

EQT Production - Marcellus

Doddridge County, WV Grid

Doddridge County 513144

Well #513144

Main Wellbore

Design: 513144 As Drilled Surveys

Standard Survey Report

13 December, 2014

Received
Office of Oil & Gas
JUL 06 2015

07/24/2015

Phoenix Technologies

Survey Report

Database: EDM 5000.1 Single User Db	Local Co-ordinate Reference: Site Doddridge County 513144	
Company: EQT Production - Marcellus	TVD Reference: KB 23 ft @ 991.0usft	
Project: Doddridge County, WV Grid	MD Reference: KB 23 ft @ 991.0usft	
Site: Doddridge County 513144	North Reference: Grid	
Well: Well #513144	Survey Calculation Method: Minimum Curvature	
Wellbore: Main Wellbore		
Design: 513144 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 513144

Site Position:	Northing: 270,627.70 usft	Latitude: 39.24
From: Map	Easting: 1,641,308.60 usft	Longitude: -80.77
Position Uncertainty: 0.0 usft	Slot Radius: 13-3/16 "	Grid Convergence: -0.81 °

Well Well #513144

Well Position	+N-S 0.0 usft	Northing: 270,627.70 usft	Latitude: 39° 14' 9.931 N
	+E-W 0.0 usft	Easting: 1,641,308.60 usft	Longitude: 80° 45' 58.871 W
Position Uncertainty	0.0 usft	Wellhead Elevation: usft	Ground Level: 968.0 usft

Wellbore Main Wellbore

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	11/24/2014	-8.49	66.73	52,212

Design 513144 As Drilled Surveys

Audit Notes:

Version: 1.0	Phase: ACTUAL	Tie On Depth: 0.0
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Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)
	0.0	0.0	0.0	329.56

Survey Program Date 12/13/2014

From (')	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	5,110.0	513144 Gyrodata Gyros (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop
0.00	10,737.0	513144 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	-991.0	0.0	0.0	0.0	0.00	0.00	0.00
110.0	0.18	2.84	110.0	-881.0	0.2	0.0	0.1	0.16	0.16	0.00
210.0	0.04	43.80	210.0	-781.0	0.4	0.0	0.3	0.15	-0.14	40.96
310.0	0.05	38.03	310.0	-681.0	0.4	0.1	0.3	0.01	0.01	51.7
410.0	0.05	305.53	410.0	-581.0	0.5	0.1	0.4	0.07	0.00	-92.50
510.0	0.08	253.41	510.0	-481.0	0.5	0.0	0.4	0.06	0.03	-52.12
610.0	0.08	251.79	610.0	-381.0	0.4	-0.2	0.5	0.00	0.00	-62
710.0	0.08	259.80	710.0	-281.0	0.4	-0.3	0.5	0.01	0.00	8.01

