



EQT PRODUCTION

Taylor County, WV

RSM118

Well #515745 - Marcellus - Slot 515745

API #47-91001318

Main Wellbore

Design: 515745 As Drilled Surveys

Standard Survey Report

19 October, 2015



WV Department of
Environmental Protection

04/01/2016



Phoenix Technology Services

Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Well #515745 - Marcellus - Slot 515745
Company:	EQT PRODUCTION	TVD Reference:	KB @ 1485.0usft
Project:	Taylor County, WV	MD Reference:	KB @ 1488.0usft
Site:	RSM118	North Reference:	Grid
Well:	Well #515745 - Marcellus	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515745 As Drilled Surveys		

Project	Taylor 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	RSM118				
Site Position:		Northing:	289,938.90 usft	Latitude:	39.29
From:	Map	Easting:	1,803,864.30 usft	Longitude:	-80.19
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.44 °

Well	Well #515745 - Marcellus - Slot 515745					
Well Position	+N/-S	0.0 usft	Northing:	289,974.63 usft	Latitude:	39° 17' 38.673 N
	+E/-W	0.0 usft	Easting:	1,803,899.21 usft	Longitude:	80° 11' 34.401 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	1,465.0 usft

Wellbore	Main Wellbore				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	9/28/2015	-9.48	66.47	52,301

Design	515745 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	173.19

Survey Program	Date 10/19/2015			
From (')	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	4,430.0	Gyrodata Gyro (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop
0.00	16,219.0	515745 PHX MWD (Main Wellbore)	PHX+MWD+HDGM	PHX+OWSG MWD + HDGM

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	-1,488.0	0.0	0.0	0.0	0.00	0.00	0.00	
110.0	0.32	18.55	110.0	-1,378.0	0.3	0.1	-0.3	0.29	0.29	0.00	
210.0	0.32	21.17	210.0	-1,278.0	0.8	0.3	-0.8	0.01	0.00	2.62	
310.0	0.28	26.44	310.0	-1,178.0	1.3	0.5	-1.2	0.05	0.04	5.27	
410.0	0.26	23.15	410.0	-1,078.0	1.7	0.7	-1.9	0.03	-0.02	-3.29	
510.0	0.16	23.02	510.0	-978.0	2.1	0.8	-1.9	0.10	-0.10	0.33	
610.0	0.28	215.65	610.0	-878.0	2.0	0.8	-1.9	0.41	0.12	-167.37	
710.0	0.27	66.39	710.0	-778.0	1.9	0.8	-1.8	0.53	0.20	-149.26	



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Project:	Taylor County, WV	MD Reference:	KB @ 1488 (usft)
Site:	PSM118	North Reference:	Grid
Well:	Well #515745 - Marcellus	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515745 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)	Bulld Rate (°/100usft)	Turn Rate (°/100usft)	
810.0	0.38	63.14	810.0	-678.0	2.1	1.3	-2.0	0.11	0.11	-3.25	
910.0	0.27	11.15	910.0	-578.0	2.5	1.7	-2.3	0.30	-0.11	-51.99	
1,010.0	0.58	348.18	1,010.0	-478.0	3.2	1.6	-3.0	0.35	0.31	-22.97	
1,110.0	0.75	347.23	1,110.0	-378.0	4.4	1.4	-4.2	0.17	0.17	-0.95	
1,210.0	1.21	352.16	1,210.0	-278.0	6.1	1.1	-5.9	0.47	0.46	4.93	
1,310.0	1.25	355.20	1,309.9	-178.1	8.2	0.8	-8.0	0.08	0.04	3.04	
1,410.0	1.24	359.20	1,409.9	-78.1	10.4	0.7	-10.2	0.09	-0.01	4.00	
1,510.0	1.20	358.56	1,509.9	21.9	12.5	0.7	-12.3	0.04	-0.04	-0.64	
1,610.0	1.15	359.64	1,609.9	121.9	14.5	0.7	-14.4	0.05	-0.05	1.08	
1,710.0	1.07	355.93	1,709.9	221.9	16.5	0.6	-16.3	0.11	-0.08	-3.71	
1,810.0	1.10	358.28	1,809.8	321.8	18.4	0.5	-18.2	0.05	0.03	2.35	
1,910.0	1.08	1.84	1,909.8	421.8	20.3	0.5	-20.1	0.07	-0.02	3.56	
2,010.0	0.93	357.70	2,009.8	521.8	22.0	0.5	-21.8	0.17	-0.15	-4.14	
2,110.0	0.84	3.63	2,109.8	621.8	23.6	0.5	-23.3	0.13	-0.09	5.93	
2,210.0	0.61	10.76	2,209.8	721.8	24.8	0.7	-24.6	0.25	-0.23	7.13	
2,310.0	0.36	4.69	2,309.8	821.8	25.6	0.8	-25.4	0.25	-0.25	-6.07	
2,410.0	0.28	12.91	2,409.8	921.8	26.2	0.9	-25.9	0.09	-0.08	8.22	
2,510.0	0.17	8.69	2,509.8	1,021.8	26.6	0.9	-26.3	0.11	-0.11	-4.22	
2,610.0	0.27	342.65	2,609.8	1,121.8	27.0	0.9	-26.7	0.14	0.10	-26.04	
2,710.0	0.22	317.15	2,709.8	1,221.8	27.3	0.7	-27.0	0.12	-0.05	-25.50	
2,810.0	0.29	329.19	2,809.8	1,321.8	27.7	0.4	-27.4	0.09	0.07	12.04	
2,910.0	0.34	325.76	2,909.8	1,421.8	28.1	0.1	-27.9	0.05	0.05	-3.43	
3,010.0	0.36	319.43	3,009.8	1,521.8	28.6	-0.2	-28.5	0.04	0.02	-6.33	
3,110.0	0.31	322.68	3,109.8	1,621.8	29.1	-0.6	-28.9	0.05	-0.05	3.25	
3,210.0	0.31	331.15	3,209.8	1,721.8	29.5	-0.9	-29.4	0.05	0.00	8.47	
3,310.0	0.40	329.88	3,309.8	1,821.8	30.1	-1.2	-30.0	0.09	0.09	-1.27	
3,410.0	0.38	332.87	3,409.8	1,921.8	30.7	-1.5	-30.6	0.03	-0.02	2.99	
3,510.0	0.40	326.03	3,509.8	2,021.8	31.3	-1.9	-31.3	0.05	0.02	-6.84	
3,610.0	0.39	328.44	3,609.8	2,121.8	31.8	-2.3	-31.9	0.02	-0.01	2.41	
3,710.0	0.46	322.62	3,709.8	2,221.8	32.4	-2.7	-32.5	0.08	0.07	-5.82	
3,810.0	0.48	322.14	3,809.8	2,321.8	33.1	-3.2	-33.2	0.02	0.02	-0.48	
3,910.0	0.51	320.04	3,909.8	2,421.8	33.8	-3.7	-34.0	0.04	0.03	-2.10	
4,010.0	0.55	322.43	4,009.7	2,521.7	34.5	-4.3	-34.8	0.05	0.04	2.39	
4,110.0	0.55	323.83	4,109.7	2,621.7	35.3	-4.9	-35.6	0.01	0.00	1.40	
4,210.0	0.58	329.88	4,209.7	2,721.7	36.1	-5.4	-36.5	0.07	0.03	6.05	
4,310.0	0.40	342.26	4,309.7	2,821.7	36.8	-5.8	-37.3	0.21	-0.18	12.38	
4,410.0	0.34	354.09	4,409.7	2,921.7	37.5	-5.9	-37.9	0.16	-0.66	11.83	
Gyro Tie On=4430' MD											
4,430.0	0.36	0.79	4,429.7	2,941.7	37.6	-5.9	-38.0	0.23	0.10	33.50	
4,481.0	1.41	300.15	4,480.7	2,992.7	38.1	-6.5	-38.6	2.50	2.06	-118.90	
4,524.0	4.02	295.57	4,523.7	3,035.7	39.0	-8.3	-39.7	6.09	6.07	-10.65	
4,560.0	6.10	296.40	4,559.5	3,071.5	40.4	-11.1	-41.4	15.78	5.78	2.31	
4,603.0	8.60	300.40	4,602.2	3,114.2	43.0	-15.9	-44.6	5.93	5.81	2.81	

