



EQT Production - Marcellus

**Ritchie County, WV
Ritchie County 513757
Well #513757**

513757 ST01

Design: 513757 ST01 As Drilled

Standard Survey Report

17 June, 2015



02/05/2016

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Ritchie County 513757
Company:	EQT Production - Marcellus	TVD Reference:	KB@16 @ 1175.0usft
Project:	Ritchie County, WV	MD Reference:	KB@16 @ 1175.0usft
Site:	Ritchie County 513757	North Reference:	Grid
Well:	Well #513757	Survey Calculation Method:	Minimum Curvature
Wellbore:	513757 ST01		
Design:	513757 ST01 As Drilled		

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 513757				
Site Position:		Northing:	234,487.90 usft	Latitude:	39.14
From:	Map	Easting:	1,619,117.60 usft	Longitude:	-80.84
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.86 °

Well	Well #513757					
Well Position	+N-S	0.0 usft	Northing:	234,487.90 usft	Latitude:	39° 8' 9.570 N
	+E-W	0.0 usft	Easting:	1,619,117.60 usft	Longitude:	80° 50' 34.007 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	1,159.0 usft

Wellbore	513757 ST01				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/18/2015	-7.72	66.58	52,072

Design	513757 ST01 As Drilled				
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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	166.90

Survey Program	Date 6/17/2015				
From (')	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	5,028.0	Gyrodata Gyro KOP (513757 ST01)	GYD_DP_MS	Gyrodata gyro-compassing and drop	
0.00	14,606.0	513757 PHX MWD (513757 ST01)	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)
3.0	0.00	0.00	3.0	-1,172.0	0.0	0.0	0.0	0.00	0.00	0.00
103.0	0.22	73.11	103.0	-1,072.0	0.1	0.2	0.0	0.22	0.22	0.00
203.0	0.30	72.73	203.0	-972.0	0.2	0.6	0.0	0.08	0.08	0.00
303.0	0.37	75.51	303.0	-872.0	0.3	1.2	-0.1	0.07	0.07	0.00
403.0	0.36	76.77	403.0	-772.0	0.5	1.8	-0.1	0.01	-0.01	0.00
503.0	0.30	97.15	503.0	-672.0	0.5	2.4	0.0	0.13	-0.06	0.00
603.0	0.29	100.32	603.0	-572.0	0.5	2.9	0.2	0.02	-0.01	0.00
703.0	0.18	81.81	703.0	-472.0	0.4	3.3	0.3	0.13	-0.11	-18.51

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Company:	EQT Production - Marcellus	TVD Reference:	KB@16 @ 1175 usft
Project:	Ritchie County, WV	MD Reference:	KB@16 @ 1175 usft
Site:	Ritchie County 513757	North Reference:	Grid
Well:	Well #5 13757	Survey Calculation Method:	Minimum Curvature
Wellbore:	513757 STD1		
Design:	513757 STD1 As Drilled		

