



Where energy meets innovation.

EQT PRODUCTION

Wetzel County, WV

BIG 192

Well #515949- Marcellus

API #47-10303111

Main Wellbore

Survey: 515949 AS Drilled Surveys

Standard Survey Report

19 December, 2015

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Office of Oil and Gas

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WV Department of
Environmental Protection

05/27/2016

Company:	EQT PRODUCTION	Local Co-ordinate Reference:	Well Well #515949- Marcellus
Project:	Wetzel County, WV	TVD Reference:	GL 1452 + 23' KB @ 1475.00usft
Site:	BIG 192	MD Reference:	GL 1452 + 23' KB @ 1475.00usft
Well:	Well #515949- Marcellus	North Reference:	Grid
Wellbore:	Main Wellbore	Survey Calculation Method:	Minimum Curvature
Design:	515949 AS Drilled Surveys	Database:	Well_Planner1

Project	Wetzel 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	BIG 192		
Site Position:		Northing:	376,113.90 usft
From:	Map	Easting:	1,694,562.00 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	39° 31' 39.36 N
		Longitude:	80° 34' 58.27 W
		Grid Convergence:	-0.69 °

Well	Well #515949- Marcellus		
Well Position	+N-S	0.00 usft	Northing: 376,136.67 usft
	+E-W	0.00 usft	Easting: 1,694,604.33 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	1,475.00 usft
		Latitude:	39° 31' 39.59 N
		Longitude:	80° 34' 57.73 W
		Ground Level:	1,452.00 usft

Wellbore	Main Wellbore				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	12/8/2015	-8.30	67.00	52,504

Design	515949 AS Drilled Surveys			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 10.00
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)
	10.00	0.00	0.00	108.56

Survey Program	Date	12/19/2015		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
110.00	2,845.00	515949 Gyrodata Gyro (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop
2,872.00	3,350.00	515949 PHX Nudge MWD (Main Wellbore)	PHX+MWD+HDGM	PHX+OWSG MWD + HDGM
3,378.00	13,710.00	515949 ProDirectional (Main Wellbore)	MWD+IGRF	MWD+IGRF v3:standard declination

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00
110.00	0.54	298.86	110.00	0.23	-0.41	-0.46	0.54	0.54	0.00
210.00	0.37	240.11	210.00	0.29	-1.11	-1.14	0.47	-0.17	-58.75
310.00	0.36	228.11	309.99	-0.08	-1.62	-1.51	0.08	-0.01	-12.00
410.00	0.36	222.52	409.99	-0.52	-2.07	-1.79	0.04	0.00	-5.59
510.00	0.28	217.50	509.99	-0.94	-2.43	-2.00	0.08	-0.08	-5.02
610.00	0.16	205.11	609.99	-1.26	-2.63	-2.10	0.13	-0.12	-12.39
710.00	0.04	179.90	709.99	-1.43	-2.69	-2.10	0.12	-0.12	-25.21
810.00	0.04	64.13	809.99	-1.44	-2.66	-2.06	0.07	0.00	-115.77

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Project: Wetzell County, WV
Site: BIG 192
Well: Well #515949- Marcellus
Wellbore: Main Wellbore
Design: 515949 AS Drilled Surveys