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Company:	EQT PRODUCTION	TVD Reference:	KB @ 1488.0usft
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Site:	RSM11B	North Reference:	Grid
Well:	Well #515745 - Marcellus	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515745 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)
4,646.0	11.10	297.90	4,644.5	3,156.5	46.6	-22.4	-48.9	5.90	5.81	-5.81
4,689.0	12.00	302.40	4,686.7	3,198.7	50.9	-29.8	-54.1	2.96	2.09	10.47
4,733.0	13.60	301.40	4,729.6	3,241.6	56.1	-38.1	-60.2	3.67	3.64	-2.27
4,776.0	14.60	299.20	4,771.3	3,283.3	61.3	-47.1	-66.5	2.64	2.33	-5.12
4,819.0	17.00	296.90	4,812.7	3,324.7	66.8	-57.5	-73.2	5.77	5.58	-5.35
4,861.0	19.20	296.20	4,852.6	3,364.6	72.7	-69.1	-80.4	5.26	5.24	-1.67
4,904.0	21.90	295.80	4,892.8	3,404.8	79.3	-82.7	-88.5	6.29	6.28	-0.93
4,948.0	23.20	295.60	4,933.5	3,445.5	86.6	-97.9	-97.6	2.96	2.95	-0.45
4,991.0	24.80	296.10	4,972.7	3,484.7	94.2	-113.7	-107.0	3.75	3.72	1.16
5,034.0	26.80	295.40	5,011.5	3,523.5	102.3	-130.5	-117.1	4.70	4.65	-1.63
5,077.0	29.40	295.10	5,049.4	3,561.4	111.0	-148.8	-127.9	6.06	6.05	-0.70
5,120.0	32.30	294.40	5,086.3	3,598.3	120.2	-168.8	-139.4	6.80	6.74	-1.63
5,164.0	35.30	294.10	5,122.9	3,634.9	130.3	-191.2	-152.0	6.83	6.82	-0.68
5,207.0	37.90	293.90	5,157.4	3,669.4	140.7	-214.6	-165.2	6.05	6.05	-0.47
5,249.0	39.20	293.70	5,190.2	3,702.2	151.2	-238.5	-178.5	3.11	3.10	-0.48
5,292.0	39.80	293.20	5,223.4	3,735.4	162.1	-263.6	-192.3	1.58	1.40	-1.16
5,336.0	40.90	292.90	5,256.9	3,768.9	173.3	-289.8	-206.4	2.54	2.50	-0.68
5,378.0	40.80	292.80	5,288.7	3,800.7	184.0	-315.2	-220.0	0.28	-0.24	-0.24
5,421.0	41.60	293.40	5,321.1	3,833.1	195.1	-341.2	-234.2	2.08	1.86	1.40
5,466.0	40.90	292.40	5,354.9	3,866.9	206.6	-368.5	-248.9	2.14	-1.56	-2.22
5,508.0	40.30	292.20	5,386.8	3,898.8	217.0	-393.8	-262.2	1.46	-1.43	-0.48
5,552.0	40.50	291.90	5,420.3	3,932.3	227.7	-420.3	-275.9	0.63	0.45	-0.68
5,595.0	41.20	292.60	5,452.8	3,964.8	238.3	-446.3	-289.6	1.95	1.63	1.63
5,637.0	40.80	292.70	5,484.5	3,996.5	249.0	-471.7	-303.2	0.97	-0.95	0.24
5,680.0	40.60	293.40	5,517.1	4,029.1	259.9	-497.5	-317.1	1.16	-0.47	1.63
5,725.0	39.90	293.90	5,551.5	4,063.5	271.6	-524.2	-331.9	1.71	-1.56	1.11
5,767.0	39.30	295.10	5,583.8	4,095.8	282.7	-548.5	-345.8	2.31	-1.43	2.86
5,810.0	39.30	295.40	5,617.1	4,129.1	294.3	-573.1	-360.2	0.44	0.00	0.70
5,853.0	40.60	295.20	5,650.1	4,162.1	306.1	-598.1	-374.9	3.04	3.02	-0.47
5,897.0	41.30	295.20	5,683.3	4,195.3	318.4	-624.2	-390.2	1.59	1.59	0.00
5,940.0	41.30	295.20	5,715.6	4,227.6	330.5	-649.9	-405.2	0.00	0.00	0.00
5,983.0	41.40	296.20	5,747.9	4,259.9	342.8	-675.5	-420.5	1.55	0.23	2.33
6,026.0	40.80	295.80	5,780.3	4,292.3	355.2	-700.9	-435.8	1.52	-1.40	-0.93
6,069.0	40.10	295.90	5,813.0	4,325.0	367.3	-726.0	-450.9	1.63	-1.63	0.23
6,113.0	40.10	295.70	5,846.7	4,358.7	379.7	-751.5	-466.2	0.29	0.00	-0.45
6,156.0	40.90	295.60	5,879.4	4,391.4	391.8	-776.7	-481.2	1.87	1.86	-0.23
6,199.0	40.30	295.80	5,912.0	4,424.0	403.9	-801.9	-496.2	1.43	-1.40	0.47
6,239.0	40.20	295.10	5,942.5	4,454.5	415.0	-825.2	-510.0	1.16	-0.25	-1.75
6,282.0	41.20	294.90	5,975.1	4,487.1	426.9	-850.6	-524.8	2.85	2.85	-0.47
6,325.0	40.30	294.40	6,007.7	4,519.7	438.6	-876.2	-539.4	2.28	-2.09	-1.16
6,368.0	40.50	294.40	6,040.5	4,552.5	450.1	-901.5	-553.9	0.47	0.47	0.00
6,411.0	41.60	294.20	6,072.9	4,584.9	461.7	-927.3	-568.5			-0.47

