

EQT Production - Marcellus

Doddridge County, WV Grid

Doddridge County 512482

Well #512482

Main Wellbore

Design: 512482 As Drilled Surveys

Standard Survey Report

26 November, 2014

Received
Office of Oil &
JUL 15 2015

Phoenix Technologies
Survey Report

17-06391

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Doddridge County 512482
Company:	EQT Production - Marcellus	TVD Reference:	23' KB @ 1263.0usft (Patt. 252)
Project:	Doddridge County, WV Grid	MD Reference:	23' KB @ 1263.0usft (Patt. 252)
Site:	Doddridge County 512482	North Reference:	Grid
Well:	Well #512482	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	512482 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 512482		
Site Position:		Northing:	265,368.50 usft
From:	Map	Easting:	1,631,450.30 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	39.22
		Longitude:	-80.80
		Grid Convergence:	-0.83 °

Well	Well #512482		
Well Position	+N/-S	0.0 usft	Northing: 265,368.50 usft
	+E/-W	0.0 usft	Easting: 1,631,450.30 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Latitude:	39° 13' 16.561 N
		Longitude:	80° 48' 3.182 W
		Ground Level:	1,240.0 usft

Wellbore	Main Wellbore		
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	8/4/2014	-8.45	66.75	52,244

Design	512482 As Drilled Surveys		
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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	351.65

Survey Program	Date 11/26/2014		
From (')	To (usft)	Survey (Wellbore)	Tool Name
0.00	4,822.0	512482 Gyrodata Gyros (Main Wellbore)	GYD_DP_MS
0.00	10,468.0	512482 PHX MWD (Main Wellbore)	MWD+IGRF
			Description
			Gyrodata gyro-compassing and drop
			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	-1,263.0	0.0	0.0	0.0	0.00	0.00	0.00	
110.0	0.26	302.70	110.0	-1,153.0	0.1	-0.2	0.2	0.24	0.24	0.00	
210.0	0.17	82.50	210.0	-1,053.0	0.3	-0.3	0.3	0.40	-0.09	139.80	
310.0	0.22	93.19	310.0	-953.0	0.3	0.1	0.3	0.06	0.05	10.69	
410.0	0.20	103.89	410.0	-853.0	0.2	0.4	0.2	0.04	-0.02	10.70	
510.0	0.36	118.62	510.0	-753.0	0.0	0.9	-0.1	0.17	0.16	14.73	
610.0	0.37	119.60	610.0	-653.0	-0.3	1.4	-0.5	0.01	0.01	0.98	
710.0	0.37	124.34	710.0	-553.0	-0.6	2.0	-0.9	0.03	0.00	4.74	