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	0.16	71.41	803.0	-372.0	0.5	3.6	0.3	0.04	-0.02	-10.40
903.0	0.17	68.11	903.0	-272.0	0.6	3.8	0.3	0.01	0.01	-3.30
1,003.0	0.18	70.14	1,003.0	-172.0	0.7	4.1	0.2	0.01	0.01	2.03
1,103.0	0.29	112.48	1,103.0	-72.0	0.7	4.5	0.4	0.20	0.11	42.34
1,203.0	0.44	134.40	1,203.0	28.0	0.3	5.0	0.8	0.20	0.15	21.92
1,303.0	0.48	130.85	1,303.0	128.0	-0.2	5.6	1.5	0.05	0.04	-3.55
1,403.0	0.46	133.16	1,403.0	228.0	-0.8	6.2	2.2	0.03	-0.02	2.31
1,503.0	0.47	132.61	1,503.0	328.0	-1.3	6.8	2.8	0.01	0.01	-0.55
1,603.0	0.49	132.13	1,603.0	428.0	-1.9	7.4	3.5	0.02	0.02	-0.48
1,703.0	0.83	129.11	1,703.0	528.0	-2.6	8.3	4.5	0.34	0.34	-3.02
1,803.0	0.88	130.39	1,803.0	628.0	-3.6	9.5	5.6	0.05	0.05	1.28
1,903.0	0.92	130.42	1,902.9	727.9	-4.6	10.6	6.9	0.04	0.04	0.03
2,003.0	0.75	138.17	2,002.9	827.9	-5.6	11.7	8.1	0.20	-0.17	7.75
2,103.0	0.64	142.61	2,102.9	927.9	-6.6	12.5	9.2	0.12	-0.11	4.44
2,203.0	0.63	147.51	2,202.9	1,027.9	-7.5	13.1	10.2	0.06	-0.01	4.90
2,303.0	0.54	156.93	2,302.9	1,127.9	-8.4	13.6	11.2	0.13	-0.09	9.42
2,403.0	0.55	157.38	2,402.9	1,227.9	-9.2	14.0	12.2	0.01	0.01	0.45
2,503.0	2.98	129.99	2,502.9	1,327.9	-11.4	16.1	14.7	2.50	2.43	-27.39
2,603.0	7.74	126.58	2,602.4	1,427.4	-17.0	23.5	21.9	4.77	4.76	-3.41
2,703.0	7.87	101.08	2,701.5	1,526.5	-22.4	35.7	29.9	3.44	0.13	-25.50
2,803.0	7.89	88.72	2,800.6	1,625.6	-23.5	49.2	34.1	1.69	0.02	-12.36
2,903.0	7.39	98.02	2,899.7	1,724.7	-24.3	62.5	37.8	1.33	-0.50	9.30
3,003.0	6.81	102.58	2,998.9	1,823.9	-26.5	74.6	42.7	0.81	-0.58	4.56
3,103.0	6.68	92.71	3,098.2	1,923.2	-28.0	86.2	46.8	1.17	-0.13	-9.87
3,203.0	7.46	95.69	3,197.5	2,022.5	-29.0	98.5	50.5	0.86	0.78	2.98
3,303.0	5.00	104.54	3,296.9	2,121.9	-30.7	109.2	54.6	2.63	-2.46	8.85
3,403.0	2.54	121.54	3,396.6	2,221.6	-32.9	115.3	58.2	2.68	-2.46	17.00
3,503.0	0.05	36.93	3,496.6	2,321.6	-34.1	117.2	59.7	2.54	-2.49	-84.61
3,603.0	0.07	54.18	3,596.6	2,421.6	-34.0	117.3	59.7	0.03	0.02	17.25
3,703.0	0.06	49.31	3,696.6	2,521.6	-33.9	117.4	59.6	0.01	-0.01	-4.87
3,803.0	0.07	95.96	3,796.6	2,621.6	-33.9	117.5	59.6	0.05	0.01	46.65
3,903.0	0.09	293.43	3,896.6	2,721.6	-33.9	117.5	59.6	0.16	0.02	-162.53
4,003.0	0.21	311.79	3,996.6	2,821.6	-33.7	117.2	59.4	0.13	0.12	18.36
4,103.0	0.38	316.50	4,096.6	2,921.6	-33.4	116.9	59.0	0.17	0.17	4.71
4,203.0	0.54	327.37	4,196.6	3,021.6	-32.7	116.4	58.3	0.18	0.16	10.87
4,303.0	0.58	329.27	4,296.6	3,121.6	-31.9	115.9	57.3	0.04	0.04	1.90
4,403.0	0.70	324.15	4,396.6	3,221.6	-31.0	115.3	56.3	0.13	0.12	-5.12
4,503.0	0.85	323.61	4,496.6	3,321.6	-29.9	114.5	55.0	0.15	0.15	8.54
4,603.0	1.13	324.74	4,596.6	3,421.6	-28.5	113.5	53.4	0.28	0.28	11.11
4,703.0	1.42	325.23	4,696.6	3,521.5	-26.6	112.2	51.4	0.29	0.29	0.49
4,803.0	1.57	324.73	4,796.6	3,621.5	-24.5	110.7	49.0	0.15	0.15	-0.50
4,903.0	1.76	325.43	4,896.6	3,721.5	-22.1	109.0	46.3	0.19	0.19	2.76

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Survey Report



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Project:	Ritchie County, WV	MD Reference:	KB@16 @ 1175.0usft
Site:	Ritchie County 513757	North Reference:	Grid
Well:	Well #513757	Survey Calculation Method:	Minimum Curvature
Wellbore:	513757 ST01		
Design:	513757 ST01 As Drilled		

