API 47- 103 - 02939

Where energy meets innovation.

EQT Production - Geneseo Shale

Wetzel County, WV
Wetzel County 514565
Well #514565

Main Wellbore

Design: 514565 As Drilled Surveys

Standard Survey Report

13 October, 2014

Where energy meets innovation.

10/28/2016

Database:		Local Co-ordinate Reference:	
Company:		TVD Reference:	
Project:		MD Reference:	
Site:		North Reference:	
Well:		Survey Calculation Method:	
Wellbore:			
Design:			

Project

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		

Site

Site Position:		**Northing:**	386,644.96 usft	**Latitude:**	39.56
From:	Map	**Easting:**	1,695,471.18 usft	**Longitude:**	-80.58
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	-0.69 °

Well

Well Position	**+N/-S**	0.0 usft	**Northing:**	386,644.96 usft	**Latitude:**	39° 33' 23.545 N
	+E/-W	0.0 usft	**Easting:**	1,695,471.18 usft	**Longitude:**	80° 34' 48.278 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	1,443.0 usft

Wellbore

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	9/22/2014	-8.69	66.97	52,372

Design

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	162.77

Survey Program Date 10/13/2014

From ()	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	5,653.0	514565 Gyrodata (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop
0.00	15,263.0	514565 PHX MWD (Main Wellbore)	MWD+IGRF	MWD+IGRF v3:standard declination

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	-1,459.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.18	99.78	100.0	-1,359.0	0.0	0.2	0.1	0.18	0.18	0.00
200.0	0.20	133.44	200.0	-1,259.0	-0.2	0.4	0.3	0.11	0.02	33.66
300.0	0.18	142.57	300.0	-1,159.0	-0.4	0.7	0.6	0.04	-0.02	9.13
400.0	0.26	144.36	400.0	-1,059.0	-0.7	0.9	1.0	0.08	0.08	1.79
500.0	0.22	140.62	500.0	-959.0	-1.1	1.1	1.4	0.04	-0.04	-3.74
600.0	0.22	145.40	600.0	-859.0	-1.4	1.4	1.7	0.02	0.00	4.78
700.0	0.22	131.42	700.0	-759.0	-1.7	1.6	2.1	0.05	0.00	-13.98

10/28/2016

Database:		Local Co-ordinate Reference:	
Company:		TVD Reference:	
Project:		MD Reference:	
Site:		North Reference:	
Well:		Survey Calculation Method:	
Wellbore:			
Design:			

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	0.31	134.47	800.0	-659.0	-2.0	2.0	2.5	0.09	0.09	3.05
900.0	0.39	127.68	900.0	-559.0	-2.4	2.4	3.0	0.09	0.08	-6.79
1,000.0	0.32	136.31	1,000.0	-459.0	-2.8	2.9	3.5	0.09	-0.07	8.63
1,100.0	0.37	149.68	1,100.0	-359.0	-3.3	3.2	4.1	0.09	0.05	13.37
1,200.0	0.34	146.88	1,200.0	-259.0	-3.8	3.6	4.7	0.03	-0.03	-2.80
