

103-02870

PHOENIX
TECHNOLOGY SERVICES



EQT Production - Marcellus

Wetzel County, WV
Wetzel County 514383
Well 514383

Main Wellbore

Design: As Drilled Surveys

Standard Survey Report

23 December, 2013

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Office of Oil and Gas
DEC 19 2014
WV Department of
Environmental Protection



Where energy meets innovation.

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Office of Oil and Gas
DEC 19 2014
WV Department of Environmental Protection

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Wetzel County 514383
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1345.0 usft
Project:	Wetzel County, WV	MD Reference:	KB @ 1345.0 usft
Site:	Wetzel County 514383	North Reference:	Grid
Well:	Well 514383	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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 514383				
Site Position:		Northing:	385,168.00 usft	Latitude:	39.55
From:	Map	Easting:	1,678,302.00 usft	Longitude:	-80.64
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.73 °

Well	Well 514383					
Well Position	+N-S	0.0 usft	Northing:	385,168.00 usft	Latitude:	39° 33' 6.851 N
	+E-W	0.0 usft	Easting:	1,678,302.00 usft	Longitude:	80° 38' 27.235 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	1,330.0 usft

Wellbore	Main Wellbore				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	12/11/2013	-8.61	67.05	52,473

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	175.95	

Survey Program	Date	12/23/2013			
From (')	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	4,888.0	514383 Gyrodata Gyros (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop	
0.00	6,920.0	514383 MWD (Main Wellbore)	MWD	MWD - Standard	
0.00	11,945.0	514383 Curve and Lateral (Main Wellbore)	MWD	MWD - Standard	

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	-1,346.0	0.0	0.0	0.0	0.00	0.00	0.00
103.0	0.47	185.88	103.0	-1,243.0	-0.4	0.0	0.4	0.46	0.46	0.00
203.0	0.29	204.39	203.0	-1,143.0	-1.1	-0.2	1.0	0.22	-0.18	18.51
303.0	0.18	203.41	303.0	-1,043.0	-1.4	-0.4	1.4	0.11	-0.11	-0.98
403.0	0.08	159.87	403.0	-943.0	-1.6	-0.4	1.6	0.13	-0.10	-43.54
503.0	0.10	192.39	503.0	-843.0	-1.8	-0.4	1.8	0.05	0.02	32.52
603.0	0.10	206.34	603.0	-743.0	-2.0	-0.4	1.9	0.02	0.00	13.95

