

EQT Production - Marcellus

Wetzel County, WV

Wetzel County 513831

Well #513831

Main Wellbore

Design: As Drilled Surveys

Standard Survey Report

26 November, 2014

RECEIVED
Office of Oil and Gas

MAY 29 2015

WV Department of
Environmental Protection

06/05/2015

Phoenix Technologies

Survey Report

Database: EDM 5000.1 Single User Db Company: EQT Production - Marcellus Project: Wetzel County, WV Site: Wetzel County 513831 Well: Well #513831 Wellbore: Main Wellbore Design: As Drilled Surveys	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method:	Site Wetzel County 513831 KB @ 876.0usft KB @ 876.0usft Grid Minimum Curvature
--	--	--

Project Wetzel County, WV			
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	West Virginia North 4701		Using geodetic scale factor

Site Wetzel County 513831			
Site Position:		Northing:	388,059.70 usft
From:	Map	Easting:	1,700,962.16 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	39.56
		Longitude:	-80.56
		Grid Convergence:	-0.68 °

Well Well #513831			
Well Position	+N/-S	0.0 usft	Northing: 388,059.70 usft
	+E/-W	0.0 usft	Easting: 1,700,962.16 usft
Position Uncertainty		0.0 usft	Wellhead Elevation: usft
			Latitude: 39° 33' 38.174 N
			Longitude: 80° 33' 38.388 W
			Ground Level: 860.0 usft

Wellbore Main Wellbore					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	10/31/2014	-8.70	66.96	52,363

Design As Drilled Surveys					
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	8.77	

Survey Program Date 11/26/2014					
From (°)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	3,273.0	513831 Gyrodata Gyro (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop	
0.00	13,236.0	Phoenix MWD (Main Wellbore)	MWD+IGRF	MWD+IGRF v3:standard declination	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea 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	-876.0	0.0	0.0	0.0	0.00	0.00	0.00
103.0	0.46	215.48	103.0	-773.0	-0.3	-0.2	-0.4	0.45	0.45	0.00
203.0	0.46	136.50	203.0	-673.0	-1.0	-0.2	-1.0	0.59	0.00	-78.98
303.0	0.62	121.75	303.0	-573.0	-1.5	0.5	-1.4	0.21	0.16	23.63
403.0	0.21	145.38	403.0	-473.0	-2.0	1.1	-1.8	0.44	-0.41	74.58
503.0	0.21	219.96	503.0	-373.0	-2.3	1.1	-2.1	0.25	0.00	8.66
603.0	0.19	228.62	603.0	-273.0	-2.5	0.8	-2.3	0.04	-0.02	-31.21
703.0	0.03	197.41	703.0	-173.0	-2.6	0.7	-2.5	0.17	-0.16	

RECEIVED
Office of Oil and Gas
MAY 29 2015
WV Department of Environmental Protection

Phoenix Technologies
Survey Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 513831
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 876.0usft
Project:	Wetzel County, WV	MD Reference:	KB @ 876.0usft
Site:	Wetzel County 513831	North Reference:	Grid
Well:	Well #513831	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	As Drilled Surveys		

