gyrodata

30-025-42577

Final PvA & Surveys

Company: XTO Energy Inc.
Field: Lea County, NM (NAD27)
Location: Sec 24, TWN 19-S, RGE 34-E
Well: Perla Negra Federal Com #4H
Original Wellbore
Plan: Design #3 (Perla Negra Federal Com #4H/Original Wellbore)
WELL @ 3807.0usft (Original Well Elev)
Ground Level: 3780.0

gyrodata
Precision Wellbore Placement

WELL DETAILS: Perla Negra Federal Com #4H

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	596680.40	754599.70	32° 38' 15.549 N	103° 30' 22.562 W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
1	10245.0	0.47	244.58	10243.0	47.0	9.9	0.00	0.00	47.1	Tie-In to Gyro Survey @ 10245'MD
2	10292.0	0.00	0.00	10290.0	46.9	9.7	1.00	180.00	47.0	
3	10346.1	0.00	0.00	10344.1	46.9	9.7	0.00	0.00	47.0	KOP 10.06°/100' @ 10346'MD
4	10582.0	23.73	357.71	10573.3	95.0	7.8	10.06	357.71	95.1	Build and Turn 10.06°/100' @ 10582'MD
5	10582.4	23.73	357.71	10573.7	95.2	7.8	0.00	0.00	95.2	Build and Turn 10.06°/100' @ 10582'MD
6	11252.7	91.15	0.40	10914.0	628.0	4.3	10.06	2.91	628.0	Land Curve 91.15° Inc @ 11252'MD
7	16006.9	91.15	0.40	10818.6	5381.1	37.1	0.00	0.00	5381.2	Well TD @ 16006'MD

PROJECT DETAILS: Lea County, NM (NAD27)

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

Azimuths to Grid North
True North: -0.45°
Magnetic North: 6.72°

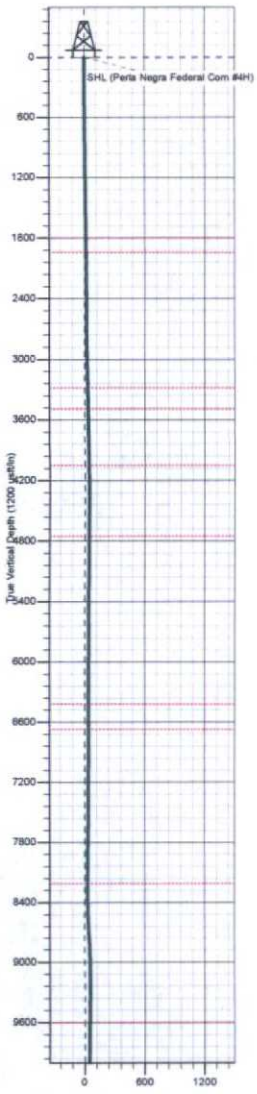
Magnetic Field
Strength: 48395.7nT
Dip Angle: 60.48°
Date: 09/16/2015
Model: IGRF2015