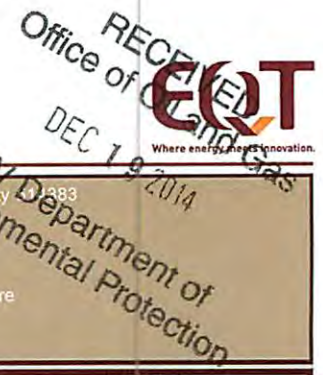
Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Wetzel County 514383
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 0usft
Project:	Wetzel County, WV	MD Reference:	KB @ 1346.0usft
Site:	Wetzel County 514383	North Reference:	Grid
Well:	Well 514383	Survey Calculation Method:	Minimum 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)	
703.0	0.05	50.03	703.0	-643.0	-2.0	-0.5	2.0	0.15	-0.05	-156.31	
803.0	0.12	343.71	803.0	-543.0	-1.9	-0.4	1.8	0.11	0.07	-66.32	
903.0	0.06	34.20	903.0	-443.0	-1.7	-0.4	1.7	0.09	-0.06	50.49	
1,003.0	0.07	308.79	1,003.0	-343.0	-1.7	-0.5	1.6	0.09	0.01	-85.41	
1,103.0	0.06	351.21	1,103.0	-243.0	-1.6	-0.5	1.5	0.05	-0.01	42.42	
1,203.0	0.19	19.36	1,203.0	-143.0	-1.4	-0.5	1.3	0.14	0.13	28.15	
1,303.0	0.17	46.91	1,303.0	-43.0	-1.1	-0.3	1.1	0.09	-0.02	27.55	
1,403.0	0.22	64.84	1,403.0	57.0	-0.9	0.0	0.9	0.08	0.05	17.93	
1,503.0	0.31	109.93	1,503.0	157.0	-0.9	0.4	1.0	0.22	0.09	45.09	
1,603.0	0.22	105.97	1,603.0	257.0	-1.1	0.8	1.1	0.09	-0.09	-3.96	
1,703.0	0.27	115.48	1,703.0	357.0	-1.2	1.2	1.3	0.06	0.05	9.51	
1,803.0	0.25	138.15	1,803.0	457.0	-1.5	1.6	1.6	0.10	-0.02	22.67	
1,903.0	0.44	107.52	1,903.0	557.0	-1.8	2.1	1.9	0.26	0.19	-30.63	
2,003.0	0.61	110.40	2,003.0	657.0	-2.1	3.0	2.3	0.17	0.17	2.88	
2,103.0	0.78	121.20	2,103.0	757.0	-2.6	4.1	2.9	0.21	0.17	10.80	
2,203.0	1.06	120.25	2,203.0	857.0	-3.4	5.4	3.8	0.28	0.28	-0.95	
2,303.0	1.14	122.20	2,302.9	956.9	-4.4	7.1	4.9	0.09	0.08	1.95	
2,403.0	1.24	122.73	2,402.9	1,056.9	-5.5	8.8	6.1	0.10	0.10	0.53	
2,503.0	1.39	122.41	2,502.9	1,156.9	-6.8	10.8	7.5	0.15	0.15	-0.32	
