



EQT Production - Marcellus

Doddridge County, WV Grid

Doddridge County 513140

Well #513140

513140 ST01

Design: 513140 ST01 As Drilled Surveys

Standard Survey Report

20 August, 2014



Phoenix Technology Services
Survey Report



Database:	EDM 5000 1 Single User Db	Local Co-ordinate Reference:	Site Doddridge County 513140
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1218.0usft
Project:	Doddridge County, WV Grid	MD Reference:	KB @ 1218.0usft
Site:	Doddridge County 513140	North Reference:	Grid
Well:	Well #513140	Survey Calculation Method:	Minimum Curvature
Wellbore:	513140 ST01		
Design:	513140 ST01 As Drilled Surveys		

Project Doddridge County, WV Grid			
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 Doddridge County 513140			
Site Position:		Northing:	267,921.10 usft
From:	Map	Easting:	1,635,243.20 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	39.23
		Longitude:	-80.79
		Grid Convergence:	-0.82 °

Well Well #513140			
Well Position	+N-S	0.0 usft	Northing: 267,921.10 usft
	+E-W	0.0 usft	Easting: 1,635,243.20 usft
Position Uncertainty		0.0 usft	Wellhead Elevation: usft
			Latitude: 39° 13' 42.329 N
			Longitude: 80° 47' 15.457 W
			Ground Level: 1,202.0 usft

Wellbore 513140 ST01					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	8/12/2014	-8.46	66.75	52,244

Design 513140 ST01 As Drilled Surveys					
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	10,043.0
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)	
	0.0	0.0	0.0	340.62	

Survey Program Date 8/20/2014					
From (')	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	5,260.0	513140 Gyrodata Gyros (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop	
0.00	10,043.0	513140 PHX MWD (Main Wellbore)	MWD+IGRF	MWD+IGRF v3:standard declination	
0.00	15,344.0	513140 PHX MWD (513140 ST01)	MWD+IGRF	MWD+IGRF v3:standard declination	

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	-1,218.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.03	138.11	100.0	-1,118.0	0.0	0.0	0.0	0.03	0.03	0.00
200.0	0.05	227.16	200.0	-1,018.0	-0.1	0.0	-0.1	0.06	0.02	89.05
300.0	0.03	154.64	300.0	-918.0	-0.1	0.0	-0.1	0.05	-0.02	-72.52
400.0	0.04	180.58	400.0	-818.0	-0.2	0.0	-0.2	0.02	0.01	25.94
500.0	0.04	177.01	500.0	-718.0	-0.3	0.0	-0.2	0.00	0.00	-3.57
600.0	0.28	157.76	600.0	-618.0	-0.5	0.1	-0.5	0.24	0.24	-19.25



Phoenix Technology Services
Survey Report



Database:	ERM 5000.1 Simco Lear DB	Local Co-ordinate Reference:	Site Doddridge County 513140
Company:	EQT Production Services	TVD Reference:	K&S @ 218.0000
Project:	Doddridge County, WV Prod	MD Reference:	K&S @ 1218.0000
Site:	Doddridge County 513140	North Reference:	Grid
Well:	Well #513140	Survey Calculation Method:	Minimum Curvature
Wellbore:	513140 ST01		
Design:	513140 ST01 As Drilled Survey		

