



EQT Production - Marcellus

Wetzel County, WV
Wetzel County 513918
Well #513918

Main Wellbore

Design: 513918 As Drilled Surveys

Standard Survey Report

14 May, 2015



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API 47- 103 - 03042 Farm name RICHARD DALLISON ET AL Well number 513918

Drilling Contractor Savanna Drilling
Address 2204 Timberloch Place Suite 230 City Woodlands State TX Zip 77380

Logging Company GYRODATA
Address 601 MAYER ST City BRIDGEVILLE State PA Zip 15017

Logging Company _____
Address _____ City _____ State _____ Zip _____

Cementing Company Baker Hughes
Address 837 Philippi Pike City Clarksburgh State WV Zip 26301

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PHX
Survey Report



Database:	EDM 5000 1 Single User PO	Local Co-ordinate Reference:	King (MGA) Zone: 1100 N
Company:	EQT Production - Minerals	TVD Reference:	KBW 12 W. AIR Mast
Project:	West Virginia, WV	MD Reference:	KBW 12 W. IRD Mast
Site:	West Virginia, 513918	North Reference:	GRD
Well:	513918 B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	513918 APD (Red Survey)		

Project:	513918 APD (Red Survey)		
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:	513918 APD (Red Survey)				
Site Position:	Map	Northing:	376 078 80 usft	Latitude:	39 53
From:		Easting:	1 694,753 80 usft	Longitude:	-83 58
Position Uncertainty:	0 0 usft	Spot Radius:	13-316 "	Grid Convergence:	-0 69 "

Well:	513918 APD (Red Survey)					
Well Position:	+N-S	0 0 usft	Northing:	376,078 80 usft	Latitude:	39° 31' 39 033 N
	+E-W	0 0 usft	Easting:	1,694,753 80 usft	Longitude:	80 34' 55 812 W
Position Uncertainty:	0 0 usft	Wellhead Elevation:	usft	Ground Level:	1 452 0 usft	

Wellbore:	513918 APD (Red Survey)				
Magnetics:	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/6/2015	-8 32	67 07	52,547

Design:	513918 APD (Red Survey)		
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	325 01	

Survey Program	From (l)	To (usft)	Date	Survey (Wellbore)	Tool Name	Description
	0 00	4,978 0	5/14/2015	513918 Gyrodata (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop
	0 00	6,756 0		513918 PHX MWD- Air Curve (Main Wellb)	PHX+MWD+HDGM	PHX+OWSG MWD + HDGM
	0 00	14 699 0		513918 PHX MWD- Curve and Lateral (Ma	PHX+MWD+HDGM	PHX+OWSG MWD + HDGM

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	-1 468 0	0 0	0 0	0 0	0 00 0 00	0 00	0 00
	103 0	0 20	141 40	103 0	-1 365 0	-0 1	0 1	-0 2	0 19 0 19	0 00	0 00
	203 0	0 18	162 62	203 0	-1,265 0	-0 4	0 3	-0 5	0 07 -0 02	21 22	0 00
	303 0	0 17	203 44	303 0	-1 165 0	-0 7	0 3	-0 7	0 12 -0 01	40 82	0 00
	403 0	0 20	210 86	403 0	-1 065 0	-1 0	0 1	-0 9	0 04 0 03	7 42	0 00
	503 0	0 12	197 95	503 0	-895 0	-1 2	0 0	-1 0	0 09 -0 08	-12 91	0 00
	603 0	0 08	236 18	603 0	-895 0	-1 4	-0 1	-1 1	0 08 -0 04	38 23	0 00

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Survey Report



Database:	EQM 1000 - Signal Hill - 00	Local Co-ordinate Reference:	Site: Signal Hill - 00
Company:	EQT Production Services	TVD Reference:	RTM 1000 - 00
Project:	WV 1000 - 00	MD Reference:	RTM 1000 - 00
Site:	WV 1000 - 00	North Reference:	RTM 1000 - 00
Well:	WV 1000 - 00	Survey Calculation Method:	Maximum Curvature
Wellbore:	WV 1000 - 00		
Design:	0.1000 - 0.1000		

