



EQT PRODUCTION

Doddridge County, WV

WEU2

Well #515875 - Marcellus - Slot 515875

API #47-017-06722

Main Wellbore

Design: 515875 As Drilled Surveys

Standard Survey Report

26 October, 2015





Phoenix Technology Services

Survey Report



Database: EDM 5000.1 Single User Db Company: EQT PRODUCTION Project: Doddridge County, WV Site: WEU2 Well: Well #515875 - Marcellus Wellbore: Main Wellbore Design: 515875 As Drilled Surveys	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method:	Well Well #515875 - Marcellus - Slot 515875 KB 23' @ 1179.0usft KB 23' @ 1178.0usft Grid Minimum Curvature
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Project Doddridge County WV			
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		

Site WEU2			
Site Position:		Northing:	283,820.10 usft
From: Map		Easting:	1,640,046.30 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	39.27
		Longitude:	-80.77
		Grid Convergence:	-0.81 °

Well Well #515875 - Marcellus - Slot 515875			
Well Position	+N-S	0.0 usft	Northing: 283,827.70 usft
	+E-W	0.0 usft	Easting: 1,640,059.20 usft
Position Uncertainty		0.0 usft	Wellhead Elevation: usft
			Latitude: 39° 16' 20.214 N
			Longitude: 80° 46' 17.123 W
			Ground Level: 1,156.0 usft

Wellbore Main Wellbore					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	10/12/2015	-7.77	66.72	52,253

Design 515875 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	137.73	

Survey Program Date 10/26/2015				
From (')	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	3,600.0	515875 Gyrodata Gyros (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop
0.00	12,305.0	515875 PHX MWD (Main Wellbore)	PHX+MWD+HDGM	PHX+OWSG MWD + HDGM

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	-1,179.0	0.0	0.0	0.0	0.00	0.00	0.00
110.0	0.34	261.27	110.0	-1,069.0	0.0	-0.3	-0.2	0.31	0.31	0.00
210.0	0.08	148.96	210.0	-969.0	-0.2	-0.6	-0.3	0.38	-0.26	-112.31
310.0	0.09	345.71	310.0	-869.0	-0.1	-0.6	-0.3	0.17	0.01	-163.25
410.0	0.23	130.70	410.0	-769.0	-0.2	-0.4	-0.1	0.31	0.14	144.99
510.0	0.32	184.43	510.0	-669.0	-0.6	-0.3	0.2	0.26	0.09	53.73
610.0	0.42	212.74	610.0	-569.0	-1.2	-0.5	0.5	0.21	0.10	28.31
710.0	0.28	160.00	710.0	-469.0	-1.7	-0.6	0.9	0.34	-0.14	-52.74



