



Where energy meets innovation.

EQT Production - Marcellus

Doddridge County, WV Grid

Doddridge County 514664

Well #514664

Main Wellbore

Design: As Drilled Surveys

Standard Survey Report

29 September, 2014



Where energy meets innovation.

07/24/2015

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Doddridge County 514664
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1224.0usft
Project:	Doddridge County, WV Grid	MD Reference:	KB @ 1224.0usft
Site:	Doddridge County 514664	North Reference:	Grid
Well:	Well #514664	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	As Drilled Surveys		

Project Doddridge County, WV Grid			
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 Doddridge County 514664			
Site Position:		Northing:	277,756.70 usft
From:	Map	Easting:	1,642,259.10 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	39.26
		Longitude:	-80.76
		Grid Convergence:	-0.81 °

Well Well #514664			
Well Position	+N/-S	0.0 usft	Northing: 277,756.70 usft
	+E/-W	0.0 usft	Easting: 1,642,259.10 usft
Position Uncertainty		0.0 usft	Wellhead Elevation: usft
			Latitude: 39° 15' 20.520 N
			Longitude: 80° 45' 48.066 W
			Ground Level: 1,208.0 usft

Wellbore Main Wellbore	
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	9/16/2014	-8.49	66.76	52,243

Design As Drilled Surveys	
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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	145.67	

Survey Program		Date			
From (')	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	5,607.0	Gyrodata Gyro (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop	
0.00	15,024.0	514664 PHX MWD (Main Wellbore)	MWD+IGRF	MWD+IGRF v3:standard declination	

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	-1,224.0	0.0	0.0	0.0	0.00	0.00	0.00
99.0	0.26	237.75	99.0	-1,125.0	-0.1	-0.2	0.0	0.26	0.26	0.00
199.0	0.26	217.38	199.0	-1,025.0	-0.4	-0.5	0.1	0.09	0.00	-20.37
299.0	0.27	217.79	299.0	-925.0	-0.8	-0.8	0.2	0.01	0.01	0.41
399.0	0.27	214.78	399.0	-825.0	-1.2	-1.1	0.4	0.01	0.00	-3.01
499.0	0.15	192.46	499.0	-725.0	-1.5	-1.2	0.5	0.14	-0.12	22.32
599.0	0.13	158.29	599.0	-625.0	-1.7	-1.2	0.7	0.08	0.00	17.22
699.0	0.13	141.07	699.0	-525.0	-1.9	-1.1	1.0	0.04	0.00	-17.22

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COMPASS 5000.1 Build 56

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Site:	Doddridge County 514664	North Reference:	Grid
Well:	Well #514664	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)	
799.0	0.12	183.07	799.0	-425.0	-2.1	-1.1	1.1	0.09	-0.01	42.00	
899.0	0.26	237.31	899.0	-325.0	-2.3	-1.2	1.2	0.21	0.14	54.24	
