

EQT Production - Marcellus

Doddridge County, WV Grid

Doddridge County 515642

Well #515642

Main Wellbore

Design: 515642 As Drilled Surveys

Standard Survey Report

22 December, 2014

Received
Office of Oil &
JUL 08 20

Phoenix Technologies

Survey Report

Database: EDM 5000.1 Single User Db	Local Co-ordinate Reference: Site Doddridge County 515642	
Company: EQT Production - Marcellus	TVD Reference: KB @ 1224.0usft	
Project: Doddridge County, WV Grid	MD Reference: KB @ 1224.0usft	
Site: Doddridge County 515642	North Reference: Grid	
Well: Well #515642	Survey Calculation Method: Minimum Curvature	
Wellbore: Main Wellbore		
Design: 515642 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 515642

Site Position:	Northing: 277,783.20 usft	Latitude: 39.26
From: Map	Easting: 1,642,245.00 usft	Longitude: -80.76
Position Uncertainty: 0.0 usft	Slot Radius: 13-3/16 "	Grid Convergence: -0.81 °

Well Well #515642

Well Position	+N/-S 0.0 usft	Northing: 277,783.20 usft	Latitude: 39° 15' 20.780 N
	+E/-W 0.0 usft	Easting: 1,642,245.00 usft	Longitude: 80° 45' 48.250 W
Position Uncertainty	0.0 usft	Wellhead Elevation: usft	Ground Level: 1,208.0 usft

Wellbore Main Wellbore

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	11/24/2014	-8.50	66.74	52,220

Design 515642 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	118.15

Survey Program Date 12/22/2014

From (')	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	4,639.0	515642 Gyrodata Gyros (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop
0.00	12,250.0	515642 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	-1,224.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.28	149.33	100.0	-1,124.0	-0.2	0.1	0.2	0.28	0.28	0.00
200.0	0.37	141.88	200.0	-1,024.0	-0.7	0.4	0.7	0.10	0.09	-7.45
300.0	0.34	141.68	300.0	-924.0	-1.2	0.8	1.3	0.03	0.03	1.20
400.0	0.36	143.15	400.0	-824.0	-1.6	1.2	1.8	0.02	0.02	1.47
500.0	0.42	139.81	500.0	-724.0	-2.2	1.6	2.5	0.06	0.06	-3.34
600.0	0.50	128.66	600.0	-624.0	-2.7	2.2	3.2	0.12	0.08	-11.15
700.0	0.49	131.87	700.0	-524.0	-3.3	2.9	4.1	0.03	-0.01	3.21

