



**PHOENIX**  
TECHNOLOGY SERVICES USA INC.

## **EQT Production - Marcellus**

**Doddridge County, WV Grid**

**Doddridge County 514390**

**Well #514390**

**Main Wellbore**

**API 47-1706443**

**Design: 514390 As Drilled Surveys**

## **Standard Survey Report**

**31 March, 2015**



**Where energy meets innovation.**

REC'D  
Office of Oil and Gas  
March 25, 2015  
WV Department  
Environmental Protection  
03/25/2016

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Site Doddridge County 514390
<b>Company:</b>	EQT Production - Marcellus	<b>TVD Reference:</b>	KB@23 @ 1153.0usft
<b>Project:</b>	Doddridge County, WV Grid	<b>MD Reference:</b>	KB@23 @ 1153.0usft
<b>Site:</b>	Doddridge County 514390	<b>North Reference:</b>	Grid
<b>Well:</b>	Well #514390	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Main Wellbore		
<b>Design:</b>	514390 As Drilled Surveys		

<b>Project</b>	Doddridge County, WV Grid		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	West Virginia North 4701		Using geodetic scale factor

<b>Site</b>	Doddridge County 514390				
<b>Site Position:</b>		<b>Northing:</b>	277,495.10 usft	<b>Latitude:</b>	39.25
<b>From:</b>	Map	<b>Easting:</b>	1,635,670.50 usft	<b>Longitude:</b>	-80.79
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	-0.82 °

<b>Well</b>	Well #514390					
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	277,495.10 usft	<b>Latitude:</b>	39° 15' 17.011 N
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	1,635,670.50 usft	<b>Longitude:</b>	80° 47' 11.770 W
<b>Position Uncertainty</b>		0.0 usft	<b>Wellhead Elevation:</b>	usft	<b>Ground Level:</b>	1,130.0 usft

<b>Wellbore</b>	Main Wellbore				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/23/2015	-8.44	66.74	52,171

<b>Design</b>	514390 As Drilled Surveys				
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**Audit Notes:**

<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	159.93	

Survey Program	Date	From (')	To (usft)	Survey (Wellbore)	Tool Name	Description
	3/31/2015	0.00	5,272.0	514390 Gyrodata Gyros (Main Wellbore)	GYD_DP_MS	Gyrodata gyro-compassing and drop
		0.00	12,484.0	514390 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	-1,153.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.44	154.84	100.0	-1,053.0	-0.3	0.2	0.4	0.44	0.44	0.00
200.0	0.48	155.67	200.0	-953.0	-1.1	0.5	1.2	0.04	0.04	0.83
300.0	0.32	173.08	300.0	-853.0	-1.7	0.7	1.9	0.20	-0.16	17.41
400.0	0.31	168.72	400.0	-753.0	-2.3	0.8	2.4	0.03	-0.01	4.36
500.0	0.29	172.34	500.0	-653.0	-2.8	0.9	2.9	0.03	-0.02	3.62
600.0	0.27	170.73	600.0	-553.0	-3.3	1.0	3.4	0.02	-0.02	-1.61
700.0	0.25	196.51	700.0	-453.0	-3.7	0.9	3.8	0.12	-0.02	25.78

