



# EQT PRODUCTION

Doddridge County, WV

OXF 153

Well #515970 - Marcellus - Slot 515970

API #47-17006715

Main Wellbore

Design: 515970 As Drilled Surveys

## Standard Survey Report

12 October, 2015





Phoenix Technology Services  
Survey Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Well #515970 - Marcellus - Slot 515970
Company:	EQT PRODUCTION	TVD Reference:	KB 1B @ 1157.0usft
Project:	Doddridge County, WV	MD Reference:	KB 1B @ 1157.0usft
Site:	OXF 153	North Reference:	Gnd
Well:	Well #515970 - Marcellus	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515970 As Drilled Surveys		

<b>Project</b> 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		

<b>Site</b> OXF 153			
Site Position:		Northing:	254,054.20 usft
From:	Map	Easting:	1,626,467.50 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	39.19
		Longitude:	-80.82
		Grid Convergence:	-0.84 °

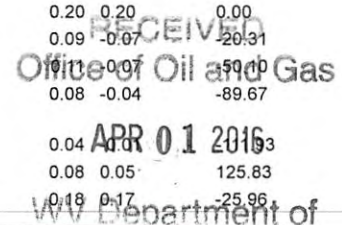
<b>Well</b> Well #515970 - Marcellus - Slot 515970			
Well Position	+N/-S	0.0 usft	Northing: 254,047.10 usft
	+E/-W	0.0 usft	Easting: 1,626,496.60 usft
Position Uncertainty		0.0 usft	Wellhead Elevation: usft
			Latitude: 39° 11' 23.956 N
			Longitude: 80° 49' 4.010 W
			Ground Level: 1,141.0 usft

<b>Wellbore</b> Main Wellbore					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	9/30/2015	-7.72	66.60	52,143

<b>Design</b> 515970 As Drilled Surveys					
<b>Audit Notes:</b>					
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	353.50	

<b>Survey Program</b>		Date	10/12/2015			
From (')	To (usft)	Survey (Wellbore)	Tool Name	Description		
0.00	4,974.0	Gyrodata Surveys (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop		
0.00	9,646.0	515970 PHX MWD (Main Wellbore)	PHX+MWD+HDGM	PHX+OWSG MWD + HDGM		

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	-1,157.0	0.0	0.0	0.0	0.00	0.00	0.00
103.0	0.21	222.38	103.0	-1,054.0	-0.1	-0.1	-0.1	0.20	0.20	0.00
203.0	0.14	202.07	203.0	-954.0	-0.4	-0.3	-0.4	0.09	-0.07	-20.31
303.0	0.07	151.97	303.0	-854.0	-0.6	-0.3	-0.5	0.09	0.00	-59.00
403.0	0.03	62.30	403.0	-754.0	-0.6	-0.3	-0.6	0.08	-0.04	-89.67
503.0	0.02	310.37	503.0	-654.0	-0.6	-0.3	-0.5	0.04	0.00	19.93
603.0	0.07	76.20	603.0	-554.0	-0.5	-0.2	-0.5	0.08	0.05	125.83
703.0	0.24	50.24	703.0	-454.0	-0.4	0.0	-0.4	0.18	0.17	-25.96





