

Well Operator's Report of Well Work



Where energy meets innovation.

Well Number: 514374

API: 47 - 103 - 02872

Submission: Initial Amended

Notes: Amended Report with FB Data

Stimulation Notes:
Performed additional injection test
prior to stage 21

Received
Office of Oil & Gas
DEC 18 2014

103-02872



Where energy meets innovation.

EQT Production - Marcellus

Wetzel County, WV

Wetzel County 514374

Well 514374

Main Wellbore

Design: As Drilled Surveys

Standard Survey Report

15 April, 2014

Received
Office of Oil & Gas

DEC 18 2014



Where energy meets innovation.

01/16/2015



103-02872

Phoenix Technology Services

Survey Report



Where energy meets innovation.

Where energy meets innovation.

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 514374
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1346.0usft
Project:	Wetzel County, WV	MD Reference:	KB @ 1346.0usft
Site:	Wetzel County 514374	North Reference:	Grid
Well:	Well 514374	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	As Drilled Surveys		

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		Using geodetic scale factor

Site

Wetzel County 514374

Site Position:		Northing:	385,318.00 usft	Latitude:	39.55
From:	Map	Easting:	1,678,293.00 usft	Longitude:	-80.64
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.73 °

Well

Well 514374

Well Position	+N/-S	0.0 usft	Northing:	385,318.00 usft	Latitude:	39° 33' 8.332 N
	+E/-W	0.0 usft	Easting:	1,678,293.00 usft	Longitude:	80° 38' 27.374 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	1,330.0 usft

Wellbore

Main Wellbore

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	3/24/2014	-8.62	67.02	52,438

Design

As Drilled Surveys

Audit Notes:

Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
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Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	341.85

Survey Program

Date 4/15/2014

From (')	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	5,103.0	514374 Gyros (Final) (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop
0.00	12,765.0	514374 PHX MWD (Main Wellbore)	MWD	MWD - Standard

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)
0.0	0.00	0.00	0.0	-1,346.0	0.0	0.0	0.0	0.00	0.00	0.00
103.0	0.26	308.88	103.0	-1,243.0	0.1	-0.2	0.2	0.25	0.25	0.00
203.0	0.09	252.81	203.0	-1,143.0	0.3	-0.4	0.4	0.22	-0.17	-56.07
303.0	0.04	265.98	303.0	-1,043.0	0.2	-0.5	0.4	0.05	-0.05	13.17
403.0	0.07	200.65	403.0	-943.0	0.2	-0.6	0.4	0.06	0.03	-65.33
503.0	0.03	133.47	503.0	-843.0	0.1	-0.6	0.3	0.06	-0.04	-67.18
603.0	0.06	133.76	603.0	-743.0	0.1	-0.5	0.2	0.03	0.03	0.29
703.0	0.01	25.21	703.0	-643.0	0.0	-0.5	0.2	0.06	-0.05	-108.55