03/25/2016

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<b>Well:</b>	Well #514390	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Main Wellbore		
<b>Design:</b>	514390 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	0.35	165.30	800.0	-353.0	-4.2	0.9	4.3	0.19	0.10	-31.21
900.0	0.35	165.63	900.0	-253.0	-4.8	1.1	4.9	0.00	0.00	0.33
1,000.0	0.37	165.14	1,000.0	-153.0	-5.4	1.3	5.5	0.02	0.02	-0.49
1,100.0	0.60	176.35	1,100.0	-53.0	-6.3	1.4	6.3	0.25	0.23	11.21
1,200.0	0.83	188.42	1,200.0	47.0	-7.5	1.3	7.5	0.27	0.23	12.07
1,300.0	0.93	191.90	1,300.0	147.0	-9.0	1.0	8.8	0.11	0.10	3.48
1,400.0	1.00	192.20	1,399.9	246.9	-10.7	0.7	10.2	0.07	0.07	0.30
1,500.0	0.85	195.43	1,499.9	346.9	-12.2	0.3	11.6	0.16	-0.15	3.23
1,600.0	0.75	194.21	1,599.9	446.9	-13.6	-0.1	12.7	0.10	-0.10	-1.22
1,700.0	0.74	200.12	1,699.9	546.9	-14.8	-0.5	13.8	0.08	-0.01	5.91
1,800.0	0.69	202.00	1,799.9	646.9	-16.0	-0.9	14.7	0.06	-0.05	1.88
1,900.0	0.68	204.99	1,899.9	746.9	-17.1	-1.4	15.6	0.04	-0.01	2.99
2,000.0	0.68	204.03	1,999.9	846.9	-18.2	-1.9	16.4	0.01	0.00	-0.96
2,100.0	0.65	201.63	2,099.9	946.9	-19.2	-2.3	17.3	0.04	-0.03	-2.40
2,200.0	0.54	201.70	2,199.9	1,046.9	-20.2	-2.7	18.0	0.11	-0.11	0.07
2,300.0	0.54	203.72	2,299.9	1,146.9	-21.1	-3.1	18.7	0.02	0.00	2.02
2,400.0	0.53	202.91	2,399.9	1,246.9	-21.9	-3.4	19.4	0.01	-0.01	-0.81
2,500.0	0.48	203.80	2,499.9	1,346.9	-22.7	-3.8	20.0	0.05	-0.05	0.89
2,600.0	0.49	203.16	2,599.9	1,446.9	-23.5	-4.1	20.7	0.01	0.01	-0.64
2,700.0	0.48	198.64	2,699.9	1,546.9	-24.3	-4.4	21.3	0.04	-0.01	-4.52
2,800.0	0.47	201.46	2,799.9	1,646.9	-25.1	-4.7	21.9	0.03	-0.01	2.82
2,900.0	0.44	200.90	2,899.9	1,746.9	-25.8	-5.0	22.5	0.03	-0.03	-0.56
3,000.0	0.37	192.33	2,999.9	1,846.9	-26.5	-5.2	23.1	0.09	-0.07	-8.57
3,100.0	0.42	195.09	3,099.8	1,946.8	-27.2	-5.4	23.7	0.05	0.05	2.76
3,200.0	0.40	196.14	3,199.8	2,046.8	-27.8	-5.6	24.2	0.02	-0.02	1.05
3,300.0	0.47	192.91	3,299.8	2,146.8	-28.6	-5.7	24.9	0.07	0.07	-3.23
3,400.0	0.50	192.47	3,399.8	2,246.8	-29.4	-5.9	25.6	0.03	0.03	-0.44
3,500.0	0.53	192.88	3,499.8	2,346.8	-30.3	-6.1	26.3	0.03	0.03	0.41
3,600.0	0.53	197.10	3,599.8	2,446.8	-31.2	-6.4	27.1	0.04	0.00	4.22
3,700.0	0.60	191.27	3,699.8	2,546.8	-32.1	-6.6	27.9	0.09	0.07	-5.83
3,800.0	0.57	201.29	3,799.8	2,646.8	-33.1	-6.9	28.7	0.11	-0.03	10.02
3,900.0	0.55	211.97	3,899.8	2,746.8	-34.0	-7.3	29.4	0.11	-0.02	10.68
4,000.0	0.64	230.90	3,999.8	2,846.8	-34.7	-8.0	29.9	0.21	0.09	18.93
4,100.0	0.80	238.43	4,099.8	2,946.8	-35.5	-9.0	30.2	0.19	0.16	7.53
4,200.0	0.88	244.42	4,199.8	3,046.8	-36.1	-10.3	30.4	0.12	0.08	5.99
4,300.0	0.95	258.79	4,299.8	3,146.8	-36.6	-11.8	30.4	0.24	0.07	14.37
4,400.0	1.11	263.23	4,399.8	3,246.8	-36.9	-13.6	30.0	0.18	0.16	4.44
4,500.0	1.44	280.40	4,499.7	3,346.7	-36.8	-15.8	29.1	0.50	0.33	17.17
4,600.0	1.88	290.98	4,599.7	3,446.7	-36.0	-18.6	27.4	0.53	0.44	10.58
4,700.0	2.36	308.19	4,699.6	3,546.6	-34.1	-21.7	24.6	0.79	0.48	17.21
4,800.0	2.66	313.61	4,799.5	3,646.5	-31.3	-25.0	20.8	0.38	0.30	5.42
4,900.0	3.00	318.09	4,899.4	3,746.4	-27.7	-28.4	16.3	0.41	0.34	4.48

