



PHOENIX
TECHNOLOGY SERVICES USA INC.

EQT Production - Marcellus

Ritchie County, WV
Ritchie County 515275
Well #515275

Main Wellbore

Design: As Drilled Surveys

Standard Survey Report

04 March, 2015



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Ritchie County 515275
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1135.0usft
Project:	Ritchie County, WV	MD Reference:	KB @ 1135.0usft
Site:	Ritchie County 515275	North Reference:	Grid
Well:	Well #515275	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	As Drilled Surveys		

Project	Ritchie 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		Using geodetic scale factor

Site	Ritchie County 515275		
Site Position:		Northing:	280,796.70 usft
From:	Map	Easting:	1,589,053.20 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	39.26
		Longitude:	-80.95
		Grid Convergence:	-0.93 °

Well	Well #515275		
Well Position	+N/-S	0.0 usft	Northing: 280,796.70 usft
	+E/-W	0.0 usft	Easting: 1,589,053.20 usft
Position Uncertainty		0.0 usft	Wellhead Elevation: usft
			Latitude: 39° 15' 42.619 N
			Longitude: 80° 57' 5.003 W
			Ground Level: 1,119.0 usft

Wellbore	Main Wellbore				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2/2/2015	-8.33	66.78	52,209

Design	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	16.44

Survey Program	Date 3/4/2015			
From (°)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	3,168.0	515275 Gyrodata Gyros (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop
0.00	13,847.0	515275 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	-1,135.0	0.0	0.0	0.0	0.00	0.00	0.00
103.0	0.13	242.07	103.0	-1,032.0	-0.1	-0.1	-0.1	0.13	0.13	0.00
203.0	0.16	255.66	203.0	-932.0	-0.1	-0.3	-0.2	0.05	0.03	13.59
303.0	0.14	284.89	303.0	-832.0	-0.1	-0.6	-0.3	0.08	-0.02	29.23
403.0	0.09	234.28	403.0	-732.0	-0.2	-0.8	-0.4	0.11	-0.05	50.61
503.0	0.04	218.30	503.0	-632.0	-0.2	-0.9	-0.5	0.05	-0.05	75.98
603.0	0.14	167.90	603.0	-532.0	-0.4	-0.9	-0.6	0.12	0.10	50.40
703.0	0.20	183.14	703.0	-432.0	-0.7	-0.8	-0.9	0.07	0.06	15.24

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WV Department of Environmental Protection

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Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1135 0usft.
Project:	Ritchie County, WV	MD Reference:	KB @ 1135 0usft.
Site:	Ritchie County 515275	North Reference:	Gnd
Well:	Well #515275	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
803.0	0.22	177.42	803.0	-332.0	-1.0	-0.8	-1.2	0.03	0.02	-5.72
903.0	0.22	177.21	903.0	-232.0	-1.4	-0.8	-1.6	0.00	0.00	-0.21
1,003.0	0.18	184.47	1,003.0	-132.0	-1.8	-0.8	-1.9	0.05	-0.04	7.26
1,103.0	0.31	162.04	1,103.0	-32.0	-2.2	-0.8	-2.3	0.16	0.13	-22.43
1,203.0	0.59	162.60	1,203.0	68.0	-2.9	-0.5	-3.0	0.28	0.28	0.56
1,303.0	0.81	171.63	1,303.0	168.0	-4.1	-0.3	-4.0	0.25	0.22	9.03
1,403.0	0.81	168.89	1,403.0	268.0	-5.5	0.0	-5.3	0.04	0.00	-2.74
1,503.0	0.82	176.04	1,503.0	368.0	-6.9	0.2	-6.6	0.10	0.01	7.15
1,603.0	0.84	177.56	1,603.0	468.0	-8.4	0.2	-8.0	0.03	0.02	1.52
1,703.0	0.76	177.45	1,702.9	567.9	-9.8	0.3	-9.3	0.08	-0.08	-0.11
1,803.0	0.72	177.18	1,802.9	667.9	-11.1	0.4	-10.5	0.04	-0.04	-0.27
1,903.0	0.67	181.48	1,902.9	767.9	-12.3	0.4	-11.7	0.07	-0.05	4.30
2,003.0	0.58	194.34	2,002.9	867.9	-13.3	0.2	-12.7	0.17	-0.09	12.86
2,103.0	0.46	212.59	2,102.9	967.9	-14.2	-0.1	-13.6	0.20	-0.12	18.25
2,203.0	0.44	218.37	2,202.9	1,067.9	-14.8	-0.6	-14.4	0.05	-0.02	5.78
2,303.0	0.48	207.18	2,302.9	1,167.9	-15.5	-1.0	-15.1	0.10	0.04	-11.19
2,403.0	0.50	218.35	2,402.9	1,267.9	-16.2	-1.4	-15.9	0.10	0.02	11.17
2,503.0	0.53	203.92	2,502.9	1,367.9	-17.0	-1.9	-16.8	0.13	0.03	-14.43
2,603.0	0.56	216.24	2,602.9	1,467.9	-17.8	-2.4	-17.7	0.12	0.03	12.32
2,703.0	0.60	217.95	2,702.9	1,567.9	-18.6	-3.0	-18.7	0.04	0.04	1.71
2,803.0	0.54	222.16	2,802.9	1,667.9	-19.4	-3.6	-19.6	0.07	-0.06	4.21
2,903.0	0.55	221.44	2,902.9	1,767.9	-20.1	-4.3	-20.4	0.01	0.01	-0.72
3,003.0	0.42	230.63	3,002.9	1,867.9	-20.7	-4.9	-21.2	0.15	-0.13	9.19
3,103.0	0.36	234.94	3,102.9	1,967.9	-21.1	-5.4	-21.7	0.07	-0.06	4.31
Gyro Tie In= 3168' MD										
3,168.0	0.36	230.21	3,167.9	2,032.9	-21.3	-5.7	-22.1	0.05	0.00	-7.28
3,183.0	0.40	231.30	3,182.9	2,047.9	-21.4	-5.8	-22.1	0.27	0.27	7.27
3,214.0	0.30	218.30	3,213.9	2,078.9	-21.5	-5.9	-22.3	0.41	-0.32	-41.94
3,246.0	0.40	92.50	3,245.9	2,110.9	-21.6	-5.9	-22.4	1.95	0.31	-393.13
3,278.0	1.60	83.40	3,277.9	2,142.9	-21.5	-5.3	-22.2	3.77	3.75	-28.44
3,309.0	2.90	81.50	3,308.8	2,173.8	-21.4	-4.1	-21.7	4.20	4.19	-6.13
3,341.0	4.40	82.40	3,340.8	2,205.8	-21.1	-2.1	-20.8	4.69	4.69	2.81
3,372.0	5.70	83.00	3,371.7	2,236.7	-20.7	0.6	-19.7	4.20	4.19	1.94
3,404.0	7.10	83.30	3,403.5	2,268.5	-20.3	4.1	-18.3	4.38	4.38	0.94
3,435.0	8.30	84.00	3,434.2	2,299.2	-19.9	8.3	-16.7	3.88	3.87	2.26
3,467.0	9.20	84.90	3,465.8	2,330.8	-19.4	13.1	-14.9	2.84	2.81	2.81
3,498.0	10.00	86.60	3,496.4	2,361.4	-19.0	18.3	-13.1	2.74	2.58	5.48
3,530.0	11.00	88.70	3,527.8	2,392.8	-18.8	24.1	-11.2	3.35	3.13	6.56
3,562.0	11.80	88.60	3,559.2	2,424.2	-18.6	30.4	-9.3	2.50	2.50	-0.31
3,593.0	12.30	87.80	3,589.5	2,454.5	-18.4	36.9	-7.2	1.70	1.61	-2.58
3,625.0	12.50	86.60	3,620.8	2,485.8	-18.1	43.8	-5.0	1.02	0.63	-3.75
3,656.0	12.90	86.00	3,651.0	2,516.0	-17.6	50.6	-2.6	1.36	1.29	-1.94
3,688.0	14.10	85.10	3,682.1	2,547.1	-17.1	58.0	0.0	3.81	3.75	-2.81

