

EQT Production - Marcellus

Wetzel County, WV

Wetzel County 513983

Well #513983

Main Wellbore

Design: 513983 As Drilled Surveys

Standard Survey Report

03 February, 2015

Received
Office of Oil & Gas
JUN 22 2015

Phoenix Technologies

Survey Report

Database: EDM 5000.1 Single User Db	Local Co-ordinate Reference: Site Wetzel County 513983	
Company: EQT Production - Marcellus	TVD Reference: KB @ 1474.0usft	
Project: Wetzel County, WV	MD Reference: KB @ 1474.0usft	
Site: Wetzel County 513983	North Reference: Grid	
Well: Well #513983	Survey Calculation Method: Minimum Curvature	
Wellbore: Main Wellbore		
Design: 513983 As Drilled Surveys		

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 513983					
Site Position:		Northing: 390,042.00 usft	Latitude: 39.57		
From: Map		Easting: 1,682,376.00 usft	Longitude: -80.63		
Position Uncertainty: 0.0 usft		Slot Radius: 13-3/16 "	Grid Convergence: -0.72 °		

Well Well #513983					
Well Position	+N/-S 0.0 usft	Northing: 390,042.00 usft	Latitude: 39° 33' 55.529 N		
	+E/-W 0.0 usft	Easting: 1,682,376.00 usft	Longitude: 80° 37' 36.007 W		
Position Uncertainty	0.0 usft	Wellhead Elevation: usft	Ground Level: 1,458.0 usft		

Wellbore Main Wellbore					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	1/19/2015	-8.67	66.95	52,342

Design 513983 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	133.89	

Survey Program Date 2/3/2015					
From (')	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	3,704.6	513983 Gyrodata Gyros (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop	
0.00	12,728.0	513983 PHX 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	-1,474.0	0.0	0.0	0.0	0.00	0.00	0.00
103.0	0.35	176.96	103.0	-1,371.0	-0.3	0.0	0.2	0.34	0.34	0.00
203.0	0.16	162.99	203.0	-1,271.0	-0.8	0.1	0.6	0.20	-0.19	-13.97
303.0	0.11	211.21	303.0	-1,171.0	-1.0	0.1	0.7	0.12	-0.05	48.22
403.0	0.10	213.33	403.0	-1,071.0	-1.1	0.0	0.8	0.01	2.2	2.2
503.0	0.10	163.86	503.0	-971.0	-1.3	-0.1	0.8	0.00	0.00	-49.47
603.0	0.09	247.34	603.0	-871.0	-1.4	-0.1	0.9	0.13	-0.01	0.00
703.0	0.10	263.00	703.0	-771.0	-1.4	-0.3	0.8	0.03	0.00	15.66

