



EQT PRODUCTION

Ritchie County, WV

PUL96 Pad

Well #515884- Marcellus - Slot 515884

API#47098510207

Main Wellbore

Design: 515884 As Drilled Surveys

Standard Survey Report

11 December, 2015



Where energy meets innovation.



Phoenix Technology Services

Survey Report



Database: COMPASS 5000.1 Build 74 Company: EQT Project: PHX MWD Site: PHX MWD Well: PHX MWD Wellbore: PHX MWD Design: PHX MWD	Local Co-ordinate Reference: NAD 1927 (NADCON CONUS) TVD Reference: Mean Sea Level MD Reference: Mean Sea Level North Reference: Mean Sea Level Survey Calculation Method: Minimum Curvature	Wellbore ID: PHX MWD Wellbore Name: PHX MWD Wellbore Type: MWD Wellbore Status: Active
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Project: PHX MWD			
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		

Site: PHX MWD					
Site Position:		Northing:	262,406.23 usft	Latitude:	39.21
From:	Map	Easting:	1,578,892.82 usft	Longitude:	-80.99
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.95 °

Well: PHX MWD						
Well Position	+N/-S	0.0 usft	Northing:	262,406.23 usft	Latitude:	39° 12' 39.227 N
	+E/-W	0.0 usft	Easting:	1,578,892.82 usft	Longitude:	80° 59' 10.296 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	1,183.0 usft

Wellbore: PHX MWD					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	11/19/2015	-7.66	66.55	51,992

Design: PHX MWD					
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	165.32	

Survey Program		Date	12/11/2015	
From (')	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	4,100.0	515884 VES Gyro 2 (Main Wellbore)	VES InFlex Gyro Tandem 08	Triaxial Continuous Gyro Model
0.00	12,478.0	515884 PHX MWD (Main Wellbore)	PHX+MWD+HDGM	PHX+OWSG MWD + HDGM

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	-1,206.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.39	142.23	100.0	-1,106.0	-0.3	0.2	0.3	0.39	0.39	0.00
200.0	0.37	135.25	200.0	-1,006.0	-0.8	0.6	0.9	0.05	-0.02	-6.98
300.0	0.36	138.97	300.0	-906.0	-1.2	1.1	1.5	0.03	-0.01	3.72
400.0	0.33	135.27	400.0	-806.0	-1.7	1.5	2.0	0.04	-0.03	-3.70
500.0	0.27	144.20	500.0	-706.0	-2.1	1.8	2.5	0.08	-0.06	8.93
600.0	0.29	186.33	600.0	-606.0	-2.5	1.9	2.9	0.20	0.02	42.13
700.0	0.44	218.84	700.0	-506.0	-3.1	1.7	3.4	0.25	0.15	32.51



Phoenix Technology Services
Survey Report



Database:	COMPASS 5000.1 Build 74	Local Co-ordinate Reference:	Ass Well #11888, Merriam, Box 11888
Company:	Q7 PRODUCTION	TVD Reference:	AP 27 @ 1204.5usft
Project:	Little Queen, WY	MD Reference:	AP 27 @ 1204.5usft
Site:	11888 Well	North Reference:	AP 27
Well:	11888 Well	Survey Calculation Method:	Minimum Curvature
Wellbore:	11888 Well		
Design:	11888 Well		