2,603.0	1.43	122.25	2,602.9	1,256.9	-8.1	12.8	9.0	0.04	0.04	-0.16	
2,703.0	1.35	127.63	2,702.8	1,356.8	-9.5	14.8	10.5	0.15	-0.08	5.38	
2,803.0	1.29	128.28	2,802.8	1,456.8	-10.9	16.6	12.0	0.06	-0.06	0.65	
2,903.0	1.37	129.45	2,902.8	1,556.8	-12.3	18.4	13.6	0.08	0.08	1.17	
3,003.0	1.41	131.98	3,002.8	1,656.8	-13.9	20.3	15.3	0.07	0.04	2.53	
3,103.0	1.48	132.41	3,102.7	1,756.7	-15.6	22.2	17.1	0.07	0.07	0.43	
3,203.0	1.54	128.81	3,202.7	1,856.7	-17.3	24.2	19.0	0.11	0.06	-3.60	
3,303.0	1.62	131.89	3,302.6	1,956.6	-19.1	26.3	20.9	0.12	0.08	3.08	
3,403.0	1.51	135.94	3,402.6	2,056.6	-21.0	28.2	23.0	0.16	-0.11	4.05	
3,503.0	1.36	136.36	3,502.6	2,156.6	-22.8	30.0	24.9	0.15	-0.15	0.42	
3,603.0	0.96	138.00	3,602.6	2,256.6	-24.3	31.3	26.4	0.40	-0.40	1.64	
3,703.0	0.72	135.13	3,702.5	2,356.5	-25.4	32.3	27.6	0.24	-0.24	-2.87	
3,803.0	0.51	137.60	3,802.5	2,456.5	-26.1	33.1	28.4	0.21	-0.21	2.47	
3,903.0	0.31	158.73	3,902.5	2,556.5	-26.7	33.5	29.0	0.25	-0.20	21.13	
4,003.0	0.17	155.44	4,002.5	2,656.5	-27.1	33.6	29.4	0.14	-0.14	-3.29	
4,103.0	0.08	158.20	4,102.5	2,756.5	-27.3	33.7	29.6	0.09	-0.09	2.76	
4,203.0	0.20	174.85	4,202.5	2,856.5	-27.5	33.8	29.9	0.13	0.12	16.65	
4,303.0	0.10	220.17	4,302.5	2,956.5	-27.8	33.7	30.1	0.15	-0.10	45.32	
4,403.0	0.09	251.18	4,402.5	3,056.5	-27.9	33.6	30.2	0.05	-0.01	31.01	
4,503.0	0.08	113.94	4,502.5	3,156.5	-27.9	33.6	30.2	0.16	-0.01	-137.24	
4,603.0	0.30	69.73	4,602.5	3,256.5	-27.9	33.9	30.2	0.25	0.22	-44.21	
4,703.0	0.37	79.75	4,702.5	3,356.5	-27.7	34.5	30.1	0.09	0.07	10.02	
4,803.0	0.63	54.75	4,802.5	3,456.5	-27.3	35.2	29.8	0.33	0.26	-25.00	