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Wellbore:	Main Wellbore		
Design:	515745 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)	
6,454.0	41.10	294.20	6,105.2	4,617.2	473.3	-953.2	-583.1	1.16	-1.16	0.00	
6,497.0	41.90	294.20	6,137.4	4,649.4	485.0	-979.2	-597.8	1.86	1.86	0.00	
6,540.0	41.90	293.90	6,169.4	4,681.4	496.7	-1,005.4	-612.5	0.47	0.00	-0.70	
6,583.0	42.90	293.90	6,201.1	4,713.1	508.5	-1,031.9	-627.3	2.33	2.33	0.00	
6,626.0	42.40	293.90	6,232.7	4,744.7	520.3	-1,058.5	-642.2	1.16	-1.16	0.00	
6,669.0	41.70	293.60	6,264.7	4,776.7	531.9	-1,084.9	-656.8	1.69	-1.63	-0.70	
6,712.0	41.80	294.20	6,296.8	4,808.8	543.5	-1,111.1	-671.5	0.96	0.23	1.40	
6,755.0	42.30	294.10	6,328.7	4,840.7	555.3	-1,137.4	-686.3	1.17	1.16	-0.23	
6,798.0	41.50	293.90	6,360.7	4,872.7	566.9	-1,163.6	-701.0	1.89	-1.86	-0.47	
6,840.0	40.80	293.10	6,392.3	4,904.3	578.0	-1,188.9	-714.9	2.09	-1.67	-1.90	
6,885.0	40.00	293.10	6,426.6	4,938.6	589.4	-1,215.8	-729.5	1.78	-1.78	0.00	
6,927.0	39.80	293.90	6,458.8	4,970.8	600.1	-1,240.5	-743.1	1.31	-0.48	1.90	
6,971.0	40.20	295.70	6,492.5	5,004.5	612.0	-1,266.1	-757.9	2.78	0.91	4.09	
7,014.0	39.30	294.90	6,525.6	5,037.6	623.8	-1,291.0	-772.5	2.41	-2.09	-1.86	
7,057.0	38.80	294.10	6,559.0	5,071.0	635.0	-1,315.6	-786.6	1.65	-1.16	-1.86	
7,100.0	39.40	294.20	6,592.3	5,104.3	646.1	-1,340.4	-800.6	1.40	1.40	0.23	
7,143.0	40.80	294.20	6,625.2	5,137.2	657.4	-1,365.7	-814.8	3.26	3.26	0.00	
7,186.0	41.70	294.90	6,657.6	5,169.6	669.2	-1,391.4	-829.6	2.35	2.09	1.63	
7,229.0	40.80	294.20	6,689.9	5,201.9	681.0	-1,417.2	-844.3	2.35	-2.09	-1.63	
7,317.0	41.80	290.80	6,756.0	5,268.0	703.2	-1,470.9	-872.8	2.79	1.14	-3.86	
7,348.0	45.20	291.80	6,778.5	5,290.5	711.0	-1,490.8	-882.8	11.19	10.97	3.23	
7,380.0	45.40	289.40	6,801.0	5,313.0	719.0	-1,512.0	-893.3	5.37	0.63	-7.50	
7,411.0	44.20	286.20	6,823.0	5,335.0	725.7	-1,532.8	-902.4	8.24	-3.87	-10.32	
7,442.0	41.00	283.70	6,845.8	5,357.8	731.1	-1,553.1	-910.2	11.68	-10.32	-8.06	
7,474.0	38.60	282.30	6,870.4	5,382.4	735.7	-1,573.0	-917.1	8.01	-7.50	-4.38	
7,505.0	36.90	279.20	6,894.9	5,406.9	739.2	-1,591.7	-922.9	8.22	-5.48	-10.00	
7,537.0	34.80	274.50	6,920.9	5,432.9	741.5	-1,610.3	-927.3	10.82	-6.56	-14.69	
7,568.0	33.50	268.60	6,946.5	5,458.5	742.0	-1,627.7	-929.8	11.47	-4.19	-19.03	
7,599.0	33.10	262.20	6,972.4	5,484.4	740.6	-1,644.6	-930.5	11.40	-1.29	-20.65	
7,631.0	33.20	256.30	6,999.2	5,511.2	737.4	-1,661.8	-929.3	10.08	0.31	-18.44	
7,662.0	33.60	252.20	7,025.1	5,537.1	732.7	-1,678.2	-926.7	7.39	1.29	-13.23	
7,694.0	33.20	247.40	7,051.8	5,563.8	726.6	-1,694.7	-922.6	8.35	-1.25	-15.00	
7,725.0	33.20	241.10	7,077.8	5,589.8	719.3	-1,710.0	-917.1	11.12	0.00	-20.32	
7,757.0	33.50	235.60	7,104.5	5,616.5	710.1	-1,724.9	-909.7	9.49	0.94	-17.19	
7,788.0	34.00	230.40	7,130.3	5,642.3	699.7	-1,738.7	-901.0	9.46	1.61	-16.77	
7,820.0	35.30	225.00	7,156.6	5,668.6	687.5	-1,752.1	-890.5	10.42	4.06	-16.88	
7,851.0	36.00	218.90	7,181.8	5,693.8	674.0	-1,764.2	-878.6	11.68	2.26	-19.68	
7,883.0	36.80	212.50	7,207.6	5,719.6	658.6	-1,775.2	-864.6	12.12	2.50	-20.00	
7,914.0	37.30	206.50	7,232.3	5,744.3	642.4	-1,784.4	-849.5	11.77	1.61	-19.35	
7,945.0	38.90	201.40	7,256.7	5,768.7	624.9	-1,792.2	-833.1	11.38	5.16	-16.45	
7,977.0	40.40	197.00	7,281.4	5,793.4	605.6	-1,798.9	-814.8	9.95	4.69	-13.75	
8,008.0	42.60	193.40	7,304.6	5,816.6	585.8	-1,804.2	-795.7	10.47	7.10	-11.61	
8,040.0	44.90	189.70	7,327.7	5,839.7	564.1	-1,808.6	-774.7	10.75	7.19	-11.56	



