

EQT Production - Marcellus

Doddridge County, WV Grid

Doddridge County 515730

Well #515730

Main Wellbore

Design: 515730 As Drilled Surveys

Standard Survey Report

08 December, 2014

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Phoenix Technologies
Survey Report

17.06575

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Doddridge County 515730
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1224.0usft
Project:	Doddridge County, WV Grid	MD Reference:	KB @ 1224.0usft
Site:	Doddridge County 515730	North Reference:	Grid
Well:	Well #515730	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515730 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 515730				
Site Position:		Northing:	277,796.40 usft	Latitude:	39.26
From:	Map	Easting:	1,642,237.90 usft	Longitude:	-80.76
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.81 °

Well	Well #515730					
Well Position	+N-S	0.0 usft	Northing:	277,796.40 usft	Latitude:	39° 15' 20.910 N
	+E-W	0.0 usft	Easting:	1,642,237.90 usft	Longitude:	80° 45' 48.343 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	1,208.0 usft

Wellbore	Main Wellbore				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	11/10/2014	-8.50	66.74	52,225

Design	515730 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	103.66	

Survey Program	Date	12/8/2014			
From (')	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	4,150.0	515730 Gyrodata Gyro (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop	
0.00	11,710.0	515730 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
100.0	0.26	91.24	100.0	-1,124.0	0.0	0.2	0.2	0.26	0.26	0.00
200.0	0.52	138.20	200.0	-1,024.0	-0.3	0.8	0.8	0.39	0.26	0.00
300.0	0.78	140.31	300.0	-924.0	-1.2	1.5	1.7	0.26	0.26	2.11
400.0	0.51	132.13	400.0	-824.0	-2.0	2.3	2.7	0.28	-0.27	-8.18
500.0	0.39	134.04	500.0	-724.0	-2.6	2.8	3.4	0.12	-0.12	1.91
600.0	0.23	154.58	600.0	-624.0	-3.0	3.2	3.8	0.19	-0.16	20.54
700.0	0.16	161.68	700.0	-524.0	-3.3	3.3	4.0	0.07	-0.07	7.10