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)
5,003.0	1.54	330.29	4,996.4	3,821.4	-19.7	107.5	43.5	0.26	-0.22	4.86
Gyro Tie In=5028' MD										
5,028.0	1.67	328.50	5,021.4	3,846.4	-19.1	107.1	42.9	0.56	0.52	-7.16
5,061.0	1.70	333.00	5,054.4	3,879.4	-18.2	106.7	41.9	0.41	0.09	13.64
5,123.0	1.80	328.10	5,116.4	3,941.4	-16.6	105.7	40.1	0.29	0.16	-7.90
5,186.0	1.60	327.50	5,179.3	4,004.3	-15.0	104.7	38.4	0.32	-0.32	-0.95
5,249.0	1.80	326.90	5,242.3	4,067.3	-13.4	103.7	36.6	0.32	0.32	-0.95
5,280.0	1.50	328.30	5,273.3	4,098.3	-12.7	103.2	35.8	0.98	-0.97	4.52
KOP=5312' MD										
5,312.0	1.80	318.50	5,305.3	4,130.3	-12.0	102.7	34.9	1.28	0.94	-30.63
5,343.0	4.20	297.00	5,336.2	4,161.2	-11.1	101.4	33.8	8.42	7.74	-69.35
5,375.0	7.40	292.70	5,368.1	4,193.1	-9.7	98.4	31.8	10.08	10.00	-13.44
5,407.0	10.50	290.40	5,399.7	4,224.7	-7.9	93.8	29.0	9.75	9.69	-7.19
5,438.0	12.70	288.70	5,430.0	4,255.0	-5.9	87.9	25.6	7.18	7.10	-5.48
5,469.0	14.10	288.20	5,460.2	4,285.2	-3.6	81.1	21.9	4.53	4.52	-1.61
5,501.0	16.50	285.50	5,491.1	4,316.1	-1.2	73.0	17.7	7.82	7.50	-8.44
5,532.0	19.20	284.30	5,520.6	4,345.6	1.3	63.8	13.2	8.79	8.71	-3.87
5,564.0	22.00	283.60	5,550.5	4,375.5	4.0	52.9	8.1	8.78	8.75	-2.19
5,595.0	24.80	283.90	5,579.0	4,404.0	6.9	40.9	2.5	9.04	9.03	0.97
5,626.0	27.70	283.80	5,606.8	4,431.8	10.2	27.6	-3.7	9.36	9.35	-0.32
5,658.0	30.70	284.30	5,634.7	4,459.7	14.0	12.5	-10.8	9.41	9.38	1.56
5,690.0	33.50	284.80	5,661.8	4,486.8	18.3	-4.0	-18.7	8.79	8.75	1.56
5,721.0	36.50	285.60	5,687.2	4,512.2	22.9	-21.1	-27.1	9.79	9.68	2.58
5,753.0	39.40	285.40	5,712.4	4,537.4	28.2	-40.1	-36.5	9.07	9.06	-0.63
5,784.0	42.60	285.30	5,735.8	4,560.8	33.6	-59.7	-46.2	10.32	10.32	-0.32
5,816.0	43.60	285.30	5,759.2	4,584.2	39.3	-80.8	-56.6	3.13	3.13	0.00
5,878.0	43.50	287.00	5,804.1	4,629.1	51.2	-121.8	-77.5	1.90	-0.16	2.74
5,941.0	43.30	287.10	5,849.9	4,674.9	63.9	-163.2	-99.2	0.34	-0.32	0.16
6,004.0	43.40	286.00	5,895.7	4,720.7	76.2	-204.7	-120.6	1.21	0.16	-1.75
6,067.0	42.10	283.40	5,942.0	4,767.0	87.1	-246.0	-140.6	3.48	-2.06	-4.13
6,099.0	40.00	278.30	5,966.1	4,791.1	91.1	-266.6	-149.1	12.35	-6.56	-15.94
6,130.0	38.10	272.50	5,990.2	4,815.2	92.9	-286.1	-155.4	13.28	-6.13	-18.71
6,161.0	36.20	267.10	6,014.9	4,839.9	92.9	-304.8	-159.5	12.17	-6.13	-17.42
6,193.0	34.90	262.70	6,040.9	4,865.9	91.2	-323.3	-162.1	8.97	-4.06	-13.75
6,224.0	33.90	259.00	6,066.5	4,891.5	88.5	-340.6	-163.4	7.47	-3.23	-11.94
6,256.0	33.70	253.50	6,093.1	4,918.1	84.2	-357.8	-163.2	9.58	-0.63	-17.19
6,287.0	35.00	249.30	6,118.7	4,943.7	78.6	-374.4	-161.5	8.72	4.19	-13.55
6,319.0	35.90	245.50	6,144.8	4,969.8	71.5	-391.5	-158.4	7.44	2.81	-11.56
6,350.0	36.00	240.00	6,169.9	4,994.9	63.2	-407.7	-154.0	10.42	0.32	-17.75
6,381.0	36.30	235.00	6,194.9	5,019.9	53.4	-423.1	-147.9	9.56	-16.13	-16.13
6,413.0	37.60	230.40	6,220.5	5,045.5	41.7	-438.4	-140.0	9.55	4.06	-14.38
6,444.0	39.10	227.50	6,244.8	5,069.8	29.1	-452.9	-131.0	7.56	4.84	-11.56
6,476.0	40.90	223.80	6,269.3	5,094.3	14.7	-467.6	-120.3	9.32	5.63	-11.56

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COMPLIES 5000.1 Build 73

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Company:	EQT Production - Marcellus	TVD Reference:	K8@15 @ 1175.0usft
Project:	Ritchie County, WV	MD Reference:	K8@16 @ 1175.0usft
Site:	Ritchie County 513757	North Reference:	Gnd.
Well:	Well #513757	Survey Calculation Method:	Minimum Curvature
Wellbore:	513757 ST01		
Design:	513757 ST01 As Drilled		

