



<b>Company:</b>	EQT PRODUCTION	<b>Local Co-ordinate Reference:</b>	Well Well #515112 -MRC - Slot 515112
<b>Project:</b>	Wetzel County, WV	<b>TVD Reference:</b>	KB @23' @ 1022.0usft
<b>Site:</b>	BIG 360	<b>MD Reference:</b>	KB @23' @ 1022.0usft
<b>Well:</b>	Well #515112 -MRC	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Main	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	515112 As Drilled	<b>Database:</b>	Compass 5000 NER

<b>Project</b>	Wetzel County, WV		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	West Virginia North 4701		

<b>Site</b>	BIG 360				
<b>Site Position:</b>		<b>Northing:</b>	378,106.49 usft	<b>Latitude:</b>	39° 31' 57.892 N
<b>From:</b>	Map	<b>Easting:</b>	1,684,996.84 usft	<b>Longitude:</b>	80° 37' 0.648 W
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	-0.71 °

<b>Well</b>	Well #515112 -MRC - Slot 515112					
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	378,090.76 usft	<b>Latitude:</b>	39° 31' 57.742 N
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	1,685,039.00 usft	<b>Longitude:</b>	80° 37' 0.107 W
<b>Position Uncertainty</b>		0.0 usft	<b>Wellhead Elevation:</b>	usft	<b>Ground Level:</b>	999.0 usft

<b>Wellbore</b>	Main				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	HDGM	9/20/2017	-8.20	66.87	52,307

<b>Design</b>	515112 As Drilled				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0		

<b>Survey Program</b>	<b>Date</b>	9/27/2017			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
110.0	2,390.0	Gyrodata Gyro (Main)	GYD_DP_MS	Gyrodata gyro-compassing and drop	
2,527.0	5,958.0	SDI Nudge/Air Curve (Main)	SDI MWD	SDI MWD - Standard ver 1.0.1	
6,033.0	13,393.0	Phoenix MWD Surveys (Main)	MWD+HDGM	OWSG Rev.2 MWD + HDGM	

<b>Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
110.0	0.23	284.56	110.0	0.1	-0.2	0.0	0.21	0.21	0.00	
135.0	0.16	298.61	135.0	0.1	-0.3	0.1	0.34	-0.28	56.20	
160.0	0.16	316.70	160.0	0.1	-0.3	0.1	0.20	0.00	72.36	
185.0	0.07	333.49	185.0	0.2	-0.4	0.1	0.38	-0.36	67.16	
210.0	0.14	314.16	210.0	0.2	-0.4	0.2	0.31	0.28	-77.32	
235.0	0.16	332.22	235.0	0.3	-0.4	0.2	0.20	0.08	72.24	
260.0	0.22	338.64	260.0	0.3	-0.5	0.3	0.25	0.24	25.68	
285.0	0.12	302.51	285.0	0.4	-0.5	0.3	0.57	-0.40	-144.52	

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Survey Report



<b>Company:</b>	EQT PRODUCTION	<b>Local Co-ordinate Reference:</b>	Well Well #515112 -MRC - Slot 515112
<b>Project:</b>	Wetzel County, WV	<b>TVD Reference:</b>	KB @23' @ 1022.0usft
<b>Site:</b>	BIG 360	<b>MD Reference:</b>	KB @23' @ 1022.0usft
<b>Well:</b>	Well #515112 -MRC	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Main	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	515112 As Drilled	<b>Database:</b>	Compass 5000 NER

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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)
310.0	0.16	294.02	310.0	0.4	-0.6	0.4	0.18	0.16	-33.96
335.0	0.23	283.38	335.0	0.4	-0.7	0.4	0.31	0.28	-42.56
360.0	0.21	292.17	360.0	0.5	-0.7	0.4	0.16	-0.08	35.16
385.0	0.18	327.18	385.0	0.5	-0.8	0.4	0.48	-0.12	140.04
410.0	0.20	28.76	410.0	0.6	-0.8	0.5	0.78	0.08	246.32
435.0	0.34	53.33	435.0	0.7	-0.7	0.6	0.71	0.56	98.28
460.0	0.36	74.53	460.0	0.7	-0.6	0.7	0.52	0.08	84.80
485.0	0.50	82.36	485.0	0.8	-0.4	0.7	0.61	0.56	31.32
510.0	0.42	84.92	510.0	0.8	-0.2	0.8	0.33	-0.32	10.24
535.0	0.34	86.32	535.0	0.8	0.0	0.8	0.32	-0.32	5.60
560.0	0.34	95.26	560.0	0.8	0.1	0.8	0.21	0.00	35.76
585.0	0.31	107.05	585.0	0.8	0.2	0.8	0.29	-0.12	47.16
610.0	0.28	128.41	610.0	0.7	0.4	0.8	0.45	-0.12	85.44
635.0	0.19	107.36	635.0	0.7	0.4	0.7	0.49	-0.36	-84.20
660.0	0.09	108.35	660.0	0.7	0.5	0.7	0.40	-0.40	3.96
685.0	0.04	170.51	685.0	0.6	0.5	0.7	0.32	-0.20	248.64
710.0	0.04	301.00	710.0	0.6	0.5	0.7	0.29	0.00	521.96
735.0	0.05	239.35	735.0	0.6	0.5	0.7	0.19	0.04	-246.60
760.0	0.02	198.19	760.0	0.6	0.5	0.7	0.15	-0.12	-164.64
785.0	0.04	205.38	785.0	0.6	0.5	0.7	0.08	0.08	28.76
810.0	0.13	259.58	810.0	0.6	0.5	0.6	0.45	0.36	216.80
835.0	0.10	253.47	835.0	0.6	0.4	0.6	0.13	-0.12	-24.44
860.0	0.08	239.69	860.0	0.6	0.4	0.6	0.12	-0.08	-55.12
885.0	0.10	161.58	885.0	0.5	0.4	0.6	0.46	0.08	-312.44
910.0	0.10	167.21	910.0	0.5	0.4	0.5	0.04	0.00	22.52
935.0	0.02	208.14	935.0	0.5	0.4	0.5	0.34	-0.32	163.72
960.0	0.07	145.13	960.0	0.5	0.4	0.5	0.25	0.20	-252.04
985.0	0.09	130.55	985.0	0.4	0.4	0.5	0.11	0.08	-58.32
1,010.0	0.09	80.90	1,010.0	0.4	0.4	0.5	0.30	0.00	-198.60
1,035.0	0.03	156.91	1,035.0	0.4	0.5	0.5	0.35	-0.24	304.04
1,060.0	0.10	215.46	1,060.0	0.4	0.4	0.4	0.35	0.28	234.20
1,085.0	0.03	260.18	1,085.0	0.4	0.4	0.4	0.33	-0.28	178.88
1,110.0	0.18	320.40	1,110.0	0.4	0.4	0.4	0.67	0.60	240.88
1,135.0	0.24	320.04	1,135.0	0.5	0.3	0.5	0.24	0.24	-1.44
1,160.0	0.30	333.61	1,160.0	0.6	0.3	0.6	0.35	0.24	54.28
1,185.0	0.25	323.18	1,185.0	0.7	0.2	0.7	0.28	-0.20	-41.72
1,210.0	0.33	317.89	1,210.0	0.8	0.1	0.8	0.34	0.32	-21.16
1,235.0	0.30	314.87	1,235.0	0.9	0.0	0.9	0.14	-0.12	-12.08
1,260.0	0.29	314.46	1,260.0	1.0	-0.1	1.0	0.04	-0.04	-1.64
1,285.0	0.34	314.70	1,285.0	1.1	-0.2	1.0	0.20	0.20	0.96
1,310.0	0.37	316.48	1,310.0	1.2	-0.3	1.1	0.13	0.12	7.12
1,335.0	0.36	316.31	1,335.0	1.3	-0.4	1.3	0.04	-0.04	-0.68
1,360.0	0.35	324.75	1,360.0	1.4	-0.5	1.4	0.21	-0.04	33.76