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 (°/10usft)
703.0	0.09	210.10	703.0	-765.0	-1.5	-0.2	-1.1	0.04	0.01	-26.05
803.0	0.09	252.81	803.0	-685.0	-1.6	-0.3	-1.1	0.07	0.00	42.71
903.0	0.13	301.60	903.0	-585.0	-1.5	-0.5	-1.0	0.10	0.04	40.79
1,003.0	0.07	307.95	1,003.0	-465.0	-1.5	-0.6	-0.8	0.06	-0.06	6.35
1,103.0	0.47	301.81	1,103.0	-365.0	-1.2	-1.0	-0.4	0.40	0.40	-6.14
1,203.0	0.44	304.74	1,203.0	-265.0	-0.8	-1.7	0.3	0.04	-0.03	2.93
1,303.0	0.40	301.64	1,303.0	-165.0	-0.3	-2.4	1.1	0.05	0.04	-3.10
1,403.0	0.49	310.08	1,403.0	-65.0	0.2	-3.0	1.9	0.14	0.01	16.44
1,503.0	0.51	321.03	1,503.0	35.0	0.9	-3.6	2.6	0.03	0.02	2.95
1,603.0	0.54	322.14	1,603.0	135.0	1.6	-4.1	3.7	0.03	0.03	1.11
1,703.0	0.54	330.63	1,703.0	235.0	2.4	-4.7	4.6	0.06	0.00	8.49
1,803.0	0.59	332.51	1,803.0	335.0	3.2	-5.1	5.0	0.05	0.05	1.83
1,903.0	0.56	343.33	1,903.0	435.0	4.2	-5.5	6.6	0.11	-0.03	10.82
2,003.0	0.46	348.46	2,003.0	535.0	5.0	-5.7	7.4	0.11	-0.10	5.13
2,103.0	0.23	307.02	2,103.0	635.0	5.5	-6.0	8.0	0.33	-0.23	-41.44
2,203.0	0.26	297.23	2,203.0	735.0	5.8	-6.3	8.4	0.05	0.03	-9.79
2,303.0	0.72	272.72	2,303.0	835.0	5.9	-7.2	8.9	0.50	0.46	-24.51
2,403.0	1.22	274.89	2,402.9	934.9	6.0	-8.9	10.0	0.50	0.50	2.17
2,503.0	1.26	274.77	2,502.9	1,034.9	6.2	-11.0	11.4	0.06	0.06	-0.12
2,603.0	1.24	276.38	2,602.9	1,134.9	6.4	-13.2	12.8	0.05	-0.04	1.61
2,703.0	1.21	274.28	2,702.9	1,234.9	6.6	-15.3	14.2	0.05	-0.03	-2.10
2,803.0	1.19	276.27	2,802.8	1,334.8	6.8	-17.4	15.6	0.05	-0.02	1.99
2,903.0	0.94	270.01	2,902.8	1,434.8	6.9	-19.3	16.7	0.20	-0.25	-6.26
3,003.0	0.88	268.11	3,002.8	1,534.8	6.9	-20.9	17.6	0.07	-0.06	-1.90
3,103.0	0.82	263.84	3,102.8	1,634.8	6.8	-22.3	18.4	0.09	-0.06	-4.17
3,203.0	0.70	249.49	3,202.8	1,734.8	6.5	-23.6	18.9	0.23	-0.12	-14.45
3,303.0	0.68	245.07	3,302.8	1,834.8	6.0	-24.7	19.1	0.06	-0.02	-4.42
3,403.0	0.43	255.59	3,402.8	1,934.8	5.7	-25.6	19.4	0.27	-0.25	10.43
3,503.0	0.15	47.75	3,502.8	2,034.8	5.7	-25.9	19.5	0.57	-0.20	152.25
3,603.0	0.48	326.10	3,602.8	2,134.8	6.1	-26.0	20.0	0.48	0.33	-82.97
3,703.0	0.48	321.84	3,702.8	2,234.8	6.8	-26.5	20.6	0.03	0.00	-3.34
3,803.0	0.50	304.27	3,802.8	2,334.8	7.4	-27.2	21.6	0.15	0.02	-17.57
3,903.0	0.60	311.14	3,902.8	2,434.8	8.0	-27.9	22.5	0.12	0.10	6.67
4,003.0	0.40	293.03	4,002.8	2,534.8	8.4	-28.6	23.3	0.25	-0.20	-18.11
4,103.0	0.43	279.10	4,102.8	2,634.8	8.6	-29.3	23.9	0.10	0.03	-13.93
4,203.0	0.52	282.45	4,202.8	2,734.8	8.8	-30.1	24.5	0.09	0.09	3.35
4,303.0	0.50	265.55	4,302.8	2,834.8	9.0	-31.0	25.2	0.04	-0.02	4.20
4,403.0	0.46	297.73	4,402.8	2,934.8	9.3	-31.8	25.9	0.10	-0.04	11.06
4,503.0	0.45	306.09	4,502.7	3,034.7	9.8	-32.4	26.6	0.07	-0.01	0.36
4,603.0	0.40	295.94	4,602.7	3,134.7	10.1	-33.1	27.3	0.09	-0.05	-10.15
4,703.0	0.50	294.17	4,702.7	3,234.7	10.5	-33.8	28.0	0.10	0.10	-1.77
4,803.0	0.51	298.45	4,802.7	3,334.7	10.9	-34.6	29.7	0.04	0.01	4.29
4,903.0	0.63	291.52	4,902.7	3,434.7	11.3	-35.5	29.6	0.14	0.12	-6.94

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Database:	BMA 5000 5000 Lm 00	Local Co-ordinate Reference:	State Plane County 5000
Company:	EQT Production - Marcellus	TVD Reference:	Mean Sea Level
Project:	613210 A4	MD Reference:	US State Plane 5000
Site:	Marshall County, WV	North Reference:	US State Plane 5000
Well:	613210 A4	Survey Calculation Method:	Minimum Curvature
Wellbore:	613210 A4		
Design:	613210 A4		