Phoenix Technology Services
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Wbr #515745 - Marcellus - Slot 515745
Company:	EQT PRODUCTION	TVD Reference:	KB @ 1488.0usft
Project:	Taylor County, WV	MD Reference:	KB @ 1488.0usft
Site:	RSM118	North Reference:	Grid
Well:	Well #515745 - Marcellus	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515745 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)
8,071.0	47.50	187.40	7,349.2	5,861.2	542.0	-1,812.0	-753.2	9.95	8.39	-7.42
8,102.0	50.60	186.20	7,369.5	5,881.5	518.8	-1,814.7	-730.4	10.42	10.00	-3.87
8,134.0	54.00	184.80	7,389.1	5,901.1	493.6	-1,817.1	-705.7	11.17	10.63	-4.38
8,165.0	56.70	182.80	7,406.7	5,918.7	468.1	-1,818.8	-680.6	10.20	8.71	-6.45
8,197.0	59.60	181.00	7,423.6	5,935.6	441.0	-1,819.7	-653.7	10.24	9.06	-5.63
8,228.0	63.10	179.50	7,438.4	5,950.4	413.8	-1,819.8	-626.8	12.06	11.29	-4.84
8,259.0	67.00	178.50	7,451.5	5,963.5	385.7	-1,819.3	-598.8	12.92	12.58	-3.23
8,291.0	70.50	177.20	7,463.1	5,975.1	355.9	-1,818.2	-569.1	11.57	10.94	-4.06
8,322.0	72.50	175.30	7,472.9	5,984.9	326.5	-1,816.3	-539.7	8.68	6.45	-6.13
8,354.0	73.30	171.80	7,482.4	5,994.4	296.1	-1,812.9	-509.1	10.75	2.50	-10.94
8,385.0	75.00	169.00	7,490.8	6,002.8	266.8	-1,807.9	-479.4	10.27	5.48	-9.03
8,417.0	76.50	167.80	7,498.7	6,010.7	236.4	-1,801.6	-448.5	5.93	4.69	-3.75
8,448.0	78.60	166.30	7,505.4	6,017.4	206.9	-1,794.9	-418.4	8.26	6.77	-4.84
8,479.0	81.30	164.90	7,510.8	6,022.8	177.3	-1,787.3	-388.1	9.78	8.71	-4.52
8,511.0	83.40	163.30	7,515.1	6,027.1	146.8	-1,778.6	-356.8	8.22	6.56	-5.00
8,542.0	85.50	161.80	7,518.1	6,030.1	117.4	-1,769.3	-326.5	8.31	6.77	-4.84
515745 LP -323' VS #5										
8,544.1	85.61	161.69	7,518.2	6,030.2	115.4	-1,768.7	-324.5	7.51	5.31	-5.32
515745 LP -246' VS2										
8,545.6	85.69	161.61	7,518.3	6,030.3	114.0	-1,768.2	-323.0	7.51	5.31	-5.32
515745 LP -246' VS										
8,546.5	85.74	161.56	7,518.4	6,030.4	113.1	-1,767.9	-322.1	7.51	5.31	-5.32
8,574.0	87.20	160.10	7,520.1	6,032.1	87.2	-1,758.9	-295.3	7.51	5.31	-5.31
LP-#605' MD/7621' TVD										
8,605.0	89.30	159.20	7,521.0	6,033.0	58.1	-1,748.1	-265.1	7.37	6.77	-2.90
8,668.0	88.70	159.70	7,522.1	6,034.1	-0.8	-1,726.0	-204.0	1.24	-0.95	0.79
8,762.0	86.40	160.10	7,526.2	6,038.2	-89.0	-1,693.7	-112.6	2.48	-2.45	0.43
8,856.0	86.60	159.60	7,531.9	6,043.9	-177.1	-1,661.4	-21.3	0.57	0.21	-0.53
8,950.0	86.70	159.60	7,537.4	6,049.4	-265.1	-1,628.7	69.9	0.11	0.11	0.00
9,045.0	87.30	159.90	7,542.4	6,054.4	-354.1	-1,595.9	162.2	0.71	0.63	0.32
9,139.0	89.40	161.60	7,545.1	6,057.1	-442.8	-1,564.9	254.0	2.87	2.23	1.81
9,233.0	87.70	162.00	7,547.4	6,059.4	-532.0	-1,535.6	346.1	1.86	-1.81	0.43
9,328.0	88.80	162.40	7,550.3	6,062.3	-622.4	-1,506.5	439.3	1.23	1.16	0.42
9,422.0	89.70	162.10	7,551.6	6,063.6	-712.0	-1,477.9	531.6	1.01	0.96	-0.32
9,516.0	88.50	160.90	7,553.0	6,065.0	-801.1	-1,448.1	623.6	1.81	-1.28	-1.28
9,611.0	88.50	160.40	7,555.5	6,067.5	-890.7	-1,416.6	716.3	0.53	0.00	-0.53
9,705.0	88.30	159.20	7,558.2	6,070.2	-978.9	-1,384.1	807.7	1.29	-0.21	-1.28
9,799.0	88.60	158.80	7,560.7	6,072.7	-1,066.6	-1,350.5	898.8	0.53	0.32	-0.43
9,894.0	88.70	157.70	7,562.9	6,074.9	-1,154.8	-1,315.3	990.6	1.16	0.11	-1.16
9,988.0	88.40	156.50	7,565.3	6,077.3	-1,241.4	-1,278.7	1,080.9	1.32	-0.32	-1.28
515744 Plat LP										
10,005.9	88.51	156.88	7,565.8	6,077.8	-1,257.8	-1,271.6	1,098.0	2.22	0.64	2.13
10,082.0	89.00	158.50	7,567.5	6,079.5	-1,328.2	-1,242.7	1,171.4	2.22	0.64	2.13