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Measured Depth (usft)	Inclination (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (/100usft)	Build Rate (/100usft)	Turn Rate (/100usft)
3,719.0	15.30	3,712.1	2,577.1	-16.4	65.8	2.9	3.88	3.87	-0.97
3,751.0	16.60	3,742.9	2,607.9	-15.5	74.6	6.2	4.09	4.06	-1.56
3,782.0	17.60	3,772.5	2,637.5	-14.6	83.7	9.7	3.28	3.23	-1.94
3,814.0	18.30	3,803.0	2,668.0	-13.6	93.5	13.4	2.29	2.19	2.19
3,846.0	19.20	3,833.3	2,698.3	-12.5	103.7	17.4	2.90	2.81	-2.19
3,877.0	20.50	3,862.4	2,727.4	-11.3	114.2	21.5	4.24	4.19	-1.94
3,909.0	22.20	3,892.2	2,757.2	-10.0	125.7	26.0	5.43	5.31	3.13
3,940.0	24.00	3,920.7	2,785.7	-8.9	137.8	30.5	6.15	5.81	5.16
3,972.0	25.60	3,949.8	2,814.8	-7.9	151.2	35.2	5.00	5.00	0.00
4,003.0	26.40	3,977.6	2,842.6	-6.9	164.8	40.0	2.58	2.58	-0.32
4,035.0	27.30	4,006.2	2,871.2	-5.8	179.2	45.1	2.84	2.81	0.94
4,066.0	28.00	4,033.7	2,898.7	-4.7	193.5	50.2	2.30	2.26	-0.97
4,098.0	29.00	4,061.8	2,926.8	-3.5	208.8	55.7	3.25	3.13	-1.88
4,130.0	29.80	4,089.7	2,954.7	-2.0	224.4	61.6	2.78	2.50	-2.50
4,161.0	30.90	4,116.4	2,981.4	-0.5	240.0	67.5	3.58	3.55	0.97
4,193.0	31.80	4,143.7	3,008.7	1.2	256.5	73.7	2.89	2.81	-1.25
4,225.0	32.70	4,170.8	3,035.8	2.9	273.5	80.2	2.81	2.81	0.00
4,256.0	33.50	4,196.8	3,061.8	4.7	290.4	86.7	2.63	2.58	-0.97
4,288.0	34.60	4,223.3	3,088.3	6.6	308.2	93.6	3.48	3.44	0.94
4,319.0	36.50	4,248.5	3,113.5	8.4	326.1	100.4	6.14	6.13	0.65
4,351.0	38.70	4,273.8	3,138.8	10.4	345.5	107.7	6.88	6.88	0.31
4,382.0	41.10	4,297.6	3,162.6	12.4	365.3	115.2	7.77	7.74	-0.97
4,414.0	43.50	4,321.3	3,186.3	14.6	386.7	123.4	7.50	7.50	0.31
4,445.0	43.90	4,343.7	3,208.7	16.6	408.1	131.4	2.20	1.29	2.58
4,508.0	43.60	4,389.2	3,254.2	19.8	451.5	146.7	1.82	-0.48	2.54
4,571.0	42.90	4,435.1	3,300.1	22.2	494.6	161.3	1.13	-1.11	0.32
4,634.0	42.00	4,481.6	3,346.6	24.7	537.1	175.7	1.46	-1.43	-0.48
4,697.0	41.20	4,528.7	3,393.7	27.2	578.8	189.9	1.29	-1.27	0.32
4,760.0	41.20	4,576.1	3,441.1	29.5	620.2	203.8	0.21	0.00	0.32
4,824.0	41.80	4,624.0	3,489.0	32.0	662.6	218.2	1.12	0.94	-0.94
4,887.0	41.30	4,671.2	3,536.2	35.1	704.2	233.0	1.32	-0.79	1.59
4,950.0	41.30	4,718.5	3,583.5	39.1	745.6	248.5	1.78	0.00	-2.70
5,013.0	40.90	4,766.0	3,631.0	43.6	786.8	264.5	0.71	-0.63	0.48
5,076.0	40.70	4,813.7	3,678.7	48.3	827.7	280.6	0.99	-0.32	-1.43
5,139.0	40.40	4,861.6	3,726.6	53.4	868.3	297.0	0.57	-0.48	0.48
5,202.0	40.40	4,909.5	3,774.5	58.5	908.8	313.3	0.81	0.00	0.48
5,265.0	41.10	4,957.3	3,822.3	63.4	949.7	329.6	1.15	1.11	0.48
5,328.0	41.40	5,004.6	3,869.6	68.3	990.9	345.9	0.49	0.48	-0.48
5,392.0	41.70	5,052.5	3,917.5	73.1	1,033.1	362.4	0.86	0.47	1.09
5,455.0	41.40	5,099.7	3,964.7	77.6	1,074.6	378.6	0.57	-0.48	-0.48
5,518.0	40.00	5,147.4	4,012.4	82.3	1,115.5	394.6	2.24	-2.22	-0.48
5,581.0	38.20	5,196.3	4,061.3	87.1	1,154.9	410.3	2.89	-2.86	-0.63

