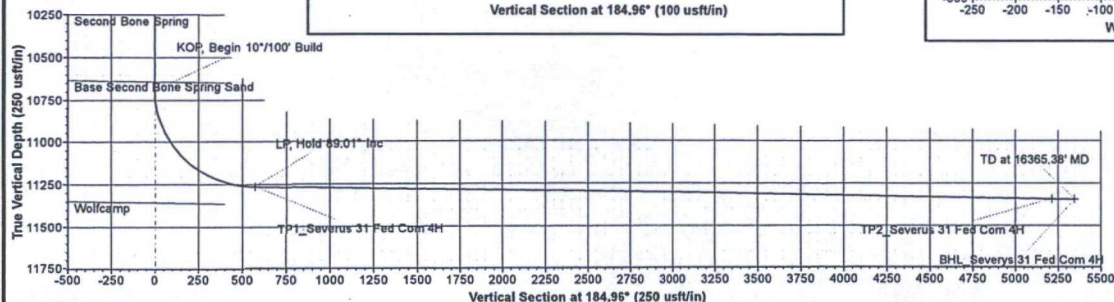
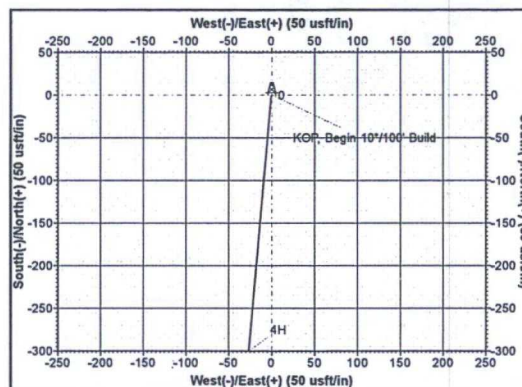
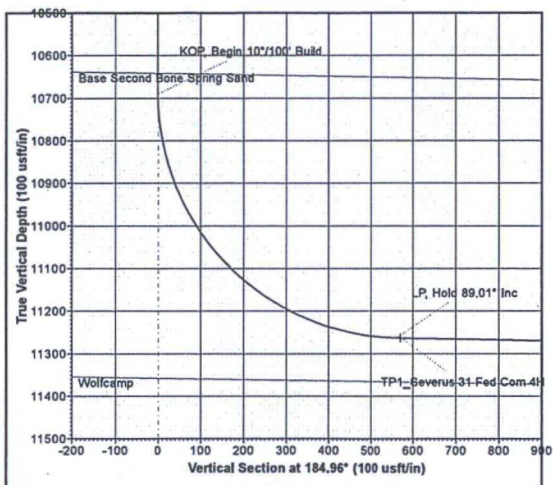
Latitude: 32° 32' 14.62248 N
 Longitude: 103° 36' 17.20918 W

Grid East: 724523.00
 Grid North: 559984.40
 Scale Factor: 1.000

Geomagnetic Model: HDGM
 Sample Date: 14-Jul-15

Magnetic Declination: 7.02°
 Dip Angle from Horizontal: 60.55°
 Magnetic Field Strength: 48528

To convert a Magnetic Direction to a Grid Direction, Add 6.62°
 To convert a Magnetic Direction to a True Direction, Add 7.02° East
 To convert a True Direction to a Grid Direction, Subtract 0.39°



XTOENERGY

XTO Energy Inc

Lea County, NM (NAD27)

Severus 31 Federal Com

4H

OH

Plan: Plan 1 07-14-15

Standard Planning Report

14 July, 2015

Database: Compass 5000 GCR
Company: XTO Energy Inc
Project: Lea County, NM (NAD27)
Site: Severus 31 Federal Com
Well: 4H
Wellbore: OH
Design: Plan 1 07-14-15

Local Co-ordinate Reference: Well 4H
TVD Reference: RKB @ 3712.00usft (Noram 25)
MD Reference: RKB @ 3712.00usft (Noram 25)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Lea County, NM (NAD27)		
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	Severus 31 Federal Com				
Site Position:		Northing:	559,895.80 usft	Latitude:	32° 32' 13.59493 N
From:	Map	Easting:	726,740.90 usft	Longitude:	103° 35' 51.30951 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.40 °