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Site:	Wetzel County 514374	North Reference:	Grid
Well:	Well 514374	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)
803.0	0.03	289.04	803.0	-543.0	0.0	-0.5	0.2	0.03	0.02	-96.17
903.0	0.03	153.16	903.0	-443.0	0.0	-0.5	0.2	0.06	0.00	-135.88
1,003.0	0.06	148.83	1,003.0	-343.0	0.0	-0.5	0.1	0.03	0.03	-4.33
1,103.0	0.16	137.47	1,103.0	-243.0	-0.2	-0.4	-0.1	0.10	0.10	-11.36
1,203.0	0.19	127.66	1,203.0	-143.0	-0.4	-0.2	-0.3	0.04	0.03	-9.81
1,303.0	0.27	118.44	1,303.0	-43.0	-0.6	0.2	-0.6	0.09	0.08	-9.22
1,403.0	0.34	133.69	1,403.0	57.0	-0.9	0.6	-1.1	0.11	0.07	15.25
1,503.0	0.45	137.76	1,503.0	157.0	-1.4	1.1	-1.7	0.11	0.11	4.07
1,603.0	0.45	135.33	1,603.0	257.0	-2.0	1.6	-2.4	0.02	0.00	-2.43
1,703.0	0.57	131.91	1,703.0	357.0	-2.6	2.3	-3.2	0.12	0.12	-3.42
1,803.0	0.73	126.74	1,803.0	457.0	-3.3	3.2	-4.1	0.17	0.16	-5.17
1,903.0	0.77	125.02	1,903.0	557.0	-4.1	4.2	-5.2	0.05	0.04	-1.72
2,003.0	0.76	125.24	2,003.0	657.0	-4.9	5.3	-6.3	0.01	-0.01	0.22
2,103.0	0.67	125.40	2,103.0	757.0	-5.6	6.3	-7.3	0.09	-0.09	0.16
2,203.0	0.51	118.20	2,202.9	856.9	-6.1	7.2	-8.1	0.18	-0.16	-7.20
2,303.0	0.36	119.25	2,302.9	956.9	-6.5	7.9	-8.6	0.15	-0.15	1.05
2,403.0	0.36	123.21	2,402.9	1,056.9	-6.8	8.4	-9.1	0.02	0.00	3.96
2,503.0	0.35	128.03	2,502.9	1,156.9	-7.2	8.9	-9.6	0.03	-0.01	4.82
2,603.0	0.37	144.12	2,602.9	1,256.9	-7.6	9.3	-10.1	0.10	0.02	16.09
2,703.0	0.36	138.19	2,702.9	1,356.9	-8.1	9.7	-10.7	0.04	-0.01	-5.93
2,803.0	0.33	138.46	2,802.9	1,456.9	-8.6	10.1	-11.3	0.03	-0.03	0.27
2,903.0	0.34	142.19	2,902.9	1,556.9	-9.0	10.5	-11.8	0.02	0.01	3.73
3,003.0	0.30	145.64	3,002.9	1,656.9	-9.5	10.8	-12.4	0.04	-0.04	3.45
3,103.0	0.30	149.54	3,102.9	1,756.9	-9.9	11.1	-12.9	0.02	0.00	3.90
3,203.0	0.29	151.75	3,202.9	1,856.9	-10.4	11.4	-13.4	0.02	-0.01	2.21
3,303.0	0.23	136.73	3,302.9	1,956.9	-10.7	11.6	-13.8	0.09	-0.06	-15.02
3,403.0	0.24	142.85	3,402.9	2,056.9	-11.0	11.9	-14.2	0.03	0.01	6.12
3,503.0	0.25	146.58	3,502.9	2,156.9	-11.4	12.1	-14.6	0.02	0.01	3.73
3,603.0	0.16	180.36	3,602.9	2,256.9	-11.7	12.3	-14.9	0.15	-0.09	33.78
3,703.0	0.12	244.84	3,702.9	2,356.9	-11.9	12.2	-15.1	0.15	-0.04	64.48
3,803.0	0.14	265.59	3,802.9	2,456.9	-11.9	11.9	-15.1	0.05	0.02	20.75
3,903.0	0.20	280.88	3,902.9	2,556.9	-11.9	11.6	-15.0	0.07	0.06	15.29
4,003.0	0.27	286.51	4,002.9	2,656.9	-11.8	11.2	-14.7	0.07	0.07	5.63
4,103.0	0.31	281.54	4,102.9	2,756.9	-11.7	10.8	-14.5	0.05	0.04	-4.97
4,203.0	0.33	292.35	4,202.9	2,856.9	-11.5	10.2	-14.2	0.06	0.02	10.81
4,303.0	0.21	299.85	4,302.9	2,956.9	-11.3	9.8	-13.8	0.12	-0.12	7.50
4,403.0	0.09	292.34	4,402.9	3,056.9	-11.2	9.6	-13.6	0.12	-0.12	-7.51
4,503.0	0.14	51.50	4,502.9	3,156.9	-11.1	9.6	-13.5	0.20	0.05	119.16
4,603.0	0.24	51.97	4,602.9	3,256.9	-10.9	9.9	-13.4	0.10	0.10	0.47
4,703.0	0.39	69.07	4,702.9	3,356.9	-10.7	10.3	-13.3	0.18	0.15	17.10
4,803.0	0.60	68.97	4,802.9	3,456.9	-10.3	11.1	-13.3	0.21	0.21	-0.10
4,903.0	0.63	73.07	4,902.9	3,556.9	-10.0	12.2	-13.3	0.05	0.03	4.10

