

# **EQT Production - Marcellus**

**Doddridge County, WV Grid**

**Doddridge County 513148**

**Well #513148**

**API: 47-1706462**

**Main Wellbore**

**Design: As Drilled Surveys**

## **Standard Survey Report**

**23 January, 2015**

**RECEIVED**  
**Office of Oil and Gas**  
**JUL 31 2015**  
**WV Department of**  
**Environmental Protection**

**08/21/2015**

# Phoenix Technologies

## Survey Report

<b>Database:</b> EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b> Site Doddridge County 513148
<b>Company:</b> EQT Production - Marcellus	<b>TVD Reference:</b> KB @ 991.0usft
<b>Project:</b> Doddridge County, WV Grid	<b>MD Reference:</b> KB @ 991.0usft
<b>Site:</b> Doddridge County 513148	<b>North Reference:</b> Grid
<b>Well:</b> Well #513148	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Wellbore:</b> Main Wellbore	
<b>Design:</b> As Drilled Surveys	

<b>Project</b> Doddridge County, WV Grid		
<b>Map System:</b> US State Plane 1927 (Exact solution)	<b>System Datum:</b> Mean Sea Level	
<b>Geo Datum:</b> NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b> West Virginia North 4701		Using geodetic scale factor

<b>Site</b> Doddridge County 513148					
<b>Site Position:</b>	<b>Northing:</b> 270,574.29 usft	<b>Latitude:</b> 39.24			
<b>From:</b> Map	<b>Easting:</b> 1,641,281.30 usft	<b>Longitude:</b> -80.77			
<b>Position Uncertainty:</b> 0.0 usft	<b>Slot Radius:</b> 13-3/16 "	<b>Grid Convergence:</b> -0.81 °			

<b>Well</b> Well #513148					
<b>Well Position</b> +N/-S	0.0 usft	<b>Northing:</b> 270,574.29 usft	<b>Latitude:</b> 39° 14' 9.399 N		
+E/-W	0.0 usft	<b>Easting:</b> 1,641,281.30 usft	<b>Longitude:</b> 80° 45' 59.209 W		
<b>Position Uncertainty</b>	0.0 usft	<b>Wellhead Elevation:</b> usft	<b>Ground Level:</b> 968.0 usft		

<b>Wellbore</b> Main Wellbore					
-------------------------------	--	--	--	--	--

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	12/15/2014	-8.49	66.72	52,205

<b>Design</b> As Drilled Surveys					
----------------------------------	--	--	--	--	--

**Audit Notes:**

<b>Version:</b> 1.0	<b>Phase:</b> ACTUAL	<b>Tie On Depth:</b> 0.0
---------------------	----------------------	--------------------------

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	141.09

Survey Program		Date			
From (°)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	5,010.0	513148 Gyrodata (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop	
0.00	10,214.0	513148 PHX MWD (Main Wellbore)	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	-991.0	0.0	0.0	0.0	0.00	0.00	0.00
110.0	0.13	141.59	110.0	-881.0	-0.1	0.1	0.1	0.12	0.12	0.00
210.0	0.10	169.37	210.0	-781.0	-0.3	0.2	0.3	0.06	-0.03	27.78
310.0	0.04	122.67	310.0	-681.0	-0.4	0.2	0.4	0.08	-0.06	-46.70
410.0	0.05	114.09	410.0	-581.0	-0.4	0.3	0.5	0.01	0.01	-0.00
510.0	0.06	93.70	510.0	-481.0	-0.4	0.4	0.6	0.02	0.01	-20.39
610.0	0.13	328.09	610.0	-381.0	-0.3	0.4	0.5	0.17	0.07	-125.61
710.0	0.14	323.33	710.0	-281.0	-0.1	0.2	0.3	0.02	0.01	-4.76