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)	
6,507.0	42.70	220.10	6,292.5	5,117.5	-0.7	-481.4	-108.5	9.85	5.81	-11.94	
6,539.0	44.70	216.50	6,315.6	5,140.6	-18.0	-495.1	-94.7	9.97	6.25	-11.25	
6,570.0	46.40	212.30	6,337.3	5,162.3	-36.3	-507.6	-79.7	11.12	5.48	-13.55	
6,602.0	48.60	209.20	6,358.9	5,183.9	-56.6	-519.6	-62.7	9.91	6.88	-9.69	
6,634.0	51.30	207.20	6,379.5	5,204.5	-78.2	-531.2	-44.3	9.70	8.44	-6.25	
6,665.0	52.90	204.20	6,398.6	5,223.6	-100.2	-541.8	-25.2	9.22	5.16	-9.68	
6,697.0	53.50	200.20	6,417.7	5,242.7	-123.9	-551.4	-4.3	10.18	1.88	-12.50	
6,728.0	55.30	197.40	6,435.8	5,260.8	-147.8	-559.6	17.1	9.36	5.81	-9.03	
6,760.0	57.50	195.10	6,453.5	5,278.5	-173.4	-567.0	40.3	9.12	6.88	-7.19	
6,791.0	60.10	192.40	6,469.5	5,294.5	-199.1	-573.3	64.0	11.22	8.39	-8.71	
6,822.0	63.10	191.20	6,484.3	5,309.3	-225.8	-578.9	88.7	10.26	9.68	-3.87	
6,854.0	66.20	190.70	6,498.0	5,323.0	-254.2	-584.4	115.1	9.79	9.69	-1.56	
6,886.0	69.50	191.10	6,510.1	5,335.1	-283.3	-590.0	142.2	10.38	10.31	1.25	
6,917.0	72.20	188.90	6,520.2	5,345.2	-312.1	-595.1	169.1	10.99	8.71	-7.10	
6,949.0	74.10	187.00	6,529.5	5,354.5	-342.4	-599.3	197.7	8.22	5.94	-5.94	
6,980.0	75.30	184.40	6,537.7	5,362.7	-372.2	-602.3	226.0	8.97	3.87	-8.39	
7,012.0	77.00	181.80	6,545.3	5,370.3	-403.2	-603.9	255.8	9.51	5.31	-8.13	
7,043.0	79.60	180.20	6,551.6	5,376.6	-433.6	-604.5	285.3	9.79	8.39	-5.16	
7,075.0	82.00	178.50	6,556.7	5,381.7	-465.2	-604.1	316.1	9.15	7.50	-5.31	
7,106.0	84.40	176.30	6,560.4	5,385.4	-495.9	-602.7	346.4	10.47	7.74	-7.10	
7,138.0	86.50	174.60	6,563.0	5,388.0	-527.7	-600.2	377.9	8.43	6.56	-5.31	
7,169.0	88.90	172.80	6,564.2	5,389.2	-558.5	-596.8	408.7	9.67	7.74	-5.81	
513757 LP 430' V5											
7,184.7	89.34	171.43	6,564.4	5,389.4	-574.0	-594.6	424.3	9.19	2.81	-8.75	
LP/Deepest Point of Well=7201' MD/ 8565' TVD											
7,201.0	89.80	170.00	6,564.6	5,389.6	-590.1	-592.0	440.5	9.19	2.81	-8.75	
7,232.0	90.00	166.40	6,564.6	5,389.6	-620.5	-585.6	471.5	11.63	0.65	-11.61	
7,264.0	90.50	163.10	6,564.5	5,389.5	-651.3	-577.2	503.5	10.43	1.56	-10.31	
513757 Plat LP											
7,293.5	90.97	161.55	6,564.1	5,389.1	-679.5	-568.3	532.9	5.47	1.59	-5.24	
7,327.0	91.50	159.80	6,563.4	5,388.4	-711.0	-557.2	566.2	5.47	1.59	-5.24	
7,390.0	91.80	159.20	6,561.6	5,386.6	-770.0	-535.1	628.7	1.06	0.48	-0.95	
7,453.0	92.00	159.20	6,559.5	5,384.5	-828.9	-512.8	691.1	0.32	0.32	0.00	
7,516.0	90.20	159.20	6,558.3	5,383.3	-887.8	-490.4	753.5	2.86	-2.86	0.00	
7,580.0	90.70	159.10	6,557.8	5,382.8	-947.6	-467.6	816.9	0.80	0.78	-0.16	
7,643.0	90.70	158.50	6,557.0	5,382.0	-1,006.3	-444.9	879.2	0.95	0.00	-0.95	
7,706.0	90.40	158.20	6,556.4	5,381.4	-1,064.8	-421.6	941.5	0.67	-0.48	-0.48	
7,769.0	89.10	158.60	6,556.7	5,381.7	-1,123.4	-398.4	1,003.9	2.16	-2.06	-0.10	
7,833.0	89.10	158.50	6,557.7	5,382.7	-1,183.0	-375.0	1,067.2	0.16	0.00	-0.16	
7,896.0	89.30	157.90	6,558.5	5,383.5	-1,241.5	-351.6	1,129.4	1.00	0.33	-0.67	
7,958.0	89.80	158.40	6,559.0	5,384.0	-1,299.0	-328.6	1,190.7	1.14	0.81	-0.16	
8,021.0	89.70	161.00	6,559.3	5,384.3	-1,358.1	-306.7	1,253.2	4.13	-0.16	-0.16	
8,084.0	90.00	161.10	6,559.5	5,384.5	-1,417.7	-286.2	1,315.9	0.50	0.48	0.16	

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Database:	EOM 5060.1 Single User Db	Local Co-ordinate Reference:	Site: Ritchie County 513757
Company:	EQT Production - Marcellus	TVD Reference:	KB@16 @ 1175 Quat
Project:	Ritchie County, WV	MD Reference:	KB@16 @ 1175 Quat
Site:	Ritchie County 513757	North Reference:	Grid
Well:	Well #913757	Survey Calculation Method:	Minimum Curvature
Wellbore:	513757 STD1		
Design:	513757 STD1 As Drilled		