Well	4H					
Well Position	+N/-S	88.60 usft	Northing:	559,984.40 usft	Latitude:	32° 32' 14.62248 N
	+E/-W	-2,217.90 usft	Easting:	724,523.00 usft	Longitude:	103° 36' 17.20918 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,687.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	7/14/2015	7.02	60.55	48,528

Design	Plan 1 07-14-15			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	184.96

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	
10,690.13	0.00	0.00	10,690.13	0.00	0.00	0.00	0.00	0.00	0.00	
11,580.23	89.01	184.96	11,263.00	-560.95	-48.65	10.00	10.00	0.00	184.96	
16,365.38	89.01	184.96	11,345.68	-5,327.50	-462.00	0.00	0.00	0.00	0.00	BHL_Severys 31 Fed

Database: Compass 5000 GCR
Company: XTO Energy Inc
Project: Lea County, NM (NAD27)
Site: Severus 31 Federal Com
Well: 4H
Wellbore: OH
Design: Plan 1 07-14-15

Local Co-ordinate Reference: Well 4H
TVD Reference: RKB @ 3712.00usft (Noram 25)
MD Reference: RKB @ 3712.00usft (Noram 25)
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
1,528.00	0.00	0.00	1,528.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
1,661.00	0.00	0.00	1,661.00	0.00	0.00	0.00	0.00	0.00	0.00
Top Salt									
3,015.00	0.00	0.00	3,015.00	0.00	0.00	0.00	0.00	0.00	0.00
Base Salt									
3,326.00	0.00	0.00	3,326.00	0.00	0.00	0.00	0.00	0.00	0.00
Yates									
3,561.00	0.00	0.00	3,561.00	0.00	0.00	0.00	0.00	0.00	0.00
Seven Rivers									
5,819.00	0.00	0.00	5,819.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware									
7,009.00	0.00	0.00	7,009.00	0.00	0.00	0.00	0.00	0.00	0.00
Brushy Canyon									
8,679.00	0.00	0.00	8,679.00	0.00	0.00	0.00	0.00	0.00	0.00
Bone Spring									
9,682.00	0.00	0.00	9,682.00	0.00	0.00	0.00	0.00	0.00	0.00
First Bone Spring									
10,193.00	0.00	0.00	10,193.00	0.00	0.00	0.00	0.00	0.00	0.00
Second Bone Spring									
10,641.00	0.00	0.00	10,641.00	0.00	0.00	0.00	0.00	0.00	0.00
Base Second Bone Spring Sand									
10,690.13	0.00	0.00	10,690.13	0.00	0.00	0.00	0.00	0.00	0.00
KOP, Begin 10°/100' Build									
10,700.00	0.99	184.96	10,700.00	-0.08	-0.01	0.09	10.00	10.00	0.00
10,800.00	10.99	184.96	10,799.33	-10.46	-0.91	10.50	10.00	10.00	0.00
10,900.00	20.99	184.96	10,895.34	-37.87	-3.28	38.01	10.00	10.00	0.00
11,000.00	30.99	184.96	10,985.11	-81.46	-7.06	81.77	10.00	10.00	0.00
11,100.00	40.99	184.96	11,065.93	-139.93	-12.13	140.46	10.00	10.00	0.00
11,200.00	50.99	184.96	11,135.32	-211.49	-18.34	212.28	10.00	10.00	0.00
11,300.00	60.99	184.96	11,191.19	-293.97	-25.49	295.07	10.00	10.00	0.00
11,400.00	70.99	184.96	11,231.83	-384.85	-33.37	386.30	10.00	10.00	0.00
11,500.00	80.99	184.96	11,256.01	-481.39	-41.75	483.20	10.00	10.00	0.00
11,580.23	89.01	184.96	11,263.00	-560.95	-48.65	563.06	10.00	10.00	0.00
LP, Hold 89.01° Inc									
11,600.00	89.01	184.96	11,263.34	-580.65	-50.35	582.82	0.00	0.00	0.00
11,700.00	89.01	184.96	11,265.07	-680.26	-58.99	682.81	0.00	0.00	0.00
11,800.00	89.01	184.96	11,266.80	-779.87	-67.63	782.80	0.00	0.00	0.00
11,900.00	89.01	184.96	11,268.53	-879.48	-76.27	882.78	0.00	0.00	0.00
12,000.00	89.01	184.96	11,270.26	-979.09	-84.91	982.77	0.00	0.00	0.00
12,100.00	89.01	184.96	11,271.98	-1,078.70	-93.54	1,082.75	0.00	0.00	0.00
12,200.00	89.01	184.96	11,273.71	-1,178.31	-102.18	1,182.74	0.00	0.00	0.00
12,300.00	89.01	184.96	11,275.44	-1,277.92	-110.82	1,282.72	0.00	0.00	0.00
12,400.00	89.01	184.96	11,277.17	-1,377.54	-119.46	1,382.71	0.00	0.00	0.00
12,500.00	89.01	184.96	11,278.89	-1,477.15	-128.10	1,482.69	0.00	0.00	0.00
12,600.00	89.01	184.96	11,280.62	-1,576.76	-136.74	1,582.68	0.00	0.00	0.00
12,700.00	89.01	184.96	11,282.35	-1,676.37	-145.37	1,682.66	0.00	0.00	0.00
12,800.00	89.01	184.96	11,284.08	-1,775.98	-154.01	1,782.65	0.00	0.00	0.00
12,900.00	89.01	184.96	11,285.81	-1,875.59	-162.65	1,882.63	0.00	0.00	0.00
13,000.00	89.01	184.96	11,287.53	-1,975.20	-171.29	1,982.62	0.00	0.00	0.00
13,100.00	89.01	184.96	11,289.26	-2,074.81	-179.93	2,082.60	0.00	0.00	0.00
13,200.00	89.01	184.96	11,290.99	-2,174.43	-188.57	2,182.59	0.00	0.00	0.00