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Site: Doddridge County 513144	North Reference: Grid
Well: Well #513144	Survey Calculation Method: Minimum Curvature
Wellbore: Main Wellbore	
Design: 513144 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	0.09	237.28	810.0	-181.0	0.3	-0.4	0.5	0.03	0.01	-22.52
910.0	0.08	242.41	910.0	-81.0	0.3	-0.6	0.5	0.01	-0.01	5.13
1,010.0	0.54	232.36	1,010.0	19.0	0.0	-1.0	0.5	0.46	0.46	-10.05
1,110.0	0.96	237.11	1,110.0	119.0	-0.8	-2.1	0.4	0.42	0.42	4.75
1,210.0	1.00	240.46	1,210.0	219.0	-1.7	-3.5	0.3	0.07	0.04	3.35
1,310.0	1.06	239.71	1,310.0	319.0	-2.6	-5.1	0.4	0.06	0.06	-0.75
1,410.0	1.02	248.23	1,409.9	418.9	-3.4	-6.7	0.5	0.16	-0.04	8.52
1,510.0	0.95	256.80	1,509.9	518.9	-3.9	-8.3	0.9	0.16	-0.07	8.57
1,610.0	0.90	257.50	1,609.9	618.9	-4.2	-9.9	1.4	0.05	-0.05	0.70
1,710.0	0.84	258.72	1,709.9	718.9	-4.6	-11.4	1.8	0.06	-0.06	1.22
1,810.0	0.66	256.90	1,809.9	818.9	-4.8	-12.7	2.3	0.18	-0.18	-1.82
1,910.0	0.62	254.91	1,909.9	918.9	-5.1	-13.8	2.6	0.05	-0.04	-1.99
2,010.0	0.57	251.71	2,009.9	1,018.9	-5.4	-14.8	2.8	0.06	-0.05	-3.20
2,110.0	0.51	250.50	2,109.9	1,118.9	-5.7	-15.7	3.0	0.06	-0.06	-1.21
2,210.0	0.48	251.73	2,209.9	1,218.9	-6.0	-16.5	3.2	0.03	-0.03	1.23
2,310.0	0.39	248.60	2,309.9	1,318.9	-6.2	-17.2	3.3	0.09	-0.09	-3.13
2,410.0	0.41	248.09	2,409.9	1,418.9	-6.5	-17.8	3.4	0.02	0.02	-0.51
2,510.0	0.37	247.61	2,509.9	1,518.9	-6.8	-18.5	3.5	0.04	-0.04	-0.48
2,610.0	0.25	232.82	2,609.9	1,618.9	-7.0	-18.9	3.5	0.14	-0.12	-14.79
2,710.0	0.26	235.66	2,709.9	1,718.9	-7.3	-19.3	3.5	0.02	0.01	2.84
2,810.0	0.22	223.08	2,809.9	1,818.9	-7.5	-19.6	3.4	0.07	-0.04	-12.58
2,910.0	0.26	213.19	2,909.9	1,918.9	-7.9	-19.9	3.3	0.06	0.04	-9.89
3,010.0	0.25	217.10	3,009.9	2,018.9	-8.2	-20.1	3.1	0.02	-0.01	3.91
3,110.0	0.21	224.47	3,109.9	2,118.9	-8.5	-20.4	3.0	0.05	-0.04	7.37
3,210.0	0.20	224.11	3,209.9	2,218.9	-8.8	-20.6	2.9	0.01	-0.01	-0.36
3,310.0	0.19	210.22	3,309.9	2,318.9	-9.1	-20.8	2.7	0.05	-0.01	-13.89
3,410.0	0.19	205.91	3,409.9	2,418.9	-9.4	-21.0	2.6	0.01	0.00	-4.31
3,510.0	0.20	201.18	3,509.9	2,518.9	-9.7	-21.1	2.4	0.02	0.01	-4.73
3,610.0	0.23	208.24	3,609.9	2,618.9	-10.0	-21.3	2.2	0.04	0.03	7.06
3,710.0	0.32	238.82	3,709.9	2,718.9	-10.3	-21.6	2.0	0.17	0.09	30.58
3,810.0	0.50	263.11	3,809.9	2,818.9	-10.5	-22.3	2.2	0.25	0.18	24.29
3,910.0	0.68	274.91	3,909.8	2,918.8	-10.5	-23.3	2.7	0.22	0.18	11.80
4,010.0	0.86	283.42	4,009.8	3,018.8	-10.3	-24.6	3.6	0.21	0.18	8.51
4,110.0	1.00	289.02	4,109.8	3,118.8	-9.8	-26.2	4.8	0.17	0.14	5.60
4,210.0	1.16	291.78	4,209.8	3,218.8	-9.2	-28.0	6.2	0.17	0.16	2.76
4,310.0	1.39	300.10	4,309.8	3,318.8	-8.2	-30.0	8.1	0.29	0.23	8.32
4,410.0	1.54	304.23	4,409.8	3,418.8	-6.8	-32.1	10.4	0.18	0.15	4.13
4,510.0	1.74	309.52	4,509.7	3,518.7	-5.1	-34.4	13.0	0.25	0.20	5.29
4,610.0	1.87	310.88	4,609.7	3,618.7	-3.1	-36.8	16.0	0.14	0.13	1.36
4,710.0	2.01	315.59	4,709.6	3,718.6	-0.8	-39.3	19.2	0.21	0.14	0.74
4,810.0	2.31	316.33	4,809.5	3,818.5	2.0	-41.9	22.9	0.30	0.30	0.72
4,910.0	2.81	322.92	4,909.4	3,918.4	5.4	-44.7	27.3	0.58	0.50	6.59