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Site:	Wetzel County 513983	North Reference:	Grid
Well:	Well #513983	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	513983 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	0.14	213.21	803.0	-671.0	-1.5	-0.4	0.8	0.11	0.04	-49.79	
903.0	0.06	56.26	903.0	-571.0	-1.6	-0.4	0.8	0.20	-0.08	-156.95	
1,003.0	0.10	147.14	1,003.0	-471.0	-1.7	-0.3	0.9	0.12	0.04	90.88	
1,103.0	0.13	279.03	1,103.0	-371.0	-1.7	-0.4	0.9	0.21	0.03	131.89	
1,203.0	0.14	255.47	1,203.0	-271.0	-1.7	-0.6	0.7	0.06	0.01	-23.56	
1,303.0	0.18	219.65	1,303.0	-171.0	-1.9	-0.9	0.7	0.11	0.04	-35.82	
1,403.0	0.18	244.01	1,403.0	-71.0	-2.1	-1.1	0.6	0.08	0.00	24.36	
1,503.0	0.16	226.13	1,503.0	29.0	-2.2	-1.3	0.6	0.06	-0.02	-17.88	
1,603.0	0.12	244.06	1,603.0	129.0	-2.4	-1.5	0.5	0.06	-0.04	17.93	
1,703.0	0.17	226.39	1,703.0	229.0	-2.5	-1.7	0.5	0.07	0.05	-17.67	
1,803.0	0.21	158.59	1,803.0	329.0	-2.8	-1.8	0.7	0.21	0.04	-67.80	
1,903.0	0.10	196.46	1,903.0	429.0	-3.1	-1.7	0.9	0.14	-0.11	37.87	
2,003.0	0.26	90.73	2,003.0	529.0	-3.1	-1.5	1.1	0.30	0.16	-105.73	
2,103.0	0.45	80.19	2,103.0	629.0	-3.1	-0.9	1.5	0.20	0.19	-10.54	
2,203.0	0.73	91.42	2,203.0	729.0	-3.0	0.1	2.2	0.30	0.28	11.23	
2,303.0	0.89	89.03	2,303.0	829.0	-3.0	1.5	3.2	0.16	0.16	-2.39	
2,403.0	0.85	97.90	2,403.0	929.0	-3.1	3.0	4.3	0.14	-0.04	8.87	
2,503.0	0.69	86.42	2,503.0	1,029.0	-3.2	4.4	5.3	0.22	-0.16	-11.48	
2,603.0	0.72	88.62	2,602.9	1,128.9	-3.1	5.6	6.2	0.04	0.03	2.20	
2,703.0	0.90	96.30	2,702.9	1,228.9	-3.2	7.0	7.3	0.21	0.18	7.68	
2,803.0	1.00	105.94	2,802.9	1,328.9	-3.5	8.6	8.7	0.19	0.10	9.64	
2,903.0	0.90	117.88	2,902.9	1,428.9	-4.1	10.1	10.2	0.22	-0.10	11.94	
3,003.0	0.86	120.28	3,002.9	1,528.9	-4.9	11.5	11.7	0.05	-0.04	2.40	
3,103.0	0.99	127.64	3,102.9	1,628.9	-5.8	12.8	13.3	0.18	0.13	7.36	
3,203.0	0.88	121.97	3,202.9	1,728.9	-6.7	14.2	14.9	0.14	-0.11	-5.67	
3,303.0	0.92	136.60	3,302.9	1,828.9	-7.7	15.4	16.4	0.23	0.04	14.63	
3,313.0	0.79	129.90	3,312.9	1,838.9	-7.8	15.5	16.6	1.64	-1.30	-67.00	
3,333.0	0.79	126.72	3,332.9	1,858.9	-8.0	15.7	16.8	0.22	0.00	-15.90	
3,353.0	0.76	129.17	3,352.9	1,878.9	-8.2	15.9	17.1	0.22	-0.15	12.25	
3,373.0	0.76	130.83	3,372.9	1,898.9	-8.3	16.1	17.4	0.11	0.00	8.35	
3,393.0	0.75	131.59	3,392.9	1,918.9	-8.5	16.3	17.6	0.07	-0.05	3.80	
3,413.0	0.74	133.26	3,412.9	1,938.9	-8.7	16.5	17.9	0.12	-0.05	8.35	
3,433.0	0.78	133.07	3,432.8	1,958.8	-8.9	16.7	18.2	0.20	0.20	-0.95	
3,453.0	0.80	133.64	3,452.8	1,978.8	-9.0	16.9	18.4	0.11	0.10	2.85	
3,473.0	0.78	134.99	3,472.8	1,998.8	-9.2	17.1	18.7	0.14	-0.10	6.75	
3,493.0	0.72	131.52	3,492.8	2,018.8	-9.4	17.3	19.0	0.38	-0.30	-17.35	
3,513.0	0.72	131.73	3,512.8	2,038.8	-9.6	17.5	19.2	0.01	0.00	1.05	
3,533.0	0.66	141.49	3,532.8	2,058.8	-9.8	17.6	19.5	0.66	-0.30	48.80	
3,553.0	0.50	149.07	3,552.8	2,078.8	-9.9	17.7	19.7	0.89	-0.80	37.90	
3,573.0	0.44	155.89	3,572.8	2,098.8	-10.1	17.8	19.8	0.41	-0.30	34.10	
3,593.0	0.41	157.96	3,592.8	2,118.8	-10.2	17.9	20.0	0.17	-0.15	10.35	
3,613.0	0.37	151.46	3,612.8	2,138.8	-10.3	17.9	20.1	0.30	-0.20	-32.50	