Database:	Compass 5000 GCR	Local Co-ordinate Reference:	Well 4H
Company:	XTO Energy Inc	TVD Reference:	RKB @ 3712.00usft (Noram 25)
Project:	Lea County, NM (NAD27)	MD Reference:	RKB @ 3712.00usft (Noram 25)
Site:	Severus 31 Federal Com	North Reference:	Grid
Well:	4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 07-14-15		

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)
13,300.00	89.01	184.96	11,292.72	-2,274.04	-197.20	2,282.57	0.00	0.00	0.00
13,400.00	89.01	184.96	11,294.44	-2,373.65	-205.84	2,382.56	0.00	0.00	0.00
13,500.00	89.01	184.96	11,296.17	-2,473.26	-214.48	2,482.54	0.00	0.00	0.00
13,600.00	89.01	184.96	11,297.90	-2,572.87	-223.12	2,582.53	0.00	0.00	0.00
13,700.00	89.01	184.96	11,299.63	-2,672.48	-231.76	2,682.51	0.00	0.00	0.00
13,800.00	89.01	184.96	11,301.36	-2,772.09	-240.40	2,782.50	0.00	0.00	0.00
13,900.00	89.01	184.96	11,303.08	-2,871.70	-249.03	2,882.48	0.00	0.00	0.00
14,000.00	89.01	184.96	11,304.81	-2,971.32	-257.67	2,982.47	0.00	0.00	0.00
14,100.00	89.01	184.96	11,306.54	-3,070.93	-266.31	3,082.45	0.00	0.00	0.00
14,200.00	89.01	184.96	11,308.27	-3,170.54	-274.95	3,182.44	0.00	0.00	0.00
14,300.00	89.01	184.96	11,309.99	-3,270.15	-283.59	3,282.42	0.00	0.00	0.00
14,400.00	89.01	184.96	11,311.72	-3,369.76	-292.23	3,382.41	0.00	0.00	0.00
14,500.00	89.01	184.96	11,313.45	-3,469.37	-300.86	3,482.39	0.00	0.00	0.00
14,600.00	89.01	184.96	11,315.18	-3,568.98	-309.50	3,582.38	0.00	0.00	0.00
14,700.00	89.01	184.96	11,316.91	-3,668.59	-318.14	3,682.36	0.00	0.00	0.00
14,800.00	89.01	184.96	11,318.63	-3,768.20	-326.78	3,782.35	0.00	0.00	0.00
14,900.00	89.01	184.96	11,320.36	-3,867.82	-335.42	3,882.33	0.00	0.00	0.00
15,000.00	89.01	184.96	11,322.09	-3,967.43	-344.05	3,982.32	0.00	0.00	0.00
15,100.00	89.01	184.96	11,323.82	-4,067.04	-352.69	4,082.30	0.00	0.00	0.00
15,200.00	89.01	184.96	11,325.54	-4,166.65	-361.33	4,182.29	0.00	0.00	0.00
15,300.00	89.01	184.96	11,327.27	-4,266.26	-369.97	4,282.27	0.00	0.00	0.00
15,400.00	89.01	184.96	11,329.00	-4,365.87	-378.61	4,382.26	0.00	0.00	0.00
15,500.00	89.01	184.96	11,330.73	-4,465.48	-387.25	4,482.24	0.00	0.00	0.00
15,600.00	89.01	184.96	11,332.46	-4,565.09	-395.88	4,582.23	0.00	0.00	0.00
15,700.00	89.01	184.96	11,334.18	-4,664.71	-404.52	4,682.21	0.00	0.00	0.00
15,800.00	89.01	184.96	11,335.91	-4,764.32	-413.16	4,782.20	0.00	0.00	0.00
15,900.00	89.01	184.96	11,337.64	-4,863.93	-421.80	4,882.18	0.00	0.00	0.00
16,000.00	89.01	184.96	11,339.37	-4,963.54	-430.44	4,982.17	0.00	0.00	0.00
16,100.00	89.01	184.96	11,341.10	-5,063.15	-439.08	5,082.15	0.00	0.00	0.00
16,200.00	89.01	184.96	11,342.82	-5,162.76	-447.71	5,182.14	0.00	0.00	0.00
16,300.00	89.01	184.96	11,344.55	-5,262.37	-456.35	5,282.12	0.00	0.00	0.00
16,365.38	89.01	184.96	11,345.68	-5,327.50	-462.00	5,347.49	0.00	0.00	0.00