Survey											
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
803.0	0.04	147.79	803.0	-73.0	-2.7	0.7	-2.6	0.03	0.01	-49.62	
903.0	0.23	119.07	903.0	27.0	-2.8	0.9	-2.7	0.20	0.19	-28.72	
1,003.0	0.19	124.95	1,003.0	127.0	-3.0	1.2	-2.8	0.05	-0.04	5.88	
1,103.0	0.17	125.05	1,103.0	227.0	-3.2	1.5	-2.9	0.02	-0.02	0.10	
1,203.0	0.19	120.33	1,203.0	327.0	-3.4	1.8	-3.1	0.02	0.02	-4.72	
1,303.0	0.29	87.15	1,303.0	427.0	-3.4	2.1	-3.1	0.17	0.10	-33.18	
1,403.0	0.28	91.72	1,403.0	527.0	-3.4	2.6	-3.0	0.02	-0.01	4.57	
1,503.0	0.32	89.17	1,503.0	627.0	-3.4	3.2	-2.9	0.04	0.04	-2.55	
1,603.0	0.22	103.21	1,603.0	727.0	-3.5	3.6	-2.9	0.12	-0.10	14.04	
1,703.0	0.27	115.10	1,703.0	827.0	-3.6	4.0	-3.0	0.07	0.05	11.89	
1,803.0	0.32	123.70	1,803.0	927.0	-3.9	4.5	-3.1	0.07	0.05	8.60	
1,903.0	0.62	116.90	1,903.0	1,027.0	-4.3	5.2	-3.4	0.30	0.30	-6.80	
2,003.0	0.84	109.60	2,003.0	1,127.0	-4.8	6.4	-3.7	0.24	0.22	-7.30	
2,103.0	1.44	101.82	2,102.9	1,226.9	-5.3	8.3	-3.9	0.62	0.60	-7.78	
2,203.0	1.97	92.40	2,202.9	1,326.9	-5.6	11.2	-3.8	0.60	0.53	-9.42	
2,303.0	2.48	78.23	2,302.8	1,426.8	-5.2	15.1	-2.9	0.75	0.51	-14.17	
2,403.0	3.21	60.77	2,402.7	1,526.7	-3.4	19.6	-0.4	1.13	0.73	-17.46	
2,503.0	3.06	54.97	2,502.6	1,626.6	-0.5	24.3	3.2	0.35	-0.15	-5.80	
2,603.0	1.96	48.39	2,602.5	1,726.5	2.1	27.7	6.4	1.14	-1.10	-6.58	
2,703.0	1.37	46.92	2,702.4	1,826.4	4.1	29.9	8.6	0.59	-0.59	-1.47	
2,803.0	0.93	40.64	2,802.4	1,926.4	5.5	31.3	10.2	0.46	-0.44	-6.28	
2,903.0	0.46	17.11	2,902.4	2,026.4	6.5	31.9	11.3	0.54	-0.47	-23.53	
3,003.0	0.34	357.38	3,002.4	2,126.4	7.2	32.0	12.0	0.18	-0.12	-19.73	
3,103.0	0.27	344.29	3,102.4	2,226.4	7.7	32.0	12.5	0.10	-0.07	-13.09	
3,203.0	0.44	334.44	3,202.4	2,326.4	8.3	31.7	13.1	0.18	0.17	-9.85	
3,273.0	0.58	322.18	3,272.4	2,396.4	8.8	31.4	13.5	0.25	0.20	-17.51	
Gyro Tie In =3291' MD											
3,291.0	0.50	323.40	3,290.4	2,414.4	9.0	31.3	13.6	0.45	-0.44	6.78	
3,323.0	0.70	321.70	3,322.4	2,446.4	9.2	31.1	13.9	0.63	0.63	-5.31	
3,354.0	1.40	310.50	3,353.4	2,477.4	9.6	30.7	14.2	2.34	2.26	-36.00	
3,386.0	2.30	308.60	3,385.4	2,509.4	10.3	29.9	14.7	2.82	2.81	-5.94	
3,417.0	3.40	306.60	3,416.3	2,540.3	11.2	28.7	15.5	3.56	3.55	-6.45	
3,449.0	4.30	303.60	3,448.2	2,572.2	12.4	26.9	16.4	2.88	2.81	-9.38	
3,480.0	5.30	301.00	3,479.1	2,603.1	13.8	24.7	17.4	3.30	3.23	-8.39	
3,511.0	6.20	299.20	3,510.0	2,634.0	15.4	22.0	18.6	2.96	2.90	-5.81	
3,543.0	4.80	312.90	3,541.8	2,665.8	17.1	19.5	19.9	5.97	-4.38	42.81	
3,574.0	3.80	346.90	3,572.7	2,696.7	19.0	18.3	21.6	8.67	-3.23	109.68	
3,606.0	4.10	29.10	3,604.7	2,728.7	21.1	18.7	23.7	8.92	0.94	131.88	
3,638.0	6.40	63.50	3,636.6	2,760.6	22.8	20.8	25.8	11.88	7.19	107.50	
3,669.0	9.60	76.90	3,667.2	2,791.2	24.2	24.9	27.7	11.88	10.32	43.23	
3,701.0	12.60	83.00	3,698.6	2,822.6	25.2	30.9	29.7	10.06	9.38	19.06	
3,732.0	16.00	87.30	3,728.7	2,852.7	25.9	38.6	31.4	11.48	10.97	13.87	
3,764.0	19.50	87.20	3,759.2	2,883.2	26.3	48.3	33.4	10.94	10.94	-0.31	

RECEIVED
Office of Oil and Gas
MAY 29 2015

WV Department of
Environmental Protection

Phoenix Technologies
Survey Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 513831
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 876.0usft
Project:	Wetzel County, WV	MD Reference:	KB @ 876.0usft
Site:	Wetzel County 513831	North Reference:	Grid
Well:	Well #513831	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	As Drilled Surveys		