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Buid Rate (°/100usft)	Turn Rate (°/100usft)
800.0	0.39	213.23	800.0	-406.0	-3.6	1.2	3.8	0.06	-0.05	-5.61
900.0	0.45	253.76	900.0	-306.0	-4.0	0.7	4.1	0.30	0.06	40.53
1,000.0	0.38	256.07	1,000.0	-206.0	-4.2	0.0	4.1	0.07	-0.07	2.31
1,100.0	0.08	190.77	1,100.0	-106.0	-4.4	-0.4	4.1	0.35	-0.30	-65.30
1,200.0	0.28	106.93	1,200.0	-6.0	-4.5	-0.1	4.3	0.28	0.20	-63.84
1,300.0	0.54	120.83	1,300.0	94.0	-4.8	0.5	4.8	0.28	0.26	13.90
1,400.0	0.65	120.02	1,400.0	194.0	-5.4	1.4	5.5	0.11	0.11	-0.81
1,500.0	0.84	124.44	1,500.0	294.0	-6.1	2.5	6.5	0.20	0.19	4.42
1,600.0	1.18	119.99	1,599.9	393.9	-7.0	4.0	7.8	0.35	0.34	-4.45
1,700.0	1.41	123.22	1,699.9	493.9	-8.2	5.9	9.4	0.24	0.23	3.23
1,800.0	1.48	125.06	1,799.9	593.9	-9.6	8.0	11.3	0.08	0.07	1.84
1,900.0	1.70	124.28	1,899.9	693.9	-11.2	10.3	13.4	0.22	0.22	-0.78
2,000.0	1.62	123.98	1,999.8	793.8	-12.8	12.7	15.6	0.08	-0.08	-0.30
2,100.0	1.46	125.76	2,099.8	893.8	-14.3	14.9	17.6	0.17	-0.16	1.78
2,200.0	1.17	117.04	2,199.7	993.7	-15.5	16.8	19.3	0.35	-0.29	-8.72
2,300.0	0.96	103.67	2,299.7	1,093.7	-16.2	18.6	20.4	0.32	-0.21	-13.37
2,400.0	0.90	98.90	2,399.7	1,193.7	-16.5	20.1	21.1	0.10	-0.06	-4.77
2,500.0	0.78	94.96	2,499.7	1,293.7	-16.7	21.6	21.6	0.13	-0.12	-3.94
2,600.0	0.59	83.57	2,599.7	1,393.7	-16.7	22.8	21.9	0.23	-0.19	-11.39
2,700.0	0.43	89.18	2,699.7	1,493.7	-16.6	23.7	22.1	0.17	-0.16	5.61
2,800.0	0.35	108.13	2,799.7	1,593.7	-16.7	24.3	22.3	0.15	-0.08	18.95
2,900.0	0.33	126.74	2,899.7	1,693.7	-17.0	24.9	22.7	0.11	-0.02	18.61
3,000.0	0.29	128.73	2,999.7	1,793.7	-17.3	25.3	23.2	0.04	-0.04	1.99
3,100.0	0.26	126.05	3,099.7	1,893.7	-17.6	25.7	23.5	0.03	-0.03	-2.68
3,200.0	0.40	118.69	3,199.7	1,993.7	-17.9	26.2	24.0	0.15	0.14	-7.36
3,300.0	0.32	143.14	3,299.7	2,093.7	-18.3	26.6	24.5	0.17	-0.08	24.45
3,400.0	0.32	117.20	3,399.7	2,193.7	-18.7	27.0	24.9	0.14	0.00	-25.94
3,500.0	0.38	134.68	3,499.7	2,293.7	-19.0	27.5	25.4	0.12	0.06	17.48
3,600.0	0.41	139.70	3,599.7	2,393.7	-19.5	28.0	26.0	0.05	0.03	5.02
3,700.0	0.39	144.04	3,699.7	2,493.7	-20.1	28.4	26.6	0.04	-0.02	4.34
3,800.0	0.36	143.82	3,799.7	2,593.7	-20.6	28.8	27.2	0.03	-0.03	-0.22
3,900.0	0.30	155.84	3,899.7	2,693.7	-21.1	29.1	27.8	0.09	-0.06	12.02
4,000.0	0.32	169.31	3,999.7	2,793.7	-21.6	29.3	28.3	0.08	0.02	13.47
4,100.0	0.36	174.33	4,099.7	2,893.7	-22.2	29.3	28.9	0.05	0.04	5.02
4,134.0	0.60	170.20	4,133.7	2,927.7	-22.5	29.4	29.2	0.71	0.71	-12.15
4,165.0	1.20	162.60	4,164.7	2,958.7	-22.9	29.5	29.7	1.97	1.94	-24.52
4,196.0	4.20	170.20	4,195.6	2,989.6	-24.4	29.8	31.1	9.72	9.68	24.52
4,228.0	8.50	170.90	4,227.4	3,021.4	-27.9	30.4	34.7	13.44	13.44	2.19
4,259.0	11.40	173.00	4,258.0	3,052.0	-33.2	31.1	40.0	9.43	9.35	6.77
4,291.0	8.70	173.70	4,289.5	3,083.5	-38.7	31.8	45.5	8.45	-8.44	2.19
4,322.0	5.10	174.90	4,320.2	3,114.2	-42.4	32.1	49.2	11.62	-11.61	3.87
4,353.0	2.50	173.50	4,351.2	3,145.2	-44.5	32.3	51.2	8.39	-5.39	-4.52