Phoenix Technology Services
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Well #515875 - Marcellus - Slot 515875
Company:	EQT PRODUCTION	TVD Reference:	KB 23' @ 1175.0usft
Project:	Doddridge County, WV	MD Reference:	KB 23' @ 1170.0usft
Site:	WEU2	North Reference:	Grid
Well:	Well #515875 - Marcellus	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515875 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	0.31	131.59	810.0	-369.0	-2.1	-0.3	1.3	0.15	0.03	-28.41	
910.0	0.45	100.18	910.0	-269.0	-2.4	0.2	1.9	0.25	0.14	-31.41	
1,010.0	0.41	109.17	1,010.0	-169.0	-2.6	1.0	2.6	0.08	-0.04	8.99	
1,110.0	0.54	141.58	1,110.0	-69.0	-3.1	1.6	3.3	0.29	0.13	32.41	
1,210.0	0.50	128.81	1,210.0	31.0	-3.7	2.2	4.2	0.12	-0.04	-12.77	
1,310.0	0.61	147.67	1,310.0	131.0	-4.4	2.9	5.2	0.21	0.11	18.86	
1,410.0	0.62	160.94	1,410.0	231.0	-5.4	3.3	6.2	0.14	0.01	13.27	
1,510.0	0.42	176.15	1,510.0	331.0	-6.3	3.5	7.0	0.24	-0.20	15.21	
1,610.0	0.28	174.32	1,610.0	431.0	-6.9	3.6	7.5	0.14	-0.14	-1.83	
1,710.0	0.50	178.99	1,710.0	531.0	-7.6	3.6	8.0	0.22	0.22	4.67	
1,810.0	0.27	168.34	1,810.0	631.0	-8.2	3.7	8.5	0.24	-0.23	-10.65	
1,910.0	0.39	177.15	1,910.0	731.0	-8.8	3.7	9.0	0.13	0.12	8.81	
2,010.0	0.39	159.73	2,010.0	831.0	-9.4	3.9	9.6	0.12	0.00	-17.42	
2,110.0	0.52	166.10	2,110.0	931.0	-10.2	4.1	10.3	0.14	0.13	6.37	
2,210.0	0.52	168.48	2,209.9	1,030.9	-11.1	4.3	11.1	0.02	0.00	2.38	
2,310.0	0.37	171.07	2,309.9	1,130.9	-11.9	4.4	11.7	0.15	-0.15	2.59	
2,410.0	0.46	183.11	2,409.9	1,230.9	-12.6	4.4	12.3	0.12	0.09	12.04	
2,510.0	0.38	200.08	2,509.9	1,330.9	-13.3	4.3	12.7	0.15	-0.08	16.97	
2,610.0	0.53	169.68	2,609.9	1,430.9	-14.1	4.3	13.3	0.28	0.15	-30.40	
2,710.0	0.43	207.09	2,709.9	1,530.9	-14.8	4.2	13.8	0.32	-0.10	37.41	
2,810.0	0.46	195.89	2,809.9	1,630.9	-15.6	3.9	14.1	0.09	0.03	-11.20	
2,910.0	0.57	202.72	2,909.9	1,730.9	-16.4	3.6	14.6	0.13	0.11	6.83	
3,010.0	0.63	210.22	3,009.9	1,830.9	-17.3	3.1	14.9	0.10	0.06	7.50	
3,110.0	0.68	204.26	3,109.9	1,930.9	-18.4	2.6	15.3	0.08	0.05	-5.96	
3,210.0	0.98	166.12	3,209.9	2,030.9	-19.7	2.6	16.3	0.61	0.30	-38.14	
3,310.0	0.88	171.40	3,309.9	2,130.9	-21.3	2.9	17.7	0.13	-0.10	5.28	
3,410.0	0.73	160.97	3,409.9	2,230.9	-22.7	3.2	19.0	0.21	-0.15	-10.43	
3,510.0	0.62	164.00	3,509.9	2,330.9	-23.8	3.6	20.0	0.12	-0.11	3.03	
Gyp Tie On=3600' MD											
3,600.0	0.79	167.76	3,599.9	2,420.9	-24.9	3.8	21.0	0.20	0.19	4.18	
3,650.0	2.90	115.00	3,649.8	2,470.8	-25.7	5.1	22.5	5.00	4.22	-105.52	
3,693.0	6.50	109.00	3,692.7	2,513.7	-27.0	8.4	25.6	8.44	8.37	-13.95	
3,736.0	9.90	105.70	3,735.2	2,556.2	-28.8	14.2	30.9	7.98	7.91	-7.67	
3,779.0	12.60	103.70	3,777.4	2,598.4	-30.9	22.3	37.9	6.34	6.28	-4.65	
3,822.0	15.10	104.00	3,819.2	2,640.2	-33.4	32.3	46.4	5.82	5.81	0.70	
3,865.0	18.40	104.20	3,860.3	2,681.3	-36.4	44.3	56.8	7.68	7.67	0.47	
3,908.0	21.00	104.30	3,900.8	2,721.8	-40.0	58.4	68.8	6.05	6.05	0.23	
3,950.0	23.60	104.10	3,939.7	2,760.7	-43.9	73.8	82.1	6.19	6.19	-0.48	
3,993.0	25.70	103.50	3,978.7	2,799.7	-48.1	91.3	97.0	4.92	4.88	-1.40	
4,036.0	28.10	103.30	4,017.1	2,838.1	-52.7	110.2	113.1	5.59	5.58	-0.47	
4,079.0	30.70	102.50	4,054.5	2,875.5	-57.4	130.8	130.4	6.11	6.05	-1.66	
4,122.0	33.80	101.70	4,090.9	2,911.9	-62.2	153.2	149.0	7.28	7.21	-1.86	
4,165.0	36.90	100.40	4,126.0	2,947.0	-66.9	177.6	169.0	7.42	7.21	-3.02	

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Phoenix Technology Services
Survey Report