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)	
700.0	0.50	144.17	700.0	-518.0	-1.1	0.4	-1.2	0.24	0.22	-13.59	
800.0	0.41	151.07	800.0	-418.0	-1.8	0.9	-1.9	0.11	-0.09	6.90	
900.0	0.87	106.37	900.0	-318.0	-2.3	1.8	-2.7	0.65	0.46	-44.70	
1,000.0	0.93	108.32	1,000.0	-218.0	-2.8	3.3	-3.7	0.07	0.06	1.95	
1,100.0	0.88	106.53	1,100.0	-118.0	-3.2	4.8	-4.6	0.06	-0.05	-1.79	
1,200.0	0.93	105.91	1,200.0	-18.0	-3.7	6.3	-5.5	0.05	0.05	-0.62	
1,300.0	1.01	104.33	1,299.9	81.9	-4.1	7.9	-6.5	0.08	0.08	-1.58	
1,400.0	1.05	104.34	1,399.9	181.9	-4.6	9.7	-7.5	0.04	0.04	0.01	
1,500.0	0.93	97.30	1,499.9	281.9	-4.9	11.4	-8.4	0.17	-0.12	-7.04	
1,600.0	0.64	107.94	1,599.9	381.9	-5.2	12.7	-9.1	0.32	-0.29	10.64	
1,700.0	0.53	120.41	1,699.9	481.9	-5.6	13.6	-9.8	0.17	-0.11	12.47	
1,800.0	0.55	126.64	1,799.9	581.9	-6.1	14.4	-10.5	0.06	0.02	6.23	
1,900.0	0.47	139.95	1,899.9	681.9	-6.7	15.1	-11.3	0.14	-0.08	13.31	
2,000.0	0.43	141.27	1,999.9	781.9	-7.3	15.6	-12.0	0.04	-0.04	1.32	
2,100.0	0.42	151.19	2,099.9	881.9	-7.9	16.0	-12.8	0.07	-0.01	9.92	
2,200.0	0.44	163.02	2,199.9	981.9	-8.6	16.3	-13.5	0.09	0.02	11.83	
2,300.0	0.44	162.42	2,299.9	1,081.9	-9.3	16.5	-14.3	0.00	0.00	-0.60	
2,400.0	0.34	164.42	2,399.9	1,181.9	-10.0	16.7	-15.0	0.10	-0.10	2.00	
2,500.0	0.30	172.94	2,499.9	1,281.9	-10.5	16.8	-15.5	0.06	-0.04	8.52	
2,600.0	0.27	183.63	2,599.9	1,381.9	-11.0	16.8	-16.0	0.06	-0.03	10.69	
2,700.0	0.26	187.26	2,699.9	1,481.9	-11.5	16.8	-16.4	0.02	-0.01	3.63	
2,800.0	0.28	200.57	2,799.9	1,581.9	-11.9	16.7	-16.8	0.07	0.02	13.31	
2,900.0	0.25	207.57	2,899.9	1,681.9	-12.4	16.5	-17.1	0.04	-0.03	7.00	
3,000.0	0.26	201.83	2,999.9	1,781.9	-12.8	16.3	-17.4	0.03	0.01	-5.74	
3,100.0	0.26	211.26	3,099.9	1,881.9	-13.2	16.1	-17.8	0.04	0.00	9.43	
3,200.0	0.28	206.08	3,199.9	1,981.9	-13.6	15.9	-18.1	0.03	0.02	-5.18	
3,300.0	0.26	213.55	3,299.9	2,081.9	-14.0	15.6	-18.4	0.04	-0.02	7.47	
3,400.0	0.29	203.15	3,399.9	2,181.9	-14.4	15.4	-18.7	0.06	0.03	-10.40	
3,500.0	0.32	211.35	3,499.9	2,281.9	-14.9	15.1	-19.1	0.05	0.03	8.20	
3,600.0	0.32	215.13	3,599.9	2,381.9	-15.3	14.8	-19.4	0.02	0.00	3.78	
3,700.0	0.28	221.32	3,699.9	2,481.9	-15.8	14.5	-19.7	0.05	-0.04	6.19	
3,800.0	0.38	263.93	3,799.9	2,581.9	-16.0	14.0	-19.7	0.26	0.10	42.61	
3,900.0	0.59	283.25	3,899.8	2,681.8	-15.9	13.2	-19.4	0.26	0.21	19.32	
4,000.0	0.80	284.35	3,999.8	2,781.8	-15.6	12.0	-18.7	0.21	0.21	1.10	
4,100.0	1.05	292.36	4,099.8	2,881.8	-15.1	10.5	-17.7	0.28	0.25	8.01	
4,200.0	1.25	293.89	4,199.8	2,981.8	-14.3	8.7	-16.4	0.20	0.20	1.53	
4,300.0	1.47	297.20	4,299.8	3,081.8	-13.3	6.5	-14.7	0.23	0.22	3.31	
4,400.0	1.81	299.75	4,399.7	3,181.7	-11.9	4.0	-12.5	0.35	0.34	2.55	
4,500.0	1.92	303.67	4,499.7	3,281.7	-10.2	1.2	-10.0	0.17	0.11	3.92	
4,600.0	2.10	309.23	4,599.6	3,381.6	-8.1	-1.6	-7.1	0.27	0.18	5.56	
4,700.0	2.47	313.58	4,699.5	3,481.5	-5.5	-4.6	-3.6	0.41	0.37	4.35	
4,800.0	3.11	318.08	4,799.4	3,581.4	-1.9	-7.9	0.8	0.68	0.64	4.50	
4,900.0	3.40	322.83	4,899.3	3,681.3	2.4	-11.5	6.1	0.40	0.29	4.75	