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Well:	Well #515730	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515730 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)	
800.0	0.22	168.31	800.0	-424.0	-3.6	3.4	4.1	0.06	0.06	6.63	
900.0	0.20	194.49	900.0	-324.0	-4.0	3.4	4.2	0.10	-0.02	26.18	
1,000.0	0.19	188.65	1,000.0	-224.0	-4.3	3.3	4.2	0.02	-0.01	-5.84	
1,100.0	0.29	155.32	1,100.0	-124.0	-4.7	3.4	4.4	0.17	0.10	-33.33	
1,200.0	0.62	118.82	1,200.0	-24.0	-5.2	4.0	5.1	0.42	0.33	-36.50	
1,300.0	0.81	118.54	1,300.0	76.0	-5.8	5.1	6.3	0.19	0.19	-0.28	
1,400.0	1.25	121.10	1,399.9	175.9	-6.7	6.6	8.0	0.44	0.44	2.56	
1,500.0	1.76	120.05	1,499.9	275.9	-8.0	8.9	10.5	0.51	0.51	-1.05	
1,600.0	1.88	121.11	1,599.9	375.9	-9.6	11.6	13.6	0.12	0.12	1.06	
1,700.0	2.09	120.29	1,699.8	475.8	-11.4	14.6	16.9	0.21	0.21	-0.82	
1,800.0	2.32	121.84	1,799.7	575.7	-13.4	17.9	20.5	0.24	0.23	1.55	
1,900.0	2.69	122.29	1,899.6	675.6	-15.7	21.6	24.7	0.37	0.37	0.45	
2,000.0	2.89	122.30	1,999.5	775.5	-18.3	25.7	29.3	0.20	0.20	0.01	
2,100.0	3.10	122.79	2,099.4	875.4	-21.1	30.1	34.2	0.21	0.21	0.49	
2,200.0	3.00	119.16	2,199.2	975.2	-23.9	34.7	39.3	0.22	-0.10	-3.63	
2,300.0	3.31	119.15	2,299.1	1,075.1	-26.6	39.5	44.6	0.31	0.31	-0.01	
2,400.0	3.48	116.39	2,398.9	1,174.9	-29.3	44.7	50.4	0.24	0.17	-2.76	
2,500.0	3.44	113.90	2,498.7	1,274.7	-31.9	50.2	56.3	0.16	-0.04	-2.49	
2,600.0	3.40	114.15	2,598.5	1,374.5	-34.3	55.6	62.1	0.04	-0.04	0.25	
2,700.0	3.37	113.21	2,698.4	1,474.4	-36.7	61.0	68.0	0.06	-0.03	-0.94	
2,800.0	3.38	113.72	2,798.2	1,574.2	-39.0	66.4	73.8	0.03	0.01	0.51	
2,900.0	3.35	112.46	2,898.0	1,674.0	-41.3	71.8	79.6	0.08	-0.03	-1.26	
3,000.0	3.64	112.18	2,997.8	1,773.8	-43.6	77.5	85.6	0.29	0.29	-0.28	
3,100.0	4.01	112.14	3,097.6	1,873.6	-46.1	83.6	92.2	0.37	0.37	-0.04	
3,200.0	4.71	109.58	3,197.3	1,973.3	-48.8	90.8	99.7	0.73	0.70	-2.56	
3,300.0	5.23	109.07	3,297.0	2,073.0	-51.7	98.9	108.3	0.52	0.52	-0.51	
3,400.0	5.76	109.17	3,396.5	2,172.5	-54.8	108.0	117.9	0.53	0.53	0.10	
3,500.0	5.93	108.98	3,496.0	2,272.0	-58.2	117.6	128.0	0.17	0.17	-0.19	
3,600.0	6.16	110.20	3,595.4	2,371.4	-61.7	127.5	138.5	0.26	0.23	1.22	
3,700.0	6.03	111.11	3,694.9	2,470.9	-65.4	137.5	149.0	0.16	-0.13	0.91	
3,800.0	5.86	113.74	3,794.3	2,570.3	-69.4	147.0	159.3	0.32	-0.17	2.63	
3,900.0	5.68	117.41	3,893.8	2,669.8	-73.7	156.1	169.1	0.41	-0.18	3.67	
4,000.0	5.25	122.48	3,993.4	2,769.4	-78.5	164.3	178.2	0.65	-0.43	5.07	
4,100.0	4.97	128.80	4,093.0	2,869.0	-83.6	171.6	186.5	0.63	-0.28	6.32	
Gyro Tie In=4150' MD											
4,150.0	4.88	132.30	4,142.8	2,918.8	-86.4	174.8	190.3	0.63	-0.18	7.00	
4,185.0	5.00	134.10	4,177.6	2,953.6	-88.5	177.0	192.9	0.56	0.34	5.14	
4,248.0	5.10	135.00	4,240.4	3,016.4	-92.4	181.0	197.7	0.20	0.16	1.43	
4,279.0	5.10	135.80	4,271.3	3,047.3	-94.3	182.9	200.0	0.23	0.00	2.58	
4,311.0	5.30	136.10	4,303.1	3,079.1	-96.4	184.9	202.5	0.63	0.63	0.94	
4,342.0	5.60	132.80	4,334.0	3,110.0	-98.5	187.0	205.0	1.40	0.97	-10.65	
4,373.0	6.30	119.90	4,364.8	3,140.8	-100.4	189.6	208.0	4.85	2.26	-41.61	
4,405.0	7.20	109.40	4,396.6	3,172.6	-101.9	193.0	211.6	4.76	2.81	-32.81	