Database:	EDM 5000.1 Single User-DB	Local Co-ordinate Reference:	Well Well #515875 - Marcellus - Slot 515875
Company:	EQT PRODUCTION	TVD Reference:	K8-23 @ 1179.0usft
Project:	Doddridge County, WV	MD Reference:	K8-23 @ 1179.0usft
Site:	WEU2	North Reference:	Grid
Well:	Well #515875 - Marcellus	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515875 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)
4,208.0	39.00	99.90	4,159.9	2,980.9	-71.6	203.6	189.9	4.94	4.88	-1.16
4,251.0	38.80	99.70	4,193.3	3,014.3	-76.2	230.2	211.2	0.55	-0.47	-0.47
4,294.0	38.20	99.20	4,227.0	3,048.0	-80.6	256.6	232.2	1.57	-1.40	-1.16
4,338.0	38.10	99.50	4,261.6	3,082.6	-85.0	283.5	253.5	0.48	-0.23	0.68
4,381.0	39.40	98.90	4,295.1	3,116.1	-89.3	310.0	274.6	3.15	3.02	-1.40
4,424.0	38.80	98.60	4,328.5	3,149.5	-93.4	336.8	295.7	1.46	-1.40	-0.70
4,467.0	38.50	97.70	4,362.1	3,183.1	-97.2	363.4	316.4	1.48	-0.70	-2.09
4,511.0	38.60	98.40	4,396.5	3,217.5	-101.1	390.6	337.5	1.02	0.23	1.59
4,555.0	39.70	98.30	4,430.6	3,251.6	-105.1	418.1	358.9	2.50	2.50	-0.23
4,598.0	39.10	98.20	4,463.8	3,284.8	-109.0	445.1	380.0	1.40	-1.40	-0.23
4,641.0	39.10	98.90	4,497.2	3,318.2	-113.0	471.9	401.0	1.03	0.00	1.63
4,685.0	40.10	100.00	4,531.1	3,352.1	-117.6	499.5	423.1	2.78	2.27	2.50
4,728.0	39.80	99.30	4,564.1	3,385.1	-122.3	526.8	444.8	1.26	-0.70	-1.63
4,771.0	39.90	99.80	4,597.1	3,418.1	-126.8	553.9	466.4	0.78	0.23	1.16
4,813.0	40.80	100.30	4,629.1	3,450.1	-131.6	580.7	488.0	2.28	2.14	1.19
4,856.0	40.10	100.00	4,661.8	3,482.8	-136.5	608.2	510.1	1.69	-1.63	-0.70
4,899.0	39.80	99.70	4,694.8	3,515.8	-141.2	635.4	531.9	0.83	-0.70	-0.70
4,943.0	40.20	100.80	4,728.5	3,549.5	-146.3	663.2	554.3	1.85	0.91	2.50
4,987.0	39.60	100.20	4,762.3	3,583.3	-151.4	691.0	576.8	1.62	-1.36	-1.36
5,029.0	39.70	100.20	4,794.6	3,615.6	-156.2	717.3	598.0	0.24	0.24	0.00
5,073.0	40.60	102.10	4,828.2	3,649.2	-161.6	745.2	620.8	3.45	2.05	4.32
5,116.0	40.90	102.20	4,860.8	3,681.8	-167.6	772.6	643.6	0.71	0.70	0.23
5,159.0	41.50	104.10	4,893.2	3,714.2	-174.0	800.2	667.0	3.23	1.40	4.42
5,202.0	41.30	103.80	4,925.4	3,746.4	-180.9	827.8	690.6	0.66	-0.47	-0.70
5,245.0	41.30	103.80	4,957.7	3,778.7	-187.6	855.3	714.1	0.00	0.00	0.00
5,289.0	42.50	103.80	4,990.5	3,811.5	-194.6	883.9	738.5	2.73	2.73	0.00
5,333.0	42.20	102.60	5,023.0	3,844.0	-201.4	912.7	762.9	1.96	-0.68	-2.73
5,376.0	42.00	103.00	5,054.9	3,875.9	-207.8	940.8	786.6	0.78	-0.47	0.93
5,420.0	42.40	102.60	5,087.5	3,908.5	-214.3	969.7	810.8	1.10	0.91	-0.91
5,463.0	42.00	102.80	5,119.3	3,940.3	-220.7	997.8	834.5	0.98	-0.93	0.47
5,506.0	41.80	101.80	5,151.3	3,972.3	-226.8	1,025.9	857.9	1.62	-0.47	-2.33
5,550.0	42.00	99.20	5,184.1	4,005.1	-232.2	1,054.8	881.2	3.97	0.45	-5.91
5,593.0	41.30	99.40	5,216.2	4,037.2	-236.8	1,083.0	903.6	1.66	-1.63	0.47
5,637.0	41.10	99.00	5,249.3	4,070.3	-241.4	1,111.6	926.3	0.75	-0.45	-0.91
5,680.0	40.10	99.10	5,282.0	4,103.0	-245.8	1,139.2	948.2	2.33	-2.33	0.23
5,723.0	40.20	98.40	5,314.8	4,135.8	-250.0	1,166.6	969.7	1.08	0.23	-1.63
5,766.0	40.60	99.80	5,347.6	4,168.6	-254.4	1,194.2	991.5	2.31	0.93	3.26
5,809.0	40.10	98.70	5,380.4	4,201.4	-258.9	1,221.6	1,013.3	2.02	-1.16	-2.56
5,852.0	39.80	99.60	5,413.3	4,234.3	-263.3	1,248.9	1,034.8	1.51	-0.70	2.09
5,895.0	40.60	100.60	5,446.2	4,267.2	-268.2	1,276.2	1,056.8	2.39	1.86	2.33
5,938.0	39.90	99.80	5,479.0	4,300.0	-273.1	1,303.6	1,078.9	2.02	-1.63	-1.86
5,982.0	39.60	100.30	5,512.8	4,333.8	-278.0	1,331.3	1,101.4	0.68		1.14