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Site:	Doddridge County 512482	North Reference:	Grd
Well:	Well #512482	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	512482 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	0.38	122.67	810.0	-453.0	-1.0	2.5	-1.3	0.01	0.01	-1.67	
910.0	0.41	124.03	910.0	-353.0	-1.4	3.1	-1.8	0.03	0.03	1.36	
1,010.0	0.42	122.89	1,010.0	-253.0	-1.8	3.7	-2.3	0.01	0.01	-1.14	
1,110.0	0.49	127.40	1,110.0	-153.0	-2.2	4.4	-2.8	0.08	0.07	4.51	
1,210.0	0.55	134.70	1,210.0	-53.0	-2.8	5.0	-3.5	0.09	0.06	7.30	
1,310.0	0.53	147.24	1,310.0	47.0	-3.5	5.6	-4.3	0.12	-0.02	12.54	
1,410.0	0.49	138.86	1,410.0	147.0	-4.2	6.2	-5.1	0.08	-0.04	-8.38	
1,510.0	0.54	136.66	1,510.0	247.0	-4.9	6.8	-5.8	0.05	0.05	-2.20	
1,610.0	0.59	140.48	1,610.0	347.0	-5.6	7.4	-6.7	0.06	0.05	3.82	
1,710.0	0.56	136.49	1,710.0	447.0	-6.4	8.1	-7.5	0.05	-0.03	-3.99	
1,810.0	0.47	139.79	1,810.0	547.0	-7.1	8.7	-8.3	0.09	-0.09	3.30	
1,910.0	0.49	129.26	1,909.9	646.9	-7.7	9.3	-8.9	0.09	0.02	-10.53	
2,010.0	0.45	131.60	2,009.9	746.9	-8.2	9.9	-9.5	0.04	-0.04	2.34	
2,110.0	0.45	130.67	2,109.9	846.9	-8.7	10.5	-10.1	0.01	0.00	-0.93	
2,210.0	0.50	127.83	2,209.9	946.9	-9.2	11.1	-10.7	0.06	0.05	-2.84	
2,310.0	0.51	132.24	2,309.9	1,046.9	-9.8	11.8	-11.4	0.04	0.01	4.41	
2,410.0	0.29	138.91	2,409.9	1,146.9	-10.3	12.3	-12.0	0.22	-0.22	6.67	
2,510.0	0.26	132.53	2,509.9	1,246.9	-10.6	12.7	-12.3	0.04	-0.03	-6.38	
2,610.0	0.29	136.67	2,609.9	1,346.9	-11.0	13.0	-12.7	0.04	0.03	4.14	
2,710.0	0.19	155.03	2,709.9	1,446.9	-11.3	13.2	-13.1	0.12	-0.10	18.36	
2,810.0	0.20	131.17	2,809.9	1,546.9	-11.6	13.4	-13.4	0.08	0.01	-23.86	
2,910.0	0.23	139.34	2,909.9	1,646.9	-11.8	13.7	-13.7	0.04	0.03	8.17	
3,010.0	0.26	142.06	3,009.9	1,746.9	-12.2	14.0	-14.1	0.03	0.03	2.72	
3,110.0	0.36	143.44	3,109.9	1,846.9	-12.6	14.3	-14.5	0.10	0.10	1.38	
3,210.0	0.47	144.82	3,209.9	1,946.9	-13.2	14.7	-15.2	0.11	0.11	1.38	
3,310.0	0.51	136.69	3,309.9	2,046.9	-13.8	15.3	-15.9	0.08	0.04	-8.13	
3,410.0	0.51	142.65	3,409.9	2,146.9	-14.5	15.8	-16.7	0.05	0.00	5.96	
3,510.0	0.36	140.71	3,509.9	2,246.9	-15.1	16.3	-17.3	0.15	-0.15	-1.94	
3,610.0	0.37	127.16	3,609.9	2,346.9	-15.6	16.8	-17.8	0.09	0.01	-13.55	
3,710.0	0.35	126.01	3,709.9	2,446.9	-15.9	17.3	-18.3	0.02	-0.02	-1.15	
3,810.0	0.23	112.98	3,809.9	2,546.9	-16.2	17.7	-18.6	0.14	-0.12	-13.03	
3,910.0	0.68	312.05	3,909.9	2,646.9	-15.9	17.4	-18.2	0.90	0.45	-160.93	
4,010.0	0.85	291.93	4,009.9	2,746.9	-15.2	16.3	-17.4	0.32	0.17	-20.12	
4,110.0	1.21	290.93	4,109.9	2,846.9	-14.5	14.6	-16.5	0.36	0.36	-1.00	
4,210.0	1.60	285.98	4,209.8	2,946.8	-13.8	12.3	-15.4	0.41	0.39	-4.95	
4,310.0	1.64	284.12	4,309.8	3,046.8	-13.0	9.6	-14.3	0.07	0.04	-1.86	
4,410.0	1.57	289.30	4,409.8	3,146.8	-12.2	6.9	-13.1	0.16	-0.07	5.18	
4,510.0	1.67	293.60	4,509.7	3,246.7	-11.2	4.3	-11.7	0.16	0.10	4.30	
4,610.0	1.68	295.59	4,609.7	3,346.7	-10.0	1.6	-10.1	0.06	0.01	1.99	
4,710.0	1.83	299.41	4,709.6	3,446.6	-8.6	-1.1	-8.3	0.19	0.15	3.82	
4,810.0	1.79	300.68	4,809.6	3,546.6	-7.0	-3.8	-6.4	0.06	-0.04	1.27	
Gyro Tie In=4822' MD											
4,822.0	1.84	300.07	4,821.6	3,558.6	-6.8	-4.2	-6.1	0.45	0.42	-5.08	