1,300.0	0.29	148.71	1,300.0	-159.0	-4.2	3.9	5.2	0.05	-0.05	1.83
1,400.0	0.22	173.12	1,400.0	-59.0	-4.7	4.0	5.6	0.13	-0.07	24.41
1,500.0	0.06	214.62	1,500.0	41.0	-4.9	4.0	5.9	0.18	-0.16	41.50
1,600.0	0.22	200.86	1,600.0	141.0	-5.1	3.9	6.0	0.16	0.16	-13.76
1,700.0	0.14	249.11	1,700.0	241.0	-5.3	3.7	6.2	0.16	-0.08	48.25
1,800.0	0.12	248.76	1,800.0	341.0	-5.4	3.5	6.2	0.02	-0.02	-0.35
1,900.0	0.13	308.47	1,900.0	441.0	-5.4	3.3	6.1	0.12	0.01	59.71
2,000.0	0.39	355.41	2,000.0	541.0	-5.0	3.2	5.7	0.32	0.26	46.94
2,100.0	0.42	2.21	2,100.0	641.0	-4.3	3.2	5.0	0.06	0.03	6.80
2,200.0	0.44	356.44	2,200.0	741.0	-3.5	3.2	4.3	0.05	0.02	-5.77
2,300.0	0.48	357.83	2,300.0	841.0	-2.7	3.2	3.5	0.04	0.04	1.39
2,400.0	0.69	352.24	2,400.0	941.0	-1.7	3.1	2.5	0.22	0.21	-5.59
2,500.0	0.73	353.08	2,500.0	1,041.0	-0.5	2.9	1.3	0.04	0.04	0.84
2,600.0	0.73	354.49	2,600.0	1,141.0	0.8	2.8	0.1	0.02	0.00	1.41
2,700.0	0.72	4.34	2,699.9	1,240.9	2.1	2.7	-1.1	0.12	-0.01	9.85
2,800.0	0.70	2.22	2,799.9	1,340.9	3.3	2.8	-2.3	0.03	-0.02	-2.12
2,900.0	0.66	349.86	2,899.9	1,440.9	4.5	2.7	-3.5	0.15	-0.04	-12.36
3,000.0	0.82	325.22	2,999.9	1,540.9	5.6	2.2	-4.7	0.35	0.16	-24.64
3,100.0	0.91	325.39	3,099.9	1,640.9	6.9	1.4	-6.2	0.09	0.09	0.17
3,200.0	1.06	337.16	3,199.9	1,740.9	8.4	0.6	-7.8	0.25	0.15	11.77
3,300.0	1.39	334.32	3,299.9	1,840.9	10.3	-0.3	-10.0	0.34	0.33	-2.84
3,400.0	1.06	334.70	3,399.8	1,940.8	12.2	-1.2	-12.1	0.33	-0.33	0.38
3,500.0	1.05	344.85	3,499.8	2,040.8	14.0	-1.9	-13.9	0.19	-0.01	10.15
3,600.0	1.09	332.12	3,599.8	2,140.8	15.7	-2.6	-15.7	0.24	0.04	-12.73
3,700.0	1.05	336.11	3,699.8	2,240.8	17.4	-3.4	-17.6	0.08	-0.04	3.99
3,800.0	0.82	337.27	3,799.8	2,340.8	18.9	-4.0	-19.2	0.23	-0.23	1.16
3,900.0	0.83	335.35	3,899.8	2,440.8	20.2	-4.6	-20.6	0.03	0.01	-1.92
4,000.0	0.79	334.51	3,999.8	2,540.8	21.5	-5.2	-22.0	0.04	-0.04	-0.84
4,100.0	0.75	326.23	4,099.8	2,640.8	22.6	-5.9	-23.4	0.12	-0.04	-8.28
4,200.0	0.75	326.20	4,199.7	2,740.7	23.7	-6.6	-24.6	0.00	0.00	-0.03
4,300.0	0.75	327.27	4,299.7	2,840.7	24.8	-7.3	-25.9	0.01	0.00	1.07
4,400.0	0.71	321.04	4,399.7	2,940.7	25.8	-8.1	-27.1	0.09	-0.04	-6.23
4,500.0	0.75	322.15	4,499.7	3,040.7	26.8	-8.8	-28.3	0.04	0.04	1.11
4,600.0	0.72	323.50	4,599.7	3,140.7	27.9	-9.6	-29.5	0.03	-0.03	1.35
4,700.0	0.68	330.71	4,699.7	3,240.7	28.9	-10.3	-30.6	0.10	-0.04	7.21
4,800.0	0.56	351.63	4,799.7	3,340.7	29.9	-10.6	-31.7	0.25	-0.12	20.92
4,900.0	0.40	4.95	4,899.7	3,440.7	30.7	-10.7	-32.5	0.19	-0.16	13.32