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Site: Wetzel County 513983	North Reference: Gnd	
Well: Well #513983	Survey Calculation Method: Minimum Curvature	
Wellbore: Main Wellbore		
Design: 513983 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)
3,633.0	0.30	142.23	3,632.8	2,158.8	-10.4	18.0	20.2	0.44	-0.35	-46.15
3,653.0	0.39	177.93	3,652.8	2,178.8	-10.5	18.0	20.3	1.14	0.45	178.50
3,673.0	0.35	180.63	3,672.8	2,198.8	-10.7	18.0	20.4	0.22	-0.20	13.50
3,693.0	0.36	178.71	3,692.8	2,218.8	-10.8	18.0	20.5	0.08	0.05	-9.60
Gyro Tie In=3705' MD										
3,704.6	0.33	172.40	3,704.4	2,230.4	-10.9	18.0	20.5	0.42	-0.26	-54.40
3,727.0	1.20	351.80	3,726.8	2,252.8	-10.7	18.0	20.4	6.83	3.88	800.89
3,759.0	4.30	357.90	3,758.8	2,284.8	-9.2	17.9	19.3	9.72	9.69	19.06
3,790.0	7.30	359.70	3,789.6	2,315.6	-6.0	17.9	17.1	9.69	9.68	5.81
3,822.0	9.70	4.40	3,821.3	2,347.3	-1.3	18.1	13.9	7.80	7.50	14.69
3,853.0	10.40	11.30	3,851.8	2,377.8	4.0	18.8	10.8	4.49	2.26	22.26
3,885.0	10.20	14.60	3,883.3	2,409.3	9.6	20.1	7.8	1.95	-0.63	10.31
3,916.0	9.80	13.40	3,913.8	2,439.8	14.8	21.4	5.1	1.45	-1.29	-3.87
3,948.0	9.50	12.10	3,945.4	2,471.4	20.1	22.6	2.4	1.16	-0.94	-4.06
3,979.0	9.00	10.90	3,976.0	2,502.0	25.0	23.6	-0.3	1.73	-1.61	-3.87
4,011.0	8.70	10.80	4,007.6	2,533.6	29.8	24.5	-3.0	0.94	-0.94	-0.31
4,042.0	8.90	13.90	4,038.2	2,564.2	34.4	25.5	-5.5	1.66	0.65	10.00
4,074.0	8.70	17.50	4,069.8	2,595.8	39.1	26.8	-7.8	1.83	-0.63	11.25
4,105.0	8.70	16.10	4,100.5	2,626.5	43.6	28.2	-9.9	0.68	0.00	-4.52
4,137.0	9.90	13.70	4,132.1	2,658.1	48.6	29.5	-12.4	3.94	3.75	-7.50
4,168.0	11.70	20.30	4,162.5	2,688.5	54.2	31.2	-15.0	7.04	5.81	21.29
4,200.0	12.70	34.00	4,193.8	2,719.8	60.1	34.3	-16.9	9.55	3.13	42.81
4,231.0	14.20	42.00	4,223.9	2,749.9	65.8	38.8	-17.6	7.70	4.84	25.81
4,263.0	16.20	43.20	4,254.8	2,780.8	71.9	44.5	-17.8	6.33	6.25	3.75
4,294.0	17.10	46.30	4,284.5	2,810.5	78.2	50.7	-17.7	4.08	2.90	10.00
4,326.0	19.00	52.20	4,315.0	2,841.0	84.7	58.2	-16.7	8.23	5.94	18.44
4,357.0	20.60	59.40	4,344.1	2,870.1	90.6	66.9	-14.5	9.40	5.16	23.23
4,389.0	22.40	66.60	4,373.9	2,899.9	95.8	77.4	-10.7	9.97	5.63	22.50
4,420.0	24.00	69.00	4,402.4	2,928.4	100.5	88.7	-5.7	5.99	5.16	7.74
4,452.0	25.60	67.30	4,431.4	2,957.4	105.5	101.1	-0.2	5.47	5.00	-5.31
4,484.0	26.90	66.50	4,460.1	2,986.1	111.0	114.2	5.3	4.21	4.06	-2.50
4,515.0	29.60	68.10	4,487.4	3,013.4	116.7	127.7	11.1	9.05	8.71	5.16
4,547.0	31.70	69.70	4,515.0	3,041.0	122.5	142.9	18.0	7.04	6.56	5.00
4,578.0	34.00	71.00	4,541.0	3,067.0	128.2	158.7	25.5	7.76	7.42	4.19
4,610.0	36.20	71.80	4,567.2	3,093.2	134.0	176.2	34.0	7.02	6.88	2.50
4,641.0	38.40	72.20	4,591.9	3,117.9	139.8	194.0	42.9	7.14	7.10	1.29
4,673.0	40.70	73.10	4,616.5	3,142.5	145.9	213.5	52.7	7.41	7.19	2.81
4,736.0	42.50	73.30	4,663.6	3,189.6	158.0	253.5	73.2	2.86	2.86	0.32
4,800.0	41.50	73.80	4,711.2	3,237.2	170.1	294.6	94.4	1.65	-1.56	0.78
4,863.0	41.90	73.90	4,758.2	3,284.2	181.8	334.9	115.3	0.64	0.63	0.16
4,926.0	41.10	73.30	4,805.4	3,331.4	193.6	374.9	136.0	1.42	-1.27	-0.95
4,990.0	41.30	73.80	4,853.6	3,379.6	205.5	415.3	156.9	0.60	0.31	0.78
5,053.0	39.90	73.10	4,901.4	3,427.4	217.2	454.6	177.1	2.34	-2.22	-1.11