Measured Depth (usf)	Inclination (°)	Azimuth (°)	Vertical Depth (usf)	Subsea Depth (usf)	+N/S (usf)	+E/W (usf)	Vertical Section (usf)	Dogleg Rate (°/100usf)	Build Rate (°/100usf)	Turn Rate (°/100usf)
4,978.0	0.68	285.03	4,977.7	3,509.7	11.5	-36.3	30.3	0.11	0.07	-7.25
5,034.0	0.60	225.80	5,033.7	3,565.7	11.4	-36.8	30.5	1.15	-0.14	-107.64
5,077.0	4.80	170.20	5,076.7	3,608.7	9.5	-36.7	28.8	10.44	9.77	-123.30
5,120.0	9.80	165.30	5,119.3	3,651.3	4.2	-35.4	23.0	11.71	11.63	-11.40
5,163.0	13.60	164.90	5,161.4	3,693.4	-4.2	-33.2	15.6	8.84	8.94	-0.93
5,207.0	12.60	164.50	5,204.3	3,736.3	-13.9	-30.6	6.2	2.28	-2.27	-0.91
5,250.0	12.20	153.50	5,246.3	3,778.3	-22.6	-27.6	-2.7	3.14	-0.83	-13.55
5,293.0	12.03	154.80	5,289.3	3,820.3	-30.9	-24.1	-11.5	1.88	-0.47	-8.60
5,336.0	11.50	153.60	5,330.4	3,862.4	-38.8	-20.3	-20.1	1.29	-1.16	-2.79
5,379.0	11.70	164.30	5,372.5	3,904.5	-46.8	-17.2	-28.5	5.02	0.47	24.53
5,422.0	13.90	181.70	5,414.5	3,946.5	-56.2	-16.2	-36.7	10.27	5.12	40.47
5,465.0	15.40	197.00	5,456.1	3,988.1	-66.8	-18.0	-44.4	9.62	3.49	35.50
5,508.0	17.20	208.80	5,497.4	4,029.4	-77.8	-22.8	-50.6	9.32	4.19	29.77
5,551.0	18.50	221.30	5,530.3	4,070.3	-88.4	-20.5	-55.0	8.72	3.02	25.74
5,594.0	20.30	231.40	5,570.9	4,110.9	-98.2	-40.8	-57.0	8.04	4.19	23.49
5,637.0	23.30	240.80	5,618.8	4,150.8	-107.0	-54.1	-56.7	10.55	6.98	21.40
5,680.0	26.90	244.60	5,657.6	4,189.8	-115.4	-70.3	-54.2	9.25	8.37	9.30
5,723.0	31.10	243.00	5,695.4	4,227.4	-124.6	-89.0	-51.1	8.93	9.77	-3.72
5,766.0	34.60	240.20	5,731.5	4,263.5	-135.7	-109.4	-48.4	8.87	8.14	-6.51
5,809.0	36.90	239.30	5,765.9	4,297.0	-140.7	-131.7	-46.3	10.06	10.00	-2.69
5,852.0	43.40	240.70	5,798.3	4,330.3	-162.8	-156.2	-43.0	10.68	10.47	3.26
5,895.0	48.80	241.20	5,828.6	4,360.6	-177.6	-182.8	-40.7	7.95	7.91	1.16
5,938.0	46.30	241.10	5,858.2	4,390.2	-192.7	-210.1	-37.3	1.17	-1.16	-0.23
5,981.0	46.50	240.20	5,887.8	4,419.8	-208.0	-237.4	-34.3	2.06	1.40	-2.09
6,024.0	47.60	240.40	5,916.9	4,448.9	-223.6	-264.0	-31.4	1.06	1.63	0.47
6,067.0	47.30	241.30	5,946.0	4,478.0	-239.0	-292.5	-26.1	1.69	-0.70	2.09
6,110.0	46.40	241.50	5,975.4	4,507.4	-254.1	-320.0	-24.7	2.12	-2.09	0.47
6,153.0	45.60	241.20	6,005.3	4,537.3	-268.9	-347.1	-21.2	1.93	-1.66	-0.70
6,196.0	44.40	240.40	6,035.7	4,567.7	-283.7	-373.7	-18.2	3.09	-2.79	-1.86
6,239.0	45.10	239.80	6,066.2	4,598.2	-298.6	-399.9	-15.5	1.90	1.63	-1.40
6,282.0	45.30	240.30	6,096.5	4,628.5	-314.0	-426.4	-12.8	0.95	0.47	1.16
6,326.0	45.12	240.07	6,127.5	4,659.5	-329.6	-453.5	-10.0	0.55	-0.41	-0.52
6,369.0	43.88	239.89	6,158.2	4,690.2	-344.9	-479.4	-7.6	3.48	-2.88	-2.77
6,412.0	42.09	237.30	6,189.5	4,721.5	-360.4	-504.5	-6.0	3.66	-2.77	-3.49
6,455.0	41.49	239.76	6,221.4	4,753.4	-375.5	-529.0	-4.3	4.64	-2.79	5.53
6,498.0	39.90	243.95	6,254.0	4,785.0	-389.7	-553.8	-0.9	7.25	-3.49	9.74
6,541.0	40.39	247.48	6,286.9	4,818.0	-400.1	-579.1	4.2	5.38	0.53	8.21
6,584.0	42.11	249.46	6,319.2	4,851.2	-410.5	-605.4	10.8	5.02	4.00	4.60
6,627.0	42.69	245.98	6,351.0	4,883.0	-421.5	-632.3	17.2	5.62	1.35	-8.09
6,670.0	42.42	243.66	6,382.6	4,914.6	-433.8	-658.6	22.2	3.39	-0.63	-4.93
6,713.0	42.69	243.55	6,414.3	4,946.3	-446.7	-684.7	26.6	0.79	0.63	-0.72