Local Co-ordinate Reference: Well Well #515949- Marcellus
TVD Reference: GL 1452 + 23' KB @ 1475.00usft
MD Reference: GL 1452 + 23' KB @ 1475.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Well_Planner1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
910.00	0.09	58.63	909.99	-1.39	-2.56	-1.99	0.05	0.05	-5.50	
1,010.00	0.14	60.63	1,009.99	-1.29	-2.39	-1.86	0.05	0.05	2.00	
1,110.00	0.18	66.13	1,109.99	-1.16	-2.14	-1.66	0.04	0.04	5.50	
1,210.00	0.17	46.90	1,209.99	-1.00	-1.89	-1.47	0.06	-0.01	-19.23	
1,310.00	0.11	55.99	1,309.99	-0.84	-1.70	-1.34	0.06	-0.06	9.09	
1,410.00	0.23	49.03	1,409.99	-0.66	-1.47	-1.18	0.12	0.12	-6.96	
1,510.00	0.22	43.91	1,509.99	-0.39	-1.18	-1.00	0.02	-0.01	-5.12	
1,610.00	0.40	68.66	1,609.99	-0.12	-0.73	-0.65	0.22	0.18	24.75	
1,710.00	0.41	75.87	1,709.98	0.09	-0.05	-0.08	0.05	0.01	7.21	
1,810.00	0.40	83.63	1,809.98	0.22	0.64	0.54	0.06	-0.01	7.76	
1,910.00	0.44	88.32	1,909.98	0.27	1.37	1.21	0.05	0.04	4.69	
2,010.00	0.44	92.41	2,009.97	0.26	2.14	1.94	0.03	0.00	4.09	
2,110.00	0.24	96.45	2,109.97	0.22	2.73	2.52	0.20	-0.20	4.04	
2,210.00	0.29	57.15	2,209.97	0.34	3.15	2.88	0.18	0.05	-39.30	
2,310.00	0.11	177.84	2,309.97	0.38	3.37	3.07	0.36	-0.18	120.69	
2,410.00	0.18	187.43	2,409.97	0.13	3.35	3.14	0.07	0.07	9.59	
2,510.00	0.24	199.28	2,509.97	-0.23	3.26	3.16	0.07	0.06	11.85	
2,610.00	0.20	135.22	2,609.97	-0.55	3.31	3.32	0.24	-0.04	-64.06	
2,710.00	0.16	159.37	2,709.97	-0.80	3.49	3.56	0.08	-0.04	24.15	
2,810.00	0.22	325.59	2,809.97	-0.78	3.43	3.50	0.38	0.06	166.22	
2,845.00	0.34	320.06	2,844.97	-0.64	3.32	3.35	0.35	0.34	-15.80	
2,872.00	3.10	354.10	2,871.95	0.15	3.20	2.98	10.46	10.22	126.07	
2,915.00	7.60	354.20	2,914.76	4.13	2.79	1.33	10.47	10.47	0.23	
2,958.00	10.70	351.20	2,957.20	10.91	1.89	-1.68	7.29	7.21	-6.98	
3,001.00	11.10	349.70	2,999.43	18.93	0.54	-5.51	1.14	0.93	-3.49	
3,045.00	10.60	347.30	3,042.64	27.04	-1.11	-9.66	1.53	-1.14	-5.45	
3,089.00	8.90	345.70	3,086.00	34.29	-2.84	-13.60	3.91	-3.86	-3.64	
3,132.00	7.40	344.30	3,128.57	40.18	-4.41	-16.97	3.52	-3.49	-3.26	
3,175.00	7.40	343.60	3,171.21	45.50	-5.94	-20.11	0.21	0.00	-1.63	
3,218.00	5.90	344.70	3,213.92	50.29	-7.30	-22.93	3.50	-3.49	2.56	
3,261.00	1.10	348.40	3,256.83	52.83	-7.97	-24.37	11.17	-11.16	8.60	
3,350.00	2.25	183.37	3,345.80	51.90	-8.20	-24.29	0.00	0.00	0.00	
Tie into Surveys at 3350'MD										
3,378.00	2.00	142.00	3,373.78	50.97	-7.93	-23.74	5.43	-0.89	-147.75	
First ProMWD 3378'MD										
3,409.00	4.10	93.60	3,404.74	50.47	-6.49	-22.22	10.16	6.77	-156.13	
3,441.00	7.10	74.30	3,436.59	50.93	-3.45	-19.48	10.94	9.38	-60.31	
3,473.00	10.30	65.50	3,468.22	52.66	1.06	-15.75	10.80	10.00	-27.50	
3,504.00	11.40	61.80	3,498.66	55.25	6.29	-11.63	4.20	3.55	-11.94	
3,536.00	12.80	63.40	3,529.95	58.33	12.24	-6.96	4.50	4.38	5.00	
3,567.00	15.70	65.30	3,559.99	61.63	19.12	-1.48	9.47	9.35	6.13	
3,599.00	18.70	66.80	3,590.56	65.46	27.78	5.50	9.48	9.38	4.69	
3,631.00	21.90	67.70	3,620.57	69.74	38.01	13.84	10.05	10.00	2.81	
3,662.00	24.50	67.70	3,649.06	74.38	49.31	23.07	8.39	8.39	0.00	
3,694.00	27.40	67.90	3,677.83	79.67	62.28	33.68	9.07	9.06	0.63	