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Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Well #515875 - Marcellus - Slot 515875
Company:	EQT PRODUCTION	TVD Reference:	KB 23' @ 1179.0usft
Project:	Doddridge County, WV	MD Reference:	KB 23' @ 1179.0usft
Site:	WELJ2	North Reference:	Grid
Well:	Well #515875 - Marcellus	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515875 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)
	6,025.0	40.40	101.70	5,545.8	4,366.8	-283.3	1,358.4	1,123.3	2.80	1.86	3.26
	6,067.0	39.30	101.10	5,578.0	4,399.0	-288.6	1,384.8	1,145.0	2.77	-2.62	-1.43
	6,110.0	38.70	101.20	5,611.4	4,432.4	-293.8	1,411.3	1,166.7	1.40	-1.40	0.23
	6,154.0	39.50	101.70	5,645.6	4,466.6	-299.3	1,438.5	1,189.1	1.95	1.82	1.14
	6,197.0	39.10	100.60	5,678.8	4,499.8	-304.6	1,465.2	1,210.9	1.87	-0.93	-2.56
	6,240.0	40.90	101.60	5,711.8	4,532.8	-309.9	1,492.4	1,233.1	4.44	4.19	2.33
	6,283.0	42.40	101.10	5,743.9	4,564.9	-315.6	1,520.4	1,256.1	3.57	3.49	-1.16
	6,326.0	41.60	100.70	5,775.9	4,596.9	-321.0	1,548.6	1,279.1	1.96	-1.86	-0.93
	6,369.0	42.60	101.30	5,807.8	4,628.8	-326.5	1,576.9	1,302.3	2.51	2.33	1.40
	6,412.0	41.70	100.50	5,839.7	4,660.7	-332.0	1,605.3	1,325.4	2.44	-2.09	-1.86
	6,456.0	42.80	100.70	5,872.2	4,693.2	-337.4	1,634.3	1,348.9	2.52	2.50	0.45
	6,500.0	41.30	100.70	5,904.9	4,725.9	-342.9	1,663.3	1,372.5	3.41	-3.41	0.00
	6,543.0	40.20	100.20	5,937.5	4,758.5	-348.0	1,690.9	1,394.8	2.67	-2.56	-1.16
	6,586.0	41.50	100.50	5,970.0	4,791.0	-353.0	1,718.6	1,417.1	3.06	3.02	0.70
	6,629.0	41.20	100.30	6,002.3	4,823.3	-358.1	1,746.5	1,439.7	0.76	-0.70	-0.47
	6,673.0	41.80	101.60	6,035.2	4,856.2	-363.7	1,775.1	1,463.1	2.39	1.36	2.95
	6,716.0	41.10	101.90	6,067.5	4,888.5	-369.5	1,803.0	1,486.1	1.69	-1.63	0.70
	6,759.0	40.60	101.80	6,100.0	4,921.0	-375.3	1,830.5	1,508.9	1.17	-1.16	-0.23
	6,802.0	40.30	101.50	6,132.7	4,953.7	-380.9	1,857.8	1,531.5	0.83	-0.70	-0.70
	6,846.0	40.70	101.80	6,166.2	4,987.2	-386.7	1,885.8	1,554.5	1.01	0.91	0.68
	6,889.0	39.10	101.30	6,199.1	5,020.1	-392.2	1,912.9	1,576.8	3.79	-3.72	-1.16
	6,932.0	38.10	100.90	6,232.8	5,053.8	-397.4	1,939.2	1,598.3	2.40	-2.33	-0.93
	6,975.0	39.40	100.40	6,266.3	5,087.3	-402.3	1,965.6	1,619.8	3.11	3.02	-1.16
	7,104.0	42.30	99.30	6,363.9	5,184.9	-416.7	2,048.8	1,686.4	2.32	2.25	-0.85
	7,158.0	38.30	100.40	6,405.0	5,226.0	-422.7	2,083.2	1,713.9	7.52	-7.41	2.04
	7,190.0	38.70	102.30	6,430.1	5,251.1	-426.6	2,102.7	1,730.0	3.90	1.25	5.94
	7,221.0	40.60	106.90	6,454.0	5,275.0	-431.6	2,121.8	1,746.5	11.28	6.13	14.84
	7,253.0	42.90	111.20	6,477.8	5,298.8	-438.6	2,141.9	1,765.2	11.47	7.19	13.44
	7,284.0	46.30	112.90	6,499.9	5,320.9	-446.8	2,162.1	1,784.8	11.62	10.97	5.48
	7,315.0	50.10	114.10	6,520.6	5,341.6	-456.0	2,183.3	1,805.9	12.59	12.26	3.87
	7,347.0	53.20	117.00	6,540.4	5,361.4	-466.8	2,205.9	1,829.1	12.01	9.69	9.06
	7,379.0	55.20	120.50	6,559.1	5,380.1	-479.3	2,228.7	1,853.7	10.85	6.25	10.94
	7,410.0	56.20	123.30	6,576.6	5,397.6	-492.8	2,250.4	1,878.3	8.13	3.23	9.03
	7,441.0	57.90	126.70	6,593.5	5,414.5	-507.8	2,271.7	1,903.7	10.71	5.48	10.97
	7,473.0	60.30	130.00	6,609.9	5,430.9	-524.8	2,293.2	1,930.8	11.60	7.50	10.31
	7,504.0	62.30	132.20	6,624.8	5,445.8	-542.7	2,313.7	1,957.8	8.96	6.45	7.10
	7,536.0	65.00	134.60	6,639.0	5,460.0	-562.4	2,334.5	1,986.4	10.79	8.44	7.50
	7,567.0	67.40	137.30	6,651.5	5,472.5	-582.8	2,354.2	2,014.7	11.11	7.74	8.71
	7,598.0	70.20	139.10	6,662.7	5,483.7	-604.3	2,373.5	2,043.6	10.53	9.03	5.81
	7,630.0	72.00	140.70	6,673.1	5,494.1	-627.5	2,393.0	2,073.9	7.35	5.63	5.00
	7,661.0	73.80	142.50	6,682.2	5,503.2	-650.7	2,411.4	2,103.4	8.03	5.81	5.81
	7,693.0	75.00	144.70	6,690.8	5,511.8	-675.5	2,429.7	2,134.1	7.61	3.75	6.88