Phoenix Technology Services  
Survey Report



Database:	EDM 5000 J Single User Dr.	Local Co-ordinate Reference:	Well Well #5-5970 - Marcellus - Slot 515970
Company:	EQT PRODUCTION	TVD Reference:	KB 16 @ 1157 0um
Project:	Madison County WW	MD Reference:	KB 16 @ 1157 0um
Site:	DMF 123	North Reference:	Grid
Well:	Well #515970 - Marcellus	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515970 As-Ordered 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	0.32	49.35	803.0	-354.0	-0.1	0.4	-0.1	0.08	0.08	-0.89
903.0	0.33	46.73	903.0	-254.0	0.3	0.8	0.2	0.02	0.01	-2.62
1,003.0	0.28	51.35	1,003.0	-154.0	0.6	1.2	0.5	0.06	-0.05	4.62
1,103.0	0.30	58.99	1,103.0	-54.0	0.9	1.6	0.7	0.04	0.02	7.64
1,203.0	0.29	110.29	1,203.0	46.0	1.0	2.1	0.7	0.26	-0.01	51.30
1,303.0	0.33	95.91	1,303.0	146.0	0.9	2.6	0.6	0.09	0.04	-14.38
1,403.0	0.59	116.39	1,403.0	246.0	0.6	3.4	0.2	0.30	0.26	20.48
1,503.0	0.65	115.47	1,503.0	346.0	0.1	4.3	-0.4	0.06	0.06	-0.92
1,603.0	0.76	106.31	1,603.0	446.0	-0.3	5.5	-0.9	0.16	0.11	-9.16
1,703.0	0.80	105.73	1,703.0	546.0	-0.7	6.8	-1.4	0.04	0.04	-0.58
1,803.0	0.32	128.22	1,803.0	646.0	-1.0	7.7	-1.9	0.52	-0.48	22.49
1,903.0	0.17	120.60	1,903.0	746.0	-1.3	8.0	-2.2	0.15	-0.15	-7.62
2,003.0	0.19	121.04	2,003.0	846.0	-1.4	8.3	-2.4	0.02	0.02	0.44
2,103.0	0.18	121.89	2,103.0	946.0	-1.6	8.6	-2.6	0.01	-0.01	0.85
2,203.0	0.16	116.21	2,203.0	1,046.0	-1.8	8.8	-2.7	0.03	-0.02	-5.68
2,303.0	0.17	111.19	2,303.0	1,146.0	-1.9	9.1	-2.9	0.02	0.01	-5.02
2,403.0	0.11	94.90	2,403.0	1,246.0	-1.9	9.3	-3.0	0.07	-0.06	-16.29
2,503.0	0.11	112.37	2,503.0	1,346.0	-2.0	9.5	-3.0	0.03	0.00	17.47
2,603.0	0.04	316.53	2,603.0	1,446.0	-2.0	9.6	-3.1	0.15	-0.07	-155.84
2,703.0	0.08	310.68	2,703.0	1,546.0	-1.9	9.5	-3.0	0.04	0.04	-5.85
2,803.0	0.09	270.48	2,803.0	1,646.0	-1.9	9.4	-2.9	0.06	0.01	-40.20
2,903.0	0.12	301.94	2,903.0	1,746.0	-1.8	9.2	-2.8	0.06	0.03	31.46
3,003.0	0.10	277.14	3,003.0	1,846.0	-1.8	9.0	-2.8	0.05	-0.02	-24.80
3,103.0	0.07	244.27	3,103.0	1,946.0	-1.8	8.9	-2.8	0.06	-0.03	-32.87
3,203.0	0.07	115.21	3,203.0	2,046.0	-1.8	8.9	-2.8	0.13	0.00	-129.06
3,303.0	0.07	61.11	3,303.0	2,146.0	-1.8	9.0	-2.8	0.06	0.00	-54.10
3,403.0	0.14	233.67	3,403.0	2,246.0	-1.9	8.9	-2.9	0.21	0.07	172.56
3,503.0	0.16	286.24	3,503.0	2,346.0	-1.9	8.7	-2.9	0.13	0.02	52.57
3,603.0	0.08	271.11	3,603.0	2,446.0	-1.9	8.5	-2.8	0.09	-0.08	-15.13
3,703.0	0.19	250.57	3,703.0	2,546.0	-1.9	8.3	-2.8	0.12	0.11	-20.54
3,803.0	0.16	296.37	3,803.0	2,646.0	-1.9	8.0	-2.8	0.14	-0.03	45.80
3,903.0	0.46	268.31	3,903.0	2,746.0	-1.8	7.5	-2.7	0.33	0.30	-28.06
4,003.0	0.64	266.79	4,002.9	2,845.9	-1.9	6.5	-2.6	0.18	0.18	-1.52
4,103.0	0.88	263.43	4,102.9	2,945.9	-2.0	5.2	-2.6	0.24	0.24	-3.36
4,203.0	1.12	259.59	4,202.9	3,045.9	-2.3	3.5	-2.7	0.25	0.24	-3.84
4,303.0	1.18	260.00	4,302.9	3,145.9	-2.6	1.5	-2.8	0.06	0.06	-1.11
4,403.0	1.32	257.77	4,402.9	3,245.9	-3.1	-0.6	-3.0	0.15	0.14	-2.29
4,503.0	1.51	261.08	4,502.8	3,345.8	-3.5	-3.1	-3.1	0.21	0.19	3.31
4,603.0	1.82	266.07	4,602.8	3,445.8	-3.8	-6.0	-3.1	0.34	0.34	-1.11
4,703.0	1.92	266.68	4,702.8	3,545.8	-4.0	-9.2	-3.0	0.10	0.10	0.61
4,803.0	2.00	273.02	4,802.7	3,645.7	-4.0	-12.6	-2.6	0.23	0.08	6.34
4,903.0	1.76	271.29	4,902.6	3,745.6	-3.9	-15.9	-2.1	0.25	0.25	1.78

