



Where energy meets innovation.

EQT PRODUCTION

Doddridge County, WV

OXF43

#516231 -MRC - Slot 516231

ST01

Design: 516231 ST01 AS Drilled

Standard Survey Report

05 September, 2017



Scientific Drilling

www.scientificdrilling.com

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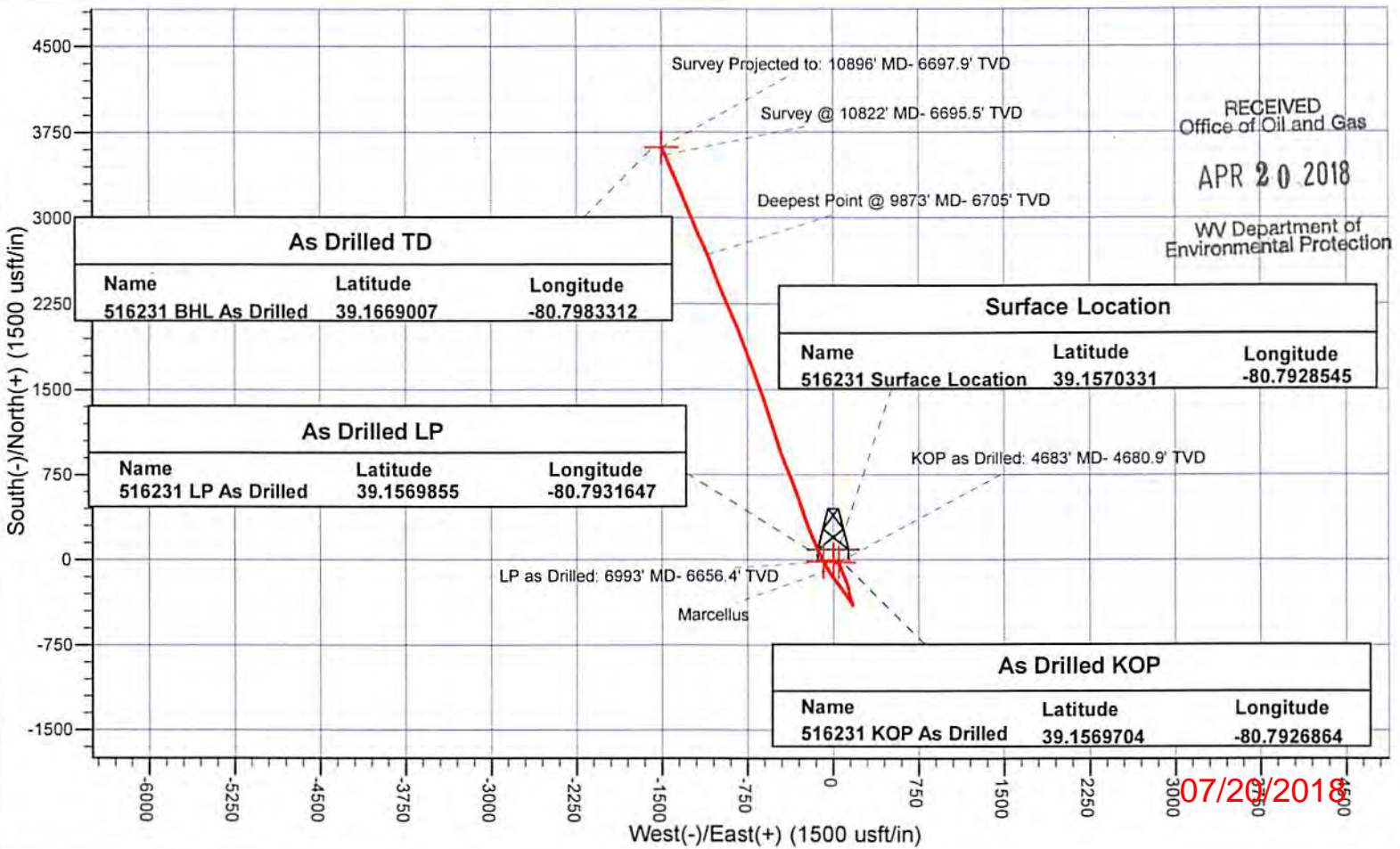
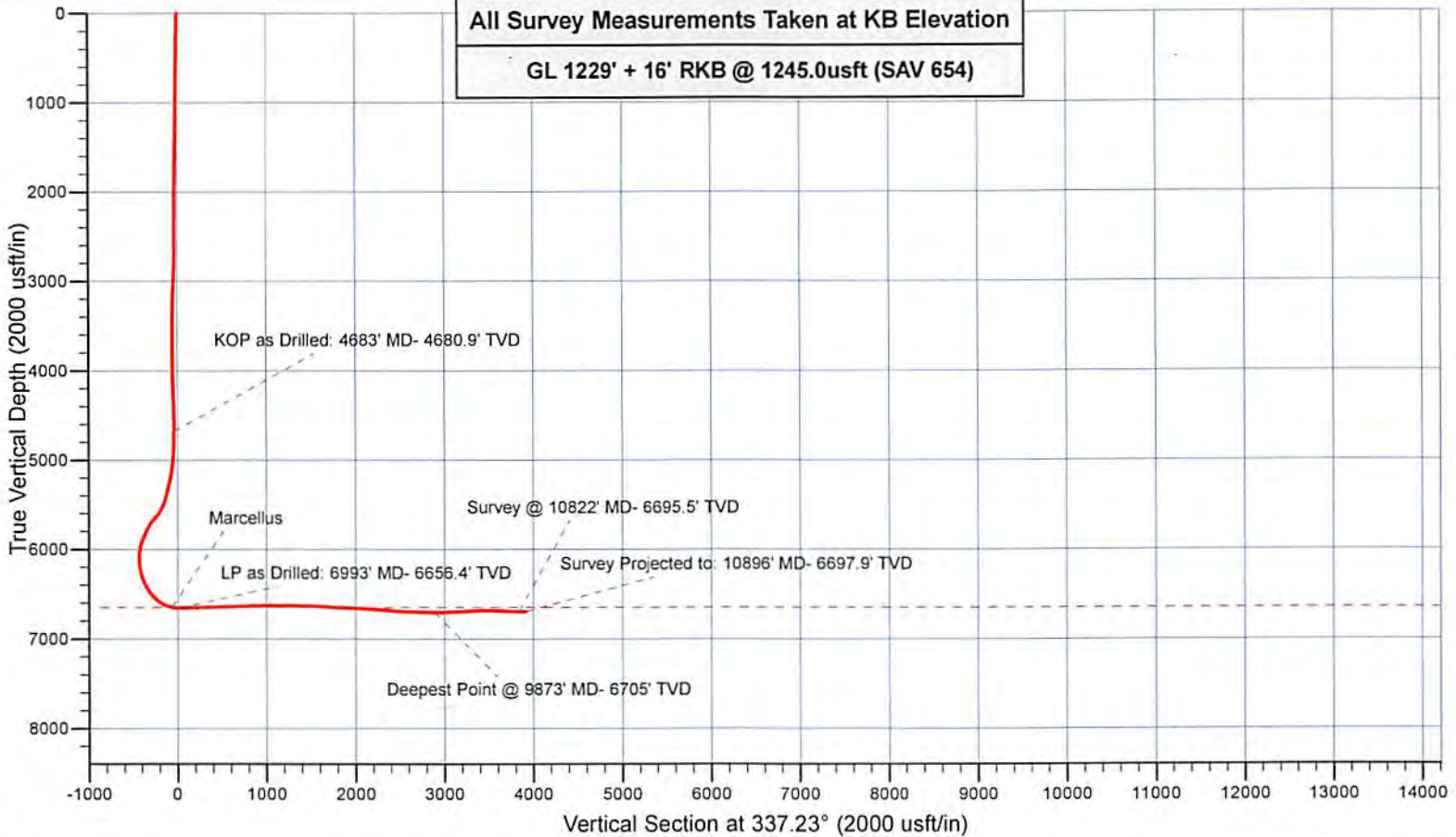
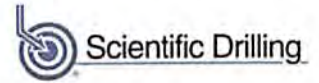
WV Department of
Environmental Protection

