



NorAm Drilling Company

A GLOBAL RIG COMPANY ASA

Operator: XTO Energy

Well & Lease Number: Perla Verde 31 State 3H

County: Lea

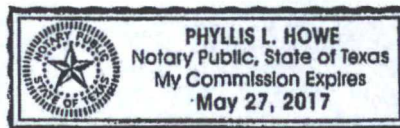
State of New Mexico

Deviation Report

Footage	Degree
300	1.07
600	1.16
900	1.03
1200	1.06
1500	1.03
1800	0.59
2100	1.03
2400	0.91
2900	1.49
3400	2.35
3900	1.84
4400	1.72
4900	1.11
5400	1.30
5900	1.21
6400	1.07
6900	0.29
7400	0.18
7900	0.58
8400	1.43
8900	2.57
9400	2.05
9900	0.48
10300	0.33
10450	0.80

Completed by: Will Luker

Will Luker, Safety Director
NorAm Drilling Company



Appeared before me on: 9/1/15

Notary Public: Phyllis L. Howe

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MAY 09 2016

XTOENERGY

XTO Energy Inc

Lea County, NM (NAD27)

Perla Verde 31 State

3H

Wellbore #1 / Job #1513875

Survey: Phoenix MWD Survey

Standard Survey Report

23 July, 2015

XTO ENERGY

Survey Report

Company:	XTO Energy Inc	Local Co-ordinate Reference:	Well 3H
Project:	Lea County, NM (NAD27)	TVD Reference:	RKB @ 3726.00usft (Noram 25)
Site:	Perla Verde 31 State	MD Reference:	RKB @ 3726.00usft (Noram 25)
Well:	3H	North Reference:	Grid
Wellbore:	Wellbore #1 / Job #1513875	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Noram 25)	Database:	Compass 5000 GCR

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	Perla Verde 31 State		
Site Position:		Northing:	586,606.90 usft
From:	Map	Easting:	757,031.50 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 36' 35.68681 N
		Longitude:	103° 29' 55.05079 W
		Grid Convergence:	0.45 °

Well	3H		
Well Position	+N/-S	0.00 usft	Northing: 586,606.90 usft
	+E/-W	0.00 usft	Easting: 757,031.50 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	32° 36' 35.68681 N
		Longitude:	103° 29' 55.05079 W
		Ground Level:	3,701.00 usft

Wellbore	Wellbore #1 / Job #1513875		
Magnetics	Model Name	Sample Date	Declination
	HDGM	7/6/2015	6.90
		Dip Angle	60.67
		Field Strength	48,472
		(nT)	

Design	Surveys (Noram 25)		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
		Direction	359.54
		(°)	

Survey Program	Date 7/23/2015		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
100.00	10,406.00	Phoenix Gyro Surveys (Wellbore #1 / Job	PHX_SPT_GTD
10,450.00	15,675.00	Phoenix MWD Survey (Wellbore #1 / Job #	PHX+MWD+HDGM
			PHX+MWD+HDGM

Survey	Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate
	(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)
	10,406.00	0.69	194.98	10,403.49	103.12	62.16	102.61	0.00	0.00	0.00
Tie In to Phoenix Gyros										
	10,450.00	0.80	196.70	10,447.49	102.57	62.01	102.07	0.26	0.25	3.91
First Phoenix MWD Survey										
	10,482.00	1.00	338.90	10,479.49	102.61	61.84	102.11	5.33	0.63	444.38
	10,513.00	4.30	348.70	10,510.45	104.01	61.52	103.51	10.71	10.65	31.61
	10,545.00	7.90	353.50	10,542.26	107.37	61.03	106.87	11.35	11.25	15.00
	10,576.00	9.90	353.70	10,572.89	112.13	60.50	111.64	6.45	6.45	0.65
	10,607.00	12.90	354.10	10,603.27	118.23	59.85	117.74	9.68	9.68	1.29