Received



103.02872

Phoenix Technology Services Survey Report



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Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1346.0usft
Project:	Wetzel County, WV	MD Reference:	KB @ 1346.0usft
Site:	Wetzel County 514374	North Reference:	Grid
Well:	Well 514374	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)	
5,003.0	0.59	60.60	5,002.9	3,656.9	-9.6	13.1	-13.2	0.14	-0.04	-12.47	
Gyro Tie In=5103' MD											
5,103.0	0.61	63.81	5,102.9	3,756.9	-9.1	14.1	-13.0	0.04	0.02	3.21	
KOP=5152' MD											
5,152.0	0.70	68.50	5,151.9	3,805.9	-8.9	14.6	-13.0	0.21	0.18	9.57	
5,184.0	1.40	77.60	5,183.9	3,837.9	-8.7	15.1	-13.0	2.24	2.19	28.44	
5,215.0	4.90	102.50	5,214.8	3,868.8	-8.9	16.8	-13.7	11.86	11.29	80.32	
5,247.0	9.40	109.30	5,246.6	3,900.6	-10.1	20.6	-16.0	14.28	14.06	21.25	
5,279.0	10.10	118.30	5,278.1	3,932.1	-12.3	25.5	-19.6	5.23	2.19	28.13	
5,311.0	7.20	118.90	5,309.8	3,963.8	-14.6	29.8	-23.1	9.07	-9.06	1.88	
5,342.0	4.50	107.60	5,340.6	3,994.6	-15.9	32.6	-25.3	9.43	-8.71	-36.45	
5,374.0	1.60	79.30	5,372.5	4,026.5	-16.2	34.3	-26.0	9.95	-9.06	-88.44	
5,406.0	2.80	93.50	5,404.5	4,058.5	-16.1	35.5	-26.4	4.09	3.75	44.38	
5,438.0	6.70	108.70	5,436.4	4,090.4	-16.8	38.0	-27.8	12.70	12.19	47.50	
5,469.0	9.70	112.00	5,467.1	4,121.1	-18.4	42.2	-30.6	9.79	9.68	10.65	
5,501.0	11.70	111.20	5,498.5	4,152.5	-20.5	47.7	-34.4	6.27	6.25	-2.50	
5,533.0	15.60	114.20	5,529.6	4,183.6	-23.5	54.6	-39.3	12.38	12.19	9.38	
5,564.0	18.60	118.80	5,559.2	4,213.2	-27.6	62.8	-45.7	10.61	9.68	14.84	
5,596.0	21.60	121.00	5,589.3	4,243.3	-33.1	72.3	-53.9	9.67	9.38	6.88	
5,628.0	23.60	120.80	5,618.8	4,272.8	-39.4	82.9	-63.2	6.25	6.25	-0.63	
5,659.0	25.20	120.90	5,647.1	4,301.1	-45.9	93.8	-72.9	5.16	5.16	0.32	
5,691.0	27.10	120.60	5,675.8	4,329.8	-53.1	106.0	-83.5	5.95	5.94	-0.94	
5,722.0	30.40	120.30	5,703.0	4,357.0	-60.7	118.8	-94.7	10.66	10.65	-0.97	
5,754.0	33.50	121.00	5,730.1	4,384.1	-69.3	133.4	-107.4	9.76	9.69	2.19	
5,785.0	36.90	120.90	5,755.4	4,409.4	-78.5	148.7	-120.9	10.97	10.97	-0.32	
5,848.0	42.60	122.40	5,803.9	4,457.9	-99.7	183.0	-151.7	9.17	9.05	2.38	
5,912.0	41.50	120.10	5,851.4	4,505.4	-121.9	219.6	-184.3	2.96	-1.72	-3.59	
5,974.0	42.10	121.10	5,897.6	4,551.6	-143.0	255.2	-215.3	1.45	0.97	1.61	
6,038.0	42.20	122.90	5,945.1	4,599.1	-165.7	291.6	-248.3	1.89	0.16	2.81	
6,101.0	41.20	119.60	5,992.1	4,646.1	-187.5	327.4	-280.1	3.83	-1.59	-5.24	
6,165.0	40.80	122.70	6,040.4	4,694.4	-209.2	363.3	-311.9	3.24	-0.63	4.84	
6,228.0	39.80	124.70	6,088.5	4,742.5	-231.8	397.2	-344.0	2.60	-1.59	3.17	
6,291.0	40.30	124.00	6,136.7	4,790.7	-254.6	430.7	-376.1	1.07	0.79	-1.11	
6,354.0	41.60	123.70	6,184.3	4,838.3	-277.6	465.0	-408.7	2.09	2.06	-0.48	
6,417.0	39.90	121.20	6,232.0	4,886.0	-299.7	499.7	-440.5	3.74	-2.70	-3.97	
6,480.0	40.00	119.40	6,280.3	4,934.3	-320.1	534.6	-470.7	1.84	0.16	-2.86	
6,544.0	40.90	120.00	6,329.0	4,983.0	-340.7	570.7	-501.5	1.53	1.41	0.94	
6,607.0	39.70	117.30	6,377.0	5,031.0	-360.2	606.4	-531.2	3.36	-1.90	-4.29	
6,670.0	39.70	116.90	6,425.5	5,079.5	-378.6	642.2	-559.8	0.41	0.00	-0.63	
6,701.0	42.40	120.40	6,448.9	5,102.9	-388.3	660.1	-574.6	11.44	8.71	11.29	
6,733.0	40.90	118.40	6,472.8	5,126.8	-398.8	678.6	-590.3	6.26	-4.69	-6.25	
6,765.0	38.60	114.20	6,497.4	5,151.4	-407.9	696.9	-604.7	11.05	-7.19	-13.13	
6,797.0	36.90	108.70	6,522.7	5,176.7	-415.0	715.1	-617.2	11.78	-5.31	-17.19	