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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)
Top of Elks @4950' TVD										
4,950.6	2.87	323.15	4,950.0	3,959.0	7.0	-46.0	29.3	0.14	0.14	0.56
Int. csg pt @5000' TVD										
5,000.7	2.94	323.41	5,000.0	4,009.0	9.0	-47.5	31.8	0.14	0.14	0.53
5,010.0	2.95	323.46	5,009.3	4,018.3	9.4	-47.8	32.3	0.14	0.14	0.52
Gyro Tie In=5110' MD										
5,110.0	2.95	328.70	5,109.2	4,118.2	13.7	-50.6	37.4	0.27	0.00	5.24
5,157.0	1.90	0.10	5,156.1	4,165.1	15.5	-51.3	39.3	3.52	-2.23	66.81
5,188.0	2.60	92.10	5,187.1	4,196.1	16.0	-50.5	39.4	10.56	2.26	296.77
5,219.0	6.20	118.20	5,218.0	4,227.0	15.1	-48.4	37.6	13.00	11.61	84.19
5,251.0	9.40	130.00	5,249.7	4,258.7	12.6	-44.8	33.6	11.13	10.00	36.88
5,282.0	11.60	141.10	5,280.2	4,289.2	8.6	-40.9	28.1	9.61	7.10	35.81
5,314.0	13.80	151.20	5,311.4	4,320.4	2.7	-37.1	21.1	9.74	6.88	31.56
5,345.0	15.60	161.70	5,341.4	4,350.4	-4.5	-34.0	13.4	10.35	5.81	33.87
5,377.0	17.20	170.60	5,372.1	4,381.1	-13.2	-31.9	4.8	9.30	5.00	27.81
5,408.0	19.00	177.30	5,401.6	4,410.6	-22.8	-30.9	-4.0	8.87	5.81	21.61
5,439.0	21.00	184.20	5,430.7	4,439.7	-33.4	-31.1	-13.0	9.97	6.45	22.26
5,471.0	23.00	189.10	5,460.4	4,469.4	-45.3	-32.5	-22.6	8.48	6.25	15.31
5,502.0	25.80	192.30	5,488.6	4,497.6	-57.8	-34.9	-32.2	9.99	9.03	10.32
5,534.0	28.80	193.60	5,517.1	4,526.1	-72.1	-38.2	-42.9	9.56	9.38	4.06
5,566.0	31.40	194.50	5,544.7	4,553.7	-87.7	-42.1	-54.3	8.25	8.13	2.81
5,597.0	35.00	195.50	5,570.7	4,579.7	-104.1	-46.5	-66.2	11.75	11.61	3.23
5,628.0	34.00	197.50	5,596.2	4,605.2	-120.9	-51.4	-78.2	4.87	-3.23	6.45
5,660.0	31.50	198.80	5,623.1	4,632.1	-137.4	-56.8	-89.7	8.12	-7.81	4.06
5,691.0	27.80	201.70	5,650.1	4,659.1	-151.8	-62.1	-99.4	12.80	-11.94	9.35
5,722.0	25.00	205.50	5,677.8	4,686.8	-164.4	-67.6	-107.5	10.55	-9.03	12.26
5,753.0	22.90	207.30	5,706.2	4,715.2	-175.7	-73.2	-114.4	7.17	-6.77	5.81
5,785.0	21.90	210.60	5,735.7	4,744.7	-186.3	-79.1	-120.6	5.02	-3.13	10.31
5,816.0	22.10	214.00	5,764.5	4,773.5	-196.1	-85.3	-125.9	4.16	0.65	10.97
5,848.0	22.00	216.70	5,794.2	4,803.2	-205.9	-92.2	-130.8	3.18	-0.31	8.44
5,879.0	22.70	221.50	5,822.8	4,831.8	-215.1	-99.7	-134.9	6.30	2.26	15.48
5,911.0	23.50	228.70	5,852.3	4,861.3	-223.9	-108.6	-138.1	9.17	2.50	22.50
5,942.0	24.00	236.40	5,880.6	4,889.6	-231.5	-118.5	-139.6	10.13	1.61	24.84
5,974.0	24.00	247.90	5,909.9	4,918.9	-237.5	-129.9	-139.0	14.60	0.00	35.94
6,005.0	24.00	257.80	5,938.2	4,947.2	-241.2	-141.9	-136.1	12.98	0.00	31.94
6,037.0	24.70	265.50	5,967.4	4,976.4	-243.1	-154.9	-131.1	10.15	2.19	24.06
6,068.0	26.50	273.10	5,995.4	5,004.4	-243.3	-168.3	-124.5	12.07	5.81	24.52
6,100.0	28.40	278.70	6,023.8	5,032.8	-241.7	-183.0	-115.7	10.01	5.94	17.50
6,131.0	30.10	283.50	6,050.8	5,059.8	-238.8	-197.8	-105.7	9.34	5.48	15.48
513145 LP										
6,162.0	32.00	289.50	6,077.4	5,086.4	-234.3	-213.1	-94.0	11.71	6.13	19.35
6,194.0	33.90	294.60	6,104.2	5,113.2	-227.7	-229.2	-80.2	10.50	5.81	15.94
6,225.0	35.80	298.60	6,129.7	5,138.7	-219.8	-245.1	-65.3	9.59	6.13	12.90
6,257.0	38.50	302.60	6,155.2	5,164.2	-209.9	-261.7	-48.4	11.32	8.44	12.90