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Project:	Doddridge County, WV Grid	MD Reference:	KB @ 1224.0usft
Site:	Doddridge County 515642	North Reference:	Grid
Well:	Well #515642	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515642 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)	
800.0	0.50	139.25	800.0	-424.0	-3.9	3.5	4.9	0.06	0.01	7.38	
900.0	0.48	184.02	900.0	-324.0	-4.7	3.7	5.5	0.37	-0.02	44.77	
1,000.0	0.67	212.56	1,000.0	-224.0	-5.6	3.4	5.6	0.34	0.19	28.54	
1,100.0	0.48	200.88	1,100.0	-124.0	-6.4	2.9	5.6	0.22	-0.19	-11.68	
1,200.0	0.60	107.50	1,200.0	-24.0	-7.0	3.3	6.2	0.79	0.12	-93.38	
1,300.0	0.88	112.40	1,300.0	76.0	-7.4	4.5	7.5	0.29	0.28	4.90	
1,400.0	1.54	121.32	1,399.9	175.9	-8.4	6.3	9.6	0.68	0.66	8.92	
1,500.0	1.79	122.23	1,499.9	275.9	-10.0	8.8	12.5	0.25	0.25	0.91	
1,600.0	1.85	122.27	1,599.8	375.8	-11.7	11.5	15.6	0.06	0.06	0.04	
1,700.0	1.88	122.10	1,699.8	475.8	-13.4	14.2	18.9	0.03	0.03	-0.17	
1,800.0	1.93	121.40	1,799.7	575.7	-15.1	17.1	22.2	0.06	0.05	-0.70	
1,900.0	1.88	123.08	1,899.7	675.7	-16.9	19.9	25.5	0.07	-0.05	1.68	
2,000.0	1.83	124.41	1,999.6	775.6	-18.7	22.6	28.7	0.07	-0.05	1.33	
2,100.0	1.63	125.84	2,099.6	875.6	-20.5	25.0	31.7	0.20	-0.20	1.43	
2,200.0	1.51	125.61	2,199.5	975.5	-22.1	27.3	34.4	0.12	-0.12	-0.23	
2,300.0	1.39	130.01	2,299.5	1,075.5	-23.6	29.3	36.9	0.16	-0.12	4.40	
2,400.0	1.25	131.89	2,399.5	1,175.5	-25.1	31.0	39.2	0.15	-0.14	1.88	
2,500.0	1.18	135.41	2,499.5	1,275.5	-26.6	32.5	41.2	0.10	-0.07	3.52	
2,600.0	0.99	140.85	2,599.4	1,375.4	-28.0	33.8	43.0	0.22	-0.19	5.44	
2,700.0	0.87	145.98	2,699.4	1,475.4	-29.3	34.8	44.5	0.15	-0.12	5.13	
2,800.0	0.79	153.24	2,799.4	1,575.4	-30.5	35.5	45.7	0.13	-0.08	7.26	
2,900.0	0.78	155.84	2,899.4	1,675.4	-31.8	36.1	46.8	0.04	-0.01	2.60	
3,000.0	0.79	148.70	2,999.4	1,775.4	-33.0	36.7	47.9	0.10	0.01	-7.14	
3,100.0	0.92	159.66	3,099.4	1,875.4	-34.3	37.4	49.1	0.21	0.13	10.96	
3,200.0	0.86	154.81	3,199.4	1,975.4	-35.7	38.0	50.3	0.10	-0.06	-4.85	
3,300.0	0.94	158.03	3,299.4	2,075.4	-37.2	38.6	51.6	0.09	0.08	3.22	
3,400.0	0.94	164.64	3,399.4	2,175.4	-38.7	39.1	52.8	0.11	0.00	6.61	
3,500.0	1.02	169.99	3,499.3	2,275.3	-40.4	39.5	53.9	0.12	0.08	5.35	
3,600.0	1.02	168.13	3,599.3	2,375.3	-42.1	39.8	55.0	0.03	0.00	-1.86	
3,700.0	0.97	169.91	3,699.3	2,475.3	-43.8	40.2	56.1	0.06	-0.05	1.78	
3,800.0	1.04	167.55	3,799.3	2,575.3	-45.6	40.5	57.2	0.08	0.07	-2.36	
3,900.0	1.01	171.65	3,899.3	2,675.3	-47.3	40.8	58.3	0.08	-0.03	4.10	
4,000.0	0.85	194.76	3,999.3	2,775.3	-48.9	40.8	59.0	0.40	-0.16	23.11	
4,100.0	0.78	212.41	4,099.3	2,875.3	-50.2	40.2	59.1	0.26	-0.07	17.65	
4,200.0	0.81	227.57	4,199.2	2,975.2	-51.3	39.3	58.9	0.21	0.03	15.16	
4,300.0	0.81	246.01	4,299.2	3,075.2	-52.0	38.2	58.2	0.26	0.00	18.44	
4,400.0	0.85	260.65	4,399.2	3,175.2	-52.4	36.8	57.2	0.22	0.04	14.64	
4,500.0	0.63	272.27	4,499.2	3,275.2	-52.5	35.5	56.1	0.27	-0.22	11.62	
4,600.0	0.66	287.38	4,599.2	3,375.2	-52.3	34.4	55.0	0.17	0.03	15.11	
Gyro Tie In=4639' MD											
4,639.0	0.83	285.78	4,638.2	3,414.2	-52.2	33.9	54.5	0.44	0.44	-4.10	
4,721.0	1.40	26.20	4,720.2	3,496.2	-51.1	33.8	53.9	2.14	0.70	122.46	
4,752.0	2.90	44.60	4,751.2	3,527.2	-50.2	34.5	54.1	5.27	4.84	59.35	