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Survey Report



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<b>Project:</b>	Wetzel County, WV	<b>TVD Reference:</b>	KB @23' @ 1022.0usft
<b>Site:</b>	BIG 360	<b>MD Reference:</b>	KB @23' @ 1022.0usft
<b>Well:</b>	Well #515112 -MRC	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Main	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	515112 As Drilled	<b>Database:</b>	Compass 5000 NER

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)	
1,385.0	0.34	327.79	1,385.0	1.5	-0.6	1.5	0.08	-0.04	12.16	
1,410.0	0.29	326.16	1,410.0	1.7	-0.6	1.6	0.20	-0.20	-6.52	
1,435.0	0.34	314.78	1,435.0	1.8	-0.7	1.7	0.32	0.20	-45.52	
1,460.0	0.31	320.48	1,460.0	1.9	-0.8	1.8	0.18	-0.12	22.80	
1,485.0	0.25	329.24	1,485.0	2.0	-0.9	1.9	0.29	-0.24	35.04	
1,510.0	0.29	337.45	1,510.0	2.1	-0.9	2.0	0.22	0.16	32.84	
1,535.0	0.29	340.55	1,535.0	2.2	-1.0	2.1	0.06	0.00	12.40	
1,560.0	0.23	336.50	1,560.0	2.3	-1.0	2.2	0.25	-0.24	-16.20	
1,585.0	0.17	6.72	1,585.0	2.4	-1.0	2.3	0.48	-0.24	120.88	
1,610.0	0.14	28.54	1,610.0	2.4	-1.0	2.3	0.26	-0.12	87.28	
1,635.0	0.12	11.59	1,635.0	2.5	-1.0	2.4	0.17	-0.08	-67.80	
1,660.0	0.11	349.05	1,660.0	2.5	-1.0	2.4	0.18	-0.04	-90.16	
1,685.0	0.10	22.45	1,685.0	2.6	-1.0	2.5	0.24	-0.04	133.60	
1,710.0	0.09	50.87	1,710.0	2.6	-1.0	2.5	0.19	-0.04	113.68	
1,735.0	0.07	348.10	1,735.0	2.6	-1.0	2.5	0.34	-0.08	-251.08	
1,760.0	0.13	297.56	1,760.0	2.7	-1.0	2.6	0.40	0.24	-202.16	
1,785.0	0.13	306.06	1,785.0	2.7	-1.0	2.6	0.08	0.00	34.00	
1,810.0	0.11	336.44	1,810.0	2.7	-1.1	2.6	0.26	-0.08	121.52	
1,835.0	0.10	332.33	1,835.0	2.8	-1.1	2.7	0.05	-0.04	-16.44	
1,860.0	0.05	324.83	1,860.0	2.8	-1.1	2.7	0.20	-0.20	-30.00	
1,885.0	0.05	62.60	1,885.0	2.8	-1.1	2.7	0.30	0.00	391.08	
1,910.0	0.16	266.66	1,910.0	2.8	-1.1	2.7	0.83	0.44	-623.76	
1,935.0	0.11	246.35	1,935.0	2.8	-1.2	2.7	0.27	-0.20	-81.24	
1,960.0	0.13	264.92	1,960.0	2.8	-1.2	2.7	0.17	0.08	74.28	
1,985.0	0.14	230.59	1,985.0	2.8	-1.3	2.6	0.32	0.04	-137.32	
2,010.0	0.12	248.39	2,010.0	2.7	-1.3	2.6	0.18	-0.08	71.20	
2,035.0	0.13	289.82	2,035.0	2.7	-1.4	2.6	0.36	0.04	165.72	
2,060.0	0.18	288.97	2,060.0	2.8	-1.4	2.6	0.20	0.20	-3.40	
2,085.0	0.15	266.64	2,085.0	2.8	-1.5	2.6	0.28	-0.12	-89.32	
2,110.0	0.12	270.43	2,110.0	2.8	-1.6	2.6	0.13	-0.12	15.16	
2,135.0	0.13	283.31	2,135.0	2.8	-1.6	2.6	0.12	0.04	51.52	
2,160.0	0.35	288.88	2,160.0	2.8	-1.7	2.6	0.88	0.88	22.28	
2,185.0	0.34	305.55	2,185.0	2.9	-1.9	2.7	0.40	-0.04	66.68	
2,210.0	0.29	289.81	2,210.0	2.9	-2.0	2.8	0.40	-0.20	-62.96	
2,235.0	0.40	285.19	2,235.0	3.0	-2.1	2.8	0.45	0.44	-18.48	
2,260.0	0.37	282.33	2,260.0	3.0	-2.3	2.8	0.14	-0.12	-11.44	
2,285.0	0.35	294.59	2,285.0	3.1	-2.4	2.8	0.32	-0.08	49.04	
2,310.0	0.34	308.90	2,310.0	3.2	-2.6	2.9	0.35	-0.04	57.24	
2,335.0	0.28	307.32	2,335.0	3.2	-2.7	3.0	0.24	-0.24	-6.32	
2,360.0	0.29	308.46	2,360.0	3.3	-2.8	3.1	0.05	0.04	4.56	
2,385.0	0.32	300.77	2,385.0	3.4	-2.9	3.1	0.20	0.12	-30.76	
2,390.0	0.32	303.30	2,390.0	3.4	-2.9	3.1	0.28	0.00	50.60	
2,527.0	0.52	281.05	2,527.0	3.7	-3.1	3.1	0.19	0.15	-16.24	