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03/04/2016



Phoenix Technology Services
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Well #515875 - Marcellus - Slot 515875
Company:	EQT PRODUCTION	TVD Reference:	KB 23' @ 1179 0usft
Project:	Doddridge County, WV	MD Reference:	KB 23' @ 1179 0usft
Site:	WEU2	North Reference:	Grid
Well:	Well #515875 - Marcellus	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515875 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)
7,724.0	76.60	147.00	6,698.4	5,519.4	-700.4	2,446.6	2,163.8	8.85	5.16	7.42
7,756.0	78.20	149.40	6,705.4	5,526.4	-726.9	2,463.0	2,194.5	8.86	5.00	7.50
7,787.0	81.00	151.40	6,711.0	5,532.0	-753.4	2,478.1	2,224.3	11.04	9.03	6.45
7,819.0	83.40	153.40	6,715.3	5,536.3	-781.5	2,492.7	2,254.9	9.73	7.50	6.25
515875 Plat LP2 p2										
7,843.5	86.08	155.06	6,717.6	5,538.6	-803.4	2,503.3	2,278.3	12.88	10.97	6.78
7,850.0	86.80	155.50	6,718.0	5,539.0	-809.4	2,506.1	2,284.5	12.88	10.98	6.75
515875 LP @2305' VS - 515875 LP @2305' VS p4										
7,868.3	88.57	156.30	6,718.7	5,539.7	-826.0	2,513.5	2,301.8	10.63	9.69	4.38
7,882.0	89.90	156.90	6,718.9	5,539.9	-838.6	2,519.0	2,314.8	10.63	9.69	4.37
LP/Deepest Point=7913' MD/5719' TVD										
7,913.0	90.00	156.30	6,718.9	5,539.9	-867.1	2,531.3	2,344.2	1.96	0.32	-1.94
8,007.0	90.60	156.80	6,718.4	5,539.4	-953.3	2,568.7	2,433.2	0.83	0.64	0.53
8,102.0	90.70	156.00	6,717.4	5,538.4	-1,040.4	2,606.7	2,523.2	0.85	0.11	-0.84
8,196.0	90.20	152.90	6,716.6	5,537.6	-1,125.2	2,647.3	2,613.2	3.34	-0.53	-3.30
8,290.0	91.20	152.20	6,715.5	5,536.5	-1,208.6	2,690.6	2,704.0	1.30	1.06	-0.74
8,385.0	89.70	152.60	6,714.7	5,535.7	-1,292.7	2,734.6	2,795.9	1.63	-1.58	0.42
8,479.0	91.00	155.30	6,714.1	5,535.1	-1,377.2	2,775.9	2,886.2	3.19	1.38	2.87
8,573.0	90.20	153.60	6,713.2	5,534.2	-1,462.0	2,816.4	2,976.2	2.00	-0.85	-1.81
8,668.0	90.40	153.40	6,712.7	5,533.7	-1,547.0	2,858.8	3,067.6	0.30	0.21	-0.21
8,762.0	91.10	152.10	6,711.4	5,532.4	-1,630.6	2,901.8	3,158.4	1.57	0.74	-1.38
8,856.0	91.40	155.50	6,709.4	5,530.4	-1,714.9	2,943.3	3,248.7	3.63	0.32	3.62
8,951.0	91.50	155.00	6,707.0	5,528.0	-1,801.1	2,983.1	3,339.3	0.54	0.11	-0.53
9,045.0	90.00	155.30	6,705.8	5,526.8	-1,886.4	3,022.6	3,428.9	1.63	-1.60	0.32
9,139.0	91.20	155.90	6,704.8	5,525.8	-1,972.0	3,061.4	3,518.4	1.43	1.28	0.64
9,233.0	89.80	152.90	6,703.9	5,524.9	-2,056.8	3,102.0	3,608.4	3.52	-1.49	-3.19
9,328.0	90.70	152.70	6,703.5	5,524.5	-2,141.3	3,145.4	3,700.2	0.97	0.95	-0.21
9,422.0	92.10	152.90	6,701.2	5,522.2	-2,224.8	3,188.4	3,790.9	1.50	1.49	0.21
9,517.0	90.00	152.40	6,699.5	5,520.5	-2,309.2	3,232.0	3,882.7	2.27	-2.21	-0.53
9,611.0	89.90	151.20	6,699.6	5,520.6	-2,392.0	3,276.4	3,973.9	1.28	-0.11	-1.28
9,705.0	89.80	153.40	6,699.8	5,520.8	-2,475.3	3,320.1	4,064.8	2.34	-0.11	2.34
9,799.0	90.30	155.60	6,699.7	5,520.7	-2,560.1	3,360.6	4,154.8	2.40	0.53	2.34
9,894.0	91.80	157.70	6,698.0	5,519.0	-2,647.3	3,398.2	4,244.7	2.72	1.58	2.21
9,988.0	89.90	155.90	6,696.6	5,517.6	-2,733.7	3,435.3	4,333.5	2.78	-2.02	-1.91
10,082.0	91.10	156.10	6,695.8	5,516.8	-2,819.5	3,473.5	4,422.8	1.29	1.28	0.21
10,176.0	88.70	154.80	6,695.9	5,516.9	-2,905.0	3,512.5	4,512.3	2.90	-2.55	-1.38
10,271.0	90.30	155.60	6,696.8	5,517.8	-2,991.3	3,552.4	4,602.9	1.88	1.68	0.84
10,365.0	90.40	155.20	6,696.2	5,517.2	-3,076.7	3,591.5	4,692.5	0.44	0.11	-0.43
10,460.0	90.90	154.60	6,695.1	5,516.1	-3,162.8	3,631.8	4,783.2	0.82	0.53	-0.63
10,554.0	91.30	154.10	6,693.3	5,514.3	-3,247.5	3,672.5	4,873.3	0.68	0.43	-0.53
10,648.0	89.70	153.00	6,692.5	5,513.5	-3,331.6	3,714.4	4,963.7	2.07	-1.70	-1.17
10,743.0	90.50	154.90	6,692.3	5,513.3	-3,417.0	3,756.1	5,054.9	2.17	0.84	2.00
10,837.0	92.20	156.70	6,690.1	5,511.1	-3,502.7	3,794.6	5,144.3	2.63	1.81	1.91