Gyro Tie In=4885' MD

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 514383
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1346
Project:	Wetzel County, WV	MD Reference:	KB @ 1346
Site:	Wetzel County 514383	North Reference:	Grid
Well:	Well 514383	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)	
4,888.0	0.75	60.21	4,887.5	3,541.5	-26.8	36.1	29.3	0.16	0.14	6.42	
4,933.0	0.80	55.30	4,932.5	3,586.5	-26.5	36.6	29.0	0.18	0.11	-10.91	
4,975.0	0.70	52.00	4,974.5	3,628.5	-26.2	37.1	28.7	0.26	-0.24	-7.86	
5,019.0	0.80	43.20	5,018.5	3,672.5	-25.8	37.5	28.3	0.35	0.23	-20.00	
5,062.0	0.90	28.20	5,061.5	3,715.5	-25.2	37.8	27.9	0.57	0.23	-34.88	
5,105.0	1.60	248.10	5,104.5	3,758.5	-25.2	37.4	27.8	5.49	1.63	-325.81	
5,148.0	5.20	232.40	5,147.4	3,801.4	-26.6	35.3	29.0	8.57	8.37	-36.51	
5,191.0	8.60	237.80	5,190.1	3,844.1	-29.5	31.1	31.6	8.04	7.91	12.56	
5,234.0	12.60	239.80	5,232.4	3,886.4	-33.6	24.3	35.2	9.34	9.30	4.65	
5,277.0	16.30	235.70	5,274.0	3,928.0	-39.3	15.3	40.3	8.92	8.60	-9.53	
5,320.0	20.40	234.30	5,314.8	3,968.8	-47.1	4.2	47.3	9.59	9.53	-3.26	
5,363.0	24.70	234.90	5,354.5	4,008.5	-56.6	-9.3	55.8	10.01	10.00	1.40	
5,406.0	28.40	237.20	5,393.0	4,047.0	-67.4	-25.2	65.4	8.93	8.60	5.35	
5,449.0	32.70	239.50	5,430.0	4,084.0	-78.8	-43.8	75.5	10.36	10.00	5.35	
5,492.0	36.90	243.00	5,465.3	4,119.3	-90.6	-65.3	85.7	10.81	9.77	8.14	
5,535.0	41.10	245.90	5,498.7	4,152.7	-102.2	-89.8	95.6	10.65	9.77	6.74	
5,578.0	42.60	247.50	5,530.7	4,184.7	-113.5	-116.1	105.1	4.28	3.49	3.72	
5,621.0	42.60	246.90	5,562.4	4,216.4	-124.8	-142.9	114.4	0.94	0.00	-1.40	
5,664.0	42.00	247.00	5,594.2	4,248.2	-136.1	-169.6	123.8	1.40	-1.40	0.23	
5,707.0	42.30	248.40	5,626.1	4,280.1	-147.1	-196.3	132.9	2.29	0.70	3.26	
5,750.0	41.90	248.00	5,658.0	4,312.0	-157.8	-223.0	141.7	1.12	-0.93	-0.93	
5,793.0	42.20	250.00	5,689.9	4,343.9	-168.1	-249.9	150.1	3.19	0.70	4.65	
5,836.0	42.10	249.60	5,721.8	4,375.8	-178.1	-277.0	158.1	0.67	-0.23	-0.93	
5,879.0	43.10	250.00	5,753.4	4,407.4	-188.1	-304.3	166.2	2.41	2.33	0.93	
5,922.0	42.50	248.80	5,785.0	4,439.0	-198.4	-331.7	174.5	2.35	-1.40	-2.79	
5,965.0	41.80	247.70	5,816.9	4,470.9	-209.1	-358.5	183.3	2.37	-1.63	-2.56	
6,008.0	42.90	249.40	5,848.7	4,502.7	-219.7	-385.4	191.9	3.69	2.56	3.95	
6,051.0	42.70	249.80	5,880.2	4,534.2	-229.9	-412.8	200.2	0.78	-0.47	0.93	
6,094.0	43.60	250.70	5,911.6	4,565.6	-239.8	-440.5	208.1	2.54	2.09	2.09	
6,137.0	43.20	250.90	5,942.8	4,596.8	-249.5	-468.4	215.8	0.98	-0.93	0.47	
6,180.0	42.80	251.00	5,974.3	4,628.3	-259.1	-496.1	223.4	0.94	-0.93	0.23	
6,223.0	42.20	250.40	6,006.0	4,660.0	-268.7	-523.5	231.1	1.68	-1.40	-1.40	
6,266.0	43.50	250.60	6,037.5	4,691.5	-278.5	-551.1	238.9	3.04	3.02	0.47	
6,309.0	43.80	251.00	6,068.6	4,722.6	-288.2	-579.1	246.6	0.95	0.70	0.93	
6,352.0	43.60	251.00	6,099.7	4,753.7	-297.9	-607.2	254.3	0.47	-0.47	0.00	
6,395.0	44.70	250.40	6,130.5	4,784.5	-307.8	-635.5	262.2	2.74	2.56	-1.40	
6,438.0	44.50	249.80	6,161.2	4,815.2	-318.1	-663.9	270.4	1.08	-0.47	-1.40	
6,481.0	44.10	249.90	6,191.9	4,845.9	-328.4	-692.1	278.8	0.94	-0.93	0.23	
6,524.0	43.90	250.00	6,222.9	4,876.9	-338.7	-720.1	287.0	0.49	-0.47	0.23	
6,567.0	43.30	249.00	6,254.0	4,908.0	-349.0	-747.9	295.4	2.13	-1.40	-2.33	
6,610.0	43.20	247.50	6,285.3	4,939.3	-360.0	-775.3	304.3	2.40	-0.23	-3.49	
6,653.0	42.60	247.00	6,316.8	4,970.8	-371.3	-802.3	313.7	1.60	-1.40	-1.16	