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5,116.0	40.70	74.80	4,949.5	3,475.5	228.4	493.8	197.5	2.16	1.27	2.70	
5,179.0	39.60	74.20	4,997.6	3,523.6	239.3	532.9	218.2	1.85	-1.75	-0.95	
5,242.0	42.50	73.60	5,045.1	3,571.1	250.8	572.7	238.9	4.65	4.60	-0.95	
5,305.0	41.80	74.10	5,091.8	3,617.8	262.5	613.3	260.0	1.23	-1.11	0.79	
5,369.0	43.70	75.60	5,138.8	3,664.8	273.9	655.2	282.3	3.37	2.97	2.34	
5,432.0	42.70	75.30	5,184.7	3,710.7	284.7	697.0	304.9	1.62	-1.59	-0.48	
5,495.0	43.10	75.50	5,230.9	3,756.9	295.5	738.5	327.3	0.67	0.63	0.32	
5,558.0	42.10	74.80	5,277.3	3,803.3	306.4	779.7	349.4	1.76	-1.59	-1.11	
5,621.0	42.90	73.70	5,323.7	3,849.7	318.0	820.7	371.0	1.73	1.27	-1.75	
5,684.0	42.90	74.20	5,369.9	3,895.9	329.9	861.9	392.4	0.54	0.00	0.79	
5,747.0	43.40	74.80	5,415.8	3,941.8	341.4	903.4	414.4	1.03	0.79	0.95	
5,810.0	41.80	73.90	5,462.2	3,988.2	352.9	944.4	436.0	2.72	-2.54	-1.43	
5,874.0	41.80	74.00	5,509.9	4,035.9	364.7	985.4	457.4	0.10	0.00	0.16	
5,936.0	43.10	74.80	5,555.7	4,081.7	375.9	1,025.7	478.6	2.27	2.10	1.29	
5,999.0	41.50	73.10	5,602.3	4,128.3	387.6	1,066.5	499.9	3.12	-2.54	-2.70	
6,063.0	41.00	74.50	5,650.4	4,176.4	399.4	1,107.0	520.9	1.64	-0.78	2.19	
6,126.0	40.40	74.20	5,698.1	4,224.1	410.5	1,146.6	541.7	1.00	-0.95	-0.48	
6,189.0	40.40	74.90	5,746.1	4,272.1	421.4	1,185.9	562.5	0.72	0.00	1.11	
6,252.0	41.00	75.90	5,793.9	4,319.9	431.7	1,225.7	584.0	1.41	0.95	1.59	
6,315.0	41.00	75.30	5,841.4	4,367.4	442.0	1,265.7	605.7	0.62	0.00	-0.95	
6,378.0	40.80	73.90	5,889.0	4,415.0	452.9	1,305.5	626.8	1.49	-0.32	-2.22	
6,441.0	39.50	72.90	5,937.2	4,463.2	464.5	1,344.4	646.8	2.30	-2.06	-1.59	
6,504.0	39.10	72.60	5,986.0	4,512.0	476.4	1,382.5	666.1	0.70	-0.63	-0.48	
6,567.0	39.40	71.90	6,034.7	4,560.7	488.5	1,420.5	685.0	0.85	0.48	-1.11	
6,630.0	37.80	72.30	6,084.0	4,610.0	500.6	1,457.9	703.6	2.57	-2.54	0.63	
6,693.0	38.10	72.60	6,133.7	4,659.7	512.3	1,494.8	722.1	0.56	0.48	0.48	
6,757.0	39.80	74.00	6,183.4	4,709.4	523.8	1,533.4	741.9	2.99	2.66	2.19	
6,820.0	39.40	73.40	6,232.0	4,758.0	535.1	1,571.9	761.8	0.88	-0.63	-0.95	
6,883.0	39.30	73.30	6,280.7	4,806.7	546.6	1,610.2	781.5	0.19	-0.16	-0.16	
6,946.0	38.30	73.20	6,329.8	4,855.8	557.9	1,648.0	800.8	1.59	-1.59	-0.16	
7,009.0	39.70	75.10	6,378.7	4,904.7	568.8	1,686.1	820.8	2.92	2.22	3.02	
7,072.0	40.60	75.80	6,426.9	4,952.9	579.0	1,725.4	842.1	1.60	1.43	1.11	
7,136.0	44.30	76.10	6,474.1	5,000.1	589.4	1,767.3	865.0	5.79	5.78	0.47	
7,199.0	44.50	75.50	6,519.1	5,045.1	600.3	1,810.1	888.3	0.74	0.32	-0.95	
7,262.0	44.20	74.50	6,564.2	5,090.2	611.6	1,852.6	911.1	1.21	-0.48	1.59	
7,325.0	42.70	73.50	6,609.9	5,135.9	623.6	1,894.2	932.8	2.62	-2.38	-1.59	
7,388.0	42.50	73.70	6,656.3	5,182.3	635.6	1,935.1	953.9	0.38	-0.32	0.32	
7,452.0	41.90	73.70	6,703.7	5,229.7	647.7	1,976.4	975.3	0.94	-0.94	0.00	
7,515.0	40.50	72.70	6,751.1	5,277.1	659.7	2,016.1	995.6	2.46	-2.22	-1.59	
7,578.0	39.80	72.20	6,799.2	5,325.2	671.9	2,054.9	1,015.1	1.22	-1.11	-0.79	
7,641.0	40.10	72.40	6,847.5	5,373.5	684.2	2,093.4	1,034.3	0.52	0.48	0.32	
7,704.0	40.00	72.20	6,895.8	5,421.8	696.6	2,132.0	1,053.6	0.26	-0.16	-0.32	
7,736.0	42.20	73.10	6,919.9	5,445.9	702.8	2,152.1	1,063.7	7.12	6.88	2.81	