999.0	0.18	229.90	999.0	-225.0	-2.6	-1.6	1.2	0.08	-0.08	-7.41	
1,099.0	0.19	93.22	1,099.0	-125.0	-2.7	-1.5	1.4	0.34	0.01	-136.68	
1,199.0	0.34	74.14	1,199.0	-25.0	-2.6	-1.1	1.5	0.17	0.15	-19.08	
1,299.0	0.41	48.55	1,299.0	75.0	-2.3	-0.5	1.6	0.18	0.07	-25.59	
1,399.0	0.45	51.33	1,399.0	175.0	-1.8	0.1	1.5	0.05	0.04	2.78	
1,499.0	0.45	78.64	1,499.0	275.0	-1.5	0.8	1.6	0.21	0.00	27.31	
1,599.0	0.46	96.47	1,599.0	375.0	-1.4	1.5	2.1	0.14	0.01	17.83	
1,699.0	0.45	112.21	1,699.0	475.0	-1.6	2.3	2.7	0.12	-0.01	15.74	
1,799.0	0.44	128.35	1,799.0	575.0	-2.0	3.0	3.3	0.13	-0.01	16.14	
1,899.0	0.43	133.89	1,899.0	675.0	-2.5	3.5	4.1	0.04	-0.01	5.54	
1,999.0	0.46	139.39	1,999.0	775.0	-3.1	4.1	4.8	0.05	0.03	5.50	
2,099.0	0.39	142.46	2,099.0	875.0	-3.7	4.5	5.6	0.07	-0.07	3.07	
2,199.0	0.31	151.53	2,199.0	975.0	-4.2	4.9	6.2	0.10	-0.08	9.07	
2,299.0	0.34	156.17	2,299.0	1,075.0	-4.7	5.1	6.8	0.04	0.03	4.64	
2,399.0	0.30	147.82	2,399.0	1,175.0	-5.2	5.4	7.3	0.06	-0.04	-8.35	
2,499.0	0.33	163.15	2,499.0	1,275.0	-5.7	5.6	7.8	0.09	0.03	15.33	
2,599.0	0.29	154.09	2,599.0	1,375.0	-6.2	5.8	8.4	0.06	-0.04	-9.06	
2,699.0	0.34	175.72	2,699.0	1,475.0	-6.7	5.9	8.9	0.13	0.05	21.63	
2,799.0	0.39	178.45	2,799.0	1,575.0	-7.3	6.0	9.4	0.05	0.05	2.73	
2,899.0	0.38	179.02	2,899.0	1,675.0	-8.0	6.0	10.0	0.01	-0.01	0.57	
2,999.0	0.36	182.82	2,999.0	1,775.0	-8.6	6.0	10.5	0.03	-0.02	3.80	
3,099.0	0.46	179.15	3,099.0	1,874.9	-9.4	6.0	11.1	0.10	0.10	-3.67	
3,199.0	0.39	180.52	3,199.0	1,974.9	-10.1	6.0	11.7	0.07	-0.07	1.37	
3,299.0	0.39	178.69	3,299.0	2,074.9	-10.8	6.0	12.3	0.01	0.00	-1.83	
3,399.0	0.44	174.92	3,399.0	2,174.9	-11.5	6.0	12.9	0.06	0.05	-3.77	
3,499.0	0.43	179.51	3,499.0	2,274.9	-12.3	6.0	13.5	0.04	-0.01	4.59	
3,599.0	0.44	174.20	3,599.0	2,374.9	-13.0	6.1	14.2	0.04	0.01	-5.31	
3,699.0	0.48	179.00	3,699.0	2,474.9	-13.8	6.1	14.9	0.06	0.04	4.80	
3,799.0	0.53	180.86	3,799.0	2,574.9	-14.7	6.1	15.6	0.05	0.05	1.86	
3,899.0	0.62	181.32	3,899.0	2,674.9	-15.7	6.1	16.4	0.09	0.09	0.46	
3,999.0	0.66	201.56	3,999.0	2,774.9	-16.8	5.9	17.2	0.23	0.04	20.24	
4,099.0	0.73	212.58	4,099.0	2,874.9	-17.9	5.3	17.8	0.15	0.07	11.02	
4,199.0	0.78	224.14	4,199.0	2,974.9	-18.9	4.5	18.1	0.16	0.05	11.56	
4,299.0	0.85	236.67	4,299.0	3,074.9	-19.8	3.4	18.3	0.19	0.07	12.53	
4,399.0	0.88	251.22	4,399.0	3,174.9	-20.4	2.1	18.0	0.22	0.03	14.55	
4,499.0	0.94	255.25	4,499.0	3,274.9	-20.9	0.6	17.6	0.09	0.06		
4,599.0	1.02	259.08	4,599.0	3,374.9	-21.3	-1.1	16.9	0.10	0.08		
4,699.0	1.04	274.00	4,699.0	3,474.8	-21.4	-2.9	16.0	0.27	0.02		
4,799.0	1.05	277.34	4,799.0	3,574.8	-21.2	-4.7	14.9	0.06	0.01		
4,899.0	1.09	283.80	4,899.0	3,674.8	-20.8	-6.5	13.5	0.13	0.04		