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Survey Report



<b>Database:</b> EDM 5500.J Single User DB	<b>Local Co-ordinate Reference:</b> Well Well #515970 - Marcellus - Slot 515970
<b>Company:</b> EQT PRODUCTION	<b>TVD Reference:</b> KB 10 @ 1157' Bush
<b>Project:</b> Doddridge County 'W'	<b>MD Reference:</b> KB 10 @ 1157' Bush
<b>Site:</b> GXP 153	<b>North Reference:</b> GNT
<b>Well:</b> Well #515970 - Marcellus	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Wellbore:</b> Main Wellbore	
<b>Design:</b> 515970 AS Oriented 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)
4,974.0	1.59	274.47	4,973.6	3,816.6	-3.8	-18.0	-1.7	0.27	-0.24	4.48
Gyro Tie On=4274' MD										
4,974.1	1.59	274.47	4,973.7	3,816.7	-3.8	-18.0	-1.7	0.00	0.00	0.00
4,987.0	1.70	272.90	4,986.6	3,829.6	-3.8	-18.3	-1.7	0.92	0.85	-12.17
5,018.0	1.00	314.70	5,017.6	3,860.6	-3.6	-19.0	-1.4	3.76	-2.26	134.84
5,050.0	3.30	35.60	5,049.6	3,892.6	-2.6	-18.7	-0.5	10.29	7.19	252.81
5,081.0	6.50	40.50	5,080.5	3,923.5	-0.6	-17.0	1.4	10.40	10.32	15.81
5,113.0	9.10	37.50	5,112.2	3,955.2	2.8	-14.3	4.4	8.22	8.13	-9.38
5,144.0	12.10	36.00	5,142.6	3,985.6	7.4	-10.9	8.6	9.72	9.68	-4.84
5,175.0	14.70	38.70	5,172.8	4,015.8	13.1	-6.5	13.8	8.62	8.39	8.71
5,207.0	17.70	40.20	5,203.5	4,046.5	20.0	-0.8	20.0	9.47	9.38	4.69
5,239.0	20.80	42.60	5,233.7	4,076.7	27.9	6.2	27.0	10.00	9.69	7.50
5,270.0	23.70	46.80	5,262.4	4,105.4	36.2	14.4	34.3	10.66	9.35	13.55
5,302.0	26.40	50.90	5,291.4	4,134.4	45.1	24.6	42.0	10.03	8.44	12.81
5,333.0	29.40	53.80	5,318.8	4,161.8	53.9	36.1	49.5	10.62	9.68	9.35
5,365.0	32.40	55.80	5,346.2	4,189.2	63.4	49.6	57.4	9.91	9.38	6.25
5,397.0	35.50	57.50	5,372.8	4,215.8	73.2	64.5	65.4	10.13	9.69	5.31
5,460.0	40.30	58.60	5,422.5	4,265.5	93.7	97.3	82.0	7.69	7.62	1.75
5,523.0	40.50	56.00	5,470.5	4,313.5	115.7	131.7	100.1	2.69	0.32	-4.13
5,586.0	41.70	52.00	5,518.0	4,361.0	140.1	165.2	120.5	4.59	1.90	-6.35
5,649.0	42.30	50.50	5,564.8	4,407.8	166.5	198.0	143.0	1.86	0.95	-2.38
5,712.0	41.60	52.40	5,611.6	4,454.6	192.7	231.0	165.3	2.30	-1.11	3.02
5,775.0	39.50	55.00	5,659.5	4,502.5	217.0	264.0	185.7	4.28	-3.33	4.13
5,838.0	39.00	55.10	5,708.3	4,551.3	239.8	296.6	204.7	0.80	-0.79	0.16
5,901.0	39.10	53.80	5,757.2	4,600.2	262.9	328.9	223.9	1.31	0.16	-2.06
5,964.0	38.80	53.00	5,806.2	4,649.2	286.5	360.7	243.8	0.93	-0.48	-1.27
6,026.0	38.30	51.20	5,854.7	4,697.7	310.2	391.2	263.9	1.98	-0.81	-2.90
6,089.0	38.50	52.60	5,904.1	4,747.1	334.4	422.0	284.4	1.42	0.32	2.22
6,153.0	38.50	54.10	5,954.2	4,797.2	358.1	454.0	304.4	1.46	0.00	2.34
6,216.0	38.90	55.00	6,003.3	4,846.3	381.0	486.0	323.5	1.10	0.63	1.43
6,279.0	39.00	54.70	6,052.3	4,895.3	403.8	518.4	342.5	0.34	0.16	-0.48
6,342.0	38.80	53.80	6,101.3	4,944.3	426.9	550.5	361.8	0.95	-0.32	-1.43
6,405.0	39.00	53.20	6,150.4	4,993.4	450.4	582.3	381.6	0.68	0.32	-0.95
6,436.0	39.90	51.40	6,174.3	5,017.3	462.5	597.9	391.8	4.69	2.90	5.51
6,468.0	41.70	46.70	6,198.5	5,041.5	476.2	613.7	403.6	11.12	5.63	-14.69
6,499.0	42.40	41.70	6,221.6	5,064.6	491.1	628.1	416.8	11.63	2.26	-16.13
6,531.0	43.10	37.80	6,245.1	5,088.1	507.8	642.0	431.8	8.56	2.19	-12.06
6,562.0	43.60	33.80	6,267.6	5,110.6	525.0	654.5	447.5	9.00	1.61	-12.90
6,593.0	44.30	30.00	6,289.9	5,132.9	543.3	665.8	464.4	8.80	2.26	-12.26
6,625.0	45.20	26.10	6,312.7	5,155.7	563.2	676.4	482.9	9.33	2.61	-13.33
6,656.0	46.60	22.00	6,334.2	5,177.2	583.5	685.5	502.1	10.52	4.52	-13.93
6,688.0	48.10	18.30	6,355.9	5,198.9	605.6	693.6	523.1	9.71	4.69	-11.56
6,719.0	49.20	14.60	6,376.4	5,219.4	627.9	700.1	544.5	9.64	3.55	-11.94