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<b>Site:</b>	BIG 360	<b>MD Reference:</b>	KB @23' @ 1022.0usft
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<b>Design:</b>	515112 As Drilled	<b>Database:</b>	Compass 5000 NER

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2,570.0	0.47	304.28	2,570.0	3.9	-4.2	3.5	0.48	-0.12	54.02	
2,614.0	1.16	27.02	2,614.0	4.4	-4.1	4.0	2.72	1.57	188.05	
2,657.0	2.88	47.63	2,656.9	5.5	-3.1	5.2	4.28	4.00	47.93	
2,701.0	5.00	52.82	2,700.8	7.4	-0.8	7.3	4.88	4.82	11.80	
2,745.0	6.97	60.21	2,744.6	9.9	3.1	10.1	4.80	4.48	16.80	
2,789.0	7.73	61.92	2,788.2	12.6	8.0	13.3	1.80	1.73	3.89	
2,832.0	7.72	61.22	2,830.8	15.4	13.1	16.5	0.22	-0.02	-1.63	
2,876.0	8.05	67.76	2,874.4	17.9	18.5	19.6	2.17	0.75	14.86	
2,920.0	8.54	76.99	2,918.0	19.8	24.6	22.0	3.22	1.11	20.98	
2,963.0	7.40	87.78	2,960.6	20.7	30.4	23.4	4.36	-2.65	25.09	
3,006.0	5.95	98.66	3,003.3	20.4	35.4	23.6	4.46	-3.37	25.30	
3,049.0	4.78	110.04	3,046.1	19.5	39.3	23.0	3.67	-2.72	26.47	
3,093.0	2.91	117.42	3,090.0	18.3	42.0	22.1	4.39	-4.25	16.77	
3,136.0	1.73	148.39	3,132.9	17.3	43.3	21.2	3.91	-2.74	72.02	
3,180.0	1.55	170.49	3,176.9	16.1	43.8	20.1	1.48	-0.41	50.23	
3,267.0	0.81	172.22	3,263.9	14.4	44.0	18.4	0.85	-0.85	1.99	
3,355.0	0.73	347.75	3,351.9	14.3	44.0	18.3	1.75	-0.09	199.47	
3,442.0	1.47	352.28	3,438.9	15.9	43.7	19.9	0.86	0.85	5.21	
3,528.0	0.78	343.02	3,524.9	17.6	43.4	21.5	0.83	-0.80	-10.77	
3,614.0	0.27	319.27	3,610.9	18.3	43.1	22.2	0.63	-0.59	-27.62	
3,700.0	0.34	353.06	3,696.9	18.7	43.0	22.6	0.22	0.08	39.29	
3,787.0	0.23	72.29	3,783.9	19.0	43.1	22.9	0.43	-0.13	91.07	
3,874.0	0.53	119.22	3,870.9	18.9	43.6	22.8	0.47	0.34	53.94	
3,960.0	0.41	115.87	3,956.9	18.6	44.2	22.5	0.14	-0.14	-3.90	
4,046.0	0.60	104.27	4,042.9	18.3	44.9	22.4	0.25	0.22	-13.49	
4,174.0	1.00	99.93	4,170.8	18.0	46.7	22.2	0.32	0.31	-3.39	
4,261.0	0.83	104.12	4,257.8	17.7	48.1	22.0	0.21	-0.20	4.82	
4,347.0	0.77	116.92	4,343.8	17.3	49.2	21.7	0.22	-0.07	14.88	
4,391.0	1.11	117.25	4,387.8	16.9	49.8	21.4	0.77	0.77	0.75	
4,435.0	2.55	95.11	4,431.8	16.6	51.2	21.3	3.59	3.27	-50.32	
4,478.0	5.63	86.44	4,474.7	16.7	54.2	21.6	7.29	7.16	-20.16	
4,522.0	8.65	88.95	4,518.3	16.9	59.7	22.3	6.90	6.86	5.70	
4,564.0	10.37	93.49	4,559.8	16.7	66.6	22.8	4.46	4.10	10.81	
4,608.0	12.26	101.25	4,602.9	15.6	75.2	22.4	5.51	4.30	17.64	
4,652.0	13.68	112.14	4,645.8	12.7	84.6	20.4	6.41	3.23	24.75	
4,695.0	15.05	119.14	4,687.4	8.1	94.2	16.7	5.14	3.19	16.28	
4,739.0	17.64	123.28	4,729.7	1.6	104.7	11.2	6.45	5.89	9.41	
4,783.0	20.45	125.51	4,771.3	-6.5	116.5	4.2	6.60	6.39	5.07	
4,826.0	23.32	125.71	4,811.1	-15.8	129.6	-3.9	6.68	6.67	0.47	
4,870.0	25.42	123.84	4,851.2	-26.2	144.5	-12.8	5.08	4.77	-4.25	
4,914.0	28.00	119.67	4,890.5	-36.6	161.3	-21.6	7.24	5.86	-9.48	
4,957.0	28.72	118.62	4,928.4	-46.5	179.2	-29.9	2.04	1.67	-2.44	
5,001.0	30.83	116.69	4,966.6	-56.6	198.5	-38.2	5.27	4.80	-4.39	
5,045.0	33.75	116.28	5,003.8	-67.1	219.5	-46.7	6.65	6.64	-0.93	