Received
 Office of Oil & Gas
 JUN 22 2015

Phoenix Technologies

Survey Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Weizel County 513983
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1474.0usft
Project:	Weizel County, WV	MD Reference:	KB @ 1474.0usft
Site:	Weizel County 513983	North Reference:	Gnd
Well:	Well #513983	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	513983 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)
7,767.0	41.60	72.40	6,943.0	5,469.0	709.0	2,171.9	1,073.7	2.45	-1.94	-2.26
7,799.0	41.80	74.30	6,966.9	5,492.9	715.1	2,192.3	1,084.2	4.00	0.63	5.94
7,831.0	41.60	75.60	6,990.7	5,516.7	720.6	2,212.8	1,095.2	2.77	-0.63	4.06
7,862.0	41.20	77.90	7,014.0	5,540.0	725.3	2,232.8	1,106.3	5.07	-1.29	7.42
7,894.0	41.30	83.00	7,038.1	5,564.1	728.8	2,253.6	1,118.8	10.51	0.31	15.94
7,925.0	42.00	88.30	7,061.2	5,587.2	730.3	2,274.1	1,132.6	11.58	2.26	17.10
7,957.0	42.90	92.50	7,084.9	5,610.9	730.2	2,295.7	1,148.2	9.29	2.81	13.13
7,988.0	43.60	97.10	7,107.4	5,633.4	728.4	2,316.8	1,164.7	10.41	2.26	14.84
8,020.0	44.30	101.10	7,130.5	5,656.5	724.9	2,338.8	1,182.9	8.95	2.19	12.50
8,051.0	45.10	105.50	7,152.5	5,678.5	719.9	2,360.0	1,201.7	10.31	2.58	14.19
8,083.0	45.50	109.70	7,175.0	5,701.0	713.0	2,381.6	1,222.1	9.41	1.25	13.13
8,114.0	47.00	113.50	7,196.5	5,722.5	704.7	2,402.4	1,242.8	10.09	4.84	12.26
8,146.0	48.30	116.60	7,218.0	5,744.0	694.7	2,423.9	1,265.2	8.23	4.06	9.69
8,178.0	49.70	119.30	7,239.0	5,765.0	683.4	2,445.2	1,288.4	7.73	4.38	8.44
8,209.0	51.20	122.60	7,258.8	5,784.8	671.1	2,465.7	1,311.7	9.53	4.84	10.65
8,241.0	52.70	125.40	7,278.5	5,804.5	657.0	2,486.6	1,336.5	8.33	4.69	8.75
8,272.0	54.70	128.30	7,296.8	5,822.8	642.0	2,506.5	1,361.3	9.92	6.45	9.35
8,304.0	56.70	130.30	7,314.9	5,840.9	625.3	2,527.0	1,387.6	8.11	6.25	6.25
8,335.0	57.50	132.90	7,331.7	5,857.7	608.0	2,546.4	1,413.6	7.50	2.58	8.39
8,367.0	58.30	135.60	7,348.7	5,874.7	589.1	2,565.9	1,440.8	7.57	2.50	8.44
8,399.0	60.10	138.10	7,365.1	5,891.1	569.0	2,584.7	1,468.2	8.76	5.63	7.81
8,430.0	61.70	140.40	7,380.2	5,906.2	548.5	2,602.3	1,495.2	8.29	5.16	7.42
8,462.0	64.00	141.20	7,394.8	5,920.8	526.4	2,620.3	1,523.4	7.52	7.19	2.50
8,493.0	66.50	142.10	7,407.8	5,933.8	504.4	2,637.8	1,551.3	8.48	8.06	2.90
8,525.0	69.00	144.40	7,419.9	5,945.9	480.6	2,655.5	1,580.5	10.26	7.81	7.19
8,557.0	71.00	147.50	7,430.8	5,956.8	455.7	2,672.3	1,609.9	11.04	6.25	9.69
8,588.0	72.30	150.30	7,440.6	5,966.6	430.5	2,687.5	1,638.4	9.54	4.19	9.03
8,620.0	74.40	153.20	7,449.8	5,975.8	403.5	2,702.0	1,667.5	10.88	6.56	9.06
8,651.0	76.70	155.20	7,457.5	5,983.5	376.5	2,715.1	1,695.7	9.70	7.42	6.45
8,683.0	79.80	156.10	7,464.0	5,990.0	348.0	2,728.0	1,724.8	10.07	9.69	2.81
8,715.0	82.10	158.60	7,469.1	5,995.1	318.8	2,740.2	1,753.7	10.54	7.19	7.81
8,746.0	82.50	161.50	7,473.2	5,999.2	289.9	2,750.6	1,781.3	9.36	1.29	9.35
8,778.0	84.40	164.90	7,476.9	6,002.9	259.5	2,759.8	1,809.0	12.11	5.94	10.63
LP= 8809' MD/7479' TVD										
8,809.0	86.30	165.00	7,479.4	6,005.4	229.7	2,767.9	1,835.5	6.14	6.13	0.32
8,841.0	87.30	164.80	7,481.2	6,007.2	198.8	2,776.2	1,862.9	3.19	3.13	-0.63
8,904.0	87.80	165.10	7,483.9	6,009.9	138.0	2,792.5	1,916.8	0.93	0.79	0.48
8,967.0	87.70	165.80	7,486.3	6,012.3	77.1	2,808.3	1,970.4	1.12	-0.16	1.11
9,030.0	87.70	165.90	7,488.9	6,014.9	16.1	2,823.7	2,023.9	0.16	0.00	0.16
9,093.0	88.20	166.90	7,491.1	6,017.1	-45.1	2,838.5	2,076.9	1.77	0.79	1.59
9,156.0	88.20	166.50	7,493.1	6,019.1	-106.4	2,853.0	2,129.9	0.63	0.00	-0.63
9,219.0	87.50	165.90	7,495.4	6,021.4	-167.6	2,868.0	2,183.1	1.46	-1.11	-0.95