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Wellbore:	Main Wellbore		
Design:	515730 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)
4,437.0	8.00	102.80	4,428.3	3,204.3	-103.1	197.1	215.9	3.70	2.50	-20.63
4,468.0	8.70	99.40	4,459.0	3,235.0	-103.9	201.5	220.4	2.76	2.26	-10.97
4,499.0	9.30	94.40	4,489.6	3,265.6	-104.5	206.3	225.2	3.18	1.94	-16.13
4,531.0	9.70	87.80	4,521.2	3,297.2	-104.6	211.6	230.3	3.62	1.25	-20.63
4,562.0	10.00	81.50	4,551.7	3,327.7	-104.1	216.9	235.3	3.61	0.97	-20.32
4,593.0	10.40	76.80	4,582.2	3,358.2	-103.1	222.3	240.3	2.98	1.29	-15.16
4,625.0	10.70	74.00	4,613.7	3,389.7	-101.6	227.9	245.5	1.86	0.94	-8.75
4,656.0	11.30	72.70	4,644.1	3,420.1	-99.9	233.6	250.6	2.09	1.94	-4.19
4,688.0	12.00	71.30	4,675.5	3,451.5	-97.9	239.7	256.1	2.36	2.19	-4.38
4,719.0	12.80	71.00	4,705.8	3,481.8	-95.7	246.0	261.7	2.59	2.58	-0.97
4,751.0	13.80	70.20	4,736.9	3,512.9	-93.3	253.0	267.9	3.18	3.13	-2.50
4,782.0	15.30	69.20	4,766.9	3,542.9	-90.6	260.3	274.3	4.91	4.84	-3.23
4,814.0	16.70	69.50	4,797.7	3,573.7	-87.5	268.5	281.6	4.38	4.38	0.94
4,845.0	17.70	69.00	4,827.3	3,603.3	-84.2	277.1	289.2	3.26	3.23	-1.61
4,877.0	18.30	69.60	4,857.7	3,633.7	-80.7	286.4	297.3	1.96	1.88	1.88
4,908.0	18.70	70.10	4,887.1	3,663.1	-77.3	295.6	305.5	1.39	1.29	1.61
4,940.0	19.00	69.90	4,917.4	3,693.4	-73.8	305.3	314.1	0.96	0.94	-0.63
4,971.0	20.00	69.30	4,946.6	3,722.6	-70.2	315.0	322.7	3.29	3.23	-1.94
5,003.0	21.40	68.50	4,976.5	3,752.5	-66.1	325.6	332.0	4.46	4.38	-2.50
5,034.0	23.40	68.20	5,005.2	3,781.2	-61.8	336.5	341.6	6.46	6.45	-0.97
5,066.0	25.60	67.70	5,034.3	3,810.3	-56.8	348.8	352.4	6.91	6.88	-1.56
5,097.0	27.00	67.60	5,062.1	3,838.1	-51.6	361.5	363.5	4.52	4.52	-0.32
5,129.0	27.50	67.70	5,090.6	3,866.6	-46.0	375.1	375.3	1.57	1.56	0.31
5,160.0	27.70	68.10	5,118.0	3,894.0	-40.6	388.4	387.0	0.88	0.65	1.29
5,192.0	28.00	68.10	5,146.3	3,922.3	-35.0	402.3	399.2	0.94	0.94	0.00
5,223.0	28.60	68.00	5,173.6	3,949.6	-29.5	415.9	411.1	1.94	1.94	-0.32
5,255.0	29.10	67.70	5,201.6	3,977.6	-23.7	430.2	423.6	1.63	1.56	-0.94
5,318.0	29.50	67.50	5,256.6	4,032.6	-11.9	458.7	448.6	0.65	0.63	-0.32
5,349.0	29.50	67.50	5,283.6	4,059.6	-6.1	472.8	460.9	0.00	0.00	0.00
5,422.0	29.90	69.50	5,347.0	4,123.0	7.2	506.5	490.5	1.46	0.55	2.74
5,453.0	32.00	69.10	5,373.6	4,149.6	12.8	521.4	503.6	6.81	6.77	-1.29
5,484.0	34.60	69.50	5,399.5	4,175.5	18.8	537.3	517.7	8.42	8.39	1.29
5,516.0	37.70	70.20	5,425.3	4,201.3	25.3	555.0	533.3	9.77	9.69	2.19
5,547.0	40.90	70.60	5,449.3	4,225.3	31.9	573.5	549.8	10.35	10.32	1.29
5,579.0	44.20	70.10	5,472.9	4,248.9	39.2	593.9	567.8	10.37	10.31	-1.56
5,610.0	48.00	69.10	5,494.4	4,270.4	47.0	614.8	586.3	12.48	12.26	-3.23
5,641.0	51.00	68.50	5,514.5	4,290.5	55.5	636.8	605.7	9.79	9.68	-1.94
5,673.0	53.40	67.70	5,534.1	4,310.1	64.9	660.2	626.3	7.76	7.50	-2.50
5,704.0	54.90	67.20	5,552.3	4,328.3	74.5	683.4	646.5	5.01	4.84	-1.61
5,736.0	56.70	66.40	5,570.2	4,346.2	85.0	707.8	667.7	5.99	5.63	-2.50
5,767.0	59.20	65.20	5,586.7	4,362.7	95.7	731.7	688.4	8.71	8.06	-3.87
5,799.0	61.20	64.60	5,602.6	4,378.6	107.5	756.9	710.1	6.46	6.25	-1.88