Database:		Local Co-ordinate Reference:	
Company:		TVD Reference:	
Project:		MD Reference:	
Site:		North Reference:	
Well:		Survey Calculation Method:	
Wellbore:			
Design:			

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)
5,000.0	0.33	355.01	4,999.7	3,540.7	31.4	-10.7	-33.1	0.09	-0.07	-9.94
5,100.0	0.31	343.58	5,099.7	3,640.7	31.9	-10.8	-33.7	0.07	-0.02	-11.43
5,200.0	0.40	322.73	5,199.7	3,740.7	32.4	-11.1	-34.3	0.16	0.09	-20.85
5,300.0	0.45	332.45	5,299.7	3,840.7	33.1	-11.5	-35.0	0.09	0.05	9.72
5,400.0	0.33	340.64	5,399.7	3,940.7	33.7	-11.7	-35.7	0.13	-0.12	8.19
5,500.0	0.33	339.97	5,499.7	4,040.7	34.2	-11.9	-36.2	0.00	0.00	-0.67
5,600.0	0.15	324.31	5,599.7	4,140.7	34.6	-12.1	-36.6	0.19	-0.18	-15.66
[illegible]										
5,653.0	0.37	21.72	5,652.7	4,193.7	34.8	-12.1	-36.8	0.60	0.42	108.32
5,750.0	0.70	3.80	5,749.7	4,290.7	35.7	-11.9	-37.6	0.38	0.34	-18.47
5,781.0	0.80	354.30	5,780.7	4,321.7	36.1	-11.9	-38.0	0.51	0.32	-30.65
5,813.0	2.10	266.20	5,812.7	4,353.7	36.3	-12.6	-38.4	6.94	4.06	-275.31
5,844.0	6.30	249.30	5,843.6	4,384.6	35.7	-14.7	-38.4	13.98	13.55	-54.52
5,876.0	9.20	245.00	5,875.3	4,416.3	34.0	-18.7	-38.0	9.24	9.06	-13.44
5,908.0	9.40	258.10	5,906.9	4,447.9	32.3	-23.5	-37.9	6.63	0.63	40.94
5,939.0	9.60	281.80	5,937.5	4,478.5	32.3	-28.6	-39.3	12.55	0.65	76.45
5,971.0	11.10	293.10	5,968.9	4,509.9	34.1	-34.0	-42.6	7.87	4.69	35.31
6,002.0	13.10	300.90	5,999.2	4,540.2	37.1	-39.8	-47.2	8.32	6.45	25.16
6,034.0	14.10	310.90	6,030.4	4,571.4	41.5	-45.8	-53.2	7.97	3.13	31.25
6,065.0	15.60	322.70	6,060.3	4,601.3	47.3	-51.2	-60.3	10.86	4.84	38.06
6,097.0	17.00	326.50	6,091.0	4,632.0	54.6	-56.4	-68.9	5.50	4.38	11.88
6,128.0	19.20	330.90	6,120.5	4,661.5	62.8	-61.4	-78.2	8.35	7.10	14.19
6,160.0	20.40	337.00	6,150.6	4,691.6	72.6	-66.1	-88.9	7.46	3.75	19.06
6,191.0	23.20	342.90	6,179.4	4,720.4	83.4	-70.0	-100.4	11.46	9.03	19.03
6,223.0	26.00	344.40	6,208.5	4,749.5	96.2	-73.8	-113.7	8.96	8.75	4.69
6,254.0	29.60	346.90	6,235.9	4,776.9	110.2	-77.3	-128.1	12.20	11.61	8.06
6,286.0	31.60	347.20	6,263.5	4,804.5	126.0	-81.0	-144.4	6.27	6.25	0.94
6,318.0	34.50	345.50	6,290.3	4,831.3	143.0	-85.1	-161.8	9.51	9.06	-5.31
6,349.0	37.60	344.50	6,315.3	4,856.3	160.6	-89.8	-180.0	10.18	10.00	-3.23
6,381.0	41.20	346.20	6,340.1	4,881.1	180.3	-95.0	-200.3	11.74	11.25	5.31
6,412.0	40.40	349.50	6,363.5	4,904.5	200.1	-99.2	-220.5	7.42	[illegible]	[illegible]
6,444.0	38.70	348.70	6,388.2	4,929.2	220.1	-103.1	-240.7	5.55	-5.31	-2.50
6,476.0	35.00	345.90	6,413.8	4,954.8	238.8	-107.3	-259.8	12.70	-11.56	-8.75
6,507.0	31.90	344.40	6,439.7	4,980.7	255.3	-111.6	-276.9	10.35	-10.00	-4.84
6,539.0	28.70	342.60	6,467.3	5,008.3	270.8	-116.2	-293.0	10.39	-10.00	-5.63
6,571.0	26.10	341.20	6,495.7	5,036.7	284.8	-120.8	-307.8	8.37	[illegible]	[illegible]
6,602.0	24.70	339.30	6,523.7	5,064.7	297.3	-125.3	-321.1	5.23	-4.52	-6.13
6,634.0	22.20	341.60	6,553.1	5,094.1	309.3	-129.5	-333.8	8.32	-7.81	7.19
6,665.0	19.20	341.80	6,582.1	5,123.1	319.7	-133.0	-344.7	9.68	-9.68	0.65
6,697.0	16.00	340.80	6,612.6	5,153.6	328.9	-136.1	-354.4	10.04	-10.00	-3.13
6,728.0	13.30	336.00	6,642.5	5,183.5	336.1	-138.9	-362.2	9.54	-8.71	-15.48
6,760.0	10.80	328.20	6,673.8	5,214.8	342.1	-142.0	-368.8	9.31	-7.81	-24.38
6,791.0	9.00	316.40	6,704.4	5,245.4	346.3	-145.2	-373.8	8.72	-5.81	-38.06