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Project:	Doddridge County, WV Grid	MD Reference:	23' KB @ 1263.0usft (Pait. 252)
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Well:	Well #512482	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	512482 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)	
4,903.0	1.30	296.60	4,902.6	3,639.6	-5.7	-6.1	-4.8	0.68	-0.67	-4.28	
4,966.0	1.30	286.20	4,965.5	3,702.5	-5.2	-7.4	-4.1	0.37	0.00	-16.51	
4,998.0	1.10	277.60	4,997.5	3,734.5	-5.1	-8.1	-3.8	0.84	-0.63	-26.88	
5,029.0	1.50	98.20	5,028.5	3,765.5	-5.1	-8.0	-3.9	8.39	1.29	-578.71	
5,060.0	5.70	104.10	5,059.5	3,796.5	-5.5	-6.1	-4.6	13.58	13.55	19.03	
5,092.0	9.40	104.60	5,091.2	3,828.2	-6.6	-2.0	-6.2	11.56	11.56	1.56	
5,124.0	13.00	102.70	5,122.6	3,859.6	-8.0	4.0	-8.5	11.31	11.25	-5.94	
5,155.0	15.20	105.10	5,152.6	3,889.6	-9.8	11.4	-11.4	7.34	7.10	7.74	
5,186.0	16.40	108.80	5,182.5	3,919.5	-12.3	19.4	-15.0	5.05	3.87	11,94	
5,218.0	18.40	111.20	5,213.0	3,950.0	-15.6	28.4	-19.6	6.64	6.25	7.50	
5,249.0	21.10	113.50	5,242.2	3,979.2	-19.6	38.1	-24.9	9.06	8.71	7.42	
5,280.0	23.40	114.10	5,270.9	4,007.9	-24.3	48.8	-31.2	7.46	7.42	1.94	
5,312.0	25.90	113.00	5,299.9	4,036.9	-29.7	61.1	-38.2	7.94	7.81	-3.44	
5,344.0	27.30	109.80	5,328.6	4,065.6	-34.9	74.4	-45.3	6.26	4.38	-10.00	
5,375.0	29.30	108.80	5,355.8	4,092.8	-39.7	88.3	-52.1	6.63	6.45	-3.23	
5,407.0	31.90	108.80	5,383.4	4,120.4	-45.0	103.7	-59.6	8.13	8.13	0.00	
5,438.0	34.40	110.70	5,409.3	4,146.3	-50.7	119.6	-67.5	8.73	8.06	6.13	
5,469.0	37.00	112.20	5,434.5	4,171.5	-57.3	136.5	-76.5	8.85	8.39	4.84	
5,532.0	40.90	112.60	5,483.5	4,220.5	-72.4	173.1	-96.8	6.20	6.19	0.63	