WV Department of Environmental Protection

gas

901 8 1 2015

**Phoenix Technologies**  
Survey Report

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Site Doddridge County 513148
<b>Company:</b>	EQT Production - Marcellus	<b>TVD Reference:</b>	KB @ 991.0usft
<b>Project:</b>	Doddridge County, WV Grd	<b>MD Reference:</b>	KB @ 991.0usft
<b>Site:</b>	Doddridge County 513148	<b>North Reference:</b>	Grid
<b>Well:</b>	Well #513148	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Main Wellbore		
<b>Design:</b>	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)
810.0	0.14	314.85	810.0	-181.0	0.0	0.1	0.0	0.02	0.00	-8.48
910.0	0.11	306.33	910.0	-81.0	0.2	-0.1	-0.2	0.04	-0.03	-8.52
1,010.0	0.23	307.21	1,010.0	19.0	0.4	-0.3	-0.5	0.12	0.12	0.88
1,110.0	0.59	276.26	1,110.0	119.0	0.5	-1.0	-1.0	0.41	0.36	-30.95
1,210.0	0.61	272.77	1,210.0	219.0	0.6	-2.0	-1.8	0.04	0.02	-3.49
1,310.0	0.70	272.23	1,310.0	319.0	0.7	-3.2	-2.5	0.09	0.09	-0.54
1,410.0	0.71	268.78	1,410.0	419.0	0.7	-4.4	-3.3	0.04	0.01	-3.45
1,510.0	0.70	275.16	1,510.0	519.0	0.7	-5.6	-4.1	0.08	-0.01	6.38
1,610.0	0.47	284.15	1,610.0	619.0	0.9	-6.7	-4.9	0.25	-0.23	8.99
1,710.0	0.32	278.82	1,710.0	719.0	1.0	-7.3	-5.4	0.15	-0.15	-5.33
1,810.0	0.20	258.04	1,810.0	819.0	1.0	-7.8	-5.7	0.15	-0.12	-20.78
1,910.0	0.15	211.03	1,910.0	919.0	0.9	-8.0	-5.7	0.15	-0.05	-47.01
2,010.0	0.17	219.13	2,010.0	1,019.0	0.6	-8.2	-5.6	0.03	0.02	8.10
2,110.0	0.21	184.39	2,110.0	1,119.0	0.4	-8.3	-5.5	0.12	0.04	-34.74
2,210.0	0.22	191.28	2,210.0	1,219.0	0.0	-8.3	-5.2	0.03	0.01	6.89
2,310.0	0.24	179.42	2,310.0	1,319.0	-0.4	-8.4	-4.9	0.05	0.02	-11.86
2,410.0	0.27	179.18	2,410.0	1,419.0	-0.9	-8.4	-4.6	0.03	0.03	-0.24
2,510.0	0.24	180.50	2,510.0	1,519.0	-1.3	-8.4	-4.2	0.03	-0.03	1.32
2,610.0	0.28	190.73	2,610.0	1,619.0	-1.8	-8.4	-3.9	0.06	0.04	10.23
2,710.0	0.22	177.74	2,710.0	1,719.0	-2.2	-8.4	-3.6	0.08	-0.06	-12.99
2,810.0	0.21	183.57	2,810.0	1,819.0	-2.6	-8.4	-3.3	0.02	-0.01	5.83
2,910.0	0.21	176.40	2,910.0	1,919.0	-2.9	-8.4	-3.0	0.03	0.00	-7.17
3,010.0	0.22	178.82	3,010.0	2,019.0	-3.3	-8.4	-2.7	0.01	0.01	2.42
3,110.0	0.26	180.20	3,109.9	2,118.9	-3.7	-8.4	-2.4	0.04	0.04	1.38
3,210.0	0.23	192.30	3,209.9	2,218.9	-4.1	-8.5	-2.1	0.06	-0.03	12.10
3,310.0	0.23	189.53	3,309.9	2,318.9	-4.5	-8.5	-1.8	0.01	0.00	-2.77
3,410.0	0.25	175.09	3,409.9	2,418.9	-5.0	-8.6	-1.5	0.06	0.02	-14.44
3,510.0	0.20	187.97	3,509.9	2,518.9	-5.3	-8.6	-1.2	0.07	-0.05	12.88
3,610.0	0.19	196.70	3,609.9	2,618.9	-5.7	-8.6	-1.0	0.03	-0.01	8.73
3,710.0	0.32	228.18	3,709.9	2,718.9	-6.0	-8.9	-0.9	0.19	0.13	31.48
3,810.0	0.42	257.48	3,809.9	2,818.9	-6.3	-9.5	-1.1	0.21	0.10	29.30
3,910.0	0.72	274.87	3,909.9	2,918.9	-6.3	-10.4	-1.6	0.34	0.30	17.39
4,010.0	0.91	282.48	4,009.9	3,018.9	-6.1	-11.8	-2.7	0.22	0.19	7.61
4,110.0	1.14	287.67	4,109.9	3,118.9	-5.6	-13.6	-4.2	0.25	0.23	5.19
4,210.0	1.30	293.78	4,209.9	3,218.9	-4.9	-15.6	-6.0	0.21	0.16	6.51
4,310.0	1.49	299.50	4,309.9	3,318.9	-3.8	-17.7	-8.2	0.24	0.19	5.72
4,410.0	1.74	300.63	4,409.8	3,418.8	-2.3	-20.2	-10.8	0.25	0.25	1.13
4,510.0	1.95	304.89	4,509.8	3,518.8	-0.6	-22.9	-13.9	0.25	0.21	4.26
4,610.0	2.11	311.19	4,609.7	3,618.7	1.6	-25.6	-17.3	0.27	0.16	8.30
4,710.0	2.22	314.83	4,709.6	3,718.6	4.2	-28.4	-21.1	0.18	0.11	3.64
4,810.0	2.49	315.50	4,809.5	3,818.5	7.1	-31.3	-25.2	0.27	0.27	6.67
4,910.0	2.80	318.04	4,909.4	3,918.4	10.4	-34.5	-29.8	0.33	0.31	2.54