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Project:	Wetzel County, WV	MD Reference:	KB @ 1346.0usft
Site:	Wetzel County 514383	North Reference:	Grid
Well:	Well 514383	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)	
6,696.0	43.00	247.80	6,348.4	5,002.4	-382.5	-829.2	323.0	1.57	0.93	1.86	
6,739.0	43.00	245.80	6,379.8	5,033.8	-394.0	-856.2	332.7	3.17	0.00	-4.65	
6,782.0	44.30	247.30	6,410.9	5,064.9	-405.9	-883.4	342.5	3.86	3.02	3.49	
6,825.0	43.90	247.50	6,441.8	5,095.8	-417.4	-911.0	352.0	0.98	-0.93	0.47	
6,868.0	43.40	247.50	6,472.9	5,126.9	-428.7	-938.5	361.4	1.16	-1.16	0.00	
6,911.0	43.20	246.70	6,504.2	5,158.2	-440.2	-965.6	371.0	1.36	-0.47	-1.86	
Final Survey MD=6917' - Plan Tie In=4920' MD											
6,920.0	43.20	247.10	6,510.8	5,164.8	-442.6	-971.3	373.0	3.04	0.00	4.44	
6,940.0	44.50	244.60	6,525.2	5,179.2	-448.3	-983.9	377.7	10.83	6.50	-12.50	
6,972.0	45.00	245.90	6,547.9	5,201.9	-457.7	-1,004.4	385.7	3.26	1.56	4.06	
7,004.0	43.70	251.50	6,570.8	5,224.8	-465.8	-1,025.2	392.3	12.89	-4.06	17.50	
7,035.0	42.80	256.50	6,593.4	5,247.4	-471.7	-1,045.6	396.7	11.42	-2.90	16.13	
7,067.0	42.60	257.30	6,616.9	5,270.9	-476.6	-1,066.7	400.2	1.81	-0.63	2.50	
7,099.0	42.90	256.00	6,640.4	5,294.4	-481.6	-1,087.9	403.7	2.91	0.94	-4.06	
7,131.0	42.70	256.10	6,663.9	5,317.9	-486.9	-1,109.0	407.4	0.66	-0.63	0.31	
7,194.0	42.30	254.60	6,710.4	5,364.4	-497.6	-1,150.2	415.2	1.73	-0.63	-2.38	
7,258.0	41.70	256.00	6,757.9	5,411.9	-508.5	-1,191.6	423.2	1.74	-0.94	2.19	
7,289.0	41.80	257.30	6,781.1	5,435.1	-513.3	-1,211.7	426.5	2.81	0.32	4.19	
7,321.0	40.60	253.90	6,805.1	5,459.1	-518.5	-1,232.1	430.3	7.94	-3.75	-10.63	
7,353.0	40.10	248.10	6,829.5	5,483.5	-525.2	-1,251.6	435.6	11.84	-1.56	-18.13	
7,385.0	39.70	241.60	6,854.1	5,508.1	-533.9	-1,270.2	443.0	13.09	-1.25	-20.31	
7,416.0	39.80	236.50	6,877.9	5,531.9	-544.1	-1,287.2	451.9	10.52	0.32	-16.45	
7,448.0	39.80	231.90	6,902.5	5,556.5	-556.1	-1,303.8	462.7	9.20	0.00	-14.38	
7,480.0	39.40	230.60	6,927.2	5,581.2	-568.9	-1,319.7	474.3	2.88	-1.25	-4.06	
7,511.0	39.80	226.30	6,951.1	5,605.1	-582.0	-1,334.5	486.4	8.93	1.29	-13.87	
7,543.0	41.20	222.50	6,975.4	5,629.4	-596.8	-1,349.0	500.1	8.87	4.38	-11.88	
7,575.0	42.50	219.10	6,999.2	5,653.2	-613.0	-1,362.9	515.3	8.17	4.06	-10.63	
7,606.0	43.40	213.80	7,021.9	5,675.9	-630.0	-1,375.5	531.3	12.00	2.90	-17.10	
7,638.0	44.90	208.10	7,044.9	5,698.9	-649.1	-1,386.9	549.6	13.26	4.69	-17.81	
7,670.0	45.50	205.30	7,067.5	5,721.5	-669.4	-1,397.1	569.1	6.49	1.88	-8.75	
7,701.0	46.20	201.90	7,089.1	5,743.1	-689.7	-1,406.0	588.8	8.19	2.26	-10.97	
7,733.0	48.30	198.00	7,110.8	5,764.8	-711.8	-1,414.0	610.3	11.10	6.56	-12.19	
7,765.0	50.90	194.40	7,131.5	5,785.5	-735.2	-1,420.8	633.1	11.81	8.13	-11.25	
7,796.0	53.70	191.10	7,150.5	5,804.5	-759.1	-1,426.2	656.6	12.35	9.03	-10.65	
7,828.0	55.30	190.20	7,169.1	5,823.1	-784.7	-1,431.0	681.8	5.50	5.00	-2.81	
7,860.0	57.20	187.40	7,186.8	5,840.8	-811.0	-1,435.1	707.7	9.39	5.94	-8.75	
7,891.0	60.60	183.50	7,202.9	5,856.9	-837.4	-1,437.6	733.9	15.37	10.97	-12.58	
7,923.0	63.50	179.90	7,217.9	5,871.9	-865.7	-1,438.4	762.0	13.45	9.06	-11.25	
7,955.0	65.80	175.30	7,231.6	5,885.6	-894.6	-1,437.2	790.9	14.84	7.19	-14.38	
7,986.0	69.20	172.50	7,243.4	5,897.4	-923.0	-1,434.1	819.5	13.78	10.97	-9.03	
8,018.0	70.10	169.50	7,254.6	5,908.6	-952.7	-1,429.4	849.4	9.23	2.81	-9.38	
8,050.0	71.30	168.20	7,265.1	5,919.1	-982.3	-1,423.6	879.4	5.36	3.75	-4.06	
8,081.0	74.10	167.60	7,274.4	5,928.4	-1,011.2	-1,417.4	908.7	9.22	9.03	-1.94	