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5,830.0	64.70	63.90	5,616.7	4,392.7	119.5	781.7	731.4	11.47	11.29	-2.26	
5,862.0	69.10	64.20	5,629.2	4,405.2	132.4	808.2	754.1	13.78	13.75	0.94	
5,925.0	72.60	64.30	5,649.9	4,425.9	158.3	861.8	800.1	5.56	5.56	0.16	
5,988.0	72.80	63.60	5,668.6	4,444.6	184.7	915.8	846.4	1.11	0.32	-1.11	
6,051.0	71.40	63.10	5,688.0	4,464.0	211.6	969.4	892.1	2.35	-2.22	-0.79	
6,113.0	70.30	63.80	5,708.3	4,484.3	237.7	1,021.8	936.8	2.07	-1.77	1.13	
6,177.0	72.10	64.20	5,729.0	4,505.0	264.3	1,076.3	983.4	2.87	2.81	0.63	
6,240.0	72.10	64.30	5,748.3	4,524.3	290.3	1,130.3	1,029.8	0.15	0.00	0.16	
6,303.0	69.20	64.10	5,769.2	4,545.2	316.2	1,183.8	1,075.7	4.61	-4.60	-0.32	
6,366.0	67.60	64.40	5,792.4	4,568.4	341.7	1,236.5	1,120.9	2.58	-2.54	0.48	
6,429.0	69.50	64.80	5,815.4	4,591.4	366.8	1,289.5	1,166.4	3.07	3.02	0.63	
6,491.0	71.40	65.30	5,836.2	4,612.2	391.4	1,342.5	1,212.1	3.16	3.06	0.81	
6,555.0	70.70	64.40	5,857.0	4,633.0	417.2	1,397.3	1,259.3	1.72	-1.09	-1.41	
6,618.0	67.80	63.80	5,879.3	4,655.3	442.9	1,450.2	1,304.7	4.69	-4.60	-0.95	
6,681.0	66.90	63.60	5,903.5	4,679.5	468.7	1,502.4	1,349.3	1.46	-1.43	-0.32	
6,744.0	68.80	64.10	5,927.3	4,703.3	494.4	1,554.7	1,394.1	3.10	3.02	0.79	
6,807.0	71.40	64.60	5,948.7	4,724.7	520.0	1,608.1	1,439.9	4.19	4.13	0.79	
6,870.0	73.50	64.80	5,967.7	4,743.7	545.7	1,662.4	1,486.6	3.35	3.33	0.32	
6,933.0	73.30	65.50	5,985.7	4,761.7	571.0	1,717.2	1,533.9	1.11	-0.32	1.11	
6,997.0	72.00	66.10	6,004.8	4,780.8	596.1	1,772.9	1,582.1	2.22	-2.03	0.94	
7,060.0	69.80	66.60	6,025.4	4,801.4	620.0	1,827.5	1,629.5	3.57	-3.49	0.79	
7,123.0	67.80	66.20	6,048.2	4,824.2	643.5	1,881.3	1,676.2	3.23	-3.17	-0.63	
7,185.0	68.00	66.10	6,071.5	4,847.5	666.7	1,933.8	1,721.8	0.36	0.32	-0.16	
7,249.0	68.80	65.30	6,095.1	4,871.1	691.2	1,988.1	1,768.7	1.71	1.25	-1.25	
7,312.0	69.30	64.50	6,117.6	4,893.6	716.2	2,041.3	1,814.6	1.43	0.79	-1.27	
7,375.0	69.90	63.60	6,139.6	4,915.6	742.0	2,094.4	1,860.1	1.64	0.95	-1.43	
7,438.0	68.60	65.10	6,161.9	4,937.9	767.5	2,147.5	1,905.7	3.04	-2.06	2.38	
7,501.0	68.10	64.00	6,185.1	4,961.1	792.7	2,200.4	1,951.1	1.81	-0.79	-1.75	
7,565.0	68.50	63.70	6,208.8	4,984.8	818.9	2,253.8	1,996.8	0.76	0.63	-0.47	
7,627.0	68.30	63.10	6,231.6	5,007.6	844.7	2,305.3	2,040.8	0.96	-0.32	-0.97	
7,690.0	68.50	63.80	6,254.8	5,030.8	870.9	2,357.7	2,085.5	1.08	0.32	1.11	
7,753.0	69.00	66.10	6,277.7	5,053.7	895.7	2,410.9	2,131.3	3.49	0.79	3.65	
7,816.0	69.40	66.80	6,300.0	5,076.0	919.2	2,464.9	2,178.2	1.22	0.63	1.11	
7,880.0	69.30	66.60	6,322.6	5,098.6	942.9	2,519.9	2,226.1	0.33	-0.16	-0.31	
7,943.0	70.50	65.70	6,344.2	5,120.2	966.9	2,574.0	2,273.0	2.33	1.90	-1.43	
8,006.0	71.70	66.00	6,364.7	5,140.7	991.2	2,628.4	2,320.1	1.96	1.90	0.48	
8,069.0	71.00	66.10	6,384.8	5,160.8	1,015.5	2,683.0	2,367.4	1.12	-1.11	0.16	
8,131.0	70.40	65.80	6,405.3	5,181.3	1,039.3	2,736.4	2,413.7	1.07	-0.97	-0.48	
8,194.0	69.60	66.40	6,426.8	5,202.8	1,063.3	2,790.5	2,460.6	1.55	-1.27	0.95	
8,258.0	70.20	65.90	6,448.8	5,224.8	1,087.6	2,845.5	2,508.3	1.19	0.94	-0.78	
8,321.0	70.10	65.10	6,470.2	5,246.2	1,112.2	2,899.4	2,554.9	1.20	-0.16	-1.27	
8,384.0	70.20	64.60	6,491.6	5,267.6	1,137.4	2,953.1	2,601.1	0.76	0.16	-0.79	
8,447.0	70.50	64.80	6,512.8	5,288.8	1,162.7	3,006.7	2,647.2	0.56	0.48	0.32	