TD at 16365.38' MD

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
TP1_Severus 31 Fed Cc	0.00	0.00	11,263.16	-570.30	-49.50	559,414.10	724,473.50	32° 32' 8.98266 N	103° 36' 17.83293 W
- hit/miss target									
- plan misses target center by 0.04usft at 11589.62usft MD (11263.16 TVD, -570.30 N, -49.46 E)									
- Point									
TP2_Severus 31 Fed Cc	0.00	0.00	11,343.42	-5,197.40	-450.70	554,787.00	724,072.30	32° 31' 23.22417 N	103° 36' 22.88796 W
- plan misses target center by 0.02usft at 16234.77usft MD (11343.42 TVD, -5197.40 N, -450.72 E)									
- Point									
BHL_Severys 31 Fed Cc	0.99	184.96	11,345.68	-5,327.50	-462.00	554,656.90	724,061.00	32° 31' 21.93758 N	103° 36' 23.03029 W
- plan hits target center									
- Rectangle (sides W100.00 H4,785.15 D0.00)									

Database: Compass 5000 GCR
Company: XTO Energy Inc
Project: Lea County, NM (NAD27)
Site: Severus 31 Federal Com
Well: 4H
Wellbore: OH
Design: Plan 1 07-14-15

Local Co-ordinate Reference: Well 4H
TVD Reference: RKB @ 3712.00usft (Noram 25)
MD Reference: RKB @ 3712.00usft (Noram 25)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,528.00	1,528.00	Rustler		0.99	184.96
1,661.00	1,661.00	Top Salt		0.99	184.96
3,015.00	3,015.00	Base Salt		0.99	184.96
3,326.00	3,326.00	Yates		0.99	184.96
3,561.00	3,561.00	Seven Rivers		0.99	184.96
5,819.00	5,819.00	Delaware		0.99	184.96
7,009.00	7,009.00	Brushy Canyon		0.99	184.96
8,679.00	8,679.00	Bone Spring		0.99	184.96
9,682.00	9,682.00	First Bone Spring		0.99	184.96
10,193.00	10,193.00	Second Bone Spring		0.99	184.96
10,641.00	10,641.00	Base Second Bone Spring Sand		0.99	184.96