Phoenix Technology Services LP  
Survey Report



<b>Company:</b>	EQT PRODUCTION	<b>Local Co-ordinate Reference:</b>	Well Well #515112 -MRC - Slot 515112
<b>Project:</b>	Wetzel County, WV	<b>TVD Reference:</b>	KB @23' @ 1022.0usft
<b>Site:</b>	BIG 360	<b>MD Reference:</b>	KB @23' @ 1022.0usft
<b>Well:</b>	Well #515112 -MRC	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Main	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	515112 As Drilled	<b>Database:</b>	Compass 5000 NER

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)
5,088.0	36.73	116.68	5,038.9	-78.2	241.8	-55.6	6.95	6.93	0.93
5,132.0	39.62	114.92	5,073.5	-90.0	266.2	-65.2	7.02	6.57	-4.00
5,176.0	42.63	114.77	5,106.6	-102.2	292.5	-74.9	6.84	6.84	-0.34
5,219.0	43.51	113.57	5,138.0	-114.2	319.3	-84.4	2.80	2.05	-2.79
5,263.0	43.14	115.34	5,170.0	-126.7	346.8	-94.3	2.89	-0.84	4.02
5,307.0	41.21	114.76	5,202.6	-139.2	373.5	-104.3	4.47	-4.39	-1.32
5,350.0	40.31	111.92	5,235.2	-150.3	399.3	-113.0	4.79	-2.09	-6.60
5,394.0	40.29	113.46	5,268.8	-161.3	425.5	-121.5	2.26	-0.05	3.50
5,438.0	41.47	111.90	5,302.0	-172.4	452.1	-130.1	3.55	2.68	-3.55
5,481.0	42.66	113.96	5,333.9	-183.6	478.6	-138.9	4.24	2.77	4.79
5,525.0	42.36	113.67	5,366.4	-195.6	505.8	-148.3	0.81	-0.68	-0.66
5,569.0	42.77	112.49	5,398.8	-207.3	533.2	-157.4	2.04	0.93	-2.68
5,612.0	42.50	110.51	5,430.4	-218.0	560.3	-165.6	3.18	-0.63	-4.60
5,656.0	42.23	110.35	5,462.9	-228.3	588.1	-173.3	0.66	-0.61	-0.36
5,700.0	42.40	111.57	5,495.5	-238.9	615.8	-181.3	1.91	0.39	2.77
5,742.0	42.23	109.43	5,526.5	-248.8	642.2	-188.8	3.45	-0.40	-5.10
5,784.0	41.83	109.64	5,557.7	-258.2	668.7	-195.7	1.01	-0.95	0.50
5,828.0	41.45	111.82	5,590.6	-268.6	696.1	-203.5	3.40	-0.86	4.95
5,871.0	41.72	113.50	5,622.8	-279.5	722.4	-212.0	2.67	0.63	3.91
5,915.0	40.89	115.31	5,655.8	-291.5	748.9	-221.5	3.31	-1.89	4.11
5,958.0	40.29	117.93	5,688.5	-304.1	773.9	-231.7	4.20	-1.40	6.09
Tie In									
6,033.0	40.68	114.91	5,745.5	-325.7	817.5	-249.3	2.67	0.52	-4.03
First Phoenix MWD Survey									
6,127.0	44.63	119.88	5,814.7	-355.1	873.9	-273.3	5.52	4.20	5.29
6,221.0	43.98	119.27	5,881.9	-387.5	931.0	-300.3	0.83	-0.69	-0.65
6,316.0	43.76	119.56	5,950.4	-419.8	988.4	-327.3	0.31	-0.23	0.31
6,410.0	43.65	123.09	6,018.4	-453.6	1,043.8	-355.8	2.60	-0.12	3.76
6,504.0	43.14	122.92	6,086.7	-488.8	1,098.0	-385.8	0.56	-0.54	-0.18
6,598.0	42.43	122.44	6,155.7	-523.3	1,151.7	-415.2	0.83	-0.76	-0.51
6,693.0	43.35	118.61	6,225.3	-556.1	1,207.4	-442.8	2.91	0.97	-4.03
6,787.0	44.06	117.50	6,293.3	-586.6	1,264.7	-467.9	1.11	0.76	-1.18
6,819.0	43.97	117.34	6,316.3	-596.8	1,284.5	-476.3	0.45	-0.28	-0.50
6,851.0	43.60	116.51	6,339.4	-606.9	1,304.2	-484.5	2.13	-1.16	-2.59
6,864.0	42.58	115.37	6,348.9	-610.8	1,312.2	-487.6	9.87	-7.84	-8.79
KOP As-Drilled:6864'MD/6348.9'TVD									
6,882.0	41.19	113.71	6,362.3	-615.8	1,323.1	-491.6	9.87	-7.73	-9.21
6,913.0	38.95	109.48	6,386.0	-623.1	1,341.7	-497.2	11.37	-7.23	-13.65
6,945.0	37.71	104.18	6,411.1	-628.9	1,360.7	-501.2	10.98	-3.88	-16.56
6,976.0	37.04	99.97	6,435.7	-632.8	1,379.0	-503.4	8.52	-2.16	-13.58
7,008.0	36.53	96.70	6,461.4	-635.6	1,398.0	-505.6	6.32	-1.59	-10.22
7,039.0	36.11	92.09	6,486.3	-637.0	1,416.3	-507.8	8.91	-1.35	-14.87
7,070.0	34.49	88.17	6,511.6	-637.0	1,434.2	-502.6	8.98	-5.23	-12.65
7,102.0	33.72	82.91	6,538.2	-635.7	1,452.1	-499.6	9.52	-2.41	-16.44