07/20/2018



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Project: Doddridge County, WV
 Site: OXF43
 Well: #516231 -MRC
 Wellbore ST01
 Design: 516231 ST01 AS Drilled



All Survey Measurements Taken at KB Elevation
 GL 1229' + 16' RKB @ 1245.0usft (SAV 654)

As Drilled TD		
Name	Latitude	Longitude
516231 BHL As Drilled	39.1669007	-80.7983312

As Drilled LP		
Name	Latitude	Longitude
516231 LP As Drilled	39.1569855	-80.7931647

Surface Location		
Name	Latitude	Longitude
516231 Surface Location	39.1570331	-80.7928545

As Drilled KOP		
Name	Latitude	Longitude
516231 KOP As Drilled	39.1569704	-80.7926864

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Company:	EQT PRODUCTION	Local Co-ordinate Reference:	Well #516231 -MRC - Slot 516231
Project:	Doddridge County, WV	TVD Reference:	GL 1229' & 16' KB @ 1245.0usft (SAV 654)
Site:	OXF43	MD Reference:	GL 1229' & 16' KB @ 1245.0usft (SAV 654)
Well:	#516231 -MRC	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	516231 ST01 AS Drilled	Database:	Northeast District

Project	Doddridge 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		

Site	OXF43				
Site Position:		Northing:	241,913.00 usft	Latitude:	39.1569519
From:	Map	Easting:	1,633,421.76 usft	Longitude:	-80.7927349
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.82 °

Well	#516231 -MRC - Slot 516231					
Well Position	+N/-S	0.0 usft	Northing:	241,943.07 usft	Latitude:	39.1570332
	+E/-W	0.0 usft	Easting:	1,633,388.28 usft	Longitude:	-80.7928545
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	1,229.0 usft

Wellbore	ST01				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	8/14/2017	-7.77	66.43	51,942

Design	516231 ST01 AS Drilled				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	2,603.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0		337.23

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Survey Program	Date	9/5/2017			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
103.0	2,603.0	Gyrodata Gyro (Main)	GYD_DP_MS	Gyrodata gyro-compassing and drop	
2,633.0	10,896.0	516231 ST01 SDI (ST01)	SDI MWD	SDI MWD - Standard ver 1.0.1	

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical 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	0.0	0.0	0.0	0.00	0.00	0.00
103.0	0.28	138.17	103.0	-0.2	0.2	-0.2	0.27	0.27	0.00
203.0	0.59	152.79	203.0	-0.8	0.6	-1.0	0.33	0.31	14.62
303.0	0.94	158.11	303.0	-2.0	1.1	-2.3	0.36	0.35	5.32
403.0	1.12	161.96	403.0	-3.7	1.7	-4.1	0.19	0.18	3.85
503.0	1.14	166.42	503.0	-5.6	2.3	-6.1	0.09	0.02	4.46
603.0	1.16	166.71	602.9	-7.6	2.7	-8.0	0.02	0.02	0.29
703.0	1.26	166.73	702.9	-9.6	3.2	-10.1	0.10	0.10	0.02
803.0	1.35	167.37	802.9	-11.9	3.7	-12.4	0.09	0.09	0.64
903.0	1.27	168.54	902.9	-14.1	4.2	-14.6	0.08	-0.08	1.17

Company:	EQT PRODUCTION	Local Co-ordinate Reference:	Well #516231 -MRC - Slot 516231
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Site:	OXF43	MD Reference:	GL 1229' & 16' KB @ 1245.0usft (SAV 654)
Well:	#516231 -MRC	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	516231 ST01 AS Drilled	Database:	Northeast District