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3,725.00	30.50	69.10	3,704.95	85.16	76.24	45.17	10.17	10.00	3.87
3,757.00	33.30	70.30	3,732.12	91.02	92.10	58.34	8.97	8.75	3.75
3,788.00	36.50	70.50	3,757.54	96.96	108.80	72.28	10.33	10.32	0.65
3,820.00	39.00	70.30	3,782.84	103.54	127.26	87.69	7.82	7.81	-0.63
3,852.00	40.10	70.00	3,807.51	110.46	146.42	103.65	3.49	3.44	-0.94
3,883.00	41.70	69.80	3,830.94	117.43	165.48	119.50	5.18	5.16	-0.65
3,946.00	42.20	69.30	3,877.80	132.15	204.94	152.22	0.95	0.79	-0.79
3,978.00	41.60	69.00	3,901.62	139.75	224.91	168.73	1.98	-1.88	-0.94
4,041.00	40.10	68.40	3,949.27	154.72	263.31	200.37	2.46	-2.38	-0.95
4,073.00	39.40	68.20	3,973.87	162.28	282.32	215.98	2.22	-2.19	-0.63
4,136.00	40.30	70.30	4,022.24	176.58	320.07	247.22	2.57	1.43	3.33
4,167.00	39.80	69.80	4,045.97	183.38	338.82	262.83	1.92	-1.61	-1.61
4,262.00	40.80	70.60	4,118.42	204.19	396.63	311.01	1.19	1.05	0.84
4,356.00	41.60	68.70	4,189.15	225.73	454.67	359.18	1.58	0.85	-2.02
4,420.00	40.20	67.50	4,237.53	241.35	493.55	391.06	2.51	-2.19	-1.88
4,451.00	39.60	67.20	4,261.31	249.01	511.90	406.02	2.03	-1.94	-0.97
4,545.00	39.90	68.10	4,333.58	271.86	567.49	451.45	0.69	0.32	0.96
4,640.00	41.50	69.00	4,405.60	294.51	625.15	498.90	1.79	1.68	0.95
4,735.00	40.00	67.80	4,477.57	317.33	682.81	546.30	1.78	-1.58	-1.26
4,829.00	41.10	69.00	4,548.99	339.81	739.63	593.00	1.43	1.17	1.28
4,924.00	39.90	67.70	4,621.23	362.57	796.97	640.12	1.54	-1.26	-1.37
5,019.00	41.00	69.50	4,693.53	385.04	854.36	687.37	1.69	1.16	1.89
5,113.00	39.70	68.70	4,765.16	406.75	911.21	734.36	1.49	-1.38	-0.85
5,208.00	41.60	68.80	4,837.24	429.18	968.89	781.89	2.00	2.00	0.11
5,302.00	40.60	67.50	4,908.07	452.17	1,026.24	828.95	1.40	-1.06	-1.38
5,397.00	41.00	70.30	4,979.99	474.50	1,084.14	876.73	1.97	0.42	2.95
5,492.00	39.30	69.40	5,052.60	495.60	1,141.65	924.53	1.89	-1.79	-0.95
5,587.00	39.30	70.80	5,126.12	516.08	1,198.22	971.65	0.93	0.00	1.47
5,681.00	41.80	71.10	5,197.54	536.02	1,255.99	1,020.05	2.67	2.66	0.32
5,776.00	39.60	69.30	5,269.56	556.98	1,314.27	1,068.64	2.62	-2.32	-1.89
5,871.00	40.90	67.70	5,342.07	579.48	1,371.37	1,115.61	1.75	1.37	-1.68
5,965.00	41.10	67.80	5,413.01	602.83	1,428.45	1,162.28	0.22	0.21	0.11
6,060.00	38.40	65.60	5,486.05	626.83	1,484.24	1,207.54	3.20	-2.84	-2.32
6,091.00	39.00	67.30	5,510.24	634.57	1,502.01	1,221.92	3.94	1.94	5.48
6,123.00	39.60	68.30	5,535.01	642.22	1,520.78	1,237.27	2.73	1.88	3.13
6,154.00	40.20	68.40	5,558.79	649.56	1,539.26	1,252.45	1.95	1.94	0.32
6,249.00	43.10	68.80	5,629.77	672.59	1,598.04	1,300.85	3.07	3.05	0.42
6,343.00	41.70	68.00	5,699.18	695.92	1,656.97	1,349.29	1.60	-1.49	-0.85
6,438.00	41.40	71.00	5,770.28	717.98	1,715.97	1,398.20	2.12	-0.32	3.16
6,532.00	40.00	69.90	5,841.55	738.48	1,773.74	1,446.43	1.67	-1.49	-1.17
6,627.00	40.80	68.60	5,913.89	760.30	1,831.31	1,494.07	1.22	0.84	-1.37
6,722.00	42.30	69.00	5,984.99	783.09	1,890.05	1,542.51	1.60	1.58	0.42
6,816.00	41.80	67.80	6,054.79	806.26	1,948.59	1,590.62	1.01	-0.53	-1.28