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,795.0	22.50	88.80	3,788.1	2,912.1	26.7	59.4	35.4	9.85	9.68	5.16
3,827.0	25.80	91.50	3,817.3	2,941.3	26.6	72.5	37.4	10.87	10.31	8.44
3,859.0	29.10	93.00	3,845.7	2,969.7	26.1	87.2	39.1	10.54	10.31	4.69
3,890.0	32.30	92.50	3,872.3	2,996.3	25.3	103.0	40.7	10.36	10.32	-1.61
3,922.0	35.00	93.00	3,899.0	3,023.0	24.4	120.7	42.6	8.48	8.44	1.56
3,953.0	37.90	92.90	3,923.9	3,047.9	23.5	139.1	44.4	9.36	9.35	-0.32
3,985.0	40.70	91.10	3,948.7	3,072.7	22.8	159.4	46.8	9.45	8.75	-5.63
4,048.0	42.80	89.70	3,995.7	3,119.7	22.5	201.3	53.0	3.65	3.33	-2.22
4,111.0	42.10	88.60	4,042.1	3,166.1	23.1	243.9	60.1	1.62	-1.11	-1.75
4,175.0	42.20	90.30	4,089.6	3,213.6	23.6	286.8	67.0	1.79	0.16	2.66
4,238.0	43.00	92.90	4,136.0	3,260.0	22.4	329.4	72.3	3.07	1.27	4.13
4,301.0	42.30	92.00	4,182.3	3,306.3	20.5	372.1	77.0	1.47	-1.11	-1.43
4,364.0	41.60	91.40	4,229.2	3,353.2	19.3	414.2	82.2	1.28	-1.11	-0.95
4,427.0	40.90	90.50	4,276.5	3,400.5	18.6	455.7	87.9	1.46	-1.11	-1.43
4,490.0	41.40	91.90	4,324.0	3,448.0	17.7	497.1	93.3	1.66	0.79	2.22
4,553.0	41.10	91.70	4,371.3	3,495.3	16.4	538.6	98.4	0.52	-0.48	-0.32
4,617.0	39.80	91.60	4,420.0	3,544.0	15.2	580.2	103.5	2.03	-2.03	-0.16
4,680.0	40.60	90.00	4,468.2	3,592.2	14.7	620.8	109.2	2.07	1.27	-2.54
4,743.0	41.80	89.70	4,515.6	3,639.6	14.8	662.3	115.6	1.93	1.90	-0.48
4,806.0	42.40	89.10	4,562.3	3,686.3	15.2	704.5	122.5	1.15	0.95	-0.95
4,869.0	42.30	89.50	4,608.9	3,732.9	15.7	747.0	129.5	0.46	-0.16	0.63
4,932.0	40.40	88.00	4,656.2	3,780.2	16.6	788.6	136.7	3.40	-3.02	-2.38
4,995.0	40.10	90.10	4,704.2	3,828.2	17.3	829.3	143.6	2.21	-0.48	3.33
5,058.0	40.20	91.50	4,752.4	3,876.4	16.7	869.9	149.2	1.44	0.16	2.22
5,122.0	38.50	90.80	4,801.9	3,925.9	15.9	910.5	154.6	2.75	-2.66	-1.09
5,185.0	38.50	91.10	4,851.2	3,975.2	15.3	949.7	160.0	0.30	0.00	0.48
5,248.0	38.60	91.20	4,900.5	4,024.5	14.5	988.9	165.2	0.19	0.16	0.16
5,311.0	41.40	91.90	4,948.7	4,072.7	13.4	1,029.4	170.3	4.50	4.44	4.48
5,374.0	42.70	91.60	4,995.5	4,119.5	12.1	1,071.6	175.4	2.09	2.06	2.06
5,437.0	42.70	91.30	5,041.8	4,165.8	11.0	1,114.3	180.9	0.32	0.00	0.00
5,500.0	42.60	90.50	5,088.1	4,212.1	10.3	1,157.0	186.7	0.87	-0.16	-0.16
5,564.0	42.10	89.60	5,135.4	4,259.4	10.3	1,200.1	193.2	1.23	-0.78	-0.78
5,627.0	42.50	90.10	5,182.0	4,306.0	10.4	1,242.5	199.8	0.83	0.63	0.63
5,690.0	42.90	89.30	5,228.3	4,352.3	10.6	1,285.2	206.6	1.07	0.63	0.63
5,753.0	43.90	89.90	5,274.1	4,398.1	10.9	1,328.5	213.5	1.72	1.59	1.59
5,817.0	44.00	90.80	5,320.2	4,444.2	10.7	1,372.9	220.0	0.99	0.16	0.16
5,874.0	44.60	92.00	5,361.0	4,485.0	9.7	1,412.7	225.1	1.81	1.05	1.05
5,937.0	43.80	90.70	5,406.1	4,530.1	8.6	1,456.6	230.7	1.92	-1.27	-1.27
6,000.0	44.10	92.40	5,451.5	4,575.5	7.5	1,500.3	236.2	1.93	0.48	0.48
6,064.0	43.90	93.30	5,497.5	4,621.5	5.3	1,544.7	240.8	1.03	-0.31	-0.31
6,127.0	43.00	91.10	5,543.3	4,667.3	3.6	1,588.0	245.8	2.79	-1.43	-1.43
6,190.0	43.20	92.90	5,589.3	4,713.3	2.1	1,631.0	250.9	1.98	0.32	0.32

RECEIVED
Office of Oil and Gas
MAY 29 2015
WV Department of Environmental Protection

Phoenix Technologies

Survey Report

Database: EDM 5000.1 Single User Db Company: EQT Production - Marcellus Project: Wetzel County, WV Site: Wetzel County 513831 Well: Well #513831 Wellbore: Main Wellbore Design: As Drilled Surveys	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method:	Site Wetzel County 513831 KB @ 876.0usft KB @ 876.0usft Grid Minimum Curvature
--	--	--