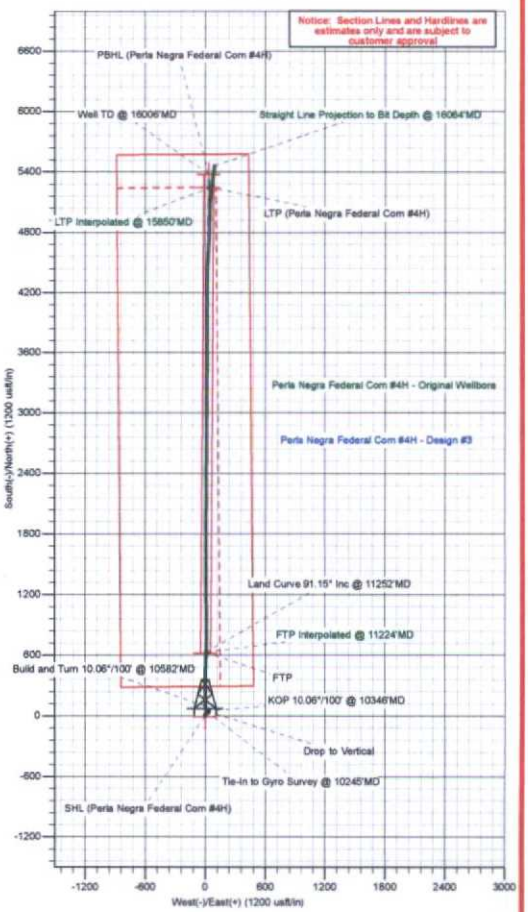
FORMATION TOP DETAILS

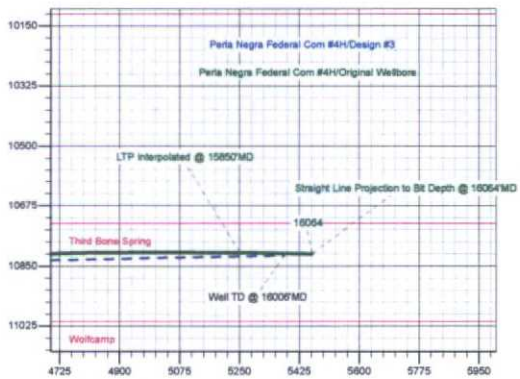
TVDPath	MDPath	Formation
1797.0	1797.1	Rustler
1938.0	1938.1	Top Salt
3277.0	3277.5	Base Salt
3487.0	3487.7	Yates
4047.0	4047.8	Seven Rivers
4747.0	4747.8	Queen
6415.0	6415.8	Delaware
6667.0	6667.8	Brushy Canyon
8207.0	8207.9	Bone Spring
9596.0	9597.8	First Bone Spring
10113.0	10115.0	Second Bone Spring
10724.0	10761.9	Third Bone Spring

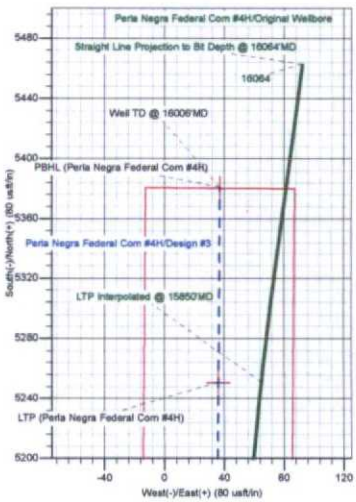
ANNOTATIONS

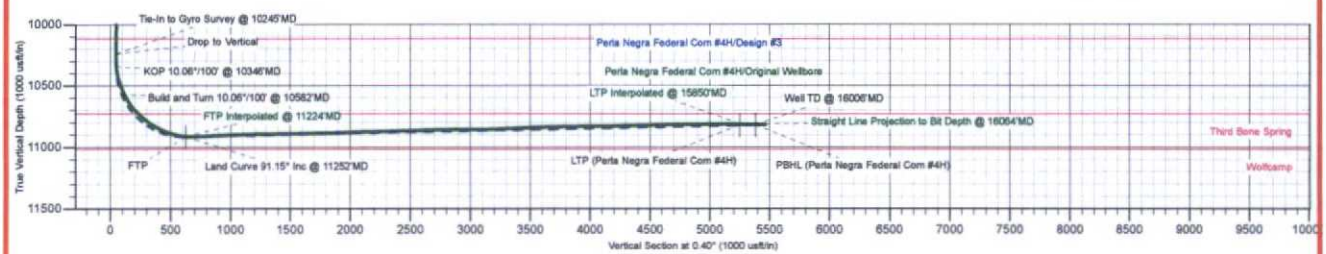
TVD	MD	Annotation
10243.0	10245.0	Tie-In to Gyro Survey @ 10245'MD
10243.0	10245.0	Drop to Vertical
10344.1	10346.1	KOP 10.06°/100' @ 10346'MD
10573.6	10582.4	Build and Turn 10.06°/100' @ 10582'MD
10914.0	11252.7	Land Curve 91.15° Inc @ 11252'MD
10818.6	16006.9	Well TD @ 16006'MD











DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SHL (Perla Negra Federal Com #4H)	0.0	0.0	0.0	596680.40	754599.70	32° 38' 15.549 N	103° 30' 22.562 W	Point
PBHL (Perla Negra Federal Com #4H)	10818.6	5381.1	37.1	602061.50	754636.80	32° 39' 8.791 N	103° 30' 21.638 W	Point
LTP (Perla Negra Federal Com #4H)	10821.2	5251.1	36.2	601931.50	754635.90	32° 39' 7.504 N	103° 30' 21.660 W	Point
FTP	10914.0	628.0	4.3	597308.40	754604.00	32° 38' 21.763 N	103° 30' 22.454 W	Point

Created By: Zach Loftes Date: 13:45, August 12 2015

XTO Energy Inc.