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Project:	Doddridge County, WV Grid	MD Reference:	KB @ 1224.0usft
Site:	Doddridge County 515642	North Reference:	Grid
Well:	Well #515642	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515642 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)
4,783.0	4.40	51.80	4,782.1	3,558.1	-48.9	36.0	54.8	5.05	4.84	23.23
4,815.0	5.60	51.10	4,814.0	3,590.0	-47.2	38.2	55.9	3.75	3.75	-2.19
4,847.0	6.30	54.50	4,845.8	3,621.8	-45.2	40.8	57.3	2.45	2.19	10.63
4,878.0	6.50	61.50	4,876.6	3,652.6	-43.4	43.8	59.0	2.60	0.65	22.58
4,910.0	7.10	66.90	4,908.4	3,684.4	-41.7	47.2	61.3	2.74	1.88	16.88
4,941.0	7.50	69.30	4,939.1	3,715.1	-40.3	50.8	63.8	1.62	1.29	7.74
4,973.0	7.80	72.40	4,970.9	3,746.9	-38.9	54.8	66.7	1.59	0.94	9.69
5,004.0	8.70	74.00	5,001.5	3,777.5	-37.6	59.1	69.8	3.00	2.90	5.16
5,035.0	9.60	74.60	5,032.1	3,808.1	-36.3	63.8	73.4	2.92	2.90	1.94
5,067.0	11.10	75.40	5,063.6	3,839.6	-34.8	69.4	77.6	4.71	4.69	2.50
5,098.0	12.40	74.60	5,094.0	3,870.0	-33.1	75.5	82.2	4.23	4.19	-2.58
5,130.0	13.70	73.30	5,125.1	3,901.1	-31.1	82.4	87.4	4.16	4.06	-4.06
5,161.0	14.80	71.50	5,155.2	3,931.2	-28.8	89.7	92.7	3.83	3.55	-5.81
5,193.0	15.70	69.70	5,186.1	3,962.1	-26.0	97.6	98.4	3.18	2.81	-5.63
5,224.0	16.20	68.50	5,215.9	3,991.9	-23.0	105.6	104.0	1.93	1.61	-3.87
5,256.0	17.10	68.00	5,246.5	4,022.5	-19.6	114.1	109.9	2.85	2.81	-1.56
5,287.0	18.10	68.00	5,276.1	4,052.1	-16.1	122.8	115.9	3.23	3.23	0.00
5,351.0	19.40	69.30	5,336.7	4,112.7	-8.6	142.0	129.2	2.13	2.03	2.03
5,414.0	19.30	69.40	5,396.1	4,172.1	-1.2	161.5	143.0	0.17	-0.16	0.16
5,446.0	18.80	69.60	5,426.4	4,202.4	2.4	171.3	149.9	1.58	-1.56	0.63
5,477.0	18.20	68.20	5,455.8	4,231.8	6.0	180.5	156.3	2.41	-1.94	-4.52
5,509.0	19.20	67.30	5,486.1	4,262.1	9.9	190.0	162.8	3.25	3.13	-2.81
5,540.0	21.40	66.10	5,515.1	4,291.1	14.1	199.8	169.5	7.22	7.10	-3.87
5,572.0	24.20	65.30	5,544.6	4,320.6	19.2	211.1	177.1	8.80	8.75	-2.50
5,603.0	27.10	66.30	5,572.6	4,348.6	24.7	223.4	185.3	9.46	9.35	3.23
5,635.0	29.90	68.80	5,600.7	4,376.7	30.5	237.5	195.0	9.51	8.75	7.81
5,666.0	33.10	71.10	5,627.1	4,403.1	36.1	252.7	205.8	11.02	10.32	7.42
5,698.0	36.30	71.60	5,653.4	4,429.4	41.9	270.0	218.3	10.04	10.00	1.56
5,729.0	40.20	71.10	5,677.8	4,453.8	48.0	288.1	231.4	12.62	12.58	-1.61
5,760.0	44.50	71.10	5,700.7	4,476.7	54.8	307.9	245.6	13.87	13.87	0.00
5,792.0	48.70	70.90	5,722.7	4,498.7	62.4	329.9	261.4	13.13	13.13	-0.63
5,824.0	52.40	70.40	5,743.0	4,519.0	70.5	353.2	278.1	11.63	11.56	-1.56
5,855.0	55.30	67.90	5,761.3	4,537.3	79.5	376.6	294.5	11.40	9.35	-8.06
5,919.0	62.50	66.10	5,794.3	4,570.3	100.9	427.0	328.9	11.50	11.25	-2.81
5,982.0	70.50	66.40	5,819.4	4,595.4	124.1	479.8	364.5	12.71	12.70	0.48
6,044.0	72.90	66.10	5,838.9	4,614.9	147.8	533.7	400.8	3.90	3.87	-0.48
6,107.0	73.10	66.10	5,857.3	4,633.3	172.3	588.8	437.9	0.32	0.32	0.00
6,170.0	72.10	66.10	5,876.2	4,652.2	196.6	643.7	474.9	1.59	-1.59	0.00
6,233.0	72.40	65.40	5,895.4	4,671.4	221.3	698.4	511.5	1.16	0.48	-1.11
6,296.0	73.40	65.70	5,913.9	4,689.9	246.2	753.2	548.0	1.65	1.59	0.48
6,358.0	72.70	65.90	5,932.0	4,708.0	270.5	807.3	584.3	1.17	-1.13	0.32
6,422.0	73.30	66.10	5,950.7	4,726.7	295.4	863.2	621.8	0.98	0.94	0.31