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Wellbore:	Main Wellbore		
Design:	513144 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)
6,289.0	41.60	305.60	6,179.7	5,188.7	-198.4	-278.7	-29.8	11.41	9.69	9.38
6,321.0	44.50	308.00	6,203.1	5,212.1	-185.3	-296.2	-9.7	10.41	9.06	7.50
6,352.0	48.30	310.70	6,224.4	5,233.4	-171.0	-313.5	11.4	13.78	12.26	8.71
6,384.0	51.80	313.40	6,245.0	5,254.0	-154.6	-331.7	34.8	12.71	10.94	8.44
6,415.0	54.60	316.30	6,263.5	5,272.5	-137.1	-349.3	58.8	11.73	9.03	9.35
6,447.0	57.90	320.10	6,281.3	5,290.3	-117.2	-367.0	84.8	14.27	10.31	11.88
6,478.0	61.20	323.50	6,297.0	5,306.0	-96.2	-383.5	111.3	14.24	10.65	10.97
6,510.0	64.50	325.40	6,311.6	5,320.6	-73.1	-400.1	139.7	11.59	10.31	5.94
6,541.0	67.00	326.70	6,324.4	5,333.4	-49.6	-415.9	167.9	8.92	8.06	4.19
6,573.0	69.30	328.10	6,336.3	5,345.3	-24.6	-431.9	197.6	8.26	7.19	4.38
6,605.0	70.60	329.70	6,347.3	5,356.3	1.1	-447.4	227.6	6.21	4.06	5.00
6,636.0	71.40	331.50	6,357.3	5,366.3	26.7	-461.8	256.9	6.07	2.58	5.81
6,668.0	72.80	333.20	6,367.2	5,376.2	53.6	-475.9	287.3	6.69	4.38	5.31
Top of Marcellus @6371' TVD										
6,681.2	73.61	333.54	6,371.0	5,380.0	64.9	-481.6	300.0	6.61	6.13	2.60
6,699.0	74.70	334.00	6,375.9	5,384.9	80.3	-489.1	317.0	6.61	6.13	2.57
513144 LP 341' VS										
6,727.2	76.64	334.35	6,382.8	5,391.8	104.9	-501.0	344.3	6.98	6.87	1.25
6,731.0	76.90	334.40	6,383.7	5,392.7	108.2	-502.6	347.9	6.98	6.88	1.24
513144 Plat LP										
6,755.0	78.84	334.56	6,388.7	5,397.7	129.4	-512.7	371.3	8.09	8.06	0.65
6,762.0	79.40	334.60	6,390.1	5,399.1	135.6	-515.7	378.2	8.09	8.06	0.64
6,794.0	84.00	335.50	6,394.7	5,403.7	164.3	-529.1	409.7	14.64	14.38	2.81
513144 LP 412' VS										
6,796.3	84.16	335.49	6,394.9	5,403.9	166.3	-530.0	411.9	6.90	6.87	-0.63
513144 LP 418' VS										
6,799.9	84.41	335.46	6,395.3	5,404.3	169.7	-531.5	415.5	6.90	6.87	-0.63
6,826.0	86.20	335.30	6,397.4	5,406.4	193.3	-542.3	441.4	6.90	6.88	-0.62
513144 LP 459' VS										
6,843.9	87.81	334.78	6,398.4	5,407.4	209.5	-549.8	459.1	9.49	9.03	-2.91
6,857.0	89.00	334.40	6,398.7	5,407.7	221.3	-555.5	472.2	9.49	9.03	-2.90
6,869.0	89.60	333.90	6,398.9	5,407.9	232.1	-560.7	484.2	6.51	5.00	-4.17
LP=6888' MD/6399' TVD										
6,888.0	89.80	333.40	6,399.0	5,408.0	249.1	-569.1	503.1	2.83	1.05	-2.63
6,983.0	91.10	334.40	6,398.2	5,407.2	334.5	-610.9	597.9	1.73	1.37	1.05
7,077.0	88.70	335.00	6,398.4	5,407.4	419.4	-651.1	691.5	2.63	-2.55	0.64
7,172.0	86.60	335.70	6,402.3	5,411.3	505.7	-690.7	785.9	2.33	-2.21	0.74
7,267.0	86.20	335.10	6,408.2	5,417.2	591.9	-730.2	880.2	0.76	-0.42	-0.63
7,361.0	86.10	336.40	6,414.6	5,423.6	677.4	-768.7	973.5	1.38	-0.11	1.38
7,456.0	88.90	335.00	6,418.7	5,427.7	763.9	-807.7	1,067.8	3.29	2.95	-1.47
7,550.0	90.90	332.40	6,418.9	5,427.9	848.2	-849.4	1,161.6	3.49	2.13	-2.77
7,645.0	91.10	332.10	6,417.2	5,426.2	932.2	-893.6	1,256.4	0.38	0.21	-0.32
7,739.0	91.20	334.30	6,415.3	5,424.3	1,016.1	-936.0	1,350.2	2.34	0.11	2.34