10/28/2016

Database:		Local Co-ordinate Reference:	
Company:		TVD Reference:	
Project:		MD Reference:	
Site:		North Reference:	
Well:		Survey Calculation Method:	
Wellbore:			
Design:			

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)
6,822.0	8.30	299.80	6,735.0	5,276.0	349.1	-148.8	-377.6	8.33	-2.26	-53.55
6,854.0	7.90	281.50	6,766.7	5,307.7	350.7	-153.0	-380.3	8.12	-1.25	-57.19
6,885.0	8.00	264.10	6,797.4	5,338.4	350.9	-157.2	-381.8	7.74	0.32	-56.13
6,917.0	8.50	250.10	6,829.1	5,370.1	349.9	-161.7	-382.1	6.45	1.56	-43.75
6,948.0	8.10	229.60	6,859.8	5,400.8	347.7	-165.5	-381.1	9.58	-1.29	-66.13
6,980.0	9.50	207.20	6,891.4	5,432.4	343.9	-168.4	-378.3	11.48	4.38	-70.00
7,011.0	12.70	207.30	6,921.8	5,462.8	338.6	-171.1	-374.1	10.32	10.32	0.32
7,043.0	14.60	209.00	6,952.9	5,493.9	331.9	-174.7	-368.8	6.07	5.94	5.31
7,074.0	16.50	201.50	6,982.8	5,523.8	324.4	-178.2	-362.7	8.91	6.13	-24.19
7,106.0	18.80	190.20	7,013.3	5,554.3	315.1	-180.8	-354.5	12.86	7.19	-35.31
7,137.0	21.70	185.40	7,042.4	5,583.4	304.5	-182.2	-344.8	10.77	9.35	-15.48
7,169.0	23.70	180.30	7,071.9	5,612.9	292.2	-182.8	-333.2	8.76	6.25	-15.94
7,201.0	27.00	175.50	7,100.8	5,641.8	278.5	-182.3	-320.0	12.14	10.31	-15.00
7,232.0	30.50	170.90	7,128.0	5,669.0	263.7	-180.5	-305.3	13.35	11.29	-14.84
7,263.0	34.10	169.20	7,154.2	5,695.2	247.4	-177.6	-288.9	11.98	11.61	-5.48
7,295.0	35.80	168.10	7,180.4	5,721.4	229.4	-174.0	-270.7	5.67	5.31	-3.44
7,327.0	37.80	166.70	7,206.0	5,747.0	210.7	-169.8	-251.6	6.78	6.25	-4.38
7,358.0	40.00	164.70	7,230.2	5,771.2	191.9	-165.0	-232.1	8.17	7.10	-6.45
7,390.0	43.00	163.00	7,254.1	5,795.1	171.5	-159.1	-210.9	10.01	9.38	-5.31
7,421.0	45.80	162.20	7,276.3	5,817.3	150.8	-152.6	-189.2	9.21	9.03	-2.58
7,453.0	48.40	161.80	7,298.1	5,839.1	128.5	-145.3	-165.8	8.18	8.13	-1.25
7,485.0	51.70	162.10	7,318.6	5,859.6	105.2	-137.7	-141.3	10.34	10.31	0.94
7,516.0	54.40	162.60	7,337.2	5,878.2	81.6	-130.3	-116.5	8.89	8.71	2.26
7,548.0	57.40	162.90	7,355.2	5,896.2	56.3	-122.5	-90.0	9.38	9.38	0.31
7,579.0	60.70	162.50	7,371.1	5,912.1	30.9	-114.6	-63.4	10.70	10.65	-1.29
7,611.0	64.20	162.50	7,385.9	5,926.9	3.8	-106.0	-35.1	10.94	10.94	0.00
7,642.0	67.80	162.90	7,398.5	5,939.5	-23.2	-97.6	-6.7	11.67	11.61	1.29
7,674.0	71.10	162.90	7,409.7	5,950.7	-51.8	-88.8	23.2	10.31	10.31	0.00
7,705.0	74.20	162.70	7,419.0	5,960.0	-80.1	-80.1	52.8	10.02	10.00	-0.65
7,737.0	77.40	162.60	7,426.8	5,967.8	-109.7	-70.8	83.8	10.00	10.00	-0.31
7,769.0	81.10	163.20	7,432.8	5,973.8	-139.8	-61.6	115.2	11.71	11.56	1.88
7,800.0	83.90	163.70	7,436.9	5,977.9	-169.2	-52.8	146.0	9.17	9.03	1.61
7,831.0	87.70	164.20	7,439.1	5,980.1	-198.9	-44.3	176.9	12.36	12.26	1.61
7,863.0	89.80	164.40	7,439.8	5,980.8	-229.7	-35.6	208.9	6.59	6.56	0.63
7,925.0	89.20	164.20	7,440.4	5,981.4	-289.4	-18.8	270.8	1.02	-0.97	-0.32
7,989.0	89.10	164.00	7,441.3	5,982.3	-351.0	-1.3	334.8	0.35	-0.16	-0.31
8,052.0	89.10	163.70	7,442.3	5,983.3	-411.5	16.2	397.8	0.48	0.00	-0.48
8,115.0	89.30	162.30	7,443.2	5,984.2	-471.7	34.6	460.8	2.24	0.32	-2.22
8,178.0	89.00	162.20	7,444.1	5,985.1	-531.7	53.8	523.8	0.50	-0.48	-0.16
8,242.0	88.90	161.80	7,445.3	5,986.3	-592.5	73.6	587.8	0.64	-0.16	-0.63
8,305.0	89.10	162.00	7,446.4	5,987.4	-652.4	93.2	650.7	0.45	0.32	0.32
8,368.0	90.40	162.90	7,446.7	5,987.7	-712.5	112.2	713.7	2.51	2.06	1.43

10/28/2016

Phoenix Technology Services

Survey Report

EQT
Where energy meets innovation.

Database:		Local Co-ordinate Reference:	
Company:		TVD Reference:	
Project:		MD Reference:	
Site:		North Reference:	
Well:		Survey Calculation Method:	
Wellbore:			
Design:			