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Survey Report



<b>Database:</b> EDM 5000.1 Single User Co.	<b>Local Co-ordinate Reference:</b> Well Well #515970 - Marcellus - Slot 515970
<b>Company:</b> ECT PRODUCTION	<b>TVD Reference:</b> KB 16 @ 1157 0usft
<b>Project:</b> Doddridge County, WV	<b>MD Reference:</b> KR 16 @ 1157 0usft
<b>Site:</b> DXF 153	<b>North Reference:</b> Grid
<b>Well:</b> Well #515970 - Marcellus	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Wellbore:</b> Main Wellbore	
<b>Design:</b> 515970 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)
6,751.0	51.70	10.80	6,396.8	5,239.8	651.9	705.6	567.8	12.03	7.81	-11.88
6,782.0	54.30	7.50	6,415.5	5,258.5	676.4	709.5	591.7	11.94	8.39	-10.65
6,814.0	56.70	4.60	6,433.6	5,276.6	702.6	712.3	617.4	10.58	7.50	-9.06
6,845.0	58.10	1.50	6,450.3	5,293.3	728.7	713.6	643.2	9.56	4.52	-10.00
6,877.0	60.20	358.70	6,466.7	5,309.7	756.1	713.7	670.4	9.97	6.56	-8.75
6,908.0	62.90	356.50	6,481.5	5,324.5	783.4	712.5	697.6	10.71	8.71	-7.10
6,940.0	65.80	355.10	6,495.3	5,338.3	812.1	710.4	726.4	9.88	9.06	-4.38
6,971.0	68.50	353.70	6,507.4	5,350.4	840.6	707.6	755.0	9.65	8.71	-4.52
<b>515970 Plat LP</b>										
6,974.5	68.77	353.47	6,508.6	5,351.6	843.8	707.3	758.2	9.95	7.78	-6.66
7,003.0	71.00	351.60	6,518.4	5,361.4	870.3	703.8	785.0	9.95	7.82	-6.55
<b>512499 Top of Part</b>										
7,034.0	73.60	349.50	6,527.9	5,370.9	899.5	698.9	814.5	10.58	8.39	-6.77
7,066.0	75.90	347.20	6,536.3	5,379.3	929.7	692.7	845.3	9.99	7.19	-7.19
7,097.0	78.20	345.70	6,543.2	5,386.2	959.1	685.6	875.2	8.79	7.42	-4.84
7,129.0	80.60	344.20	6,549.1	5,392.1	989.4	677.4	906.3	8.80	7.50	-4.69
7,160.0	84.10	342.70	6,553.2	5,396.2	1,018.9	668.7	936.6	12.27	11.29	-4.84
7,192.0	85.20	341.00	6,556.2	5,399.2	1,049.1	658.8	967.8	6.31	3.44	-5.31
7,223.0	86.30	339.10	6,558.5	5,401.5	1,078.2	648.2	997.9	7.07	3.55	-6.13
<b>515970 LP 1024 VS</b>										
7,249.2	87.54	338.02	6,559.9	5,402.9	1,102.5	638.7	1,023.1	6.30	4.76	-4.13
<b>515970 LP 1024 VS p4</b>										