Phoenix Technology Services
Survey Report



Database: EDM 5000 - Single Tracer D	Local Co-ordinate Reference: S.W. Doddridge County (1914)
Company: EQT Production - Marshall	TVD Reference: KP @ 1216.0m
Project: Doddridge County WY 1 W	MD Reference: KP @ 1216.0usft
Site: Doddridge County 613140	North Reference: End
Well: Well #513140	Survey Calculation Method: Minimum Curvature
Wellbore: 513140 ST01	
Design: 513140 ST01 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)
5,000.0	3.66	326.29	4,999.1	3,781.1	7.5	-15.1	12.0	0.34	0.26	3.46
5,100.0	4.19	327.19	5,098.8	3,880.8	13.2	-18.8	18.7	0.53	0.53	0.90
5,200.0	4.01	329.44	5,198.6	3,980.6	19.3	-22.6	25.7	0.24	-0.18	2.25
5,260.0	3.89	331.23	5,258.4	4,040.4	22.9	-24.7	29.7	0.29	-0.20	2.98
5,286.0	4.10	332.10	5,284.4	4,066.4	24.4	-25.5	31.5	0.84	0.81	3.35
5,317.0	3.60	349.70	5,315.3	4,097.3	26.4	-26.2	33.6	4.12	-1.61	56.77
5,349.0	3.40	33.10	5,347.3	4,129.3	28.2	-25.9	35.2	8.10	-0.63	135.63
5,381.0	5.70	68.80	5,379.2	4,161.2	29.5	-23.9	35.8	11.08	7.19	111.56
5,412.0	8.00	81.60	5,409.9	4,191.9	30.4	-20.3	35.4	8.86	7.42	41.29
5,444.0	10.00	86.10	5,441.5	4,223.5	30.9	-15.3	34.3	6.62	6.25	14.06
5,475.0	11.60	87.90	5,472.0	4,254.0	31.2	-9.5	32.6	5.27	5.16	5.81
5,507.0	14.20	89.90	5,503.2	4,285.2	31.3	-2.4	30.4	8.24	8.13	6.25
5,538.0	16.80	91.90	5,533.0	4,315.0	31.2	5.9	27.5	8.56	8.39	6.45
5,570.0	19.40	93.20	5,563.5	4,345.5	30.8	15.8	23.8	8.22	8.13	4.06
5,601.0	22.30	94.00	5,592.4	4,374.4	30.1	26.8	19.4	9.40	9.35	2.58
5,633.0	25.40	94.10	5,621.7	4,403.7	29.1	39.7	14.3	9.69	9.69	0.31
5,665.0	28.50	95.30	5,650.2	4,432.2	27.9	54.2	8.4	9.83	9.69	3.75
5,696.0	31.30	96.50	5,677.1	4,459.1	26.3	69.6	1.8	9.24	9.03	3.87
5,728.0	34.10	96.20	5,704.0	4,486.0	24.4	86.7	-5.7	8.76	8.75	-0.94
5,759.0	36.30	95.80	5,729.3	4,511.3	22.6	104.5	-13.4	7.14	7.10	-1.29
5,791.0	38.20	97.00	5,754.8	4,536.8	20.4	123.8	-21.8	6.36	5.94	3.75
5,822.0	40.00	98.90	5,778.9	4,560.9	17.7	143.1	-30.8	6.97	5.81	6.13
5,854.0	43.20	99.80	5,802.8	4,584.8	14.2	164.1	-41.0	10.17	10.00	2.81
5,885.0	46.00	99.90	5,824.9	4,606.9	10.5	185.5	-51.7	9.04	9.03	0.32
5,917.0	47.60	97.20	5,846.8	4,628.8	7.1	208.6	-62.6	7.93	5.00	-8.44
5,948.0	48.30	94.30	5,867.5	4,649.5	4.8	231.5	-72.3	7.30	2.26	-9.35
5,980.0	48.00	93.40	5,888.9	4,670.9	3.2	255.3	-81.7	2.30	-0.94	-2.81
6,012.0	47.60	93.20	5,910.4	4,692.4	1.8	278.9	-90.9	1.33	-1.25	-0.63
6,043.0	46.40	92.70	5,931.5	4,713.5	0.6	301.6	-99.5	4.05	-3.87	-1.61
6,074.0	44.00	91.40	5,953.4	4,735.4	-0.2	323.6	-107.5	8.29	-7.74	-4.19
6,106.0	43.10	91.40	5,976.6	4,758.6	-0.7	345.6	-115.4	2.81	-2.81	0.00
6,137.0	42.50	91.00	5,999.3	4,781.3	-1.1	366.7	-122.8	2.12	-1.94	-1.29
6,169.0	42.20	88.20	6,023.0	4,805.0	-1.0	388.2	-129.8	5.97	-0.94	-8.75
6,200.0	42.10	86.10	6,045.9	4,827.9	0.0	409.0	-135.7	4.56	-0.32	-6.77
6,232.0	42.20	83.50	6,069.7	4,851.7	2.0	430.4	-141.0	5.46	0.31	-8.13
6,263.0	41.10	80.10	6,092.8	4,874.8	4.9	450.8	-145.0	8.11	-3.55	-10.97
6,295.0	40.80	78.00	6,117.0	4,899.0	8.9	471.3	-148.0	4.40	-0.94	-6.56
6,326.0	40.80	73.40	6,140.5	4,922.5	13.9	491.0	-149.8	9.69	0.00	-14.84
6,358.0	41.20	68.20	6,164.6	4,946.6	20.8	510.8	-149.9	10.73	1.25	-16.25
6,390.0	42.30	62.00	6,188.5	4,970.5	29.8	530.1	-147.8	13.35	3.44	-19.38
6,421.0	42.90	56.50	6,211.3	4,993.3	40.5	548.1	-143.7	12.16	1.94	-17.74
6,453.0	41.90	50.30	6,235.0	5,017.0	53.3	565.4	-137.3	13.43	-3.13	-19.38