Phoenix Technologies

Survey Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 513983
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1474.0usft
Project:	Wetzel County, WV	MD Reference:	KB @ 1474.0usft
Site:	Wetzel County 513983	North Reference:	Grid
Well:	Well #513983	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	513983 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)	
9,282.0	88.40	164.80	7,497.7	6,023.7	-228.5	2,884.0	2,236.8	2.26	1.43	-1.75	
9,345.0	90.20	164.70	7,498.5	6,024.5	-289.2	2,900.5	2,290.9	2.86	2.86	-0.16	
9,409.0	90.90	165.50	7,497.9	6,023.9	-351.1	2,917.0	2,345.6	1.66	1.09	1.25	
9,472.0	91.10	165.70	7,496.8	6,022.8	-412.1	2,932.6	2,399.2	0.45	0.32	0.32	
9,535.0	88.20	163.30	7,497.1	6,023.1	-472.8	2,949.5	2,453.4	5.97	-4.60	-3.81	
9,598.0	88.60	164.90	7,498.9	6,024.9	-533.4	2,966.7	2,507.8	2.62	0.63	2.54	
9,661.0	89.00	165.40	7,500.2	6,026.2	-594.2	2,982.9	2,561.6	1.02	0.63	0.79	
9,724.0	90.20	168.20	7,500.7	6,026.7	-655.6	2,997.3	2,614.5	4.84	1.90	4.44	
9,786.0	90.90	168.60	7,500.1	6,026.1	-716.3	3,009.7	2,665.6	1.30	1.13	0.65	
9,850.0	91.00	169.70	7,499.0	6,025.0	-779.1	3,021.8	2,717.9	1.73	0.16	1.72	
9,913.0	90.40	169.20	7,498.2	6,024.2	-841.1	3,033.3	2,769.1	1.24	-0.95	-0.79	
9,976.0	89.60	167.60	7,498.2	6,024.2	-902.8	3,046.0	2,821.0	2.84	-1.27	-2.54	
10,039.0	89.20	167.40	7,498.9	6,024.9	-964.3	3,059.6	2,873.5	0.71	-0.63	-0.32	
10,102.0	89.00	167.00	7,499.9	6,025.9	-1,025.7	3,073.6	2,926.1	0.71	-0.32	-0.63	
10,166.0	89.30	166.60	7,500.8	6,026.8	-1,088.0	3,088.2	2,979.9	0.78	0.47	-0.63	
10,228.0	89.80	167.00	7,501.3	6,027.3	-1,148.4	3,102.3	3,031.9	1.03	0.81	0.65	
10,292.0	90.40	167.30	7,501.2	6,027.2	-1,210.8	3,116.6	3,085.4	1.05	0.94	0.47	
10,355.0	89.80	167.70	7,501.1	6,027.1	-1,272.3	3,130.2	3,137.9	1.14	-0.95	0.63	
10,418.0	89.80	167.50	7,501.3	6,027.3	-1,333.8	3,143.7	3,190.3	0.32	0.00	-0.32	