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)	
8,147.0	90.20	160.80	6,559.4	5,384.4	-1,477.2	-265.7	1,378.5	0.57	0.32	-0.48	
8,210.0	90.30	161.00	6,559.1	5,384.1	-1,536.8	-245.1	1,441.2	0.35	0.16	0.32	
8,273.0	90.20	160.40	6,558.8	5,383.8	-1,596.2	-224.2	1,503.8	0.97	-0.16	-0.95	
8,335.0	90.70	159.50	6,558.3	5,383.3	-1,654.5	-203.0	1,565.4	1.66	0.81	-1.45	
8,398.0	90.70	160.50	6,557.6	5,382.6	-1,713.7	-181.4	1,627.9	1.59	0.00	1.59	
8,465.0	90.90	161.00	6,556.6	5,381.6	-1,776.9	-159.4	1,694.5	0.80	0.30	0.75	
8,528.0	91.90	160.00	6,555.1	5,380.1	-1,836.3	-138.3	1,757.1	2.24	1.59	-1.59	
8,591.0	92.70	160.20	6,552.6	5,377.6	-1,895.5	-116.9	1,819.6	1.31	1.27	0.32	
8,654.0	89.80	158.60	6,551.2	5,376.2	-1,954.4	-94.7	1,882.0	5.26	-4.60	-2.54	
8,717.0	89.30	158.10	6,551.7	5,376.7	-2,013.0	-71.5	1,944.3	1.12	-0.79	-0.79	
8,779.0	89.90	158.30	6,552.1	5,377.1	-2,070.5	-48.5	2,005.6	1.02	0.97	0.32	
8,842.0	90.70	158.50	6,551.8	5,376.8	-2,129.1	-25.3	2,067.9	1.31	1.27	0.32	
8,905.0	91.30	158.60	6,550.7	5,375.7	-2,187.7	-2.3	2,130.3	0.97	0.95	0.16	
8,968.0	90.70	159.10	6,549.6	5,374.6	-2,246.5	20.5	2,192.6	1.24	-0.95	0.79	
9,031.0	90.50	159.20	6,548.9	5,373.9	-2,305.3	42.9	2,255.1	0.35	-0.32	0.16	
9,094.0	90.50	159.90	6,548.4	5,373.4	-2,364.4	64.9	2,317.5	1.11	0.00	1.11	
9,157.0	91.20	159.50	6,547.4	5,372.4	-2,423.5	86.8	2,380.0	1.28	1.11	-0.63	
9,219.0	91.60	160.00	6,545.9	5,370.9	-2,481.6	108.2	2,441.5	1.03	0.65	0.81	
9,282.0	90.40	160.10	6,544.8	5,369.8	-2,540.8	129.7	2,504.1	1.91	-1.90	0.16	
9,345.0	90.50	159.60	6,544.3	5,369.3	-2,600.0	151.4	2,566.6	0.81	0.16	-0.79	
9,408.0	89.00	160.30	6,544.6	5,369.6	-2,659.1	173.0	2,629.1	2.63	-2.38	1.11	
9,471.0	89.80	160.70	6,545.3	5,370.3	-2,718.5	194.0	2,691.7	1.42	1.27	0.32	
9,534.0	90.10	162.20	6,545.3	5,370.3	-2,778.2	214.1	2,754.4	2.43	0.48	2.38	
9,597.0	90.70	163.60	6,544.9	5,369.9	-2,838.5	232.6	2,817.3	2.42	0.85	0.16	
9,660.0	90.70	164.40	6,544.1	5,369.1	-2,899.0	250.0	2,880.2	1.27	0.00	1.27	
9,723.0	91.40	164.50	6,543.0	5,368.0	-2,959.7	266.8	2,943.1	1.12	1.11	0.16	
9,786.0	91.90	164.50	6,541.1	5,366.1	-3,020.4	283.7	3,006.1	0.79	0.79	0.00	
9,849.0	90.90	163.60	6,539.6	5,364.6	-3,080.9	301.0	3,069.0	2.14	-1.59	-1.41	
9,912.0	91.30	163.60	6,538.4	5,363.4	-3,141.4	318.8	3,131.8	0.63	0.63	0.00	
9,975.0	90.90	162.20	6,537.2	5,362.2	-3,201.6	337.3	3,194.7	2.31	-0.63	-2.22	
10,038.0	91.20	161.60	6,536.0	5,361.0	-3,261.4	356.9	3,257.4	1.06	0.48	-0.95	
10,101.0	89.30	161.10	6,535.7	5,360.7	-3,321.1	377.0	3,320.1	3.12	-3.02	-0.79	
10,164.0	89.90	161.30	6,536.2	5,361.2	-3,380.8	397.3	3,382.8	1.00	0.95	0.32	
10,226.0	90.40	161.40	6,536.0	5,361.0	-3,439.5	417.1	3,444.5	0.82	0.81	0.16	
10,289.0	91.10	161.70	6,535.2	5,360.2	-3,499.3	437.1	3,507.2	1.21	1.11	0.48	
10,352.0	90.40	162.60	6,534.4	5,359.4	-3,559.2	456.4	3,570.0	1.81	-1.11	1.43	
10,415.0	90.00	162.40	6,534.2	5,359.2	-3,619.3	475.3	3,632.8	0.71	-0.63	-0.32	
10,478.0	90.30	162.00	6,534.0	5,359.0	-3,679.3	494.6	3,695.6	0.79	0.48	-0.63	
10,541.0	89.10	161.50	6,534.3	5,359.3	-3,739.1	514.3	3,758.4	2.06	-1.90	-0.79	
10,604.0	88.20	162.00	6,535.8	5,360.8	-3,798.9	534.0	3,821.1	1.63	-1.43	0.79	
10,667.0	88.50	161.70	6,537.6	5,362.6	-3,858.8	553.6	3,883.8	0.67	0.48	-0.48	
10,731.0	89.30	161.60	6,538.8	5,363.8	-3,919.5	573.8	3,947.5	1.26	1.25	-0.16	
10,793.0	91.00	162.60	6,538.7	5,363.7	-3,978.5	592.8	4,009.3	3.18	2.74	1.61	

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Survey Report



Database:	EDM 5000-1 Single User Db	Local Co-ordinate Reference:	Site Ritchie County 513757
Company:	EQT Production - Marcellus	TVD Reference:	KB@15 @ 1175.0usf
Project:	Ritchie County, WV	MD Reference:	KB@15 @ 1175.0usf
Site:	Ritchie County 513757	North Reference:	Grid
Well:	Well#513757	Survey Calculation Method:	Minimum Curvature
Wellbore:	513757-ST01		
Design:	513757-ST01 As Drilled		