Phoenix Technology Services
Survey Report



Database:	EDM 5000 1 Single User DB	Local Co-ordinate Reference:	Site Chesapeake County 517140
Company:	EQT Production - Marcelline	TVD Reference:	KB @ 1716.0m
Project:	Chesapeake County WV Area	MD Reference:	KB @ 1710.0m
Site:	Bochrades County 011140	North Reference:	RAI
Well:	Well #5) 1140	Survey Calculation Method:	Minimum Curvature
Wellbore:	R-3140 6T01		
Design:	E1311RST01 As Planned 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)	
6,484.0	41.70	45.90	6,258.1	5,040.1	67.1	580.8	-129.4	9.48	-0.65	-14.19	
6,516.0	41.90	40.50	6,282.0	5,064.0	82.7	595.4	-119.6	11.26	0.63	-16.88	
6,548.0	42.30	35.80	6,305.7	5,087.7	99.5	608.6	-108.1	9.92	1.25	-14.69	
6,579.0	42.90	30.90	6,328.5	5,110.5	117.0	620.1	-95.4	10.87	1.94	-15.81	
6,611.0	43.80	26.00	6,351.8	5,133.8	136.4	630.6	-80.7	10.88	2.81	-15.31	
6,643.0	44.70	22.80	6,374.7	5,156.7	156.7	639.8	-64.5	7.52	2.81	-10.00	
6,674.0	45.50	18.10	6,396.6	5,178.6	177.2	647.5	-47.7	11.04	2.58	-15.16	
6,705.0	48.00	14.70	6,417.9	5,199.9	198.9	653.8	-29.4	11.35	8.06	-10.97	
6,737.0	50.00	12.80	6,438.9	5,220.9	222.4	659.5	-9.1	7.69	6.25	-5.94	
6,768.0	51.30	10.10	6,458.5	5,240.5	245.9	664.3	11.4	7.93	4.19	-8.71	
6,799.0	52.90	6.70	6,477.6	5,259.6	270.0	667.9	33.1	10.08	5.16	-10.97	
6,831.0	54.90	3.30	6,496.4	5,278.4	295.8	670.1	56.6	10.62	6.25	-10.63	
6,862.0	57.00	2.20	6,513.8	5,295.8	321.5	671.3	80.4	7.38	6.77	-3.55	
6,894.0	58.50	359.50	6,530.9	5,312.9	348.5	671.7	105.8	8.54	4.69	-8.44	
6,925.0	60.10	356.00	6,546.7	5,328.7	375.1	670.7	131.3	10.99	5.16	-11.29	
6,957.0	61.50	354.30	6,562.3	5,344.3	403.0	668.3	158.3	6.38	4.38	-5.31	
6,988.0	62.80	353.10	6,576.8	5,358.8	430.2	665.3	185.0	5.41	4.19	-3.87	
7,019.0	64.90	352.50	6,590.4	5,372.4	457.8	661.8	212.2	6.99	6.77	-1.94	
7,051.0	66.70	351.50	6,603.6	5,385.6	486.7	657.8	240.8	6.31	5.63	-3.13	
7,085.0	68.50	350.50	6,616.5	5,398.5	517.8	652.8	271.7	5.95	5.29	-2.94	
7,117.0	72.50	350.30	6,627.2	5,409.2	547.5	647.8	301.5	12.51	12.50	-0.63	
7,148.0	77.10	349.40	6,635.3	5,417.3	576.9	642.5	331.0	15.10	14.84	-2.90	
7,179.0	80.00	348.60	6,641.5	5,423.5	606.8	636.7	361.0	9.69	9.35	-2.58	
7,211.0	83.90	347.70	6,646.0	5,428.0	637.8	630.2	392.4	12.50	12.19	-2.81	
7,242.0	88.30	347.30	6,648.1	5,430.1	667.9	623.5	423.1	14.25	14.19	-1.29	
7,273.0	93.00	346.60	6,647.7	5,429.7	698.1	616.5	453.9	15.33	15.16	-2.26	
7,304.0	95.70	343.70	6,645.4	5,427.4	728.0	608.6	484.8	12.76	8.71	-9.35	
7,336.0	95.20	339.80	6,642.3	5,424.3	758.3	598.6	516.6	12.23	-1.56	-12.19	
7,398.0	92.30	337.00	6,638.3	5,420.3	815.8	575.9	578.4	6.49	-4.68	-4.52	
7,461.0	90.30	335.70	6,636.8	5,418.8	873.5	550.6	641.2	3.79	-3.17	-2.06	
7,524.0	89.80	334.50	6,636.8	5,418.8	930.6	524.1	703.9	2.06	-0.79	-1.90	
7,587.0	90.10	334.00	6,636.8	5,418.8	987.3	496.7	766.5	0.93	0.48	-0.79	
7,650.0	90.80	333.90	6,636.3	5,418.3	1,043.9	469.0	829.1	1.12	1.11	-0.16	
7,713.0	91.00	333.90	6,635.4	5,417.4	1,100.5	441.3	891.7	0.32	0.32	0.00	
7,776.0	87.80	332.20	6,636.0	5,418.0	1,156.7	412.8	954.1	5.75	-5.08	-2.70	
7,839.0	87.30	332.20	6,638.7	5,420.7	1,212.3	383.4	1,016.4	0.79	-0.79	0.00	
7,902.0	87.60	331.40	6,641.5	5,423.5	1,267.8	353.7	1,078.6	1.36	0.48	-1.27	
7,965.0	88.40	332.30	6,643.7	5,425.7	1,323.3	324.0	1,140.8	1.91	1.27	1.43	
8,028.0	88.40	333.40	6,645.5	5,427.5	1,379.3	295.3	1,203.2	1.75	0.00	1.75	
8,091.0	88.40	333.40	6,647.2	5,429.2	1,435.7	267.1	1,265.7	0.00	0.00	0.00	
8,154.0	92.10	333.50	6,647.0	5,429.0	1,492.0	238.9	1,328.1	5.88	5.87	0.16	
8,217.0	92.50	334.00	6,644.4	5,426.4	1,548.5	211.1	1,390.6	1.02	0.63	0.79	
8,280.0	91.40	333.10	6,642.3	5,424.3	1,604.8	183.0	1,453.1	2.26	-1.75	-1.43	