7,249.3	87.54	338.02	6,559.9	5,402.9	1,102.7	638.6	1,023.3	0.00	0.00	0.00
7,286.0	89.30	336.50	6,560.9	5,403.9	1,136.5	624.4	1,058.4	6.33	4.79	-4.15
7,349.0	89.70	337.60	6,561.5	5,404.5	1,194.5	599.9	1,118.9	1.86	0.63	1.75
7,412.0	88.80	337.00	6,562.3	5,405.3	1,252.6	575.6	1,179.4	1.72	-1.43	-0.95
7,475.0	89.10	335.90	6,563.5	5,406.5	1,310.3	550.4	1,239.6	1.81	0.48	-1.75
<b>LP=7538' MD/8584' TVD</b>										
7,538.0	90.00	334.00	6,564.0	5,407.0	1,367.4	523.7	1,299.3	3.34	1.43	-3.02
7,601.0	90.30	334.40	6,563.8	5,406.8	1,424.1	496.3	1,358.8	0.79	0.48	0.63
7,665.0	90.70	334.90	6,563.2	5,406.2	1,482.0	468.9	1,419.3	1.00	0.63	0.78
7,727.0	89.20	334.00	6,563.3	5,406.3	1,537.9	442.2	1,477.9	2.82	-2.42	-1.45
7,790.0	87.40	332.90	6,565.2	5,408.2	1,594.2	414.0	1,537.1	3.35	-2.86	-1.75
7,853.0	88.60	333.10	6,567.4	5,410.4	1,650.3	385.4	1,596.1	1.93	1.90	0.32
7,916.0	89.80	333.30	6,568.2	5,411.2	1,706.6	357.0	1,655.1	1.93	1.90	0.32
7,979.0	88.60	331.60	6,569.1	5,412.1	1,762.4	327.9	1,713.9	3.30	-1.90	-2.70
8,043.0	88.40	330.80	6,570.8	5,413.8	1,818.5	297.1	1,773.1	1.29	-0.31	-1.25
8,105.0	89.00	332.10	6,572.2	5,415.2	1,872.9	267.4	1,830.6	2.31	0.97	2.10
8,168.0	89.40	332.80	6,573.1	5,416.1	1,928.8	238.3	1,889.4	1.28	0.63	1.11
8,231.0	89.00	333.80	6,574.0	5,417.0	1,985.0	210.0	1,948.5	1.71	-0.63	1.59
8,294.0	89.30	335.90	6,574.9	5,417.9	2,042.1	183.2	2,008.2	3.37	0.48	3.33
8,357.0	90.60	338.70	6,574.9	5,417.9	2,100.2	158.9	2,068.7	4.90	2.06	4.44
8,420.0	90.90	338.80	6,574.1	5,417.1	2,158.9	136.1	2,129.6	0.50	0.48	0.16

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Phoenix Technology Services  
Survey Report



Database:	EDM 5000 T Single User Db	Local Co-ordinate Reference:	Well Well #515970 - Marcellus - Slot 515970
Company:	EQT PRODUCTION	TVD Reference:	KB 16 @ 1157.0usft
Project:	Coddridge County, WV	MD Reference:	KB 16 @ 1157.0usft
Site:	QXF 153	North Reference:	Grid
Well:	Well #515970 - Marcellus	Survey Calculation Method:	Minimum Curvature
Wellbore:	Main Wellbore		
Design:	515970 As Drilled Surveys		