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6,484.0	72.70	66.70	5,968.8	4,744.8	319.1	917.6	658.5	1.34	-0.97	0.97
6,548.0	68.70	67.50	5,989.9	4,765.9	342.6	973.2	696.5	6.36	-6.25	1.25
6,611.0	68.80	67.30	6,012.8	4,788.8	365.2	1,027.4	733.7	0.34	0.16	-0.32
6,674.0	70.00	67.20	6,034.9	4,810.9	388.0	1,081.8	770.9	1.91	1.90	-0.16
6,736.0	69.00	66.80	6,056.7	4,832.7	410.7	1,135.3	807.3	1.72	-1.61	-0.65
6,799.0	69.50	66.20	6,079.0	4,855.0	434.2	1,189.3	843.8	1.19	0.79	-0.95
6,862.0	69.50	66.80	6,101.0	4,877.0	457.7	1,243.4	880.5	0.89	0.00	0.95
6,925.0	67.80	67.30	6,124.0	4,900.0	480.6	1,297.4	917.3	2.80	-2.70	0.79
6,988.0	67.60	67.00	6,147.9	4,923.9	503.2	1,351.1	954.0	0.54	-0.32	-0.48
7,051.0	68.70	66.60	6,171.3	4,947.3	526.3	1,404.9	990.5	1.84	1.75	-0.63
7,115.0	69.60	66.40	6,194.1	4,970.1	550.1	1,459.7	1,027.6	1.44	1.41	-0.31
7,177.0	70.20	66.70	6,215.4	4,991.4	573.3	1,513.1	1,063.8	1.07	0.97	0.48
7,240.0	70.20	66.00	6,236.8	5,012.8	597.0	1,567.4	1,100.5	1.05	0.00	-1.11
7,303.0	70.50	65.60	6,257.9	5,033.9	621.4	1,621.6	1,136.7	0.76	0.48	-0.63
7,366.0	70.50	65.40	6,279.0	5,055.0	646.0	1,675.6	1,172.7	0.30	0.00	-0.32
7,429.0	70.00	66.60	6,300.3	5,076.3	670.1	1,729.8	1,209.1	1.96	-0.79	1.90
7,492.0	68.50	67.50	6,322.6	5,098.6	693.1	1,784.0	1,246.1	2.73	-2.38	1.43
7,555.0	68.40	67.20	6,345.7	5,121.7	715.7	1,838.1	1,283.1	0.47	-0.16	-0.48
7,618.0	69.20	66.70	6,368.5	5,144.5	738.7	1,892.1	1,320.0	1.47	1.27	-0.79
7,681.0	69.80	66.90	6,390.6	5,166.6	761.9	1,946.4	1,356.8	1.00	0.95	0.32
7,745.0	71.30	67.00	6,411.9	5,187.9	785.5	2,001.9	1,394.6	2.35	2.34	0.16
7,808.0	71.60	67.10	6,431.9	5,207.9	808.8	2,056.9	1,432.1	0.50	0.48	0.16
7,871.0	69.90	66.70	6,452.7	5,228.7	832.1	2,111.6	1,469.4	2.76	-2.70	-0.63
7,935.0	69.40	66.10	6,474.9	5,250.9	856.2	2,166.6	1,506.5	1.18	-0.78	-0.94
7,998.0	69.90	65.30	6,496.9	5,272.9	880.5	2,220.4	1,542.5	1.43	0.79	-1.27
8,060.0	70.00	64.10	6,518.1	5,294.1	905.4	2,273.1	1,577.2	1.83	0.16	-1.94
8,124.0	70.70	66.10	6,539.6	5,315.6	930.7	2,327.7	1,613.4	3.14	1.09	3.13
8,155.0	72.50	70.10	6,549.4	5,325.4	941.7	2,355.0	1,632.3	13.55	5.81	12.90
8,186.0	74.70	74.50	6,558.2	5,334.2	950.7	2,383.4	1,653.0	15.35	7.10	14.19
8,218.0	75.10	78.60	6,566.5	5,342.5	957.9	2,413.4	1,676.1	12.43	1.25	12.81
8,250.0	75.00	82.30	6,574.8	5,350.8	963.0	2,443.9	1,700.6	11.18	-0.31	11.56
8,281.0	75.00	85.70	6,582.8	5,358.8	966.2	2,473.7	1,725.4	10.59	0.00	10.97
8,312.0	74.50	90.30	6,591.0	5,367.0	967.2	2,503.5	1,751.2	14.41	-1.61	14.84
8,344.0	73.50	95.10	6,599.8	5,375.8	965.8	2,534.3	1,779.0	14.75	-3.13	15.00
8,376.0	73.10	98.20	6,609.0	5,385.0	962.2	2,564.7	1,807.5	9.36	-1.25	9.69
8,407.0	73.00	99.60	6,618.0	5,394.0	957.6	2,594.0	1,835.5	4.33	-0.32	4.52
8,439.0	74.70	102.70	6,626.9	5,402.9	951.7	2,624.1	1,864.9	10.71	5.31	9.69
8,471.0	75.90	108.70	6,635.0	5,411.0	943.3	2,653.9	1,895.1	18.52	3.75	18.75
8,503.0	75.80	111.60	6,642.9	5,418.9	932.6	2,683.0	1,925.8	8.79	-0.31	9.06
8,535.0	76.00	114.40	6,650.7	5,426.7	920.5	2,711.6	1,956.7	8.51	0.63	8.75
8,567.0	77.20	117.60	6,658.1	5,434.1	906.9	2,739.6	1,987.8	10.43	3.75	10.00
8,598.0	78.50	121.30	6,664.6	5,440.6	892.0	2,766.0	2,018.1	12.40	4.19	11.94
8,630.0	79.20	124.20	6,670.8	5,446.8	875.0	2,792.4	2,049.4	9.16	2.19	9.06