Phoenix Technology Services
Survey Report



Database:	EDM 5000 1 Compiliter 24	Local Co-ordinate Reference:	Site Doddridge County 5131101
Company:	ECT F/odg/leg- Marcellus	TVD Reference:	KB @ 1218.0usft
Project:	Doddridge County, WY (B1)	MD Reference:	KB @ 1218.0usft
Site:	Doddridge County 5131101	North Reference:	Grid
Well:	Well #511140	Survey Calculation Method:	Minimum Curvature
Wellbore:	#13140 ST01		
Design:	511140 ST01 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)	
8,344.0	91.10	332.40	6,640.9	5,422.9	1,661.7	153.7	1,516.5	1.19	-0.47	-1.09	
8,407.0	90.20	332.60	6,640.2	5,422.2	1,717.6	124.6	1,578.9	1.46	-1.43	0.32	
8,469.0	90.10	332.00	6,640.0	5,422.0	1,772.5	95.8	1,640.2	0.98	-0.16	-0.97	
8,533.0	90.10	332.10	6,639.9	5,421.9	1,829.0	65.8	1,703.5	0.16	0.00	0.16	
8,596.0	90.30	333.20	6,639.7	5,421.7	1,885.0	36.9	1,765.9	1.77	0.32	1.75	
8,659.0	89.40	334.00	6,639.8	5,421.8	1,941.4	8.9	1,828.4	1.91	-1.43	1.27	
8,722.0	87.80	333.80	6,641.4	5,423.4	1,998.0	-18.8	1,891.0	2.56	-2.54	-0.32	
8,785.0	88.00	333.90	6,643.7	5,425.7	2,054.5	-46.6	1,953.5	0.35	0.32	0.16	
8,848.0	88.40	334.00	6,645.7	5,427.7	2,111.0	-74.2	2,016.0	0.65	0.63	0.16	
8,911.0	87.70	334.10	6,647.8	5,429.8	2,167.7	-101.8	2,078.6	1.12	-1.11	0.16	
8,974.0	87.60	334.60	6,650.4	5,432.4	2,224.4	-129.0	2,141.2	0.81	-0.16	0.79	
9,037.0	87.30	333.80	6,653.2	5,435.2	2,281.1	-156.4	2,203.7	1.36	-0.48	-1.27	
9,100.0	87.50	333.40	6,656.1	5,438.1	2,337.4	-184.4	2,266.2	0.71	0.32	-0.63	
9,163.0	88.20	334.50	6,658.4	5,440.4	2,394.0	-212.1	2,328.7	2.07	1.11	1.75	
9,226.0	89.50	335.90	6,659.7	5,441.7	2,451.2	-238.5	2,391.4	3.03	2.06	2.22	
9,288.0	89.10	336.80	6,660.4	5,442.4	2,508.0	-263.4	2,453.2	1.59	-0.65	1.45	
9,351.0	87.70	337.20	6,662.2	5,444.2	2,565.9	-288.0	2,516.1	2.31	-2.22	0.63	
9,414.0	87.50	337.20	6,664.8	5,446.8	2,624.0	-312.4	2,578.9	0.32	-0.32	0.00	
9,477.0	87.20	336.30	6,667.7	5,449.7	2,681.8	-337.2	2,641.7	1.50	-0.48	-1.43	
9,540.0	87.30	336.30	6,670.8	5,452.8	2,739.4	-362.5	2,704.4	0.16	0.16	0.00	
9,603.0	87.50	336.50	6,673.6	5,455.6	2,797.1	-387.7	2,767.2	0.45	0.32	0.32	
9,666.0	87.30	334.90	6,676.5	5,458.5	2,854.4	-413.6	2,829.9	2.56	-0.32	-2.54	
9,729.0	87.10	333.80	6,679.6	5,461.6	2,911.2	-440.8	2,892.4	1.77	-0.32	-1.75	
9,792.0	86.80	333.60	6,682.9	5,464.9	2,967.6	-468.7	2,954.9	0.57	-0.48	-0.32	
9,855.0	86.20	333.10	6,686.8	5,468.8	3,023.8	-496.9	3,017.3	1.24	-0.95	-0.79	
9,918.0	86.80	332.30	6,690.6	5,472.6	3,079.6	-525.7	3,079.6	1.59	0.95	-1.27	
9,980.0	87.70	331.40	6,693.6	5,475.6	3,134.2	-555.0	3,140.8	2.05	1.45	-1.45	
ETD1 Tie In=10043' MD											
10,043.0	88.40	330.70	6,695.7	5,477.7	3,189.3	-585.4	3,202.9	1.57	1.11	-1.11	
10,106.0	86.10	332.90	6,698.8	5,480.8	3,244.8	-615.2	3,265.0	5.05	-3.65	3.49	
10,169.0	81.80	336.10	6,705.4	5,487.4	3,301.3	-642.1	3,327.3	8.49	-6.83	5.08	
10,232.0	83.30	333.60	6,713.6	5,495.6	3,357.8	-668.7	3,389.4	4.60	2.38	-3.97	
10,295.0	83.80	328.00	6,720.6	5,502.6	3,412.5	-699.2	3,451.1	8.87	0.79	-8.89	
10,357.0	85.40	323.70	6,726.5	5,508.5	3,463.5	-733.9	3,510.8	7.37	2.58	-6.94	
10,420.0	92.00	320.50	6,727.9	5,509.9	3,513.2	-772.5	3,570.5	11.64	10.48	-5.08	
10,483.0	99.90	323.10	6,721.4	5,503.4	3,562.4	-811.2	3,629.7	13.19	12.54	4.13	
10,545.0	99.90	326.90	6,710.7	5,492.7	3,612.4	-846.3	3,688.5	6.04	0.00	6.13	
10,609.0	95.40	328.20	6,702.2	5,484.2	3,665.9	-880.3	3,750.3	7.31	-7.03	2.03	
10,672.0	90.30	329.40	6,699.1	5,481.1	3,719.7	-912.9	3,811.9	8.32	-8.10	1.90	
10,735.0	85.70	329.20	6,701.3	5,483.3	3,773.8	-945.0	3,873.6	7.31	-7.30	-0.32	
10,798.0	83.20	330.10	6,707.4	5,489.4	3,828.0	-976.7	3,935.1	4.22	-3.97	1.43	
10,861.0	83.00	330.40	6,714.9	5,496.9	3,882.3	-1,007.7	3,996.7	0.57	-0.32	0.48	