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Survey Report

Database: EDM 5000.1 Single User Db	Local Co-ordinate Reference: Site Doddridge County 513144
Company: EQT Production - Marcellus	TVD Reference: KB 23 ft @ 991.0usft
Project: Doddridge County, WV Grid	MD Reference: KB 23 ft @ 991.0usft
Site: Doddridge County 513144	North Reference: Grid
Well: Well #513144	Survey Calculation Method: Minimum Curvature
Wellbore: Main Wellbore	
Design: 513144 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)
7,833.0	89.20	334.60	6,415.0	5,424.0	1,100.9	-976.5	1,443.9	2.15	-2.13	0.32
7,928.0	88.80	335.50	6,416.6	5,425.6	1,187.0	-1,016.6	1,538.4	1.04	-0.42	0.95
8,023.0	89.00	335.50	6,418.5	5,427.5	1,273.5	-1,056.0	1,632.9	0.21	0.21	0.00
8,117.0	89.20	334.90	6,419.9	5,428.9	1,358.8	-1,095.4	1,726.4	0.67	0.21	-0.64
8,211.0	88.90	335.50	6,421.5	5,430.5	1,444.1	-1,134.8	1,820.0	0.71	-0.32	0.64
8,305.0	88.80	336.50	6,423.4	5,432.4	1,530.0	-1,173.0	1,913.4	1.07	-0.11	1.06
8,400.0	89.00	341.60	6,425.2	5,434.2	1,618.6	-1,207.0	2,007.0	5.37	0.21	5.37
8,495.0	88.20	336.90	6,427.5	5,436.5	1,707.4	-1,240.6	2,100.6	5.02	-0.84	-4.95
Top of Onondaga @6428' TVD										
8,509.7	88.22	336.81	6,428.0	5,437.0	1,720.9	-1,246.4	2,115.2	0.65	0.11	-0.64
8,589.0	88.30	336.30	6,430.4	5,439.4	1,793.6	-1,277.9	2,193.8	0.65	0.11	-0.64
8,683.0	88.30	338.30	6,433.2	5,442.2	1,880.3	-1,314.2	2,286.9	2.13	0.00	2.13
8,778.0	88.50	336.50	6,435.9	5,444.9	1,968.0	-1,350.7	2,381.0	1.91	0.21	-1.89
8,872.0	90.20	334.20	6,436.9	5,445.9	2,053.4	-1,389.9	2,474.5	3.04	1.81	-2.45
8,966.0	90.90	334.00	6,436.0	5,445.0	2,138.0	-1,431.0	2,568.2	0.77	0.74	-0.21
9,060.0	89.40	332.70	6,435.8	5,444.8	2,222.0	-1,473.1	2,662.0	2.11	-1.60	-1.38
9,155.0	89.70	331.70	6,436.5	5,445.5	2,306.0	-1,517.4	2,756.9	1.10	0.32	-1.05