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)
10,856.0	91.60	162.60	6,537.3	5,362.3	-4,038.6	611.7	4,072.1	0.95	0.95	0.00
10,919.0	90.30	162.20	6,536.2	5,361.2	-4,098.6	630.7	4,134.9	2.16	-2.06	-0.63
10,982.0	90.70	161.80	6,535.7	5,360.7	-4,158.6	650.2	4,197.7	0.90	0.63	-0.63
11,045.0	91.00	161.30	6,534.7	5,359.7	-4,218.3	670.1	4,260.4	0.93	0.48	-0.79
11,108.0	91.70	161.30	6,533.2	5,358.2	-4,278.0	690.3	4,323.1	1.11	1.11	0.00
11,171.0	91.10	161.90	6,531.7	5,356.7	-4,337.7	710.2	4,385.8	1.35	-0.95	0.95
11,234.0	91.30	161.50	6,530.4	5,355.4	-4,397.5	730.0	4,448.5	0.71	0.32	-0.63
11,297.0	90.70	161.90	6,529.3	5,354.3	-4,457.3	749.8	4,511.3	1.14	-0.95	0.63
11,359.0	90.70	160.80	6,528.5	5,353.5	-4,516.1	769.6	4,573.0	1.77	0.00	-1.77
11,423.0	88.90	159.70	6,528.8	5,353.8	-4,576.3	791.2	4,636.5	3.30	-2.81	-1.72
11,486.0	89.80	160.70	6,529.5	5,354.5	-4,635.6	812.5	4,699.1	2.14	1.43	1.59
11,549.0	90.40	161.50	6,529.4	5,354.4	-4,695.2	833.0	4,761.8	1.59	0.95	1.27
11,612.0	90.90	162.10	6,528.6	5,353.6	-4,755.0	852.6	4,824.5	1.24	0.79	0.95
11,675.0	89.60	161.50	6,528.4	5,353.4	-4,814.9	872.3	4,887.3	2.27	-2.06	-0.95
11,738.0	90.20	161.10	6,528.5	5,353.5	-4,874.5	892.5	4,950.0	1.14	0.95	-0.63
11,801.0	89.70	160.00	6,528.5	5,353.5	-4,933.9	913.5	5,012.6	1.92	-0.79	-1.75
11,864.0	89.20	160.90	6,529.1	5,354.1	-4,993.3	934.6	5,075.2	1.63	-0.79	1.43
11,927.0	90.30	162.80	6,529.4	5,354.4	-5,053.2	954.2	5,137.9	3.48	1.75	3.02
11,990.0	90.60	164.40	6,528.9	5,353.9	-5,113.6	972.0	5,200.8	2.58	0.48	2.54
12,053.0	89.20	162.90	6,529.0	5,354.0	-5,174.1	989.7	5,263.7	3.26	-2.22	-2.38
12,116.0	87.80	162.30	6,530.7	5,355.7	-5,234.1	1,008.5	5,326.5	2.42	-2.22	-0.95
12,178.0	88.40	162.50	6,532.7	5,357.7	-5,293.2	1,027.3	5,388.3	1.02	0.97	0.32
12,241.0	88.80	162.70	6,534.3	5,359.3	-5,353.3	1,046.1	5,451.1	0.71	0.63	0.32
12,305.0	89.20	162.30	6,535.4	5,360.4	-5,414.3	1,065.4	5,514.9	0.88	0.63	-0.63
12,368.0	90.00	162.00	6,535.8	5,360.8	-5,474.3	1,084.7	5,577.7	1.36	1.27	-0.48
12,431.0	90.40	161.50	6,535.6	5,360.6	-5,534.1	1,104.4	5,640.4	1.02	0.63	-0.79
12,493.0	90.90	161.80	6,534.9	5,359.9	-5,593.0	1,123.9	5,702.2	0.94	0.81	0.48
12,557.0	90.10	162.30	6,534.3	5,359.3	-5,653.9	1,143.6	5,765.9	1.47	-1.25	0.78
12,620.0	90.60	161.60	6,534.0	5,359.0	-5,713.8	1,163.2	5,828.7	1.37	0.79	-1.11
12,683.0	90.10	161.60	6,533.6	5,358.6	-5,773.5	1,183.0	5,891.4	0.79	-0.79	0.00
12,746.0	90.10	162.30	6,533.5	5,358.5	-5,833.4	1,202.6	5,954.2	1.11	0.00	1.11
12,809.0	90.70	162.50	6,533.0	5,358.0	-5,893.5	1,221.6	6,017.0	1.00	0.95	0.32
12,872.0	89.40	162.70	6,533.0	5,358.0	-5,953.6	1,240.4	6,079.8	2.09	-2.06	0.32
12,935.0	90.10	162.60	6,533.2	5,358.2	-6,013.7	1,259.2	6,142.6	1.12	1.11	-0.16
12,998.0	90.50	162.60	6,532.9	5,357.9	-6,073.8	1,278.1	6,205.5	0.63	0.63	0.00
13,061.0	89.40	162.20	6,533.0	5,358.0	-6,133.9	1,297.1	6,268.3	1.86	-1.75	-0.63
13,124.0	90.00	162.80	6,533.3	5,358.3	-6,194.0	1,316.1	6,331.1	1.35	0.95	0.95
13,187.0	89.10	162.40	6,533.8	5,358.8	-6,254.1	1,334.9	6,393.9	1.56	-1.43	0.63
13,250.0	89.50	162.10	6,534.6	5,359.6	-6,314.1	1,354.1	6,456.7	0.79	0.63	-0.48
13,313.0	90.00	161.60	6,534.8	5,359.8	-6,374.0	1,373.7	6,519.4	1.12	0.79	-0.79
13,376.0	90.40	161.50	6,534.6	5,359.6	-6,433.7	1,393.7	6,582.2	0.65	0.63	-0.16
13,439.0	89.10	161.60	6,534.9	5,359.9	-6,493.5	1,413.6	6,644.9	2.07	-2.06	0.16

