



**PHOENIX**  
TECHNOLOGY SERVICES USA INC.

## **EQT Production - Marcellus**

**Doddridge County, WV Grid**

**Doddridge County 512507**

**Well #512507**

**Well #512507**

**Survey: Surveys**

## **Standard Survey Report**

**24 May, 2011**

*rec'd 6-2-11 in box picked*



Survey Report

<b>Database:</b>	EQT	<b>Local Co-ordinate Reference:</b>	Site Doddridge County 512507
<b>Company:</b>	EQT Production - Marcellus	<b>TVD Reference:</b>	WELL @ 0.00ft (Original Well Elev)
<b>Project:</b>	Doddridge County, WV Grid	<b>MD Reference:</b>	WELL @ 0.00ft (Original Well Elev)
<b>Site:</b>	Doddridge County 512507	<b>North Reference:</b>	Grid
<b>Well:</b>	Well #512507	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Well #512507		
<b>Design:</b>	512507 Surveys		

<b>Project</b>	Doddridge County, WV Grid		
<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		Using geodetic scale factor

<b>Site</b>	Doddridge County 512507				
<b>Site Position:</b>		<b>Northing:</b>	281,467.43 usft	<b>Latitude:</b>	39.27
<b>From:</b>	Map	<b>Easting:</b>	1,637,921.72 usft	<b>Longitude:</b>	-80.78
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	-0.82 °

<b>Well</b>	Well #512507					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	281,467.43 usft	<b>Latitude:</b>	39° 15' 56.588 N
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	1,637,921.72 usft	<b>Longitude:</b>	80° 46' 43.873 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	0.00 ft

<b>Wellbore</b>	Well #512507				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	5/28/2010	-8.30	67.18	52,788

<b>Design</b>	512507 Surveys				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	6,000.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	335.00	

<b>Survey Program</b>	<b>Date</b>	5/24/2011			
<b>From ()</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
0.00	5,400.00	Survey #1 (DATED - DO NOT USE) (5125)	WLST		
0.00	10,355.00	Surveys (Well #512507)	WLST		

<b>Survey</b>											
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>Subsea Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
<b>Tie-In @ 6000ft MD</b>											
6,000.00	1.59	274.20	5,998.96	5,998.96	-21.84	-54.46	3.22	0.00	0.00	0.00	
6,057.00	1.10	278.60	6,055.94	6,055.94	-21.70	-55.79	3.91	0.88	-0.86	7.72	
6,089.00	1.00	289.50	6,087.93	6,087.93	-21.57	-56.35	4.27	0.70	-0.31	34.06	
6,120.00	1.50	306.50	6,118.93	6,118.93	-21.23	-56.94	4.82	1.99	1.61	54.84	
6,152.00	4.80	327.10	6,150.88	6,150.88	-19.86	-58.00	6.51	10.74	10.31	64.38	
6,183.00	9.10	328.30	6,181.64	6,181.64	-16.68	-59.99	10.23	13.88	13.87	3.87	
6,215.00	12.80	333.40	6,213.05	6,213.05	-11.36	-62.91	16.29	11.94	11.56	15.94	



Survey Report

Database:	EQT	Local Co-ordinate Reference:	Site Doddridge County 512507
Company:	EQT Production - Marcellus	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Project:	Doddridge County, WV Grid	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	Doddridge County 512507	North Reference:	Grid
Well:	Well #512507	Survey Calculation Method:	Minimum Curvature
Wellbore:	Well #512507		
Design:	512507 Surveys		