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)
8,483.0	90.90	338.10	6,573.1	5,416.1	2,217.5	113.0	2,190.4	1.11	0.00	-1.11
8,546.0	90.10	336.20	6,572.6	5,415.6	2,275.5	88.5	2,250.9	3.27	-1.27	-3.02
8,609.0	89.30	334.70	6,572.9	5,415.9	2,332.8	62.3	2,310.8	2.70	-1.27	-2.38
8,672.0	87.90	333.00	6,574.4	5,417.4	2,389.4	34.6	2,370.1	3.49	-2.22	-2.70
8,735.0	88.60	334.30	6,576.4	5,419.4	2,445.8	6.6	2,429.3	2.34	1.11	2.06
8,798.0	88.60	336.00	6,577.9	5,420.9	2,502.9	-19.8	2,489.1	2.70	0.00	2.70
8,861.0	87.20	336.50	6,580.2	5,423.2	2,560.6	-45.2	2,549.2	2.36	-2.22	0.79
8,925.0	85.50	336.90	6,584.3	5,427.3	2,619.2	-70.5	2,610.3	2.73	-2.66	0.63
8,988.0	85.20	336.60	6,589.4	5,432.4	2,676.9	-95.3	2,670.5	0.67	-0.48	-0.48
9,051.0	86.50	336.70	6,594.0	5,437.0	2,734.6	-120.2	2,730.6	2.07	2.06	0.16
Deepest Point=9114' MD/6596' TVD										
9,114.0	90.00	336.30	6,595.9	5,438.9	2,792.3	-145.3	2,790.8	5.59	5.56	-0.63
9,178.0	93.50	337.00	6,593.9	5,436.9	2,851.1	-170.6	2,852.0	5.58	5.47	1.09
9,241.0	94.70	338.50	6,589.4	5,432.4	2,909.2	-194.4	2,912.5	3.04	1.90	2.38
9,305.0	92.10	337.40	6,585.6	5,428.6	2,968.4	-218.4	2,974.1	4.41	-4.06	-1.72
9,368.0	91.60	336.80	6,583.6	5,426.6	3,026.4	-242.9	3,034.5	1.24	-0.79	-0.95
9,431.0	92.10	335.60	6,581.6	5,424.6	3,084.0	-268.3	3,094.6	2.06	0.79	-1.90
9,494.0	92.50	334.80	6,579.0	5,422.0	3,141.2	-294.7	3,154.3	1.42	0.63	-1.27
9,557.0	92.50	334.60	6,576.3	5,419.3	3,198.1	-321.6	3,213.9	0.32	0.00	-0.32
Final Survey=9587' MD/6575' TVD										
9,587.0	92.20	334.20	6,575.1	5,418.1	3,225.1	-334.6	3,242.3	1.67	-1.00	-1.33
PROJ to Bit=9646' MD/6573' TVD - 515970 Plat TD - 515970 Plat TD p4										
9,646.0	92.20	334.20	6,572.8	5,415.8	3,278.2	-360.2	3,297.9	0.00	0.00	0.00

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (831.3)	+E/-W (767.4)	Northing (usft)	Easting (usft)	Latitude	Longitude
515970 Plat LP	0.00	0.00	6,563.0	831.3	767.4	254,878.40	1,627,264.00	39° 11' 32.283 N	80° 48' 54.419 W
- actual wellpath misses target center by 82.0usft at 6974.5usft MD (6508.6 TVD, 843.8 N, 707.3 E)									
- Point									
512499 Top of Perf	0.00	0.00	7,689.8	578.2	718.9	254,625.31	1,627,215.45	39° 11' 29.775 N	80° 48' 54.989 W
- actual wellpath misses target center by 1205.7usft at 7034.0usft MD (6527.9 TVD, 899.5 N, 698.9 E)									
- Rectangle (sides W1,000.0 H1,000.0 D0.0)									

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,974.1	4,973.7	-3.8	-18.0	Gyro Tie On=4974' MD
7,538.0	6,564.0	1,367.4	523.7	LP=7538' MD/6564' TVD
9,114.0	6,595.9	2,792.3	-145.3	Deepest Point=9114' MD/6596' TVD
9,587.0	6,575.1	3,225.1	-334.6	Final Survey=9587' MD/6575' TVD
9,646.0	6,572.8	3,278.2	-360.2	PROJ to Bit=9646' MD/6573' TVD