Professional Directional Survey Report



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6,911.00	41.40	70.40	6,125.83	828.76	2,007.50	1,639.31	1.87	-0.42	2.74
7,006.00	39.70	69.10	6,198.02	850.12	2,065.44	1,687.44	2.00	-1.79	-1.37
7,069.00	38.40	68.50	6,246.94	864.47	2,102.45	1,717.95	2.15	-2.06	-0.95
7,101.00	37.60	67.70	6,272.16	871.82	2,120.73	1,732.94	2.94	-2.50	-2.50
7,132.00	38.50	69.30	6,296.57	878.82	2,138.50	1,747.56	4.31	2.90	5.16
7,196.00	40.20	69.10	6,346.06	893.23	2,176.44	1,778.94	2.66	2.66	-0.31
7,290.00	41.90	68.20	6,416.95	915.71	2,233.93	1,826.28	1.91	1.81	-0.96
7,322.00	41.00	67.70	6,440.93	923.66	2,253.56	1,842.36	3.00	-2.81	-1.56
7,385.00	40.90	68.00	6,488.51	939.23	2,291.80	1,873.66	0.35	-0.16	0.48
7,479.00	42.80	71.80	6,558.54	960.74	2,350.69	1,922.64	3.37	2.02	4.04
7,574.00	41.60	70.20	6,628.92	981.50	2,411.02	1,973.22	1.70	-1.26	-1.68
7,668.00	40.90	69.30	6,699.59	1,002.95	2,469.17	2,021.52	0.98	-0.74	-0.96
7,763.00	40.40	68.40	6,771.67	1,025.28	2,526.88	2,069.13	0.81	-0.53	-0.95
7,858.00	39.30	67.00	6,844.60	1,048.37	2,583.21	2,115.17	1.49	-1.16	-1.47
7,953.00	39.40	68.70	6,918.07	1,071.07	2,638.99	2,160.83	1.14	0.11	1.79
8,047.00	39.70	68.60	6,990.55	1,092.86	2,694.74	2,206.74	0.33	0.32	-0.11
8,142.00	41.70	69.60	7,062.57	1,114.95	2,752.61	2,254.57	2.21	2.11	1.05
8,237.00	42.80	69.00	7,132.89	1,137.53	2,812.36	2,304.03	1.23	1.16	-0.63
8,332.00	41.80	67.70	7,203.15	1,161.11	2,871.78	2,352.86	1.40	-1.05	-1.37
8,427.00	40.40	69.10	7,274.74	1,184.11	2,929.84	2,400.57	1.76	-1.47	1.47
8,458.00	40.00	68.60	7,298.42	1,191.33	2,948.50	2,415.97	1.66	-1.29	-1.61
8,490.00	39.60	70.10	7,323.01	1,198.55	2,967.67	2,431.84	3.25	-1.25	4.69
8,521.00	39.70	74.70	7,346.88	1,204.53	2,986.51	2,447.80	9.47	0.32	14.84
8,553.00	41.10	78.80	7,371.25	1,209.27	3,006.69	2,465.42	9.38	4.38	12.81
8,584.00	43.00	81.90	7,394.27	1,212.74	3,027.16	2,483.72	9.08	6.13	10.00
8,616.00	44.20	85.30	7,417.45	1,215.19	3,049.08	2,503.72	8.23	3.75	10.63
8,648.00	46.20	89.30	7,440.00	1,216.25	3,071.75	2,524.88	10.85	6.25	12.50
8,679.00	48.00	93.20	7,461.11	1,215.74	3,094.45	2,546.55	10.89	5.81	12.58
8,711.00	50.20	97.00	7,482.06	1,213.58	3,118.53	2,570.07	11.30	6.88	11.88
8,742.00	52.50	100.80	7,501.43	1,209.82	3,142.43	2,593.93	12.11	7.42	12.26
8,774.00	55.10	104.00	7,520.33	1,204.27	3,167.64	2,619.59	11.45	8.13	10.00
8,805.00	57.40	107.20	7,537.55	1,197.33	3,192.46	2,645.33	11.34	7.42	10.32
8,837.00	59.30	109.40	7,554.34	1,188.77	3,218.32	2,672.57	8.34	5.94	6.88
8,869.00	61.10	111.90	7,570.25	1,178.98	3,244.30	2,700.31	8.81	5.63	7.81
8,900.00	63.40	113.80	7,584.68	1,168.32	3,269.57	2,727.66	9.19	7.42	6.13
8,932.00	66.20	115.90	7,598.31	1,156.15	3,295.84	2,756.44	10.57	8.75	6.56
8,963.00	68.90	118.00	7,610.15	1,143.16	3,321.37	2,784.78	10.73	8.71	6.77
8,995.00	71.70	120.10	7,620.93	1,128.53	3,347.70	2,814.40	10.71	8.75	6.56
9,026.00	73.50	121.50	7,630.20	1,113.38	3,373.11	2,843.30	7.23	5.81	4.52
9,058.00	75.70	123.20	7,638.70	1,096.87	3,399.17	2,873.26	8.57	6.88	5.31
9,090.00	77.90	124.80	7,646.01	1,079.45	3,424.99	2,903.29	8.42	6.88	5.00
9,121.00	80.30	127.10	7,651.87	1,061.58	3,449.63	2,932.33	10.63	7.74	7.42
9,153.00	82.00	129.90	7,656.79	1,041.90	3,474.37	2,962.05	10.15	5.31	8.75

Company: EQT PRODUCTION
Project: Wetzel County, WV
Site: BIG 192
Well: Well #515949- Marcellus
Wellbore: Main Wellbore
Design: 515949 AS Drilled Surveys