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	Subsea Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,247.00	15.10	342.00	6,244.11	6,244.11	-4.22	-65.79	23.97	9.66	7.19	26.88
6,278.00	17.80	347.00	6,273.84	6,273.84	4.23	-68.10	32.62	9.83	8.71	16.13
6,309.00	20.50	347.00	6,303.12	6,303.12	14.14	-70.39	42.57	8.71	8.71	0.00
6,341.00	23.70	345.70	6,332.77	6,332.77	25.84	-73.24	54.37	10.12	10.00	-4.06
6,373.00	26.70	343.10	6,361.72	6,361.72	38.95	-76.92	67.81	9.99	9.38	-8.13
6,404.00	28.90	342.60	6,389.14	6,389.14	52.76	-81.18	82.13	7.14	7.10	-1.61
6,435.00	30.00	341.90	6,416.13	6,416.13	67.28	-85.83	97.25	3.72	3.55	-2.26
6,467.00	31.80	340.30	6,443.59	6,443.59	82.82	-91.16	113.59	6.18	5.63	-5.00
6,499.00	33.20	338.30	6,470.58	6,470.58	98.90	-97.24	130.73	5.51	4.38	-6.25
6,535.00	36.00	335.90	6,500.21	6,500.21	117.72	-105.21	151.16	8.65	7.78	-6.67
6,561.00	39.00	335.00	6,520.84	6,520.84	132.12	-111.79	166.98	11.73	11.54	-3.46
6,593.00	41.80	335.00	6,545.20	6,545.20	150.91	-120.55	187.72	8.75	8.75	0.00
6,625.00	43.70	335.50	6,568.70	6,568.70	170.64	-129.64	209.44	6.03	5.94	1.56
6,656.00	45.80	336.10	6,590.71	6,590.71	190.54	-138.59	231.26	6.91	6.77	1.94
6,688.00	49.20	336.60	6,612.33	6,612.33	212.15	-148.05	254.84	10.69	10.63	1.56
6,719.00	53.00	335.40	6,631.79	6,631.79	234.18	-157.86	278.96	12.62	12.26	-3.87
6,751.00	56.30	336.80	6,650.31	6,650.31	258.05	-168.43	305.05	10.91	10.31	4.38
6,782.00	60.20	336.90	6,666.62	6,666.62	282.28	-178.79	331.39	12.58	12.58	0.32
6,813.00	63.60	338.30	6,681.22	6,681.22	307.56	-189.21	358.70	11.67	10.97	4.52
6,845.00	67.40	339.00	6,694.48	6,694.48	334.68	-199.80	387.76	12.04	11.88	2.19
6,877.00	71.30	338.20	6,705.77	6,705.77	362.55	-210.73	417.64	12.41	12.19	-2.50
6,908.00	75.40	337.30	6,714.65	6,714.65	390.03	-221.97	447.30	13.52	13.23	-2.90
6,939.00	77.80	334.60	6,721.83	6,721.83	417.56	-234.26	477.44	11.48	7.74	-8.71
6,970.00	80.40	333.20	6,727.69	6,727.69	444.89	-247.66	507.88	9.49	8.39	-4.52
7,002.00	83.20	333.40	6,732.26	6,732.26	473.19	-261.89	539.53	8.77	8.75	0.63
7,034.00	84.40	334.30	6,735.71	6,735.71	501.74	-275.91	571.34	4.68	3.75	2.81
7,066.00	85.70	334.80	6,738.47	6,738.47	530.53	-289.61	603.22	4.35	4.06	1.56
7,105.00	87.80	335.20	6,740.69	6,740.69	565.82	-306.06	642.15	5.48	5.38	1.03
7,168.00	88.50	335.00	6,742.72	6,742.72	622.93	-332.57	705.12	1.16	1.11	-0.32
7,232.00	88.60	334.60	6,744.34	6,744.34	680.82	-359.81	769.10	0.64	0.16	-0.63
7,295.00	90.00	335.70	6,745.11	6,745.11	737.98	-386.28	832.09	2.83	2.22	1.75
7,359.00	89.80	338.50	6,745.22	6,745.22	796.93	-411.19	896.04	4.39	-0.31	4.38
7,422.00	90.50	339.70	6,745.06	6,745.06	855.78	-433.66	958.88	2.21	1.11	1.90
7,486.00	90.50	339.40	6,744.50	6,744.50	915.75	-456.02	1,022.67	0.47	0.00	-0.47
7,549.00	90.40	338.20	6,744.00	6,744.00	974.48	-478.80	1,085.53	1.91	-0.16	-1.90
7,613.00	89.30	336.80	6,744.17	6,744.17	1,033.61	-503.29	1,149.47	2.78	-1.72	-2.19
7,677.00	89.60	336.10	6,744.78	6,744.78	1,092.27	-528.86	1,213.44	1.19	0.47	-1.09
7,740.00	90.20	336.40	6,744.89	6,744.89	1,149.94	-554.23	1,276.43	1.06	0.95	0.48
7,804.00	89.60	336.40	6,745.01	6,745.01	1,208.58	-579.86	1,340.41	0.94	-0.94	0.00
7,867.00	89.40	336.20	6,745.56	6,745.56	1,266.27	-605.18	1,403.39	0.45	-0.32	-0.32
7,930.00	89.40	334.60	6,746.22	6,746.22	1,323.55	-631.40	1,466.38	2.54	0.00	-2.54
7,993.00	89.60	334.30	6,746.76	6,746.76	1,380.38	-658.57	1,529.38	0.57	0.32	-0.48
8,050.00	90.50	333.80	6,746.72	6,746.72	1,431.64	-683.51	1,586.37	1.81	1.58	-0.88