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Phoenix Technology Services

Survey Report



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Wellbore:	Main Wellbore		
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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)
4,999.0	0.99	292.05	4,998.8	3,774.8	-20.3	-8.3	12.1	0.18	-0.10	8.25
5,099.0	1.03	291.17	5,098.8	3,874.8	-19.6	-9.9	10.6	0.04	0.04	-0.88
5,199.0	1.03	303.96	5,198.8	3,974.8	-18.8	-11.5	9.1	0.23	0.00	12.79
5,299.0	1.23	310.84	5,298.7	4,074.7	-17.6	-13.0	7.2	0.24	0.20	6.88
5,399.0	1.39	321.27	5,398.7	4,174.7	-16.0	-14.6	5.0	0.29	0.16	10.43
5,499.0	1.62	340.08	5,498.7	4,274.7	-13.7	-15.8	2.4	0.54	0.23	18.81
5,599.0	2.00	347.06	5,598.6	4,374.6	-10.7	-16.7	-0.6	0.44	0.38	6.98
Gyro Tie In=5607' MD										
5,607.0	2.01	346.60	5,606.6	4,382.6	-10.4	-16.8	-0.9	0.24	0.13	-5.75
5,742.0	3.60	19.00	5,741.5	4,517.5	-4.1	-16.0	-5.6	1.62	1.18	24.00
5,773.0	6.40	28.10	5,772.3	4,548.3	-1.6	-14.8	-7.0	9.36	9.03	29.35
5,805.0	9.30	30.60	5,804.0	4,580.0	2.2	-12.7	-8.9	9.12	9.06	7.81
5,836.0	11.80	35.40	5,834.5	4,610.5	6.9	-9.6	-11.1	8.54	8.06	15.48
5,868.0	13.40	40.50	5,865.7	4,641.7	12.4	-5.2	-13.2	6.09	5.00	15.94
5,899.0	15.10	43.10	5,895.8	4,671.8	18.1	-0.2	-15.0	5.86	5.48	8.39
5,931.0	17.90	44.80	5,926.5	4,702.5	24.6	6.2	-16.8	8.88	8.75	5.31
5,963.0	20.60	45.90	5,956.7	4,732.7	32.0	13.7	-18.7	8.51	8.44	3.44
5,994.0	22.70	46.70	5,985.5	4,761.5	39.9	21.9	-20.6	6.84	6.77	2.58
6,025.0	25.10	45.80	6,013.8	4,789.8	48.6	31.0	-22.7	7.83	7.74	-2.90
6,057.0	27.50	43.40	6,042.5	4,818.5	58.7	40.9	-25.4	8.20	7.50	-7.50
6,089.0	29.70	41.60	6,070.6	4,846.6	70.0	51.3	-28.9	7.38	6.88	-5.63
6,120.0	32.00	40.30	6,097.2	4,873.2	82.0	61.7	-32.9	7.72	7.42	-4.19
6,152.0	34.60	40.30	6,124.0	4,900.0	95.4	73.1	-37.6	8.13	8.13	0.00
6,183.0	37.50	40.30	6,149.0	4,925.0	109.3	84.9	-42.4	9.35	9.35	0.00
6,214.0	40.60	40.60	6,173.1	4,949.1	124.2	97.5	-47.5	10.02	10.00	0.97
6,246.0	43.70	40.50	6,196.8	4,972.8	140.5	111.5	-53.2	9.69	9.69	-0.31
6,277.0	46.70	40.60	6,218.7	4,994.7	157.2	125.8	-58.9	9.68	9.68	0.32
6,309.0	49.40	40.70	6,240.0	5,016.0	175.3	141.3	-65.1	8.44	8.44	0.31
6,341.0	52.00	40.80	6,260.3	5,036.3	194.0	157.5	-71.4	8.13	8.13	0.31
6,372.0	54.50	41.00	6,278.9	5,054.9	212.8	173.7	-77.8	8.08	8.06	0.65
6,404.0	57.00	41.70	6,296.9	5,072.9	232.6	191.2	-84.3	8.02	7.81	2.19
6,435.0	59.00	42.40	6,313.3	5,089.3	252.2	208.8	-90.5	6.73	6.45	2.26
6,467.0	61.10	43.00	6,329.3	5,105.3	272.5	227.6	-96.7	6.76	6.56	1.88
6,498.0	62.90	43.00	6,343.8	5,119.8	292.6	246.3	-102.7	5.81	5.81	0.00
6,530.0	64.60	43.10	6,358.0	5,134.0	313.5	265.9	-109.0	5.32	5.31	0.31
6,561.0	66.40	43.30	6,370.8	5,146.8	334.1	285.2	-115.1	5.84	5.81	0.65
6,593.0	67.90	43.30	6,383.3	5,159.3	355.5	305.4	-121.4	4.69	4.69	0.00
6,624.0	68.70	43.60	6,394.7	5,170.7	376.5	325.2	-127.5	2.73	2.58	0.97
6,656.0	69.40	43.50	6,406.2	5,182.2	398.1	345.8	-133.8	2.21	2.19	-0.31
6,687.0	70.00	43.60	6,416.9	5,192.9	419.2	365.8	-139.9	1.96	1.94	0.32
6,719.0	69.90	45.40	6,427.9	5,203.9	440.6	386.9	-145.7	5.29	5.68	0.65
6,750.0	70.00	47.60	6,438.5	5,214.5	460.7	408.0	-150.4	6.67	0.32	7.10
6,782.0	69.50	51.30	6,449.6	5,225.6	480.2	430.8	-153.6	10.96	-1.56	11.66