Lea County, NM (NAD27)
Sec 24, TWN 19-S, RGE 34-E
Perla Negra Federal Com #4H

Original Wellbore

Design: Original Wellbore

Standard Survey Report

12 August, 2015

gyrodata
Precision Wellbore Placement

Gyrodata
Survey Report

Company:	XTO Energy Inc.	**Local Co-ordinate Reference:**	Well Perla Negra Federal Com #4H
Project:	Lea County, NM (NAD27)	**TVD Reference:**	WELL @ 3807.0usft (Original Well Elev)
Site:	Sec 24, TWN 19-S, RGE 34-E	**MD Reference:**	WELL @ 3807.0usft (Original Well Elev)
Well:	Perla Negra Federal Com #4H	**North Reference:**	Grid
Wellbore:	Original Wellbore	**Survey Calculation Method:**	Minimum Curvature
Design:	Original Wellbore	**Database:**	EDM 5000.1 Single User Db

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 Sec 24, TWN 19-S, RGE 34-E

Site Position:		**Northing:**	596,680.40 usft	**Latitude:**	32° 38' 15.549 N
From:	Map	**Easting:**	754,599.70 usft	**Longitude:**	103° 30' 22.562 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.45 °

Well Perla Negra Federal Com #4H

Well Position	**+N/-S**	0.0 usft	**Northing:**	596,680.40 usft	**Latitude:**	32° 38' 15.549 N
	+E/-W	0.0 usft	**Easting:**	754,599.70 usft	**Longitude:**	103° 30' 22.562 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	0.0 usft	**Ground Level:**	3,780.0 usft

Wellbore Original Wellbore

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	06/16/15	7.17	60.48	48,396

Design Original Wellbore

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	0.40

Survey Program **Date** 08/12/15

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	10,245.0	Gyro Survey #1 (Original Wellbore)	GYRO-NS-CT	XYZ Accel with XY Static and Continuous Gyro
10,298.0	16,064.0	MWD Survey #1 (Original Wellbore)	MWD	MWD - Standard

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.49	19.85	100.0	0.4	0.1	0.4	0.49	0.49	0.00
200.0	0.50	20.66	200.0	1.2	0.4	1.2	0.01	0.01	0.81
300.0	0.49	20.07	300.0	2.0	0.7	2.0	0.01	-0.01	-0.59
400.0	0.49	16.11	400.0	2.8	1.0	2.8	0.03	0.00	-3.96
500.0	0.50	12.83	500.0	3.7	1.2	3.7	0.03	0.01	-3.28
600.0	0.60	356.46	600.0	4.6	1.3	4.6	0.19	0.10	-16.37
700.0	0.61	340.94	700.0	5.6	1.1	5.7	0.16	0.01	-15.52
800.0	0.50	331.05	800.0	6.5	0.7	6.5	0.15	-0.11	-9.89
900.0	0.42	325.76	900.0	7.2	0.3	7.2	0.09	-0.08	-5.29

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Well:	Perla Negra Federal Com #4H	**North Reference:**	Grid
Wellbore:	Original Wellbore	**Survey Calculation Method:**	Minimum Curvature
Design:	Original Wellbore	**Database:**	EDM 5000.1 Single User Db