Received
Office of Oil & Gas
APR 08 2015

Phoenix Technologies

Survey Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Doddridge County 515642
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1224.0usft
Project:	Doddridge County, WV Grid	MD Reference:	KB @ 1224.0usft
Site:	Doddridge County 515642	North Reference:	Grid
Well:	Well #515642	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515642 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)
8,662.0	78.90	126.30	6,676.9	5,452.9	856.8	2,818.0	2,080.6	6.51	-0.94	6.56
8,693.0	78.80	129.20	6,682.9	5,458.9	838.2	2,842.1	2,110.6	9.18	-0.32	9.35
8,725.0	77.80	131.90	6,689.4	5,465.4	817.9	2,865.9	2,141.2	8.83	-3.13	8.44
8,755.0	77.70	134.50	6,695.7	5,471.7	797.8	2,887.2	2,169.5	8.48	-0.33	8.67
8,787.0	78.20	137.40	6,702.4	5,478.4	775.3	2,909.0	2,199.3	9.00	1.56	9.06
8,818.0	79.40	141.60	6,708.4	5,484.4	752.2	2,928.7	2,227.6	13.84	3.87	13.55
8,850.0	79.80	144.00	6,714.2	5,490.2	727.1	2,947.8	2,256.2	7.48	1.25	7.50
8,881.0	82.50	147.10	6,719.0	5,495.0	701.9	2,965.1	2,283.4	13.17	8.71	10.00
8,913.0	83.70	148.80	6,722.8	5,498.8	674.9	2,981.9	2,311.0	6.47	3.75	5.31
8,945.0	85.30	151.30	6,725.9	5,501.9	647.3	2,997.8	2,338.0	9.25	5.00	7.81
8,976.0	87.20	153.50	6,727.9	5,503.9	619.9	3,012.2	2,363.6	9.37	6.13	7.10
LP= 9008' MD/6729' TVD										
9,008.0	89.10	156.20	6,729.0	5,505.0	591.0	3,025.8	2,389.2	10.31	5.94	8.44
9,071.0	90.30	157.10	6,729.3	5,505.3	533.1	3,050.7	2,438.5	2.38	1.90	1.43
9,133.0	90.50	156.70	6,728.9	5,504.9	476.1	3,075.1	2,486.8	0.72	0.32	-0.65
9,197.0	90.60	156.10	6,728.2	5,504.2	417.5	3,100.7	2,537.1	0.95	0.16	-0.94
9,260.0	91.10	156.70	6,727.3	5,503.3	359.7	3,125.9	2,586.6	1.24	0.79	0.95
9,322.0	91.60	156.30	6,725.8	5,501.8	302.9	3,150.6	2,635.2	1.03	0.81	-0.65
9,385.0	92.20	156.50	6,723.8	5,499.8	245.2	3,175.8	2,684.6	1.00	0.95	0.32
9,448.0	90.00	156.00	6,722.6	5,498.6	187.6	3,201.2	2,734.2	3.58	-3.49	-0.79
9,511.0	88.90	154.80	6,723.2	5,499.2	130.3	3,227.4	2,784.3	2.58	-1.75	-1.90
9,574.0	89.50	155.20	6,724.0	5,500.0	73.2	3,254.0	2,834.7	1.14	0.95	0.63
9,637.0	89.80	155.40	6,724.4	5,500.4	16.0	3,280.4	2,884.9	0.57	0.48	0.32
9,700.0	89.00	154.10	6,725.1	5,501.1	-41.0	3,307.2	2,935.5	2.42	-1.27	-2.06
9,763.0	89.30	154.10	6,726.0	5,502.0	-97.7	3,334.7	2,986.5	0.48	0.48	0.00
9,826.0	89.50	153.60	6,726.7	5,502.7	-154.2	3,362.5	3,037.7	0.85	0.32	-0.79
9,889.0	89.90	153.10	6,727.0	5,503.0	-210.5	3,390.8	3,089.1	1.02	0.63	-0.79
9,952.0	88.10	153.40	6,728.1	5,504.1	-266.8	3,419.1	3,140.7	2.90	-2.86	0.48
10,015.0	87.60	153.20	6,730.5	5,506.5	-323.0	3,447.4	3,192.1	0.85	-0.79	-0.32
10,078.0	87.90	153.10	6,732.9	5,508.9	-379.2	3,475.8	3,243.7	0.50	0.48	-0.16
10,140.0	88.80	154.10	6,734.7	5,510.7	-434.7	3,503.4	3,294.2	2.17	1.45	1.61
10,203.0	89.70	154.10	6,735.6	5,511.6	-491.4	3,530.9	3,345.2	1.43	1.43	0.00
10,266.0	90.10	153.30	6,735.7	5,511.7	-547.9	3,558.8	3,396.4	1.42	0.63	-1.27
10,328.0	90.00	153.30	6,735.6	5,511.6	-603.2	3,586.7	3,447.1	0.16	-0.16	0.00
10,391.0	90.10	153.70	6,735.6	5,511.6	-659.6	3,614.8	3,498.5	0.65	0.16	0.63
10,454.0	90.50	153.90	6,735.2	5,511.2	-716.1	3,642.6	3,549.7	0.71	0.63	0.32
10,517.0	90.30	152.50	6,734.8	5,510.8	-772.4	3,671.0	3,601.3	2.24	-0.32	-2.22
10,580.0	91.80	153.70	6,733.6	5,509.6	-828.5	3,699.5	3,652.9	3.05	2.38	1.90
10,643.0	92.50	154.30	6,731.3	5,507.3	-885.1	3,727.1	3,703.9	1.46	1.11	0.95
10,705.0	91.60	154.60	6,729.0	5,505.0	-941.0	3,753.8	3,753.8	1.53	-1.45	0.48
10,768.0	90.90	154.50	6,727.7	5,503.7	-997.9	3,780.9	3,804.5	1.12	-1.11	-0.16
10,831.0	90.10	155.00	6,727.1	5,503.1	-1,054.9	3,807.8	3,855.1	1.50	-1.27	0.79