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Phoenix Technology Services LP  
Survey Report



<b>Company:</b>	EQT PRODUCTION	<b>Local Co-ordinate Reference:</b>	Well Well #515112 -MRC - Slot 515112
<b>Project:</b>	Wetzel County, WV	<b>TVD Reference:</b>	KB @23' @ 1022.0usft
<b>Site:</b>	BIG 360	<b>MD Reference:</b>	KB @23' @ 1022.0usft
<b>Well:</b>	Well #515112 -MRC	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Main	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	515112 As Drilled	<b>Database:</b>	Compass 5000 NER

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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)
7,133.0	33.71	79.38	6,563.9	-633.0	1,469.1	-495.4	6.32	-0.03	-11.39
7,165.0	33.75	75.59	6,590.6	-629.2	1,486.4	-490.0	6.58	0.13	-11.84
7,196.0	34.58	70.96	6,616.2	-624.1	1,503.1	-483.4	8.80	2.68	-14.94
7,228.0	35.26	67.42	6,642.5	-617.6	1,520.2	-475.4	6.68	2.13	-11.06
7,259.0	36.09	64.75	6,667.6	-610.3	1,536.7	-466.6	5.69	2.68	-8.61
7,290.0	37.57	61.25	6,692.5	-601.9	1,553.2	-456.6	8.28	4.77	-11.29
7,322.0	38.27	56.52	6,717.7	-591.7	1,570.1	-445.0	9.34	2.19	-14.78
7,353.0	38.32	51.47	6,742.0	-580.4	1,585.6	-432.3	10.09	0.16	-16.29
7,385.0	38.50	44.74	6,767.1	-567.2	1,600.4	-417.7	13.07	0.56	-21.03
7,416.0	39.15	41.12	6,791.3	-552.9	1,613.6	-402.4	7.61	2.10	-11.68
7,448.0	40.75	37.40	6,815.8	-537.0	1,626.6	-385.3	8.98	5.00	-11.63
7,479.0	42.07	35.45	6,839.1	-520.5	1,638.8	-367.8	5.95	4.26	-6.29
7,511.0	44.10	33.17	6,862.4	-502.5	1,651.1	-348.7	7.99	6.34	-7.13
7,542.0	45.88	31.20	6,884.4	-483.9	1,662.7	-329.1	7.29	5.74	-6.35
7,574.0	48.16	28.49	6,906.2	-463.6	1,674.4	-307.8	9.44	7.13	-8.47
7,605.0	50.70	25.08	6,926.3	-442.6	1,685.0	-285.9	11.70	8.19	-11.00
7,636.0	53.18	22.40	6,945.4	-420.2	1,694.8	-262.8	10.50	8.00	-8.65
7,668.0	55.09	18.55	6,964.2	-396.0	1,703.9	-237.8	11.43	5.97	-12.03
7,699.0	57.42	15.15	6,981.4	-371.3	1,711.3	-212.5	11.82	7.52	-10.97
7,731.0	58.84	11.24	6,998.3	-344.8	1,717.5	-185.6	11.28	4.44	-12.22
7,762.0	60.71	6.60	7,013.9	-318.4	1,721.7	-158.9	14.27	6.03	-14.97
7,793.0	62.29	4.45	7,028.7	-291.3	1,724.3	-131.7	7.94	5.10	-6.94
7,825.0	63.69	0.88	7,043.3	-262.8	1,725.6	-103.2	10.86	4.38	-11.16
7,856.0	65.82	359.33	7,056.5	-234.8	1,725.6	-75.3	8.23	6.87	-5.00
7,888.0	68.69	356.30	7,068.9	-205.3	1,724.5	-46.0	12.52	8.97	-9.47
7,919.0	70.98	355.59	7,079.5	-176.3	1,722.4	-17.3	7.69	7.39	-2.29
7,951.0	72.95	355.43	7,089.4	-145.9	1,720.1	12.7	6.17	6.16	-0.50
7,982.0	74.41	354.76	7,098.2	-116.3	1,717.5	42.0	5.15	4.71	-2.16
8,014.0	74.79	355.19	7,106.7	-85.6	1,714.8	72.3	1.76	1.19	1.34
8,045.0	77.23	353.97	7,114.2	-55.6	1,712.0	101.9	8.75	7.87	-3.94
8,076.0	79.71	353.03	7,120.3	-25.4	1,708.5	131.6	8.53	8.00	-3.03
8,108.0	82.61	351.42	7,125.3	5.9	1,704.3	162.4	10.34	9.06	-5.03
8,139.0	85.50	349.91	7,128.5	36.3	1,699.3	192.2	10.51	9.32	-4.87
8,171.0	88.08	349.52	7,130.3	67.7	1,693.6	223.0	8.15	8.06	-1.22
8,202.0	90.04	346.59	7,130.8	98.1	1,687.1	252.6	11.37	6.32	-9.45
<b>LP As-Drilled/8202'MD/7130.8'TVD - Cherry Valley Target - Deepest Point @ 8202'MD/7130.8'TVD</b>									
8,297.0	90.27	347.32	7,130.5	190.6	1,665.7	342.8	0.81	0.24	0.77
8,390.0	90.44	348.47	7,129.9	281.5	1,646.2	431.6	1.25	0.18	1.24
8,485.0	90.42	346.60	7,129.2	374.3	1,625.7	522.0	1.97	-0.02	-1.97
8,579.0	90.68	347.76	7,128.3	465.9	1,604.8	611.4	1.26	0.28	1.23
8,673.0	90.84	345.17	7,127.1	557.3	1,582.8	700.4	2.76	0.17	-2.76
8,768.0	90.93	344.25	7,125.6	648.9	1,557.8	789.3	0.97	0.09	-0.97
8,861.0	89.47	344.69	7,125.3	738.5	1,532.9	876.2	1.64	-1.57	0.47