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)
1,000.0	0.40	322.08	1,000.0	7.8	-0.1	7.8	0.03	-0.02	-3.68
1,100.0	0.38	321.66	1,100.0	8.3	-0.6	8.3	0.02	-0.02	-0.42
1,200.0	0.32	337.47	1,200.0	8.8	-0.9	8.8	0.11	-0.06	15.81
1,300.0	0.38	337.10	1,300.0	9.4	-1.1	9.4	0.06	0.06	-0.37
1,400.0	0.56	333.74	1,400.0	10.2	-1.5	10.1	0.18	0.18	-3.36
1,500.0	0.84	318.14	1,499.9	11.1	-2.2	11.1	0.34	0.28	-15.60
1,600.0	0.86	318.01	1,599.9	12.2	-3.1	12.2	0.02	0.02	-0.13
1,700.0	0.65	348.68	1,699.9	13.4	-3.8	13.3	0.45	-0.21	30.67
1,800.0	0.62	352.45	1,799.9	14.4	-3.9	14.4	0.05	-0.03	3.77
1,900.0	0.53	5.66	1,899.9	15.4	-4.0	15.4	0.16	-0.09	13.21
2,000.0	0.74	51.01	1,999.9	16.3	-3.4	16.3	0.53	0.21	45.35
2,100.0	0.81	63.13	2,099.9	17.0	-2.3	17.0	0.18	0.07	12.12
2,200.0	0.80	62.92	2,199.9	17.7	-1.0	17.7	0.01	-0.01	-0.21
2,300.0	0.78	64.30	2,299.9	18.3	0.2	18.3	0.03	-0.02	1.38
2,400.0	0.55	59.84	2,399.9	18.8	1.2	18.8	0.24	-0.23	-4.46
2,500.0	0.44	42.81	2,499.9	19.3	1.9	19.4	0.18	-0.11	-17.03
2,600.0	0.40	20.81	2,599.9	20.0	2.3	20.0	0.17	-0.04	-22.00
2,700.0	0.55	7.76	2,699.9	20.8	2.5	20.8	0.18	0.15	-13.05
2,800.0	1.02	26.77	2,799.9	22.0	2.9	22.0	0.53	0.47	19.01
2,900.0	1.94	49.03	2,899.8	23.9	4.6	24.0	1.07	0.92	22.26
3,000.0	2.37	54.42	2,999.8	26.2	7.6	26.3	0.47	0.43	5.39
3,100.0	2.60	55.80	3,099.7	28.7	11.1	28.8	0.24	0.23	1.38
3,200.0	2.65	55.65	3,199.6	31.3	14.9	31.4	0.05	0.05	-0.15
3,300.0	2.62	55.33	3,299.4	33.9	18.7	34.0	0.03	-0.03	-0.32
3,400.0	1.96	54.50	3,399.4	36.2	22.0	36.3	0.66	-0.66	-0.83
3,500.0	1.54	55.14	3,499.3	38.0	24.5	38.1	0.42	-0.42	0.64
3,600.0	1.10	55.46	3,599.3	39.3	26.4	39.5	0.44	-0.44	0.32
3,700.0	0.95	49.49	3,699.3	40.4	27.8	40.5	0.18	-0.15	-5.97
3,800.0	0.96	49.84	3,799.3	41.4	29.1	41.6	0.01	0.01	0.35
3,900.0	0.96	52.25	3,899.2	42.5	30.4	42.7	0.04	0.00	2.41
4,000.0	0.81	51.05	3,999.2	43.4	31.6	43.7	0.15	-0.15	-1.20
4,100.0	0.54	58.15	4,099.2	44.1	32.5	44.4	0.28	-0.27	7.10
4,200.0	0.47	63.10	4,199.2	44.6	33.3	44.8	0.08	-0.07	4.95
4,300.0	0.38	67.21	4,299.2	44.9	34.0	45.1	0.09	-0.09	4.11
4,400.0	0.21	77.52	4,399.2	45.1	34.4	45.3	0.18	-0.17	10.31
4,500.0	0.16	86.03	4,499.2	45.1	34.8	45.3	0.06	-0.05	8.51
4,600.0	0.12	98.79	4,599.2	45.1	35.0	45.3	0.05	-0.04	12.76
4,700.0	0.11	105.63	4,699.2	45.1	35.2	45.3	0.02	-0.01	6.84
4,800.0	0.16	135.52	4,799.2	44.9	35.4	45.2	0.08	0.05	29.89
4,900.0	0.21	146.32	4,899.2	44.7	35.6	44.9	0.06	0.05	10.80
5,000.0	0.20	145.89	4,999.2	44.4	35.8	44.6	0.01	-0.01	-0.43
5,100.0	0.18	164.36	5,099.2	44.1	35.9	44.3	0.06	-0.02	18.47
5,200.0	0.24	184.29	5,199.2	43.7	36.0	44.0	0.09	0.06	19.93

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Site:	Sec 24, TWN 19-S, RGE 34-E	**MD Reference:**	WELL @ 3807.0usft (Original Well Elev)
Well:	Perla Negra Federal Com #4H	**North Reference:**	Grid
Wellbore:	Original Wellbore	**Survey Calculation Method:**	Minimum Curvature
Design:	Original Wellbore	**Database:**	EDM 5000.1 Single User Db