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well Well #515949- Marcellus
 GL 1452 + 23' KB @ 1475.00usft
 GL 1452 + 23' KB @ 1475.00usft
 Grid
 Minimum Curvature
 Well_Planner1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,185.00	84.10	132.40	7,660.67	1,021.00	3,498.29	2,991.37	10.16	6.56	7.81
9,232.00	86.60	134.30	7,664.48	988.85	3,532.35	3,033.89	6.67	5.32	4.04
9,279.00	87.30	134.40	7,666.98	956.04	3,565.91	3,076.15	1.50	1.49	0.21
9,374.00	90.60	137.40	7,668.72	887.84	3,631.99	3,160.51	4.69	3.47	3.16
9,469.00	89.30	135.20	7,668.80	819.17	3,697.62	3,244.58	2.69	-1.37	-2.32
9,563.00	89.50	134.00	7,669.79	753.17	3,764.54	3,329.03	1.29	0.21	-1.28
9,658.00	87.90	135.40	7,671.94	686.37	3,832.05	3,414.29	2.24	-1.68	1.47
9,753.00	88.80	134.90	7,674.68	619.05	3,899.02	3,499.20	1.08	0.95	-0.53
9,847.00	89.20	134.80	7,676.32	552.76	3,965.65	3,583.47	0.44	0.43	-0.11
9,942.00	88.80	136.80	7,677.98	484.67	4,031.87	3,667.91	2.15	-0.42	2.11
10,037.00	89.20	136.40	7,679.63	415.66	4,097.13	3,751.75	0.60	0.42	-0.42
10,131.00	89.90	136.70	7,680.37	347.42	4,161.77	3,834.75	0.81	0.74	0.32
10,226.00	90.60	136.80	7,679.96	278.22	4,226.87	3,918.48	0.74	0.74	0.11
10,320.00	87.60	135.70	7,681.43	210.34	4,291.85	4,001.69	3.40	-3.19	-1.17
10,415.00	88.00	136.00	7,685.08	142.22	4,357.97	4,086.06	0.53	0.42	0.32
10,510.00	88.70	135.80	7,687.82	74.03	4,424.06	4,170.41	0.77	0.74	-0.21
10,605.00	91.20	137.70	7,687.90	4.84	4,489.14	4,254.13	3.31	2.63	2.00
10,699.00	90.60	136.40	7,686.42	-63.95	4,553.18	4,336.73	1.52	-0.64	-1.38
10,793.00	91.40	136.50	7,684.78	-132.07	4,617.93	4,419.80	0.86	0.85	0.11
10,888.00	89.60	136.40	7,683.95	-200.91	4,683.38	4,503.76	1.90	-1.89	-0.11
10,983.00	90.60	136.40	7,683.79	-269.71	4,748.90	4,587.76	1.05	1.05	0.00