Phoenix Technology Services
Survey Report



Database:	EDM 5000 v Simple User Bu	Local Co-ordinate Reference:	Site Doodridge County E 13140
Company:	EQ1 Production - Marcellus	TVD Reference:	KB @ 1918.0000
Project:	Doodridge County, WV / Env	MD Reference:	KB @ 1918.0000
Site:	Doodridge County 043140	North Reference:	Grid
Well:	Well #513140	Survey Calculation Method:	Minimum Curvature
Wellbore:	513140 ST01		
Design:	513140 ST01 All Dilled 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)	
10,924.0	83.40	334.50	6,722.4	5,504.4	3,937.7	-1,036.7	4,058.6	6.49	0.63	6.51	
10,987.0	82.80	334.50	6,730.0	5,512.0	3,994.2	-1,063.6	4,120.8	0.95	-0.95	0.00	
11,050.0	84.10	333.80	6,737.1	5,519.1	4,050.5	-1,090.9	4,182.9	2.34	2.06	-1.11	
11,112.0	88.10	335.40	6,741.4	5,523.4	4,106.3	-1,117.4	4,244.4	6.95	6.45	2.58	
11,175.0	90.90	335.90	6,741.9	5,523.9	4,163.7	-1,143.4	4,307.2	4.51	4.44	0.79	
11,238.0	91.40	336.20	6,740.6	5,522.6	4,221.3	-1,168.9	4,370.0	0.93	0.79	0.48	
11,301.0	91.90	336.50	6,738.8	5,520.8	4,279.0	-1,194.2	4,432.8	0.93	0.79	0.48	
11,364.0	90.00	337.00	6,737.8	5,519.8	4,336.9	-1,219.1	4,495.6	3.12	-3.02	0.79	
11,427.0	89.20	336.10	6,738.2	5,520.2	4,394.6	-1,244.1	4,558.5	1.91	-1.27	-1.43	
11,490.0	88.60	336.10	6,739.4	5,521.4	4,452.2	-1,269.6	4,621.3	0.95	-0.95	0.00	
11,552.0	88.00	335.70	6,741.3	5,523.3	4,508.8	-1,295.0	4,683.0	1.16	-0.97	-0.65	
11,615.0	88.00	336.50	6,743.5	5,525.5	4,566.4	-1,320.5	4,745.8	1.27	0.00	1.27	
11,678.0	88.70	335.90	6,745.3	5,527.3	4,624.0	-1,345.9	4,808.6	1.46	1.11	-0.95	
11,709.0	90.60	334.70	6,745.5	5,527.5	4,652.1	-1,358.8	4,839.4	7.25	6.13	-3.87	
11,741.0	90.00	333.20	6,745.3	5,527.3	4,680.9	-1,372.9	4,871.2	5.05	-1.88	-4.69	
11,804.0	92.10	332.10	6,744.2	5,526.2	4,736.8	-1,401.8	4,933.6	3.76	3.33	-1.75	
11,867.0	91.70	332.30	6,742.1	5,524.1	4,792.5	-1,431.2	4,995.9	0.71	-0.63	0.32	
11,930.0	90.10	329.60	6,741.1	5,523.1	4,847.6	-1,461.8	5,058.0	4.98	-2.54	-4.29	