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)
5,300.0	0.25	189.80	5,299.2	43.3	35.9	43.5	0.03	0.01	5.51
5,400.0	0.25	193.12	5,399.2	42.9	35.8	43.1	0.01	0.00	3.32
5,500.0	0.25	193.60	5,499.2	42.4	35.7	42.7	0.00	0.00	0.48
5,600.0	0.21	197.20	5,599.2	42.1	35.6	42.3	0.04	-0.04	3.60
5,700.0	0.14	187.67	5,699.2	41.8	35.5	42.0	0.08	-0.07	-9.53
5,800.0	0.09	94.60	5,799.2	41.6	35.6	41.9	0.17	-0.05	-93.07
5,900.0	0.12	79.56	5,899.2	41.7	35.8	41.9	0.04	0.03	-15.04
6,000.0	0.11	88.69	5,999.2	41.7	36.0	41.9	0.02	-0.01	9.13
6,100.0	0.07	124.30	6,099.2	41.6	36.1	41.9	0.07	-0.04	35.61
6,200.0	0.26	197.46	6,199.2	41.4	36.1	41.6	0.25	0.19	73.16
6,300.0	0.63	212.05	6,299.2	40.7	35.8	41.0	0.38	0.37	14.59
6,400.0	0.79	214.58	6,399.2	39.7	35.1	39.9	0.16	0.16	2.53
6,500.0	0.76	219.46	6,499.2	38.6	34.3	38.8	0.07	-0.03	4.88
6,600.0	0.40	259.08	6,599.2	38.0	33.5	38.2	0.52	-0.36	39.62
6,700.0	0.36	274.77	6,699.2	38.0	32.8	38.2	0.11	-0.04	15.69
6,800.0	0.33	278.80	6,799.2	38.0	32.2	38.3	0.04	-0.03	4.03
6,900.0	0.14	277.57	6,899.2	38.1	31.8	38.3	0.19	-0.19	-1.23
7,000.0	0.11	218.38	6,999.2	38.0	31.7	38.3	0.13	-0.03	-59.19
7,100.0	0.19	177.25	7,099.2	37.8	31.6	38.0	0.13	0.08	-41.13
7,200.0	0.25	183.61	7,199.2	37.4	31.6	37.6	0.06	0.06	6.36
7,300.0	0.38	213.48	7,299.2	36.9	31.4	37.1	0.21	0.13	29.87
7,400.0	0.57	220.65	7,399.2	36.3	30.9	36.5	0.20	0.19	7.17
7,500.0	0.79	218.91	7,499.2	35.4	30.1	35.6	0.22	0.22	-1.74
7,600.0	0.79	219.21	7,599.2	34.3	29.3	34.5	0.00	0.00	0.30
7,700.0	0.74	221.13	7,699.2	33.3	28.4	33.5	0.06	-0.05	1.92
7,800.0	0.74	224.44	7,799.1	32.3	27.5	32.5	0.04	0.00	3.31
7,900.0	0.73	223.01	7,899.1	31.4	26.6	31.6	0.02	-0.01	-1.43
8,000.0	0.77	220.10	7,999.1	30.4	25.8	30.6	0.06	0.04	-2.91
8,100.0	0.71	222.87	8,099.1	29.4	24.9	29.6	0.07	-0.06	2.77
8,200.0	0.18	223.27	8,199.1	28.9	24.4	29.0	0.53	-0.53	0.40
8,300.0	1.20	48.17	8,299.1	29.5	25.1	29.6	1.38	1.02	-175.10
8,400.0	1.80	43.11	8,399.1	31.3	26.9	31.5	0.61	0.60	-5.06
8,500.0	2.48	39.04	8,499.0	34.1	29.4	34.3	0.70	0.68	-4.07
8,600.0	3.10	37.13	8,598.9	38.0	32.4	38.2	0.63	0.62	-1.91
8,700.0	3.72	31.71	8,698.7	42.9	35.7	43.1	0.70	0.62	-5.42
8,800.0	3.17	3.11	8,798.5	48.4	37.5	48.7	1.78	-0.55	-28.60
8,900.0	1.91	359.15	8,898.4	52.8	37.7	53.1	1.27	-1.26	-3.96
9,000.0	0.54	8.18	8,998.4	55.0	37.7	55.2	1.38	-1.37	9.03
9,100.0	0.42	285.26	9,098.4	55.5	37.4	55.8	0.64	-0.12	-82.92
9,200.0	0.80	253.31	9,198.4	55.4	36.4	55.7	0.50	0.38	-31.95
9,300.0	1.10	252.70	9,298.4	54.9	34.8	55.2	0.30	0.30	-0.61
9,400.0	2.00	257.13	9,398.3	54.3	32.2	54.5	0.91	0.90	4.43
9,500.0	2.37	252.26	9,498.3	53.2	28.5	53.4	0.41	0.37	-4.87