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,003.0	1.13	168.63	1,002.8	-16.1	4.6	-16.7	0.14	-0.14	0.09
1,103.0	1.01	169.25	1,102.8	-18.0	5.0	-18.5	0.12	-0.12	0.62
1,203.0	0.83	168.89	1,202.8	-19.6	5.3	-20.1	0.18	-0.18	-0.36
1,303.0	0.71	165.45	1,302.8	-20.9	5.6	-21.4	0.13	-0.12	-3.44
1,403.0	0.86	155.26	1,402.8	-22.1	6.0	-22.8	0.20	0.15	-10.19
1,503.0	0.87	130.89	1,502.8	-23.3	6.9	-24.2	0.37	0.01	-24.37
1,603.0	0.79	113.04	1,602.8	-24.1	8.1	-25.4	0.27	-0.08	-17.85
1,703.0	0.86	113.89	1,702.8	-24.7	9.5	-26.4	0.07	0.07	0.85
1,803.0	0.87	118.14	1,802.7	-25.3	10.8	-27.5	0.06	0.01	4.25
1,903.0	0.83	121.89	1,902.7	-26.1	12.1	-28.7	0.07	-0.04	3.75
2,003.0	0.81	123.79	2,002.7	-26.8	13.3	-29.9	0.03	-0.02	1.90
2,103.0	0.67	124.33	2,102.7	-27.6	14.4	-31.0	0.14	-0.14	0.54
2,203.0	0.47	110.32	2,202.7	-28.0	15.2	-31.8	0.24	-0.20	-14.01
2,303.0	0.49	104.36	2,302.7	-28.3	16.0	-32.3	0.05	0.02	-5.96
2,403.0	0.39	84.81	2,402.7	-28.4	16.8	-32.7	0.18	-0.10	-19.55
2,503.0	0.43	59.16	2,502.7	-28.1	17.4	-32.7	0.19	0.04	-25.65
2,603.0	0.42	43.13	2,602.7	-27.7	18.0	-32.5	0.12	-0.01	-16.03
2,633.0	0.47	40.51	2,632.7	-27.5	18.2	-32.4	0.18	0.17	-8.73
2,709.0	0.92	86.27	2,708.7	-27.2	19.0	-32.5	0.90	0.59	60.21
2,723.0	1.04	81.15	2,722.7	-27.2	19.2	-32.5	1.06	0.86	-36.57
2,766.0	1.80	94.07	2,765.7	-27.2	20.3	-32.9	1.91	1.77	30.05
2,810.0	3.04	92.05	2,809.6	-27.3	22.1	-33.7	2.82	2.82	-4.59
2,854.0	4.48	92.31	2,853.5	-27.4	25.0	-34.9	3.27	3.27	0.59
2,898.0	5.91	92.12	2,897.3	-27.5	29.0	-36.6	3.25	3.25	-0.43
2,941.0	6.50	93.16	2,940.1	-27.8	33.6	-38.6	1.40	1.37	2.42
2,985.0	6.19	97.80	2,983.8	-28.2	38.5	-40.9	1.36	-0.70	10.55
3,029.0	5.07	102.47	3,027.6	-29.0	42.7	-43.2	2.75	-2.55	10.61
3,072.0	4.01	107.67	3,070.5	-29.8	46.0	-45.3	2.64	-2.47	12.09
3,116.0	3.06	115.64	3,114.4	-30.8	48.5	-47.2	2.43	-2.16	18.11
3,160.0	2.79	129.37	3,158.3	-32.0	50.4	-49.0	1.70	-0.61	31.20
3,203.0	2.54	137.98	3,201.3	-33.4	51.9	-50.8	1.10	-0.58	20.02
3,247.0	1.88	151.14	3,245.3	-34.7	52.9	-52.5	1.88	-1.50	29.91
3,291.0	0.84	165.38	3,289.2	-35.7	53.3	-53.5	2.47	-2.36	32.36
3,334.0	0.58	207.96	3,332.2	-36.2	53.3	-54.0	1.32	-0.60	99.02
3,378.0	0.44	197.80	3,376.2	-36.5	53.1	-54.2	0.38	-0.32	-23.09
3,421.0	0.39	232.96	3,419.2	-36.8	53.0	-54.4	0.59	-0.12	81.77
3,464.0	0.43	241.36	3,462.2	-36.9	52.7	-54.5	0.17	0.09	19.53
3,507.0	0.47	208.52	3,505.2	-37.2	52.5	-54.6	0.60	0.09	-76.37
3,551.0	0.23	256.12	3,549.2	-37.3	52.3	-54.7	0.81	-0.55	108.18
3,595.0	0.31	121.34	3,593.2	-37.4	52.3	-54.8	1.14	0.18	-306.32
3,637.0	0.32	105.01	3,635.2	-37.5	52.5	-54.9	0.21	0.02	-38.88
3,681.0	0.29	102.96	3,679.2	-37.6	52.8	-55.1	0.07	-0.07	-4.66
3,724.0	0.37	113.19	3,722.2	-37.7	53.0	-55.2	0.23	0.19	23.79