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6,814.0	69.10	54.80	6,460.9	5,236.9	498.2	454.7	-155.0	10.31	-1.25	10.94
6,845.0	68.80	58.10	6,472.0	5,248.0	514.2	478.8	-154.6	9.98	-0.97	10.65
6,877.0	68.40	62.60	6,483.7	5,259.7	528.9	504.7	-152.2	13.15	-1.25	14.06
6,909.0	68.20	66.60	6,495.6	5,271.6	541.7	531.6	-147.6	11.63	-0.63	12.50
6,940.0	68.10	70.80	6,507.1	5,283.1	552.1	558.4	-141.1	12.58	-0.32	13.55
6,972.0	68.40	74.40	6,519.0	5,295.0	561.0	586.7	-132.4	10.49	0.94	11.25
7,003.0	68.40	77.60	6,530.4	5,306.4	568.0	614.7	-122.4	9.60	0.00	10.32
7,034.0	68.10	80.70	6,541.9	5,317.9	573.4	643.0	-110.9	9.34	-0.97	10.00
7,066.0	68.50	82.30	6,553.7	5,329.7	577.8	672.4	-98.0	4.81	1.25	5.00
7,097.0	69.10	84.60	6,564.9	5,340.9	581.1	701.1	-84.5	7.18	1.94	7.42
7,129.0	69.40	87.60	6,576.3	5,352.3	583.1	730.9	-69.4	8.82	0.94	9.38
7,161.0	69.40	91.00	6,587.5	5,363.5	583.5	760.9	-52.8	9.95	0.00	10.63
7,192.0	69.70	94.50	6,598.4	5,374.4	582.1	789.9	-35.3	10.62	0.97	11.29
7,224.0	70.20	98.30	6,609.3	5,385.3	578.7	819.8	-15.7	11.26	1.56	11.88
7,256.0	70.90	102.40	6,620.0	5,396.0	573.3	849.4	5.6	12.28	2.19	12.81
7,287.0	72.60	105.80	6,629.7	5,405.7	566.1	878.0	27.6	11.77	5.48	10.97
7,319.0	73.90	108.30	6,638.9	5,414.9	557.1	907.3	51.5	8.51	4.06	7.81
7,350.0	74.20	111.10	6,647.4	5,423.4	547.1	935.3	75.6	8.74	0.97	9.03
7,382.0	73.90	114.70	6,656.2	5,432.2	535.1	963.7	101.5	10.86	-0.94	11.25
7,414.0	74.00	118.30	6,665.1	5,441.1	521.4	991.2	128.3	10.82	0.31	11.25
7,445.0	74.20	121.80	6,673.6	5,449.6	506.5	1,017.0	155.2	10.88	0.65	11.29
7,477.0	74.20	124.00	6,682.3	5,458.3	489.8	1,042.8	183.6	6.62	0.00	6.88
7,509.0	74.70	126.40	6,690.9	5,466.9	472.0	1,068.0	212.5	7.39	1.56	7.50
7,540.0	76.10	130.00	6,698.7	5,474.7	453.4	1,091.6	241.1	12.11	4.52	11.61
7,571.0	77.60	133.60	6,705.7	5,481.7	433.3	1,114.1	270.4	12.30	4.84	11.61
7,603.0	78.80	137.60	6,712.3	5,488.3	410.9	1,136.0	301.2	12.80	3.75	12.50
7,635.0	80.80	141.00	6,718.0	5,494.0	387.1	1,156.5	332.5	12.18	6.25	10.63
7,666.0	83.50	143.50	6,722.2	5,498.2	362.8	1,175.3	363.2	11.82	8.71	8.06
7,697.0	87.40	147.10	6,724.7	5,500.7	337.4	1,192.9	394.1	17.09	12.58	11.61
7,761.0	92.00	151.80	6,725.0	5,501.0	282.3	1,225.4	457.9	10.27	7.19	7.34
7,823.0	92.60	151.80	6,722.5	5,498.5	227.7	1,254.7	519.5	0.97	0.97	0.00
7,886.0	91.80	153.80	6,720.1	5,496.1	171.7	1,283.5	582.0	3.42	-1.27	3.17
7,949.0	91.20	155.40	6,718.4	5,494.4	114.8	1,310.5	644.2	2.71	-0.95	2.54
8,012.0	90.40	154.70	6,717.6	5,493.6	57.7	1,337.1	706.3	1.69	-1.27	-1.11
8,076.0	90.10	154.60	6,717.3	5,493.3	-0.1	1,364.5	769.5	0.49	-0.47	-0.16
8,139.0	90.60	155.50	6,716.9	5,492.9	-57.2	1,391.0	831.7	1.63	0.79	1.43
8,202.0	90.90	156.80	6,716.1	5,492.1	-114.9	1,416.5	893.6	2.12	0.48	2.06
8,265.0	89.80	155.20	6,715.7	5,491.7	-172.4	1,442.1	955.6	3.08	-1.75	-2.54
8,328.0	89.90	155.10	6,715.8	5,491.8	-229.6	1,468.6	1,017.7	0.22	0.16	-0.16
8,392.0	90.20	155.00	6,715.8	5,491.8	-287.6	1,495.6	1,080.9	0.49	0.47	-0.16
8,455.0	90.30	154.70	6,715.5	5,491.5	-344.6	1,522.4	1,143.1	0.50	0.16	0.00
8,518.0	90.50	154.20	6,715.1	5,491.1	-401.5	1,549.5	1,205.3	0.85	0.37	0.00
8,581.0	91.10	154.00	6,714.2	5,490.2	-458.1	1,577.1	1,267.7	1.00	0.95	-0.32