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)
8,431.0	90.90	162.60	7,445.9	5,986.9	-772.6	130.9	776.7	0.93	0.79	-0.48
8,494.0	90.60	162.20	7,445.1	5,986.1	-832.7	149.9	839.7	0.79	-0.48	-0.63
8,558.0	90.20	161.50	7,444.7	5,985.7	-893.5	169.8	903.7	1.26	-0.63	-1.09
8,621.0	90.20	161.20	7,444.5	5,985.5	-953.2	190.0	966.7	0.48	0.00	-0.48
8,684.0	90.20	160.50	7,444.2	5,985.2	-1,012.7	210.7	1,029.7	1.11	0.00	-1.11
8,747.0	89.50	159.90	7,444.4	5,985.4	-1,072.0	232.0	1,092.6	1.46	-1.11	-0.95
8,810.0	89.40	159.50	7,445.0	5,986.0	-1,131.1	253.9	1,155.5	0.65	-0.16	-0.63
8,873.0	89.60	160.10	7,445.6	5,986.6	-1,190.2	275.6	1,218.4	1.00	0.32	0.95
8,937.0	89.10	159.80	7,446.3	5,987.3	-1,250.3	297.5	1,282.3	0.91	-0.78	-0.47
9,000.0	89.90	161.20	7,446.8	5,987.8	-1,309.7	318.6	1,345.3	2.56	1.27	2.22
9,063.0	89.80	161.70	7,447.0	5,988.0	-1,369.4	338.6	1,408.3	0.81	-0.16	0.79
9,126.0	89.10	160.40	7,447.6	5,988.6	-1,429.0	359.1	1,471.2	2.34	-1.11	-2.06
9,189.0	89.30	160.60	7,448.5	5,989.5	-1,488.4	380.1	1,534.2	0.45	0.32	0.32
9,252.0	89.30	160.10	7,449.3	5,990.3	-1,547.7	401.3	1,597.1	0.79	0.00	-0.79
9,315.0	90.50	160.80	7,449.4	5,990.4	-1,607.1	422.4	1,660.1	2.21	1.90	1.11
9,378.0	91.30	160.90	7,448.4	5,989.4	-1,666.6	443.0	1,723.0	1.28	1.27	0.16
9,442.0	90.80	159.90	7,447.2	5,988.2	-1,726.9	464.5	1,787.0	1.75	-0.78	-1.56
9,504.0	91.30	161.70	7,446.1	5,987.1	-1,785.4	484.9	1,848.9	3.01	0.81	2.90
9,568.0	90.70	163.60	7,444.9	5,985.9	-1,846.5	504.0	1,912.9	3.11	-0.94	2.97
9,630.0	87.80	163.60	7,445.8	5,986.8	-1,905.9	521.5	1,974.9	4.68	-4.68	0.00
9,694.0	87.30	163.90	7,448.5	5,989.5	-1,967.3	539.4	2,038.8	0.91	-0.78	0.47
9,757.0	87.30	163.70	7,451.5	5,992.5	-2,027.8	556.9	2,101.7	0.32	0.00	-0.32
9,820.0	87.60	163.00	7,454.3	5,995.3	-2,088.1	574.9	2,164.7	1.21	0.48	-1.11
9,883.0	88.10	163.40	7,456.6	5,997.6	-2,148.3	593.1	2,227.6	1.02	0.79	0.63
9,946.0	89.50	162.40	7,457.9	5,998.9	-2,208.5	611.7	2,290.6	2.73	2.22	-1.59
10,009.0	89.40	162.70	7,458.6	5,999.6	-2,268.6	630.6	2,353.6	0.50	-0.16	0.48
10,072.0	89.40	163.40	7,459.2	6,000.2	-2,328.9	648.9	2,416.6	1.11	0.00	1.11
10,135.0	89.30	164.10	7,459.9	6,000.9	-2,389.4	666.6	2,479.6	1.12	-0.16	1.11
10,198.0	89.30	164.40	7,460.7	6,001.7	-2,450.0	683.7	2,542.5	0.48	0.00	0.48
10,261.0	89.00	162.90	7,461.6	6,002.6	-2,510.4	701.4	2,605.5	2.43	-0.48	-2.38
10,325.0	88.60	161.60	7,463.0	6,004.0	-2,571.4	720.9	2,669.5	2.12	-0.63	-2.03
10,388.0	88.70	161.80	7,464.5	6,005.5	-2,631.2	740.7	2,732.5	0.35	0.16	0.32
10,451.0	88.70	161.70	7,465.9	6,006.9	-2,691.0	760.4	2,795.5	0.16	0.00	-0.16
10,514.0	88.30	161.40	7,467.5	6,008.5	-2,750.7	780.3	2,858.4	0.79	-0.63	-0.48
10,578.0	90.00	162.20	7,468.5	6,009.5	-2,811.5	800.3	2,922.4	2.94	2.66	1.25
10,641.0	90.90	162.20	7,468.0	6,009.0	-2,871.5	819.6	2,985.4	1.43	1.43	0.00
10,704.0	89.80	161.70	7,467.6	6,008.6	-2,931.4	839.1	3,048.4	1.92	-1.75	-0.79
10,768.0	89.20	161.30	7,468.2	6,009.2	-2,992.1	859.4	3,112.4	1.13	-0.94	-0.63
10,830.0	88.90	160.80	7,469.2	6,010.2	-3,050.7	879.5	3,174.3	0.94	-0.48	-0.81
10,894.0	89.70	161.00	7,470.0	6,011.0	-3,111.2	900.5	3,238.3	1.29	1.25	0.31
10,957.0	89.70	160.80	7,470.3	6,011.3	-3,170.7	921.1	3,301.3	0.32	0.00	-0.32
11,020.0	89.90	161.30	7,470.5	6,011.5	-3,230.3	941.5	3,364.2	0.85	0.32	0.79

10/28/2016

Database:		Local Co-ordinate Reference:	
Company:		TVD Reference:	
Project:		MD Reference:	
Site:		North Reference:	
Well:		Survey Calculation Method:	
Wellbore:			
Design:			