Phoenix Technology Services

Survey Report



Database: EDM 5000.1 Single User Db Company: EQT PRODUCTION Project: Taylor County, WV Site: RSM11B Well: Well #515745 - Marcellus Wellbore: Main Wellbore Design: 515745 As Drilled Surveys	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method:	Well Well #515745 - Marcellus - Slot 515745 KB @ 1488 Dush KB @ 1488 Dush Grid Minimum Curvature
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Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Buidl Rate (°/100usft)	Turn Rate (°/100usft)
10,176.0	88.10	159.70	7,569.8	6,081.8	-1,416.0	-1,209.2	1,262.5	1.60	-0.96	1.28
10,271.0	87.60	161.30	7,573.4	6,085.4	-1,505.5	-1,177.5	1,355.1	1.76	-0.53	1.68
515745 Plat LP2										
10,347.9	88.25	162.12	7,576.2	6,088.2	-1,578.4	-1,153.4	1,430.4	1.36	0.85	1.06
515745 Plat LP (copy)										
10,348.2	88.26	162.12	7,576.2	6,088.2	-1,578.7	-1,153.3	1,430.7	1.36	0.85	1.06
515745 Plat LP2 (copy)										
10,348.4	88.26	162.12	7,576.2	6,088.2	-1,578.9	-1,153.3	1,430.9	1.36	0.85	1.06
10,365.0	88.40	162.30	7,576.7	6,088.7	-1,594.7	-1,148.2	1,447.2	1.36	0.85	1.06
10,459.0	89.30	162.80	7,578.6	6,090.6	-1,684.3	-1,120.0	1,539.6	1.10	0.96	0.53
10,554.0	87.50	160.50	7,581.2	6,093.2	-1,774.5	-1,090.1	1,632.6	3.07	-1.89	-2.42
10,648.0	87.80	160.30	7,585.1	6,097.1	-1,863.0	-1,058.6	1,724.2	0.38	0.32	-0.21
10,742.0	88.90	161.60	7,587.8	6,099.8	-1,951.8	-1,027.9	1,816.0	1.81	1.17	1.38
10,836.0	89.80	161.30	7,588.8	6,100.8	-2,040.9	-998.0	1,908.0	1.01	0.96	-0.32
10,930.0	88.80	160.60	7,590.0	6,102.0	-2,129.7	-967.4	1,999.9	1.30	-1.06	-0.74
11,025.0	89.30	161.00	7,591.6	6,103.6	-2,219.4	-936.1	2,092.7	0.67	0.53	0.42
11,119.0	88.00	158.70	7,593.8	6,105.8	-2,307.6	-903.8	2,184.1	2.81	-1.38	-2.45
11,213.0	87.80	158.40	7,597.2	6,109.2	-2,395.1	-869.4	2,275.0	0.38	-0.21	-0.32
11,307.0	87.50	157.40	7,601.1	6,113.1	-2,482.1	-834.1	2,365.6	1.11	-0.32	-1.06
11,402.0	88.20	159.80	7,604.6	6,116.6	-2,570.5	-799.4	2,457.5	2.63	0.74	2.53
11,496.0	88.90	160.30	7,607.0	6,119.0	-2,658.8	-767.4	2,549.0	0.92	0.74	0.53
11,590.0	88.40	159.40	7,609.2	6,121.2	-2,747.0	-735.0	2,640.4	1.10	-0.53	-0.96
11,685.0	88.10	158.00	7,612.1	6,124.1	-2,835.5	-700.5	2,732.3	1.51	-0.32	-1.47
11,779.0	88.30	157.10	7,615.1	6,127.1	-2,922.3	-664.6	2,822.8	0.98	0.21	-0.96
11,874.0	87.80	158.70	7,618.3	6,130.3	-3,010.3	-628.9	2,914.4	1.76	-0.53	1.68
11,968.0	88.50	159.30	7,621.4	6,133.4	-3,098.0	-595.2	3,005.5	0.98	0.74	0.64
12,062.0	89.10	159.60	7,623.3	6,135.3	-3,186.0	-562.3	3,096.8	0.71	0.64	0.32
12,157.0	89.20	159.70	7,624.7	6,136.7	-3,275.1	-529.2	3,189.1	0.15	0.11	0.11
12,251.0	88.70	159.30	7,626.5	6,138.5	-3,363.1	-496.3	3,280.4	0.68	-0.53	-0.43
12,346.0	88.50	161.00	7,628.8	6,140.8	-3,452.4	-464.1	3,373.0	1.80	-0.21	1.79
12,440.0	88.80	160.90	7,631.0	6,143.0	-3,541.2	-433.4	3,464.8	0.34	0.32	-0.11
12,534.0	88.60	160.90	7,633.1	6,145.1	-3,630.0	-402.6	3,556.6	0.21	-0.21	0.00
12,628.0	88.60	159.90	7,635.4	6,147.4	-3,718.6	-371.1	3,648.3	1.06	0.00	-1.06
12,723.0	89.10	159.70	7,637.3	6,149.3	-3,807.7	-338.3	3,740.7	0.57	0.53	-0.21
12,817.0	89.00	159.20	7,638.9	6,150.9	-3,895.7	-305.3	3,832.0	0.54	0.11	-0.53
12,911.0	87.80	159.10	7,641.5	6,153.5	-3,983.5	-271.9	3,923.1	1.28	-1.28	-0.11
13,005.0	87.50	159.00	7,645.4	6,157.4	-4,071.2	-238.3	4,014.2	0.24	-0.32	-0.11
13,100.0	87.80	158.70	7,649.3	6,161.3	-4,159.8	-204.1	4,106.2	0.45	0.32	-0.32
13,194.0	88.90	161.30	7,652.0	6,164.0	-4,248.0	-171.9	4,197.6	3.00	1.17	2.77
13,289.0	89.10	161.40	7,653.6	6,165.6	-4,338.0	-141.6	4,290.6	2.44	0.21	2.44
13,383.0	89.10	161.00	7,655.1	6,167.1	-4,427.0	-111.3	4,382.5	0.45	0.00	-0.46
13,477.0	89.20	161.40	7,656.5	6,168.5	-4,516.0	-81.0	4,474.5	0.44	0.11	0.43
13,572.0	88.20	162.30	7,658.7	6,170.7	-4,606.2	-51.4	4,567.6	1.42	-1.05	0.95