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Database:	641300230001 Wellbore	Local Coordinate Reference:	State Plane Coordinate (1101)
Company:	17 - Production - Marcellus	TVD Reference:	KBG 16 49 1465 000
Project:	641300230001 Wellbore	MD Reference:	KBG 16 49 1465 000
Site:	West Conroy 1 Field	North Reference:	500
Well:	641300230001 Wellbore	Survey Calculation Method:	Minimum Curvature
Wellbore:	Marcellus		
Design:	51201245 - Cased 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)
6,756.0	43.70	240.95	6,445.7	4,977.7	-450.4	-710.7	30.3	4.76	2.35	-6.05
6,760.0	44.50	240.50	6,462.9	4,994.9	-468.6	-725.3	32.0	3.58	3.33	-1.88
6,812.0	44.80	240.20	6,485.7	5,017.7	-479.7	-744.8	34.1	1.15	0.94	-0.94
6,843.0	44.90	242.30	6,507.6	5,039.6	-490.2	-764.0	36.4	4.79	0.32	6.77
6,875.0	44.10	245.80	6,530.5	5,052.5	-500.0	-784.1	40.0	8.06	-2.50	10.94
6,900.0	43.93	246.30	6,552.6	5,094.8	-508.8	-803.0	44.1	1.29	-0.65	1.61
6,960.0	43.70	247.50	6,590.2	5,130.2	-525.8	-844.0	53.2	1.79	-0.32	2.54
7,032.0	44.00	247.30	6,643.7	5,175.7	-542.4	-884.3	62.7	0.81	0.48	-0.93
7,096.0	43.70	246.50	6,689.0	5,221.8	-559.8	-925.1	71.9	0.98	-0.47	-1.25
7,159.0	44.50	248.00	6,735.1	5,267.1	-576.7	-965.5	81.1	2.09	1.27	2.38
7,222.0	44.50	248.30	6,780.0	5,312.0	-593.2	-1,005.5	91.2	0.33	0.00	0.48
7,285.0	44.40	247.70	6,825.0	5,357.0	-609.7	-1,047.4	101.1	0.69	-0.16	-0.95
7,340.0	43.60	248.90	6,870.2	5,402.2	-625.9	-1,088.2	111.2	1.55	-0.79	1.90
7,412.0	43.30	248.80	6,916.5	5,448.5	-641.8	-1,129.4	121.8	0.94	-0.94	0.00
7,475.0	44.50	248.60	6,961.9	5,493.9	-657.6	-1,170.1	132.2	1.93	1.90	-0.40
7,538.0	46.00	248.90	7,006.3	5,538.3	-673.9	-1,211.8	142.8	2.40	2.38	0.48
7,601.0	46.50	248.30	7,049.8	5,581.8	-690.5	-1,254.2	153.5	1.05	0.79	-0.95
7,664.0	46.60	247.60	7,093.2	5,625.2	-707.6	-1,296.6	163.7	0.82	0.16	-1.11
7,727.0	46.60	248.40	7,136.7	5,668.7	-724.7	-1,338.8	173.9	1.32	-0.95	1.27
7,758.0	45.90	248.50	7,158.2	5,680.2	-732.9	-1,359.5	179.1	0.40	-0.32	0.32
7,790.0	44.60	249.70	7,180.8	5,712.8	-741.0	-1,380.7	184.6	4.86	-4.06	3.75
7,821.0	43.80	252.80	7,203.0	5,735.0	-747.9	-1,401.2	190.7	7.64	-2.58	10.32
7,853.0	43.50	257.20	7,226.2	5,758.2	-753.6	-1,422.5	199.3	9.32	-0.94	13.44
7,885.0	43.20	260.50	7,249.4	5,781.4	-757.9	-1,444.1	207.1	7.14	-0.94	10.31
7,916.0	43.00	264.10	7,272.1	5,804.1	-760.7	-1,465.1	216.8	7.98	-0.65	11.61
7,948.0	43.30	268.00	7,295.4	5,827.4	-762.2	-1,485.9	228.1	8.39	0.94	12.19
7,980.0	43.90	271.60	7,318.6	5,850.6	-762.2	-1,508.9	240.7	8.40	1.88	11.88
8,011.0	45.00	275.70	7,340.7	5,872.7	-760.8	-1,530.6	254.3	9.50	3.55	12.58
8,043.0	46.50	278.70	7,363.1	5,895.1	-757.0	-1,553.3	269.7	8.19	4.69	9.38
8,074.0	48.00	281.80	7,384.1	5,916.1	-753.9	-1,575.7	285.9	8.79	4.84	10.00
8,106.0	49.40	285.70	7,405.2	5,937.2	-748.2	-1,599.1	304.0	10.15	4.38	12.19
8,138.0	50.40	289.60	7,425.8	5,957.8	-740.7	-1,622.4	323.4	9.83	3.13	12.19
8,170.0	51.60	292.90	7,446.0	5,978.0	-731.7	-1,645.5	344.1	8.85	3.75	10.31
8,201.0	53.30	296.20	7,464.8	5,996.9	-721.5	-1,667.9	365.3	10.06	5.48	10.65
8,233.0	55.30	299.60	7,483.6	6,015.6	-709.5	-1,691.0	388.3	8.73	6.25	7.50
8,264.0	57.90	303.30	7,500.6	6,032.6	-696.8	-1,713.5	411.6	9.55	8.39	5.48
8,295.0	59.80	303.20	7,517.2	6,049.2	-682.4	-1,735.8	436.8	9.77	5.94	9.05
8,328.0	61.80	305.10	7,532.8	6,064.8	-666.5	-1,759.7	463.0	10.08	6.25	9.05
8,359.0	63.40	309.00	7,547.1	6,079.1	-649.7	-1,781.5	489.2	9.78	5.16	9.35
8,391.0	65.50	311.50	7,560.9	6,092.9	-631.1	-1,803.6	517.2	9.63	6.58	7.81
8,422.0	67.50	314.00	7,573.2	6,105.2	-611.8	-1,824.4	544.9	9.81	6.45	8.05
8,454.0	69.60	316.50	7,584.9	6,116.9	-590.6	-1,845.4	574.3	9.79	6.56	7.81