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,254.0	43.10	93.50	5,636.0	4,760.0	-0.4	1,674.7	255.1	0.66	-0.16	0.94
6,317.0	42.30	91.40	5,682.3	4,806.3	-2.2	1,717.4	259.8	2.59	-1.27	-3.33
6,380.0	41.90	89.50	5,729.0	4,853.0	-2.5	1,759.6	265.9	2.12	-0.63	-3.02
6,443.0	42.10	89.10	5,775.8	4,899.8	-2.0	1,801.8	272.9	0.53	0.32	-0.63
6,506.0	40.80	88.20	5,823.1	4,947.1	-1.0	1,843.5	280.2	2.27	-2.06	-1.43
6,570.0	41.00	89.10	5,871.4	4,995.4	-0.1	1,885.4	287.6	0.97	0.31	1.41
6,633.0	41.10	91.40	5,918.9	5,042.9	-0.2	1,926.7	293.7	2.40	0.16	3.65
6,696.0	42.20	90.70	5,966.0	5,090.0	-1.0	1,968.6	299.3	1.90	1.75	-1.11
6,759.0	42.80	90.60	6,012.5	5,136.5	-1.5	2,011.2	305.3	0.96	0.95	-0.16
6,822.0	43.20	91.50	6,058.5	5,182.5	-2.3	2,054.1	311.1	1.16	0.63	1.43
6,886.0	43.80	92.50	6,105.0	5,229.0	-3.8	2,098.1	316.3	1.43	0.94	1.56
6,949.0	42.90	91.70	6,150.8	5,274.8	-5.4	2,141.4	321.3	1.67	-1.43	-1.27
7,012.0	42.10	90.60	6,197.2	5,321.2	-6.3	2,183.9	327.0	1.73	-1.27	-1.75
7,076.0	42.40	91.50	6,244.6	5,368.6	-7.0	2,226.9	332.8	1.06	0.47	1.41
7,139.0	41.80	92.10	6,291.4	5,415.4	-8.4	2,269.1	337.9	1.15	-0.95	0.95
7,202.0	42.90	90.80	6,337.9	5,461.9	-9.4	2,311.6	343.3	2.23	1.75	-2.06
7,266.0	44.40	90.70	6,384.2	5,508.2	-10.0	2,355.7	349.5	2.35	2.34	-0.16
7,329.0	43.30	88.70	6,429.7	5,553.7	-9.8	2,399.4	356.3	2.81	-1.75	-3.17
7,360.0	42.70	87.70	6,452.3	5,576.3	-9.1	2,420.5	360.2	2.93	-1.94	-3.23
7,392.0	42.40	86.70	6,475.9	5,599.9	-8.1	2,442.1	364.6	2.31	-0.94	-3.13
7,424.0	41.70	84.00	6,499.7	5,623.7	-6.3	2,463.5	369.5	6.06	-2.19	-8.44
7,455.0	41.10	77.30	6,522.9	5,646.9	-3.0	2,483.7	375.9	14.42	-1.94	-21.61
7,487.0	41.30	71.20	6,547.0	5,671.0	2.7	2,503.9	384.6	12.57	0.63	-19.06
7,518.0	41.10	66.10	6,570.3	5,694.3	10.1	2,523.0	394.9	10.85	-0.65	-16.45
7,550.0	39.30	62.50	6,594.8	5,718.8	19.1	2,541.6	406.6	9.18	-5.63	-11.25
7,582.0	39.20	58.40	6,619.6	5,743.6	29.0	2,559.2	419.1	8.11	-0.31	-12.81
7,613.0	40.30	53.70	6,643.4	5,767.4	40.1	2,575.6	432.6	10.32	3.55	-15.16
7,645.0	40.90	48.90	6,667.7	5,791.7	53.1	2,591.8	447.9	9.94	1.88	-15.00
7,676.0	42.00	44.60	6,691.0	5,815.0	67.2	2,606.8	464.1	9.84	3.55	-13.87
7,708.0	43.10	40.40	6,714.5	5,838.5	83.1	2,621.4	482.1	9.52	3.44	-13.13
7,740.0	44.10	39.10	6,737.7	5,861.7	100.1	2,635.5	501.0	4.20	3.13	-4.06
7,771.0	44.40	36.10	6,759.9	5,883.9	117.2	2,648.7	519.9	6.82	0.97	-9.68
7,803.0	45.80	32.50	6,782.5	5,906.5	136.0	2,661.4	540.4	9.09	4.38	-11.25
7,834.0	47.50	28.80	6,803.8	5,927.8	155.4	2,672.9	561.3	10.26	5.48	-11.94
7,866.0	48.80	24.60	6,825.1	5,949.1	176.7	2,683.6	584.0	10.59	4.06	-13.13
7,898.0	50.30	21.40	6,845.9	5,969.9	199.1	2,693.1	607.6	8.94	4.69	-10.00
7,929.0	52.00	18.80	6,865.4	5,989.4	221.7	2,701.4	631.2	8.53	5.48	-8.39
7,961.0	54.40	15.30	6,884.5	6,008.5	246.2	2,708.9	656.6	11.53	7.50	-10.94
7,992.0	55.80	11.70	6,902.3	6,026.3	270.9	2,714.8	681.9	10.54	4.52	-11.61
8,024.0	58.30	7.80	6,919.7	6,043.7	297.4	2,719.4	708.8	12.87	7.81	-12.19
8,056.0	60.60	4.40	6,935.9	6,059.9	324.8	2,722.3	736.3	11.63	7.19	-10.63
8,087.0	62.50	1.40	6,950.7	6,074.7	352.0	2,723.7	763.4	10.49	6.13	-9.68
8,119.0	64.80	358.70	6,964.9	6,088.9	380.7	2,723.7	791.7	10.43	7.19	-8.44

RECEIVED
Office of Oil and Gas

MAY 29 2015

WV Department of
Environmental Protection

Phoenix Technologies

Survey Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 513831
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 876.0usft
Project:	Wetzel County, WV	MD Reference:	KB @ 876.0usft
Site:	Wetzel County 513831	North Reference:	Grid
Well:	Well #513831	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	As Drilled Surveys		