Received
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JUL 06 2015

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Doddridge County 514664
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1224.0usft
Project:	Doddridge County, WV Grid	MD Reference:	KB @ 1224.0usft
Site:	Doddridge County 514664	North Reference:	Grid
Well:	Well #514664	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
8,644.0	91.10	152.80	6,713.0	5,489.0	-514.5	1,605.3	1,330.1	1.90	0.00	-1.90
8,707.0	91.30	152.50	6,711.7	5,487.7	-570.4	1,634.2	1,392.6	0.57	0.32	-0.48
8,770.0	92.20	153.10	6,709.7	5,485.7	-626.4	1,663.0	1,455.1	1.72	1.43	0.95
8,833.0	90.40	154.70	6,708.3	5,484.3	-683.0	1,690.7	1,517.4	3.82	-2.86	2.54
8,895.0	90.80	156.10	6,707.7	5,483.7	-739.3	1,716.5	1,578.5	2.35	0.65	2.26
8,959.0	91.80	156.70	6,706.2	5,482.2	-798.0	1,742.1	1,641.4	1.82	1.56	0.94
9,022.0	91.00	155.40	6,704.7	5,480.7	-855.5	1,767.7	1,703.3	2.42	-1.27	-2.06
9,084.0	89.30	154.30	6,704.5	5,480.5	-911.6	1,794.0	1,764.5	3.27	-2.74	-1.77
9,148.0	90.40	154.80	6,704.7	5,480.7	-969.4	1,821.5	1,827.8	1.89	1.72	0.78
9,211.0	91.30	154.70	6,703.7	5,479.7	-1,026.4	1,848.4	1,890.0	1.44	1.43	-0.16
9,274.0	88.80	154.60	6,703.7	5,479.7	-1,083.3	1,875.4	1,952.2	3.97	-3.97	-0.16
9,337.0	88.30	154.30	6,705.3	5,481.3	-1,140.1	1,902.5	2,014.4	0.93	-0.79	-0.48
9,400.0	88.80	154.20	6,706.9	5,482.9	-1,196.9	1,929.9	2,076.7	0.81	0.79	-0.16
9,463.0	89.10	153.80	6,708.0	5,484.0	-1,253.5	1,957.5	2,139.0	0.79	0.48	-0.63
9,526.0	89.80	153.90	6,708.6	5,484.6	-1,310.0	1,985.3	2,201.4	1.12	1.11	0.16
9,589.0	90.40	155.30	6,708.5	5,484.5	-1,366.9	2,012.3	2,263.6	2.42	0.95	2.22
9,653.0	91.30	156.40	6,707.6	5,483.6	-1,423.3	2,038.5	2,326.6	2.22	1.41	1.72
9,716.0	91.50	156.20	6,706.0	5,482.0	-1,483.0	2,063.8	2,388.5	0.45	0.32	-0.32
9,779.0	90.50	155.70	6,704.9	5,480.9	-1,540.5	2,089.5	2,450.5	1.77	-1.59	-0.79
9,842.0	90.40	154.90	6,704.4	5,480.4	-1,597.8	2,115.8	2,512.6	1.28	-0.16	-1.27
9,905.0	90.90	154.10	6,703.7	5,479.7	-1,654.6	2,142.9	2,574.8	1.50	0.79	-1.27
9,968.0	91.40	154.00	6,702.5	5,478.5	-1,711.3	2,170.5	2,637.2	0.81	0.79	-0.16
10,031.0	90.30	155.70	6,701.5	5,477.5	-1,768.3	2,197.2	2,699.3	3.21	-1.75	2.70
10,094.0	89.90	155.40	6,701.4	5,477.4	-1,825.6	2,223.3	2,761.4	0.79	-0.63	-0.48
10,156.0	90.20	154.70	6,701.4	5,477.4	-1,881.8	2,249.5	2,822.6	1.23	0.48	-1.13
10,220.0	90.00	153.90	6,701.3	5,477.3	-1,939.5	2,277.2	2,885.9	1.29	-0.31	-1.25
10,282.0	89.10	154.20	6,701.7	5,477.7	-1,995.3	2,304.3	2,947.2	1.53	-1.45	0.48
10,345.0	88.90	154.10	6,702.8	5,478.8	-2,051.9	2,331.8	3,009.5	0.35	-0.32	-0.16
10,408.0	89.80	156.10	6,703.6	5,479.6	-2,109.1	2,358.3	3,071.6	3.48	1.43	3.17
10,471.0	90.20	157.40	6,703.6	5,479.6	-2,167.0	2,383.2	3,133.5	2.16	0.63	2.06
10,534.0	91.10	157.60	6,702.8	5,478.8	-2,225.2	2,407.3	3,195.1	1.46	1.43	0.32
10,597.0	89.90	157.00	6,702.3	5,478.3	-2,283.3	2,431.6	3,256.8	2.13	-1.90	-0.95
10,661.0	90.10	157.00	6,702.3	5,478.3	-2,342.2	2,456.6	3,319.6	0.31	0.31	0.00
10,724.0	90.20	156.60	6,702.1	5,478.1	-2,400.1	2,481.4	3,381.4	0.65	0.16	-0.63
10,787.0	89.00	156.70	6,702.6	5,478.6	-2,457.9	2,506.4	3,443.2	1.91	-1.90	0.16
10,851.0	87.70	155.20	6,704.4	5,480.4	-2,516.3	2,532.5	3,506.2	3.10	-2.03	-2.34
10,914.0	87.90	155.30	6,706.8	5,482.8	-2,573.5	2,558.8	3,568.3	0.35	0.32	0.16
10,977.0	89.30	157.30	6,708.4	5,484.4	-2,631.2	2,584.2	3,630.2	3.87	2.22	3.17
11,040.0	90.20	158.00	6,708.6	5,484.6	-2,689.4	2,608.1	3,691.8	1.81	1.43	1.11
11,104.0	89.90	156.00	6,708.6	5,484.6	-2,748.4	2,633.1	3,754.5	3.16	-0.47	-3.13
11,167.0	90.20	154.60	6,708.5	5,484.5	-2,805.6	2,659.4	3,816.6	2.27	0.48	-2.22
11,230.0	89.20	154.20	6,708.9	5,484.9	-2,862.4	2,686.7	3,878.9	1.71	-1.59	-0.63