Database:	DM 5000.1 5000.1 Survey	Local Co-ordinate Reference:	WGS 84 / NAD 83 / UTM Zone 18Q UTM
Company:	OT PRODUCTION	TVD Reference:	True Vertical Depth
Project:	Alpha Omega, VW	MD Reference:	MD 22-08-1204 (m)
Site:	W. 20 Mile	North Reference:	Grid
Well:	Well 2111444 - Mainline	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	11884 as Draw 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)
4,385.0	0.30	73.80	4,383.1	3,177.1	-45.1	32.5	51.9	8.02	-6.88	-311.56
4,416.0	2.20	358.60	4,414.1	3,208.1	-44.5	32.6	51.3	6.91	6.13	-242.58
4,448.0	2.50	358.30	4,446.1	3,240.1	-43.2	32.5	50.0	0.94	0.94	-0.94
4,479.0	1.80	340.80	4,477.1	3,271.1	-42.1	32.4	48.9	3.07	-2.26	-56.45
4,510.0	1.50	332.40	4,508.1	3,302.1	-41.3	32.0	48.0	1.24	-0.97	-27.10
4,542.0	0.70	351.90	4,540.1	3,334.1	-40.7	31.8	47.4	2.73	-2.50	60.94
4,573.0	0.40	318.70	4,571.1	3,365.1	-40.4	31.7	47.1	1.37	-0.97	-107.10
4,605.0	2.10	319.50	4,603.1	3,397.1	-39.9	31.2	46.5	5.31	5.31	2.50
4,636.0	5.60	325.40	4,634.0	3,428.0	-38.2	30.0	44.6	11.35	11.29	19.03
4,668.0	8.40	328.50	4,665.7	3,459.7	-34.9	27.9	40.9	8.83	8.75	9.69
4,700.0	9.60	330.70	4,697.4	3,491.4	-30.6	25.4	36.0	3.90	3.75	6.88
4,731.0	11.50	328.90	4,727.8	3,521.8	-25.7	22.5	30.6	6.22	6.13	-5.81
4,763.0	14.20	332.60	4,759.0	3,553.0	-19.5	19.0	23.7	8.82	8.44	11.56
4,794.0	16.40	335.80	4,788.9	3,582.9	-12.1	15.5	15.7	7.60	7.10	10.32
4,826.0	18.00	337.00	4,819.5	3,613.5	-3.5	11.7	6.3	5.12	5.00	3.75
4,857.0	19.40	340.90	4,848.9	3,642.9	5.8	8.2	-3.6	6.05	4.52	12.58
4,889.0	21.70	343.60	4,878.8	3,672.8	16.5	4.8	-14.8	7.77	7.19	8.44
4,920.0	24.10	339.60	4,907.4	3,701.4	28.0	0.9	-26.8	9.22	7.74	-12.90
4,951.0	27.10	336.90	4,935.3	3,729.3	40.4	-4.0	-40.1	10.38	9.68	-8.71