9,249.0	89.10	333.00	6,437.5	5,446.5	2,389.3	-1,561.0	2,850.8	1.52	-0.64	1.38
9,344.0	88.10	335.10	6,439.8	5,448.8	2,474.6	-1,602.6	2,945.5	2.45	-1.05	2.21
9,438.0	88.40	334.00	6,442.7	5,451.7	2,559.5	-1,643.0	3,039.1	1.21	0.32	-1.17
9,531.0	87.00	333.20	6,446.4	5,455.4	2,642.7	-1,684.3	3,131.8	1.73	-1.51	-0.86
9,626.0	87.00	332.90	6,451.4	5,460.4	2,727.3	-1,727.3	3,226.4	0.32	0.00	-0.32
513144 Plat TD										
9,685.9	87.19	333.03	6,454.4	5,463.4	2,780.6	-1,754.5	3,286.2	0.38	0.32	0.21
9,720.0	87.30	333.10	6,456.1	5,465.1	2,810.9	-1,769.9	3,320.2	0.38	0.32	0.21
9,815.0	88.80	334.70	6,459.3	5,468.3	2,896.2	-1,811.7	3,414.8	2.31	1.58	1.68
9,909.0	89.30	335.20	6,460.9	5,469.9	2,981.3	-1,851.5	3,508.4	0.75	0.53	0.53
10,003.0	90.80	335.80	6,460.8	5,469.8	3,066.9	-1,890.4	3,601.9	1.72	1.60	0.64
10,099.0	90.70	336.40	6,459.5	5,468.5	3,154.6	-1,929.3	3,697.3	0.63	-0.10	0.63
10,193.0	90.50	335.50	6,458.5	5,467.5	3,240.5	-1,967.6	3,790.7	0.98	-0.21	-0.96
10,288.0	90.40	335.20	6,457.8	5,466.8	3,326.8	-2,007.3	3,885.2	0.33	-0.11	-0.32
10,383.0	88.40	336.10	6,458.8	5,467.8	3,413.3	-2,046.4	3,979.6	2.31	-2.11	0.95
10,477.0	88.40	334.70	6,461.4	5,470.4	3,498.8	-2,085.5	4,073.1	1.49	0.00	-1.49
10,572.0	88.50	335.20	6,464.0	5,473.0	3,584.8	-2,125.7	4,167.7	0.54	0.11	0.53
10,666.0	88.30	334.50	6,466.6	5,475.6	3,669.9	-2,165.7	4,261.2	0.77	-0.21	-0.74
Final Survey=10682' MD/6467' TVD										
10,682.0	88.20	334.80	6,467.1	5,476.1	3,684.3	-2,172.5	4,277.2	1.98	-0.63	1.88
513144 Plat TD 2										
10,735.2	88.20	334.80	6,468.8	5,477.8	3,732.4	-2,195.2	4,330.1	0.00	0.00	0.00
Projection to TD/ Deepest Point of Well=10737' MD/6469' TVD										
10,737.0	88.20	334.80	6,468.8	5,477.8	3,734.1	-2,195.9	4,331.9	0.00	0.00	0.00