<b>Company:</b>	EQT PRODUCTION	<b>Local Co-ordinate Reference:</b>	Well Well #515112 -MRC - Slot 515112
<b>Project:</b>	Wetzel County, WV	<b>TVD Reference:</b>	KB @23' @ 1022.0usft
<b>Site:</b>	BIG 360	<b>MD Reference:</b>	KB @23' @ 1022.0usft
<b>Well:</b>	Well #515112 -MRC	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Main	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	515112 As Drilled	<b>Database:</b>	Compass 5000 NER

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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)
8,956.0	89.52	344.90	7,126.1	830.2	1,508.0	965.2	0.23	0.05	0.22
9,050.0	90.10	345.93	7,126.4	921.2	1,484.3	1,053.6	1.26	0.62	1.10
9,144.0	90.35	346.02	7,126.1	1,012.4	1,461.5	1,142.4	0.28	0.27	0.10
9,239.0	92.18	345.34	7,124.0	1,104.4	1,438.0	1,231.8	2.05	1.93	-0.72
9,333.0	92.70	345.68	7,120.0	1,195.3	1,414.5	1,320.2	0.66	0.55	0.36
9,428.0	90.44	345.95	7,117.4	1,287.4	1,391.3	1,409.8	2.40	-2.38	0.28
9,522.0	90.70	345.80	7,116.4	1,378.5	1,368.3	1,498.4	0.32	0.28	-0.16
9,617.0	89.21	346.28	7,116.5	1,470.7	1,345.4	1,588.1	1.65	-1.57	0.51
9,711.0	88.73	347.21	7,118.2	1,562.2	1,323.9	1,677.2	1.11	-0.51	0.99
9,806.0	89.98	347.86	7,119.3	1,655.0	1,303.4	1,767.7	1.48	1.32	0.68
9,900.0	90.25	347.55	7,119.1	1,746.8	1,283.3	1,857.3	0.44	0.29	-0.33
9,994.0	90.87	347.48	7,118.2	1,838.6	1,263.0	1,946.8	0.66	0.66	-0.07
10,088.0	91.07	346.41	7,116.6	1,930.1	1,241.8	2,036.1	1.16	0.21	-1.14
10,183.0	90.96	347.20	7,114.9	2,022.6	1,220.1	2,126.1	0.84	-0.12	0.83
10,277.0	91.12	346.64	7,113.2	2,114.2	1,198.8	2,215.4	0.62	0.17	-0.60
10,371.0	90.01	346.69	7,112.2	2,205.6	1,177.2	2,304.4	1.18	-1.18	0.05
10,466.0	89.81	346.46	7,112.4	2,298.0	1,155.1	2,394.4	0.32	-0.21	-0.24
10,560.0	89.75	346.66	7,112.8	2,389.5	1,133.3	2,483.5	0.22	-0.06	0.21
10,655.0	89.76	347.26	7,113.2	2,482.0	1,111.8	2,573.6	0.63	0.01	0.63
10,749.0	91.33	346.79	7,112.3	2,573.6	1,090.7	2,662.9	1.74	1.67	-0.50
10,843.0	91.34	347.10	7,110.1	2,665.1	1,069.5	2,752.1	0.33	0.01	0.33
10,938.0	91.41	348.28	7,107.8	2,757.9	1,049.2	2,842.7	1.24	0.07	1.24
11,032.0	91.07	345.66	7,105.8	2,849.5	1,028.1	2,931.9	2.81	-0.36	-2.79
11,126.0	91.04	345.70	7,104.0	2,940.5	1,004.8	3,020.4	0.05	-0.03	0.04
11,220.0	91.02	344.98	7,102.3	3,031.5	981.0	3,108.8	0.77	-0.02	-0.77
11,314.0	89.29	344.46	7,102.1	3,122.1	956.3	3,196.8	1.92	-1.84	-0.55
11,409.0	90.90	345.66	7,101.9	3,213.9	931.8	3,285.9	2.11	1.69	1.26
11,503.0	91.05	345.40	7,100.3	3,304.9	908.3	3,374.4	0.32	0.16	-0.28
11,597.0	91.04	347.24	7,098.6	3,396.2	886.0	3,463.3	1.96	-0.01	1.96
11,691.0	89.79	347.28	7,097.9	3,487.9	865.3	3,552.7	1.33	-1.33	0.04
11,786.0	90.01	346.33	7,098.1	3,580.4	843.6	3,642.8	1.03	0.23	-1.00
11,880.0	90.67	345.79	7,097.5	3,671.6	821.0	3,731.5	0.91	0.70	-0.57
11,974.0	89.95	347.74	7,097.0	3,763.1	799.5	3,820.7	2.21	-0.77	2.07
12,068.0	90.04	346.03	7,097.0	3,854.7	778.1	3,909.9	1.82	0.10	-1.82
12,162.0	89.53	347.94	7,097.4	3,946.3	757.0	3,999.1	2.10	-0.54	2.03
12,257.0	89.39	348.30	7,098.3	4,039.2	737.4	4,089.9	0.41	-0.15	0.38
12,352.0	89.67	348.22	7,099.1	4,132.2	718.1	4,180.7	0.31	0.29	-0.08
12,446.0	91.75	346.92	7,097.9	4,224.0	697.9	4,270.3	2.61	2.21	-1.38
12,541.0	92.18	347.95	7,094.7	4,316.7	677.2	4,360.6	1.17	0.45	1.08
12,635.0	90.25	347.62	7,092.7	4,408.5	657.3	4,450.3	2.08	-2.05	-0.35
12,729.0	90.36	346.89	7,092.2	4,500.2	636.6	4,539.7	0.79	0.12	-0.78
12,824.0	90.48	346.97	7,091.5	4,592.8	615.1	4,629.8	0.15	0.13	0.08
12,918.0	89.47	345.97	7,091.5	4,684.1	593.1	4,718.8	1.51	-1.07	-1.06