4,983.0	30.10	336.80	4,963.4	3,757.4	54.5	-10.1	-55.2	9.38	9.38	-0.31
5,014.0	32.40	338.00	4,989.9	3,783.9	69.3	-16.2	-71.2	7.69	7.42	3.87
5,045.0	35.20	337.90	5,015.7	3,809.7	85.3	-22.7	-88.3	9.03	9.03	-0.32
5,077.0	38.20	338.50	5,041.3	3,835.3	103.1	-29.8	-107.2	9.44	9.38	1.88
5,108.0	41.10	339.60	5,065.2	3,859.2	121.5	-36.9	-126.9	9.62	9.35	3.55
5,171.0	42.00	337.00	5,112.4	3,906.4	160.3	-52.3	-166.4	3.09	1.43	-4.13
5,266.0	39.60	333.40	5,184.3	3,978.3	216.7	-78.3	-229.5	3.54	-2.53	-3.79
5,360.0	39.50	333.60	5,256.8	4,050.8	270.3	-104.9	-288.1	0.29	-0.11	0.43
5,392.0	38.50	332.60	5,281.6	4,075.6	288.3	-114.0	-307.8	3.92	-3.13	-3.75
5,423.0	38.90	335.60	5,305.8	4,099.8	305.7	-122.5	-326.8	6.19	1.29	9.68
5,455.0	40.40	338.70	5,330.5	4,124.5	324.5	-130.4	-347.0	7.76	4.69	9.69
5,486.0	41.50	340.50	5,353.9	4,147.9	343.6	-137.5	-367.2	5.20	3.55	5.81
5,517.0	39.80	342.70	5,377.4	4,171.4	362.7	-143.9	-387.3	7.17	-5.48	7.10
5,549.0	36.40	340.70	5,402.6	4,196.6	381.5	-150.0	-407.0	11.30	-10.83	-6.25
5,580.0	32.70	338.70	5,428.1	4,222.1	398.0	-156.1	-424.5	12.48	-11.94	-6.45
5,612.0	28.70	335.80	5,455.6	4,249.6	413.0	-162.4	-440.7	13.33	-12.50	-9.06
5,643.0	24.40	334.70	5,483.3	4,277.3	425.6	-168.2	-454.3	13.96	-13.87	-3.55
5,675.0	19.50	334.40	5,513.0	4,307.0	436.4	-173.3	-466.1	15.32	-15.31	-0.94
5,706.0	15.60	334.30	5,542.5	4,336.5	444.9	-177.4	-475.3	11.94	-11.94	-0.32
5,738.0	13.20	333.50	5,573.5	4,367.5	452.1	-180.9	-483.2	8.15	-8.13	-2.50
5,769.0	10.70	333.60	5,603.8	4,397.8	457.8	-183.8	-489.4	8.06	-8.06	0.32
5,800.0	8.40	335.80	5,634.4	4,428.4	462.5	-186.0	-494.5	7.51	-7.42	7.10
5,832.0	6.30	343.00	5,666.1	4,460.1	466.3	-187.5	-498.6	7.15	-6.56	22.50