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 514383
Company:	EQT Production - Marcellus	TVD Reference:	KB 1343.0 usft
Project:	Wetzel County, WV	MD Reference:	KB 1343.0 usft
Site:	Wetzel County 514383	North Reference:	Grid
Well:	Well 514383	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)	
8,113.0	77.10	164.70	7,282.3	5,936.3	-1,041.3	-1,410.0	939.2	12.84	9.38	-9.06	
8,145.0	79.20	163.50	7,288.9	5,942.9	-1,071.4	-1,401.4	969.9	7.52	6.56	-3.75	
8,176.0	80.30	161.80	7,294.4	5,948.4	-1,100.5	-1,392.3	999.6	6.46	3.55	-5.48	
8,208.0	82.20	160.20	7,299.3	5,953.3	-1,130.4	-1,382.0	1,030.1	7.72	5.94	-5.00	
8,240.0	84.30	158.70	7,303.0	5,957.0	-1,160.2	-1,370.8	1,060.6	8.05	6.56	-4.69	
8,271.0	85.80	156.00	7,305.7	5,959.7	-1,188.7	-1,358.9	1,089.8	9.93	4.84	-8.71	
8,297.0	87.40	154.40	7,307.2	5,961.2	-1,212.3	-1,348.1	1,114.1	8.70	6.15	-6.15	
8,326.0	89.70	154.10	7,308.0	5,962.0	-1,238.4	-1,335.5	1,141.0	8.00	7.93	-1.03	
8,390.0	90.50	155.00	7,307.9	5,961.9	-1,296.2	-1,308.0	1,200.6	1.88	1.25	1.41	
8,453.0	88.80	153.80	7,308.3	5,962.3	-1,353.0	-1,280.7	1,259.2	3.30	-2.70	-1.90	
8,517.0	88.20	153.80	7,309.9	5,963.9	-1,410.4	-1,252.5	1,318.5	0.94	-0.94	0.00	
8,580.0	88.00	153.40	7,312.0	5,966.0	-1,466.8	-1,224.5	1,376.7	0.71	-0.32	-0.63	
8,643.0	87.60	152.50	7,314.4	5,968.4	-1,522.8	-1,195.9	1,434.7	1.56	-0.63	-1.43	
8,707.0	87.30	152.30	7,317.3	5,971.3	-1,579.5	-1,166.3	1,493.3	0.56	-0.47	-0.31	
8,770.0	87.90	151.60	7,319.9	5,973.9	-1,635.1	-1,136.7	1,550.8	1.46	0.95	-1.11	
8,833.0	89.50	150.80	7,321.4	5,975.4	-1,690.2	-1,106.3	1,608.0	2.84	2.54	-1.27	
8,897.0	90.50	154.50	7,321.4	5,975.4	-1,747.1	-1,076.9	1,666.7	5.99	1.56	5.78	
8,960.0	90.70	154.40	7,320.7	5,974.7	-1,803.9	-1,049.7	1,725.3	0.35	0.32	-0.16	
9,023.0	90.40	153.30	7,320.1	5,974.1	-1,860.5	-1,022.0	1,783.7	1.81	-0.48	-1.75	