5,564.0	39.80	111.70	5,507.9	4,244.9	-80.2	192.3	-107.3	3.89	-3.44	-2.81	
5,659.0	40.30	111.10	5,580.6	4,317.6	-102.5	249.2	-137.6	0.66	0.53	-0.63	
5,753.0	38.40	110.10	5,653.3	4,390.3	-123.5	305.0	-166.5	2.13	-2.02	-1.06	
5,847.0	39.70	108.10	5,726.3	4,463.3	-142.9	360.9	-193.8	1.93	1.38	-2.13	
5,942.0	41.00	110.20	5,798.7	4,535.7	-163.1	419.0	-222.2	1.98	1.37	2.21	
6,036.0	43.00	110.20	5,868.5	4,605.5	-184.8	478.0	-252.3	2.13	2.13	0.00	
6,131.0	39.90	107.50	5,939.7	4,676.7	-205.1	537.5	-281.0	3.77	-3.26	-2.84	
6,225.0	38.90	103.70	6,012.4	4,749.4	-221.2	595.0	-305.3	2.78	-1.06	-4.04	
6,256.0	38.10	96.20	6,036.7	4,773.7	-224.5	613.9	-311.3	15.27	-2.58	-24.19	
6,288.0	38.80	91.50	6,061.7	4,798.7	-225.9	633.8	-315.5	9.39	2.19	-14.69	
6,319.0	37.80	85.50	6,086.1	4,823.1	-225.4	653.0	-317.8	12.42	-3.23	-19.35	
6,350.0	36.50	79.70	6,110.8	4,847.8	-223.0	671.5	-318.1	12.05	-4.19	-18.71	
6,382.0	35.50	73.00	6,136.7	4,873.7	-218.6	689.8	-316.4	12.69	-3.13	-20.94	
6,413.0	34.00	68.20	6,162.2	4,899.2	-212.7	706.4	-313.0	10.06	-4.84	-15.48	
6,445.0	32.50	63.00	6,188.9	4,925.9	-205.5	722.4	-308.2	10.06	-4.69	-16.25	
6,477.0	32.10	57.80	6,216.0	4,953.0	-197.1	737.3	-302.0	8.77	-1.25	-16.25	
6,508.0	32.60	53.40	6,242.2	4,979.2	-187.7	750.9	-294.7	7.76	1.61	-14.19	
6,540.0	34.10	47.20	6,268.9	5,005.9	-176.4	764.4	-285.6	11.63	4.69	-19.38	
6,571.0	34.60	42.80	6,294.5	5,031.5	-164.1	776.8	-275.1	8.17	1.61	-14.19	
6,603.0	34.20	38.30	6,320.9	5,057.9	-150.4	788.5	-263.3	8.04	-1.25	-14.06	
6,635.0	33.40	31.50	6,347.5	5,084.5	-135.8	798.7	-250.3	12.08	-2.50	-21.25	
6,666.0	33.40	26.10	6,373.4	5,110.4	-120.8	806.9	-236.7	9.59	0.00	-17.42	
6,698.0	33.90	22.70	6,400.0	5,137.0	-104.7	814.3	-221.8	6.09	1.56	-10.63	