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<b>Wellbore:</b>	Main Wellbore		
<b>Design:</b>	514390 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)
5,000.0	2.69	326.17	4,999.3	3,846.3	-23.8	-31.5	11.6	0.51	-0.31	8.08
5,100.0	3.27	330.64	5,099.2	3,946.2	-19.4	-34.2	6.5	0.62	0.58	4.47
5,200.0	4.09	328.42	5,198.9	4,045.9	-13.9	-37.5	0.2	0.83	0.82	-2.22
Gyro Tie In=5272' MD										
5,272.0	4.69	329.59	5,270.7	4,117.7	-9.1	-40.3	-5.3	0.84	0.83	1.63
5,335.0	4.90	329.40	5,333.5	4,180.5	-4.6	-43.0	-10.4	0.33	0.33	-0.30
5,367.0	4.70	331.70	5,365.4	4,212.4	-2.3	-44.3	-13.1	0.87	-0.63	7.19
5,398.0	6.00	325.40	5,396.3	4,243.3	0.2	-45.8	-15.9	4.60	4.19	-20.32
5,430.0	8.40	323.30	5,428.0	4,275.0	3.4	-48.2	-19.8	7.54	7.50	-6.56
5,462.0	10.40	322.20	5,459.6	4,306.6	7.6	-51.3	-24.8	6.27	6.25	-3.44
5,493.0	12.50	322.40	5,490.0	4,337.0	12.5	-55.1	-30.6	6.78	6.77	0.65
5,525.0	14.80	322.50	5,521.1	4,368.1	18.5	-59.7	-37.8	7.19	7.19	0.31
5,557.0	17.10	323.40	5,551.8	4,398.8	25.5	-65.0	-46.2	7.23	7.19	2.81
5,588.0	19.30	323.50	5,581.3	4,428.3	33.3	-70.8	-55.5	7.10	7.10	0.32
5,652.0	23.40	323.30	5,640.9	4,487.9	52.0	-84.7	-77.8	6.41	6.41	-0.31
5,682.0	25.60	320.70	5,668.2	4,515.2	61.7	-92.3	-89.7	8.17	7.33	-8.67
5,714.0	27.50	313.50	5,696.8	4,543.8	72.2	-102.1	-102.8	11.67	5.94	-22.50
5,746.0	30.00	305.80	5,724.9	4,571.9	82.0	-113.9	-116.1	13.95	7.81	-24.06
5,777.0	32.00	298.60	5,751.4	4,598.4	90.4	-127.4	-128.7	13.58	6.45	-23.23
5,809.0	33.40	291.70	5,778.4	4,625.4	97.7	-143.0	-140.9	12.44	4.38	-21.56
5,841.0	33.80	290.70	5,805.0	4,652.0	104.1	-159.6	-152.6	2.13	1.25	-3.13