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Phoenix Technology Services
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Well #515875 - Marcellus - Slot 515875
Company:	EQT PRODUCTION	TVD Reference:	KB 23' @ 1179.0usft
Project:	Doddridge County, WV	MD Reference:	KB 23' @ 1179.0usft
Site:	WELJ2	North Reference:	Grid
Well:	Well #515875 - Marcellus	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515875 As Drilled Surveys		

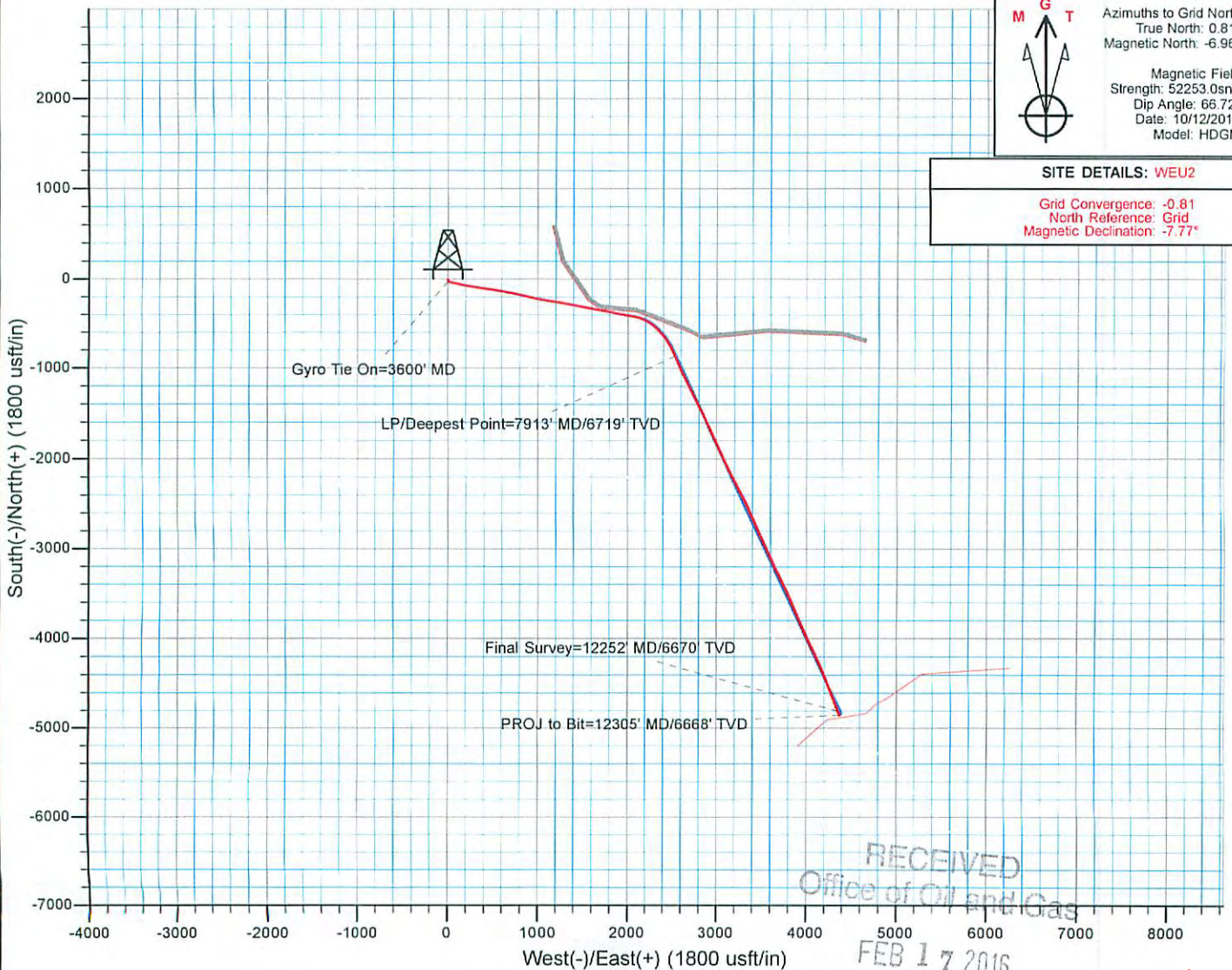
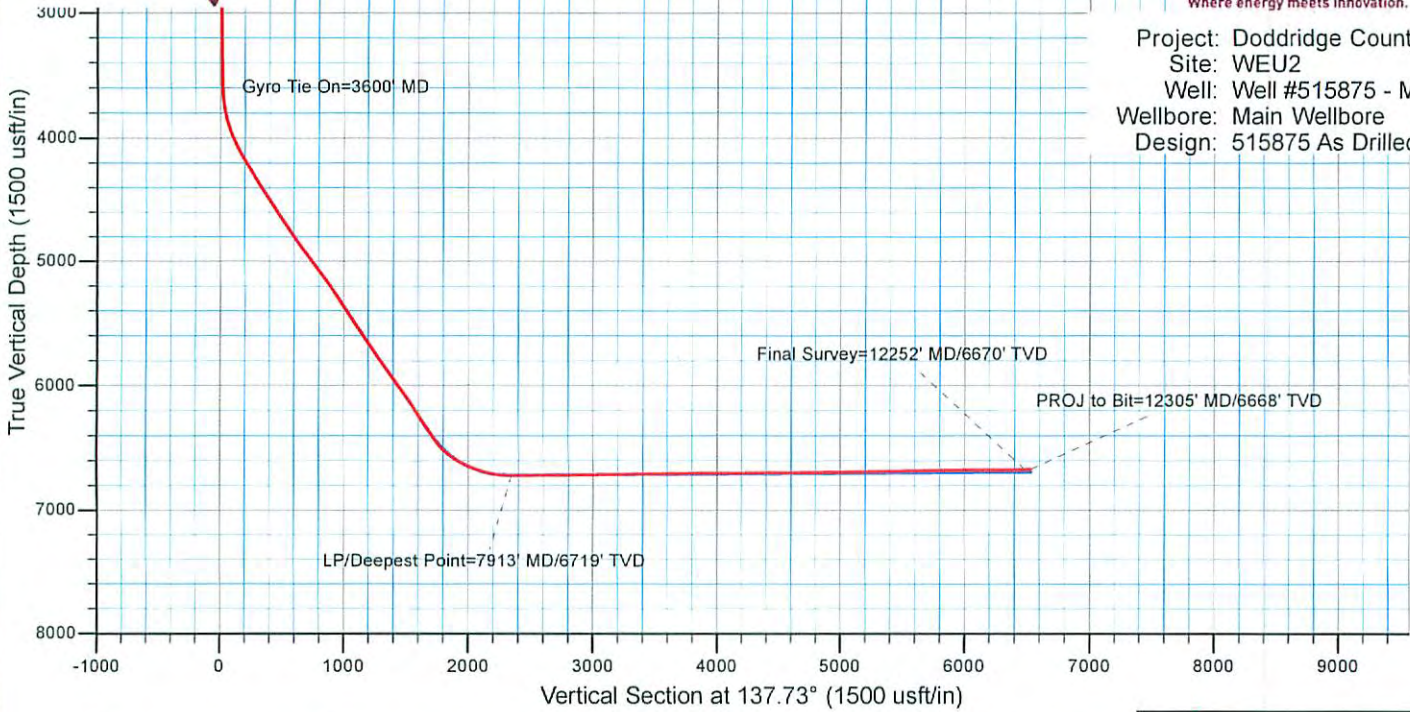
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,931.0	90.70	156.50	6,687.7	5,508.7	-3,588.9	3,831.9	5,233.2	1.61	-1.60	-0.21
11,025.0	92.20	157.40	6,685.4	5,506.4	-3,675.4	3,868.7	5,321.9	1.86	1.60	0.96
11,119.0	90.30	156.30	6,683.3	5,504.3	-3,761.8	3,905.7	5,410.7	2.34	-2.02	-1.17
11,214.0	90.60	156.20	6,682.6	5,503.6	-3,848.7	3,943.9	5,500.8	0.33	0.32	-0.11
11,308.0	89.80	154.70	6,682.2	5,503.2	-3,934.2	3,983.0	5,590.3	1.81	-0.85	-1.60
11,402.0	91.10	155.50	6,681.5	5,502.5	-4,019.5	4,022.5	5,680.0	1.62	1.38	0.85