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Wellbore:	Main Wellbore		
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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)
6,729.0	35.20	19.00	6,425.6	5,162.6	-88.3	820.5	-206.5	7.96	4.19	-11.94
6,761.0	37.10	15.10	6,451.4	5,188.4	-70.2	826.0	-189.4	9.32	5.94	-12.19
6,792.0	38.80	13.50	6,475.9	5,212.9	-51.8	830.7	-171.8	6.34	5.48	-5.16
6,823.0	41.00	11.40	6,499.6	5,236.6	-32.3	835.0	-153.3	8.32	7.10	-6.77
6,855.0	43.30	9.40	6,523.4	5,260.4	-11.2	838.9	-132.9	8.32	7.19	-6.25
6,886.0	45.50	6.90	6,545.5	5,282.5	10.2	841.9	-112.1	9.07	7.10	-8.06
6,918.0	48.10	4.50	6,567.4	5,304.4	33.5	844.2	-89.5	9.79	8.13	-7.50
6,950.0	51.10	2.60	6,588.2	5,325.2	57.8	845.7	-65.7	10.41	9.38	-5.94
513136 LP 716' VS										
6,958.9	51.90	2.37	6,593.7	5,330.7	64.7	846.0	-58.8	9.26	9.03	-2.65
6,981.0	53.90	1.80	6,607.0	5,344.0	82.3	846.7	-41.5	9.26	9.03	-2.55
7,013.0	57.20	1.10	6,625.1	5,362.1	108.7	847.3	-15.5	10.47	10.31	-2.19
7,044.0	61.60	0.60	6,640.9	5,377.9	135.4	847.7	10.9	14.26	14.19	-1.61
7,075.0	65.70	359.40	6,654.7	5,391.7	163.2	847.7	38.3	13.67	13.23	-3.87
7,107.0	69.60	356.30	6,666.8	5,403.8	192.7	846.6	67.7	15.12	12.19	-9.69
7,138.0	71.80	352.50	6,677.1	5,414.1	221.8	843.8	97.0	13.57	7.10	-12.26
7,170.0	73.00	348.70	6,686.8	5,423.8	251.9	838.8	127.5	11.92	3.75	-11.88
7,192.0	74.90	346.50	6,692.8	5,429.8	272.6	834.2	148.5	12.92	8.64	-10.00
7,201.0	76.10	345.50	6,695.1	5,432.1	281.0	832.1	157.2	17.13	13.33	-11.11
7,233.0	80.50	344.20	6,701.6	5,438.6	311.3	823.9	188.3	14.31	13.75	-4.06
7,264.0	85.10	343.60	6,705.5	5,442.5	340.8	815.4	218.8	14.96	14.84	-1.94
7,296.0	91.00	343.30	6,706.6	5,443.6	371.4	806.3	250.4	18.46	18.44	-0.94
7,327.0	93.70	343.10	6,705.3	5,442.3	401.1	797.3	281.1	8.73	8.71	-0.65
512482 LP 300' VS OA										
7,344.4	94.20	343.04	6,704.1	5,441.1	417.7	792.3	298.2	2.92	2.90	-0.32
7,358.0	94.60	343.00	6,703.0	5,440.0	430.7	788.3	311.6	2.92	2.90	-0.32
7,452.0	91.40	338.80	6,698.1	5,435.1	519.3	757.6	403.8	5.61	-3.40	-4.47
7,547.0	87.80	336.70	6,698.8	5,435.8	607.2	721.7	496.0	4.39	-3.79	-2.21
7,641.0	86.60	333.60	6,703.4	5,440.4	692.4	682.2	586.0	3.53	-1.28	-3.30
512482 LP										
7,641.2	86.60	333.60	6,703.4	5,440.4	692.6	682.1	586.2	0.00	0.00	0.00
7,736.0	88.20	334.40	6,707.7	5,444.7	777.7	640.6	676.5	1.89	1.69	0.84
7,830.0	89.00	333.20	6,710.0	5,447.0	862.0	599.1	765.9	1.53	0.85	-1.28
7,925.0	89.10	331.80	6,711.6	5,448.6	946.3	555.3	855.6	1.48	0.11	-1.47
8,019.0	86.70	331.80	6,715.0	5,452.0	1,029.1	510.9	944.0	2.55	-2.55	0.00
8,114.0	85.30	334.50	6,721.6	5,458.6	1,113.6	468.1	1,033.8	3.20	-1.47	2.84
8,208.0	86.80	337.40	6,728.1	5,465.1	1,199.2	429.9	1,124.1	3.47	1.60	3.09
8,303.0	84.60	337.80	6,735.2	5,472.2	1,286.8	393.8	1,216.0	2.35	-2.32	0.42
8,397.0	88.00	338.00	6,741.3	5,478.3	1,373.7	358.5	1,307.1	3.62	3.62	0.21
8,492.0	88.00	333.50	6,744.6	5,481.6	1,460.3	319.5	1,398.4	4.73	0.00	-4.74
8,586.0	90.80	335.80	6,745.6	5,482.6	1,545.2	279.3	1,488.3	3.85	2.98	2.45
8,681.0	91.30	334.80	6,743.9	5,480.9	1,631.5	239.6	1,579.4	1.18	0.53	-1.05
8,775.0	88.30	335.50	6,744.2	5,481.2	1,716.8	200.1	1,669.5	3.28	-3.19	0.74