5,872.0	33.80	285.80	5,830.8	4,677.8	109.5	-175.9	-163.3	8.79	0.00	-15.81
5,904.0	33.80	283.60	5,857.4	4,704.4	114.1	-193.1	-173.4	3.82	0.00	-6.88
5,936.0	33.50	283.20	5,884.0	4,731.0	118.2	-210.4	-183.2	1.17	-0.94	-1.25
5,967.0	31.70	284.00	5,910.1	4,757.1	122.1	-226.6	-192.4	5.97	-5.81	2.58
5,999.0	31.80	285.00	5,937.4	4,784.4	126.3	-242.9	-202.0	1.67	0.31	3.13
6,031.0	31.50	284.20	5,964.6	4,811.6	130.5	-259.2	-211.5	1.61	-0.94	-2.50
6,062.0	29.60	277.90	5,991.3	4,838.3	133.6	-274.6	-219.7	12.00	-6.13	-20.32
6,094.0	28.30	270.70	6,019.3	4,866.3	134.8	-290.0	-226.1	11.62	-4.06	-22.50
6,126.0	27.60	264.00	6,047.6	4,894.6	134.1	-305.0	-230.6	10.05	-2.19	-20.94
6,157.0	27.40	259.60	6,075.1	4,922.1	132.0	-319.2	-233.5	6.58	-0.65	-14.19
6,189.0	26.20	255.10	6,103.6	4,950.6	128.9	-333.2	-235.4	7.36	-3.75	-14.06
6,221.0	24.10	249.50	6,132.6	4,979.6	124.8	-346.2	-236.0	9.91	-6.56	-17.50
6,252.0	22.90	242.10	6,161.0	5,008.0	119.8	-357.4	-235.1	10.27	-3.87	-23.87
6,284.0	23.60	233.20	6,190.5	5,037.5	113.0	-368.1	-232.4	11.18	2.19	-27.81
6,316.0	23.90	226.30	6,219.8	5,066.8	104.7	-377.9	-228.0	8.73	0.94	-21.56
6,347.0	23.80	220.60	6,248.1	5,095.1	95.6	-386.5	-222.4	7.44	-0.32	-18.39
6,379.0	24.70	214.60	6,277.3	5,124.3	85.2	-394.5	-215.4	8.19	2.81	-18.75
6,411.0	26.00	207.00	6,306.2	5,153.2	73.4	-401.5	-206.7	10.94	4.06	-23.75
6,442.0	28.30	203.80	6,333.8	5,180.8	60.6	-407.5	-196.8	8.79	7.42	-10.32
6,474.0	30.20	199.50	6,361.7	5,208.7	46.1	-413.3	-185.1	8.85	5.94	-13.44
6,505.0	32.60	193.70	6,388.2	5,235.2	30.6	-417.9	-172.2	12.44	7.74	-18.71
6,537.0	34.90	191.50	6,414.8	5,261.8	13.3	-421.7	-157.2	8.14	7.19	-6.88