RECEIVED  
Office of Oil and Gas  
JUL 3 1 2015  
WV Department of  
Environmental Protection

# Phoenix Technologies

## Survey Report

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Site Doddridge County 513148
<b>Company:</b>	EQT Production - Marcellus	<b>TVD Reference:</b>	KB @ 991.0usft
<b>Project:</b>	Doddridge County, WV Grid	<b>MD Reference:</b>	KB @ 991.0usft
<b>Site:</b>	Doddridge County 513148	<b>North Reference:</b>	Grid
<b>Well:</b>	Well #513148	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Main Wellbore		
<b>Design:</b>	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)
<b>Gyro Tie In= 5010' MD</b>										
5,010.0	3.02	314.99	5,009.3	4,018.3	14.1	-38.0	-34.8	0.27	0.22	-3.05
5,054.0	3.20	315.20	5,053.2	4,062.2	15.8	-39.6	-37.2	0.41	0.41	0.48
5,086.0	3.50	329.50	5,085.2	4,094.2	17.3	-40.8	-39.1	2.77	0.94	44.69
5,117.0	6.20	354.80	5,116.1	4,125.1	19.8	-41.4	-41.4	10.91	8.71	81.61
5,149.0	9.10	357.60	5,147.8	4,156.8	24.0	-41.7	-44.9	9.13	9.06	8.75
5,180.0	10.00	359.40	5,178.4	4,187.4	29.2	-41.8	-48.9	3.06	2.90	5.81
5,212.0	11.00	7.40	5,209.8	4,218.8	35.0	-41.4	-53.2	5.52	3.13	25.00
5,243.0	13.00	17.30	5,240.2	4,249.2	41.2	-40.0	-57.2	9.24	6.45	31.94
5,275.0	14.50	21.50	5,271.2	4,280.2	48.4	-37.5	-61.2	5.63	4.69	13.13
5,306.0	17.10	25.90	5,301.1	4,310.1	56.1	-34.1	-65.1	9.23	8.39	14.19
5,338.0	19.60	28.70	5,331.4	4,340.4	65.1	-29.4	-69.1	8.28	7.81	8.75
5,369.0	21.80	30.50	5,360.4	4,369.4	74.6	-24.0	-73.1	7.39	7.10	5.81
5,401.0	24.00	33.40	5,389.9	4,398.9	85.1	-17.4	-77.2	7.72	6.88	9.06
5,432.0	26.30	36.10	5,418.0	4,427.0	95.9	-9.9	-80.9	8.29	7.42	8.71
5,464.0	28.80	37.80	5,446.3	4,455.3	107.8	-1.0	-84.5	8.19	7.81	5.31
5,495.0	31.70	41.00	5,473.1	4,482.1	119.8	8.9	-87.6	10.70	9.35	10.32
5,527.0	34.70	42.70	5,499.9	4,508.9	132.9	20.6	-90.4	9.82	9.38	5.31
5,558.0	36.30	44.00	5,525.1	4,534.1	145.9	33.0	-92.8	5.71	5.16	4.19
5,590.0	39.40	43.60	5,550.4	4,559.4	160.1	46.6	-95.3	9.72	9.69	-1.25
5,652.0	41.50	42.30	5,597.6	4,606.6	189.6	74.0	-101.0	3.65	3.39	-2.10
5,747.0	43.50	42.20	5,667.6	4,676.6	237.1	117.1	-110.9	2.11	2.11	-0.11
5,842.0	43.10	41.70	5,736.7	4,745.7	285.5	160.7	-121.2	0.55	-0.42	-0.53
5,936.0	42.20	47.30	5,805.9	4,814.9	330.9	205.3	-128.6	4.15	-0.96	5.96
5,967.0	41.90	47.40	5,828.9	4,837.9	345.0	220.5	-129.9	0.99	-0.97	0.32
5,999.0	41.90	46.90	5,852.7	4,861.7	359.5	236.2	-131.4	1.04	0.00	-1.56
6,030.0	41.80	49.50	5,875.8	4,884.8	373.3	251.6	-132.4	5.60	-0.32	8.39
6,062.0	41.80	54.70	5,899.7	4,908.7	386.4	268.4	-132.0	10.83	0.00	16.25
6,093.0	42.30	60.10	5,922.7	4,931.7	397.6	285.9	-129.8	11.78	1.61	17.42
6,124.0	42.30	63.60	5,945.7	4,954.7	407.4	304.3	-125.9	7.60	0.00	11.29
6,156.0	42.20	68.20	5,969.4	4,978.4	416.2	323.9	-120.4	9.67	-0.31	14.38
6,187.0	41.80	71.70	5,992.4	5,001.4	423.3	343.4	-113.7	7.66	-1.29	11.29
6,219.0	41.80	76.50	6,016.3	5,025.3	429.1	363.9	-105.3	10.00	0.00	15.00
6,250.0	41.00	81.30	6,039.5	5,048.5	433.1	384.0	-95.8	10.56	-2.58	15.48
6,282.0	40.50	85.30	6,063.8	5,072.8	435.5	404.8	-84.6	8.31	-1.56	12.50
6,313.0	40.40	89.20	6,087.4	5,096.4	436.5	424.8	-72.8	8.17	-0.32	12.58
6,344.0	40.70	92.80	6,110.9	5,119.9	436.2	445.0	-59.9	7.61	0.97	11.61
6,376.0	41.10	95.30	6,135.1	5,144.1	434.7	465.9	-45.6	5.27	1.25	7.81
6,408.0	43.60	97.80	6,158.8	5,167.8	432.2	487.3	-30.2	9.42	7.81	7.81
6,439.0	46.40	101.30	6,180.7	5,189.7	428.5	508.9	-13.8	12.05	9.03	11.29
6,470.0	48.70	105.20	6,201.6	5,210.6	423.3	531.1	4.3	11.88	7.42	12.58
6,502.0	50.20	108.00	6,222.4	5,231.4	416.3	554.4	24.3	8.13	4.69	8.75
6,533.0	51.80	113.40	6,241.9	5,250.9	407.8	577.0	45.1	14.48	5.16	17.42