XTOENERGY

Survey Report

Company: XTO Energy Inc
 Project: Lea County, NM (NAD27)
 Site: Perla Verde 31 State
 Well: 3H
 Wellbore: Wellbore #1 / Job #1513875
 Design: Surveys (Noram 25)

Local Co-ordinate Reference: Well 3H
 TVD Reference: RKB @ 3726.00usft (Noram 25)
 MD Reference: RKB @ 3726.00usft (Noram 25)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: Compass 5000 GCR

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)
10,638.00	15.20	351.70	10,633.34	125.69	58.91	125.21	7.65	7.42	-7.74
10,670.00	15.50	352.40	10,664.20	134.08	57.74	133.61	1.10	0.94	2.19
10,701.00	17.50	357.30	10,693.93	142.84	56.97	142.38	7.85	6.45	15.81
10,733.00	20.90	0.80	10,724.14	153.36	56.82	152.90	11.21	10.63	10.94
10,764.00	24.50	1.80	10,752.74	165.32	57.10	164.85	11.68	11.61	3.23
10,796.00	28.10	1.40	10,781.42	179.49	57.49	179.02	11.26	11.25	-1.25
10,827.00	30.10	0.70	10,808.51	194.56	57.77	194.09	6.54	6.45	-2.26
10,858.00	33.30	0.50	10,834.88	210.85	57.94	210.38	10.33	10.32	-0.65
10,889.00	37.50	0.30	10,860.14	228.80	58.06	228.33	13.55	13.55	-0.65
10,921.00	41.80	0.40	10,884.77	249.21	58.19	248.74	13.44	13.44	0.31
10,952.00	46.20	0.50	10,907.07	270.74	58.36	270.27	14.20	14.19	0.32
10,984.00	50.90	1.50	10,928.24	294.72	58.78	294.24	14.87	14.69	3.13
11,015.00	55.00	2.20	10,946.92	319.44	59.58	318.95	13.35	13.23	2.26
11,046.00	58.60	1.60	10,963.89	345.36	60.44	344.86	11.73	11.61	-1.94
11,077.00	61.80	0.00	10,979.30	372.25	60.81	371.75	11.25	10.32	-5.16
11,109.00	65.60	358.00	10,993.47	400.93	60.30	400.43	13.13	11.88	-6.25
11,140.00	68.90	357.10	11,005.46	429.49	59.08	429.00	10.98	10.65	-2.90
11,171.00	72.30	357.30	11,015.75	458.69	57.65	458.21	10.98	10.97	0.65
11,203.00	74.60	357.30	11,024.87	489.33	56.21	488.86	7.19	7.19	0.00
11,234.00	76.50	357.00	11,032.60	519.31	54.71	518.85	6.20	6.13	-0.97
11,265.00	78.20	357.30	11,039.39	549.52	53.21	549.07	5.56	5.48	0.97
11,297.00	78.70	358.50	11,045.80	580.85	52.06	580.41	3.99	1.56	3.75
11,328.00	80.00	358.90	11,051.53	611.30	51.37	610.87	4.38	4.19	1.29
11,360.00	80.90	359.20	11,056.84	642.86	50.85	642.43	2.96	2.81	0.94
11,391.00	83.00	359.60	11,061.18	673.55	50.53	673.12	6.89	6.77	1.29
11,422.00	86.00	0.40	11,064.15	704.40	50.53	703.97	10.01	9.68	2.58
11,454.00	90.00	359.70	11,065.27	736.37	50.55	735.94	12.69	12.50	-2.19
11,485.00	92.30	357.60	11,064.64	767.36	49.82	766.93	10.05	7.42	-6.77
11,516.00	93.70	356.40	11,063.02	798.27	48.20	797.86	5.94	4.52	-3.87
11,610.00	92.10	356.00	11,058.27	891.94	41.98	891.57	1.75	-1.70	-0.43
11,704.00	92.90	355.90	11,054.17	985.61	35.35	985.30	0.86	0.85	-0.11
11,799.00	91.00	355.60	11,050.93	1,080.29	28.31	1,080.03	2.02	-2.00	-0.32
11,893.00	88.10	356.00	11,051.67	1,174.03	21.43	1,173.82	3.11	-3.09	0.43
11,988.00	88.70	356.40	11,054.32	1,268.78	15.14	1,268.62	0.76	0.63	0.42
12,083.00	90.00	356.80	11,055.40	1,363.61	9.50	1,363.49	1.43	1.37	0.42
12,177.00	91.50	356.90	11,054.17	1,457.45	4.34	1,457.37	1.60	1.60	0.11
12,272.00	93.10	356.70	11,050.36	1,552.23	-0.96	1,552.18	1.70	1.68	-0.21
12,366.00	91.20	357.00	11,046.83	1,646.01	-6.12	1,646.01	2.05	-2.02	0.32
12,460.00	91.70	357.00	11,044.45	1,739.85	-11.04	1,739.89	0.53	0.53	0.00
12,555.00	88.10	357.70	11,044.62	1,834.74	-15.43	1,834.80	3.86	-3.79	0.74
12,649.00	89.10	357.40	11,046.92	1,928.62	-19.45	1,928.72	1.11	1.06	-0.32
12,744.00	90.80	357.20	11,047.00	2,023.51	-23.92	2,023.64	1.80	1.79	-0.21
12,838.00	92.60	356.90	11,044.21	2,117.34	-28.76	2,117.50	1.94	1.91	-0.32