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Phoenix Technology Services  
Survey Report

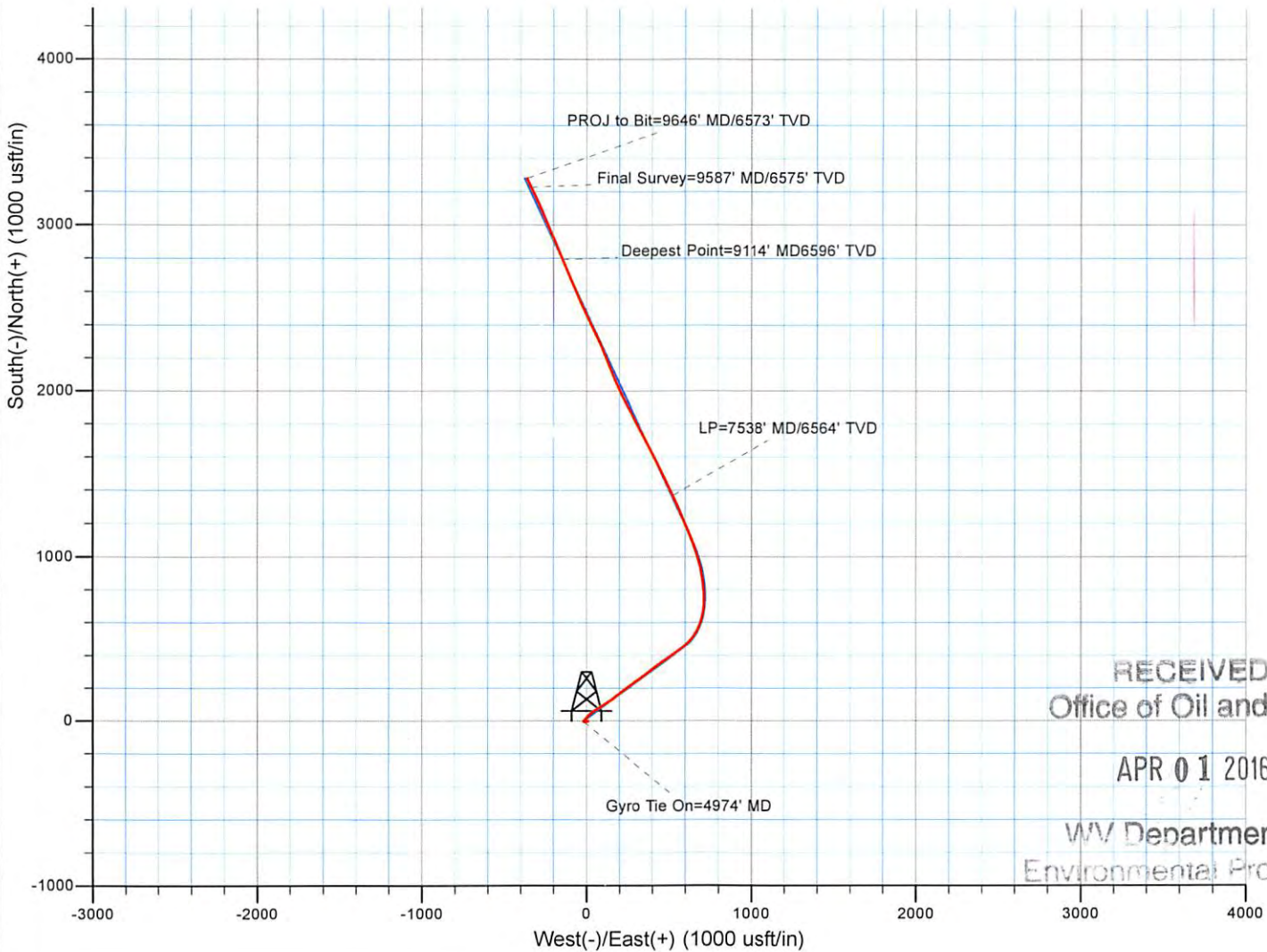
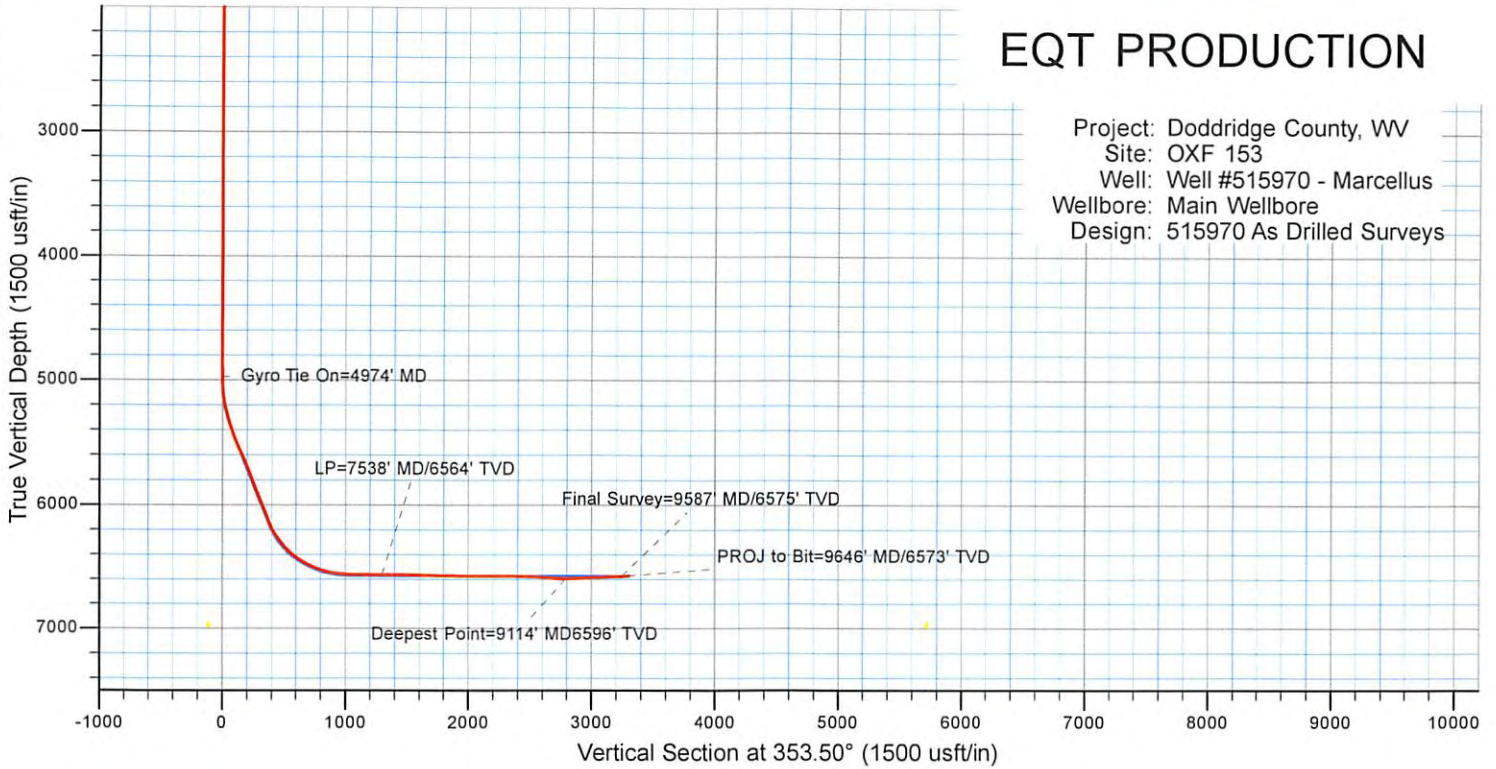


<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Well #515970 - Marcellus - Slot 515970
<b>Company:</b>	EQT PRODUCTION	<b>TVD Reference:</b>	KB 16' @ 1157.0ush
<b>Project:</b>	Doddridge County, WV	<b>MD Reference:</b>	KB 16' @ 1157.0ush
<b>Site:</b>	OXF 153	<b>North Reference:</b>	Gnd
<b>Well:</b>	Well #515970 - Marcellus	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Main Wellbore		
<b>Design:</b>	515970 As Drilled Surveys		

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

# EQT PRODUCTION

Project: Doddridge County, WV  
 Site: OXF 153  
 Well: Well #515970 - Marcellus  
 Wellbore: Main Wellbore  
 Design: 515970 As Drilled Surveys



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