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Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	Subsea Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,119.00	90.90	333.40	6,745.87	6,745.87	1,493.43	-714.19	1,655.34	0.82	0.58	-0.58
8,183.00	91.10	333.40	6,744.76	6,744.76	1,550.65	-742.84	1,719.31	0.31	0.31	0.00
8,245.00	91.10	332.00	6,743.56	6,743.56	1,605.73	-771.27	1,781.24	2.26	0.00	-2.26
8,309.00	90.50	329.60	6,742.67	6,742.67	1,661.59	-802.49	1,845.06	3.87	-0.94	-3.75
8,372.00	91.40	328.70	6,741.63	6,741.63	1,715.67	-834.79	1,907.72	2.02	1.43	-1.43
8,435.00	91.80	328.50	6,739.87	6,739.87	1,769.42	-867.60	1,970.31	0.71	0.63	-0.32
8,497.00	91.10	330.10	6,738.30	6,738.30	1,822.71	-899.25	2,031.98	2.82	-1.13	2.58
8,560.00	90.90	332.00	6,737.20	6,737.20	1,877.83	-929.73	2,094.82	3.03	-0.32	3.02
8,623.00	90.50	333.60	6,736.43	6,736.43	1,933.86	-958.53	2,157.76	2.62	-0.63	2.54
8,686.00	90.80	335.70	6,735.71	6,735.71	1,990.78	-985.50	2,220.75	3.37	0.48	3.33
8,750.00	91.10	337.30	6,734.65	6,734.65	2,049.47	-1,011.01	2,284.72	2.54	0.47	2.50
8,813.00	90.70	336.90	6,733.66	6,733.66	2,107.49	-1,035.53	2,347.67	0.90	-0.63	-0.63
8,876.00	90.60	337.60	6,732.95	6,732.95	2,165.59	-1,059.89	2,410.62	1.12	-0.16	1.11
8,940.00	90.30	337.60	6,732.45	6,732.45	2,224.76	-1,084.27	2,474.55	0.47	-0.47	0.00
9,004.00	90.20	338.00	6,732.17	6,732.17	2,284.01	-1,108.46	2,538.47	0.64	-0.16	0.63
9,066.00	90.70	337.10	6,731.68	6,731.68	2,341.31	-1,132.13	2,600.41	1.66	0.81	-1.45
9,129.00	91.50	337.30	6,730.47	6,730.47	2,399.38	-1,156.54	2,663.35	1.31	1.27	0.32
9,192.00	91.00	337.10	6,729.10	6,729.10	2,457.44	-1,180.95	2,726.29	0.85	-0.79	-0.32
9,255.00	91.10	337.50	6,727.94	6,727.94	2,515.55	-1,205.26	2,789.23	0.65	0.16	0.63
9,318.00	90.60	338.30	6,727.01	6,727.01	2,573.91	-1,228.96	2,852.14	1.50	-0.79	1.27
9,382.00	90.50	337.10	6,726.39	6,726.39	2,633.12	-1,253.24	2,916.06	1.88	-0.16	-1.88
9,445.00	91.20	337.10	6,725.46	6,725.46	2,691.15	-1,277.75	2,979.01	1.11	1.11	0.00
9,509.00	89.70	336.40	6,724.96	6,724.96	2,749.95	-1,303.01	3,042.98	2.59	-2.34	-1.09
9,573.00	90.00	335.90	6,725.12	6,725.12	2,808.49	-1,328.89	3,106.97	0.91	0.47	-0.78
9,637.00	90.60	336.60	6,724.79	6,724.79	2,867.06	-1,354.67	3,170.95	1.44	0.94	1.09
9,700.00	90.70	336.10	6,724.07	6,724.07	2,924.77	-1,379.94	3,233.93	0.81	0.16	-0.79
9,764.00	89.10	335.50	6,724.19	6,724.19	2,983.14	-1,406.17	3,297.92	2.67	-2.50	-0.94
9,827.00	89.50	335.50	6,724.95	6,724.95	3,040.47	-1,432.29	3,360.91	0.63	0.63	0.00
9,890.00	90.00	335.40	6,725.23	6,725.23	3,097.77	-1,458.47	3,423.91	0.81	0.79	-0.16
9,952.00	90.10	336.20	6,725.18	6,725.18	3,154.32	-1,483.88	3,485.90	1.30	0.16	1.29
10,015.00	90.80	336.10	6,724.68	6,724.68	3,211.94	-1,509.36	3,548.89	1.12	1.11	-0.16
10,079.00	89.50	336.40	6,724.51	6,724.51	3,270.52	-1,535.13	3,612.87	2.08	-2.03	0.47
10,142.00	90.00	336.60	6,724.79	6,724.79	3,328.29	-1,560.25	3,675.85	0.85	0.79	0.32
10,205.00	90.70	336.90	6,724.40	6,724.40	3,386.17	-1,585.12	3,738.82	1.21	1.11	0.48
10,268.00	91.03	336.90	6,723.45	6,723.45	3,444.12	-1,609.84	3,801.77	0.52	0.52	0.00
10,310.00	91.50	336.40	6,722.53	6,722.53	3,482.67	-1,626.48	3,843.75	1.63	1.12	-1.19
Ext. to TD = 10355ft										
10,355.00	91.50	336.40	6,721.35	6,721.35	3,523.89	-1,644.49	3,888.72	0.00	0.00	0.00



Survey Report

Database:	EQT	Local Co-ordinate Reference:	Site Doddridge County 512507
Company:	EQT Production - Marcellus	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Project:	Doddridge County, WV Grid	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	Doddridge County 512507	North Reference:	Grid
Well:	Well #512507	Survey Calculation Method:	Minimum Curvature
Wellbore:	Well #512507		
Design:	512507 Surveys		

Survey Annotations				
Measured Depth ( )	Vertical Depth ( )	Local Coordinates		Comment
		+N/-S ( )	+E/-W ( )	
6,000.00	5,998.96	-21.84	-54.46	Tie-In @ 6000ft MD
10,355.00	6,721.35	3,523.89	-1,644.49	Ext. to TD = 10355ft

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_