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Design:	Original Wellbore	**Database:**	EDM 5000.1 Single User Db

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)
9,600.0	2.39	245.79	9,598.2	51.8	24.7	51.9	0.27	0.02	-6.47
9,700.0	2.33	250.99	9,698.1	50.2	20.8	50.4	0.22	-0.06	5.20
9,800.0	1.82	256.19	9,798.0	49.2	17.4	49.3	0.54	-0.51	5.20
9,900.0	1.37	258.19	9,898.0	48.6	14.7	48.7	0.45	-0.45	2.00
10,000.0	1.11	262.08	9,998.0	48.2	12.5	48.3	0.27	-0.26	3.89
10,100.0	0.64	234.06	10,098.0	47.7	11.1	47.8	0.62	-0.47	-28.02
10,200.0	0.55	240.88	10,198.0	47.2	10.2	47.2	0.11	-0.09	6.82
10,245.0	0.47	244.58	10,243.0	47.0	9.9	47.1	0.19	-0.18	8.22
10,298.0	1.06	310.22	10,296.0	47.2	9.3	47.3	1.82	1.11	123.85
10,329.0	3.38	336.41	10,326.9	48.2	8.7	48.3	7.98	7.48	84.48
10,361.0	6.52	344.00	10,358.8	50.9	7.9	50.9	10.00	9.81	23.72
10,392.0	10.13	347.18	10,389.5	55.2	6.8	55.2	11.74	11.65	10.26
10,424.0	13.47	349.23	10,420.8	61.6	5.4	61.6	10.52	10.44	6.41
10,455.0	16.76	353.15	10,450.7	69.6	4.2	69.6	11.11	10.61	12.65
10,487.0	19.56	356.15	10,481.1	79.5	3.3	79.5	9.22	8.75	9.38
10,518.0	21.87	357.81	10,510.1	90.5	2.8	90.5	7.69	7.45	5.35
10,550.0	24.34	358.55	10,539.5	103.0	2.4	103.0	7.77	7.72	2.31
10,581.0	26.98	359.09	10,567.5	116.4	2.1	116.5	8.55	8.52	1.74
10,612.0	29.10	358.20	10,594.8	131.0	1.7	131.0	6.97	6.84	-2.87
10,644.0	31.40	359.17	10,622.5	147.1	1.4	147.1	7.35	7.19	3.03
10,675.0	34.83	359.98	10,648.4	164.1	1.3	164.1	11.16	11.06	2.61
10,707.0	38.77	0.79	10,674.1	183.2	1.4	183.2	12.41	12.31	2.53
10,738.0	42.92	0.43	10,697.5	203.5	1.6	203.5	13.41	13.39	-1.16
10,770.0	46.05	0.29	10,720.3	225.9	1.7	225.9	9.79	9.78	-0.44
10,801.0	48.13	359.52	10,741.4	248.6	1.7	248.6	6.95	6.71	-2.48
10,833.0	49.93	359.25	10,762.4	272.8	1.4	272.8	5.66	5.63	-0.84
10,864.0	52.33	359.71	10,781.9	296.9	1.2	296.9	7.83	7.74	1.48
10,896.0	55.42	0.07	10,800.7	322.8	1.2	322.8	9.70	9.66	1.13
10,927.0	59.07	0.18	10,817.5	348.8	1.2	348.8	11.78	11.77	0.35
10,959.0	61.77	0.78	10,833.3	376.6	1.5	376.6	8.59	8.44	1.88
10,990.0	63.27	0.66	10,847.6	404.1	1.8	404.1	4.85	4.84	-0.39
11,022.0	65.70	1.38	10,861.4	433.0	2.3	433.0	7.86	7.59	2.25
11,053.0	69.42	1.31	10,873.2	461.7	3.0	461.7	12.00	12.00	-0.23
11,085.0	72.79	1.31	10,883.6	491.9	3.7	491.9	10.53	10.53	0.00
11,116.0	75.20	1.15	10,892.1	521.7	4.3	521.7	7.79	7.77	-0.52
11,148.0	77.25	1.55	10,899.8	552.8	5.1	552.8	6.52	6.41	1.25
11,179.0	80.65	1.99	10,905.7	583.2	6.0	583.2	11.06	10.97	1.42
11,210.0	84.31	2.34	10,909.7	613.9	7.2	613.9	11.86	11.81	1.13
11,224.2	85.46	2.18	10,911.0	628.0	7.7	628.1	8.18	8.10	-1.13
FTP Interpolated @ 11224'MD									
11,242.0	86.90	1.97	10,912.2	645.8	8.4	645.8	8.18	8.09	-1.18
11,273.0	89.51	2.14	10,913.2	676.7	9.5	676.8	8.44	8.42	0.55
11,368.0	92.93	0.52	10,911.1	771.7	11.7	771.7	3.98	3.60	-1.71
11,431.0	92.93	0.35	10,907.9	834.6	12.2	834.6	0.27	0.00	-0.27