Survey	Measured Depth (usft)	Inclination (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (/100usft)	Build Rate (/100usft)	Turn Rate (/100usft)
84.80	15.30	3,712.1	2,577.1	-16.4	65.8	2.9	3.88	3.87	-0.97	
84.30	16.60	3,742.9	2,607.9	-15.5	74.6	6.2	4.09	4.06	-1.56	
83.70	17.60	3,772.5	2,637.5	-14.6	83.7	9.7	3.28	3.23	-1.94	
84.40	18.30	3,803.0	2,668.0	-13.6	93.5	13.4	2.29	2.19	2.19	
83.70	19.20	3,833.3	2,698.3	-12.5	103.7	17.4	2.90	2.81	-2.19	
83.10	20.50	3,862.4	2,727.4	-11.3	114.2	21.5	4.24	4.19	-1.94	
84.10	22.20	3,892.2	2,757.2	-10.0	125.7	26.0	5.43	5.31	3.13	
85.70	24.00	3,920.7	2,785.7	-8.9	137.8	30.5	6.15	5.81	5.16	
85.70	25.60	3,949.8	2,814.8	-7.9	151.2	35.2	5.00	5.00	0.00	
85.60	26.40	3,977.6	2,842.6	-6.9	164.8	40.0	2.58	2.58	-0.32	
85.90	27.30	4,006.2	2,871.2	-5.8	179.2	45.1	2.84	2.81	0.94	
85.60	28.00	4,033.7	2,898.7	-4.7	193.5	50.2	2.30	2.26	-0.97	
85.00	29.00	4,061.8	2,926.8	-3.5	208.8	55.7	3.25	3.13	-1.88	
84.20	29.80	4,089.7	2,954.7	-2.0	224.4	61.6	2.78	2.50	-2.50	
84.50	30.90	4,116.4	2,981.4	-0.5	240.0	67.5	3.58	3.55	0.97	
84.10	31.80	4,143.7	3,008.7	1.2	256.5	73.7	2.89	2.81	-1.25	
84.10	32.70	4,170.8	3,035.8	2.9	273.5	80.2	2.81	2.81	0.00	
83.80	33.50	4,196.8	3,061.8	4.7	290.4	86.7	2.63	2.58	-0.97	
84.10	34.60	4,223.3	3,088.3	6.6	308.2	93.6	3.48	3.44	0.94	
84.30	36.50	4,248.5	3,113.5	8.4	326.1	100.4	6.14	6.13	0.65	
84.40	38.70	4,273.8	3,138.8	10.4	345.5	107.7	6.88	6.88	0.31	
84.10	41.10	4,297.6	3,162.6	12.4	365.3	115.2	7.77	7.74	-0.97	
84.20	43.50	4,321.3	3,186.3	14.6	386.7	123.4	7.50	7.50	0.31	
85.00	43.90	4,343.7	3,208.7	16.6	408.1	131.4	2.20	1.29	2.58	
86.60	43.60	4,389.2	3,254.2	19.8	451.5	146.7	1.82	-0.48	2.54	
86.80	42.90	4,435.1	3,300.1	22.2	494.6	161.3	1.13	-1.11	0.32	
86.50	42.00	4,481.6	3,346.6	24.7	537.1	175.7	1.46	-1.43	-0.48	
86.70	41.20	4,528.7	3,393.7	27.2	578.8	189.9	1.29	-1.27	0.32	
86.90	41.20	4,576.1	3,441.1	29.5	620.2	203.8	0.21	0.00	0.32	
86.30	41.80	4,624.0	3,489.0	32.0	662.6	218.2	1.12	0.94	-0.94	
85.30	41.30	4,671.2	3,536.2	35.1	704.2	233.0	1.32	-0.79	1.59	
83.60	41.30	4,718.5	3,583.5	39.1	745.6	248.5	1.78	0.00	-2.70	
83.90	40.90	4,766.0	3,631.0	43.6	786.8	264.5	0.71	-0.63	0.48	
83.00	40.70	4,813.7	3,678.7	48.3	827.7	280.6	0.99	-0.32	-1.43	
82.70	40.40	4,861.6	3,726.6	53.4	868.3	297.0	0.57	-0.48	0.48	
83.00	40.40	4,909.5	3,774.5	58.5	908.8	313.3	0.81	0.00	0.48	
83.30	41.10	4,957.3	3,822.3	63.4	949.7	329.6	1.15	1.11	0.48	
83.20	41.40	5,004.6	3,869.6	68.3	990.9	345.9	0.49	0.48	-0.48	
83.90	41.70	5,052.5	3,917.5	73.1	1,033.1	362.4	0.86	0.47	1.09	
83.60	41.40	5,099.7	3,964.7	77.6	1,074.6	378.6	0.57	-0.48	-0.48	
83.30	40.00	5,147.4	4,012.4	82.3	1,115.5	394.6	2.24	-2.22	-0.48	
5,196.3	38.20	5,196.3	4,061.3	87.1	1,154.9	410.3	2.89	-2.86	-0.63	

Database: EOM 5000.1 Single User Db
Company: EOT Production - Marcellus
Project: Ritchie County, WV
Site: Ritchie County 515275
Well: Well #515275
Wellbore: Main Wellbore
Design: As Drilled Surveys

Local Co-ordinate Reference: Site Ritchie County 515275
TVD Reference: KB @ 1135 BUST
MD Reference: KB @ 1135 BUST
North Reference: Gnd
Survey Calculation Method: Minimum Curvature