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6,569.0	37.10	188.60	6,440.7	5,287.7	-5.2	-425.0	-140.9	8.70	6.88	-9.06
6,600.0	39.50	185.50	6,465.0	5,312.0	-24.3	-427.3	-123.8	9.92	7.74	-10.00
6,632.0	41.90	182.30	6,489.3	5,336.3	-45.1	-428.7	-104.7	9.94	7.50	-10.00
6,663.0	45.10	178.80	6,511.8	5,358.8	-66.4	-428.9	-84.8	12.92	10.32	-11.29
6,695.0	47.20	176.10	6,533.9	5,380.9	-89.5	-427.9	-62.8	8.95	6.56	-8.44
6,727.0	50.20	174.30	6,555.0	5,402.0	-113.4	-425.9	-39.6	10.28	9.38	-5.63
6,759.0	52.80	171.80	6,575.0	5,422.0	-138.3	-422.8	-15.2	10.17	8.13	-7.81
6,790.0	56.00	169.90	6,593.0	5,440.0	-163.2	-418.8	9.6	11.46	10.32	-6.13
6,822.0	59.00	168.20	6,610.2	5,457.2	-189.6	-413.7	36.2	10.39	9.38	-5.31
6,853.0	62.70	168.30	6,625.3	5,472.3	-216.1	-408.2	63.0	11.94	11.94	0.32
6,885.0	65.90	166.20	6,639.2	5,486.2	-244.3	-401.8	91.6	11.62	10.00	-6.56
6,917.0	68.10	164.50	6,651.7	5,498.7	-272.8	-394.4	120.9	8.44	6.88	-5.31
6,948.0	71.30	163.10	6,662.4	5,509.4	-300.7	-386.2	149.9	11.16	10.32	-4.52
6,980.0	74.60	160.70	6,671.8	5,518.8	-329.7	-376.7	180.5	12.56	10.31	-7.50
7,012.0	77.20	158.70	6,679.6	5,526.6	-358.8	-366.0	211.5	10.14	8.13	-6.25
7,043.0	79.70	158.60	6,685.8	5,532.8	-387.1	-354.9	241.9	8.07	8.06	-0.32
7,075.0	81.70	159.20	6,691.0	5,538.0	-416.6	-343.5	273.4	6.52	6.25	1.88
7,107.0	84.20	157.80	6,694.9	5,541.9	-446.1	-331.9	305.2	8.94	7.81	-4.38
7,138.0	85.80	155.50	6,697.6	5,544.6	-474.5	-319.7	336.0	9.01	5.16	-7.42
7,170.0	86.90	153.00	6,699.7	5,546.7	-503.2	-305.8	367.8	8.52	3.44	-7.81
<b>LP= 7202' MD/6701' TVD</b>										
7,202.0	88.30	152.90	6,701.0	5,548.0	-531.7	-291.3	399.5	4.39	4.38	-0.31
7,297.0	89.10	153.70	6,703.2	5,550.2	-616.6	-248.6	493.9	1.19	0.84	0.84
7,392.0	89.70	155.20	6,704.1	5,551.1	-702.3	-207.6	588.4	1.70	0.63	1.58
7,487.0	89.50	153.60	6,704.8	5,551.8	-787.9	-166.6	683.0	1.70	-0.21	-1.68
7,582.0	89.50	154.30	6,705.6	5,552.6	-873.3	-124.8	777.4	0.74	0.00	0.74
7,676.0	87.90	154.50	6,707.8	5,554.8	-958.0	-84.2	871.0	1.72	-1.70	0.21
7,772.0	87.60	153.50	6,711.5	5,558.5	-1,044.2	-42.2	966.4	1.09	-0.31	-1.04
7,866.0	88.00	156.20	6,715.2	5,562.2	-1,129.3	-2.3	1,059.9	2.90	0.43	2.87
<b>Deepest Point of Well= 7961' MD/6718' TVD</b>										
7,961.0	88.50	156.60	6,718.1	5,565.1	-1,216.3	35.7	1,154.7	0.67	0.53	0.42
8,056.0	92.20	157.90	6,717.5	5,564.5	-1,303.9	72.5	1,249.6	4.13	3.89	1.37
8,151.0	93.50	155.70	6,712.7	5,559.7	-1,391.1	109.8	1,344.3	2.69	1.37	-2.32
8,246.0	93.10	154.40	6,707.3	5,554.3	-1,477.1	149.9	1,438.8	1.43	-0.42	-1.37
8,341.0	94.00	152.50	6,701.4	5,548.4	-1,561.9	192.2	1,533.0	2.21	0.95	-2.00
8,435.0	96.40	153.30	6,692.9	5,539.9	-1,645.2	234.9	1,625.9	2.69	2.55	0.85
8,530.0	97.40	154.90	6,681.5	5,528.5	-1,730.0	276.1	1,719.7	1.98	1.05	1.68
8,626.0	97.20	156.30	6,669.3	5,516.3	-1,816.8	315.4	1,814.7	1.46	-0.21	1.46
8,720.0	96.20	156.70	6,658.3	5,505.3	-1,902.4	352.6	1,907.9	1.14	-1.06	0.43
8,815.0	97.00	155.90	6,647.4	5,494.4	-1,988.8	390.6	2,002.1	1.19	0.84	-0.84
8,910.0	96.40	154.60	6,636.3	5,483.3	-2,074.5	430.1	2,096.1	1.50	-0.63	-1.37
9,005.0	96.90	153.60	6,625.3	5,472.3	-2,159.3	471.3	2,190.0	1.17	0.53	-1.05
9,100.0	94.30	153.70	6,616.0	5,463.0	-2,244.1	513.2	2,283.9	2.74	-2.74	0.11