Company:	XTO Energy Inc.	**Local Co-ordinate Reference:**	Well Perla Negra Federal Com #4H
Project:	Lea County, NM (NAD27)	**TVD Reference:**	WELL @ 3807.0usft (Original Well Elev)
Site:	Sec 24, TWN 19-S, RGE 34-E	**MD Reference:**	WELL @ 3807.0usft (Original Well Elev)
Well:	Perla Negra Federal Com #4H	**North Reference:**	Grid
Wellbore:	Original Wellbore	**Survey Calculation Method:**	Minimum Curvature
Design:	Original Wellbore	**Database:**	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,462.0	92.60	359.87	10,906.4	865.5	12.2	865.6	1.88	-1.06	-1.55
11,557.0	92.93	359.57	10,901.9	960.4	11.8	960.5	0.47	0.35	-0.32
11,651.0	93.27	359.56	10,896.8	1,054.3	11.0	1,054.3	0.36	0.36	-0.01
11,745.0	91.47	359.27	10,892.9	1,148.2	10.1	1,148.2	1.94	-1.91	-0.31
11,840.0	90.94	358.95	10,890.9	1,243.2	8.6	1,243.2	0.65	-0.56	-0.34
11,934.0	90.77	359.18	10,889.5	1,337.1	7.1	1,337.2	0.30	-0.18	0.24
12,028.0	90.13	359.55	10,888.7	1,431.1	6.0	1,431.1	0.79	-0.68	0.39
12,123.0	91.19	359.88	10,887.6	1,526.1	5.6	1,526.1	1.17	1.12	0.35
12,217.0	89.93	0.20	10,886.7	1,620.1	5.6	1,620.1	1.38	-1.34	0.34
12,311.0	91.19	0.20	10,885.8	1,714.1	6.0	1,714.1	1.34	1.34	0.00
12,406.0	90.44	0.93	10,884.5	1,809.1	6.9	1,809.1	1.10	-0.79	0.77
12,500.0	90.88	0.90	10,883.4	1,903.1	8.4	1,903.1	0.47	0.47	-0.03
12,594.0	92.57	0.65	10,880.5	1,997.0	9.7	1,997.0	1.82	1.80	-0.27
12,689.0	91.75	0.68	10,877.0	2,092.0	10.8	2,092.0	0.86	-0.86	0.03
12,783.0	92.40	0.70	10,873.6	2,185.9	11.9	2,185.9	0.69	0.69	0.02
12,878.0	91.70	0.42	10,870.2	2,280.8	12.8	2,280.9	0.79	-0.74	-0.29
12,972.0	92.12	359.84	10,867.0	2,374.8	13.0	2,374.8	0.76	0.45	-0.62
13,066.0	90.63	0.21	10,864.8	2,468.7	13.1	2,468.8	1.63	-1.59	0.39
13,161.0	90.94	0.61	10,863.5	2,563.7	13.8	2,563.8	0.53	0.33	0.42
13,255.0	92.34	0.19	10,860.8	2,657.7	14.4	2,657.7	1.55	1.49	-0.45
13,350.0	90.66	0.57	10,858.3	2,752.6	15.0	2,752.7	1.81	-1.77	0.40
13,444.0	91.36	0.73	10,856.6	2,846.6	16.1	2,846.7	0.76	0.74	0.17
13,538.0	90.49	0.69	10,855.1	2,940.6	17.3	2,940.7	0.93	-0.93	-0.04
13,633.0	90.29	0.30	10,854.5	3,035.6	18.1	3,035.6	0.46	-0.21	-0.41
13,727.0	91.19	0.04	10,853.3	3,129.6	18.4	3,129.6	1.00	0.96	-0.28
13,822.0	92.99	359.88	10,849.8	3,224.5	18.3	3,224.6	1.90	1.89	-0.17
13,916.0	91.98	0.36	10,845.7	3,318.4	18.5	3,318.5	1.19	-1.07	0.51
14,010.0	92.29	0.19	10,842.2	3,412.4	19.0	3,412.4	0.38	0.33	-0.18
14,104.0	91.61	0.15	10,839.0	3,506.3	19.2	3,506.4	0.72	-0.72	-0.04
14,198.0	91.73	0.25	10,836.3	3,600.3	19.6	3,600.3	0.17	0.13	0.11
14,293.0	90.52	359.95	10,834.4	3,695.2	19.7	3,695.3	1.31	-1.27	-0.32
14,387.0	91.02	359.77	10,833.2	3,789.2	19.5	3,789.3	0.57	0.53	-0.19
14,481.0	92.54	359.20	10,830.2	3,883.2	18.7	3,883.2	1.73	1.62	-0.61
14,576.0	91.25	359.86	10,827.1	3,978.1	17.9	3,978.2	1.53	-1.36	0.69
14,670.0	89.90	0.47	10,826.1	4,072.1	18.2	4,072.1	1.58	-1.44	0.65
14,765.0	90.07	0.56	10,826.2	4,167.1	19.0	4,167.1	0.20	0.18	0.09
14,859.0	91.81	0.83	10,824.6	4,261.1	20.1	4,261.1	1.87	1.85	0.29
14,953.0	90.27	1.56	10,822.9	4,355.1	22.1	4,355.1	1.81	-1.64	0.78
15,048.0	90.72	2.00	10,822.1	4,450.0	25.1	4,450.1	0.66	0.47	0.46
15,142.0	91.75	2.70	10,820.1	4,543.9	28.9	4,544.0	1.32	1.10	0.74
15,236.0	92.40	2.98	10,816.7	4,637.7	33.6	4,637.8	0.75	0.69	0.30
15,331.0	92.20	2.55	10,812.9	4,732.5	38.1	4,732.7	0.50	-0.21	-0.45
15,425.0	90.63	1.00	10,810.5	4,826.5	41.1	4,826.6	2.35	-1.67	-1.65