11,994.0	91.50	330.10	6,740.2	5,522.2	4,902.9	-1,493.9	5,120.8	2.32	2.19	0.78	
12,056.0	91.90	329.40	6,738.3	5,520.3	4,956.5	-1,525.1	5,181.7	1.30	0.65	-1.13	
12,119.0	89.90	326.70	6,737.4	5,519.4	5,009.9	-1,558.5	5,243.2	5.33	-3.17	-4.29	
12,182.0	90.70	326.70	6,737.0	5,519.0	5,062.6	-1,593.0	5,304.3	1.27	1.27	0.00	
12,245.0	91.40	327.20	6,735.9	5,517.9	5,115.4	-1,627.4	5,365.5	1.37	1.11	0.79	
12,308.0	91.20	326.00	6,734.4	5,516.4	5,167.9	-1,662.1	5,426.6	1.93	-0.32	-1.90	
12,371.0	92.70	330.40	6,732.3	5,514.3	5,221.4	-1,695.2	5,488.1	7.37	2.38	6.98	
12,434.0	92.70	330.50	6,729.3	5,511.3	5,276.2	-1,726.3	5,550.1	0.16	0.00	0.16	
12,497.0	94.40	333.20	6,725.4	5,507.4	5,331.6	-1,755.9	5,612.2	5.06	2.70	4.29	
12,560.0	93.90	337.20	6,720.9	5,502.9	5,388.6	-1,782.3	5,674.7	6.38	-0.79	6.35	
12,623.0	91.70	339.30	6,717.8	5,499.8	5,447.1	-1,805.6	5,737.6	4.82	-3.49	3.33	
12,686.0	91.30	338.20	6,716.1	5,498.1	5,505.8	-1,828.4	5,800.5	1.86	-0.63	-1.75	
12,749.0	91.30	338.10	6,714.7	5,496.7	5,564.2	-1,851.9	5,863.5	0.16	0.00	-0.16	
12,812.0	92.00	339.40	6,712.9	5,494.9	5,622.9	-1,874.7	5,926.4	2.34	1.11	2.06	
12,875.0	92.00	340.30	6,710.7	5,492.7	5,682.0	-1,896.4	5,989.4	1.43	0.00	1.43	
12,939.0	90.70	338.70	6,709.2	5,491.2	5,742.0	-1,918.8	6,053.3	3.22	-2.03	-2.50	
13,002.0	90.20	337.80	6,708.7	5,490.7	5,800.5	-1,942.1	6,116.3	1.63	-0.79	-1.43	
13,065.0	90.60	338.60	6,708.3	5,490.3	5,859.0	-1,965.5	6,179.2	1.42	0.63	1.27	
13,128.0	90.90	340.70	6,707.4	5,489.4	5,918.0	-1,987.4	6,242.2	3.37	0.48	3.33	
13,191.0	90.70	341.20	6,706.6	5,488.6	5,977.6	-2,008.0	6,305.2	0.85	-0.32	0.79	
13,253.0	90.50	341.90	6,705.9	5,487.9	6,036.4	-2,027.6	6,367.2	1.17	-0.32	1.13	
13,316.0	89.90	341.10	6,705.7	5,487.7	6,096.1	-2,047.6	6,430.2	1.59	-0.95	-1.27	
13,379.0	90.70	340.60	6,705.4	5,487.4	6,155.6	-2,068.3	6,493.2	1.50	1.27	-0.79	
13,442.0	92.50	341.00	6,703.6	5,485.6	6,215.1	-2,089.0	6,556.1	2.93	2.86	0.63	
13,505.0	92.40	340.50	6,700.9	5,482.9	6,274.5	-2,109.7	6,619.1	0.81	-0.16	-0.79	