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Doddridge County 514664
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1224.0usft
Project:	Doddridge County, WV Grid	MD Reference:	KB @ 1224.0usft
Site:	Doddridge County 514664	North Reference:	Grid
Well:	Well #514664	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
11,294.0	88.70	153.40	6,710.0	5,486.0	-2,919.8	2,714.9	3,942.3	1.47	-0.78	-1.25
11,357.0	88.40	152.50	6,711.6	5,487.6	-2,975.9	2,743.6	4,004.7	1.51	-0.48	-1.43
11,419.0	88.40	151.80	6,713.4	5,489.4	-3,030.7	2,772.5	4,066.3	1.13	0.00	-1.13
11,482.0	88.00	154.10	6,715.3	5,491.3	-3,086.8	2,801.1	4,128.8	3.70	-0.63	3.65
11,545.0	87.40	153.40	6,717.9	5,493.9	-3,143.2	2,829.0	4,191.1	1.46	-0.95	-1.11
11,608.0	87.90	153.80	6,720.4	5,496.4	-3,199.6	2,857.0	4,253.4	1.02	0.79	0.63
11,671.0	88.80	154.30	6,722.3	5,498.3	-3,256.2	2,884.5	4,315.7	1.63	1.43	0.79
11,734.0	89.60	154.50	6,723.1	5,499.1	-3,313.1	2,911.7	4,378.0	1.31	1.27	0.32
11,797.0	90.50	154.90	6,723.1	5,499.1	-3,370.0	2,938.7	4,440.2	1.56	1.43	0.63
11,859.0	88.70	154.80	6,723.5	5,499.5	-3,426.1	2,965.0	4,501.4	2.91	-2.90	-0.16
11,922.0	87.80	153.60	6,725.4	5,501.4	-3,482.8	2,992.4	4,563.7	2.38	-1.43	-1.90
11,985.0	88.30	154.40	6,727.6	5,503.6	-3,539.4	3,020.0	4,626.0	1.50	0.79	1.27
12,048.0	88.70	156.60	6,729.2	5,505.2	-3,596.7	3,046.1	4,688.0	3.55	0.63	3.49
12,111.0	89.80	157.20	6,730.1	5,506.1	-3,654.7	3,070.8	4,749.8	1.99	1.75	0.95
12,174.0	89.80	157.10	6,730.3	5,506.3	-3,712.7	3,095.3	4,811.6	0.16	0.00	-0.16
12,237.0	90.10	157.00	6,730.3	5,506.3	-3,770.7	3,119.9	4,873.3	0.50	0.48	-0.16
12,300.0	88.90	156.10	6,730.9	5,506.9	-3,828.5	3,144.9	4,935.2	2.38	-1.90	-1.43
12,363.0	88.00	155.80	6,732.6	5,508.6	-3,886.0	3,170.6	4,997.2	1.51	-1.43	-0.48
12,426.0	88.90	156.40	6,734.3	5,510.3	-3,943.6	3,196.1	5,059.1	1.72	1.43	0.95
12,489.0	89.90	157.00	6,735.0	5,511.0	-4,001.5	3,221.0	5,120.9	1.85	1.59	0.95
12,552.0	89.90	156.80	6,735.1	5,511.1	-4,059.4	3,245.8	5,182.7	0.32	0.00	-0.32
12,615.0	89.30	155.60	6,735.5	5,511.5	-4,117.1	3,271.2	5,244.7	2.13	-0.95	-1.90
12,678.0	87.00	154.60	6,737.5	5,513.5	-4,174.2	3,297.7	5,306.8	3.98	-3.65	-1.59
12,741.0	86.70	154.40	6,741.0	5,517.0	-4,230.9	3,324.8	5,368.9	0.57	-0.48	-0.32
12,804.0	86.90	154.40	6,744.5	5,520.5	-4,287.7	3,352.0	5,431.1	0.32	0.32	0.00
12,867.0	87.00	154.10	6,747.9	5,523.9	-4,344.3	3,379.3	5,493.3	0.50	0.16	-0.48
12,930.0	87.60	153.90	6,750.8	5,526.8	-4,400.9	3,406.9	5,555.6	1.00	0.95	-0.32
12,993.0	89.00	154.60	6,752.7	5,528.7	-4,457.6	3,434.2	5,617.8	2.48	2.22	1.11
13,056.0	90.20	155.80	6,753.1	5,529.1	-4,514.8	3,460.7	5,680.0	2.69	1.90	1.90
13,119.0	91.30	156.70	6,752.3	5,528.3	-4,572.5	3,486.0	5,741.9	2.26	1.75	1.43
13,182.0	91.60	156.10	6,750.7	5,526.7	-4,630.2	3,511.2	5,803.8	1.06	0.48	-0.95
13,245.0	92.00	156.20	6,748.7	5,524.7	-4,687.8	3,536.7	5,865.7	0.65	0.63	0.16
13,309.0	91.00	156.30	6,747.1	5,523.1	-4,746.3	3,562.5	5,928.6	1.57	-1.56	0.16
13,372.0	89.40	157.30	6,746.9	5,522.9	-4,804.2	3,587.3	5,990.4	2.99	-2.54	1.59
13,435.0	88.70	157.30	6,747.9	5,523.9	-4,862.3	3,611.6	6,052.1	1.11	-1.11	0.00
13,499.0	89.80	158.00	6,748.7	5,524.7	-4,921.5	3,635.9	6,114.7	2.04	1.72	1.09
13,562.0	91.20	159.00	6,748.2	5,524.2	-4,980.1	3,659.0	6,176.1	2.73	2.22	1.59
13,625.0	89.60	158.10	6,747.7	5,523.7	-5,038.8	3,682.0	6,237.5	2.91	-2.54	-1.43
13,688.0	88.60	156.50	6,748.7	5,524.7	-5,096.9	3,706.4	6,299.2	2.99	-1.59	-2.54
13,751.0	89.70	156.80	6,749.7	5,525.7	-5,154.7	3,731.3	6,361.1	1.81	1.75	0.48
13,814.0	90.20	156.90	6,749.7	5,525.7	-5,212.6	3,756.1	6,422.9	0.81	0.79	0.16
13,877.0	89.80	154.90	6,749.7	5,525.7	-5,270.1	3,781.8	6,484.9	3.24	-0.63	-3.17
13,940.0	90.50	154.50	6,749.6	5,525.6	-5,327.1	3,808.7	6,547.1	1.28	1.11	0.63

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Where energy meets innovation.