XTOENERGY

Survey Report

Company: XTO Energy Inc
 Project: Lea County, NM (NAD27)
 Site: Perla Verde 31 State
 Well: 3H
 Wellbore: Wellbore #1 / Job #1513875
 Design: Surveys (Noram 25)

Local Co-ordinate Reference: Well 3H
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 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: Compass 5000 GCR

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)
12,933.00	92.40	358.90	11,040.07	2,212.18	-32.24	2,212.37	2.11	-0.21	2.11
13,027.00	93.90	359.10	11,034.90	2,306.02	-33.87	2,306.22	1.61	1.60	0.21
13,122.00	93.10	0.70	11,029.10	2,400.84	-34.04	2,401.04	1.88	-0.84	1.68
13,216.00	90.90	1.50	11,025.82	2,494.76	-32.24	2,494.94	2.49	-2.34	0.85
13,311.00	91.70	1.20	11,023.67	2,589.71	-30.00	2,589.87	0.90	0.84	-0.32
13,405.00	93.10	0.70	11,019.73	2,683.61	-28.44	2,683.75	1.56	1.49	-0.53
13,500.00	91.90	1.90	11,015.59	2,778.49	-26.29	2,778.62	1.79	-1.26	1.26
13,594.00	93.20	1.80	11,011.40	2,872.35	-23.26	2,872.44	1.39	1.38	-0.11
13,688.00	91.00	1.40	11,007.96	2,966.24	-20.63	2,966.31	2.38	-2.34	-0.43
13,783.00	89.10	1.10	11,007.88	3,061.22	-18.56	3,061.27	2.02	-2.00	-0.32
13,877.00	90.00	1.40	11,008.61	3,155.19	-16.51	3,155.22	1.01	0.96	0.32
13,972.00	91.80	1.90	11,007.12	3,250.14	-13.77	3,250.14	1.97	1.89	0.53
14,066.00	89.80	1.70	11,005.81	3,344.07	-10.82	3,344.05	2.14	-2.13	-0.21
14,161.00	90.60	1.30	11,005.48	3,439.04	-8.34	3,439.00	0.94	0.84	-0.42
14,255.00	91.90	0.90	11,003.43	3,533.00	-6.53	3,532.94	1.45	1.38	-0.43
14,350.00	89.70	0.30	11,002.10	3,627.98	-5.54	3,627.91	2.40	-2.32	-0.63
14,444.00	90.30	0.10	11,002.10	3,721.98	-5.21	3,721.90	0.67	0.64	-0.21
14,539.00	91.90	0.20	11,000.28	3,816.96	-4.96	3,816.87	1.69	1.68	0.11
14,633.00	93.40	0.00	10,995.93	3,910.85	-4.80	3,910.77	1.61	1.60	-0.21
14,727.00	94.90	0.00	10,989.13	4,004.60	-4.80	4,004.51	1.60	1.60	0.00
14,822.00	92.90	0.10	10,982.67	4,099.38	-4.71	4,099.28	2.11	-2.11	0.11
14,916.00	90.60	359.60	10,979.80	4,193.33	-4.96	4,193.23	2.50	-2.45	-0.53
15,011.00	88.80	359.20	10,980.30	4,288.32	-5.95	4,288.23	1.94	-1.89	-0.42
15,105.00	89.80	358.90	10,981.44	4,382.30	-7.51	4,382.22	1.11	1.06	-0.32
15,199.00	90.90	358.80	10,980.87	4,476.27	-9.40	4,476.21	1.18	1.17	-0.11
15,294.00	92.20	358.50	10,978.30	4,571.21	-11.64	4,571.16	1.40	1.37	-0.32
15,389.00	90.50	359.10	10,976.06	4,666.16	-13.63	4,666.12	1.90	-1.79	0.63
15,483.00	91.10	358.50	10,974.75	4,760.13	-15.59	4,760.10	0.90	0.64	-0.64
15,577.00	92.10	358.00	10,972.13	4,854.05	-18.46	4,854.04	1.19	1.06	-0.53
15,619.00	92.50	357.80	10,970.44	4,895.99	-20.00	4,895.99	1.06	0.95	-0.48
Final Phoenix MWD Survey									
15,675.00	92.50	357.80	10,968.00	4,951.89	-22.15	4,951.91	0.00	0.00	0.00
Projection to TD									