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6,828.0	35.70	103.40	6,547.7	5,201.7	-420.1	732.8	-627.5	10.83	-3.87	-17.10
6,860.0	33.10	97.50	6,574.1	5,228.1	-423.4	750.5	-636.2	13.20	-8.13	-18.44
6,892.0	29.90	91.60	6,601.4	5,255.4	-424.8	767.2	-642.6	13.88	-10.00	-18.44
6,923.0	27.90	85.50	6,628.5	5,282.5	-424.4	782.1	-647.0	11.48	-6.45	-19.68
6,955.0	27.00	79.80	6,656.9	5,310.9	-422.6	796.7	-649.7	8.68	-2.81	-17.81
6,987.0	25.40	73.80	6,685.7	5,339.7	-419.4	810.5	-651.0	9.67	-5.00	-18.75
7,019.0	23.60	67.30	6,714.8	5,368.8	-415.0	823.0	-650.7	10.12	-5.63	-20.31
7,050.0	22.80	59.70	6,743.3	5,397.3	-409.5	833.9	-648.9	9.99	-2.58	-24.52
7,082.0	23.00	52.10	6,772.8	5,426.8	-402.6	844.2	-645.5	9.26	0.63	-23.75
7,113.0	24.10	52.00	6,801.2	5,455.2	-395.0	854.0	-641.3	3.55	3.55	-0.32
7,145.0	23.60	48.70	6,830.5	5,484.5	-386.7	863.9	-636.6	4.45	-1.56	-10.31
7,177.0	24.20	43.30	6,859.7	5,513.7	-377.7	873.2	-630.9	7.09	1.88	-16.88
7,209.0	25.50	35.30	6,888.8	5,542.8	-367.3	881.7	-623.7	11.25	4.06	-25.00
7,240.0	26.60	30.40	6,916.6	5,570.6	-355.9	889.1	-615.1	7.79	3.55	-15.81
7,272.0	27.60	25.20	6,945.1	5,599.1	-343.0	895.9	-605.0	8.03	3.13	-16.25
7,303.0	29.10	20.90	6,972.4	5,626.4	-329.4	901.6	-593.9	8.17	4.84	-13.87
7,335.0	31.30	15.80	7,000.1	5,654.1	-314.2	906.6	-581.0	10.56	6.88	-15.94
7,367.0	33.70	11.80	7,027.0	5,681.0	-297.5	910.7	-566.4	10.06	7.50	-12.50
7,398.0	36.20	9.20	7,052.4	5,706.4	-280.0	913.9	-550.8	9.39	8.06	-8.39
7,430.0	37.70	5.70	7,078.0	5,732.0	-261.0	916.4	-533.4	8.07	4.69	-10.94
7,462.0	40.30	3.80	7,102.9	5,756.9	-240.9	918.1	-514.9	8.94	8.13	-5.94
7,493.0	42.80	0.80	7,126.1	5,780.1	-220.3	918.9	-495.6	10.31	8.06	-9.68
7,525.0	46.00	0.00	7,149.0	5,803.0	-198.0	919.1	-474.4	10.15	10.00	-2.50
7,556.0	50.30	359.00	7,169.6	5,823.6	-174.9	918.8	-452.4	14.08	13.87	-3.23
7,588.0	53.90	355.90	7,189.3	5,843.3	-149.7	917.7	-428.1	13.60	11.25	-9.69
7,619.0	56.80	352.10	7,206.9	5,860.9	-124.3	915.0	-403.2	13.75	9.35	-12.26
7,651.0	59.10	348.50	7,223.9	5,877.9	-97.6	910.4	-376.3	11.94	7.19	-11.25
7,683.0	62.00	347.10	7,239.6	5,893.6	-70.4	904.6	-348.6	9.83	9.06	-4.38
7,714.0	63.80	346.90	7,253.8	5,907.8	-43.5	898.3	-321.1	5.83	5.81	-0.65
7,746.0	66.30	344.50	7,267.3	5,921.3	-15.4	891.2	-292.2	10.36	7.81	-7.50
7,778.0	68.60	341.70	7,279.5	5,933.5	12.9	882.6	-262.7	10.81	7.19	-8.75
7,809.0	72.20	338.90	7,289.9	5,943.9	40.4	872.7	-233.5	14.40	11.61	-9.03
7,841.0	75.70	337.90	7,298.8	5,952.8	69.0	861.4	-202.8	11.34	10.94	-3.13
7,872.0	78.60	336.60	7,305.7	5,959.7	96.8	849.7	-172.7	10.21	9.35	-4.19
7,904.0	80.80	335.00	7,311.4	5,965.4	125.6	836.8	-141.4	8.45	6.88	-5.00
7,935.0	83.20	333.20	7,315.7	5,969.7	153.2	823.4	-110.9	9.64	7.74	-5.81
7,967.0	85.00	331.50	7,319.0	5,973.0	181.4	808.6	-79.6	7.72	5.63	-5.31
7,999.0	87.40	330.80	7,321.1	5,975.1	209.3	793.2	-48.2	7.81	7.50	-2.19
LP=8063' MD/ 7323' TVD										
8,063.0	89.20	331.10	7,323.0	5,977.0	265.3	762.2	14.6	2.85	2.81	0.47
8,126.0	89.20	330.80	7,323.9	5,977.9	320.3	731.6	76.5	0.48	0.00	-0.48
8,189.0	89.20	330.50	7,324.8	5,978.8	375.2	700.7	138.3	0.48	0.00	-0.48
8,252.0	88.80	330.00	7,325.9	5,979.9	429.9	669.4	200.0	1.02	-0.63	-0.79