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,150.0	67.40	357.70	6,977.5	6,101.5	409.0	2,722.8	819.6	8.89	8.39	-3.23
8,182.0	69.10	356.30	6,989.3	6,113.3	438.7	2,721.2	848.7	6.69	5.31	-4.38
8,214.0	71.30	352.90	7,000.2	6,124.2	468.7	2,718.4	877.9	12.13	6.88	-10.63
8,245.0	73.40	350.70	7,009.6	6,133.6	497.9	2,714.2	906.1	9.57	6.77	-7.10
8,277.0	75.70	348.30	7,018.1	6,142.1	528.2	2,708.5	935.2	10.19	7.19	-7.50
8,308.0	77.80	345.30	7,025.2	6,149.2	557.6	2,701.7	963.2	11.60	6.77	-9.68
8,340.0	79.80	341.90	7,031.4	6,155.4	587.7	2,692.8	991.6	12.15	6.25	-10.63
8,372.0	82.30	339.30	7,036.4	6,160.4	617.5	2,682.3	1,019.4	11.20	7.81	-8.13
8,403.0	85.50	339.00	7,039.7	6,163.7	646.3	2,671.3	1,046.2	10.37	10.32	-0.97
8,434.0	88.60	338.50	7,041.3	6,165.3	675.1	2,660.1	1,073.0	10.13	10.00	-1.61
513831 LP 1080' VS										
8,442.3	89.07	338.32	7,041.5	6,165.5	682.8	2,657.1	1,080.2	6.04	5.62	-2.19
8,466.0	90.40	337.80	7,041.6	6,165.6	704.8	2,648.2	1,100.6	6.04	5.63	-2.19
8,529.0	90.60	337.30	7,041.0	6,165.0	763.1	2,624.1	1,154.4	0.85	0.32	-0.79
8,592.0	91.40	337.40	7,039.9	6,163.9	821.2	2,599.9	1,208.2	1.28	1.27	0.16
513829 Top of Perf										
8,602.9	91.28	337.31	7,039.7	6,163.7	831.3	2,595.7	1,217.5	1.37	-1.11	-0.79
8,655.0	90.70	336.90	7,038.8	6,162.8	879.2	2,575.4	1,261.8	1.37	-1.11	-0.79
8,718.0	91.10	336.90	7,037.8	6,161.8	937.2	2,550.7	1,315.3	0.63	0.63	0.00
8,781.0	90.50	336.20	7,036.9	6,160.9	995.0	2,525.6	1,368.6	1.46	-0.95	-1.11
8,845.0	90.70	336.60	7,036.2	6,160.2	1,053.6	2,500.0	1,422.7	0.70	0.31	0.63
8,908.0	89.80	337.20	7,036.0	6,160.0	1,111.6	2,475.3	1,476.2	1.72	-1.43	0.95
8,970.0	89.70	337.50	7,036.2	6,160.2	1,168.8	2,451.4	1,529.1	0.51	-0.16	0.48
9,034.0	90.50	337.80	7,036.1	6,160.1	1,228.0	2,427.1	1,583.9	1.33	1.25	0.47
9,097.0	89.30	337.40	7,036.2	6,160.2	1,286.2	2,403.1	1,637.8	2.01	-1.90	-0.63
513831 Plat LP										
9,152.2	89.12	337.84	7,037.0	6,161.0	1,337.3	2,382.1	1,685.0	0.85	-0.32	0.79
9,160.0	89.10	337.90	7,037.1	6,161.1	1,344.5	2,379.1	1,691.7	0.85	-0.32	0.79
9,223.0	90.00	337.50	7,037.6	6,161.6	1,402.8	2,355.2	1,745.6	1.56	1.43	-0.63
9,286.0	90.10	337.40	7,037.5	6,161.5	1,461.0	2,331.1	1,799.5	0.22	0.16	-0.16
9,349.0	90.90	337.30	7,037.0	6,161.0	1,519.1	2,306.8	1,853.2	1.28	1.27	-0.16
9,413.0	90.40	337.30	7,036.3	6,160.3	1,578.1	2,282.1	1,907.8	0.78	-0.78	0.00
9,476.0	89.80	337.00	7,036.2	6,160.2	1,636.2	2,257.6	1,961.4	1.06	-0.95	-0.48
9,539.0	90.30	336.70	7,036.1	6,160.1	1,694.1	2,232.9	2,014.9	0.93	0.79	-0.48
9,602.0	90.90	336.30	7,035.4	6,159.4	1,751.9	2,207.8	2,068.2	1.14	0.95	-0.63
9,665.0	90.90	336.10	7,034.5	6,158.5	1,809.5	2,182.3	2,121.3	0.32	0.00	-0.32
9,728.0	89.80	336.10	7,034.1	6,158.1	1,867.1	2,156.8	2,174.3	1.75	-1.75	0.00
9,791.0	88.50	337.00	7,035.0	6,159.0	1,924.9	2,131.7	2,227.6	2.51	-2.06	1.43
9,854.0	89.40	337.20	7,036.2	6,160.2	1,982.9	2,107.2	2,281.2	1.46	1.43	0.32
9,917.0	90.30	337.80	7,036.3	6,160.3	2,041.1	2,083.1	2,335.0	1.72	1.43	0.95
9,981.0	91.20	338.00	7,035.5	6,159.5	2,100.4	2,059.0	2,389.9	1.44	1.41	0.31
10,044.0	90.60	338.40	7,034.5	6,158.5	2,158.9	2,035.7	2,444.2	1.14	-0.95	0.63
10,107.0	90.20	338.00	7,034.1	6,158.1	2,217.4	2,012.3	2,498.4	0.90	-0.63	-0.63