<b>Company:</b>	EQT PRODUCTION	<b>Local Co-ordinate Reference:</b>	Well Well #515112 -MRC - Slot 515112
<b>Project:</b>	Wetzel County, WV	<b>TVD Reference:</b>	KB @23' @ 1022.0usft
<b>Site:</b>	BIG 360	<b>MD Reference:</b>	KB @23' @ 1022.0usft
<b>Well:</b>	Well #515112 -MRC	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Main	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	515112 As Drilled	<b>Database:</b>	Compass 5000 NER

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)
13,013.0	89.81	344.91	7,092.1	4,776.1	569.2	4,808.2	1.17	0.36	-1.12
13,107.0	89.99	342.89	7,092.3	4,866.4	543.2	4,895.7	2.16	0.19	-2.15
13,201.0	90.61	346.99	7,091.8	4,957.1	518.7	4,983.8	4.41	0.66	4.36
13,295.0	90.62	345.98	7,090.8	5,048.5	496.8	5,072.8	1.07	0.01	-1.07
13,316.0	90.71	345.45	7,090.5	5,068.9	491.6	5,092.6	2.56	0.43	-2.52
<b>Final Phoenix MWD Survey</b>									
13,393.0	90.71	345.45	7,089.6	5,143.4	472.3	5,165.0	0.00	0.00	0.00
<b>PTB/As-Drilled TD:13393'MD/7089.6'TVD</b>									

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
515112-As-Drilled KOP - hit/miss target - Shape - Point	0.00	360.00	6,348.9	-610.8	1,312.2	377,480.00	1,686,351.20	39° 31' 51.867 N	80° 36' 43.264 W
515112-As-Drilled LP - actual wellpath hits target center - Point	0.00	360.00	7,130.8	98.1	1,687.1	378,188.83	1,686,726.13	39° 31' 58.918 N	80° 36' 38.591 W

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,958.0	5,688.5	-304.1	773.9	Tie In
6,033.0	5,745.5	-325.7	817.5	First Phoenix MWD Survey
6,864.0	6,348.9	-610.8	1,312.2	KOP As-Drilled:6864'MD/6348.9'TVD
8,202.0	7,130.8	98.1	1,687.1	LP As-Drilled/8202'MD/7130.8'TVD
8,202.0	7,130.8	98.1	1,687.1	Cherry Valley Target
8,202.0	7,130.8	98.1	1,687.1	Deepest Point @ 8202'MD/7130.8'TVD
13,316.0	7,090.5	5,068.9	491.6	Final Phoenix MWD Survey
13,393.0	7,089.6	5,143.4	472.3	PTB/As-Drilled TD:13393'MD/7089.6'TVD