Phoenix Technologies
 Survey Report
 85-10093
 PHOENIX TECHNOLOGY SERVICES USA INC
 5/20/16/2015



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Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Ritchie County 515275
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1135.0usft
Project:	Ritchie County, WV	MD Reference:	KB @ 1135.0usft
Site:	Ritchie County 515275	North Reference:	Grid
Well:	Well #515275	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
5,624.0	37.80	82.80	5,230.2	4,095.2	90.4	1,181.2	420.9	0.94	-0.93	-0.23
5,721.0	38.10	84.50	5,306.7	4,171.7	97.0	1,240.5	444.0	1.12	0.31	1.75
5,753.0	38.20	84.60	5,331.9	4,196.9	98.8	1,260.1	451.4	0.37	0.31	0.31
5,784.0	39.90	84.40	5,355.9	4,220.9	100.7	1,279.6	458.7	5.50	5.48	-0.65
5,816.0	41.50	84.80	5,380.2	4,245.2	102.7	1,300.3	466.5	5.07	5.00	1.25
5,847.0	44.40	84.90	5,402.9	4,267.9	104.6	1,321.4	474.2	9.36	9.35	0.32
5,878.0	47.30	84.90	5,424.5	4,289.5	106.5	1,343.5	482.4	9.35	9.35	0.00
5,910.0	50.20	85.90	5,445.6	4,310.6	108.5	1,367.5	491.0	9.36	9.06	3.13
5,941.0	53.20	86.10	5,464.8	4,329.8	110.2	1,391.8	499.5	9.69	9.68	0.65
5,973.0	56.50	86.30	5,483.2	4,348.2	111.9	1,417.9	508.6	10.33	10.31	0.63
6,005.0	59.00	87.10	5,500.3	4,365.3	113.4	1,444.9	517.7	8.09	7.81	2.50
6,036.0	61.60	86.50	5,515.6	4,380.6	115.0	1,471.8	526.8	8.55	8.39	-1.94
6,068.0	64.10	85.70	5,530.2	4,395.2	116.9	1,500.2	536.7	8.12	7.81	-2.50
6,099.0	67.10	84.90	5,543.0	4,408.0	119.2	1,528.3	546.8	9.96	9.68	-2.58
6,131.0	69.20	85.20	5,554.9	4,419.9	121.8	1,557.9	557.7	6.62	6.56	0.94
6,194.0	70.30	85.10	5,576.7	4,441.7	126.8	1,616.8	579.1	1.75	1.75	-0.16
6,257.0	70.80	84.30	5,597.7	4,462.7	132.3	1,675.9	601.1	1.44	0.79	-1.27
6,320.0	71.40	84.20	5,618.1	4,483.1	138.2	1,735.3	623.6	0.96	0.95	-0.16
6,383.0	71.10	83.10	5,638.4	4,503.4	144.8	1,794.5	646.7	1.72	-0.48	-1.75
6,446.0	71.40	82.60	5,658.6	4,523.6	152.2	1,853.7	670.6	0.89	0.48	-0.79
6,509.0	70.80	83.30	5,679.0	4,544.0	159.6	1,912.9	694.4	1.42	-0.95	1.11
6,572.0	69.60	84.30	5,700.4	4,565.4	166.0	1,971.8	717.2	2.42	-1.90	1.59
6,636.0	68.20	84.50	5,723.4	4,588.4	171.8	2,031.2	739.6	2.21	-2.19	0.31
6,699.0	68.40	84.20	5,746.7	4,611.7	177.6	2,089.5	761.6	0.54	0.32	-0.48
6,762.0	68.10	85.50	5,770.1	4,635.1	182.8	2,147.8	783.1	1.97	-0.48	2.06
6,825.0	68.60	85.90	5,793.3	4,658.3	187.2	2,206.2	803.9	0.99	0.79	0.63
6,888.0	68.80	86.00	5,816.2	4,681.2	191.3	2,264.7	824.4	0.35	0.32	0.16
6,951.0	69.10	85.90	5,838.8	4,703.8	195.5	2,323.4	845.0	0.50	0.48	-0.16
7,014.0	70.50	85.60	5,860.6	4,725.6	199.9	2,382.3	865.9	2.27	2.22	-0.48
7,077.0	70.80	85.40	5,881.4	4,746.4	204.5	2,441.6	887.1	0.56	0.48	-0.32
7,140.0	71.30	85.50	5,901.9	4,766.9	209.3	2,501.0	908.5	0.81	0.79	0.16
7,203.0	71.60	85.70	5,921.9	4,786.9	213.9	2,560.5	929.7	0.56	0.48	0.32
7,266.0	72.00	84.40	5,941.6	4,806.6	219.0	2,620.1	951.6	2.06	0.63	-2.06
7,329.0	72.30	84.30	5,960.9	4,825.9	224.9	2,679.8	974.1	0.50	0.48	-0.16
7,392.0	70.90	83.60	5,980.8	4,845.8	231.2	2,739.3	997.0	2.46	-2.22	-1.11
7,455.0	70.90	83.70	6,001.4	4,866.4	237.8	2,798.4	1,020.0	0.15	0.00	0.16
7,518.0	71.40	84.40	6,021.8	4,886.8	244.0	2,857.7	1,042.7	1.32	0.79	0.16
7,581.0	72.00	84.10	6,041.6	4,906.6	250.0	2,917.2	1,065.3	1.05	0.95	-0.48
7,645.0	72.40	84.50	6,061.1	4,926.1	256.0	2,977.9	1,088.3	0.86	0.63	0.63
7,708.0	71.40	84.10	6,080.7	4,945.7	262.0	3,037.5	1,110.9	1.70	-1.59	-0.63
7,771.0	70.40	83.50	6,101.3	4,966.3	268.4	3,096.6	1,133.8	1.82	-1.59	-0.95
7,834.0	70.50	83.30	6,122.4	4,987.4	275.2	3,155.6	1,157.0	0.34	0.16	-0.32
7,897.0	70.90	83.80	6,143.2	5,008.2	281.9	3,214.7	1,180.1	0.98	0.63	0.79