RECEIVED
Office of Oil and Gas

MAY 29 2015

WV Department of
Environmental Protection

Phoenix Technologies
Survey Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 513831
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 876.0usft
Project:	Wetzel County, WV	MD Reference:	KB @ 876.0usft
Site:	Wetzel County 513831	North Reference:	Grid
Well:	Well #513831	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	As Drilled Surveys		

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,170.0	89.80	337.90	7,034.1	6,158.1	2,275.8	1,988.6	2,552.5	0.65	-0.63	-0.16
10,233.0	89.50	337.20	7,034.4	6,158.4	2,334.0	1,964.5	2,606.4	1.21	-0.48	-1.11
10,296.0	90.30	337.40	7,034.5	6,158.5	2,392.1	1,940.2	2,660.1	1.31	1.27	0.32
10,359.0	90.50	335.80	7,034.1	6,158.1	2,450.0	1,915.2	2,713.4	2.56	0.32	-2.54
10,422.0	90.20	335.10	7,033.7	6,157.7	2,507.3	1,889.0	2,766.1	1.21	-0.48	-1.11
10,485.0	91.30	334.90	7,032.9	6,156.9	2,564.4	1,862.4	2,818.4	1.77	1.75	-0.32
10,548.0	91.10	334.60	7,031.6	6,155.6	2,621.3	1,835.6	2,870.6	0.57	-0.32	-0.48
10,611.0	90.10	335.20	7,030.9	6,154.9	2,678.4	1,808.8	2,923.0	1.85	-1.59	0.95
10,675.0	91.10	335.50	7,030.3	6,154.3	2,736.5	1,782.1	2,976.4	1.63	1.56	0.47
10,737.0	91.30	335.90	7,029.0	6,153.0	2,793.0	1,756.6	3,028.3	0.72	0.32	0.65
10,801.0	89.50	335.30	7,028.5	6,152.5	2,851.3	1,730.2	3,081.9	2.96	-2.81	-0.94
10,863.0	89.10	335.90	7,029.3	6,153.3	2,907.8	1,704.6	3,133.8	1.16	-0.65	0.97
10,926.0	88.20	336.20	7,030.7	6,154.7	2,965.3	1,679.0	3,186.7	1.51	-1.43	0.48
10,990.0	89.10	335.80	7,032.3	6,156.3	3,023.8	1,653.0	3,240.5	1.54	1.41	-0.63
11,053.0	93.50	336.00	7,030.8	6,154.8	3,081.2	1,627.3	3,293.4	6.99	6.98	0.32
11,116.0	94.20	335.40	7,026.6	6,150.6	3,138.5	1,601.4	3,346.1	1.46	1.11	-0.95
11,179.0	94.00	335.90	7,022.1	6,146.1	3,195.8	1,575.5	3,398.7	0.85	-0.32	0.79
11,243.0	91.30	336.20	7,019.1	6,143.1	3,254.2	1,549.6	3,452.5	4.24	-4.22	0.47
11,306.0	90.50	337.60	7,018.1	6,142.1	3,312.1	1,524.8	3,506.0	2.56	-1.27	2.22
11,369.0	91.40	338.20	7,017.1	6,141.1	3,370.5	1,501.1	3,560.1	1.72	1.43	0.95
11,432.0	92.40	338.20	7,015.0	6,139.0	3,429.0	1,477.8	3,614.3	1.59	1.59	0.00
11,495.0	91.30	338.40	7,013.0	6,137.0	3,487.5	1,454.5	3,668.5	1.77	-1.75	0.32
11,558.0	90.60	338.30	7,011.9	6,135.9	3,546.0	1,431.2	3,722.9	1.12	-1.11	-0.16
11,621.0	91.20	338.40	7,010.9	6,134.9	3,604.6	1,408.0	3,777.2	0.97	0.95	0.16
11,684.0	90.20	337.00	7,010.2	6,134.2	3,662.9	1,384.1	3,831.1	2.73	-1.59	-2.22
11,747.0	88.80	336.50	7,010.7	6,134.7	3,720.7	1,359.2	3,884.5	2.36	-2.22	-0.79
11,810.0	89.90	337.20	7,011.4	6,135.4	3,778.7	1,334.5	3,938.0	2.07	1.75	1.11
11,873.0	90.40	337.90	7,011.3	6,135.3	3,836.9	1,310.4	3,991.9	1.37	0.79	1.11
11,936.0	90.70	338.40	7,010.7	6,134.7	3,895.4	1,287.0	4,046.1	0.93	0.48	0.79
11,999.0	91.40	337.90	7,009.5	6,133.5	3,953.8	1,263.5	4,100.3	1.37	1.11	-0.79
12,062.0	91.60	337.90	7,007.9	6,131.9	4,012.2	1,239.8	4,154.3	0.32	0.32	0.00
12,125.0	90.50	337.50	7,006.7	6,130.7	4,070.4	1,215.9	4,208.3	1.86	-1.75	-0.63
12,188.0	90.50	336.30	7,006.2	6,130.2	4,128.4	1,191.2	4,261.8	1.90	0.00	-1.90
12,251.0	91.00	336.30	7,005.3	6,129.3	4,186.1	1,165.9	4,314.9	0.79	0.79	0.00
12,314.0	92.30	336.80	7,003.5	6,127.5	4,243.8	1,140.8	4,368.2	2.21	2.06	0.79
12,378.0	91.30	336.40	7,001.5	6,125.5	4,302.5	1,115.4	4,422.3	1.68	-1.56	-0.63
12,441.0	89.70	336.80	7,001.0	6,125.0	4,360.4	1,090.4	4,475.7	2.62	-2.54	0.63
12,504.0	89.60	337.10	7,001.3	6,125.3	4,418.3	1,065.7	4,529.2	0.50	-0.16	0.48
12,567.0	88.70	337.00	7,002.3	6,126.3	4,476.3	1,041.2	4,582.8	1.44	-1.43	-0.16
12,630.0	89.20	337.10	7,003.4	6,127.4	4,534.3	1,016.6	4,636.4	0.81	0.79	0.16
12,693.0	90.90	337.90	7,003.4	6,127.4	4,592.5	992.5	4,690.2	2.98	2.70	1.27
12,756.0	90.30	337.60	7,002.7	6,126.7	4,650.8	968.7	4,744.2	1.06	-0.95	-0.48