Phoenix Technology Services

Survey Report



Where energy meets innovation.

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Doddridge County 514664
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1224.0usft
Project:	Doddridge County, WV Grid	MD Reference:	KB @ 1224.0usft
Site:	Doddridge County 514664	North Reference:	Grid
Well:	Well #514664	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	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)
14,003.0	89.80	153.70	6,749.4	5,525.4	-5,383.8	3,836.3	6,609.4	1.69	-1.11	-1.27
14,067.0	89.40	154.30	6,749.8	5,525.8	-5,441.3	3,864.3	6,672.7	1.13	-0.63	0.94
14,130.0	90.10	154.70	6,750.1	5,526.1	-5,498.1	3,891.4	6,735.0	1.28	1.11	0.63
14,193.0	87.50	153.20	6,751.4	5,527.4	-5,554.7	3,919.1	6,797.3	4.76	-4.13	-2.38
14,255.0	88.60	153.70	6,753.5	5,529.5	-5,610.2	3,946.8	6,858.7	1.95	1.77	0.81
14,319.0	88.90	153.60	6,754.9	5,530.9	-5,667.5	3,975.2	6,922.1	0.49	0.47	-0.16
14,382.0	89.70	153.50	6,755.7	5,531.7	-5,723.9	4,003.2	6,984.5	1.28	1.27	-0.16
14,445.0	89.70	153.60	6,756.0	5,532.0	-5,780.3	4,031.3	7,046.9	0.16	0.00	0.16
14,508.0	90.10	152.90	6,756.1	5,532.1	-5,836.6	4,059.7	7,109.3	1.28	0.63	-1.11
14,571.0	90.40	152.20	6,755.9	5,531.9	-5,892.5	4,088.7	7,171.9	1.21	0.48	-1.11
14,634.0	90.40	151.40	6,755.4	5,531.4	-5,948.0	4,118.5	7,234.5	1.27	0.00	-1.27
14,697.0	90.60	150.80	6,754.9	5,530.9	-6,003.1	4,148.9	7,297.2	1.00	0.32	-0.95
14,760.0	90.90	149.60	6,754.1	5,530.1	-6,057.8	4,180.2	7,360.0	1.96	0.48	-1.90
14,823.0	90.60	148.40	6,753.2	5,529.2	-6,111.8	4,212.7	7,422.9	1.96	-0.48	-1.90
14,886.0	90.50	148.30	6,752.6	5,528.6	-6,165.4	4,245.7	7,485.8	0.22	-0.16	-0.16
Last Survey=14949' MD/ 6752' TVD										
14,949.0	90.40	147.50	6,752.1	5,528.1	-6,218.8	4,279.2	7,548.8	1.28	-0.16	-1.27
Projection to TD=15024' MD/ 6752' TVD										
15,024.0	90.40	147.50	6,751.6	5,527.6	-6,282.0	4,319.5	7,623.7	0.00	0.00	0.00