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Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,768.0	0.46	152.03	3,766.2	-37.9	53.2	-55.5	0.66	0.20	88.27
3,812.0	0.07	217.62	3,810.2	-38.0	53.3	-55.7	0.99	-0.89	149.07
3,855.0	0.37	194.83	3,853.2	-38.2	53.2	-55.8	0.71	0.70	-53.00
3,899.0	0.40	244.66	3,897.2	-38.4	53.0	-55.9	0.74	0.07	113.25
3,942.0	0.45	312.79	3,940.2	-38.3	52.8	-55.8	1.11	0.12	158.44
3,986.0	0.71	287.60	3,984.2	-38.1	52.4	-55.5	0.81	0.59	-57.25
4,030.0	0.96	309.02	4,028.2	-37.8	51.8	-55.0	0.90	0.57	48.68
4,073.0	1.78	316.93	4,071.2	-37.1	51.1	-54.0	1.95	1.91	18.40
4,117.0	1.86	324.96	4,115.2	-36.0	50.2	-52.7	0.61	0.18	18.25
4,161.0	2.25	346.51	4,159.2	-34.6	49.6	-51.1	1.95	0.89	48.98
4,204.0	2.99	349.72	4,202.1	-32.7	49.2	-49.2	1.75	1.72	7.47
4,247.0	2.73	351.34	4,245.1	-30.6	48.9	-47.1	0.63	-0.60	3.77
4,290.0	2.30	351.96	4,288.0	-28.7	48.6	-45.3	1.00	-1.00	1.44
4,334.0	2.00	345.15	4,332.0	-27.1	48.3	-43.7	0.89	-0.68	-15.48
4,377.0	1.53	340.70	4,375.0	-25.8	47.9	-42.3	1.14	-1.09	-10.35
4,421.0	0.84	347.54	4,419.0	-25.0	47.6	-41.4	1.60	-1.57	15.55
4,467.0	0.87	337.46	4,465.0	-24.3	47.4	-40.8	0.33	0.07	-21.91
4,508.0	0.74	0.63	4,506.0	-23.7	47.3	-40.2	0.85	-0.32	56.51
4,552.0	0.74	47.77	4,549.9	-23.3	47.5	-39.9	1.34	0.00	107.14
4,596.0	0.55	39.86	4,593.9	-22.9	47.9	-39.7	0.48	-0.43	-10.06
4,639.0	0.59	205.32	4,636.9	-23.0	47.9	-39.7	2.63	0.09	384.79
4,683.0	1.54	230.33	4,680.9	-23.5	47.4	-40.0	2.35	2.16	56.49
KOP as Drilled: 4683' MD- 4680.9' TVD									
4,727.0	2.17	236.77	4,724.9	-24.4	46.2	-40.4	1.51	1.43	
4,770.0	2.52	231.67	4,767.9	-25.4	44.8	-40.8	0.95	0.81	-11.86
4,814.0	2.94	217.45	4,811.8	-26.9	43.3	-41.6	1.80	0.95	-32.32
4,858.0	3.12	201.28	4,855.8	-28.9	42.2	-43.0	1.98	0.41	-36.75
4,901.0	3.12	182.38	4,898.7	-31.2	41.7	-44.9	2.38	0.00	-43.95
4,945.0	3.55	158.86	4,942.6	-33.6	42.2	-47.3	3.23	0.98	-53.45
4,989.0	4.37	146.71	4,986.5	-36.3	43.6	-50.4	2.66	1.86	-27.61
5,032.0	5.56	141.77	5,029.4	-39.3	45.8	-54.0	2.94	2.77	-11.49
5,076.0	7.14	141.50	5,073.1	-43.1	48.8	-58.7	3.59	3.59	-0.61
5,120.0	8.76	144.75	5,116.7	-48.0	52.4	-64.6	3.82	3.68	7.39
5,194.0	12.15	152.85	5,189.4	-59.6	59.3	-77.8	4.98	4.58	10.94
5,257.0	13.12	157.83	5,250.9	-72.1	65.0	-91.6	2.31	1.54	7.90
5,320.0	13.26	161.34	5,312.3	-85.5	70.0	-106.0	1.29	0.22	5.57
5,381.0	13.45	163.10	5,371.6	-99.0	74.3	-120.0	0.74	0.31	2.89
5,413.0	13.35	164.19	5,402.7	-106.1	76.4	-127.4	0.85	-0.31	3.41
5,444.0	14.64	160.71	5,432.8	-113.2	78.6	-134.8	4.97	4.16	-11.23
5,476.0	18.60	155.97	5,463.5	-121.7	82.1	-144.0	13.07	12.38	-14.81
5,507.0	22.39	155.29	5,492.5	-131.6	86.5	-154.8	12.25	12.23	-2.19
5,539.0	25.74	156.94	5,521.7	-143.5	91.8	-167.9	10.68	10.47	5.16
5,571.0	28.35	157.08	5,550.2	-156.9	97.5	-182.4	8.16	8.16	0.44