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,406.00	10,403.49	103.12	62.16	Tie In to Phoenix Gyros
10,450.00	10,447.49	102.57	62.01	First Phoenix MWD Survey
15,619.00	10,970.44	4,895.99	-20.00	Final Phoenix MWD Survey
15,675.00	10,968.00	4,951.89	-22.15	Projection to TD

XTOENERGY

XTO Energy Inc

Lea County, NM (NAD27)

Perla Verde 31 State

3H

Wellbore #1 / Job #1513875

Survey: Phoenix MWD Survey

Standard Survey Report

23 July, 2015

XTOENERGY

Survey Report

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 Project: Lea County, NM (NAD27)
 Site: Perla Verde 31 State
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 Wellbore: Wellbore #1 / Job #1513875
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Survey

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10,638.00	15.20	351.70	10,633.34	125.69	58.91	125.21	7.65	7.42	-7.74
10,670.00	15.50	352.40	10,664.20	134.08	57.74	133.61	1.10	0.94	2.19
10,701.00	17.50	357.30	10,693.93	142.84	56.97	142.38	7.85	6.45	15.81
10,733.00	20.90	0.80	10,724.14	153.36	56.82	152.90	11.21	10.63	10.94
10,764.00	24.50	1.80	10,752.74	165.32	57.10	164.85	11.68	11.61	3.23
10,796.00	28.10	1.40	10,781.42	179.49	57.49	179.02	11.26	11.25	-1.25
10,827.00	30.10	0.70	10,808.51	194.56	57.77	194.09	6.54	6.45	-2.26
10,858.00	33.30	0.50	10,834.88	210.85	57.94	210.38	10.33	10.32	-0.65
10,889.00	37.50	0.30	10,860.14	228.80	58.06	228.33	13.55	13.55	-0.65
10,921.00	41.80	0.40	10,884.77	249.21	58.19	248.74	13.44	13.44	0.31
10,952.00	46.20	0.50	10,907.07	270.74	58.36	270.27	14.20	14.19	0.32
10,984.00	50.90	1.50	10,928.24	294.72	58.78	294.24	14.87	14.69	3.13
11,015.00	55.00	2.20	10,946.92	319.44	59.58	318.95	13.35	13.23	2.26
11,046.00	58.60	1.60	10,963.89	345.36	60.44	344.86	11.73	11.61	-1.94
11,077.00	61.80	0.00	10,979.30	372.25	60.81	371.75	11.25	10.32	-5.16
11,109.00	65.60	358.00	10,993.47	400.93	60.30	400.43	13.13	11.88	-6.25
11,140.00	68.90	357.10	11,005.46	429.49	59.08	429.00	10.98	10.65	-2.90
11,171.00	72.30	357.30	11,015.75	458.69	57.65	458.21	10.98	10.97	0.65
11,203.00	74.60	357.30	11,024.87	489.33	56.21	488.86	7.19	7.19	0.00
11,234.00	76.50	357.00	11,032.60	519.31	54.71	518.85	6.20	6.13	-0.97