RECEIVED
Office of Oil and Gas
MAY 29 2015

WV Department of
Environmental Protection

Phoenix Technologies
Survey Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 513831
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 876.0usft
Project:	Wetzel County, WV	MD Reference:	KB @ 876.0usft
Site:	Wetzel County 513831	North Reference:	Grid
Well:	Well #513831	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	As Drilled Surveys		

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,820.0	88.80	337.40	7,003.2	6,127.2	4,710.0	944.2	4,798.9	2.36	-2.34	-0.31
12,883.0	89.70	337.60	7,004.0	6,128.0	4,768.2	920.1	4,852.7	1.46	1.43	0.32
12,946.0	88.70	336.50	7,004.9	6,128.9	4,826.2	895.5	4,906.3	2.36	-1.59	-1.75
13,009.0	89.70	336.40	7,005.8	6,129.8	4,883.9	870.3	4,959.5	1.60	1.59	-0.16
13,072.0	90.80	336.60	7,005.5	6,129.5	4,941.7	845.2	5,012.8	1.77	1.75	0.32
13,135.0	91.40	336.40	7,004.3	6,128.3	4,999.5	820.1	5,066.1	1.00	0.95	-0.32
Final Survey =13184' MD/7003' TVD										
13,184.0	90.60	335.00	7,003.5	6,127.5	5,044.1	799.9	5,107.1	3.29	-1.63	-2.86
513831 Plat TD										
13,232.2	90.60	335.00	7,003.0	6,127.0	5,087.8	779.6	5,147.2	0.00	0.00	0.00
Projection to TD=13236' MD/7003' TVD										
13,236.0	90.60	335.00	7,002.9	6,126.9	5,091.2	778.0	5,150.3	0.00	0.00	0.00