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 514374
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1346.0usft
Project:	Wetzel County, WV	MD Reference:	KB @ 1346.0usft
Site:	Wetzel County 514374	North Reference:	Grid
Well:	Well 514374	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)
8,315.0	88.70	330.00	7,327.2	5,981.2	484.5	638.0	261.6	0.16	-0.16	0.00
8,379.0	89.30	330.40	7,328.4	5,982.4	540.0	606.2	324.3	1.13	0.94	0.63
8,442.0	91.30	331.80	7,328.0	5,982.0	595.1	575.7	386.2	3.88	3.17	2.22
8,506.0	91.30	331.00	7,326.6	5,980.6	651.3	545.1	449.1	1.25	0.00	-1.25
8,569.0	90.20	330.80	7,325.8	5,979.8	706.4	514.4	511.0	1.77	-1.75	-0.32
8,632.0	89.10	330.50	7,326.1	5,980.1	761.3	483.6	572.8	1.81	-1.75	-0.48
8,696.0	89.10	331.20	7,327.1	5,981.1	817.2	452.4	635.6	1.09	0.00	1.09
8,759.0	89.30	332.60	7,328.0	5,982.0	872.7	422.7	697.6	2.24	0.32	2.22
8,822.0	89.30	331.10	7,328.8	5,982.8	928.3	393.0	759.7	2.38	0.00	-2.38
8,886.0	89.90	332.10	7,329.2	5,983.2	984.6	362.6	822.6	1.82	0.94	1.56
8,949.0	90.40	331.50	7,329.1	5,983.1	1,040.1	332.8	884.7	1.24	0.79	-0.95
9,012.0	90.90	331.50	7,328.4	5,982.4	1,095.4	302.7	946.6	0.79	0.79	0.00
9,076.0	90.60	332.20	7,327.5	5,981.5	1,151.9	272.5	1,009.7	1.19	-0.47	1.09
9,139.0	90.30	330.10	7,327.0	5,981.0	1,207.0	242.2	1,071.6	3.37	-0.48	-3.33
9,202.0	91.70	331.00	7,325.9	5,979.9	1,261.9	211.2	1,133.3	2.64	2.22	1.43
9,265.0	92.50	333.60	7,323.6	5,977.6	1,317.6	181.9	1,195.4	4.32	1.27	4.13
9,328.0	92.10	333.20	7,321.1	5,975.1	1,373.9	153.7	1,257.7	0.90	-0.63	-0.63
9,391.0	91.20	332.80	7,319.3	5,973.3	1,430.0	125.1	1,319.9	1.56	-1.43	-0.63
9,454.0	90.50	332.30	7,318.3	5,972.3	1,485.9	96.1	1,382.1	1.37	-1.11	-0.79
9,517.0	89.50	332.00	7,318.3	5,972.3	1,541.6	66.7	1,444.2	1.66	-1.59	-0.48
9,581.0	90.00	331.80	7,318.6	5,972.6	1,598.1	36.5	1,507.2	0.84	0.78	-0.31
9,644.0	90.10	333.10	7,318.6	5,972.6	1,653.9	7.4	1,569.3	2.07	0.16	2.06
9,708.0	89.60	333.80	7,318.7	5,972.7	1,711.2	-21.2	1,632.7	1.34	-0.78	1.09
9,771.0	89.90	333.60	7,319.0	5,973.0	1,767.7	-49.1	1,695.0	0.57	0.48	-0.32
9,834.0	89.00	333.60	7,319.6	5,973.6	1,824.1	-77.1	1,757.4	1.43	-1.43	0.00
9,898.0	88.90	333.40	7,320.8	5,974.8	1,881.4	-105.7	1,820.7	0.35	-0.16	-0.31
9,962.0	89.10	333.20	7,321.9	5,975.9	1,938.5	-134.4	1,884.0	0.44	0.31	-0.31
10,025.0	89.00	333.00	7,322.9	5,976.9	1,994.7	-162.9	1,946.2	0.35	-0.16	-0.32
10,088.0	89.80	332.40	7,323.6	5,977.6	2,050.7	-191.8	2,008.4	1.59	1.27	-0.95
10,152.0	90.60	332.90	7,323.4	5,977.4	2,107.5	-221.2	2,071.6	1.47	1.25	0.78
10,215.0	90.50	331.50	7,322.8	5,976.8	2,163.3	-250.6	2,133.7	2.23	-0.16	-2.22
10,279.0	90.40	330.20	7,322.3	5,976.3	2,219.1	-281.8	2,196.5	2.04	-0.16	-2.03
10,342.0	90.90	330.20	7,321.6	5,975.6	2,273.8	-313.1	2,258.2	0.79	0.79	0.00
10,405.0	90.90	332.10	7,320.6	5,974.6	2,329.0	-343.5	2,320.1	3.02	0.00	3.02
10,468.0	90.70	330.30	7,319.7	5,973.7	2,384.2	-373.8	2,382.0	2.87	-0.32	-2.86
10,532.0	91.30	330.40	7,318.6	5,972.6	2,439.8	-405.5	2,444.7	0.95	0.94	0.16
10,595.0	91.70	330.80	7,316.9	5,970.9	2,494.7	-436.4	2,506.5	0.90	0.63	0.63
10,658.0	91.20	330.90	7,315.3	5,969.3	2,549.7	-467.1	2,568.3	0.81	-0.79	0.16
10,722.0	89.40	332.00	7,315.0	5,969.0	2,605.9	-497.7	2,631.2	3.30	-2.81	1.72
10,785.0	89.50	330.80	7,315.6	5,969.6	2,661.2	-527.8	2,693.2	1.91	0.16	-1.90
10,849.0	89.00	330.20	7,316.4	5,970.4	2,716.9	-559.3	2,755.9	1.22	-0.78	-0.94
10,912.0	90.70	333.00	7,316.6	5,970.6	2,772.3	-589.3	2,817.9	5.20	2.70	4.44