9,087.0	89.50	151.80	7,320.1	5,974.1	-1,917.3	-992.5	1,842.4	2.73	-1.41	-2.34	
9,150.0	89.30	151.90	7,320.8	5,974.8	-1,972.8	-962.8	1,899.9	0.35	-0.32	0.16	
9,214.0	89.40	152.50	7,321.5	5,975.5	-2,029.4	-932.9	1,958.5	0.95	0.16	0.94	
9,277.0	89.10	152.00	7,322.4	5,976.4	-2,085.2	-903.6	2,016.2	0.93	-0.48	-0.79	
9,340.0	90.10	154.90	7,322.8	5,976.8	-2,141.5	-875.4	2,074.4	4.87	1.59	4.60	
9,403.0	89.90	153.80	7,322.8	5,976.8	-2,198.3	-848.2	2,133.0	1.77	-0.32	-1.75	
9,466.0	89.70	152.40	7,323.0	5,977.0	-2,254.5	-819.7	2,191.0	2.24	-0.32	-2.22	
9,530.0	89.90	153.50	7,323.2	5,977.2	-2,311.5	-790.5	2,249.9	1.75	0.31	1.72	
9,593.0	89.40	152.60	7,323.6	5,977.6	-2,367.6	-762.0	2,308.0	1.63	-0.79	-1.43	
9,656.0	90.10	152.40	7,323.9	5,977.9	-2,423.5	-732.9	2,365.8	1.16	1.11	-0.32	
9,720.0	91.00	151.60	7,323.3	5,977.3	-2,480.0	-702.9	2,424.2	1.88	1.41	-1.25	
9,783.0	90.70	150.90	7,322.3	5,976.3	-2,535.2	-672.6	2,481.5	1.21	-0.48	-1.11	
9,846.0	90.30	149.50	7,321.8	5,975.8	-2,589.9	-641.3	2,538.2	2.31	-0.63	-2.22	
9,910.0	90.50	150.30	7,321.4	5,975.4	-2,645.3	-609.2	2,595.7	1.29	0.31	1.25	
9,973.0	90.80	150.70	7,320.6	5,974.6	-2,700.1	-578.1	2,652.6	0.79	0.48	0.63	
10,036.0	90.60	150.80	7,319.9	5,973.9	-2,755.1	-547.4	2,709.6	0.35	-0.32	0.16	
10,100.0	90.40	150.60	7,319.3	5,973.3	-2,810.9	-516.0	2,767.5	0.44	-0.31	-0.31	
10,163.0	90.90	151.20	7,318.6	5,972.6	-2,865.9	-485.4	2,824.5	1.24	0.79	0.95	
10,226.0	91.10	151.70	7,317.5	5,971.5	-2,921.3	-455.3	2,881.8	0.85	0.32	0.79	
10,290.0	90.00	151.10	7,316.9	5,970.9	-2,977.4	-424.7	2,940.1	1.96	-1.72	-0.94	
10,353.0	88.70	151.00	7,317.6	5,971.6	-3,032.6	-394.2	2,997.2	2.07	-2.06	-0.16	
10,416.0	88.80	150.80	7,319.0	5,973.0	-3,087.6	-363.5	3,054.2	0.35	0.16	-0.32	
10,480.0	89.50	151.50	7,319.9	5,973.9	-3,143.6	-332.7	3,112.3	1.55	1.09	1.09	