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Survey Report



Database:	51917 AS Chilled Survey	Local Coordinate Reference:	Geographic Coordinate System
Company:	Energy Services	TVD Reference:	NA 83 (1983) / NAD 83
Project:	51917 AS Chilled Survey	MD Reference:	NA 83 (1983) / NAD 83
Site:	51917 AS Chilled Survey	North Reference:	NA 83 (1983) / NAD 83
Well:	51917 AS Chilled Survey	Survey Calculation Method:	Minimum Curvature
Wellbore:	51917 AS Chilled Survey		
Design:	51917 AS Chilled 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)
8,485.0	71.50	319.10	7,505.2	6,127.2	-569.0	-1,865.0	603.3	10.00	6.13	8.39
8,517.0	73.80	321.70	7,604.0	6,136.8	-545.4	-1,804.5	633.7	10.57	7.19	8.13
8,549.0	75.50	324.50	7,613.3	6,145.3	-520.8	-1,903.0	664.5	9.97	5.31	8.75
8,580.0	76.70	327.20	7,623.7	6,152.7	-495.9	-1,919.9	694.6	9.30	3.87	8.71
8,612.0	78.10	330.00	7,627.7	6,159.7	-459.2	-1,936.2	725.8	9.59	4.38	8.75
8,643.0	80.60	332.20	7,633.4	6,165.4	-442.5	-1,950.9	756.1	10.66	0.05	7.10
8,675.0	82.70	334.60	7,638.1	6,170.1	-414.2	-1,955.1	787.4	9.91	6.56	7.50
8,707.0	83.60	337.30	7,641.9	6,173.9	-385.2	-1,970.0	818.6	8.04	2.81	8.44
8,739.0	85.50	339.80	7,644.8	6,178.8	-356.5	-1,989.3	848.6	10.10	6.13	8.05
8,770.0	86.40	341.10	7,646.5	6,178.5	-329.4	-2,000.0	879.4	9.93	9.06	4.05
8,801.0	89.40	343.80	7,647.1	6,179.1	-286.9	-2,009.3	909.0	9.29	3.23	8.71
8,834.0	89.50	343.80	7,647.7	6,179.7	-236.4	-2,026.9	938.6	8.16	0.16	0.00
8,928.0	89.70	344.50	7,647.6	6,179.6	-174.8	-2,044.4	1,029.1	2.17	1.88	1.09
8,991.0	91.30	344.30	7,646.5	6,178.5	-114.1	-2,051.3	1,088.5	1.00	0.95	-0.32
9,054.0	90.60	344.90	7,645.5	6,177.5	-53.4	-2,078.1	1,147.8	1.46	-1.11	0.95
9,117.0	90.80	345.10	7,644.7	6,176.7	7.5	-2,094.4	1,207.0	0.45	0.32	0.32
9,180.0	91.30	345.10	7,643.6	6,175.6	68.3	-2,110.6	1,266.2	0.79	0.79	0.00
9,243.0	89.40	344.20	7,643.2	6,175.2	129.1	-2,127.2	1,325.5	3.34	-3.02	-1.43
9,306.0	88.70	343.50	7,644.2	6,176.2	189.6	-2,144.8	1,385.1	1.57	-1.11	-1.11
9,369.0	89.00	343.70	7,645.5	6,177.5	250.0	-2,162.5	1,444.8	0.57	0.48	0.32
9,432.0	90.10	343.80	7,646.0	6,178.0	310.5	-2,180.2	1,504.5	1.75	1.75	0.16
9,495.0	90.50	344.00	7,645.6	6,177.6	371.0	-2,197.6	1,564.1	0.85	0.79	0.32
9,558.0	91.20	344.50	7,644.8	6,176.8	431.6	-2,214.7	1,623.6	1.24	0.95	0.79
9,621.0	90.50	343.60	7,643.7	6,175.7	492.2	-2,232.0	1,683.1	1.81	-1.11	-1.43
9,684.0	90.70	343.60	7,643.0	6,175.0	552.6	-2,249.8	1,742.8	0.32	0.32	0.00
9,747.0	91.30	343.80	7,641.9	6,173.9	613.1	-2,267.5	1,802.5	1.00	0.95	0.32
9,810.0	90.40	343.30	7,641.0	6,173.0	673.5	-2,285.4	1,862.2	1.63	-1.43	-0.79
9,873.0	90.40	343.50	7,640.5	6,172.5	733.9	-2,303.3	1,922.0	0.32	0.00	0.32
9,936.0	90.60	342.70	7,640.0	6,172.0	794.2	-2,321.7	1,981.9	1.31	0.32	-1.27
9,999.0	89.20	342.60	7,640.1	6,172.1	854.3	-2,340.4	2,041.9	2.23	-2.22	-0.16
10,062.0	89.50	342.10	7,640.0	6,172.0	914.3	-2,359.5	2,102.1	0.93	0.48	-0.79
10,125.0	90.10	342.30	7,641.0	6,173.0	975.3	-2,379.1	2,163.2	0.99	0.94	0.31
10,188.0	90.70	342.90	7,640.6	6,172.6	1,035.4	-2,398.0	2,223.2	1.35	0.95	0.95
10,252.0	91.30	342.40	7,639.5	6,171.5	1,095.5	-2,416.7	2,283.3	1.24	0.95	-0.79
10,315.0	90.10	342.80	7,638.7	6,170.7	1,155.6	-2,435.6	2,343.3	2.01	-1.99	0.63
10,378.0	90.10	342.60	7,638.6	6,170.6	1,215.8	-2,454.3	2,403.3	0.32	0.00	-0.32
10,441.0	90.60	342.80	7,638.2	6,170.2	1,275.9	-2,473.0	2,463.4	0.85	0.79	0.32
10,504.0	91.10	343.40	7,637.3	6,169.3	1,336.2	-2,491.4	2,523.2	1.24	0.79	0.95
10,567.0	90.30	342.60	7,636.5	6,168.5	1,396.4	-2,509.8	2,583.2	1.80	-1.27	-1.27
10,630.0	88.20	342.40	7,637.3	6,169.3	1,456.5	-2,528.7	2,643.2	3.35	-3.33	-0.32
10,693.0	89.30	342.50	7,639.3	6,171.3	1,516.6	-2,547.5	2,703.3	0.81	0.16	0.79
10,756.0	89.90	342.40	7,640.3	6,172.3	1,576.7	-2,566.3	2,763.3	2.66	2.54	-0.79