Phoenix Technologies

Survey Report

17-06575

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Doddridge County 515730
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1224.0usft
Project:	Doddridge County, WV Grid	MD Reference:	KB @ 1224.0usft
Site:	Doddridge County 515730	North Reference:	Grid
Well:	Well #515730	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515730 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)
8,509.0	70.00	64.50	6,533.8	5,309.8	1,187.7	3,059.4	2,692.6	0.93	-0.81	-0.48
8,541.0	70.40	66.00	6,544.6	5,320.6	1,200.3	3,086.8	2,716.2	4.58	1.25	4.69
8,573.0	71.10	70.40	6,555.2	5,331.2	1,211.5	3,114.8	2,740.8	13.16	2.19	13.75
8,604.0	71.60	74.40	6,565.1	5,341.1	1,220.4	3,142.8	2,765.9	12.33	1.61	12.90
8,636.0	70.60	78.60	6,575.4	5,351.4	1,227.5	3,172.2	2,792.8	12.80	-3.13	13.13
8,667.0	69.40	80.30	6,586.0	5,362.0	1,232.8	3,200.9	2,819.4	6.44	-3.87	5.48
8,699.0	68.40	83.20	6,597.6	5,373.6	1,237.1	3,230.4	2,847.0	9.01	-3.13	9.06
8,730.0	68.50	87.40	6,609.0	5,385.0	1,239.5	3,259.1	2,874.4	12.61	0.32	13.55
8,761.0	70.30	90.70	6,619.9	5,395.9	1,239.9	3,288.1	2,902.5	11.53	5.81	10.65
8,793.0	71.00	94.20	6,630.5	5,406.5	1,238.6	3,318.3	2,932.1	10.55	2.19	10.94
8,824.0	71.10	96.00	6,640.5	5,416.5	1,236.0	3,347.5	2,961.1	5.50	0.32	5.81
8,856.0	73.20	97.80	6,650.3	5,426.3	1,232.4	3,377.7	2,991.3	8.47	6.56	5.63
8,887.0	76.40	101.20	6,658.5	5,434.5	1,227.4	3,407.2	3,021.2	14.78	10.32	10.97
8,919.0	79.40	104.50	6,665.2	5,441.2	1,220.5	3,437.7	3,052.4	13.77	9.38	10.31
8,950.0	81.10	108.50	6,670.4	5,446.4	1,211.8	3,467.0	3,082.9	13.85	5.48	12.90
8,982.0	81.50	111.90	6,675.3	5,451.3	1,200.9	3,496.7	3,114.4	10.58	1.25	10.63
9,013.0	80.90	114.60	6,680.0	5,456.0	1,188.8	3,524.8	3,144.6	8.82	-1.94	8.71
9,045.0	80.70	117.60	6,685.1	5,461.1	1,174.9	3,553.2	3,175.4	9.28	-0.63	9.38
9,077.0	80.50	121.00	6,690.4	5,466.4	1,159.4	3,580.7	3,205.8	10.50	-0.63	10.63
9,107.0	80.20	123.50	6,695.4	5,471.4	1,143.6	3,605.7	3,233.8	8.28	-1.00	8.33
9,138.0	80.20	125.80	6,700.7	5,476.7	1,126.3	3,630.9	3,262.4	7.31	0.00	7.42
9,170.0	80.00	129.10	6,706.2	5,482.2	1,107.1	3,655.9	3,291.2	10.18	-0.63	10.31
9,201.0	80.00	133.70	6,711.6	5,487.6	1,086.9	3,678.8	3,318.2	14.61	0.00	14.84
9,233.0	80.20	137.20	6,717.1	5,493.1	1,064.5	3,700.9	3,345.0	10.79	0.63	10.94
9,264.0	82.20	139.50	6,721.8	5,497.8	1,041.6	3,721.3	3,370.2	9.77	6.45	7.42
9,295.0	84.50	142.00	6,725.4	5,501.4	1,017.7	3,740.7	3,394.7	10.92	7.42	8.06
9,327.0	84.90	146.50	6,728.4	5,504.4	991.9	3,759.3	3,418.9	14.06	1.25	14.06
9,358.0	85.30	149.30	6,731.0	5,507.0	965.7	3,775.8	3,441.0	9.09	1.29	9.03
9,389.0	84.30	150.90	6,733.8	5,509.8	939.0	3,791.1	3,462.3	6.07	-3.23	5.16
9,452.0	86.20	156.00	6,739.0	5,515.0	882.8	3,819.2	3,502.8	8.61	3.02	8.10
LP= 9515' MD/6741' TVD										
9,515.0	90.10	155.50	6,741.1	5,517.1	825.4	3,845.0	3,541.5	6.24	6.19	-0.79
9,578.0	90.90	155.90	6,740.5	5,516.5	768.0	3,871.0	3,580.2	1.42	1.27	0.63
9,642.0	91.70	154.80	6,739.1	5,515.1	709.9	3,897.7	3,619.9	2.12	1.25	-1.72
9,704.0	90.20	154.80	6,738.0	5,514.0	653.8	3,924.1	3,658.8	2.42	-2.42	0.00
9,767.0	89.90	155.40	6,738.0	5,514.0	596.6	3,950.6	3,698.1	1.06	-0.48	0.95
9,830.0	90.80	155.10	6,737.6	5,513.6	539.4	3,977.0	3,737.2	1.51	1.43	-0.48
9,893.0	91.30	154.10	6,736.4	5,512.4	482.5	4,004.0	3,776.9	1.77	0.79	-1.59
9,957.0	88.00	153.10	6,736.8	5,512.8	425.2	4,032.4	3,818.1	5.39	-5.16	-1.56
10,020.0	87.30	153.00	6,739.4	5,515.4	369.1	4,061.0	3,859.0	1.12	-1.11	-0.16
10,083.0	87.30	152.40	6,742.4	5,518.4	313.2	4,089.8	3,900.3	0.95	0.00	-0.95
10,145.0	89.00	154.00	6,744.4	5,520.4	257.9	4,117.8	3,940.5	3.76	2.74	2.58