11,497.0	91.60	154.40	6,679.3	5,500.3	-4,105.5	4,062.8	5,770.7	1.27	0.53	-1.16
11,591.0	91.50	153.60	6,676.7	5,497.7	-4,190.0	4,104.0	5,860.9	0.86	-0.11	-0.85
11,686.0	89.80	154.80	6,675.6	5,496.6	-4,275.5	4,145.3	5,952.0	2.19	-1.79	1.26
11,780.0	91.50	158.20	6,674.6	5,495.6	-4,361.7	4,182.8	6,041.0	4.04	1.81	3.62
11,875.0	89.30	158.10	6,673.9	5,494.9	-4,449.9	4,218.1	6,130.0	2.32	-2.32	-0.11
11,969.0	89.30	158.40	6,675.1	5,496.1	-4,537.2	4,253.0	6,218.1	0.32	0.00	0.32
12,063.0	90.50	159.10	6,675.2	5,496.2	-4,624.8	4,287.0	6,305.8	1.48	1.28	0.74
12,158.0	91.80	160.20	6,673.3	5,494.3	-4,713.8	4,320.0	6,393.9	1.79	1.37	1.16
Final Survey=12252' MD/6670' TVD										
12,252.0	92.20	159.00	6,670.0	5,491.0	-4,801.9	4,352.8	6,481.1	1.34	0.43	-1.28
515875 Plat TD - 515875 Plat TD p4										
12,293.2	92.20	159.00	6,668.5	5,489.5	-4,840.3	4,367.6	6,519.5	0.00	0.00	0.00
PROJ to Bit=12305' MD/6668' TVD										
12,305.0	92.20	159.00	6,668.0	5,489.0	-4,851.3	4,371.8	6,530.5	0.00	0.00	0.00