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COMPASS 5000.1 - Build 73  
03/25/2016

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Site Doddridge County 514390
<b>Company:</b>	EQT Production - Marcellus	<b>TVD Reference:</b>	KB@23 @ 1153.0usft
<b>Project:</b>	Doddridge County, WV Grid	<b>MD Reference:</b>	KB@23 @ 1153.0usft
<b>Site:</b>	Doddridge County 514390	<b>North Reference:</b>	Grid
<b>Well:</b>	Well #514390	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Main Wellbore		
<b>Design:</b>	514390 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)	
9,195.0	92.00	154.20	6,610.8	5,457.8	-2,329.3	554.9	2,378.3	2.48	-2.42	0.53	
9,290.0	91.30	155.40	6,608.1	5,455.1	-2,415.2	595.3	2,472.8	1.46	-0.74	1.26	
9,385.0	91.50	155.20	6,605.7	5,452.7	-2,501.5	635.0	2,567.5	0.30	0.21	-0.21	
9,480.0	89.50	154.30	6,604.9	5,451.9	-2,587.4	675.5	2,662.1	2.31	-2.11	-0.95	
9,575.0	89.10	153.50	6,606.1	5,453.1	-2,672.7	717.3	2,756.6	0.94	-0.42	-0.84	
9,670.0	88.70	155.70	6,607.9	5,454.9	-2,758.5	758.1	2,851.1	2.35	-0.42	2.32	
9,765.0	88.40	155.90	6,610.3	5,457.3	-2,845.1	797.0	2,945.9	0.38	-0.32	0.21	
9,860.0	89.90	155.70	6,611.7	5,458.7	-2,931.8	835.9	3,040.6	1.59	1.58	-0.21	
9,955.0	89.30	154.90	6,612.4	5,459.4	-3,018.1	875.6	3,135.3	1.05	-0.63	-0.84	
10,049.0	89.10	154.40	6,613.7	5,460.7	-3,103.0	915.9	3,228.9	0.57	-0.21	-0.53	
10,144.0	91.10	155.70	6,613.5	5,460.5	-3,189.1	955.9	3,323.5	2.51	2.11	1.37	
10,239.0	91.30	154.60	6,611.5	5,458.5	-3,275.3	995.8	3,418.2	1.18	0.21	-1.16	
10,334.0	91.10	153.70	6,609.5	5,456.5	-3,360.8	1,037.3	3,512.7	0.97	-0.21	-0.95	
10,429.0	90.70	153.70	6,608.1	5,455.1	-3,445.9	1,079.3	3,607.1	0.42	-0.42	0.00	
10,524.0	92.40	158.60	6,605.5	5,452.5	-3,532.8	1,117.7	3,701.8	5.46	1.79	5.16	
10,619.0	90.10	158.50	6,603.4	5,450.4	-3,621.2	1,152.5	3,796.8	2.42	-2.42	-0.11	