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Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Ritchie County 513757
Company:	EQT Production - Marcellus	TVD Reference:	KB@16 @ 1175 Dush
Project:	Ritchie County, WV	MD Reference:	KB@16 @ 1175 Dush
Site:	Ritchie County 513757	North Reference:	Grid
Well:	Well #513757	Survey Calculation Method:	Minimum Curvature
Wellbore:	513757 ST01		
Design:	513757 ST01 A3 Drilled		

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)
13,502.0	89.90	161.50	6,535.4	5,360.4	-6,553.2	1,433.5	6,707.6	1.28	1.27	-0.16
13,565.0	90.60	161.80	6,535.2	5,360.2	-6,613.0	1,453.4	6,770.3	1.21	1.11	0.48
13,628.0	89.90	162.50	6,534.9	5,359.9	-6,673.0	1,472.7	6,833.1	1.57	-1.11	1.11
13,691.0	90.20	162.50	6,534.8	5,359.8	-6,733.1	1,491.6	6,895.9	0.48	0.48	0.00
13,754.0	89.00	162.40	6,535.3	5,360.3	-6,793.1	1,510.6	6,958.7	1.91	-1.90	-0.16
13,818.0	89.50	161.50	6,536.1	5,361.1	-6,854.0	1,530.5	7,022.5	1.61	0.78	-1.41
13,880.0	90.20	161.10	6,536.3	5,361.3	-6,912.7	1,550.3	7,084.2	1.30	1.13	-0.65
13,944.0	90.60	161.40	6,535.8	5,360.8	-6,973.3	1,570.9	7,147.9	0.78	0.63	0.47
14,006.0	89.70	161.40	6,535.7	5,360.7	-7,032.1	1,590.7	7,209.6	1.45	-1.45	0.00
14,069.0	90.30	161.70	6,535.7	5,360.7	-7,091.8	1,610.6	7,272.3	1.06	0.95	0.48
14,132.0	88.70	161.80	6,536.2	5,361.2	-7,151.7	1,630.3	7,335.1	2.54	-2.54	0.16
14,195.0	89.30	161.90	6,537.3	5,362.3	-7,211.5	1,650.0	7,397.8	0.97	0.95	0.16
14,258.0	89.80	161.70	6,537.8	5,362.8	-7,271.4	1,669.6	7,460.6	0.85	0.79	-0.32
14,320.0	90.60	161.20	6,537.6	5,362.6	-7,330.1	1,689.4	7,522.3	1.52	1.29	-0.81
14,383.0	91.40	161.20	6,536.5	5,361.5	-7,389.8	1,709.7	7,585.0	1.27	1.27	0.00
14,446.0	92.00	160.60	6,534.6	5,359.6	-7,449.3	1,730.3	7,647.6	1.35	0.95	-0.95
14,508.0	92.80	160.50	6,532.0	5,357.0	-7,507.7	1,750.9	7,709.2	1.30	1.29	-0.16
Final Survey=14549' MD/ 6530' TVD										
14,549.0	93.10	160.00	6,529.9	5,354.9	-7,546.2	1,764.7	7,749.8	1.42	0.73	-1.22
513757 Plat TD										
14,604.3	93.10	160.00	6,526.9	5,351.9	-7,598.1	1,783.6	7,804.6	0.00	0.00	0.00
Projection to TD=14606' MD/ 6527' TVD										
14,606.0	93.10	160.00	6,526.8	5,351.8	-7,599.7	1,784.2	7,806.3	0.00	0.00	0.00

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,028.0	5,021.4	-19.1	107.1	Gyro Tie In=5028' MD
5,312.0	5,305.3	-12.0	102.7	KOP=5312' MD
7,201.0	6,564.6	-590.1	-592.0	LP/Deepest Point of Well=7201' MD/ 6565' TVD
14,549.0	6,529.9	-7,546.2	1,764.7	Final Survey=14549' MD/ 6530' TVD
14,606.0	6,526.8	-7,599.7	1,784.2	Projection to TD=14606' MD/ 6527' TVD