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)
11,083.0	90.10	161.20	7,470.5	6,011.5	-3,290.0	961.8	3,427.2	0.35	0.32	-0.16
11,146.0	90.10	161.60	7,470.4	6,011.4	-3,349.7	981.9	3,490.2	0.63	0.00	0.63
11,209.0	89.80	160.90	7,470.5	6,011.5	-3,409.3	1,002.1	3,553.2	1.21	-0.48	-1.11
11,272.0	90.00	161.00	7,470.6	6,011.6	-3,468.9	1,022.7	3,616.1	0.35	0.32	0.16
11,335.0	90.10	161.40	7,470.5	6,011.5	-3,528.5	1,043.0	3,679.1	0.65	0.16	0.63
11,398.0	89.90	162.30	7,470.5	6,011.5	-3,588.4	1,062.6	3,742.1	1.46	-0.32	1.43
11,462.0	90.30	162.20	7,470.4	6,011.4	-3,649.3	1,082.1	3,806.1	0.64	0.63	-0.16
11,525.0	90.40	160.80	7,470.0	6,011.0	-3,709.1	1,102.1	3,869.1	2.23	0.16	-2.22
11,588.0	89.40	161.60	7,470.1	6,011.1	-3,768.7	1,122.4	3,932.1	2.03	-1.59	1.27
11,650.0	88.80	161.60	7,471.1	6,012.1	-3,827.5	1,142.0	3,994.0	0.97	-0.97	0.00
11,713.0	88.90	160.80	7,472.4	6,013.4	-3,887.2	1,162.3	4,057.0	1.28	0.16	-1.27
11,776.0	89.10	161.20	7,473.5	6,014.5	-3,946.7	1,182.8	4,120.0	0.71	0.32	0.63
11,839.0	88.90	160.80	7,474.6	6,015.6	-4,006.3	1,203.3	4,182.9	0.71	-0.32	-0.63
11,903.0	89.00	161.10	7,475.7	6,016.7	-4,066.8	1,224.2	4,246.9	0.49	0.16	0.47
11,966.0	89.30	161.50	7,476.7	6,017.7	-4,126.4	1,244.4	4,309.8	0.79	0.48	0.63
12,029.0	89.30	161.70	7,477.4	6,018.4	-4,186.2	1,264.3	4,372.8	0.32	0.00	0.32
12,092.0	89.10	161.20	7,478.3	6,019.3	-4,245.9	1,284.3	4,435.8	0.85	-0.32	-0.79
12,155.0	89.00	161.10	7,479.4	6,020.4	-4,305.5	1,304.7	4,498.8	0.22	-0.16	-0.16
12,218.0	88.70	161.20	7,480.6	6,021.6	-4,365.1	1,325.0	4,561.7	0.50	-0.48	0.16
12,281.0	88.70	161.80	7,482.1	6,023.1	-4,424.9	1,345.0	4,624.7	0.95	0.00	0.95
12,344.0	88.40	162.40	7,483.7	6,024.7	-4,484.8	1,364.4	4,687.7	1.06	-0.48	0.95
12,407.0	88.70	162.30	7,485.3	6,026.3	-4,544.8	1,383.5	4,750.7	0.50	0.48	-0.16
12,470.0	88.70	162.00	7,486.7	6,027.7	-4,604.8	1,402.8	4,813.6	0.48	0.00	-0.48
12,533.0	88.80	162.20	7,488.1	6,029.1	-4,664.7	1,422.1	4,876.6	0.35	0.16	0.32
12,596.0	88.70	163.20	7,489.4	6,030.4	-4,724.8	1,440.8	4,939.6	1.59	-0.16	1.59
12,659.0	91.40	164.90	7,489.4	6,030.4	-4,785.4	1,458.2	5,002.6	5.06	4.29	2.70
12,723.0	92.10	166.40	7,487.4	6,028.4	-4,847.4	1,474.0	5,066.5	2.59	1.09	2.34
12,786.0	91.50	165.00	7,485.4	6,026.4	-4,908.4	1,489.6	5,129.3	2.42	-0.95	-2.22
12,848.0	90.90	164.00	7,484.1	6,025.1	-4,968.1	1,506.1	5,191.3	1.88	-0.97	-1.61
12,912.0	90.90	164.40	7,483.1	6,024.1	-5,029.7	1,523.6	5,255.3	0.62	0.00	0.63
12,975.0	90.50	164.40	7,482.4	6,023.4	-5,090.4	1,540.5	5,318.2	0.63	-0.63	0.00
13,038.0	90.00	164.50	7,482.1	6,023.1	-5,151.1	1,557.4	5,381.2	0.81	-0.79	0.16
13,101.0	90.30	163.70	7,481.9	6,022.9	-5,211.7	1,574.6	5,444.2	1.36	0.48	-1.27
13,164.0	89.10	162.60	7,482.3	6,023.3	-5,272.0	1,592.9	5,507.2	2.58	-1.90	-1.75
13,227.0	88.10	162.20	7,483.8	6,024.8	-5,332.0	1,611.9	5,570.2	1.71	-1.59	-0.63
13,290.0	88.10	162.20	7,485.9	6,026.9	-5,391.9	1,631.2	5,633.1	0.00	0.00	0.00
13,353.0	88.00	162.90	7,488.0	6,029.0	-5,452.0	1,650.1	5,696.1	1.12	-0.16	1.11
13,417.0	88.60	162.40	7,489.9	6,030.9	-5,513.1	1,669.2	5,760.1	1.22	0.94	-0.78
13,479.0	89.70	162.80	7,490.9	6,031.9	-5,572.2	1,687.7	5,822.1	1.89	1.77	0.65
13,542.0	90.20	163.30	7,490.9	6,031.9	-5,632.5	1,706.1	5,885.1	1.12	0.79	0.79
13,605.0	90.30	162.30	7,490.6	6,031.6	-5,692.7	1,724.7	5,948.1	1.60	0.16	-1.59
13,668.0	89.90	161.60	7,490.5	6,031.5	-5,752.6	1,744.2	6,011.1	1.28	-0.63	-1.11
13,732.0	89.50	160.70	7,490.9	6,031.9	-5,813.1	1,764.9	6,075.0	1.54	-0.63	-1.41

10/28/2016

Database:		Local Co-ordinate Reference:	
Company:		TVD Reference:	
Project:		MD Reference:	
Site:		North Reference:	
Well:		Survey Calculation Method:	
Wellbore:			
Design:			