11,077.00	91.20	136.80	7,682.31	-338.00	4,813.47	4,670.72	0.77	0.64	0.43
11,172.00	89.60	135.10	7,681.65	-406.27	4,879.52	4,755.06	2.46	-1.68	-1.79
11,266.00	89.90	134.90	7,682.06	-472.74	4,945.99	4,839.23	0.38	0.32	-0.21
11,361.00	90.50	135.10	7,681.73	-539.91	5,013.16	4,924.29	0.67	0.63	0.21
11,456.00	91.10	135.00	7,680.40	-607.14	5,080.27	5,009.31	0.64	0.63	-0.11
11,550.00	89.90	136.30	7,679.58	-674.35	5,145.98	5,092.99	1.88	-1.28	1.38
11,644.00	89.40	136.80	7,680.15	-742.59	5,210.62	5,175.99	0.75	-0.53	0.53
11,738.00	88.70	137.10	7,681.71	-811.27	5,274.78	5,258.67	0.81	-0.74	0.32
11,833.00	90.80	138.40	7,682.13	-881.59	5,338.65	5,341.60	2.60	2.21	1.37
11,928.00	88.90	136.50	7,682.38	-951.57	5,402.88	5,424.77	2.83	-2.00	-2.00
12,022.00	89.70	136.40	7,683.52	-1,019.69	5,467.64	5,507.84	0.86	0.85	-0.11
12,117.00	90.60	136.20	7,683.27	-1,088.37	5,533.28	5,591.92	0.97	0.95	-0.21
12,211.00	88.00	135.40	7,684.42	-1,155.75	5,598.80	5,675.49	2.89	-2.77	-0.85
12,306.00	88.60	135.90	7,687.24	-1,223.65	5,665.18	5,760.02	0.82	0.63	0.53
12,401.00	89.10	135.90	7,689.15	-1,291.86	5,731.27	5,844.40	0.53	0.53	0.00
12,495.00	90.00	136.90	7,689.89	-1,359.93	5,796.10	5,927.51	1.43	0.96	1.06
12,590.00	89.90	134.20	7,689.97	-1,427.74	5,862.62	6,012.16	2.84	-0.11	-2.84
12,685.00	90.90	134.80	7,689.31	-1,494.32	5,930.37	6,097.58	1.23	1.05	0.63
12,779.00	91.70	134.70	7,687.17	-1,560.48	5,997.11	6,181.91	0.86	0.85	-0.11
12,874.00	88.90	135.70	7,686.68	-1,627.88	6,064.04	6,266.81	3.13	-2.95	1.05
12,968.00	89.10	135.60	7,688.32	-1,695.09	6,129.74	6,350.49	0.24	0.21	-0.11
13,063.00	89.90	135.70	7,689.15	-1,763.02	6,196.15	6,435.06	0.85	0.84	0.11
13,157.00	91.00	135.70	7,688.41	-1,830.29	6,261.80	6,518.71	1.17	1.17	0.00