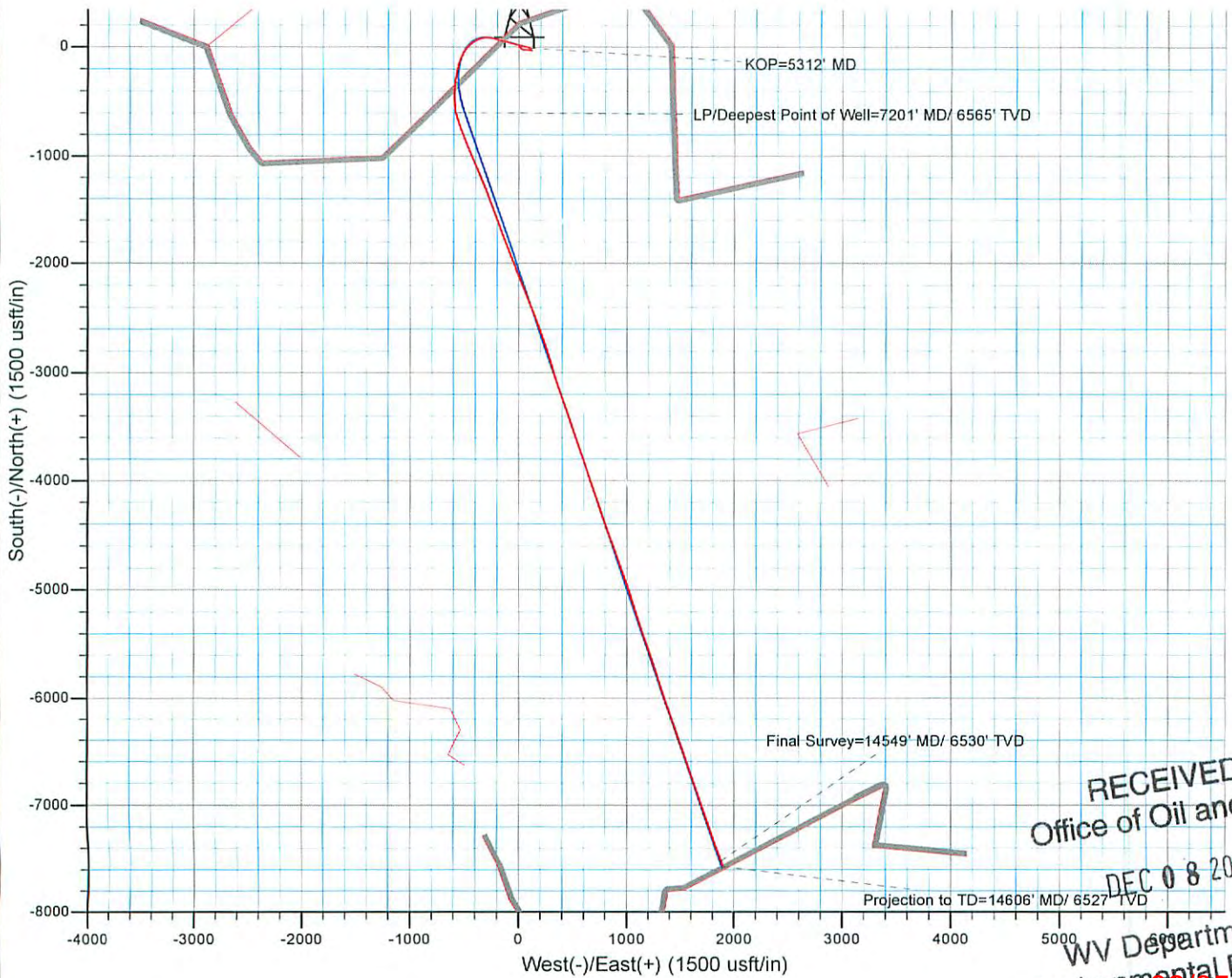
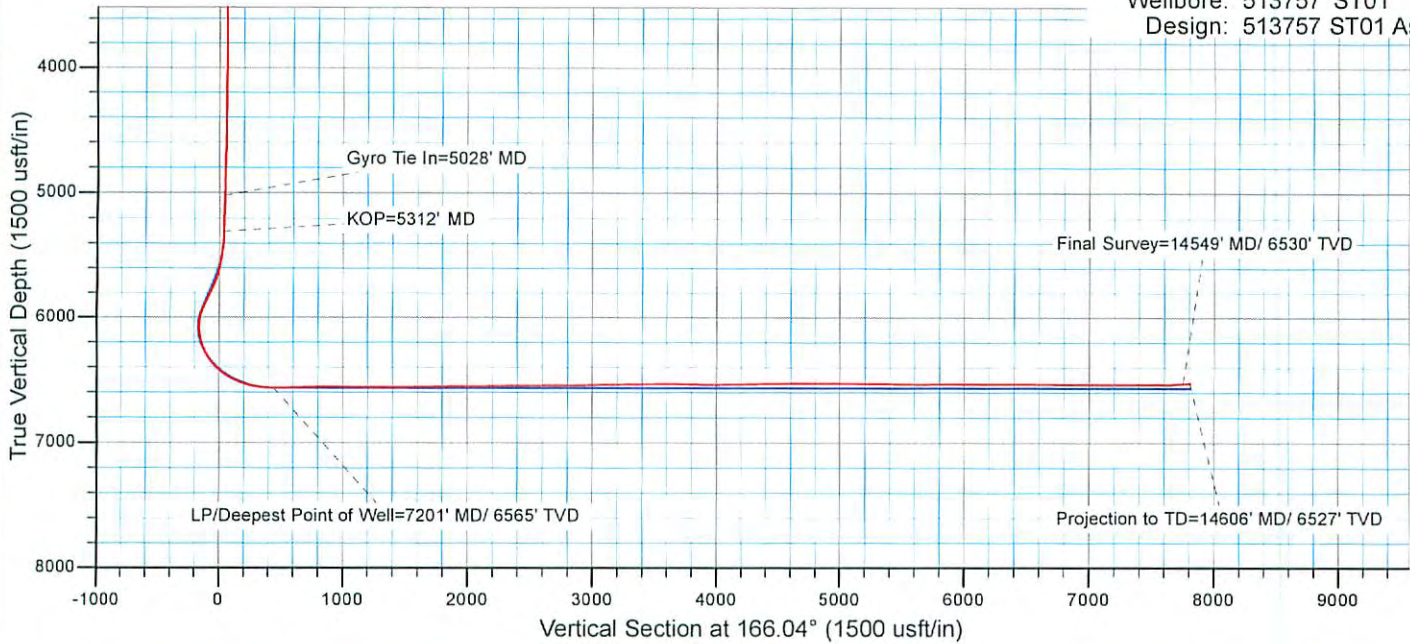
Checked By: _____ Approved By: _____ Date: _____

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COMPASS 5000.1 Build 73
02/05/2016



EQT Production - Marcellus

Project: Ritchie County, WV
Site: Ritchie County 513757
Well: Well #513757
Wellbore: 513757 ST01
Design: 513757 ST01 As Drilled



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