10,481.0	89.40	163.80	7,501.8	6,027.8	-1,394.8	3,159.3	3,243.9	5.91	-0.63	-5.87	
10,544.0	88.90	163.30	7,502.7	6,028.7	-1,455.2	3,177.2	3,298.6	1.12	-0.79	-0.79	
10,607.0	89.30	163.00	7,503.7	6,029.7	-1,515.5	3,195.4	3,353.5	0.79	0.63	-0.48	
10,670.0	89.20	164.60	7,504.5	6,030.5	-1,576.0	3,213.0	3,408.1	2.54	-0.16	2.54	
10,733.0	89.40	164.80	7,505.3	6,031.3	-1,636.8	3,229.6	3,462.3	0.45	0.32	0.32	
10,797.0	89.00	165.10	7,506.2	6,032.2	-1,698.6	3,246.3	3,517.1	0.78	-0.63	0.47	
10,860.0	89.10	165.80	7,507.2	6,033.2	-1,759.6	3,262.1	3,570.7	1.12	0.16	1.11	
10,923.0	90.20	166.40	7,507.6	6,033.6	-1,820.7	3,277.2	3,624.0	1.99	1.75	0.95	
10,986.0	90.30	166.00	7,507.3	6,033.3	-1,881.9	3,292.2	3,677.3	0.65	0.16	-0.63	
11,049.0	90.50	165.50	7,506.9	6,032.9	-1,942.9	3,307.7	3,730.8	0.85	0.32	-0.79	
11,112.0	90.80	165.00	7,506.2	6,032.2	-2,003.9	3,323.8	3,784.6	0.93	0.48	-0.79	
11,175.0	89.80	163.30	7,505.8	6,031.8	-2,064.5	3,341.0	3,839.0	3.13	-1.59	-2.70	
11,238.0	89.40	162.40	7,506.3	6,032.3	-2,124.7	3,359.6	3,894.1	1.56	-0.63	-1.43	
11,301.0	88.50	163.90	7,507.4	6,033.4	-2,184.9	3,377.8	3,949.1	2.78	-1.43	2.38	
11,364.0	88.30	164.70	7,509.2	6,035.2	-2,245.6	3,394.9	4,003.4	1.31	-0.32	1.27	
11,427.0	88.40	165.00	7,511.0	6,037.0	-2,306.4	3,411.3	4,057.4	0.50	0.16	0.48	
11,490.0	88.50	165.40	7,512.7	6,038.7	-2,367.2	3,427.4	4,111.2	0.65	0.16	0.63	
11,554.0	88.90	167.90	7,514.2	6,040.2	-2,429.5	3,442.2	4,165.0	3.95	0.63	3.91	
11,617.0	89.20	168.80	7,515.2	6,041.2	-2,491.2	3,454.9	4,216.9	1.51	0.48	1.43	
11,680.0	89.80	169.80	7,515.8	6,041.8	-2,553.1	3,466.6	4,268.3	1.85	0.95	1.59	
11,743.0	88.60	168.20	7,516.6	6,042.6	-2,614.9	3,478.6	4,319.8	3.17	-1.90	-2.54	
11,806.0	88.00	166.80	7,518.5	6,044.5	-2,676.4	3,492.2	4,372.2	2.42	-0.95	-2.22	
11,869.0	88.60	167.60	7,520.4	6,046.4	-2,737.8	3,506.2	4,424.9	1.59	0.95	1.27	
11,932.0	91.20	171.50	7,520.5	6,046.5	-2,799.7	3,517.6	4,476.0	7.44	4.13	6.19	