10,714.0	89.50	158.30	6,603.7	5,450.7	-3,709.5	1,187.4	3,891.7	0.67	-0.63	-0.21	
10,809.0	89.00	156.90	6,605.0	5,452.0	-3,797.3	1,223.6	3,986.6	1.56	-0.53	-1.47	
10,904.0	88.60	156.40	6,607.0	5,454.0	-3,884.5	1,261.3	4,081.5	0.67	-0.42	-0.53	
10,999.0	88.00	156.20	6,609.8	5,456.8	-3,971.5	1,299.4	4,176.2	0.67	-0.63	-0.21	
11,094.0	91.00	154.70	6,610.6	5,457.6	-4,057.9	1,338.9	4,270.9	3.53	3.16	-1.58	
11,189.0	90.60	153.10	6,609.3	5,456.3	-4,143.2	1,380.7	4,365.4	1.74	-0.42	-1.68	
11,284.0	90.70	153.00	6,608.2	5,455.2	-4,227.8	1,423.7	4,459.7	0.15	0.11	-0.11	
11,379.0	90.20	153.20	6,607.5	5,454.5	-4,312.6	1,466.7	4,554.0	0.57	-0.53	0.21	
11,474.0	91.20	154.60	6,606.3	5,453.3	-4,397.9	1,508.5	4,648.5	1.81	1.05	1.47	
11,569.0	91.20	153.30	6,604.3	5,451.3	-4,483.2	1,550.2	4,742.9	1.37	0.00	-1.37	
11,663.0	90.90	154.20	6,602.6	5,449.6	-4,567.5	1,591.8	4,836.4	1.01	-0.32	0.96	
11,758.0	89.30	150.50	6,602.4	5,449.4	-4,651.6	1,635.9	4,930.5	4.24	-1.68	-3.89	
11,853.0	90.90	149.30	6,602.3	5,449.3	-4,733.8	1,683.5	5,024.1	2.11	1.68	-1.26	
11,949.0	90.90	153.00	6,600.8	5,447.8	-4,817.9	1,729.8	5,118.9	3.85	0.00	3.85	
12,044.0	91.90	155.80	6,598.4	5,445.4	-4,903.5	1,770.9	5,213.4	3.13	1.05	2.95	
12,139.0	91.30	154.50	6,595.8	5,442.8	-4,989.7	1,810.8	5,308.1	1.51	-0.63	-1.37	
12,235.0	91.80	157.40	6,593.2	5,440.2	-5,077.3	1,849.9	5,403.8	3.06	0.52	3.02	
12,330.0	88.90	158.10	6,592.6	5,439.6	-5,165.2	1,885.8	5,498.7	3.14	-3.05	0.74	
12,424.0	88.20	157.40	6,595.0	5,442.0	-5,252.2	1,921.4	5,592.6	1.05	-0.74	-0.74	
Final Survey= 12431' MD/6595' TVD											
12,431.0	87.80	157.50	6,595.2	5,442.2	-5,258.6	1,924.1	5,599.6	5.89	-5.71	1.43	
Projection to TD= 12484' MD/6597' TVD											
12,484.0	87.80	157.50	6,597.3	5,444.3	-5,307.6	1,944.4	5,652.5	0.00	0.00	0.00	