Database:	COM 0001 - 2009 - 01 - 01	Local Co-ordinate Reference:	Well Name: 0111001 - 2009 - 01 - 01
Company:	PHOENIX TECHNOLOGY SERVICES	TVD Reference:	49 33 @ 1000' SURF
Project:	Little Goose, WV	MD Reference:	49 33 @ 1000' SURF
Site:	N.A. 91 Zone	North Reference:	000
Well:	Well 0111001 - 2009 - 01 - 01	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	0111001 - 2009 - 01 - 01		

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)
5,864.0	3.90	360.00	5,698.0	4,492.0	489.0	-188.0	-501.4	8.78	-7.50	53.13
5,895.0	1.40	14.30	5,729.0	4,523.0	470.5	-187.9	-502.7	8.28	-8.06	46.13
5,926.0	1.30	140.20	5,760.0	4,554.0	470.6	-187.6	-502.7	7.76	-0.32	406.13
5,958.0	3.20	158.00	5,792.0	4,586.0	469.5	-187.0	-501.5	6.26	5.94	55.63
5,989.0	6.20	160.60	5,822.8	4,618.8	467.1	-186.1	-499.0	9.70	9.68	8.39
6,021.0	9.10	163.60	5,854.6	4,648.6	463.0	-184.8	-494.7	9.14	9.06	9.38
6,052.0	11.70	166.40	5,885.0	4,679.0	457.6	-183.4	-489.1	8.54	8.39	9.03
6,083.0	13.50	168.10	5,915.3	4,709.3	451.0	-181.9	-482.4	5.93	5.81	5.48
6,115.0	14.90	168.40	5,946.3	4,740.3	443.3	-180.3	-474.5	4.38	4.38	0.94
6,146.0	16.90	168.70	5,976.1	4,770.1	435.0	-178.5	-466.1	6.62	6.45	-5.48
6,178.0	19.40	165.10	6,006.5	4,800.5	425.4	-176.0	-456.1	7.97	7.81	-5.00
6,209.0	22.10	165.00	6,035.5	4,829.5	414.8	-173.2	-445.1	8.71	8.71	-0.32
6,240.0	25.60	165.30	6,063.9	4,857.9	402.6	-170.0	-432.6	11.30	11.29	0.97
6,272.0	28.80	167.40	6,092.3	4,886.3	388.4	-166.6	-418.0	10.46	10.00	6.56
6,303.0	32.10	167.70	6,119.1	4,913.1	373.1	-163.2	-402.3	10.66	10.65	1.67
6,335.0	36.20	167.20	6,145.5	4,939.5	355.6	-159.3	-384.3	12.84	12.81	-1.56
6,366.0	39.70	166.20	6,170.0	4,964.0	337.0	-154.9	-365.3	11.46	11.29	1.82
6,397.0	43.30	166.30	6,193.2	4,987.2	317.1	-150.0	-344.7	11.61	11.91	0.32
6,429.0	47.20	165.70	6,215.7	5,009.7	295.0	-144.5	-322.0	12.26	12.19	1.89
6,461.0	51.00	166.20	6,236.7	5,030.7	271.6	-138.6	-297.8	11.93	11.88	1.56
6,492.0	54.90	165.90	6,255.3	5,049.3	247.6	-132.7	-273.1	12.00	12.19	0.97
6,523.0	59.90	165.20	6,272.0	5,066.0	222.3	-126.1	-247.0	16.24	16.13	-2.26
6,555.0	63.80	165.40	6,287.1	5,081.1	195.0	-119.0	-218.8	12.20	12.19	0.63
6,586.0	66.40	165.10	6,300.2	5,094.2	167.8	-111.8	-190.7	8.43	8.39	-0.97
6,618.0	69.30	164.50	6,312.2	5,106.2	139.2	-104.1	-161.0	9.23	9.06	-1.88
6,649.0	71.50	163.20	6,322.6	5,116.6	111.2	-95.9	-131.8	8.12	7.10	-4.19
6,681.0	73.50	164.10	6,332.3	5,126.3	81.9	-87.3	-101.3	6.80	6.25	2.81
6,709.4	75.24	163.83	6,339.9	5,133.9	55.6	-79.8	-74.0	6.20	6.13	-0.97
6,712.0	75.40	163.80	6,340.6	5,134.6	53.2	-79.1	-71.5	6.20	6.13	-0.96
6,743.0	77.80	163.20	6,347.8	5,141.8	24.3	-70.5	-41.3	7.97	7.74	-1.94
6,775.0	80.50	163.30	6,353.8	5,147.8	-5.8	-61.5	-9.9	8.44	8.44	0.31
6,806.0	82.00	163.00	6,358.5	5,152.5	-35.2	-52.6	20.7	4.93	4.84	-0.97
6,838.0	81.90	163.30	6,363.0	5,157.0	-65.5	-43.4	52.3	0.98	-0.31	0.94
6,856.2	81.55	163.53	6,365.6	5,159.6	-82.8	-38.3	70.4	2.32	-1.94	1.29
6,857.3	81.53	163.55	6,365.8	5,159.8	-83.8	-37.9	71.4	2.32	-1.94	1.29
6,861.8	81.44	163.61	6,366.4	5,160.4	-88.1	-36.7	75.9	2.32	-1.94	1.29
6,865.8	81.36	163.66	6,367.0	5,161.0	-91.9	-35.6	79.9	2.32	-1.94	1.29
6,868.0	81.32	163.69	6,367.3	5,161.3	-93.9	-35.0	82.0	2.32	-1.93	1.29