Phoenix Technologies

Survey Report

Database: EDM 5000.1 Single User Db Company: EQT Production - Marcellus Project: Doddridge County, WV Grid Site: Doddridge County 515642 Well: Well #515642 Wellbore: Main Wellbore Design: 515642 As Drilled Surveys	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method:	Site Doddridge County 515642 KB @ 1224.0usft KB @ 1224.0usft 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)
10,894.0	89.70	155.90	6,727.2	5,503.2	-1,112.2	3,833.9	3,905.2	1.56	-0.63	1.43
10,956.0	90.30	156.20	6,727.2	5,503.2	-1,168.8	3,859.1	3,954.1	1.08	0.97	0.48
11,019.0	88.50	156.30	6,727.9	5,503.9	-1,226.5	3,884.5	4,003.7	2.86	-2.86	0.16
11,082.0	87.60	156.50	6,730.0	5,506.0	-1,284.2	3,909.7	4,053.1	1.46	-1.43	0.32
11,145.0	87.90	156.50	6,732.5	5,508.5	-1,341.9	3,934.8	4,102.5	0.48	0.48	0.00
11,208.0	87.90	155.70	6,734.8	5,510.8	-1,399.5	3,960.3	4,152.2	1.27	0.00	-1.27
11,271.0	88.10	155.30	6,737.0	5,513.0	-1,456.8	3,986.4	4,202.2	0.71	0.32	-0.63
11,334.0	88.00	154.50	6,739.2	5,515.2	-1,513.8	4,013.1	4,252.7	1.28	-0.16	-1.27
11,397.0	88.20	154.40	6,741.2	5,517.2	-1,570.6	4,040.3	4,303.4	0.35	0.32	-0.16
11,460.0	88.80	154.60	6,742.9	5,518.9	-1,627.5	4,067.4	4,354.1	1.00	0.95	0.32
11,523.0	89.50	156.00	6,743.8	5,519.8	-1,684.7	4,093.7	4,404.3	2.48	1.11	2.22
11,586.0	89.90	156.40	6,744.2	5,520.2	-1,742.3	4,119.1	4,453.9	0.90	0.63	0.63
11,649.0	89.90	156.50	6,744.3	5,520.3	-1,800.1	4,144.3	4,503.4	0.16	0.00	0.16
11,713.0	90.20	156.80	6,744.2	5,520.2	-1,858.8	4,169.7	4,553.4	0.66	0.47	0.47
11,776.0	90.00	155.40	6,744.1	5,520.1	-1,916.4	4,195.2	4,603.1	2.24	-0.32	-2.22
11,839.0	89.20	152.10	6,744.5	5,520.5	-1,972.9	4,223.1	4,654.3	5.39	-1.27	-5.24
11,902.0	88.70	150.50	6,745.7	5,521.7	-2,028.2	4,253.3	4,707.1	2.66	-0.79	-2.54
11,965.0	88.70	150.20	6,747.1	5,523.1	-2,082.9	4,284.5	4,760.4	0.48	0.00	-0.48
12,028.0	88.80	150.90	6,748.5	5,524.5	-2,137.8	4,315.4	4,813.5	1.12	0.16	1.11
12,091.0	89.40	151.30	6,749.5	5,525.5	-2,192.9	4,345.9	4,866.4	1.14	0.95	0.63
Deepest Point of Well= 12154' MD/6750' TVD										
12,154.0	89.80	152.60	6,749.9	5,525.9	-2,248.5	4,375.5	4,918.7	2.16	0.63	2.06
Final Survey= 12196' MD/6750' TVD										
12,196.0	90.60	154.40	6,749.8	5,525.8	-2,286.1	4,394.2	4,953.0	4.69	1.90	4.29
Projection to TD= 12250' MD/6749' TVD										
12,250.0	90.60	154.40	6,749.2	5,525.2	-2,334.8	4,417.6	4,996.5	0.00	0.00	0.00