Phoenix Technologies
Survey Report

17-06575

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Doddridge County 515730
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1224.0usft
Project:	Doddridge County, WV Grid	MD Reference:	KB @ 1224.0usft
Site:	Doddridge County 515730	North Reference:	Grid
Well:	Well #515730	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515730 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)	
10,208.0	89.30	153.10	6,745.3	5,521.3	201.5	4,145.8	3,981.1	1.51	0.48	-1.43	
10,271.0	89.40	153.70	6,746.0	5,522.0	145.1	4,174.0	4,021.8	0.97	0.16	0.95	
10,334.0	89.70	154.30	6,746.5	5,522.5	88.5	4,201.6	4,062.0	1.06	0.48	0.95	
10,397.0	90.50	153.40	6,746.4	5,522.4	32.0	4,229.4	4,102.3	1.91	1.27	-1.43	
10,460.0	90.70	150.80	6,745.8	5,521.8	-23.7	4,258.9	4,144.1	4.14	0.32	-4.13	
10,523.0	89.80	151.50	6,745.5	5,521.5	-78.9	4,289.3	4,186.7	1.81	-1.43	1.11	
10,586.0	88.70	153.20	6,746.3	5,522.3	-134.7	4,318.5	4,228.2	3.21	-1.75	2.70	
10,649.0	90.80	154.70	6,746.6	5,522.6	-191.3	4,346.2	4,268.5	4.10	3.33	2.38	
10,712.0	91.30	155.90	6,745.4	5,521.4	-248.5	4,372.5	4,307.6	2.06	0.79	1.90	
10,775.0	92.10	155.70	6,743.6	5,519.6	-305.9	4,398.3	4,346.2	1.31	1.27	-0.32	
10,838.0	90.50	156.80	6,742.1	5,518.1	-363.6	4,423.7	4,384.5	3.08	-2.54	1.75	
10,901.0	88.50	158.40	6,742.7	5,518.7	-421.8	4,447.7	4,421.5	4.07	-3.17	2.54	
10,964.0	88.40	159.00	6,744.4	5,520.4	-480.5	4,470.5	4,457.6	0.97	-0.16	0.95	
11,026.0	87.90	157.70	6,746.4	5,522.4	-538.1	4,493.4	4,493.4	2.25	-0.81	-2.10	
11,090.0	89.20	157.60	6,748.0	5,524.0	-597.3	4,517.7	4,531.0	2.04	2.03	-0.16	
11,153.0	92.60	156.70	6,747.0	5,523.0	-655.3	4,542.2	4,568.5	5.58	5.40	-1.43	
11,216.0	92.00	155.70	6,744.5	5,520.5	-712.9	4,567.6	4,606.8	1.85	-0.95	-1.59	
11,278.0	91.70	155.00	6,742.5	5,518.5	-769.2	4,593.4	4,645.2	1.23	-0.48	-1.13	
11,341.0	92.20	155.00	6,740.3	5,516.3	-826.3	4,620.1	4,684.5	0.79	0.79	0.00	
11,404.0	91.70	155.80	6,738.2	5,514.2	-883.5	4,646.3	4,723.5	1.50	-0.79	1.27	
11,467.0	90.00	156.40	6,737.3	5,513.3	-941.1	4,671.8	4,761.9	2.86	-2.70	0.95	
11,530.0	88.30	157.80	6,738.2	5,514.2	-999.2	4,696.3	4,799.4	3.50	-2.70	2.22	
11,593.0	88.30	158.90	6,740.1	5,516.1	-1,057.7	4,719.5	4,835.8	1.75	0.00	1.75	
Final Survey= 11656' MD/6742' TVD											
11,656.0	88.60	157.30	6,741.8	5,517.8	-1,116.1	4,743.0	4,872.4	2.58	0.48	-2.54	
Projection to TD= 11710' MD/6743' TVD											
11,710.0	88.60	157.30	6,743.1	5,519.1	-1,165.9	4,763.8	4,904.4	0.00	0.00	0.00	