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Phoenix Technology Services Survey Report



Database: COMPASS 5000.1 Build 74 Company: EQT PRODUCTION Project: Apache County, WY Site: N2E 34.7Ee Well: Well 9111444 - Mainwell Wellbore: Main Wellbore Design: COMPASS 5000 Survey	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method:	Well Head Easting: 1000000.000000 Well Head Northing: 1000000.000000 Well Head Elevation: 10000.000000 Well Head Azimuth: 0.000000 Well Head Orientation: 0.000000 Well Head Azimuth: 0.000000
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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)
6,869.0	81.30	163.70	6,367.5	5,161.5	-94.9	-34.7	83.0	2.32	-1.93	1.29
6,901.0	83.00	163.90	6,371.9	5,165.9	-125.3	-25.8	114.7	5.35	5.31	0.63
6,932.0	85.50	164.50	6,375.0	5,169.0	-155.0	-17.4	145.5	8.29	8.06	1.94
6,964.0	88.10	165.10	6,376.8	5,170.8	-185.8	-9.1	177.5	8.34	8.13	1.88
6,995.0	88.40	165.10	6,377.7	5,171.7	-215.8	-1.1	208.5	0.97	0.97	0.00
7,058.0	90.60	164.50	6,378.3	5,172.3	-276.6	15.4	271.4	3.62	3.49	-0.95
7,152.0	88.40	160.00	6,379.1	5,173.1	-366.1	44.1	365.3	5.33	-2.34	-4.79
COMPASS 5000.1										
7,257.0	89.90	160.10	6,380.6	5,174.6	-464.7	79.9	469.8	1.43	1.43	0.10
7,351.0	91.30	161.30	6,379.7	5,173.7	-553.5	110.9	563.5	1.96	1.49	1.28
7,445.0	91.40	163.30	6,377.4	5,171.4	-643.0	139.5	657.3	2.13	0.11	2.13
7,540.0	91.50	165.10	6,375.0	5,169.0	-734.4	165.4	752.3	1.90	0.11	1.89
7,635.0	90.40	166.90	6,373.5	5,167.5	-826.5	188.3	847.3	2.22	-1.16	1.89
7,729.0	90.00	165.70	6,373.1	5,167.1	-917.8	210.6	941.2	1.35	-0.43	-1.28
7,823.0	89.70	164.90	6,373.4	5,167.4	-1,008.8	234.5	1,035.2	0.91	-0.32	-0.85
7,917.0	90.30	165.10	6,373.4	5,167.4	-1,099.6	258.8	1,129.2	0.67	0.64	0.21
8,012.0	90.00	164.60	6,373.1	5,167.1	-1,191.3	283.6	1,224.2	0.81	-0.32	-0.53
8,106.0	89.50	164.20	6,373.5	5,167.5	-1,281.8	308.9	1,318.2	0.68	-0.53	-0.43