RECEIVED  
Office of Oil and Gas  
JUL 31 2015

WV Department of  
Environmental Protection  
COMPASS 5000.1 Build 56

# Phoenix Technologies

## Survey Report

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Site Doddridge County 513148
<b>Company:</b>	EQT Production - Marcellus	<b>TVD Reference:</b>	KB @ 991.0usft
<b>Project:</b>	Doddridge County, WV Grid	<b>MD Reference:</b>	KB @ 991.0usft
<b>Site:</b>	Doddridge County 513148	<b>North Reference:</b>	Grid
<b>Well:</b>	Well #513148	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Main Wellbore		
<b>Design:</b>	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)
6,565.0	53.90	117.10	6,261.3	5,270.3	396.9	600.0	68.0	11.31	6.56	11.56
6,596.0	56.10	119.40	6,279.0	5,288.0	384.9	622.4	91.4	9.34	7.10	7.42
6,627.0	59.70	122.30	6,295.5	5,304.5	371.4	644.9	116.1	14.06	11.61	9.35
6,659.0	62.50	124.90	6,311.0	5,320.0	355.9	668.2	142.8	11.28	8.75	8.13
6,690.0	64.20	128.30	6,324.9	5,333.9	339.4	690.5	169.6	11.23	5.48	10.97
6,722.0	66.20	132.50	6,338.3	5,347.3	320.6	712.6	198.2	13.45	6.25	13.13
6,753.0	67.80	135.50	6,350.4	5,359.4	300.8	733.1	226.5	10.29	5.16	9.68
6,784.0	69.50	138.00	6,361.7	5,370.7	279.7	752.9	255.3	9.30	5.48	8.06
6,816.0	71.60	140.80	6,372.4	5,381.4	256.8	772.5	285.4	10.54	6.56	8.75
6,847.0	73.50	143.80	6,381.7	5,390.7	233.4	790.6	315.0	11.08	6.13	9.68
6,879.0	74.80	145.90	6,390.4	5,399.4	208.3	808.3	345.7	7.51	4.06	6.56
6,910.0	77.80	147.60	6,397.7	5,406.7	183.1	824.8	375.7	11.05	9.68	5.48
6,942.0	81.40	148.10	6,403.5	5,412.5	156.4	841.5	406.9	11.35	11.25	1.56
6,973.0	84.00	149.30	6,407.5	5,416.5	130.2	857.5	437.4	9.22	8.39	3.87
7,004.0	85.90	149.60	6,410.2	5,419.2	103.6	873.2	467.9	6.20	6.13	0.97
<b>LP= 7067' MD/6414' TVD</b>										
7,067.0	86.70	149.60	6,414.3	5,423.3	49.3	905.0	530.1	1.27	1.27	0.00
7,161.0	86.80	152.70	6,419.6	5,428.6	-32.9	950.3	622.5	3.29	0.11	3.30