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5,602.0	31.52	157.11	5,577.1	-171.1	103.5	-197.9	10.23	10.23	0.10
5,634.0	34.92	159.83	5,603.8	-187.5	109.9	-215.4	11.60	10.63	8.50
5,665.0	38.23	162.63	5,628.7	-204.9	115.9	-233.8	11.95	10.68	9.03
5,697.0	41.51	164.27	5,653.3	-224.6	121.7	-254.2	10.76	10.25	5.13
5,729.0	41.26	166.32	5,677.3	-245.1	127.1	-275.1	4.31	-0.78	6.41
5,760.0	36.84	166.89	5,701.4	-264.1	131.6	-294.4	14.30	-14.26	1.84
5,792.0	31.90	168.79	5,727.8	-281.7	135.4	-312.2	15.80	-15.44	5.94
5,823.0	27.51	169.40	5,754.7	-296.8	138.3	-327.2	14.19	-14.16	1.97
5,855.0	25.46	168.17	5,783.3	-310.8	141.1	-341.2	6.63	-6.41	-3.84
5,886.0	25.53	165.61	5,811.3	-323.8	144.1	-354.3	3.56	0.23	-8.26
5,918.0	25.81	159.89	5,840.2	-337.0	148.2	-368.1	7.79	0.88	-17.88
5,950.0	24.86	156.91	5,869.1	-349.7	153.3	-381.8	4.97	-2.97	-9.31
5,981.0	22.11	157.20	5,897.5	-361.1	158.1	-394.1	8.88	-8.87	0.94
6,013.0	18.85	159.32	5,927.5	-371.5	162.2	-405.3	10.45	-10.19	6.63
6,044.0	14.81	166.55	5,957.2	-380.0	164.9	-414.3	14.65	-13.03	23.32
6,076.0	11.17	177.88	5,988.3	-387.1	166.0	-421.2	13.83	-11.38	35.41
6,107.0	7.92	191.69	6,018.9	-392.2	165.7	-425.8	12.75	-10.48	44.55
6,139.0	5.29	203.29	6,050.7	-395.7	164.6	-428.6	9.18	-8.22	36.25
6,171.0	2.33	194.90	6,082.6	-397.7	163.9	-430.1	9.39	-9.25	-26.22
6,202.0	2.69	72.65	6,113.6	-398.1	164.4	-430.7	14.19	1.16	-394.36
6,234.0	5.78	38.15	6,145.5	-396.6	166.1	-430.0	12.11	9.66	-107.81
6,266.0	7.13	2.06	6,177.3	-393.4	167.2	-427.4	13.10	4.22	-112.78
6,297.0	9.31	338.51	6,208.0	-389.1	166.3	-423.2	12.80	7.03	-75.97
6,328.0	11.82	328.85	6,238.5	-384.1	163.8	-417.5	9.88	8.10	-31.98
6,360.0	15.03	327.95	6,269.6	-377.7	159.9	-410.2	10.05	10.03	-2.81
6,392.0	17.34	323.82	6,300.3	-370.4	154.9	-401.4	8.06	7.22	-12.91
6,424.0	19.61	323.08	6,330.7	-362.2	148.8	-391.6	7.13	7.09	-2.99
6,455.0	22.61	322.82	6,359.6	-353.3	142.1	-380.8	9.68	9.68	-2.99
6,487.0	25.71	322.75	6,388.8	-342.9	134.2	-368.1	9.69	9.69	-0.22
6,518.0	28.73	323.57	6,416.4	-331.5	125.7	-354.3	9.82	9.74	2.65
6,550.0	31.79	323.56	6,444.0	-318.6	116.1	-338.7	9.56	9.56	-0.03
6,582.0	35.29	323.72	6,470.7	-304.3	105.6	-321.5	10.94	10.94	0.50
6,613.0	38.80	324.44	6,495.4	-289.2	94.7	-303.3	11.41	11.32	2.32
6,645.0	42.56	324.01	6,519.7	-272.3	82.5	-283.0	11.78	11.75	-1.34
6,677.0	46.32	323.05	6,542.5	-254.3	69.2	-261.2	11.94	11.75	-3.00
6,708.0	50.32	323.31	6,563.1	-235.7	55.3	-238.8	12.92	12.90	0.84
6,740.0	54.77	323.19	6,582.6	-215.4	40.1	-214.1	13.91	13.91	-0.38
6,772.0	58.93	323.62	6,600.1	-193.9	24.1	-188.1	13.05	13.00	1.34
6,803.0	62.92	325.60	6,615.1	-171.8	8.5	-161.7	14.03	12.87	6.39
6,835.0	67.31	327.30	6,628.6	-147.6	-7.6	-133.2	14.54	13.72	5.31
6,866.0	72.51	327.01	6,639.2	-123.2	-23.4	-104.5	15.80	16.77	-0.94
6,898.0	77.31	326.97	6,647.6	-97.3	-40.2	-74.1	15.00	15.00	-0.13
6,930.0	82.48	327.97	6,653.2	-70.7	-57.1	-43.1	16.45	16.16	3.13
6,961.0	87.22	330.09	6,656.0	-44.2	-73.0	-12.5	16.74	15.29	6.84

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Company:	EQT PRODUCTION	Local Co-ordinate Reference:	Well #516231 -MRC - Slot 516231
Project:	Doddridge County, WV	TVD Reference:	GL 1229' & 16' KB @ 1245.0usft (SAV 654)
Site:	OXF43	MD Reference:	GL 1229' & 16' KB @ 1245.0usft (SAV 654)
Well:	#516231 -MRC	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	516231 ST01 AS Drilled	Database:	Northeast District