8,201.0	89.70	166.30	6,374.2	5,168.2	-1,373.7	333.1	1,413.2	2.22	0.21	2.21
8,295.0	89.10	167.40	6,375.2	5,169.2	-1,465.2	354.5	1,507.2	1.33	-0.64	1.17
8,389.0	90.00	167.80	6,375.9	5,169.9	-1,557.0	374.7	1,601.1	1.05	0.96	0.43
8,484.0	89.60	167.80	6,376.3	5,170.3	-1,649.8	394.7	1,696.0	0.42	-0.42	0.00
8,578.0	90.70	166.80	6,376.0	5,170.0	-1,741.5	415.4	1,790.0	1.58	1.17	-1.06
8,673.0	90.30	166.60	6,375.2	5,169.2	-1,834.0	437.2	1,884.9	0.47	-0.42	-0.21
8,767.0	90.00	166.80	6,374.9	5,168.9	-1,925.5	458.9	1,978.9	0.38	-0.32	0.21
8,861.0	90.40	165.30	6,374.6	5,168.6	-2,016.7	481.5	2,072.9	1.65	0.43	-1.60
8,956.0	90.00	164.90	6,374.3	5,168.3	-2,108.5	506.0	2,167.9	0.60	-0.42	-0.42
9,050.0	91.30	164.00	6,373.2	5,167.2	-2,199.0	531.2	2,261.9	1.68	1.38	-0.96
9,144.0	91.00	163.80	6,371.3	5,165.3	-2,289.3	557.2	2,355.8	0.38	-0.32	-0.21
9,239.0	89.70	162.30	6,370.7	5,164.7	-2,380.2	584.9	2,450.7	2.09	-1.37	-1.58
9,333.0	89.40	162.20	6,371.5	5,165.5	-2,469.7	613.6	2,544.6	0.34	-0.32	-0.11
9,427.0	90.50	162.50	6,371.6	5,165.6	-2,559.3	642.1	2,638.5	1.21	1.17	0.32
9,522.0	90.90	163.60	6,370.4	5,164.4	-2,650.2	669.8	2,733.4	1.23	0.42	1.16
9,616.0	89.50	161.50	6,370.1	5,164.1	-2,739.8	697.9	2,827.3	2.68	-1.49	-2.23
9,711.0	90.40	163.80	6,370.2	5,164.2	-2,830.5	726.3	2,922.2	2.60	0.95	2.42
9,805.0	90.00	164.10	6,369.8	5,163.8	-2,920.8	752.3	3,016.1	0.53	-0.43	0.32
9,900.0	89.70	163.10	6,370.1	5,164.1	-3,012.0	779.1	3,111.1	1.10	-0.32	-1.05
9,994.0	88.80	162.80	6,371.3	5,165.3	-3,101.8	806.6	3,205.0	1.01	-0.86	-0.32
10,088.0	90.80	164.00	6,371.6	5,165.6	-3,191.9	833.5	3,298.9	2.48	2.13	1.28
10,183.0	91.00	163.10	6,370.1	5,164.1	-3,283.0	860.4	3,393.9	0.97	0.21	-0.95
10,277.0	91.00	163.70	6,368.5	5,162.5	-3,373.1	887.2	3,487.8	0.64	0.00	0.64
10,372.0	91.00	164.00	6,368.8	5,160.8	-3,464.3	913.7	3,582.8	0.32	0.00	0.32