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Design:	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)
7,929.0	70.80	81.40	6,153.7	5,018.7	285.8	3,244.7	1,192.3	7.09	-0.31	-7.50
7,960.0	70.50	78.60	6,164.0	5,029.0	290.9	3,273.5	1,205.4	8.58	-0.97	-9.03
7,992.0	70.50	75.80	6,174.7	5,039.7	297.6	3,302.9	1,220.1	8.25	0.00	-8.75
8,023.0	70.60	73.70	6,185.0	5,050.0	305.2	3,331.1	1,235.5	6.40	0.32	-6.77
8,055.0	71.00	70.60	6,195.5	5,060.5	314.5	3,359.8	1,252.5	9.23	1.25	-9.69
8,087.0	71.90	67.90	6,205.7	5,070.7	325.3	3,388.2	1,270.8	8.48	2.81	-8.44
8,118.0	72.10	64.70	6,215.3	5,080.3	337.1	3,415.2	1,289.8	9.84	0.65	-10.32
8,150.0	71.70	61.80	6,225.2	5,090.2	350.8	3,442.4	1,310.6	8.70	-1.25	-9.06
8,182.0	71.80	58.50	6,235.3	5,100.3	365.9	3,468.7	1,332.6	9.80	0.31	-10.31
8,213.0	72.20	55.50	6,244.8	5,109.8	382.0	3,493.4	1,355.0	9.29	1.29	-9.68
8,245.0	72.60	52.50	6,254.5	5,119.5	399.9	3,518.1	1,379.2	9.02	1.25	-9.38
8,276.0	72.30	49.40	6,263.9	5,128.9	418.5	3,541.1	1,403.5	9.58	-0.97	-10.00
8,308.0	72.60	45.80	6,273.5	5,138.5	439.1	3,563.6	1,429.6	10.77	0.94	-11.25
8,339.0	72.50	42.30	6,282.8	5,147.8	460.3	3,584.1	1,455.8	10.78	-0.32	-11.29
8,371.0	73.00	39.30	6,292.3	5,157.3	483.5	3,604.1	1,483.7	9.09	1.56	-9.38
8,402.0	73.50	36.20	6,301.3	5,166.3	506.9	3,622.3	1,511.3	9.71	1.61	-10.00
8,434.0	74.10	33.00	6,310.2	5,175.2	532.2	3,639.7	1,540.5	9.78	1.88	-10.00
8,465.0	75.00	30.10	6,318.4	5,183.4	557.7	3,655.4	1,569.4	9.47	2.90	-9.35
8,497.0	75.90	27.10	6,326.5	5,191.5	584.9	3,670.2	1,599.6	9.50	2.81	-9.38
8,529.0	76.40	23.50	6,334.1	5,199.1	613.0	3,683.5	1,630.3	11.03	1.56	-11.25
8,560.0	76.70	19.90	6,341.4	5,206.4	641.0	3,694.6	1,660.3	11.34	0.97	-11.61
8,592.0	77.20	16.20	6,348.6	5,213.6	670.6	3,704.3	1,691.5	11.37	1.56	-11.56
8,623.0	78.20	13.20	6,355.2	5,220.2	699.9	3,711.9	1,721.8	9.99	3.23	-9.68
8,655.0	78.80	10.30	6,361.6	5,226.6	730.6	3,718.3	1,753.0	9.08	1.88	-9.06
8,686.0	79.10	6.10	6,367.5	5,232.5	760.7	3,722.7	1,783.1	13.33	0.97	-13.55
8,718.0	80.00	3.10	6,373.3	5,238.3	792.1	3,725.2	1,813.9	9.64	2.81	-9.38
8,750.0	81.40	359.90	6,378.5	5,243.5	823.6	3,726.0	1,844.4	10.79	4.38	-10.00
8,781.0	82.70	357.00	6,382.8	5,247.8	854.3	3,725.2	1,873.6	10.17	4.19	-9.35
8,813.0	83.10	353.10	6,386.7	5,251.7	886.0	3,722.4	1,903.2	12.16	1.25	-12.19
8,844.0	83.20	350.00	6,390.4	5,255.4	916.4	3,717.9	1,931.1	9.93	0.32	-10.00
8,875.0	83.60	346.60	6,394.0	5,259.0	946.5	3,711.7	1,958.2	10.97	1.29	-10.97
8,907.0	84.80	343.70	6,397.2	5,262.2	977.3	3,703.5	1,985.4	9.76	3.75	-9.06
8,939.0	85.80	340.60	6,399.9	5,264.9	1,007.7	3,693.7	2,011.8	10.15	3.13	-9.69
8,970.0	86.00	337.70	6,402.1	5,267.1	1,036.6	3,682.7	2,036.4	9.35	0.65	-9.35
LP= 9002' MD/6404' TVD										
9,002.0	86.60	333.80	6,404.1	5,269.1	1,065.7	3,669.6	2,060.6	12.31	1.88	-12.19
9,033.0	88.40	331.00	6,405.5	5,270.5	1,093.1	3,655.3	2,082.9	10.73	5.81	-9.03
9,096.0	89.90	329.30	6,406.4	5,271.4	1,147.7	3,623.9	2,126.4	3.60	2.38	-2.70
9,159.0	90.00	330.50	6,406.5	5,271.5	1,202.2	3,592.3	2,169.7	1.91	0.16	1.90
9,222.0	90.40	331.30	6,406.3	5,271.3	1,257.3	3,561.7	2,213.8	1.42	0.63	1.27
9,285.0	90.50	332.50	6,405.8	5,270.8	1,312.9	3,532.0	2,258.7	1.91	0.16	1.90
9,348.0	91.30	333.90	6,404.8	5,269.8	1,369.1	3,503.6	2,304.6	2.56	1.27	2.22