7,255.0	87.00	151.50	6,424.7	5,433.7	-115.8	994.2	714.6	1.29	0.21	-1.28
7,349.0	89.60	155.40	6,427.5	5,436.5	-199.8	1,036.2	806.4	4.98	2.77	4.15
7,431.0	89.10	153.40	6,428.4	5,437.4	-273.8	1,071.6	886.2	2.51	-0.61	-2.44
7,525.0	88.20	154.80	6,430.6	5,439.6	-358.3	1,112.7	977.7	1.77	-0.96	1.49
7,619.0	90.10	157.70	6,432.0	5,441.0	-444.3	1,150.5	1,068.4	3.69	2.02	3.09
7,714.0	92.00	157.90	6,430.3	5,439.3	-532.3	1,186.4	1,159.4	2.01	2.00	0.21
7,776.0	90.30	156.70	6,429.0	5,438.0	-589.4	1,210.3	1,218.9	3.36	-2.74	-1.94
7,808.0	89.60	156.90	6,429.0	5,438.0	-618.9	1,222.9	1,249.7	2.28	-2.19	0.63
7,902.0	89.30	157.80	6,429.9	5,438.9	-705.6	1,259.1	1,340.0	1.01	-0.32	0.96
7,965.0	88.00	157.50	6,431.4	5,440.4	-763.8	1,283.1	1,400.3	2.12	-2.06	-0.48
7,996.0	88.00	158.90	6,432.5	5,441.5	-792.6	1,294.6	1,429.9	4.51	0.00	4.52
8,090.0	83.60	159.30	6,439.4	5,448.4	-880.2	1,328.0	1,519.1	4.70	-4.68	0.43
8,185.0	86.60	157.80	6,447.5	5,456.5	-968.3	1,362.6	1,609.3	3.53	3.16	-1.58
8,279.0	89.60	156.90	6,450.6	5,459.6	-1,054.9	1,398.8	1,699.5	3.33	3.19	-0.96
8,373.0	89.60	155.00	6,451.3	5,460.3	-1,140.8	1,437.1	1,790.4	2.02	0.00	-2.02
8,468.0	90.50	155.20	6,451.2	5,460.2	-1,226.9	1,477.1	1,882.5	0.97	0.95	-0.21
8,563.0	92.10	156.20	6,449.0	5,458.0	-1,313.5	1,516.2	1,974.4	1.99	1.68	0.05
8,657.0	90.10	154.90	6,447.2	5,456.2	-1,399.1	1,555.1	2,065.4	2.54	-2.13	-1.38
8,751.0	88.80	152.80	6,448.1	5,457.1	-1,483.4	1,596.5	2,157.1	2.63	-1.38	-2.55
8,845.0	87.20	150.40	6,451.4	5,460.4	-1,566.0	1,641.2	2,249.5	3.07	-1.70	-0.43
8,939.0	87.70	150.00	6,455.6	5,464.6	-1,647.5	1,687.9	2,342.2	0.68	0.53	-0.43
9,034.0	87.80	150.30	6,459.3	5,468.3	-1,729.9	1,735.1	2,435.9	0.33	0.11	0.32
9,128.0	88.80	150.30	6,462.1	5,471.1	-1,811.5	1,781.7	2,528.7	1.06	0.66	0.66
9,222.0	89.90	153.20	6,463.2	5,472.2	-1,894.3	1,826.2	2,621.0	3.30	1.17	3.09
9,317.0	90.50	153.10	6,462.9	5,471.9	-1,979.0	1,869.1	2,713.9	0.64	0.63	-0.11