Company:	EQT PRODUCTION	Local Co-ordinate Reference:	Well Well #515949- Marcellus
Project:	Wetzel County, WV	TVD Reference:	GL 1452 + 23' KB @ 1475.00usft
Site:	BIG 192	MD Reference:	GL 1452 + 23' KB @ 1475.00usft
Well:	Well #515949- Marcellus	North Reference:	Grid
Wellbore:	Main Wellbore	Survey Calculation Method:	Minimum Curvature
Design:	515949 AS Drilled Surveys	Database:	Well_Planner1

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,251.00	91.90	135.80	7,686.03	-1,897.60	6,327.37	6,602.29	0.96	0.96	0.11
13,346.00	90.60	137.00	7,683.96	-1,966.38	6,392.86	6,686.27	1.86	-1.37	1.26
13,441.00	91.50	137.00	7,682.22	-2,035.85	6,457.64	6,769.79	0.95	0.95	0.00
13,535.00	90.20	136.40	7,680.82	-2,104.25	6,522.10	6,852.67	1.52	-1.38	-0.64
13,630.00	90.60	136.60	7,680.16	-2,173.16	6,587.49	6,936.59	0.47	0.42	0.21
Last Survey: 13630'MD / 7680.16'TVD									
13,710.00	90.60	136.60	7,679.32	-2,231.28	6,642.46	7,007.20	0.00	0.00	0.00
PTB: 13710'MD									

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
3,350.00	3,345.80	51.90	-8.20	Tie into Surveys at 3350'MD
3,378.00	3,373.78	50.97	-7.93	First ProMWD 3378'MD
13,630.00	7,680.16	-2,173.16	6,587.49	Last Survey: 13630'MD / 7680.16'TVD
13,710.00	7,679.32	-2,231.28	6,642.46	PTB: 13710'MD



Where energy meets innovation.

EQT PRODUCTION
BIG 192
Wetzel County, WV
Well #515949- Marcellus
515949 Plan 6 - AVP FINAL (Grid)
GL 1452 + 23' KB @ 1475.00ustf



Azimuths to Grid North
True North: 0.69°
Magnetic North: -7.61°
Magnetic Field
Strength: 52500.8nT
Dip Angle: 67.80°
Date: 12/8/2015
Model: HDGM

Azimuth Corrections

To convert a Magnetic Direction to a Grid Direction, Subtract 7.61°

RKB Elevation: GL 1452 + 23' KB @ 1475.00ustf

+N-S	+E-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	376136.67	1694604.33	39° 31' 39.59 N	80° 34' 57.73 W	

DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
515949 Plat LP 2	7665.00	993.44	3530.19	377130.11	1698134.52	39° 31' 49.82 N	80° 34' 12.83 W
515949 Plat TD3	7665.00	-2230.63	6643.64	373906.04	1701247.97	39° 31' 18.32 N	80° 33' 32.61 W

SECTION DETAILS

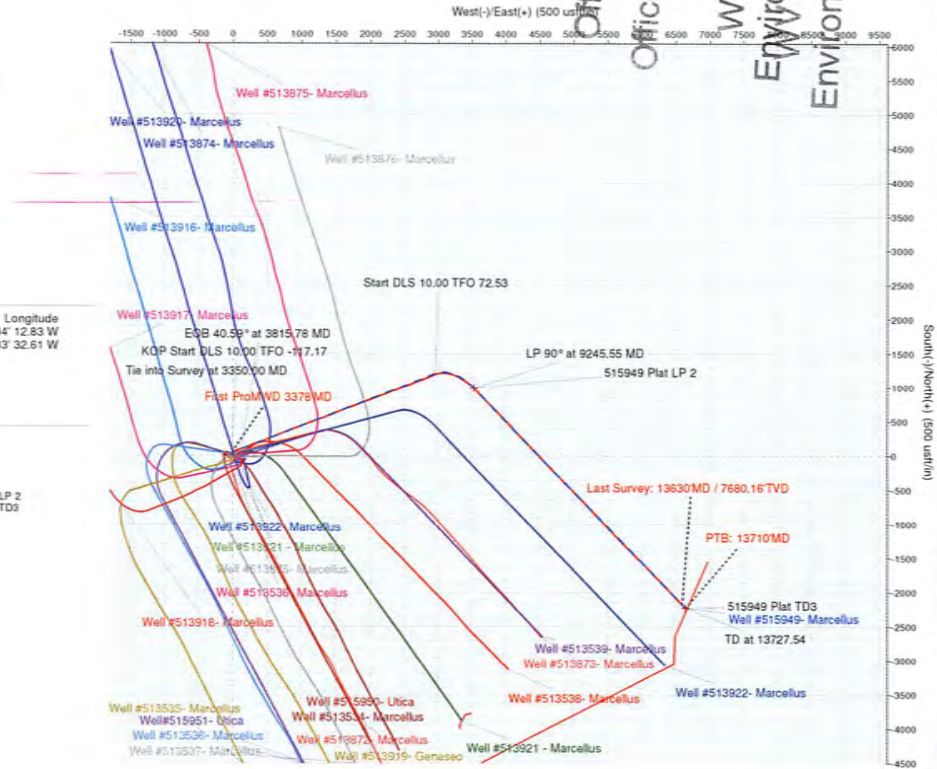
Sec	MD	Inc	Act	TVD	+N-S	+E-W	Dleg	TFace	VFace	Target
1	3350.00	2.25	183.97	3345.81	51.82	-8.25	0.00	0.00	-24.34	
2	3400.00	2.25	183.97	3395.77	49.96	-8.36	0.00	0.00	-23.83	
3	3815.78	40.59	68.51	3778.30	93.27	122.83	10.00	-117.17	86.76	
4	8489.82	40.59	68.51	7327.67	1207.12	2952.67	0.00	0.00	2414.89	
5	9245.55	90.00	136.00	7665.00	993.44	-3530.19	10.00	72.53	3090.29	515949 Plat LP 2
6	13727.54	90.00	136.00	7665.00	-2230.63	6643.64	0.00	0.00	7008.11	515949 Plat TD3



Vertical Section at 108.56° (200 usft/in)

60° X 36"

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: West Virginia North 4701
System Datum: Mean Sea Level



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2016
PRODUCTION

WV State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: West Virginia North 4701
System Datum: Mean Sea Level