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Phoenix Technologies
Survey Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Doddridge County 513144
Company:	EQT Production - Marcellus	TVD Reference:	KB 23 ft @ 991.0usft
Project:	Doddridge County, WV Grid	MD Reference:	KB 23 ft @ 991.0usft
Site:	Doddridge County 513144	North Reference:	Grid
Well:	Well #513144	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	513144 As Drilled Surveys		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,950.6	4,950.0	Top of Elks @4950' TVD				
5,000.7	5,000.0	Int. csg pt @5000' TVD				
6,681.2	6,371.0	Top of Marcellus @6371' TVD				
8,509.7	6,428.0	Top of Onondaga @6428' TVD				

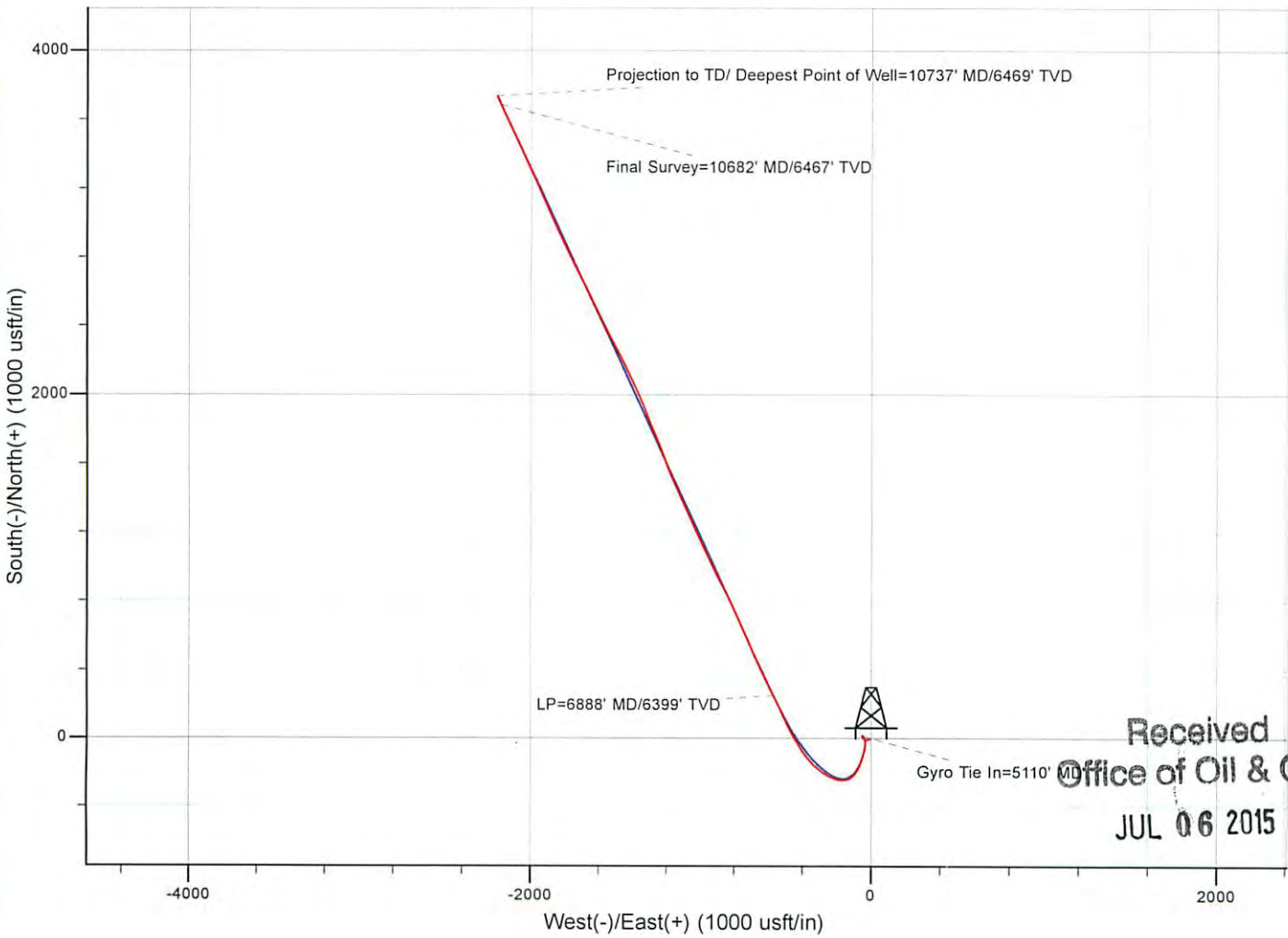