Phoenix Technology Services Survey Report



Database: UPR-2002-10000-0001-0001 Company: EQT PRODUCTION Project: Eagle County, WY Site: UPR-2002 Well: Well #110001-1000000000 Wellbore: Main Wellbore Design: UPR-2002-10000-0001-0001	Local Co-ordinate Reference: TVD Reference: UPR-2002-10000-0001-0001 MD Reference: UPR-2002-10000-0001-0001 North Reference: UPR Survey Calculation Method: Minimum Curvature	Wellbore Reference: UPR-2002-10000-0001-0001 Wellbore Reference: UPR-2002-10000-0001-0001 Wellbore Reference: UPR-2002-10000-0001-0001
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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)
10,466.0	92.20	164.10	6,364.2	5,158.2	-3,554.7	939.5	3,676.7	1.28	1.28	0.11
10,561.0	91.60	164.00	6,361.1	5,155.1	-3,645.9	965.6	3,771.6	0.64	-0.63	-0.11
10,655.0	90.60	166.70	6,359.3	5,153.3	-3,736.9	989.3	3,865.6	3.06	-1.06	2.87
10,749.0	90.20	167.40	6,358.6	5,152.6	-3,828.5	1,010.4	3,959.5	0.86	-0.43	0.74
10,844.0	89.90	165.90	6,358.5	5,152.5	-3,920.9	1,032.3	4,054.5	1.81	-0.32	-1.58
10,938.0	89.60	166.20	6,358.9	5,152.9	-4,012.1	1,055.0	4,148.5	0.45	-0.32	0.32
11,032.0	89.40	167.00	6,359.8	5,153.8	-4,103.6	1,076.8	4,242.5	0.88	-0.21	0.85
11,127.0	89.30	167.00	6,360.8	5,154.8	-4,196.1	1,098.2	4,337.4	0.11	-0.11	0.00
11,221.0	89.10	167.10	6,362.1	5,156.1	-4,287.7	1,119.2	4,431.4	0.24	-0.21	0.11
11,316.0	88.50	166.80	6,364.1	5,158.1	-4,380.2	1,140.7	4,526.3	0.71	-0.63	-0.32
11,410.0	90.10	165.40	6,365.3	5,159.3	-4,471.5	1,163.2	4,620.3	2.26	1.70	-1.49
11,504.0	92.00	164.10	6,363.6	5,157.6	-4,562.1	1,188.0	4,714.3	2.45	2.02	-1.38
11,599.0	91.40	162.70	6,360.7	5,154.7	-4,653.1	1,215.1	4,809.2	1.60	-0.63	-1.47
11,693.0	91.10	162.40	6,358.7	5,152.7	-4,742.8	1,243.3	4,903.0	0.45	-0.32	-0.32
11,788.0	90.70	163.10	6,357.2	5,151.2	-4,833.5	1,271.4	4,997.9	0.85	-0.42	0.74
11,882.0	90.40	163.30	6,356.3	5,150.3	-4,923.5	1,298.6	5,091.9	0.36	-0.32	0.21
11,976.0	91.40	165.20	6,354.8	5,148.8	-5,014.0	1,324.1	5,185.8	2.28	1.06	2.02
12,071.0	91.30	165.20	6,352.6	5,146.6	-5,105.8	1,348.4	5,280.8	0.11	-0.11	0.00
12,165.0	90.70	165.30	6,350.9	5,144.9	-5,196.7	1,372.3	5,374.8	0.65	-0.64	0.11
12,260.0	89.70	166.00	6,350.6	5,144.6	-5,288.7	1,395.9	5,469.8	1.28	-1.05	0.74
12,354.0	89.60	166.20	6,351.2	5,145.2	-5,379.9	1,418.4	5,563.8	0.24	-0.11	0.21
12,427.0	89.70	166.70	6,351.6	5,145.6	-5,450.9	1,435.5	5,636.8	0.70	0.14	0.68
12,477.4	89.70	166.70	6,351.9	5,145.9	-5,499.9	1,447.1	5,687.1	0.00	0.00	0.00
12,478.0	89.70	166.70	6,351.9	5,145.9	-5,500.5	1,447.3	5,687.8	0.00	0.00	0.00

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,100.0	4,099.7	-22.2	29.3	Gyro Tie On=4100' MD
7,257.0	6,380.6	-464.7	79.9	LP/Deepest Point=7257' MD/6381' TVD
12,427.0	6,351.6	-5,450.9	1,435.5	Final Survey=12427' MD/6352' TVD
12,478.0	6,351.9	-5,500.5	1,447.3	PROJ to TD=12478' MD/6352' TVD

Checked By: _____ Approved By: _____ Date: _____

Project: Ritchie County, WV
 Site: PUL96 Pad
 Well: Well #515884- Marcellus
 Wellbore: Main Wellbore
 Design: 515884 As Drilled Surveys