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9,411.0	89.80	334.50	6,404.2	5,269.2	1,425.8	3,476.2	2,351.3	2.56	-2.38	0.95
9,474.0	89.70	334.90	6,404.4	5,269.4	1,482.8	3,449.3	2,398.3	0.65	-0.16	0.63
9,537.0	88.30	335.20	6,405.5	5,270.5	1,539.9	3,422.7	2,445.5	2.27	-2.22	0.48
9,601.0	89.10	334.90	6,407.0	5,272.0	1,597.9	3,395.7	2,493.5	1.33	1.25	-0.47
9,664.0	89.30	334.40	6,407.9	5,272.9	1,654.8	3,368.7	2,540.5	0.85	0.32	-0.79
9,727.0	88.40	334.30	6,409.1	5,274.1	1,711.6	3,341.5	2,587.2	1.44	-1.43	-0.16
9,790.0	88.40	334.30	6,410.9	5,275.9	1,768.3	3,314.2	2,633.9	0.00	0.00	0.00
9,853.0	88.50	333.70	6,412.6	5,277.6	1,824.9	3,286.6	2,680.4	0.97	0.16	-0.95
9,916.0	89.30	334.60	6,413.8	5,278.8	1,881.6	3,259.1	2,727.0	1.91	1.27	1.43
9,979.0	89.60	334.80	6,414.4	5,279.4	1,938.6	3,232.2	2,774.0	0.57	0.48	0.32
10,043.0	89.70	334.10	6,414.8	5,279.8	1,996.3	3,204.6	2,821.6	1.10	0.16	-1.09
10,106.0	89.50	334.50	6,415.3	5,280.3	2,053.1	3,177.3	2,868.3	0.71	-0.32	0.63
10,168.0	89.70	333.90	6,415.7	5,280.7	2,108.9	3,150.3	2,914.2	1.02	0.32	-0.97
10,232.0	89.00	335.10	6,416.4	5,281.4	2,166.7	3,122.7	2,961.8	2.17	-1.09	1.88
10,294.0	89.30	335.20	6,417.3	5,282.3	2,222.9	3,096.7	3,008.4	0.51	0.48	0.16
10,357.0	89.50	334.20	6,418.0	5,283.0	2,279.9	3,069.7	3,055.4	1.62	0.32	-1.59
10,421.0	88.60	335.90	6,419.1	5,284.1	2,337.9	3,042.8	3,103.4	3.01	-1.41	2.66
10,483.0	88.70	335.60	6,420.5	5,285.5	2,394.4	3,017.3	3,150.4	0.51	0.16	-0.48
10,547.0	88.80	335.50	6,421.9	5,286.9	2,452.6	2,990.8	3,198.8	0.22	0.16	-0.16
10,610.0	89.10	335.00	6,423.1	5,288.1	2,509.8	2,964.4	3,246.2	0.93	0.48	-0.79
10,673.0	89.20	334.60	6,424.0	5,289.0	2,566.8	2,937.6	3,293.3	0.65	0.16	-0.63
10,736.0	88.00	334.90	6,425.5	5,290.5	2,623.8	2,910.8	3,340.3	1.96	-1.90	0.48
10,799.0	87.80	334.80	6,427.8	5,292.8	2,680.8	2,884.0	3,387.4	0.35	-0.32	-0.16
10,863.0	88.00	335.60	6,430.2	5,295.2	2,738.9	2,857.2	3,435.5	1.29	0.31	1.25
10,925.0	89.60	337.00	6,431.5	5,296.5	2,795.6	2,832.3	3,482.8	3.43	2.58	2.26
10,988.0	91.90	337.70	6,430.7	5,295.7	2,853.7	2,808.0	3,531.7	3.82	3.65	1.11
11,052.0	91.30	336.60	6,428.9	5,293.9	2,912.7	2,783.2	3,581.3	1.96	-0.94	-1.72
11,115.0	91.40	336.00	6,427.4	5,292.4	2,970.4	2,757.8	3,629.4	0.97	0.16	-0.95
11,178.0	90.70	336.40	6,426.2	5,291.2	3,028.0	2,732.4	3,677.5	1.28	-1.11	0.63
11,241.0	91.10	335.90	6,425.2	5,290.2	3,085.6	2,707.0	3,725.5	1.02	0.63	-0.79
11,304.0	89.80	335.60	6,424.8	5,289.8	3,143.1	2,681.1	3,773.3	2.12	-2.06	-0.48
11,367.0	90.00	335.30	6,424.9	5,289.9	3,200.4	2,654.9	3,820.9	0.57	0.32	-0.48
11,430.0	90.10	335.50	6,424.8	5,289.8	3,257.6	2,628.7	3,868.4	0.35	0.16	0.32
11,493.0	90.00	335.40	6,424.8	5,289.8	3,314.9	2,602.5	3,915.9	0.22	-0.16	-0.16
11,557.0	90.40	334.40	6,424.5	5,289.5	3,372.9	2,575.4	3,963.8	1.68	0.63	-1.56
11,620.0	90.80	334.00	6,423.9	5,288.9	3,429.6	2,547.9	4,010.5	0.90	0.63	-0.63
11,683.0	90.80	332.70	6,423.0	5,288.0	3,485.9	2,519.7	4,056.5	2.06	0.00	-2.06
11,746.0	90.20	332.40	6,422.4	5,287.4	3,541.8	2,490.6	4,101.9	1.06	-0.95	-0.48
11,810.0	90.50	332.60	6,422.1	5,287.1	3,598.6	2,461.1	4,148.0	0.56	0.47	0.31
11,873.0	90.90	332.10	6,421.3	5,286.3	3,654.4	2,431.9	4,193.2	1.02	0.63	-0.79
11,935.0	90.60	332.30	6,420.5	5,285.5	3,709.2	2,402.9	4,237.6	0.58	-0.48	0.32
11,997.0	90.70	332.80	6,420.2	5,285.2	3,728.7	2,392.8	4,253.5	2.32	0.45	2.27
12,020.0	87.90	335.40	6,421.0	5,286.0	3,785.4	2,365.3	4,300.0	6.06	-4.44	4.13