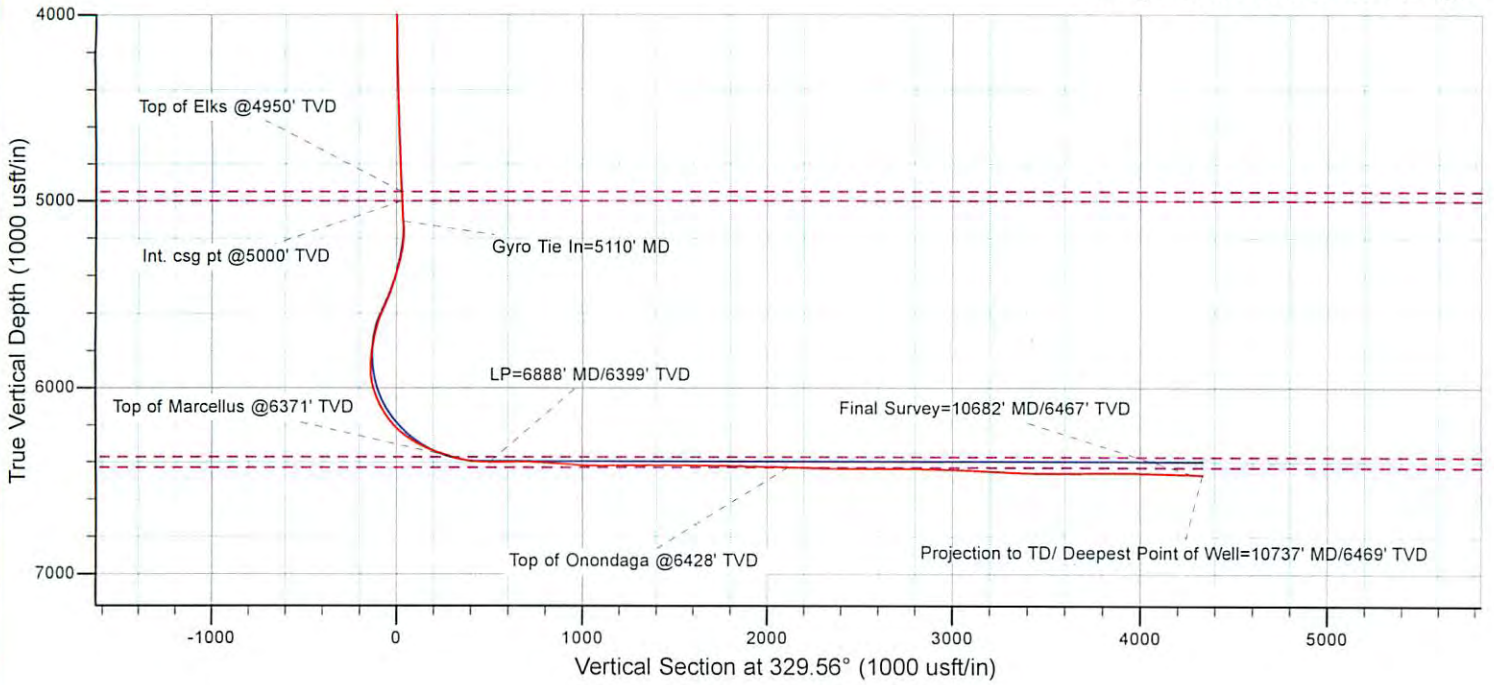
Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
5,110.0	5,109.2	13.7	-50.6	Gyro Tie In=5110' MD	
6,888.0	6,399.0	249.1	-569.1	LP=6888' MD/6399' TVD	
10,682.0	6,467.1	3,684.3	-2,172.5	Final Survey=10682' MD/6467' TVD	
10,737.0	6,468.8	3,734.1	-2,195.9	Projection to TD/ Deepest Point of Well=10737' MD/6469' TVD	

Checked By: _____ Approved By: _____ Date: _____

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EQT Production - Marcellus

Project: Doddridge County, WV Grid
Site: Doddridge County 513144
Well: Well #513144
Wellbore: Main Wellbore
Design: 513144 As Drilled Surveys



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