103-02872

Phoenix Technology Services Survey Report



Where energy meets innovation.

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Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 514374
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1346.0usft
Project:	Wetzel County, WV	MD Reference:	KB @ 1346.0usft
Site:	Wetzel County 514374	North Reference:	Grid
Well:	Well 514374	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)
10,975.0	90.90	333.20	7,315.7	5,969.7	2,828.5	-617.8	2,880.2	0.45	0.32	0.32
11,038.0	91.00	332.80	7,314.7	5,968.7	2,884.6	-646.4	2,942.4	0.65	0.16	-0.63
11,102.0	91.20	332.30	7,313.5	5,967.5	2,941.4	-675.9	3,005.6	0.84	0.31	-0.78
11,165.0	90.50	331.00	7,312.5	5,966.5	2,996.8	-705.8	3,067.6	2.34	-1.11	-2.06
11,228.0	90.50	332.00	7,312.0	5,966.0	3,052.2	-735.9	3,129.5	1.59	0.00	1.59
11,292.0	90.00	333.20	7,311.7	5,965.7	3,109.0	-765.3	3,192.7	2.03	-0.78	1.88
11,355.0	90.40	332.30	7,311.5	5,965.5	3,165.0	-794.2	3,254.9	1.56	0.63	-1.43
11,418.0	90.60	332.40	7,310.9	5,964.9	3,220.8	-823.4	3,317.0	0.35	0.32	0.16
11,481.0	90.90	332.50	7,310.1	5,964.1	3,276.7	-852.5	3,379.2	0.50	0.48	0.16
11,544.0	89.80	332.20	7,309.7	5,963.7	3,332.5	-881.8	3,441.3	1.81	-1.75	-0.48
11,608.0	89.30	332.70	7,310.2	5,964.2	3,389.2	-911.4	3,504.5	1.10	-0.78	0.78
11,671.0	89.40	331.90	7,310.9	5,964.9	3,445.0	-940.7	3,566.6	1.28	0.16	-1.27
11,734.0	90.50	333.60	7,311.0	5,965.0	3,501.0	-969.5	3,628.8	3.21	1.75	2.70
11,797.0	91.20	334.40	7,310.0	5,964.0	3,557.6	-997.1	3,691.2	1.69	1.11	1.27
11,861.0	90.20	334.40	7,309.3	5,963.3	3,615.3	-1,024.8	3,754.6	1.56	-1.56	0.00
11,924.0	89.60	333.70	7,309.4	5,963.4	3,672.0	-1,052.3	3,817.1	1.46	-0.95	-1.11
11,987.0	89.60	332.90	7,309.8	5,963.8	3,728.2	-1,080.6	3,879.4	1.27	0.00	-1.27
12,051.0	90.00	333.20	7,310.0	5,964.0	3,785.3	-1,109.6	3,942.6	0.78	0.63	0.47
12,114.0	90.10	332.60	7,310.0	5,964.0	3,841.4	-1,138.3	4,004.8	0.97	0.16	-0.95
12,178.0	90.10	332.30	7,309.9	5,963.9	3,898.1	-1,167.9	4,068.0	0.47	0.00	-0.47
12,241.0	90.40	332.20	7,309.6	5,963.6	3,953.9	-1,197.3	4,130.1	0.50	0.48	-0.16
12,304.0	90.70	331.70	7,309.0	5,963.0	4,009.5	-1,226.9	4,192.2	0.93	0.48	-0.79
12,368.0	90.20	332.20	7,308.5	5,962.5	4,065.9	-1,257.0	4,255.2	1.10	-0.78	0.78
12,431.0	90.20	332.10	7,308.3	5,962.3	4,121.6	-1,286.4	4,317.3	0.16	0.00	-0.16
12,494.0	90.40	331.50	7,307.9	5,961.9	4,177.2	-1,316.2	4,379.3	1.00	0.32	-0.95
12,558.0	90.20	332.90	7,307.6	5,961.6	4,233.8	-1,346.0	4,442.4	2.21	-0.31	2.19
12,621.0	89.80	331.10	7,307.6	5,961.6	4,289.4	-1,375.6	4,504.5	2.93	-0.63	-2.86
12,684.0	89.90	330.80	7,307.8	5,961.8	4,344.5	-1,406.2	4,566.4	0.50	0.16	-0.48
Final Survey=12708' MD/ 7308' TVD										
12,708.0	89.90	330.80	7,307.8	5,961.8	4,365.4	-1,417.9	4,589.9	0.00	0.00	0.00
Projection to TD=12765' MD/ 7308' TVD										
12,765.0	89.90	330.80	7,307.9	5,961.9	4,415.2	-1,445.7	4,645.9	0.00	0.00	0.00