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Phoenix Technology Services
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well: Well #515745 - Marcellus - Slot 515745
Company:	EQT PRODUCTION	TVD Reference:	KB @ 1488.0usft
Project:	Taylor County, WV	MD Reference:	KB @ 1488.0usft
Site:	RSM118	North Reference:	Grid
Well:	Well #515745 - Marcellus	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515745 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)
13,666.0	88.20	161.60	7,661.6	6,173.6	-4,695.6	-22.3	4,659.8	0.74	0.00	-0.74
13,761.0	88.20	161.70	7,664.6	6,176.6	-4,785.7	7.6	4,752.8	0.11	0.00	0.11
13,855.0	88.40	161.70	7,667.4	6,179.4	-4,874.9	37.1	4,844.9	0.21	0.21	0.00
13,949.0	88.30	161.90	7,670.1	6,182.1	-4,964.2	66.5	4,937.0	0.24	-0.11	0.21
14,043.0	88.40	160.90	7,672.8	6,184.8	-5,053.2	96.4	5,029.0	1.07	0.11	-1.06
14,138.0	88.10	160.90	7,675.7	6,187.7	-5,142.9	127.5	5,121.7	0.32	-0.32	0.00
14,232.0	87.40	159.60	7,679.4	6,191.4	-5,231.3	159.2	5,213.3	1.57	-0.74	-1.38
14,326.0	87.20	159.00	7,683.8	6,195.8	-5,319.2	192.4	5,304.4	0.67	-0.21	-0.64
14,420.0	87.30	159.70	7,688.3	6,200.3	-5,407.0	225.5	5,395.6	0.75	0.11	0.74
14,514.0	87.50	158.70	7,692.6	6,204.6	-5,494.8	258.9	5,486.7	1.08	0.21	-1.06
14,609.0	87.80	158.20	7,696.5	6,208.5	-5,583.1	293.8	5,578.5	0.61	0.32	-0.53
14,704.0	88.60	159.30	7,699.5	6,211.5	-5,671.6	328.2	5,670.5	1.43	0.84	1.16
14,798.0	90.90	158.10	7,699.9	6,211.9	-5,759.2	362.3	5,761.5	2.76	2.45	-1.28
14,892.0	91.40	158.00	7,698.0	6,210.0	-5,846.3	397.4	5,852.2	0.54	0.53	-0.11
14,986.0	91.40	159.30	7,695.7	6,207.7	-5,933.8	431.7	5,943.2	1.38	0.00	1.38
515745 Plat TD 2 (copy)										
15,056.0	90.37	159.89	7,694.6	6,206.6	-5,999.4	456.1	6,011.2	1.70	-1.47	0.84
15,081.0	90.00	160.10	7,694.5	6,206.5	-6,022.9	464.6	6,035.5	1.70	-1.47	0.84
15,175.0	90.50	160.00	7,694.1	6,206.1	-6,111.3	496.7	6,127.1	0.54	0.53	-0.11
15,269.0	87.60	158.60	7,695.7	6,207.7	-6,199.2	529.9	6,218.3	3.43	-3.09	-1.49
15,364.0	89.30	159.40	7,698.3	6,210.3	-6,287.9	563.9	6,310.4	1.98	1.79	0.84
15,458.0	87.40	158.00	7,701.0	6,213.0	-6,375.4	598.1	6,401.3	2.51	-2.02	-1.49
15,553.0	87.60	157.70	7,705.1	6,217.1	-6,463.3	633.8	6,492.9	0.38	0.21	-0.32
15,647.0	89.10	158.90	7,707.8	6,219.8	-6,550.6	668.6	6,583.7	2.04	1.60	1.28
15,741.0	88.20	158.60	7,710.0	6,222.0	-6,638.2	702.6	6,674.7	1.01	-0.96	-0.32
15,835.0	86.50	160.50	7,714.4	6,226.4	-6,726.2	735.4	6,765.9	2.71	-1.81	2.02
15,929.0	86.90	160.40	7,719.8	6,231.8	-6,814.6	766.8	6,857.4	0.44	0.43	-0.11
16,023.0	87.20	160.60	7,724.6	6,236.6	-6,903.1	798.2	6,949.0	0.38	0.32	0.21
16,117.0	87.70	160.60	7,728.8	6,240.8	-6,991.7	829.4	7,040.7	0.53	0.53	0.00
Final Survey=16163' MD/7731' TVD										
16,163.0	87.10	159.40	7,730.9	6,242.9	-7,034.8	845.1	7,085.4	2.91	-1.30	-2.61
515745 Plat TD (copy)										
16,202.6	87.10	159.40	7,732.9	6,244.9	-7,071.9	859.0	7,123.9	0.00	0.00	0.00
515745 Plat TD2 (copy) - 515745 Plat TD3 (copy) - 515745 Plat TD3 p9										
16,210.7	87.10	159.40	7,733.3	6,245.3	-7,079.4	861.9	7,131.7	0.00	0.00	0.00
PROJ to Bit/Deepest Point=16219' MD/7734' TVD										
16,219.0	87.10	159.40	7,733.7	6,245.7	-7,087.2	864.6	7,139.7	0.00	0.00	0.00