Phoenix Technologies
Survey Report

17-06391

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Doddridge County 512482
Company:	EQT Production - Marcellus	TVD Reference:	23' KB @ 1263.0usft (Patt. 252)
Project:	Doddridge County, WV Grid	MD Reference:	23' KB @ 1263.0usft (Patt. 252)
Site:	Doddridge County 512482	North Reference:	Grid
Well:	Well #512482	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	512482 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)
8,869.0	87.30	335.70	6,747.8	5,484.8	1,802.3	161.3	1,759.8	1.08	-1.06	0.21
8,963.0	89.80	335.90	6,750.2	5,487.2	1,888.0	122.8	1,850.2	2.67	2.66	0.21
9,059.0	92.20	337.40	6,748.5	5,485.5	1,976.1	84.7	1,942.9	2.95	2.50	1.56
9,153.0	92.80	336.10	6,744.4	5,481.4	2,062.4	47.6	2,033.6	1.52	0.64	-1.38
9,247.0	92.80	335.20	6,739.8	5,476.8	2,147.9	8.9	2,123.9	0.96	0.00	-0.96
9,342.0	91.30	337.90	6,736.4	5,473.4	2,235.0	-28.8	2,215.5	3.25	-1.58	2.84
9,436.0	91.60	335.10	6,734.0	5,471.0	2,321.2	-66.3	2,306.2	2.99	0.32	-2.98
9,531.0	88.60	334.30	6,733.9	5,470.9	2,407.1	-106.9	2,397.1	3.27	-3.16	-0.84
9,626.0	87.60	332.70	6,737.0	5,474.0	2,492.0	-149.3	2,487.3	1.99	-1.05	-1.68
9,657.0	87.10	332.20	6,738.4	5,475.4	2,519.5	-163.6	2,516.6	2.28	-1.61	-1.61
9,720.0	87.70	332.90	6,741.3	5,478.3	2,575.4	-192.6	2,576.0	1.46	0.95	1.11
9,815.0	87.60	331.70	6,745.2	5,482.2	2,659.4	-236.7	2,665.6	1.27	-0.11	-1.26
9,909.0	90.20	335.90	6,747.0	5,484.0	2,743.7	-278.2	2,755.0	5.25	2.77	4.47
10,004.0	90.60	333.80	6,746.3	5,483.3	2,829.7	-318.6	2,845.9	2.25	0.42	-2.21
10,098.0	90.20	336.20	6,745.7	5,482.7	2,914.9	-358.3	2,936.0	2.59	-0.43	2.55
10,192.0	89.60	335.40	6,745.8	5,482.8	3,000.6	-396.8	3,026.4	1.06	-0.64	-0.85
10,287.0	90.40	335.90	6,745.8	5,482.8	3,087.1	-436.0	3,117.7	0.99	0.84	0.53
10,381.0	89.70	333.80	6,745.8	5,482.8	3,172.2	-475.9	3,207.7	2.35	-0.74	-2.23
Final Survey= 10412' MD/6745' TVD										
10,412.0	90.30	333.40	6,745.8	5,482.8	3,200.0	-489.7	3,237.2	2.33	1.94	-1.29
512482 TD										
10,453.1	90.30	333.40	6,745.6	5,482.6	3,236.8	-508.1	3,276.2	0.00	0.00	0.00
Projection to TD= 10468' MD/6745' TVD										
10,468.0	90.30	333.40	6,745.5	5,482.5	3,250.1	-514.8	3,290.4	0.00	0.00	0.00

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (3,252.0)	+E/-W (-477.3)	Northing (usft)	Easting (usft)	Latitude	Longitude
512482 TD - hit/miss target - Shape - Point	0.00	0.00	6,715.0	3,252.0	-477.3	268,620.40	1,630,973.00	39° 13' 48.631 N	80° 48' 9.846 W
- actual wellpath misses target center by 46.0usft at 10453.1usft MD (6745.6 TVD, 3236.8 N, -508.1 E)									
512482 LP 300' VS OA - actual wellpath misses target center by 23.0usft at 7344.4usft MD (6704.1 TVD, 417.7 N, 792.3 E) - Rectangle (sides W1,000.0 H1,000.0 D0.0)	0.00	0.00	6,727.0	419.6	793.0	265,788.12	1,632,243.27	39° 13' 20.821 N	80° 47' 53.184 W
512482 LP - actual wellpath misses target center by 38.9usft at 7641.2usft MD (6703.4 TVD, 692.6 N, 682.1 E) - Point	0.00	0.00	6,727.0	705.1	710.3	266,073.60	1,632,160.60	39° 13' 23.631 N	80° 47' 54.287 W

Phoenix Technologies

Survey Report

17-06391

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Doddridge County 512482
Company:	EQT Production - Marcellus	TVD Reference:	23' KB @ 1263.0usft (Patt. 252)
Project:	Doddridge County, WV Grid	MD Reference:	23' KB @ 1263.0usft (Patt. 252)
Site:	Doddridge County 512482	North Reference:	Grid
Well:	Well #512482	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	512482 As Drilled Surveys		