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (-799.5)	+E/-W (2,511.8)	Northing (usft)	Easting (usft)	Latitude	Longitude
515875 Plat LP2 p2	0.00	360.00	6,716.0	-799.5	2,511.8	283,028.15	1,642,571.00	39° 16' 12.662 N	80° 45' 45.043 W
- hit/miss target									
- Shape									
- actual wellpath misses target center by 9.4usft at 7843.5usft MD (6717.6 TVD, -803.4 N, 2503.3 E)									
- Point									

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
3,600.0	3,599.9	-24.9	3.8	Gyro Tie On=3600' MD
7,913.0	6,718.9	-867.1	2,531.3	LP/Deepest Point=7913' MD/6719' TVD
12,252.0	6,670.0	-4,801.9	4,352.8	Final Survey=12252' MD/6670' TVD
12,305.0	6,668.0	-4,851.3	4,371.8	PROJ to Bit=12305' MD/6668' TVD

Checked By: _____ Approved By: _____ Date: _____

Project: Doddridge County, WV
 Site: WEU2
 Well: Well #515875 - Marcellus
 Wellbore: Main Wellbore
 Design: 515875 As Drilled Surveys



	Azimuths to Grid North
	True North: 0.81°
	Magnetic North: -6.96°
Magnetic Field	
Strength: 52253.0snT	
Dip Angle: 66.72°	
Date: 10/12/2015	
Model: HDGM	

SITE DETAILS: WEU2
Grid Convergence: -0.81
North Reference: Grid
Magnetic Declination: -7.77°

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