Phoenix Technologies

Survey Report

Database: EDM 5000.1 Single User Db Company: EQT Production - Marcellus Project: Wetzel County, WV Site: Wetzel County 513983 Well: Well #513983 Wellbore: Main Wellbore Design: 513983 As Drilled Surveys	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method:	Site Wetzel County 513983 KB @ 1474.0usft KB @ 1474.0usft Grid Minimum Curvature
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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)
11,995.0	92.50	171.00	7,518.5	6,044.5	-2,862.0	3,527.2	4,526.1	2.21	2.06	-0.79
12,059.0	92.60	170.40	7,515.6	6,041.6	-2,925.1	3,537.5	4,577.3	0.95	0.16	-0.94
12,122.0	91.60	169.10	7,513.3	6,039.3	-2,987.0	3,548.7	4,628.3	2.60	-1.59	-2.06
12,185.0	90.90	167.60	7,511.9	6,037.9	-3,048.7	3,561.5	4,680.2	2.63	-1.11	-2.38
12,248.0	90.10	166.60	7,511.4	6,037.4	-3,110.1	3,575.5	4,732.9	2.03	-1.27	-1.59
12,311.0	89.30	166.30	7,511.7	6,037.7	-3,171.4	3,590.3	4,786.0	1.36	-1.27	-0.48
12,375.0	89.10	166.80	7,512.6	6,038.6	-3,233.6	3,605.2	4,839.9	0.84	-0.31	0.78
12,438.0	89.10	166.80	7,513.6	6,039.6	-3,294.9	3,619.5	4,892.8	0.00	0.00	0.00
12,500.0	88.70	165.70	7,514.8	6,040.8	-3,355.1	3,634.3	4,945.2	1.89	-0.65	-1.77
12,564.0	88.80	164.80	7,516.2	6,042.2	-3,417.0	3,650.6	4,999.8	1.41	0.16	-1.41
12,627.0	89.00	164.70	7,517.4	6,043.4	-3,477.8	3,667.1	5,053.9	0.35	0.32	-0.16
Final Survey= 12673' MD/7518' TVD										
12,673.0	89.00	163.70	7,518.2	6,044.2	-3,522.0	3,679.7	5,093.6	2.17	0.00	-2.17
Projection to TD/ Deepest Point of Well= 12728' MD/7519' TVD										
12,728.0	89.00	163.70	7,519.1	6,045.1	-3,574.8	3,695.1	5,141.3	0.00	0.00	0.00

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
3,704.6	3,704.4	-10.9	18.0	Gyro Tie In=3705' MD	
8,809.0	7,479.4	229.7	2,767.9	LP= 8809' MD/7479' TVD	
12,673.0	7,518.2	-3,522.0	3,679.7	Final Survey= 12673' MD/7518' TVD	
12,728.0	7,519.1	-3,574.8	3,695.1	Projection to TD/ Deepest Point of Well= 12728' MD/7519' TVD	

Checked By: _____ Approved By: _____ Date: _____

EQT Production - Marcellus

Project: Wetzel County, WV
Site: Wetzel County 513983
Well: Well #513983
Wellbore: Main Wellbore
Design: 513983 As Drilled Surveys