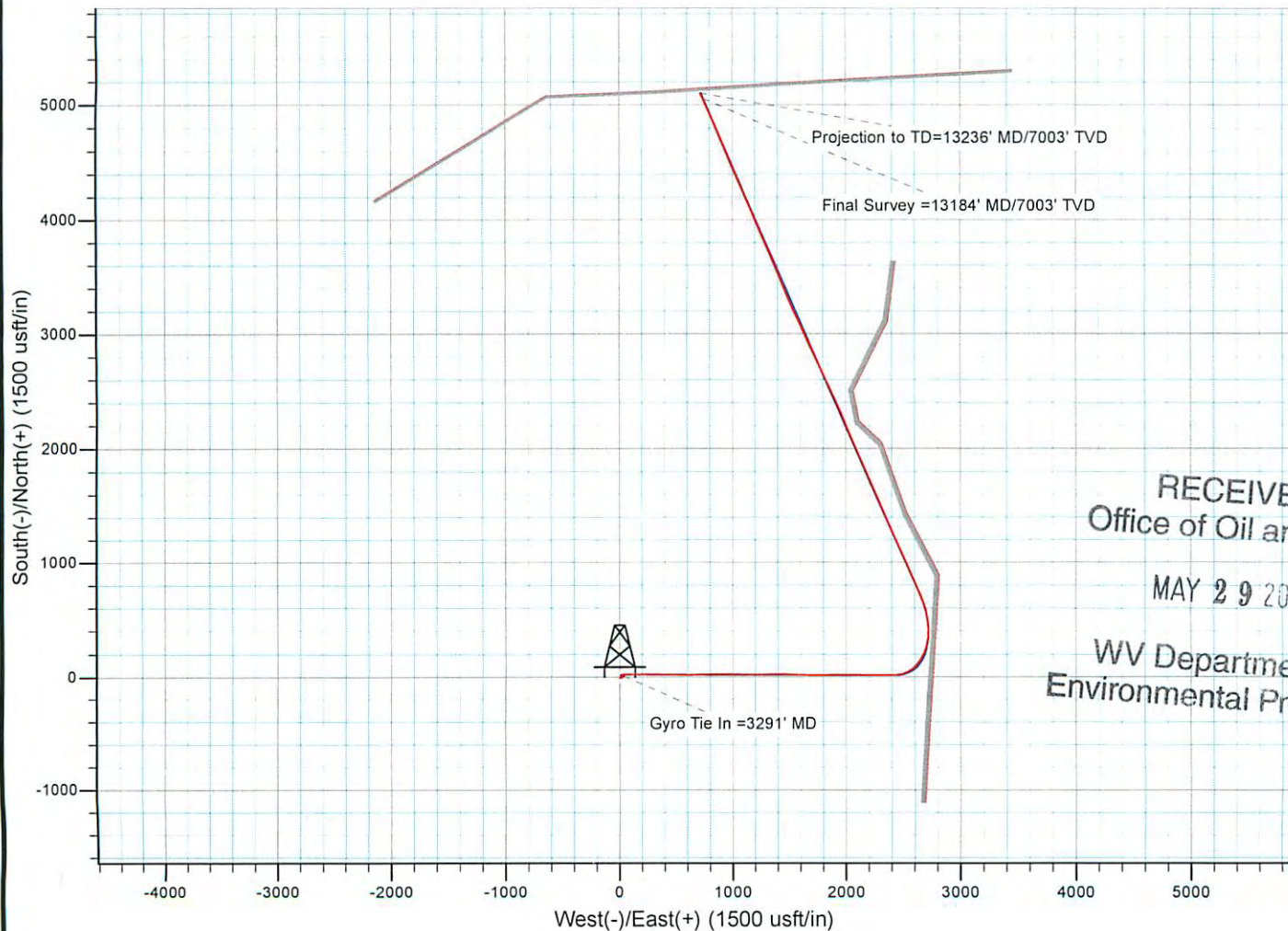
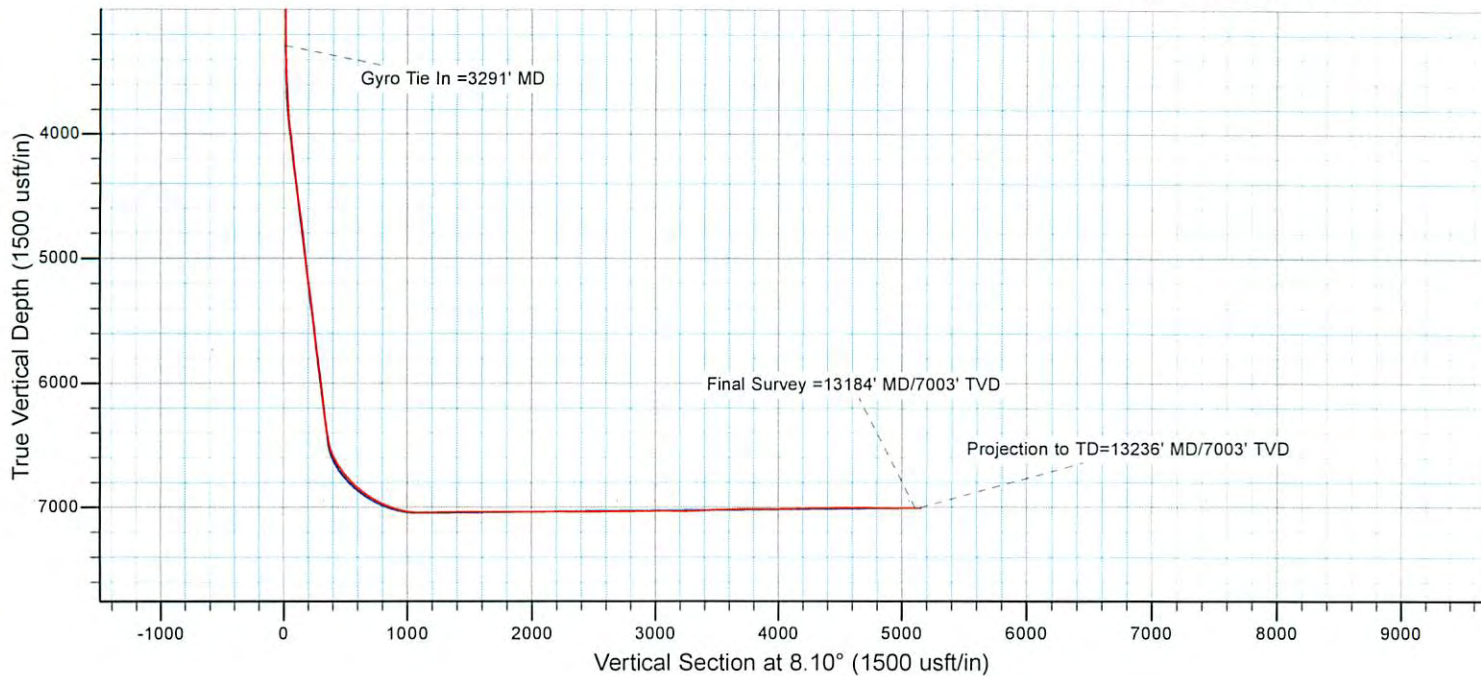
Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
3,291.0	3,290.4	9.0	31.3	Gyro Tie In =3291' MD	
13,184.0	7,003.5	5,044.1	799.9	Final Survey =13184' MD/7003' TVD	
13,236.0	7,002.9	5,091.2	778.0	Projection to TD=13236' MD/7003' TVD	

Checked By: _____ Approved By: _____ Date: _____

RECEIVED
Office of Oil and Gas
MAY 29 2015
WV Department of
Environmental Protection

EQT Production - Marcellus

Project: Wetzel County, WV
 Site: Wetzel County 513831
 Well: Well #513831
 Wellbore: Main Wellbore
 Design: As Drilled Surveys



RECEIVED
 Office of Oil and Gas
 MAY 29 2015
 WV Department of
 Environmental Protection