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)
13,795.0	89.50	160.80	7,491.4	6,032.4	-5,872.6	1,785.7	6,138.0	0.16	0.00	0.16
13,858.0	89.30	160.70	7,492.1	6,033.1	-5,932.1	1,806.4	6,200.9	0.35	-0.32	-0.16
13,921.0	90.30	160.20	7,492.3	6,033.3	-5,991.4	1,827.5	6,263.9	1.77	1.59	-0.79
13,985.0	90.50	160.50	7,491.8	6,032.8	-6,051.7	1,849.0	6,327.8	0.56	0.31	0.47
14,048.0	90.70	160.50	7,491.2	6,032.2	-6,111.1	1,870.1	6,390.8	0.32	0.32	0.00
14,111.0	90.50	160.20	7,490.5	6,031.5	-6,170.4	1,891.2	6,453.7	0.57	-0.32	-0.48
14,174.0	90.10	159.60	7,490.2	6,031.2	-6,229.6	1,912.9	6,516.6	1.14	-0.63	-0.95
14,237.0	89.60	160.00	7,490.4	6,031.4	-6,288.7	1,934.6	6,579.6	1.02	-0.79	0.63
14,300.0	88.80	159.90	7,491.2	6,032.2	-6,347.9	1,956.2	6,642.5	1.28	-1.27	-0.16
14,363.0	89.10	160.80	7,492.4	6,033.4	-6,407.2	1,977.4	6,705.4	1.51	0.48	1.43
14,426.0	88.90	160.80	7,493.5	6,034.5	-6,466.7	1,998.1	6,768.4	0.32	-0.32	0.00
14,489.0	89.10	161.80	7,494.6	6,035.6	-6,526.4	2,018.3	6,831.3	1.62	0.32	1.59
14,552.0	89.30	162.20	7,495.5	6,036.5	-6,586.3	2,037.8	6,894.3	0.71	0.32	0.63
14,615.0	89.10	162.00	7,496.3	6,037.3	-6,646.2	2,057.2	6,957.3	0.45	-0.32	-0.32
14,678.0	88.50	161.20	7,497.7	6,038.7	-6,706.0	2,077.0	7,020.3	1.59	-0.95	-1.27
14,741.0	88.40	160.90	7,499.4	6,040.4	-6,765.5	2,097.5	7,083.2	0.50	-0.16	-0.48
14,804.0	89.10	161.60	7,500.7	6,041.7	-6,825.2	2,117.7	7,146.2	1.57	1.11	1.11
14,867.0	89.10	162.10	7,501.7	6,042.7	-6,885.0	2,137.4	7,209.2	0.79	0.00	0.79
14,931.0	89.30	162.90	7,502.6	6,043.6	-6,946.1	2,156.6	7,273.2	1.29	0.31	1.25
14,994.0	89.40	163.70	7,503.3	6,044.3	-7,006.4	2,174.7	7,336.2	1.28	0.16	1.27
15,057.0	89.40	164.30	7,504.0	6,045.0	-7,067.0	2,192.1	7,399.1	0.95	0.00	0.95
15,120.0	88.00	162.30	7,505.4	6,046.4	-7,127.3	2,210.2	7,462.1	3.87	-2.22	-3.17
15,183.0	88.70	162.10	7,507.2	6,048.2	-7,187.3	2,229.4	7,525.1	1.16	1.11	-0.32
15,204.0	89.50	162.40	7,507.6	6,048.6	-7,207.2	2,235.8	7,546.1	4.07	3.81	1.43
15,263.0	89.50	162.40	7,508.1	6,049.1	-7,263.5	2,253.7	7,605.1	0.00	0.00	0.00

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
5,653.0	5,652.7	34.8	-12.1	Gyro Tie In=5653' MD
7,863.0	7,439.8	-229.7	-35.6	LP=7863' MD/ 7440' TVD
15,204.0	7,507.6	-7,207.2	2,235.8	Final Survey=15204' MD/7508' TVD
15,263.0	7,508.1	-7,263.5	2,253.7	Projection to TD=15263' MD/ 7508' TVD

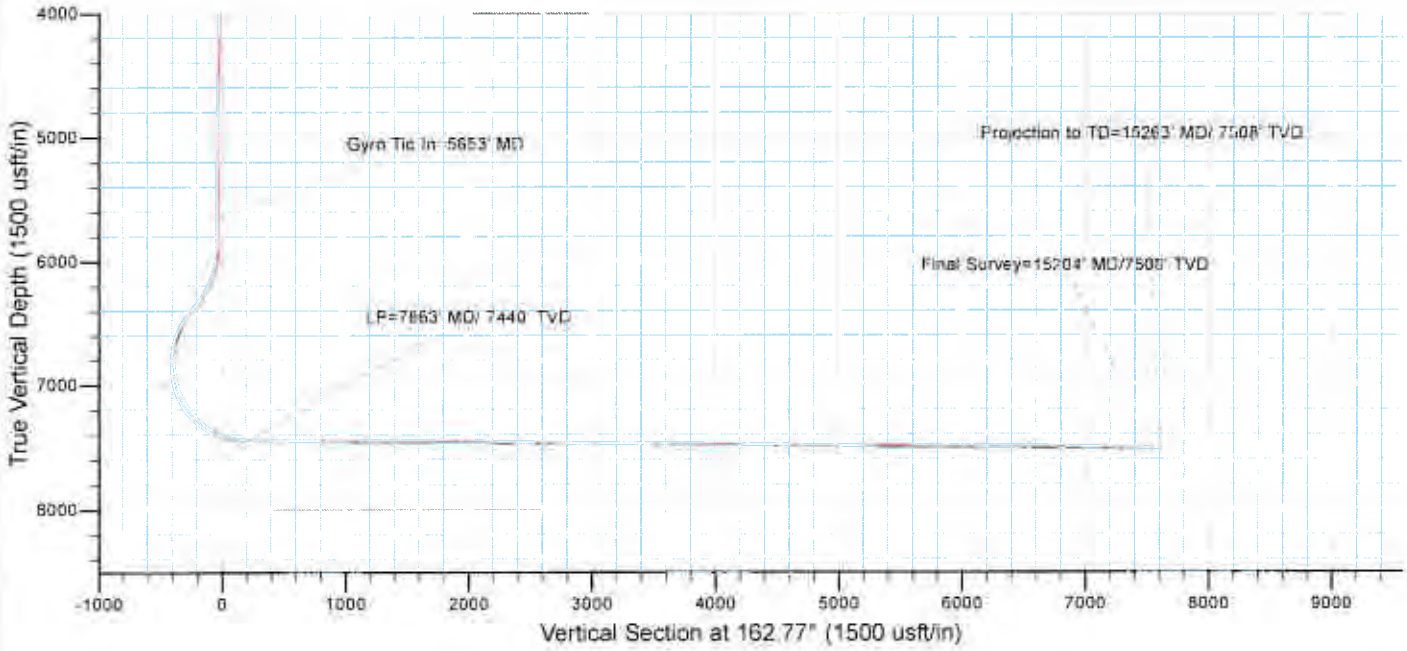
Checked By: _____ Approved By: _____ Date: _____