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,690.13	10,690.13	0.00	0.00	KOP, Begin 10"/100' Build
11,580.23	11,263.00	-560.95	-48.65	LP, Hold 89.01° Inc
16,365.38	11,345.68	-5,327.50	-462.00	TD at 16365.38' MD

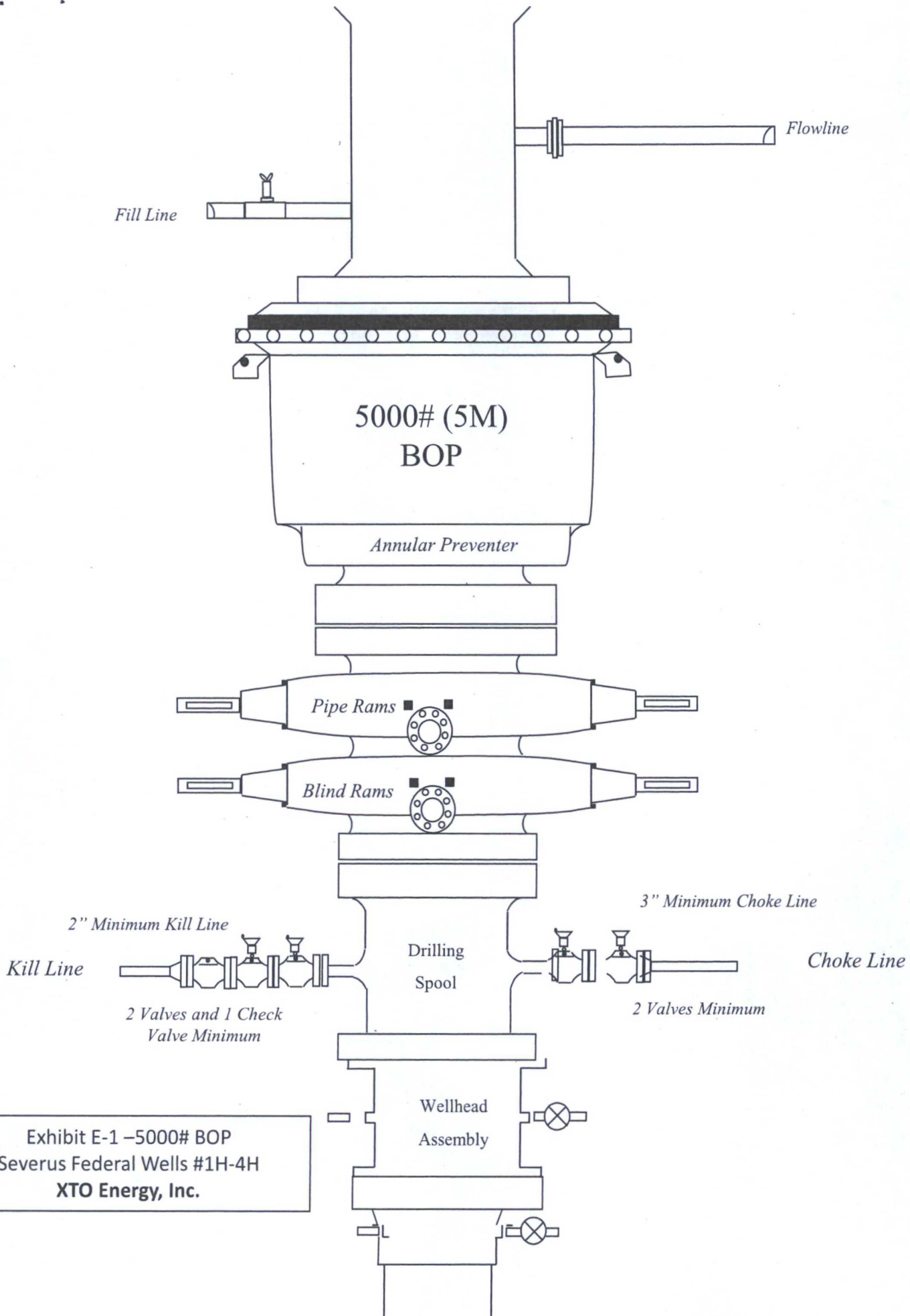


Exhibit E-1 –5000# BOP
Severus Federal Wells #1H-4H
XTO Energy, Inc.