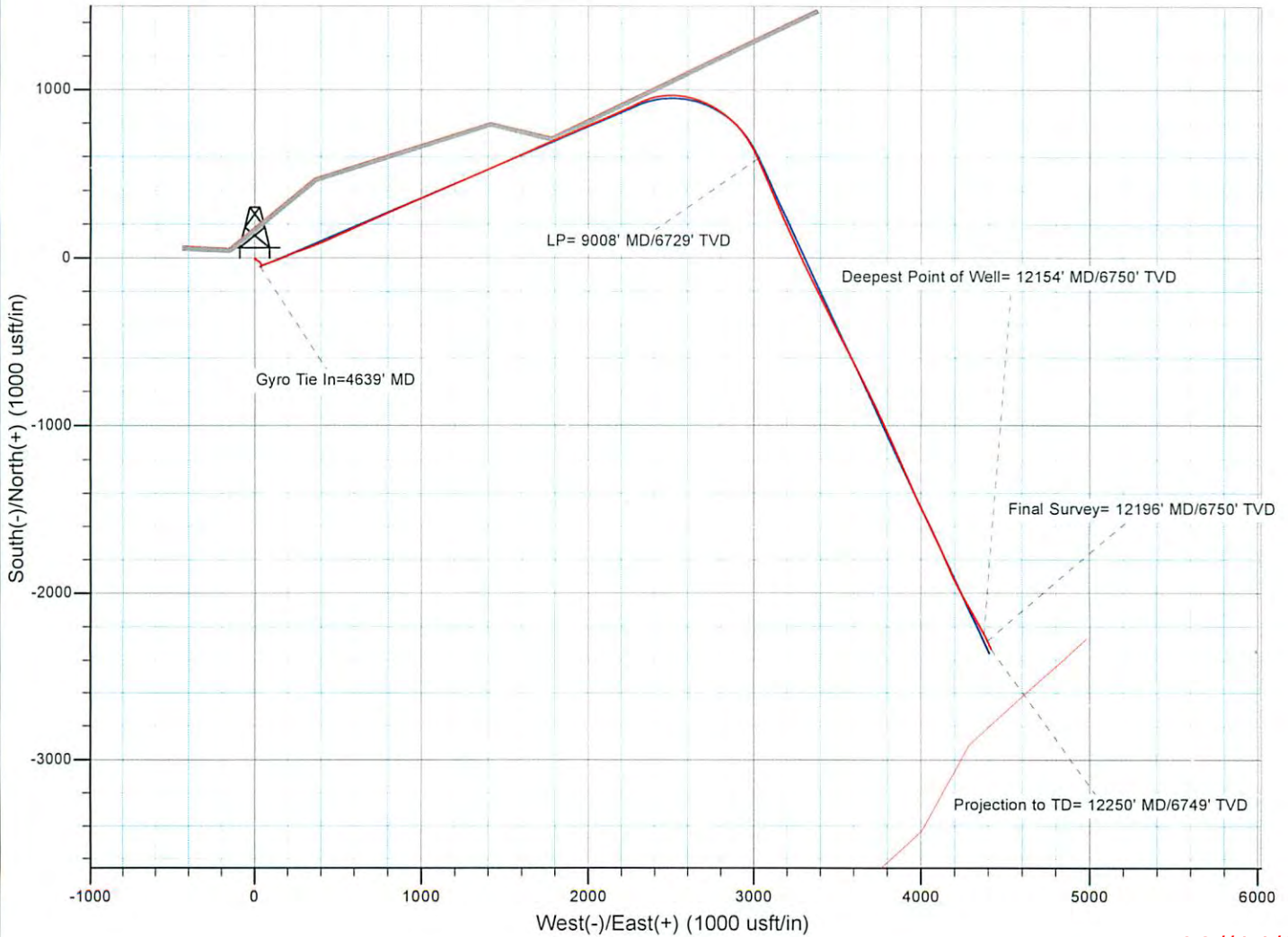
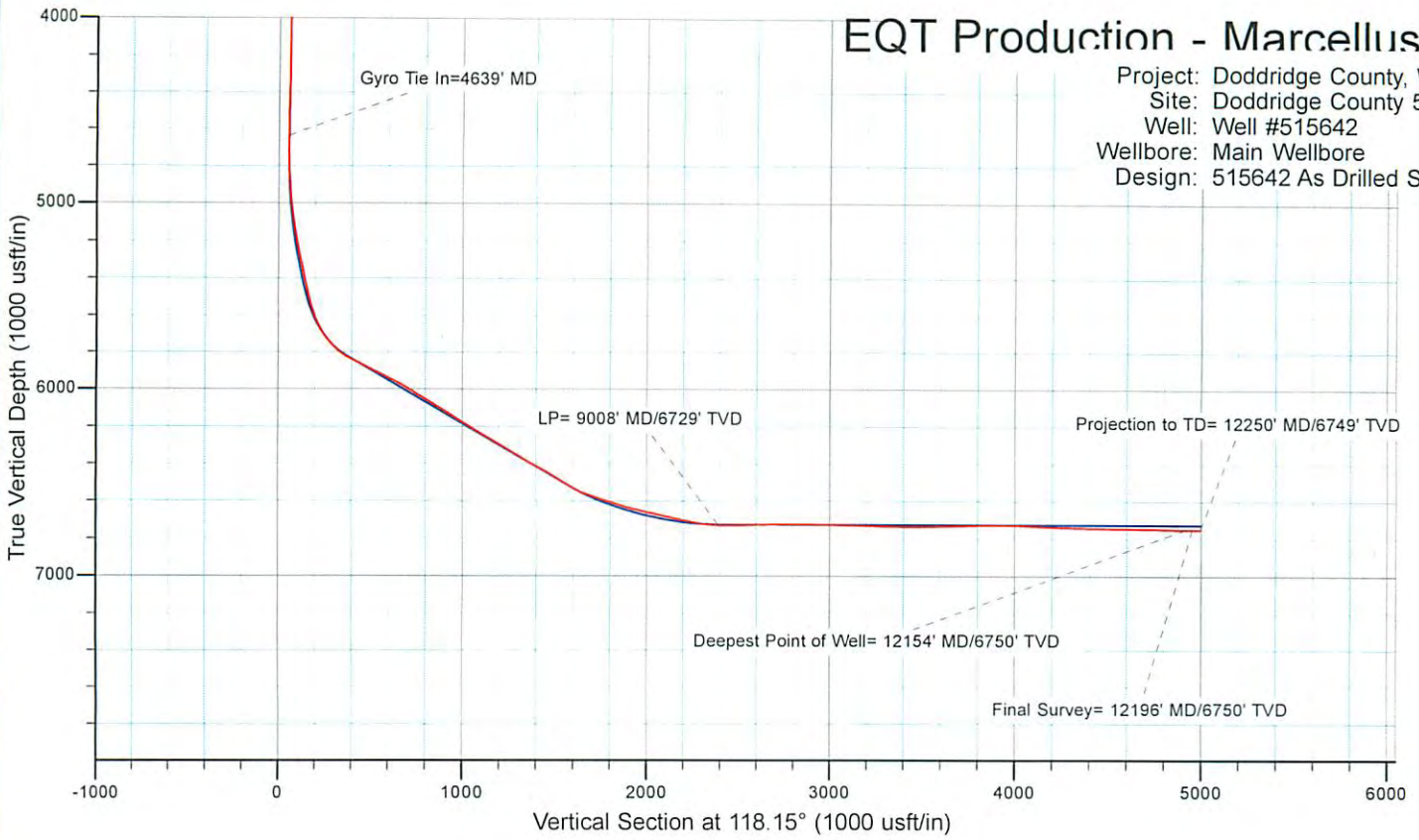
Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,639.0	4,638.2	-52.2	33.9	Gyro Tie In=4639' MD
9,008.0	6,729.0	591.0	3,025.8	LP= 9008' MD/6729' TVD
12,154.0	6,749.9	-2,248.5	4,375.5	Deepest Point of Well= 12154' MD/6750' TVD
12,196.0	6,749.8	-2,286.1	4,394.2	Final Survey= 12196' MD/6750' TVD
12,250.0	6,749.2	-2,334.8	4,417.6	Projection to TD= 12250' MD/6749' TVD

Checked By: _____ Approved By: _____ Date: _____

EQT Production - Marcellus

Project: Doddridge County, WV Grid
Site: Doddridge County 515642
Well: Well #515642
Wellbore: Main Wellbore
Design: 515642 As Drilled Surveys



08//14/2015