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Database:	EDM 5000 - 5000	Local Coordinate Reference:	North Reference:
Company:	EDM Production - Muskogee	TVD Reference:	Survey Calculation Method:
Project:	WV Dept. of Environmental Protection	MD Reference:	
Site:	WV Dept. of Environmental Protection	North Reference:	
Well:	WV Dept. of Environmental Protection	Survey Calculation Method:	
Wellbore:	WV Dept. of Environmental Protection		
Design:	WV Dept. of Environmental Protection		

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/S (usft)	+E/W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Bulld Rate (°/100usft)	Turn Rate (°/100usft)
10,819.0	90.50	342.20	7,640.0	6,172.0	1,636.7	-2,595.4	2,023.4	1.00	0.95	-0.32
10,892.0	90.70	342.70	7,639.4	6,171.4	1,695.8	-2,604.4	2,003.5	0.85	0.32	0.79
10,945.0	91.10	342.80	7,638.4	6,170.4	1,757.0	-2,623.1	2,943.5	0.65	0.63	0.16
11,008.0	91.60	343.00	7,636.9	6,169.9	1,817.2	-2,641.6	3,003.5	0.85	0.75	0.32
11,071.0	92.40	343.10	7,634.7	6,166.7	1,877.4	-2,660.0	3,063.3	1.26	1.27	0.16
11,134.0	91.30	343.10	7,632.7	6,164.7	1,937.6	-2,678.3	3,123.2	1.75	-1.75	0.00
11,198.0	91.50	344.00	7,631.1	6,163.1	1,999.0	-2,696.4	3,183.9	1.44	0.31	1.41
11,261.0	90.00	343.60	7,630.3	6,162.3	2,059.4	-2,714.3	3,243.6	2.86	-2.38	-1.59
11,324.0	90.40	343.30	7,630.1	6,162.1	2,119.7	-2,732.6	3,303.5	0.79	0.63	0.40
11,387.0	89.50	341.60	7,630.1	6,162.1	2,179.8	-2,751.6	3,363.6	3.05	-1.43	-2.70
11,450.0	89.80	341.60	7,630.5	6,162.5	2,239.5	-2,771.4	3,423.9	0.48	0.48	0.00
11,514.0	89.80	340.10	7,630.7	6,162.7	2,300.0	-2,792.4	3,485.5	2.34	0.00	-2.34
11,577.0	89.90	340.70	7,630.3	6,162.3	2,359.3	-2,813.6	3,546.2	1.99	1.75	0.95
11,640.0	91.00	340.10	7,629.3	6,161.3	2,410.7	-2,834.7	3,607.0	0.97	0.16	-0.95
11,703.0	91.40	341.40	7,628.0	6,160.0	2,470.1	-2,855.5	3,667.6	2.16	0.63	2.06
11,766.0	90.50	342.90	7,626.9	6,158.9	2,538.1	-2,874.8	3,727.6	2.76	-1.43	2.38
11,829.0	90.40	343.70	7,626.4	6,158.4	2,598.4	-2,892.9	3,787.6	1.23	-0.15	1.27
11,892.0	89.70	344.00	7,626.4	6,158.4	2,659.0	-2,910.4	3,847.2	1.21	-1.11	0.48
11,955.0	89.70	344.20	7,626.7	6,158.7	2,719.5	-2,927.7	3,906.8	0.32	0.00	0.32
12,019.0	90.00	344.10	7,626.9	6,158.9	2,781.1	-2,945.1	3,967.2	0.49	0.47	-0.16
12,082.0	89.00	344.10	7,627.4	6,159.4	2,841.7	-2,962.4	4,026.8	1.59	-1.59	0.00
12,145.0	89.50	344.10	7,628.3	6,160.3	2,902.3	-2,979.5	4,086.3	0.79	0.79	0.00
12,208.0	89.80	344.00	7,628.6	6,160.6	2,963.0	-2,996.5	4,145.7	1.21	0.45	1.11
12,271.0	88.60	342.10	7,629.5	6,161.5	3,023.3	-3,014.5	4,205.5	4.69	-1.90	-4.28
12,334.0	89.10	341.70	7,630.8	6,162.0	3,083.2	-3,034.0	4,265.7	1.02	0.79	-0.63
12,397.0	89.70	342.40	7,631.4	6,163.4	3,143.1	-3,053.5	4,326.0	1.46	0.95	1.11
12,459.0	90.40	342.90	7,631.4	6,163.4	3,202.3	-3,072.0	4,385.0	1.39	1.13	0.81
12,522.0	91.50	342.90	7,630.3	6,162.3	3,262.5	-3,090.5	4,445.0	1.75	1.75	0.00
12,586.0	50.90	343.00	7,629.0	6,161.0	3,323.7	-3,109.2	4,505.9	0.95	-0.94	0.16
12,649.0	89.60	343.80	7,628.6	6,160.6	3,384.1	-3,127.2	4,565.6	2.16	-1.75	1.27
12,712.0	90.00	343.20	7,628.7	6,160.7	3,444.5	-3,145.1	4,625.4	1.00	0.32	-0.95
12,775.0	90.70	343.70	7,628.3	6,160.3	3,504.9	-3,163.1	4,685.2	1.37	1.11	0.79
12,838.0	91.50	343.50	7,627.1	6,159.1	3,565.3	-3,180.9	4,744.9	1.31	1.27	-0.32
12,901.0	90.70	343.50	7,625.9	6,157.9	3,625.7	-3,198.7	4,804.6	1.27	-1.27	0.00
12,964.0	89.30	341.70	7,625.9	6,157.9	3,685.8	-3,217.6	4,864.7	3.62	-2.22	-2.56
13,027.0	89.50	341.40	7,626.6	6,158.6	3,745.6	-3,237.5	4,925.0	0.57	0.32	-0.40
13,090.0	90.20	341.50	7,626.8	6,158.8	3,805.3	-3,257.6	4,985.5	1.12	1.11	0.16
13,154.0	91.00	341.70	7,626.1	6,158.1	3,866.0	-3,277.8	5,046.6	1.29	1.25	0.31
13,217.0	91.30	341.20	7,624.8	6,156.8	3,925.7	-3,297.8	5,107.2	0.93	0.48	-0.79
13,280.0	90.90	342.40	7,623.6	6,155.6	3,985.6	-3,317.5	5,167.5	2.01	-0.63	1.90
13,343.0	89.80	343.30	7,623.2	6,155.2	4,045.8	-3,336.0	5,227.5	2.26	-1.75	1.43
13,406.0	90.00	343.40	7,623.3	6,155.3	4,106.1	-3,354.1	5,287.3	0.35	0.32	0.16