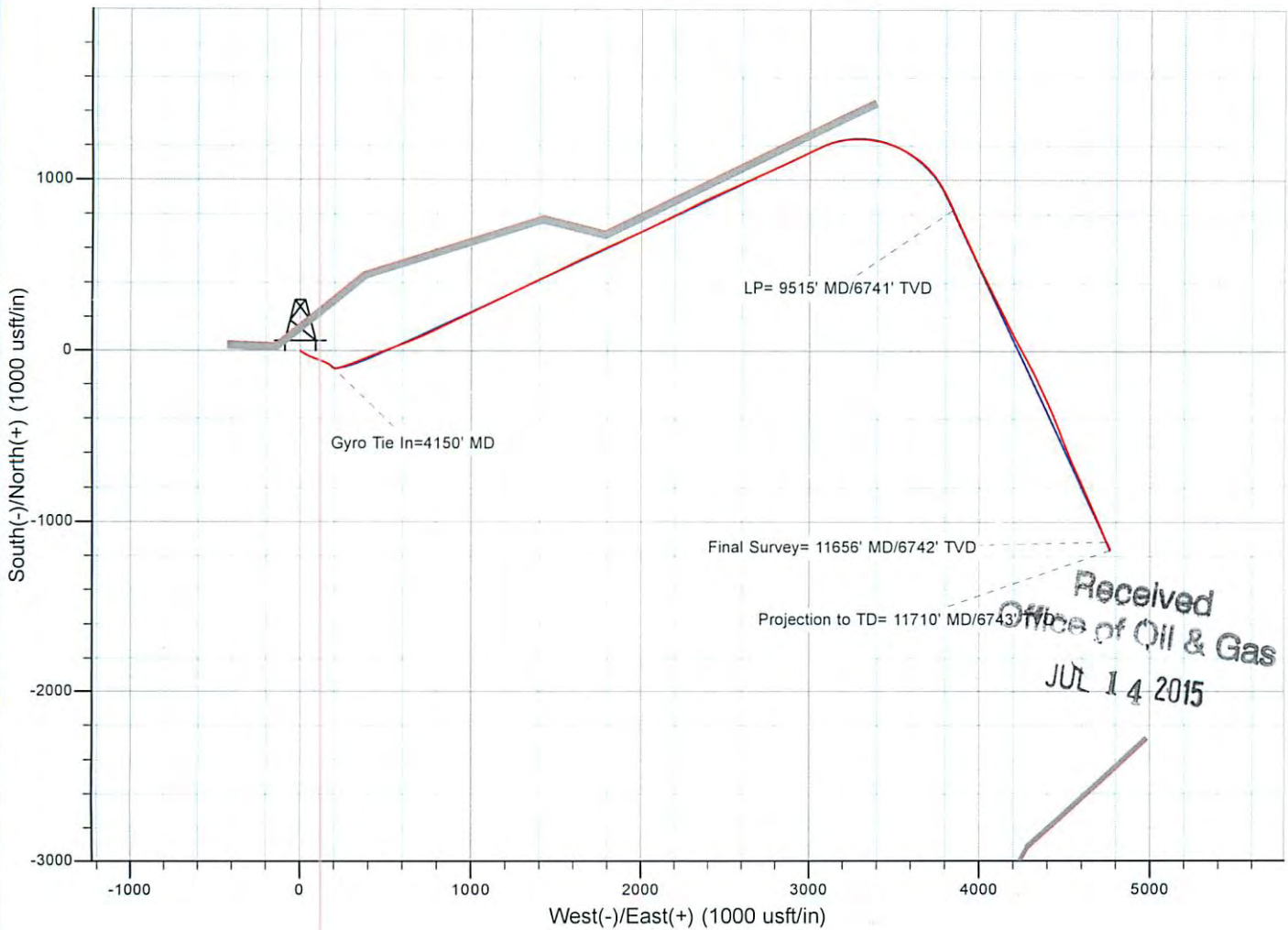
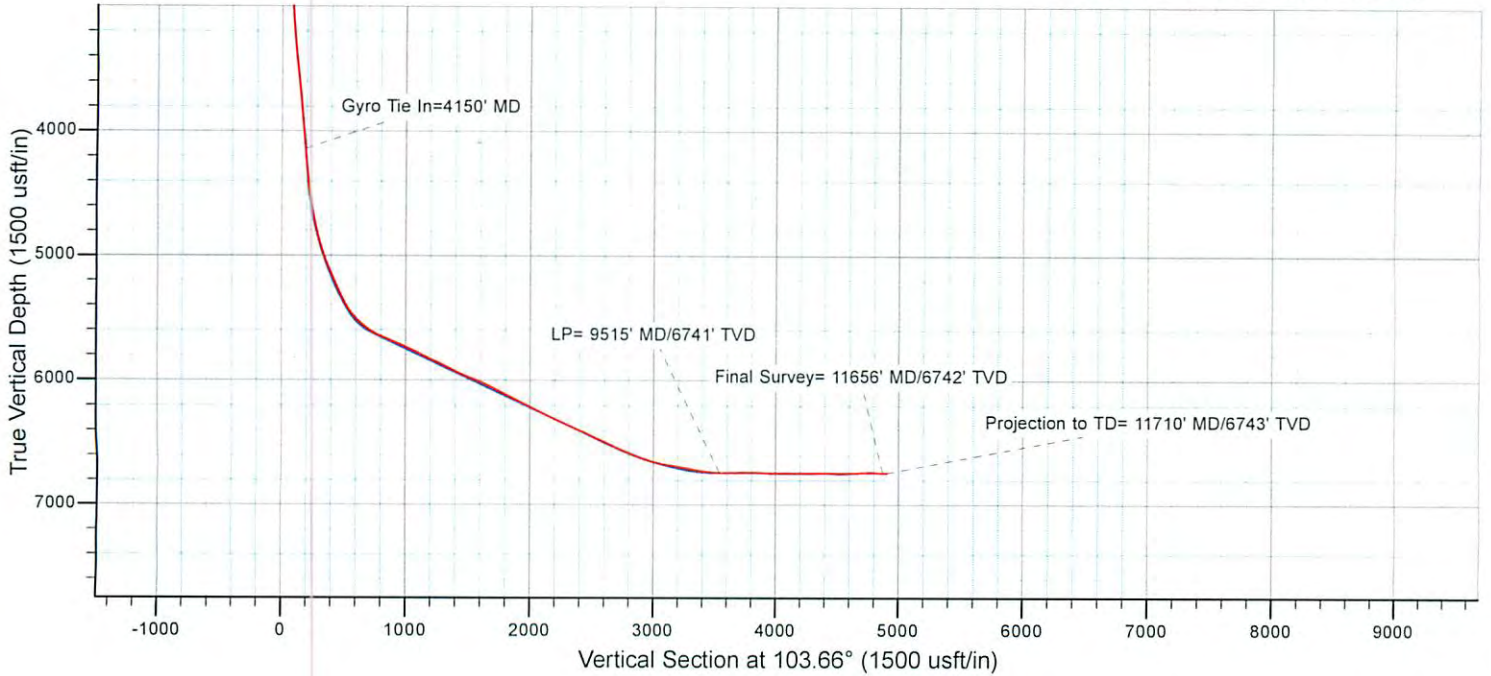
Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,150.0	4,142.8	-86.4	174.8	Gyro Tie In=4150' MD
9,515.0	6,741.1	825.4	3,845.0	LP= 9515' MD/6741' TVD
11,656.0	6,741.8	-1,116.1	4,743.0	Final Survey= 11656' MD/6742' TVD
11,710.0	6,743.1	-1,165.9	4,763.8	Projection to TD= 11710' MD/6743' TVD

Received
Office of Oil & Gas
JUL 14 2015

Checked By: _____ Approved By: _____ Date: _____

17-06575

Project: Doddridge County, WV Grid
 Site: Doddridge County 515730
 Well: Well #515730
 Wellbore: Main Wellbore
 Design: 515730 As Drilled Surveys



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 Office of Oil & Gas
 JUL 14 2015