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85-10093

Database:	EDM 5000 1 Single User Db	Local Co-ordinate Reference:	Site Ritchie County 515275
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1135 0usft
Project:	Ritchie County, WV	MD Reference:	KB @ 1135 0usft
Site:	Ritchie County 515275	North Reference:	Gnd
Well:	Well #515275	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
12,082.0	87.20	334.80	6,423.6	5,288.6	3,841.6	2,339.2	4,346.5	1.49	-1.13	-0.97
12,146.0	87.20	334.50	6,426.8	5,291.8	3,899.4	2,311.8	4,394.2	0.47	0.00	-0.47
12,209.0	87.50	335.20	6,429.7	5,294.7	3,956.3	2,285.1	4,441.3	1.21	0.48	1.11
12,272.0	88.50	335.60	6,431.9	5,296.9	4,013.6	2,258.9	4,488.8	1.71	1.59	0.63
12,335.0	89.10	336.60	6,433.2	5,298.2	4,071.2	2,233.4	4,536.8	1.85	0.95	1.59
Deepest Point of Well= 12397' MD/6433' TVD										
12,397.0	90.80	337.00	6,433.3	5,298.3	4,128.1	2,208.9	4,584.5	2.82	2.74	0.65
12,461.0	90.90	338.30	6,432.3	5,297.3	4,187.3	2,184.6	4,634.4	2.04	0.16	2.03
12,524.0	91.20	336.60	6,431.1	5,296.1	4,245.5	2,160.5	4,683.3	2.74	0.48	-2.70
12,587.0	90.60	334.60	6,430.2	5,295.2	4,302.9	2,134.4	4,731.0	3.31	-0.95	-3.17
12,650.0	90.30	334.80	6,429.7	5,294.7	4,359.8	2,107.5	4,778.0	0.57	-0.48	0.32
12,713.0	91.00	334.20	6,428.9	5,293.9	4,416.7	2,080.4	4,824.9	1.46	1.11	-0.95
12,776.0	91.20	333.80	6,427.7	5,292.7	4,473.3	2,052.8	4,871.4	0.71	0.32	-0.63
12,840.0	91.00	333.60	6,426.5	5,291.5	4,530.6	2,024.4	4,918.3	0.44	-0.31	-0.31
12,903.0	90.60	333.40	6,425.6	5,290.6	4,587.0	1,996.3	4,964.5	0.71	-0.63	-0.32
12,966.0	90.30	332.40	6,425.1	5,290.1	4,643.1	1,967.6	5,010.1	1.66	-0.48	-1.59
13,029.0	90.20	331.50	6,424.9	5,289.9	4,698.7	1,938.0	5,055.1	1.44	-0.16	-1.43
13,092.0	90.30	332.80	6,424.6	5,289.6	4,754.4	1,908.6	5,100.2	2.07	0.16	2.06
13,155.0	91.00	335.10	6,423.9	5,288.9	4,811.0	1,880.9	5,146.6	3.82	1.11	3.65
13,218.0	90.90	334.80	6,422.8	5,287.8	4,868.1	1,854.2	5,193.8	0.50	-0.16	-0.48
13,281.0	90.80	335.00	6,421.9	5,286.9	4,925.1	1,827.5	5,241.0	0.35	-0.16	0.32
13,344.0	90.20	334.80	6,421.3	5,286.3	4,982.2	1,800.8	5,288.1	1.00	-0.95	-0.32
13,407.0	89.70	334.70	6,421.4	5,286.4	5,039.1	1,773.9	5,335.2	0.81	-0.79	-0.16
13,470.0	90.00	335.30	6,421.6	5,286.6	5,096.2	1,747.3	5,382.4	1.06	0.48	0.95
13,533.0	89.90	336.20	6,421.6	5,286.6	5,153.7	1,721.4	5,430.2	1.44	-0.16	1.43
13,596.0	89.70	336.30	6,421.8	5,286.8	5,211.3	1,696.0	5,478.3	0.35	-0.32	0.16
13,659.0	89.50	335.90	6,422.3	5,287.3	5,268.9	1,670.5	5,526.3	0.71	-0.32	-0.63
13,722.0	89.10	335.80	6,423.0	5,288.0	5,326.4	1,644.8	5,574.1	0.65	-0.63	-0.16
Final Survey= 13786' MD/6424' TVD										
13,786.0	89.00	335.70	6,424.1	5,289.1	5,384.8	1,618.5	5,622.7	0.22	-0.16	0.16
Projection to TD= 13847' MD/6425' TVD										
13,847.0	89.00	335.70	6,425.2	5,290.2	5,440.3	1,593.4	5,668.9	0.00	0.00	0.00

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Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
3,168.0	3,167.9	-21.3	-5.7	Gyro Tie In= 3168' MD
9,002.0	6,404.1	1,065.7	3,669.6	LP= 9002' MD/6404' TVD
12,397.0	6,433.3	4,128.1	2,208.9	Deepest Point of Well= 12397' MD/6433' TVD
13,786.0	6,424.1	5,384.8	1,618.5	Final Survey= 13786' MD/6424' TVD
13,847.0	6,425.2	5,440.3	1,593.4	Projection to TD= 13847' MD/6425' TVD

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Database: EDM 5000.1 Single User Db	Local Co-ordinate Reference: Site Ritchie County 515275
Company: EQT Production - Marcellus	TVD Reference: KB @ 1135.0usft
Project: Ritchie County, WV	MD Reference: KB @ 1135.0usft
Site: Ritchie County 515275	North Reference: Grid
Well: Well #515275	Survey Calculation Method: Minimum Curvature
Wellbore: Main Wellbore	
Design: As Drilled Surveys	