RECEIVED

Office of Oil and Gas

JUL 23 1 2015

WV Department of Environmental Protection

**Phoenix Technologies**  
Survey Report

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Site Doddridge County 513148
<b>Company:</b>	EQT Production - Marcellus	<b>TVD Reference:</b>	KB @ 991.0usft
<b>Project:</b>	Doddridge County, WV Grid	<b>MD Reference:</b>	KB @ 991.0usft
<b>Site:</b>	Doddridge County 513148	<b>North Reference:</b>	Grid
<b>Well:</b>	Well #513148	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Main Wellbore		
<b>Design:</b>	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)
9,412.0	89.40	153.20	6,462.9	5,471.9	-2,063.8	1,912.0	2,806.8	1.16	-1.16	0.11
9,506.0	86.50	151.90	6,466.3	5,475.3	-2,147.1	1,955.3	2,898.9	3.38	-3.09	-1.38
9,601.0	86.40	154.40	6,472.2	5,481.2	-2,231.7	1,998.1	2,991.6	2.63	-0.11	2.63
9,695.0	87.20	156.10	6,477.4	5,486.4	-2,317.0	2,037.4	3,082.6	2.00	0.85	1.81
9,789.0	88.30	153.80	6,481.1	5,490.1	-2,402.0	2,077.1	3,173.8	2.71	1.17	-2.45
9,884.0	88.50	154.80	6,483.8	5,492.8	-2,487.6	2,118.3	3,266.2	1.07	0.21	1.05
9,978.0	89.80	154.80	6,485.2	5,494.2	-2,572.7	2,158.3	3,357.5	1.38	1.38	0.00
10,072.0	88.60	154.30	6,486.5	5,495.5	-2,657.5	2,198.7	3,448.9	1.38	-1.28	-0.53
<b>Final Survey= 10160' MD/6488' TVD</b>										
10,160.0	89.70	154.20	6,487.8	5,496.8	-2,736.8	2,237.0	3,534.6	1.26	1.25	-0.11
<b>Projection to TD/ Deepest Point of Well= 10214' MD/6488' TVD</b>										
10,214.0	90.30	154.10	6,487.8	5,496.8	-2,785.4	2,260.5	3,587.2	1.13	1.11	-0.19