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,993.0	91.14	333.27	6,656.4	-16.1	-88.2	19.3	15.77	12.24	9.93
LP as Drilled: 6993' MD- 6656.4' TVD									
7,025.0	91.88	335.40	6,655.6	12.8	-102.0	51.2	7.05	2.31	6.66
7,088.0	92.59	335.94	6,653.1	70.1	-128.0	114.2	1.42	1.13	0.86
7,151.0	91.01	337.41	6,651.1	127.9	-152.9	177.1	3.42	-2.51	2.33
7,215.0	91.07	336.37	6,650.0	186.8	-178.0	241.1	1.63	0.09	-1.63
7,278.0	91.51	337.19	6,648.6	244.7	-202.8	304.1	1.48	0.70	1.30
7,341.0	90.91	341.19	6,647.2	303.5	-225.2	367.0	6.42	-0.95	6.35
7,404.0	91.31	341.44	6,646.0	363.2	-245.4	429.9	0.75	0.63	0.40
7,467.0	91.48	340.87	6,644.5	422.8	-265.7	492.7	0.94	0.27	-0.90
7,531.0	91.48	341.44	6,642.8	483.4	-286.4	556.5	0.89	0.00	0.89
7,595.0	91.88	341.35	6,641.0	544.0	-306.8	620.3	0.64	0.63	-0.14
7,658.0	92.35	340.84	6,638.6	603.5	-327.2	683.2	1.10	0.75	-0.81
7,721.0	92.08	339.97	6,636.2	662.9	-348.3	746.0	1.44	-0.43	-1.38
7,784.0	90.40	338.68	6,634.8	721.8	-370.6	808.9	3.36	-2.67	-2.05
7,848.0	90.71	337.80	6,634.2	781.2	-394.3	872.9	1.46	0.48	-1.38
7,911.0	91.41	338.17	6,633.0	839.6	-417.9	935.9	1.26	1.11	0.59
7,974.0	91.24	339.97	6,631.6	898.4	-440.4	998.9	2.87	-0.27	2.88
8,037.0	90.77	341.29	6,630.5	957.9	-461.3	1,061.7	2.22	-0.75	2.11
8,101.0	90.10	342.29	6,630.0	1,018.6	-481.3	1,125.5	1.88	-1.05	1.59
8,164.0	89.77	342.88	6,630.1	1,078.8	-500.1	1,188.3	1.07	-0.52	0.94
8,227.0	89.90	342.55	6,630.3	1,138.9	-518.9	1,251.0	0.56	0.21	-0.52
8,291.0	89.80	341.99	6,630.4	1,199.9	-538.4	1,314.7	0.89	-0.16	-0.88
8,354.0	88.56	342.30	6,631.3	1,259.8	-557.7	1,377.5	2.03	-1.97	0.49
8,418.0	87.92	342.42	6,633.3	1,320.8	-577.1	1,441.2	1.02	-1.00	0.19
8,481.0	88.02	342.19	6,635.5	1,380.8	-596.2	1,503.9	0.40	0.16	-0.37
8,545.0	87.65	341.00	6,637.9	1,441.5	-616.4	1,567.7	1.95	-0.58	-1.86
8,608.0	87.32	341.33	6,640.7	1,501.0	-636.7	1,630.5	0.74	-0.52	0.52
8,671.0	86.94	340.64	6,643.9	1,560.5	-657.2	1,693.3	1.25	-0.60	-1.10
8,735.0	87.07	340.03	6,647.2	1,620.7	-678.7	1,757.1	0.97	0.20	-0.95
8,799.0	86.80	339.87	6,650.6	1,680.7	-700.6	1,820.9	0.49	-0.42	-0.25
8,862.0	87.01	339.52	6,654.0	1,739.7	-722.4	1,883.8	0.65	0.33	-0.56
8,925.0	87.44	339.23	6,657.1	1,798.6	-744.6	1,946.6	0.82	0.68	-0.46
8,989.0	86.74	338.71	6,660.3	1,858.3	-767.6	2,010.5	1.36	-1.09	-0.81
9,052.0	86.65	338.56	6,664.0	1,916.9	-790.5	2,073.4	0.28	-0.14	-0.24
9,115.0	86.65	338.23	6,667.6	1,975.3	-813.6	2,136.3	0.52	0.00	-0.52
9,178.0	86.44	337.24	6,671.4	2,033.5	-837.4	2,199.2	1.60	-0.33	-1.57
9,242.0	85.93	337.15	6,675.7	2,092.4	-862.2	2,263.0	0.81	-0.80	-0.14
9,305.0	86.01	336.93	6,680.1	2,150.3	-886.7	2,325.9	0.37	0.13	-0.35
9,368.0	85.93	336.43	6,684.5	2,208.0	-911.6	2,388.7	0.80	-0.13	-0.79
9,431.0	85.47	335.90	6,689.3	2,265.4	-937.0	2,451.5	1.11	-0.73	-0.84
9,494.0	86.37	336.73	6,693.8	2,323.0	-962.2	2,514.3	1.94	1.43	1.32
9,557.0	88.29	337.88	6,696.7	2,381.0	-986.5	2,577.3	3.55	3.05	1.83

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Company:	EQT PRODUCTION	Local Co-ordinate Reference:	Well #516231 -MRC - Slot 516231
Project:	Doddridge County, WV	TVD Reference:	GL 1229' & 16' KB @ 1245.0usft (SAV 654)
Site:	OXF43	MD Reference:	GL 1229' & 16' KB @ 1245.0usft (SAV 654)
Well:	#516231 -MRC	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	516231 ST01 AS Drilled	Database:	Northeast District