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Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 514383
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1346 usft
Project:	Wetzel County, WV	MD Reference:	KB @ 1346 usft
Site:	Wetzel County 514383	North Reference:	Grid
Well:	Well 514383	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	As Drilled Surveys		

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)
10,543.0	90.00	154.00	7,320.2	5,974.2	-3,199.7	-303.8	3,170.2	4.05	0.79	3.97
10,606.0	89.20	152.30	7,320.6	5,974.6	-3,255.9	-275.4	3,228.3	2.98	-1.27	-2.70
10,670.0	88.90	152.20	7,321.7	5,975.7	-3,312.5	-245.6	3,286.9	0.49	-0.47	-0.16
10,733.0	88.60	151.90	7,323.1	5,977.1	-3,368.1	-216.1	3,344.5	0.67	-0.48	-0.48
10,797.0	89.30	153.20	7,324.2	5,978.2	-3,424.9	-186.6	3,403.2	2.31	1.09	2.03
10,860.0	90.60	154.60	7,324.3	5,978.3	-3,481.5	-158.8	3,461.6	3.03	2.06	2.22
10,923.0	90.50	154.50	7,323.7	5,977.7	-3,538.4	-131.8	3,520.2	0.22	-0.16	-0.16
10,987.0	90.50	154.30	7,323.1	5,977.1	-3,596.1	-104.1	3,579.8	0.31	0.00	-0.31
11,050.0	90.40	153.90	7,322.6	5,976.6	-3,652.8	-76.6	3,638.2	0.65	-0.16	-0.63
11,114.0	89.80	153.80	7,322.5	5,976.5	-3,710.2	-48.4	3,697.5	0.95	-0.94	-0.16
11,177.0	89.60	153.50	7,322.9	5,976.9	-3,766.7	-20.4	3,755.8	0.57	-0.32	-0.48
11,240.0	89.50	152.70	7,323.4	5,977.4	-3,822.8	8.1	3,813.9	1.28	-0.16	-1.27
11,304.0	89.70	153.80	7,323.8	5,977.8	-3,880.0	36.9	3,872.9	1.75	0.31	1.72
11,367.0	89.90	153.60	7,324.0	5,978.0	-3,936.5	64.8	3,931.2	0.45	0.32	-0.32
11,430.0	89.40	153.40	7,324.4	5,978.4	-3,992.8	92.9	3,989.4	0.85	-0.79	-0.32
11,493.0	89.10	153.40	7,325.2	5,979.2	-4,049.2	121.1	4,047.6	0.48	-0.48	0.00
11,556.0	88.70	153.50	7,326.4	5,980.4	-4,105.5	149.3	4,105.8	0.65	-0.63	0.16
11,620.0	89.70	153.40	7,327.3	5,981.3	-4,162.8	177.9	4,164.9	1.57	1.56	-0.16
11,683.0	91.10	153.20	7,326.9	5,980.9	-4,219.0	206.2	4,223.1	2.24	2.22	-0.32
11,746.0	91.20	153.20	7,325.6	5,979.6	-4,275.3	234.6	4,281.2	0.16	0.16	0.00
11,810.0	90.20	152.90	7,324.8	5,978.8	-4,332.3	263.6	4,340.1	1.63	-1.56	-0.47
11,873.0	90.00	153.70	7,324.7	5,978.7	-4,388.6	291.9	4,398.2	1.31	-0.32	1.27
Last Survey MD=11887'										
11,887.0	90.10	153.50	7,324.7	5,978.7	-4,401.1	298.1	4,411.2	1.60	0.71	-1.43
Projection to TD MD=11945'										
11,945.0	90.10	153.50	7,324.6	5,978.6	-4,453.0	324.0	4,464.8	0.00	0.00	0.00

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,888.0	4,887.5	-26.8	36.1	Gyro Tie In=4885' MD
6,920.0	6,510.8	-442.6	-971.3	Final Survey MD=6917'
6,920.0	6,510.8	-442.6	-971.3	Plan Tie In=4920' MD
11,887.0	7,324.7	-4,401.1	298.1	Last Survey MD=11887'
11,945.0	7,324.6	-4,453.0	324.0	Projection to TD MD=11945'

Checked By: _____ Approved By: _____ Date: _____



EQT Production - Marcellus

Project: Wetzel County, WV
 Site: Wetzel County 514383
 Well: Well 514383
 Wellbore: Main Wellbore
 Design: As Drilled Surveys