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Survey Report



Database:	63819-03-01-01-01	Local Coordinate Reference:	63819-03-01-01-01
Company:	63819-03-01-01-01	TVD Reference:	63819-03-01-01-01
Project:	63819-03-01-01-01	MD Reference:	63819-03-01-01-01
Site:	63819-03-01-01-01	North Reference:	63819-03-01-01-01
Well:	63819-03-01-01-01	Survey Calculation Method:	63819-03-01-01-01
Wellbore:	63819-03-01-01-01		
Design:	63819-03-01-01-01		

Measured Depth (usf)	Inclination (°)	Azimuth (°)	Vertical Depth (usf)	Subsea Depth (usf)	+N/S (usf)	+E/W (usf)	Vertical Section (usf)	Dogleg Rate (°/100usf)	Build Rate (°/100usf)	Turn Rate (°/100usf)
13,469.0	88.50	342.30	7,624.2	6,156.2	4,166.3	-3,372.7	5,347.2	2.95	-2.38	-1.75
13,532.0	86.70	342.20	7,625.7	6,157.7	4,226.3	-3,391.9	5,407.4	0.35	0.32	-0.16
13,595.0	90.30	342.50	7,626.2	6,158.2	4,286.3	-3,411.0	5,467.5	2.56	2.54	0.48
13,658.0	90.70	342.50	7,625.7	6,157.7	4,346.5	-3,429.7	5,527.6	0.90	0.63	0.63
13,721.0	91.10	343.70	7,624.7	6,156.7	4,406.8	-3,447.8	5,587.4	1.42	0.63	1.27
13,784.0	91.70	343.10	7,623.2	6,155.2	4,467.2	-3,465.8	5,647.1	1.35	0.95	-0.95
13,847.0	90.60	343.60	7,621.9	6,153.9	4,527.5	-3,483.8	5,706.9	1.92	-1.75	0.79
13,910.0	90.20	343.40	7,621.5	6,153.5	4,587.9	-3,501.7	5,766.7	0.71	-0.63	-0.32
13,973.0	89.40	342.40	7,621.7	6,153.7	4,648.1	-3,520.3	5,826.6	2.03	-1.27	-1.59
14,036.0	89.30	342.40	7,622.4	6,154.4	4,708.2	-3,539.3	5,886.7	0.16	-0.16	0.00
14,099.0	89.70	342.60	7,622.9	6,154.9	4,768.3	-3,558.3	5,946.8	0.71	0.63	0.32
14,162.0	90.30	343.00	7,622.9	6,154.9	4,828.4	-3,576.9	6,006.8	1.14	0.95	0.63
14,225.0	90.80	342.40	7,622.3	6,154.3	4,888.5	-3,595.9	6,066.8	1.22	0.78	-0.94
14,289.0	89.70	342.00	7,622.1	6,154.1	4,948.5	-3,615.2	6,126.8	1.86	-1.75	-0.63
14,352.0	89.80	342.20	7,622.3	6,154.3	5,008.5	-3,634.5	6,186.9	0.35	0.16	0.32
14,415.0	90.30	342.00	7,622.3	6,154.3	5,068.4	-3,653.9	6,246.4	0.85	0.79	-0.32
14,478.0	90.80	342.30	7,621.6	6,153.6	5,128.4	-3,673.2	6,306.6	1.66	0.95	0.48
14,541.0	91.50	342.20	7,620.3	6,152.3	5,188.4	-3,692.4	6,366.8	0.97	0.95	-0.16
14,604.0	90.70	343.30	7,619.1	6,151.1	5,248.5	-3,711.1	6,426.7	2.16	-1.27	1.75
14,667.0	90.80	343.00	7,618.5	6,150.5	5,299.7	-3,729.6	6,486.6	0.74	0.23	-0.70
14,699.0	90.80	343.00	7,617.8	6,149.8	5,349.4	-3,738.8	6,519.1	0.89	0.80	0.60