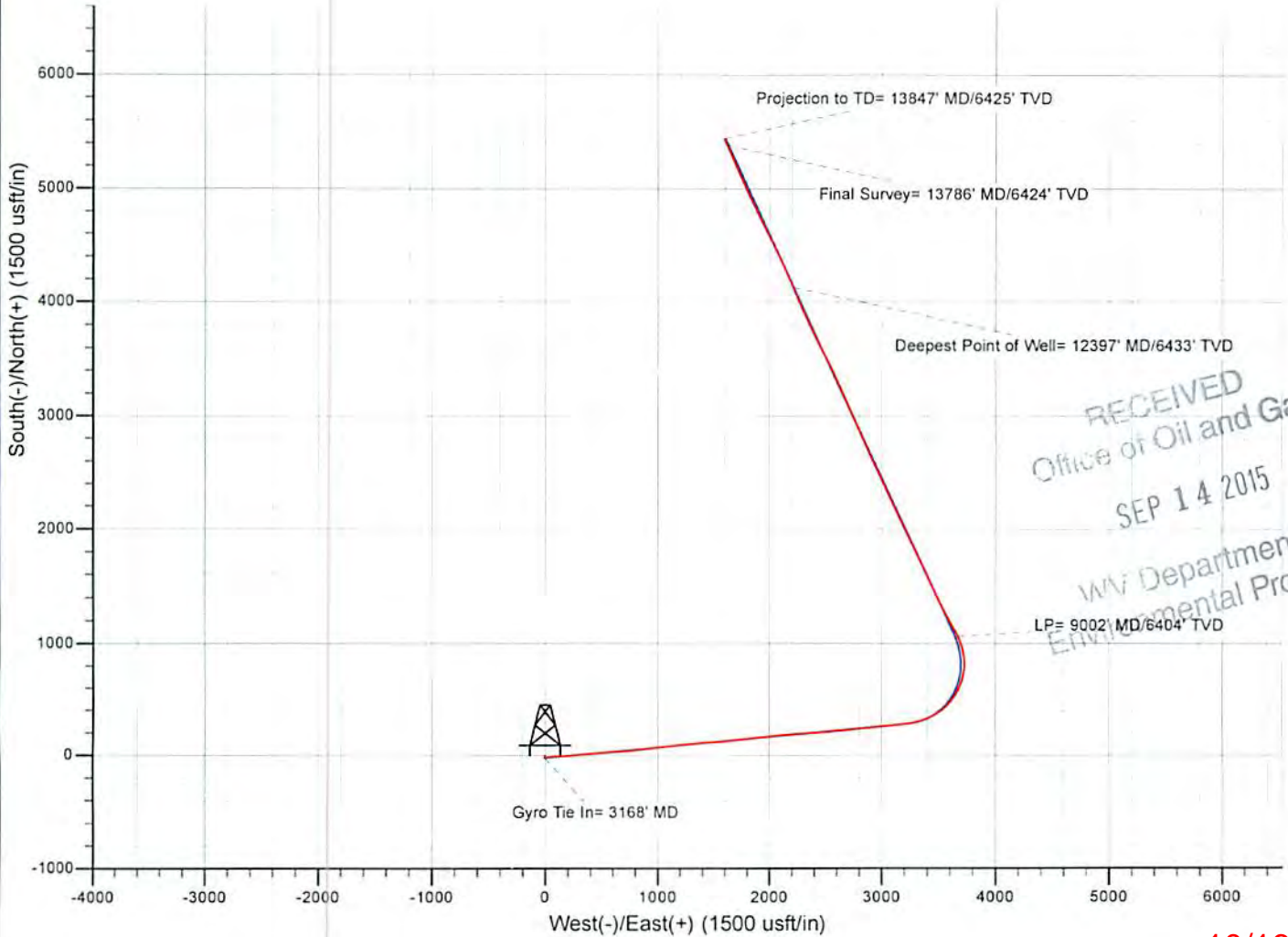
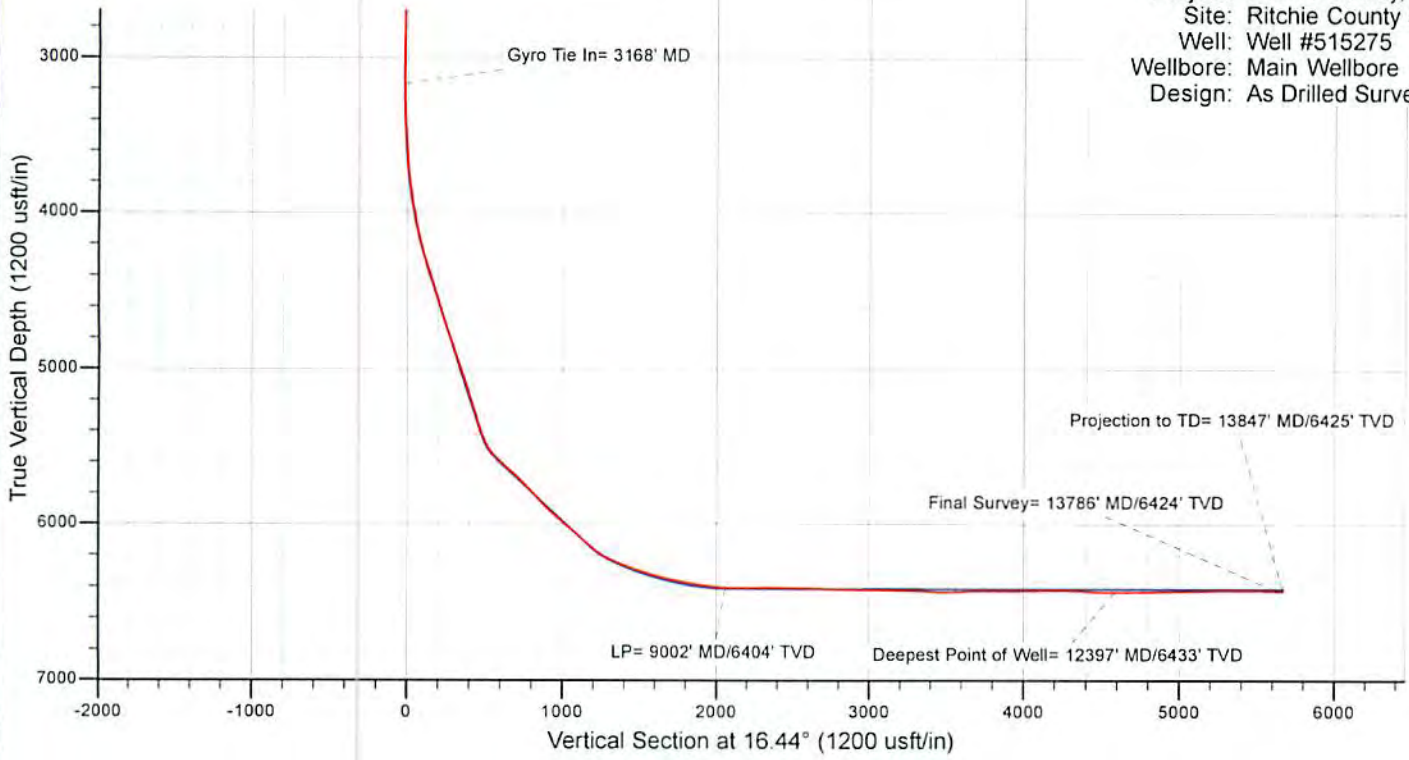
Checked By: _____ Approved By: _____ Date: _____

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EQT Production - Marcellus

Project: Ritchie County, WV
 Site: Ritchie County 515275
 Well: Well #515275
 Wellbore: Main Wellbore
 Design: As Drilled Surveys



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