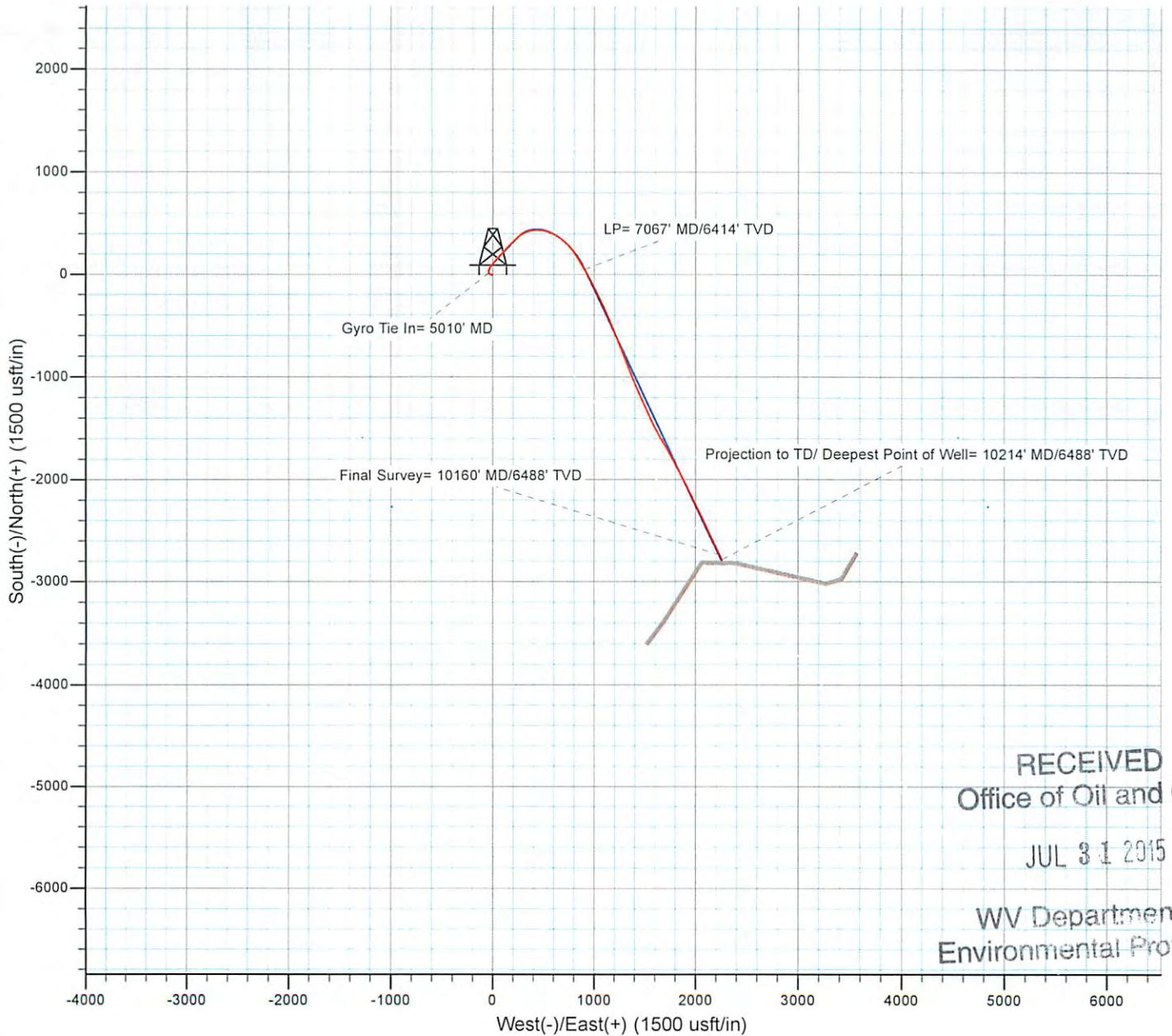
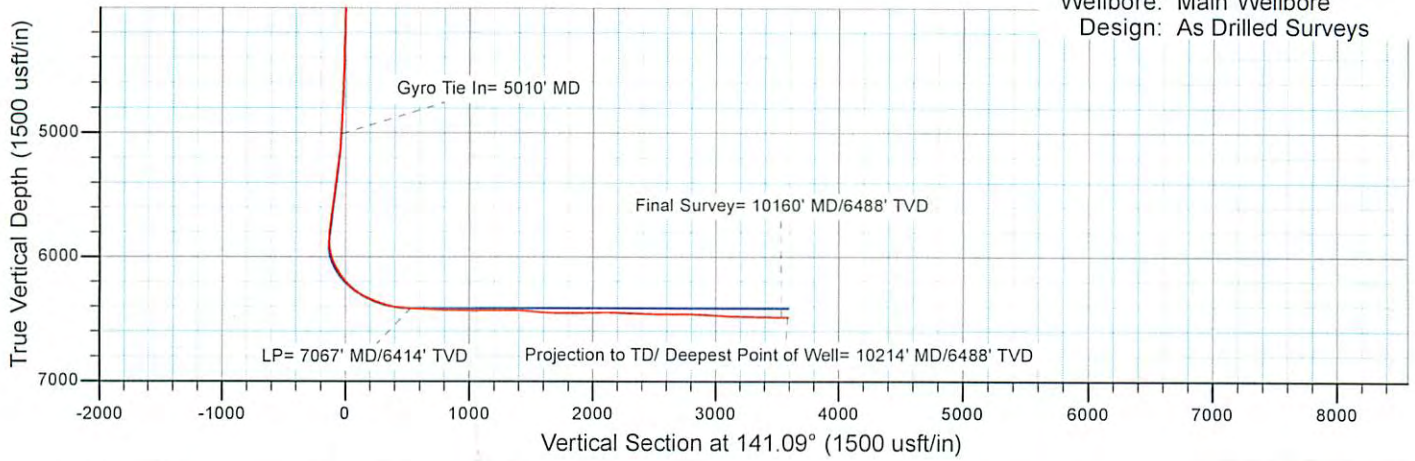
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,010.0	5,009.3	14.1	-38.0	Gyro Tie In= 5010' MD
7,067.0	6,414.3	49.3	905.0	LP= 7067' MD/6414' TVD
10,160.0	6,487.8	-2,736.8	2,237.0	Final Survey= 10160' MD/6488' TVD
10,214.0	6,487.8	-2,785.4	2,260.5	Projection to TD/ Deepest Point of Well= 10214' MD/6488' TVD

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

RECEIVED  
Office of Oil and Gas  
JUL 21 2015  
WV Department of  
Environmental Protection

# EQT Production - Marcellus

Project: Doddridge County, WV Grid  
Site: Doddridge County 513148  
Well: Well #513148  
Wellbore: Main Wellbore  
Design: As Drilled Surveys



RECEIVED  
Office of Oil and Gas

JUL 31 2015

WV Department of  
Environmental Protection

08/21/2015