Measured Depth (usf)	Vertical Depth (usf)	Local Coordinates +N/S (usf)	+E/W (usf)	Comment
5,034.0	5,033.7	11.4	-36.8	KOP=5034' MD
6,756.0	6,445.7	-490.4	-710.7	Last Survey=D753' MD
6,756.0	6,445.7	-460.4	-710.7	Plan Tie In=6756' MD
8,064.0	7,647.7	-236.4	-2,026.9	LP/Deepest Point of Well=8864' MD/ 7646' TVD
14,047.0	7,618.5	5,299.7	-3,723.6	Final Survey=14647' MD/ 7619' TVD
14,699.0	7,617.8	5,349.4	-3,738.8	Projection to Bnt=14699' MD/ 7618' TVD

Checked By _____ Approved By _____ Date _____

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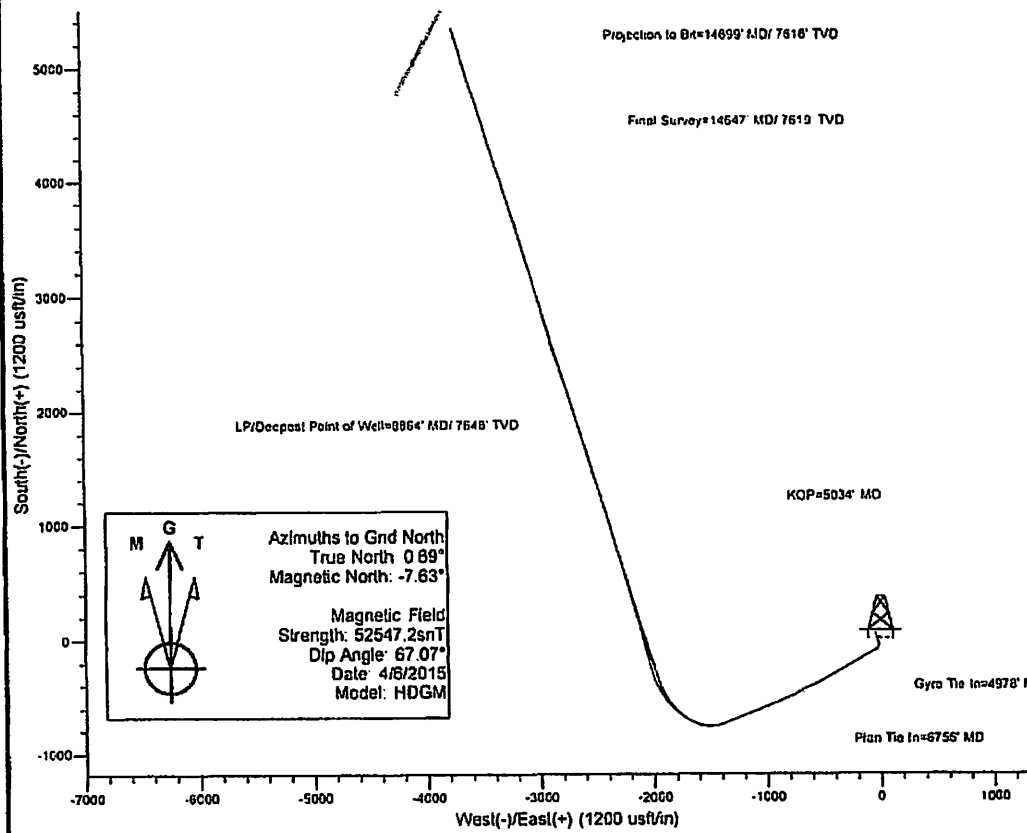
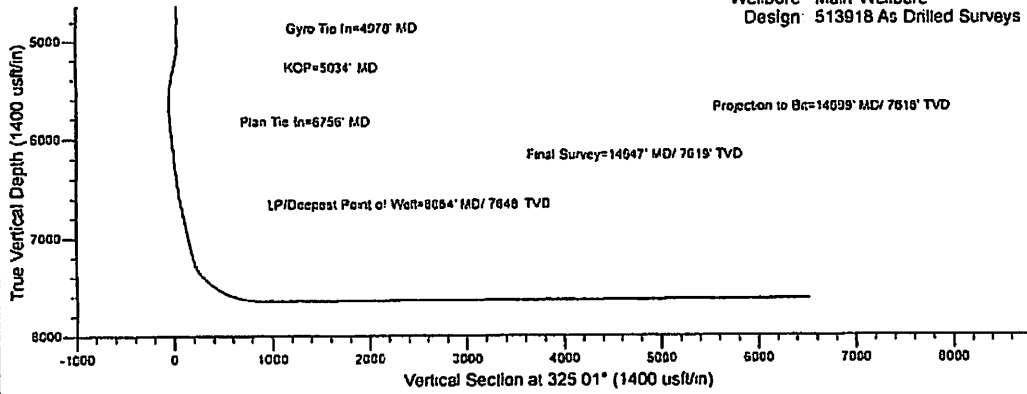
01/08/2016

PHOENIX
TECHNOLOGY SERVICES



EQT Production - Marcellus

Project: Wetzel County, WV
 Site: Wetzel County 513918
 Well: Well #513918
 Wellbore: Main Wellbore
 Design: 513918 As Drilled Surveys



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