Design Annotations

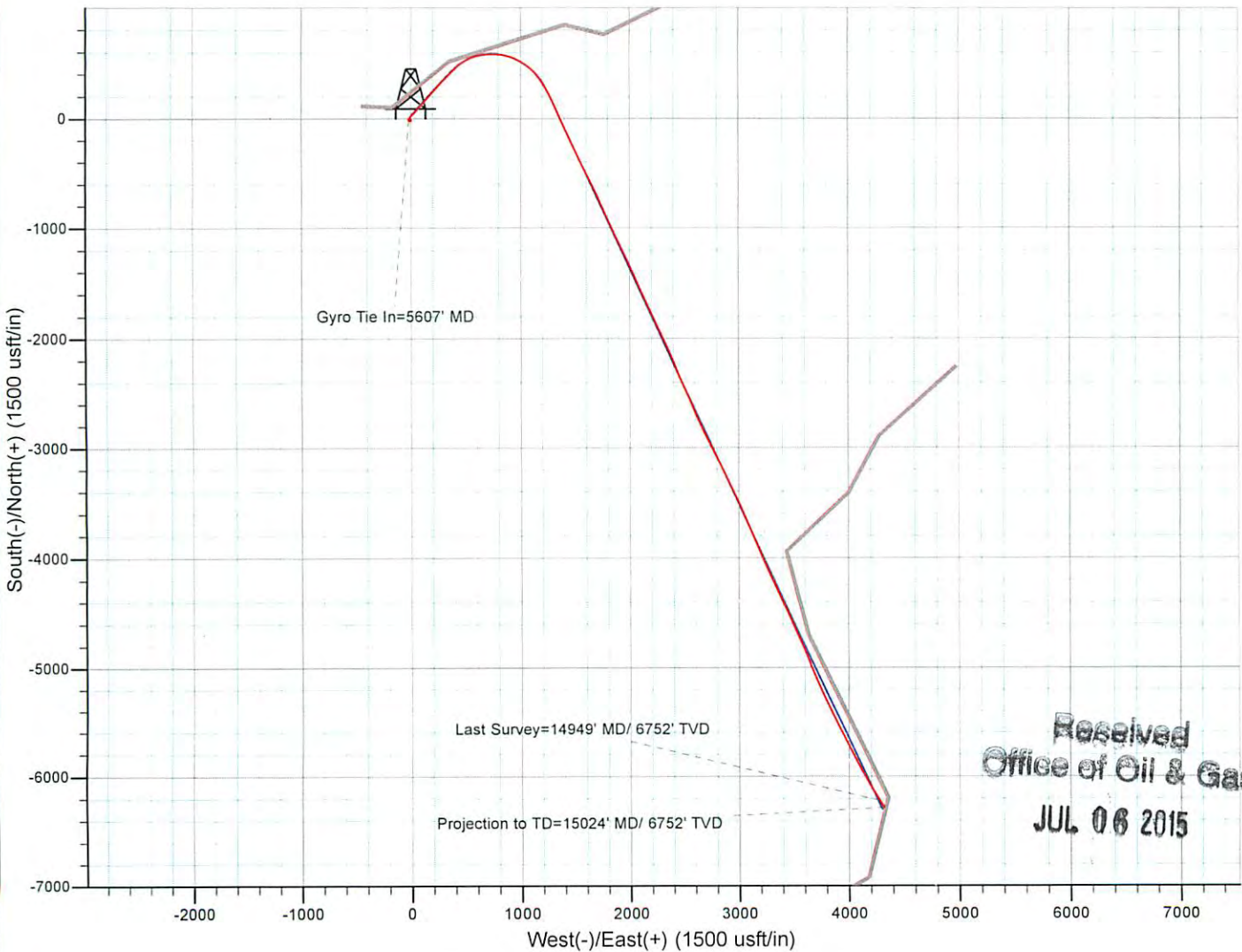
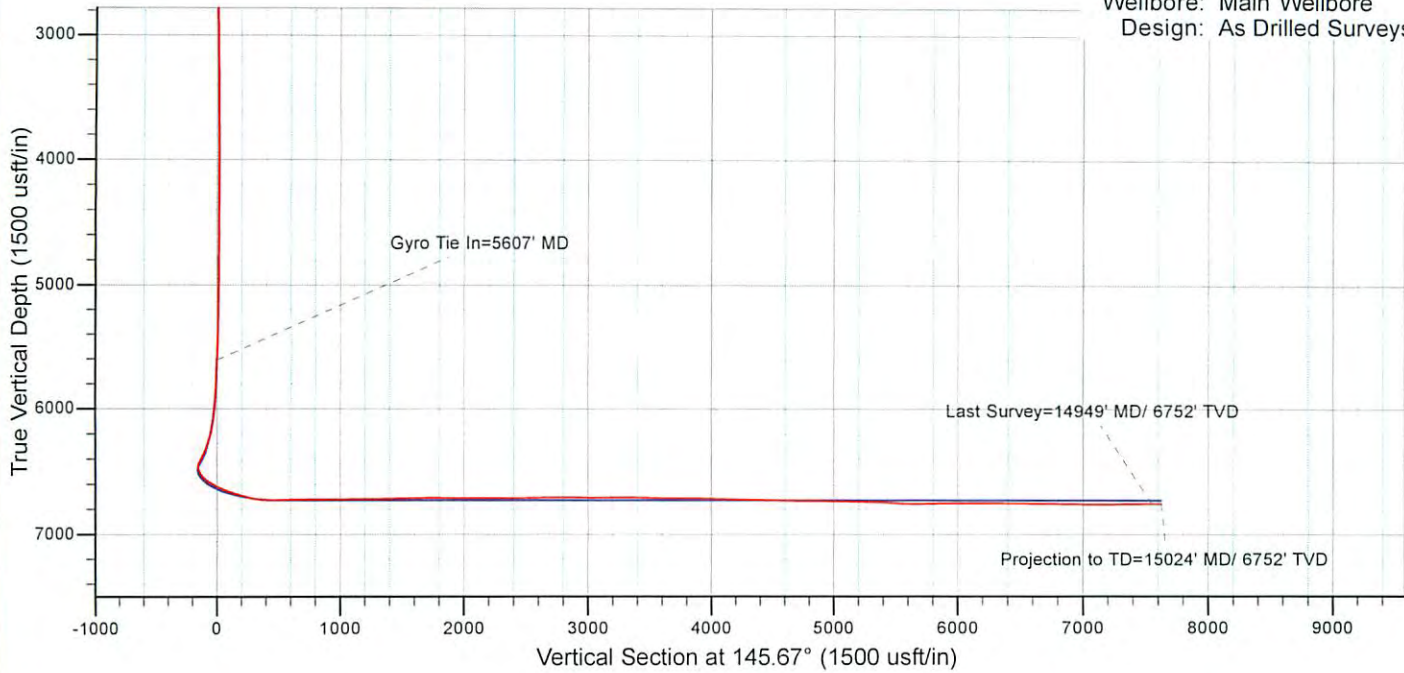
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,607.0	5,606.6	-10.4	-16.8	Gyro Tie In=5607' MD
14,949.0	6,752.1	-6,218.8	4,279.2	Last Survey=14949' MD/ 6752' TVD
15,024.0	6,751.6	-6,282.0	4,319.5	Projection to TD=15024' MD/ 6752' TVD

Checked By: _____ Approved By: _____ Date: _____



EQT Production - Marcellus

Project: Doddridge County, WV Grid
Site: Doddridge County 514664
Well: Well #514664
Wellbore: Main Wellbore
Design: As Drilled Surveys



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