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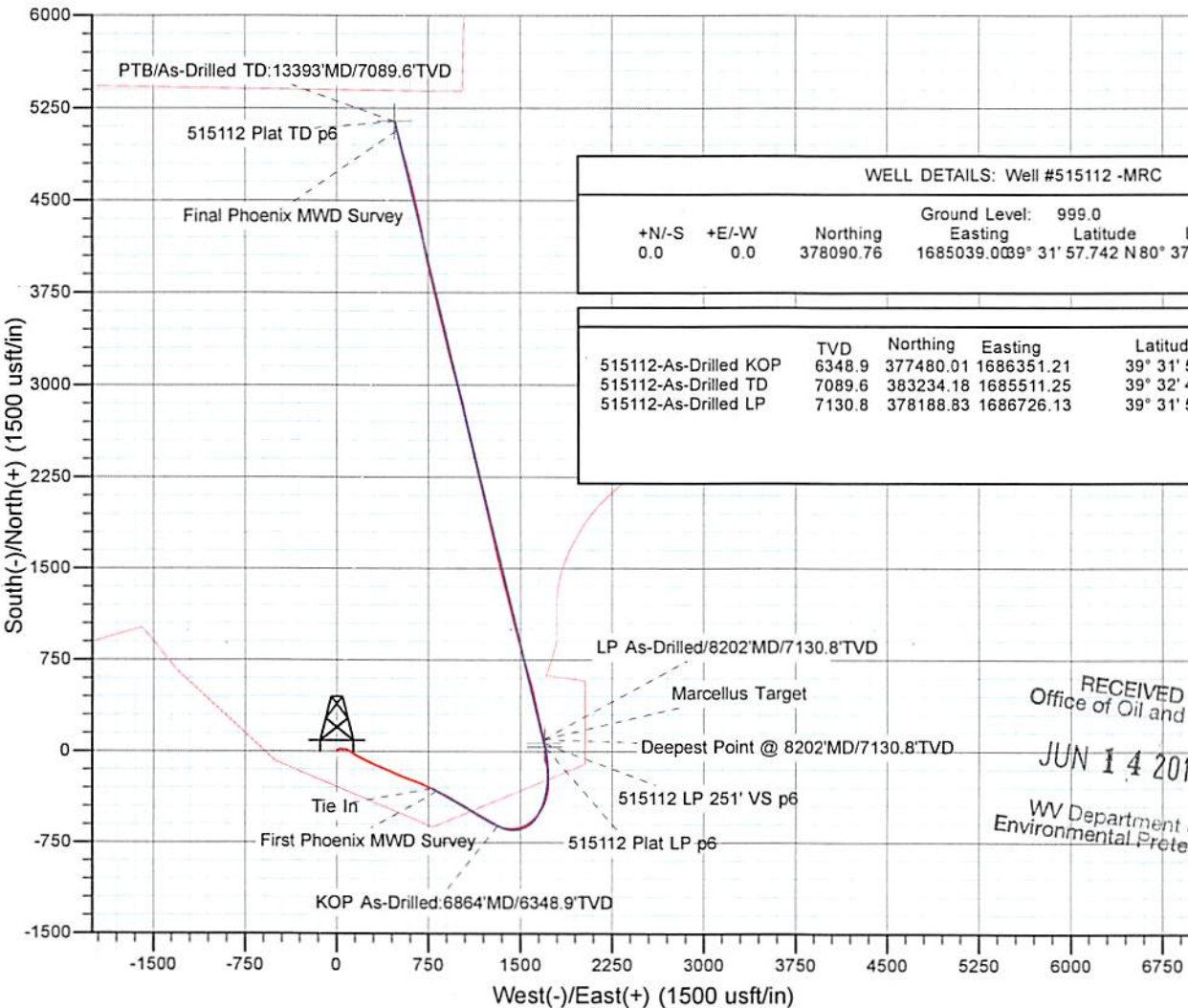
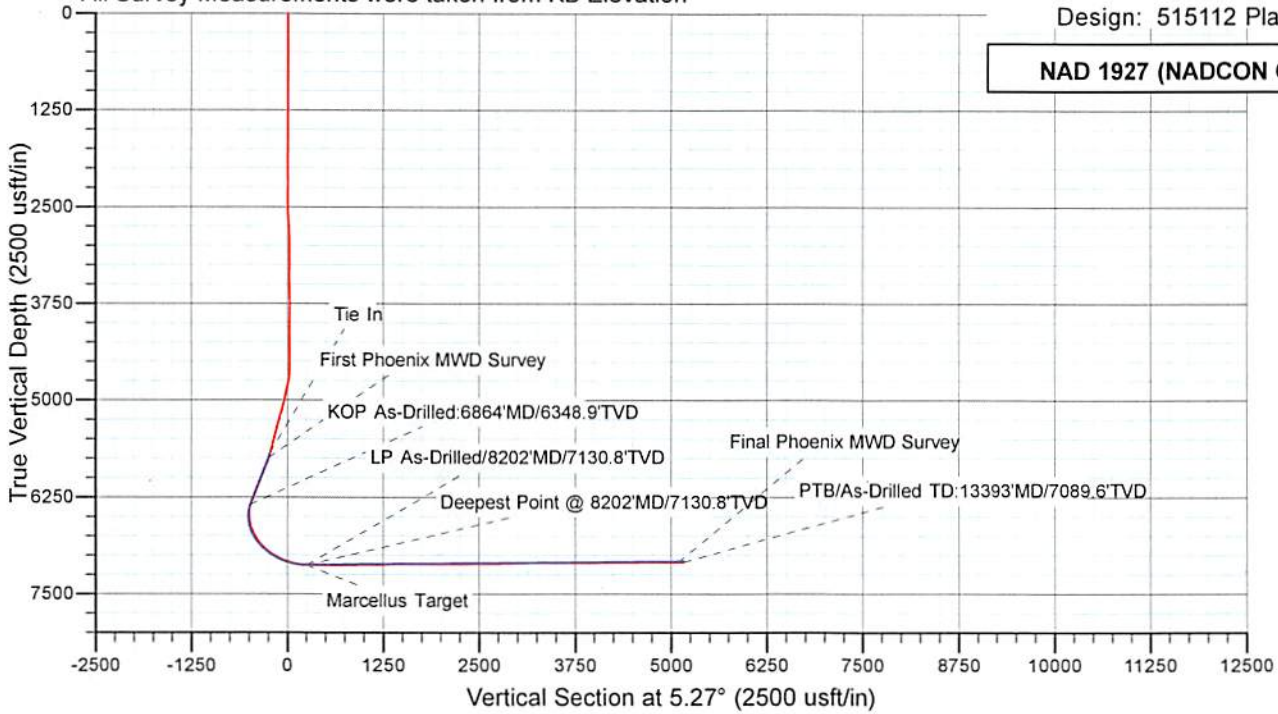
WV Department of  
Environmental Protection



KB Elevation=1319 FT  
Ground Elevation=1296 FT

Project: Wetzel County, WV  
Site: BIG 360  
Well: Well #515112 -MRC  
Wellbore: Main  
Design: 515112 Plan 7 NP

All Survey Measurements were taken from KB Elevation



WELL DETAILS: Well #515112 -MRC							
+N/-S	+E/-W	Northing	Ground Level:	Easting	Latitude	Longitude	Slot
0.0	0.0	378090.76	999.0	1685039.00	31° 57.742' N	80° 37' 0.107" W	515112

	TVD	Northing	Easting	Latitude	Longitude
515112-As-Drilled KOP	6348.9	377480.01	1686351.21	39° 31' 51.867" N	80° 36' 43.264" W
515112-As-Drilled TD	7089.6	383234.18	1685511.25	39° 32' 48.633" N	80° 36' 54.895" W
515112-As-Drilled LP	7130.8	378188.83	1686726.13	39° 31' 58.918" N	80° 36' 38.591" W

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