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
9,620.0	88.29	337.80	6,698.6	2,439.4	-1,010.3	2,640.2	0.13	0.00	-0.13	
9,683.0	88.46	339.31	6,700.4	2,498.0	-1,033.3	2,703.2	2.41	0.27	2.40	
9,747.0	88.86	340.37	6,701.8	2,558.0	-1,055.3	2,767.1	1.77	0.63	1.66	
9,810.0	88.25	339.30	6,703.4	2,617.1	-1,077.0	2,830.0	1.95	-0.97	-1.70	
9,873.0	88.99	338.24	6,705.0	2,675.9	-1,099.8	2,893.0	2.05	1.17	-1.68	
Deepest Point @ 9873' MD- 6705' TVD										
9,936.0	92.15	335.90	6,704.3	2,733.9	-1,124.4	2,956.0	6.24	5.02	-3.72	
9,999.0	90.77	333.56	6,702.7	2,790.8	-1,151.3	3,018.9	4.31	-2.19	-3.71	
10,063.0	91.75	335.45	6,701.3	2,848.6	-1,178.8	3,082.8	3.33	1.53	2.95	
10,126.0	94.17	339.05	6,698.1	2,906.6	-1,203.1	3,145.7	6.88	3.84	5.71	
10,189.0	94.37	338.65	6,693.4	2,965.2	-1,225.8	3,208.5	0.71	0.32	-0.63	
10,253.0	92.79	338.00	6,689.4	3,024.5	-1,249.4	3,272.4	2.67	-2.47	-1.02	
10,316.0	90.37	338.08	6,687.6	3,082.9	-1,272.9	3,335.3	3.84	-3.84	0.13	
10,379.0	90.91	337.47	6,686.9	3,141.2	-1,296.8	3,398.3	1.29	0.86	-0.97	
10,442.0	91.14	337.03	6,685.8	3,199.3	-1,321.1	3,461.3	0.79	0.37	-0.70	
10,505.0	89.50	336.59	6,685.5	3,257.2	-1,345.9	3,524.3	2.70	-2.60	-0.70	
10,569.0	87.68	337.18	6,687.0	3,316.1	-1,371.1	3,588.3	2.99	-2.84	0.92	
10,632.0	87.99	337.61	6,689.4	3,374.2	-1,395.3	3,651.2	0.84	0.49	0.68	
10,695.0	88.16	336.96	6,691.5	3,432.3	-1,419.6	3,714.2	1.07	0.27	0.27	
10,758.0	88.22	336.48	6,693.5	3,490.1	-1,444.5	3,777.2	0.77	0.10	0.10	
10,822.0	88.16	335.61	6,695.5	3,548.6	-1,470.4	3,841.1	1.36	-0.09	-0.09	
Survey @ 10822' MD- 6695.5' TVD										
10,896.0	88.16	335.61	6,697.9	3,615.9	-1,501.0	3,915.1	0.00	0.00	0.00	
Survey Projected to: 10896' MD- 6697.9' TVD										

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Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
516231 Surface Location - hit/miss target - Shape - Point	0.00	360.00	0.0	0.0	0.0	241,943.07	1,633,388.28	39.1570332	-80.7928545	
516231 KOP As Drilled - actual wellpath hits target center - Point	0.00	360.00	4,680.9	-23.5	47.4	241,919.52	1,633,435.63	39.1569704	-80.7926863	
516231 LP As Drilled - actual wellpath hits target center - Point	0.00	0.00	6,656.4	-16.1	-88.2	241,927.00	1,633,300.09	39.1569856	-80.7931646	
516231 BHL As Drilled - actual wellpath hits target center - Point	0.00	0.00	6,697.9	3,615.9	-1,501.0	245,559.01	1,631,887.31	39.1669007	-80.7983312	

Company:	EQT PRODUCTION	Local Co-ordinate Reference:	Well #516231 -MRC - Slot 516231
Project:	Doddridge County, WV	TVD Reference:	GL 1229' & 16' KB @ 1245.0usft (SAV 654)
Site:	OXF43	MD Reference:	GL 1229' & 16' KB @ 1245.0usft (SAV 654)
Well:	#516231 -MRC	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	516231 ST01 AS Drilled	Database:	Northeast District

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,683.0	4,680.9	-23.5	47.4	KOP as Drilled: 4683' MD- 4680.9' TVD
6,993.0	6,656.4	-16.1	-88.2	LP as Drilled: 6993' MD- 6656.4' TVD
9,873.0	6,705.0	2,675.9	-1,099.8	Deepest Point @ 9873' MD- 6705' TVD
10,822.0	6,695.5	3,548.6	-1,470.4	Survey @ 10822' MD- 6695.5' TVD
10,896.0	6,697.9	3,615.9	-1,501.0	Survey Projected to: 10896' MD- 6697.9' TVD

Checked By: _____ Approved By: _____ Date: _____

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