Phoenix Technology Services
Survey Report



Database:	EDM 5000 - Single User Ob	Local Co-ordinate Reference:	Site Doddridge County 513140
Company:	EQT Production - Marcellus	TVD Reference:	KS @ 1218 Duff
Project:	Doddridge County, WV (En)	MD Reference:	KS @ 1218 Duff
Site:	Doddridge County 513140	North Reference:	Grid
Well:	Well #513140	Survey Calculation Method:	Minimum Curvature
Wellbore:	513140 ST01		
Design:	513140 ST01 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)
13,568.0	92.30	340.70	6,698.3	5,480.3	6,333.9	-2,130.6	6,682.0	0.35	-0.16	0.32
13,631.0	92.00	341.00	6,696.0	5,478.0	6,393.4	-2,151.3	6,745.0	0.67	-0.48	0.48
13,694.0	91.70	340.20	6,693.9	5,475.9	6,452.8	-2,172.2	6,807.9	1.36	-0.48	-1.27
13,757.0	91.50	340.40	6,692.2	5,474.2	6,512.1	-2,193.4	6,870.9	0.45	-0.32	0.32
13,820.0	91.60	340.80	6,690.5	5,472.5	6,571.5	-2,214.4	6,933.9	0.65	0.16	0.63
13,883.0	91.10	341.00	6,689.0	5,471.0	6,631.0	-2,235.0	6,996.9	0.85	-0.79	0.32
13,946.0	90.60	340.50	6,688.0	5,470.0	6,690.4	-2,255.7	7,059.9	1.12	-0.79	-0.79
14,010.0	90.70	339.20	6,687.3	5,469.3	6,750.5	-2,277.8	7,123.9	2.04	0.16	-2.03
14,073.0	90.60	338.40	6,686.6	5,468.6	6,809.2	-2,300.6	7,186.8	1.28	-0.16	-1.27
14,136.0	89.80	337.30	6,686.4	5,468.4	6,867.6	-2,324.3	7,249.7	2.16	-1.27	-1.75
14,199.0	89.30	335.90	6,686.9	5,468.9	6,925.4	-2,349.3	7,312.6	2.36	-0.79	-2.22
14,262.0	89.70	336.50	6,687.4	5,469.4	6,983.1	-2,374.7	7,375.4	1.14	0.63	0.95
14,325.0	90.00	337.90	6,687.6	5,469.6	7,041.1	-2,399.2	7,438.3	2.27	0.48	2.22
14,389.0	89.60	337.00	6,687.8	5,469.8	7,100.2	-2,423.7	7,502.2	1.54	-0.63	-1.41
14,452.0	91.30	336.50	6,687.3	5,469.3	7,158.1	-2,448.6	7,565.0	2.81	2.70	-0.79
14,515.0	90.80	337.10	6,686.2	5,468.2	7,216.0	-2,473.4	7,627.9	1.24	-0.79	0.95
14,578.0	90.20	336.90	6,685.6	5,467.6	7,274.0	-2,498.0	7,690.8	1.00	-0.95	-0.32
14,641.0	89.10	335.70	6,686.0	5,468.0	7,331.7	-2,523.3	7,753.6	2.58	-1.75	-1.90
14,704.0	88.60	334.90	6,687.3	5,469.3	7,389.9	-2,549.6	7,816.3	1.50	-0.79	-1.27
14,768.0	88.10	335.10	6,689.1	5,471.1	7,446.9	-2,576.7	7,880.0	0.84	-0.78	0.31
14,831.0	87.60	333.70	6,691.5	5,473.5	7,503.7	-2,603.9	7,942.5	2.36	-0.79	-2.22
14,894.0	91.10	334.30	6,692.2	5,474.2	7,560.3	-2,631.5	8,005.1	5.64	5.56	0.95
14,957.0	90.80	334.40	6,691.1	5,473.1	7,617.1	-2,658.8	8,067.7	0.50	-0.48	0.16
15,020.0	90.20	333.00	6,690.6	5,472.6	7,673.5	-2,686.7	8,130.3	2.42	-0.95	-2.22
15,082.0	90.00	332.60	6,690.5	5,472.5	7,728.7	-2,715.0	8,191.7	0.72	-0.32	-0.65
15,145.0	89.60	332.70	6,690.7	5,472.7	7,784.6	-2,744.0	8,254.1	0.65	-0.63	0.16
15,207.0	89.60	333.00	6,691.1	5,473.1	7,839.8	-2,772.2	8,315.5	0.48	0.00	0.48
Last Survey=15270' MD/ 6692' TVD										
15,270.0	88.90	332.60	6,692.0	5,474.0	7,895.8	-2,801.0	8,377.9	1.28	-1.11	-0.63
Projection to TD=15344' MD/ 6693' TVD										
15,344.0	88.90	332.60	6,693.4	5,475.4	7,961.5	-2,835.1	8,451.2	0.00	0.00	0.00

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,043.0	6,695.7	3,189.3	-585.4	ST01 Tie In=10043' MD
15,270.0	6,692.0	7,895.8	-2,801.0	Last Survey=15270' MD/ 6692' TVD
15,344.0	6,693.4	7,961.5	-2,835.1	Projection to TD=15344' MD/ 6693' TVD

Checked By: _____ Approved By: _____ Date: _____



EQT Production - Marcellus

Project: Doddridge County, WV Grid
Site: Doddridge County 513140
Well: Well #513140
Wellbore: 513140 ST01
Design: 513140 ST01 As Drilled Surveys