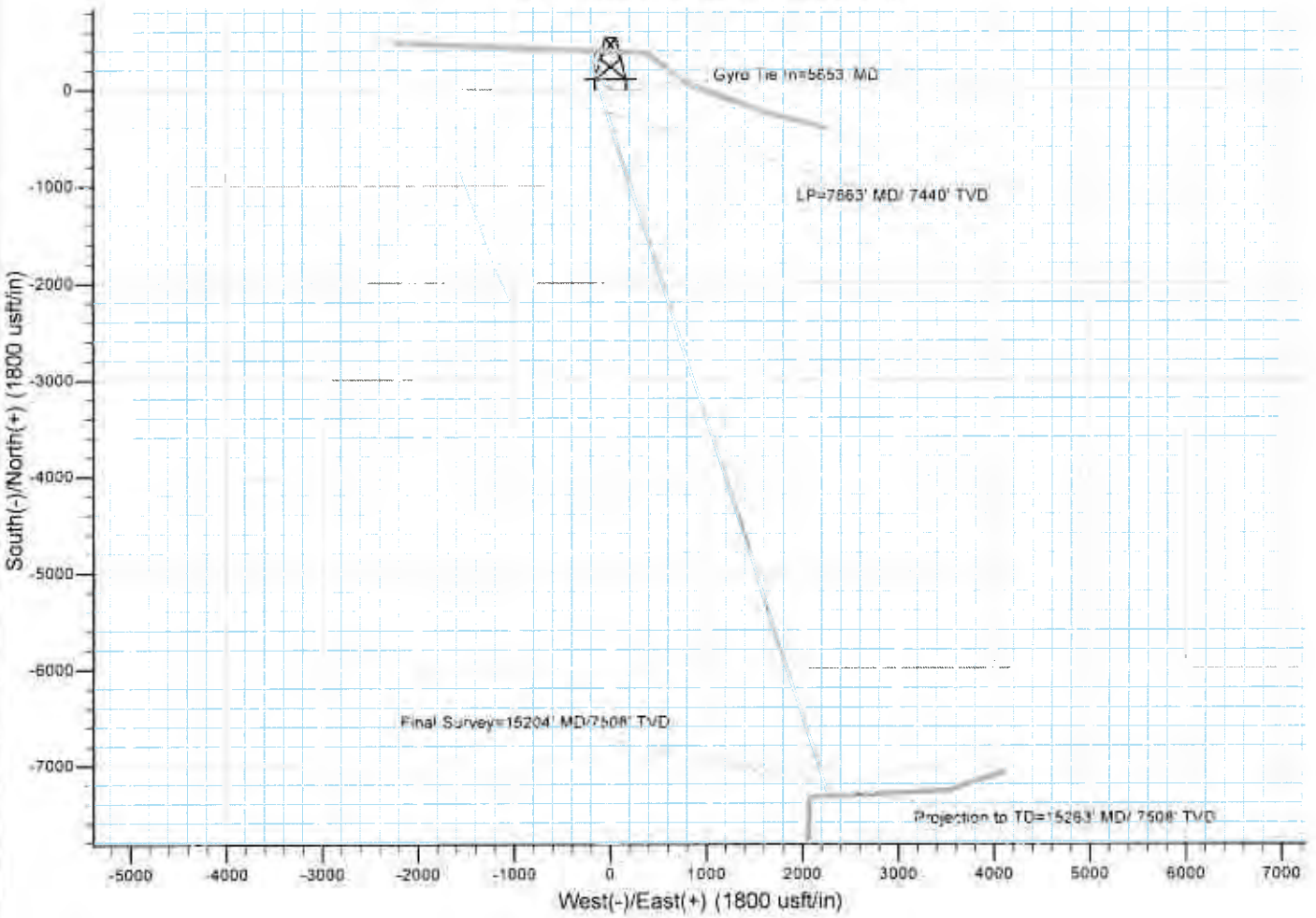
10/28/2016

PHOENIX
TECHNOLOGY SERVICES

EQT Production - Geneseo Shale

Project: Wetzel County, WV
Site: Wetzel County 514565
Well: Well #514565
Wellbore: Main Wellbore
Design: 514565 As Drilled Surveys





10/28/2016