Company:	XTO Energy Inc.	**Local Co-ordinate Reference:**	Well Perla Negra Federal Com #4H
Project:	Lea County, NM (NAD27)	**TVD Reference:**	WELL @ 3807.0usft (Original Well Elev)
Site:	Sec 24, TWN 19-S, RGE 34-E	**MD Reference:**	WELL @ 3807.0usft (Original Well Elev)
Well:	Perla Negra Federal Com #4H	**North Reference:**	Grid
Wellbore:	Original Wellbore	**Survey Calculation Method:**	Minimum Curvature
Design:	Original Wellbore	**Database:**	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,519.0	89.96	1.50	10,810.1	4,920.4	43.1	4,920.6	0.89	-0.71	0.53
15,614.0	90.13	2.73	10,810.0	5,015.4	46.6	5,015.6	1.31	0.18	1.29
15,708.0	89.99	4.15	10,809.9	5,109.2	52.2	5,109.4	1.52	-0.15	1.51
15,802.0	89.73	5.36	10,810.1	5,202.9	60.0	5,203.2	1.32	-0.28	1.29
15,850.3	89.44	6.21	10,810.5	5,250.9	64.9	5,251.2	1.86	-0.60	1.76
LTP Interpolated @ 15850'MD									
15,896.0	89.17	7.01	10,811.0	5,296.3	70.2	5,296.7	1.85	-0.59	1.75
15,932.0	88.84	7.55	10,811.6	5,332.0	74.7	5,332.4	1.76	-0.92	1.50
16,064.0	88.84	7.55	10,814.3	5,462.8	92.1	5,463.3	0.00	0.00	0.00
Straight Line Projection to Bit Depth @ 16064'MD									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
11,224.2	10,911.0	628.0	7.7	FTP Interpolated @ 11224'MD
15,850.3	10,810.5	5,250.9	64.9	LTP Interpolated @ 15850'MD
16,064.0	10,814.3	5,462.8	92.1	Straight Line Projection to Bit Depth @ 16064'MD

Checked By: _____ Approved By: _____ Date: _____