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
5,103.0	5,102.9	-9.1	14.1	Gyro Tie In=5103' MD	
5,152.0	5,151.9	-8.9	14.6	KOP=5152' MD	
8,063.0	7,323.0	265.3	762.2	LP=8063' MD/ 7323' TVD	
12,708.0	7,307.8	4,365.4	-1,417.9	Final Survey=12708' MD/ 7308' TVD	
12,765.0	7,307.9	4,415.2	-1,445.7	Projection to TD=12765' MD/ 7308' TVD	



103-02872

Phoenix Technology Services
Survey Report



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Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Wetzel County 514374
Company:	EQT Production - Marcellus	TVD Reference:	KB @ 1346.0usft
Project:	Wetzel County, WV	MD Reference:	KB @ 1346.0usft
Site:	Wetzel County 514374	North Reference:	Grid
Well:	Well 514374	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	As Drilled Surveys		

Checked By: _____ Approved By: _____ Date: _____

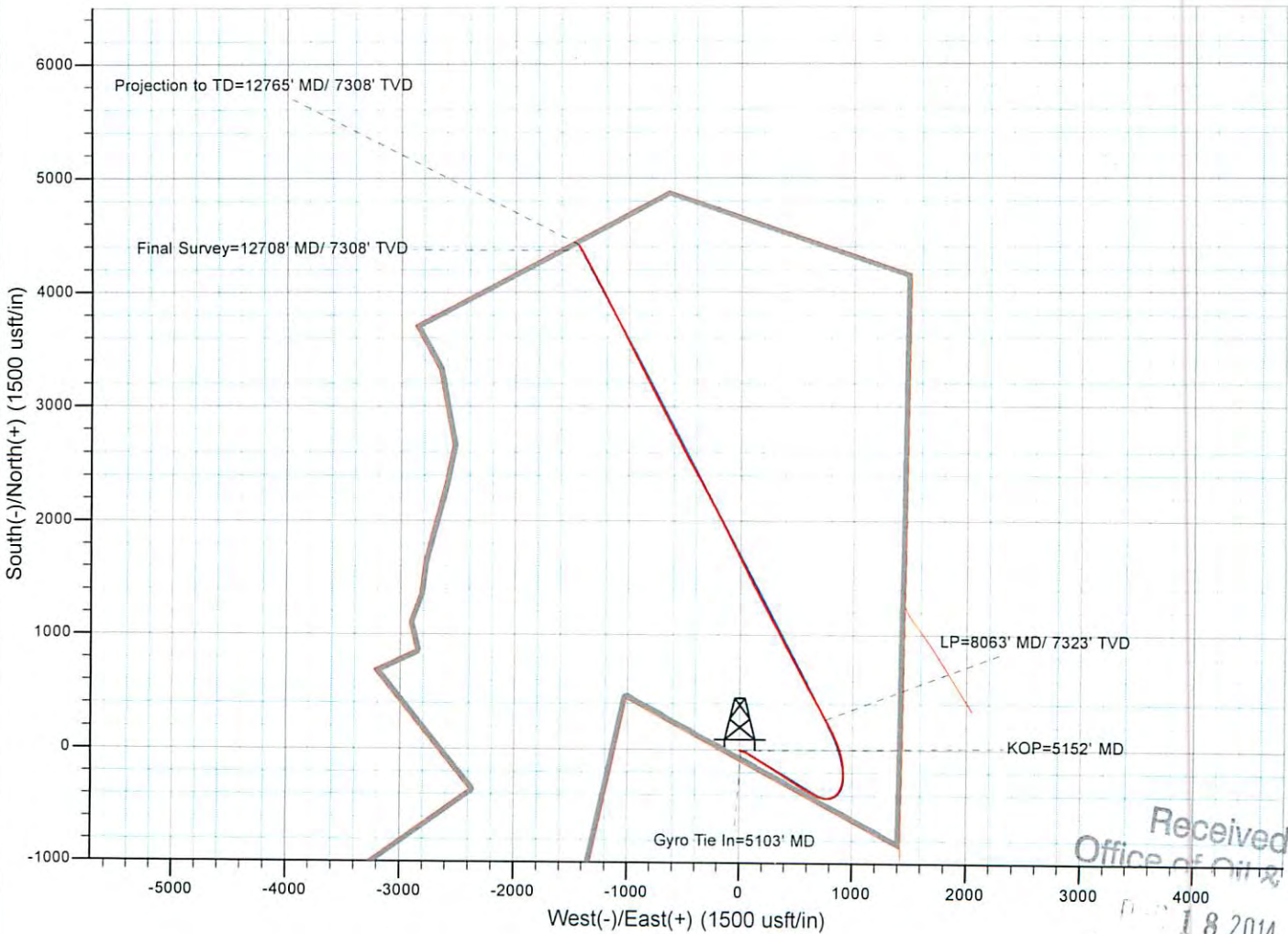
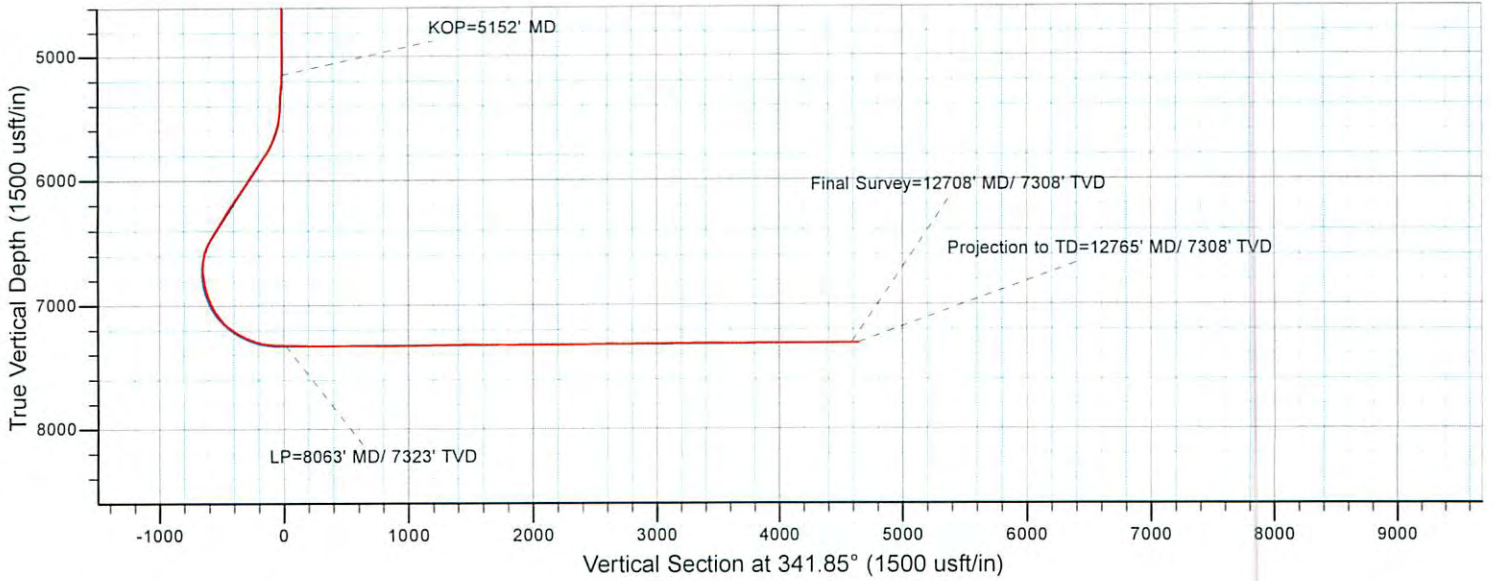
Received
Office of Oil & Gas
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103-02872

EQT Production - Marcellus

Project: Wetzel County, WV
 Site: Wetzel County 514374
 Well: Well 514374
 Wellbore: Main Wellbore
 Design: As Drilled Surveys

KB Elevation=1346 FT
 Ground Elevation= 1330 FT
 All measurements were taken from KB Elevation



Received
 Office of Oil & Gas
 01/18/2014

01/16/2015