11,265.00	78.20	357.30	11,039.39	549.52	53.21	549.07	5.56	5.48	0.97
11,297.00	78.70	358.50	11,045.80	580.85	52.06	580.41	3.99	1.56	3.75
11,328.00	80.00	358.90	11,051.53	611.30	51.37	610.87	4.38	4.19	1.29
11,360.00	80.90	359.20	11,056.84	642.86	50.85	642.43	2.96	2.81	0.94
11,391.00	83.00	359.60	11,061.18	673.55	50.53	673.12	6.89	6.77	1.29
11,422.00	86.00	0.40	11,064.15	704.40	50.53	703.97	10.01	9.68	2.58
11,454.00	90.00	359.70	11,065.27	736.37	50.55	735.94	12.69	12.50	-2.19
11,485.00	92.30	357.60	11,064.64	767.36	49.82	766.93	10.05	7.42	-6.77
11,516.00	93.70	356.40	11,063.02	798.27	48.20	797.86	5.94	4.52	-3.87
11,610.00	92.10	356.00	11,058.27	891.94	41.98	891.57	1.75	-1.70	-0.43
11,704.00	92.90	355.90	11,054.17	985.61	35.35	985.30	0.86	0.85	-0.11
11,799.00	91.00	355.60	11,050.93	1,080.29	28.31	1,080.03	2.02	-2.00	-0.32
11,893.00	88.10	356.00	11,051.67	1,174.03	21.43	1,173.82	3.11	-3.09	0.43
11,988.00	88.70	356.40	11,054.32	1,268.78	15.14	1,268.62	0.76	0.63	0.42
12,083.00	90.00	356.80	11,055.40	1,363.61	9.50	1,363.49	1.43	1.37	0.42
12,177.00	91.50	356.90	11,054.17	1,457.45	4.34	1,457.37	1.60	1.60	0.11
12,272.00	93.10	356.70	11,050.36	1,552.23	-0.96	1,552.18	1.70	1.68	-0.21
12,366.00	91.20	357.00	11,046.83	1,646.01	-6.12	1,646.01	2.05	-2.02	0.32
12,460.00	91.70	357.00	11,044.45	1,739.85	-11.04	1,739.89	0.53	0.53	0.00
12,555.00	88.10	357.70	11,044.62	1,834.74	-15.43	1,834.80	3.86	-3.79	0.74
12,649.00	89.10	357.40	11,046.92	1,928.62	-19.45	1,928.72	1.11	1.06	-0.32
12,744.00	90.80	357.20	11,047.00	2,023.51	-23.92	2,023.64	1.80	1.79	-0.21
12,838.00	92.60	356.90	11,044.21	2,117.34	-28.76	2,117.50	1.94	1.91	-0.32

XTOENERGY

Survey Report

Company:	XTO Energy Inc	Local Co-ordinate Reference:	Well 3H
Project:	Lea County, NM (NAD27)	TVD Reference:	RKB @ 3726.00usft (Noram 25)
Site:	Perla Verde 31 State	MD Reference:	RKB @ 3726.00usft (Noram 25)
Well:	3H	North Reference:	Grid
Wellbore:	Wellbore #1 / Job #1513875	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Noram 25)	Database:	Compass 5000 GCR

Checked By:	_____	Approved By:	_____	Date:	_____
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