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Phoenix Technology Services
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Well #515745 - Marcellus - Slot 515745
Company:	EQT PRODUCTION	TVD Reference:	KB @ 1488.0usft
Project:	Taylor County, WV	MD Reference:	KB @ 1488.0usft
Site:	RSM11B	North Reference:	Grid
Well:	Well #515745 - Marcellus	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515745 As Drilled Surveys		

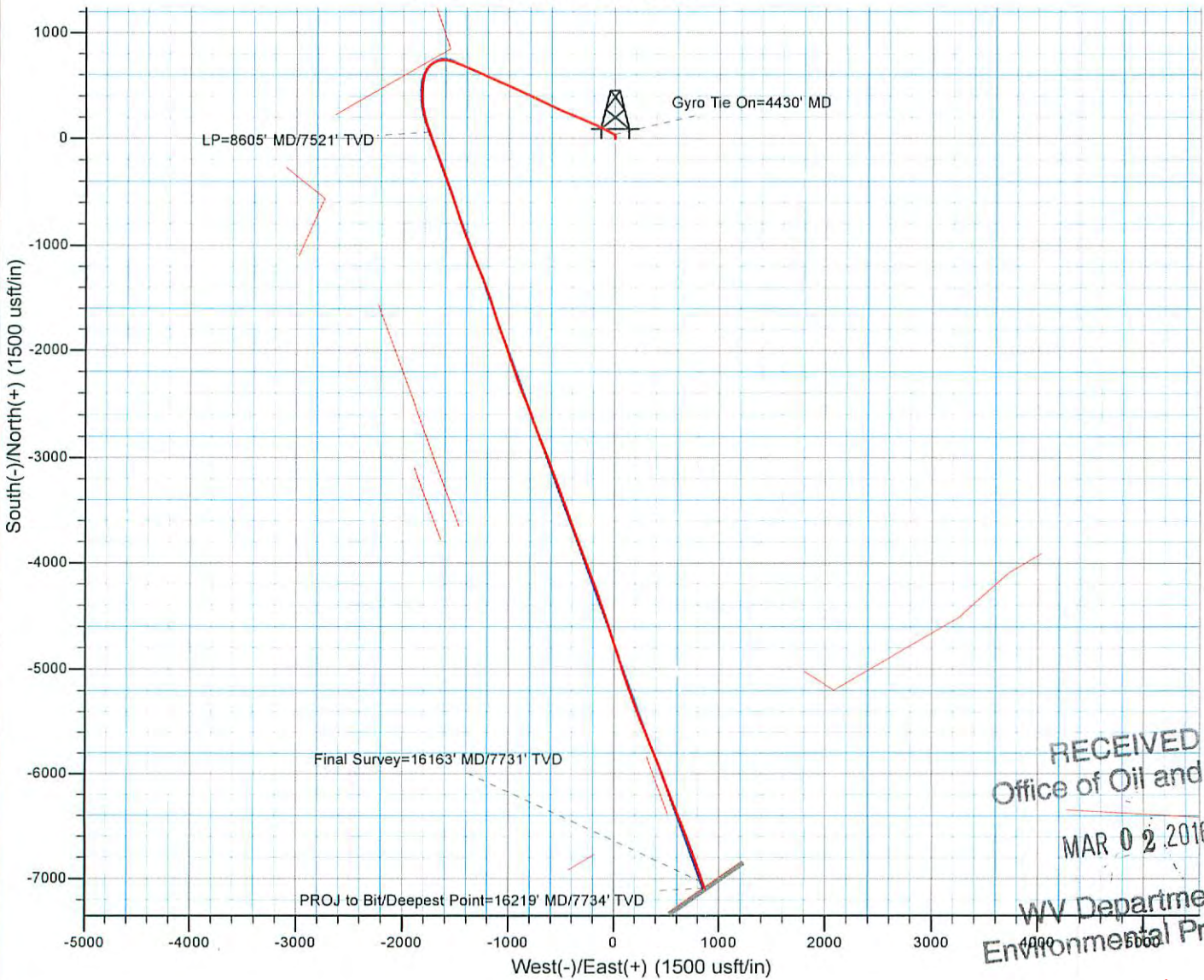
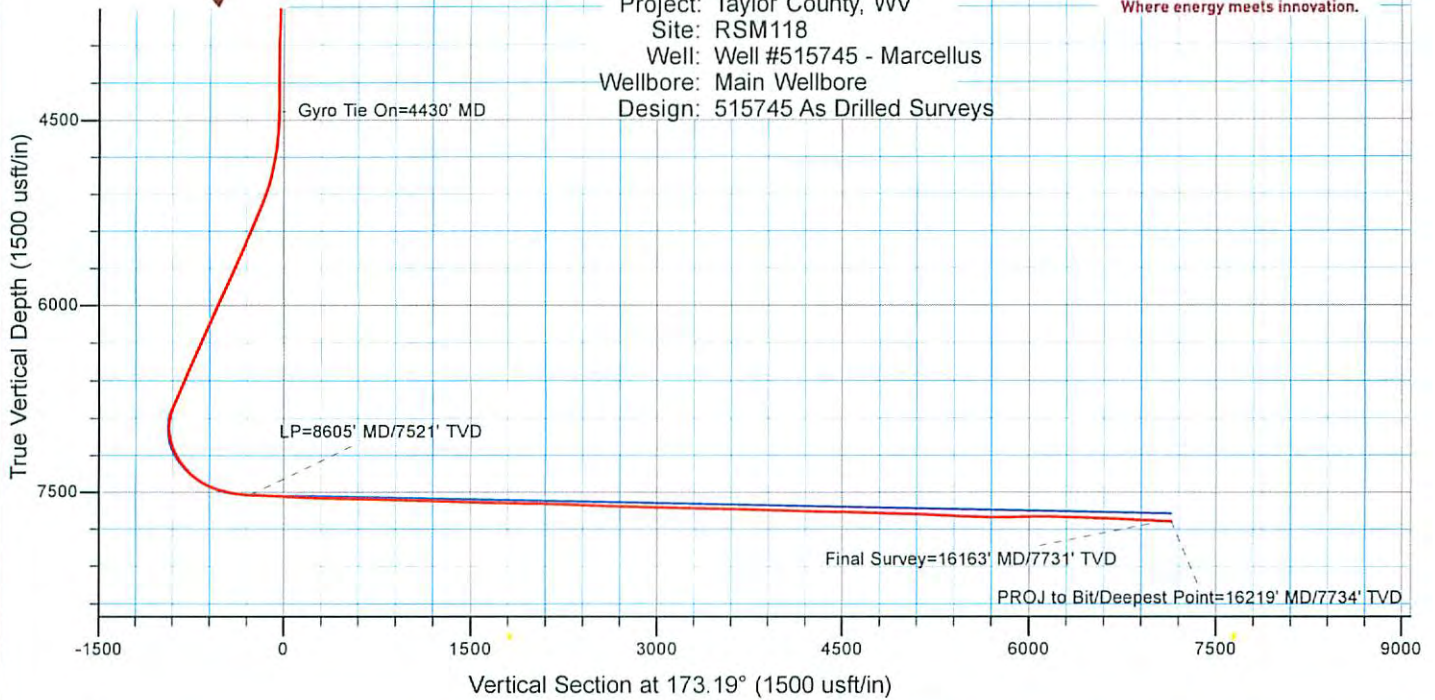
Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(-1,582.5)	(-1,157.2)	(usft)	(usft)		
- Shape									
515745 Plat LP2 - actual wellpath misses target center by 77.4usft at 10348.3usft MD (7576.2 TVD, -1578.8 N, -1153.3 E) - Point	0.00	360.00	7,499.0	-1,582.5	-1,157.2	288,392.15	1,802,742.05	39° 17' 22.943 N	80° 11' 48.963 W
515744 Plat LP - actual wellpath misses target center by 407.0usft at 9999.9usft MD (7565.6 TVD, -1252.3 N, -1274.0 E) - Rectangle (sides W1,000.0 H1,000.0 D0.0)	0.00	0.00	7,499.0	-1,412.8	-1,642.0	288,561.80	1,802,257.20	39° 17' 24.583 N	80° 11' 55.146 W