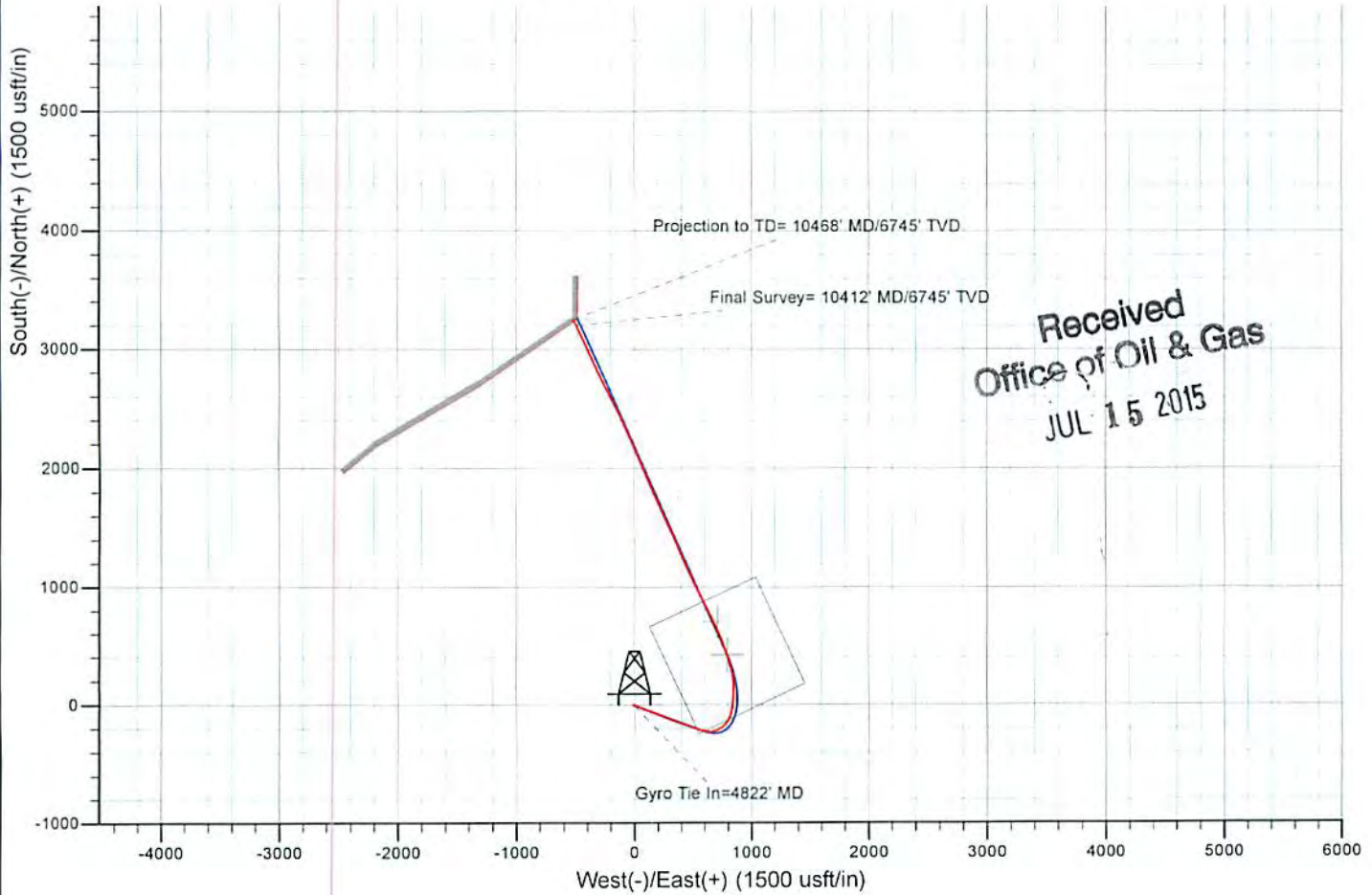
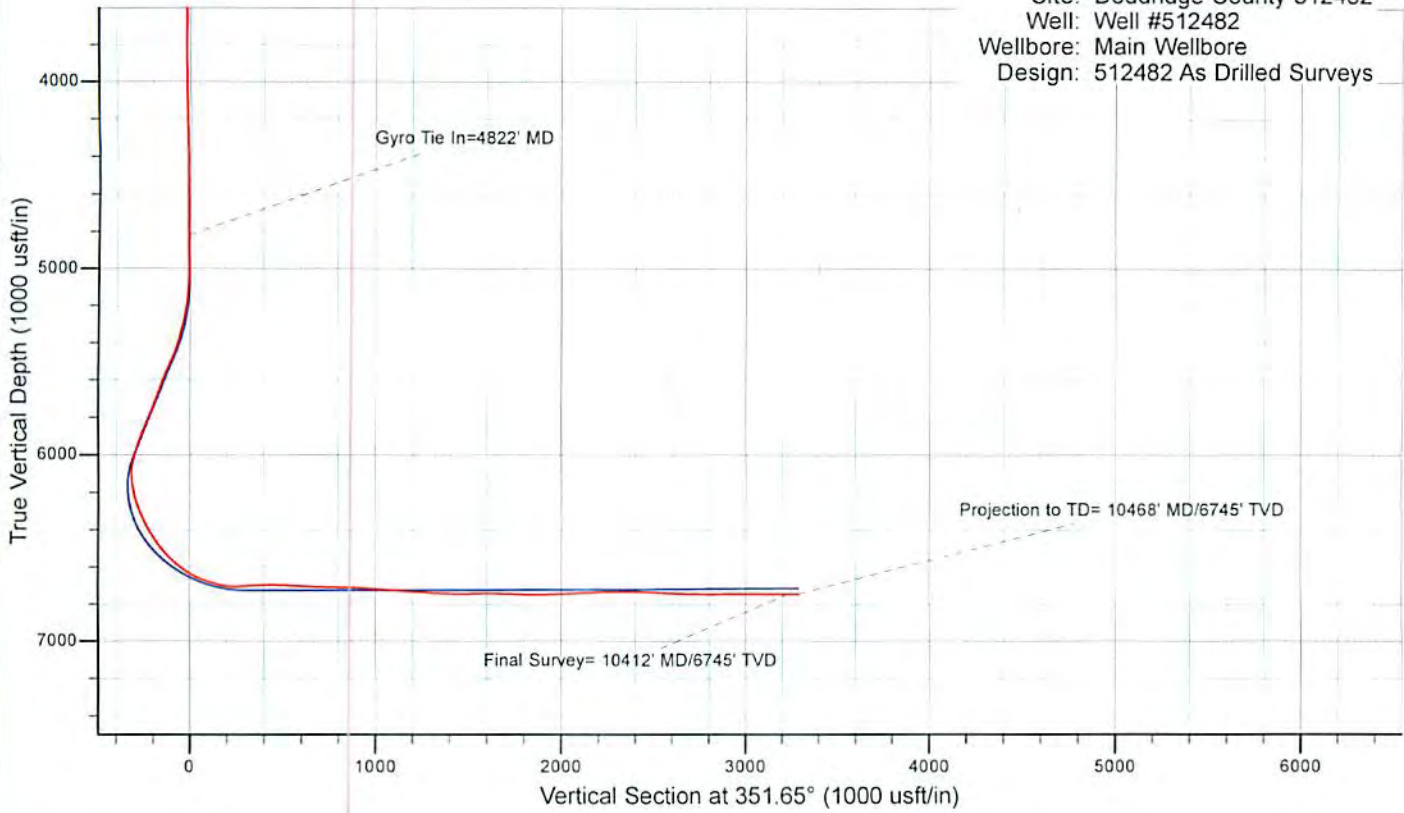
Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,822.0	4,821.6	-6.8	-4.2	Gyro Tie In=4822' MD
10,412.0	6,745.8	3,200.0	-489.7	Final Survey= 10412' MD/6745' TVD
10,468.0	6,745.5	3,250.1	-514.8	Projection to TD= 10468' MD/6745' TVD

Checked By: _____	Approved By: _____	Date: _____
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17-06391

Project: Doddridge County, WV Grid
Site: Doddridge County 512482
Well: Well #512482
Wellbore: Main Wellbore
Design: 512482 As Drilled Surveys



10/23/2015