515744 Plat LP (copy) (c - actual wellpath misses target center by 407.0usft at 9999.9usft MD (7565.6 TVD, -1252.3 N, -1274.0 E) - Rectangle (sides W1,000.0 H1,000.0 D0.0)	0.00	0.00	7,499.0	-1,412.8	-1,642.0	288,561.80	1,802,257.20	39° 17' 24.583 N	80° 11' 55.146 W
515745 LP -323' VS p9 - actual wellpath misses target center by 6.4usft at 8544.1usft MD (7518.2 TVD, 115.4 N, -1768.7 E) - Point	0.00	0.00	7,520.0	113.6	-1,774.5	290,088.27	1,802,124.68	39° 17' 39.660 N	80° 11' 56.983 W
515745 Plat TD3 p9 - actual wellpath misses target center by 65.7usft at 16210.7usft MD (7733.3 TVD, -7079.4 N, 861.9 E) - Point	0.00	0.00	7,670.0	-7,089.1	847.1	282,885.55	1,804,746.28	39° 16' 28.669 N	80° 11' 22.934 W

Design Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(usft)	(usft)	+N/-S	+E/-W		
		(usft)	(usft)		
4,430.0	4,429.7	37.6	-5.9	Gyro Tie On=4430' MD	
8,605.0	7,521.0	58.1	-1,748.1	LP=8605' MD/7521' TVD	
16,163.0	7,730.9	-7,034.8	845.1	Final Survey=16163' MD/7731' TVD	
16,219.0	7,733.7	-7,087.2	864.8	PROJ to Bit/Deepest Point=16219' MD/7734' TVD	

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COMPASS 5000.1 Build 74

Project: Taylor County, WV
Site: RSM118
Well: Well #515745 - Marcellus
Wellbore: Main Wellbore
Design: 515745 As Drilled Surveys



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