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<b>Company:</b>	EQT Production - Marcellus	<b>TVD Reference:</b>	KB@23 @ 1153.0usft
<b>Project:</b>	Doddridge County, WV Grid	<b>MD Reference:</b>	KB@23 @ 1153.0usft
<b>Site:</b>	Doddridge County 514390	<b>North Reference:</b>	Grid
<b>Well:</b>	Well #514390	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Main Wellbore		
<b>Design:</b>	514390 As Drilled Surveys		

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,272.0	5,270.7	-9.1	-40.3	Gyro Tie In=5272' MD
7,202.0	6,701.0	-531.7	-291.3	LP= 7202' MD/6701' TVD
7,961.0	6,718.1	-1,216.3	35.7	Deepest Point of Well= 7961' MD/6718' TVD
12,431.0	6,595.2	-5,258.6	1,924.1	Final Survey= 12431' MD/6595' TVD
12,484.0	6,597.3	-5,307.6	1,944.4	Projection to TD= 12484' MD/6597' TVD

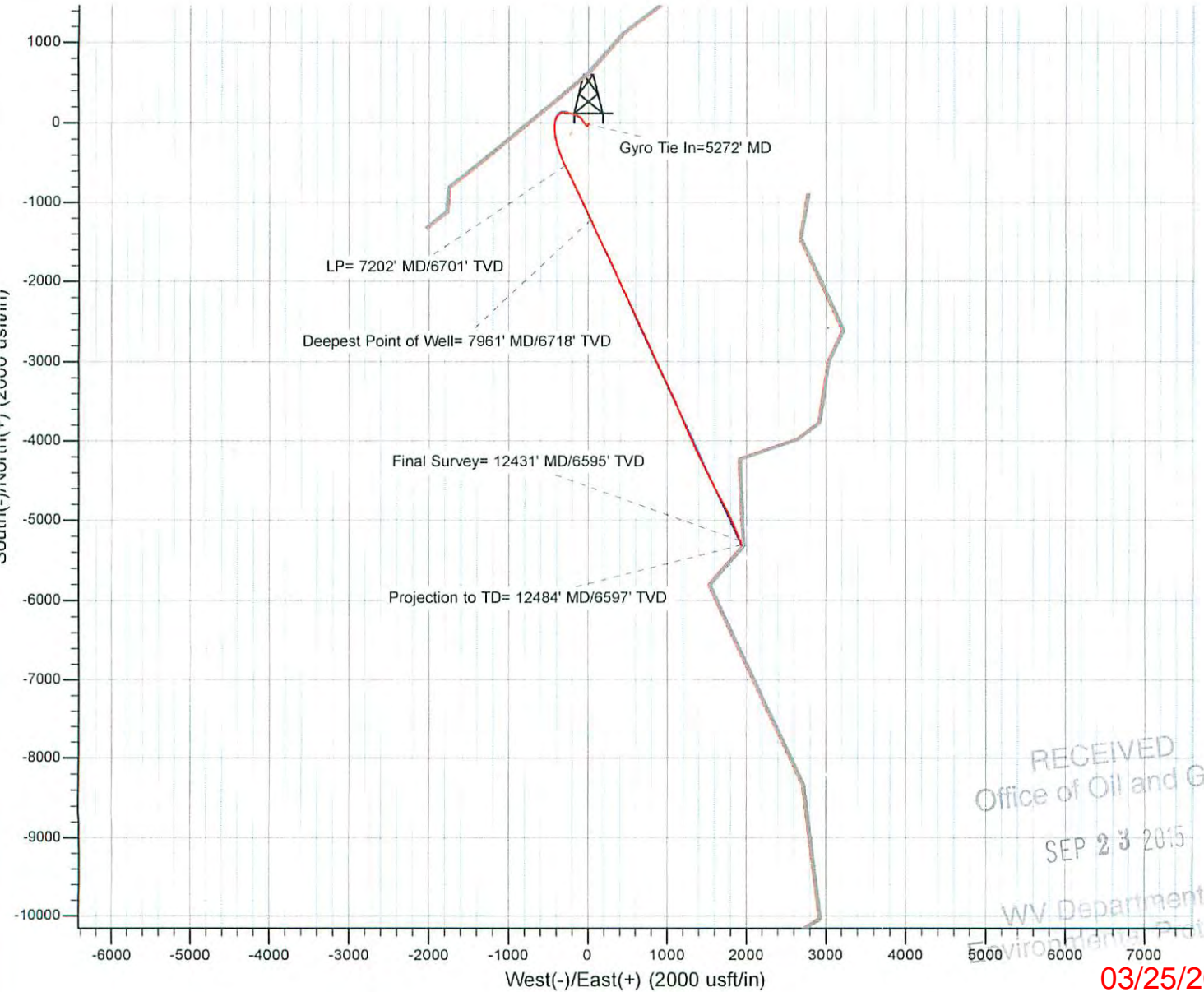
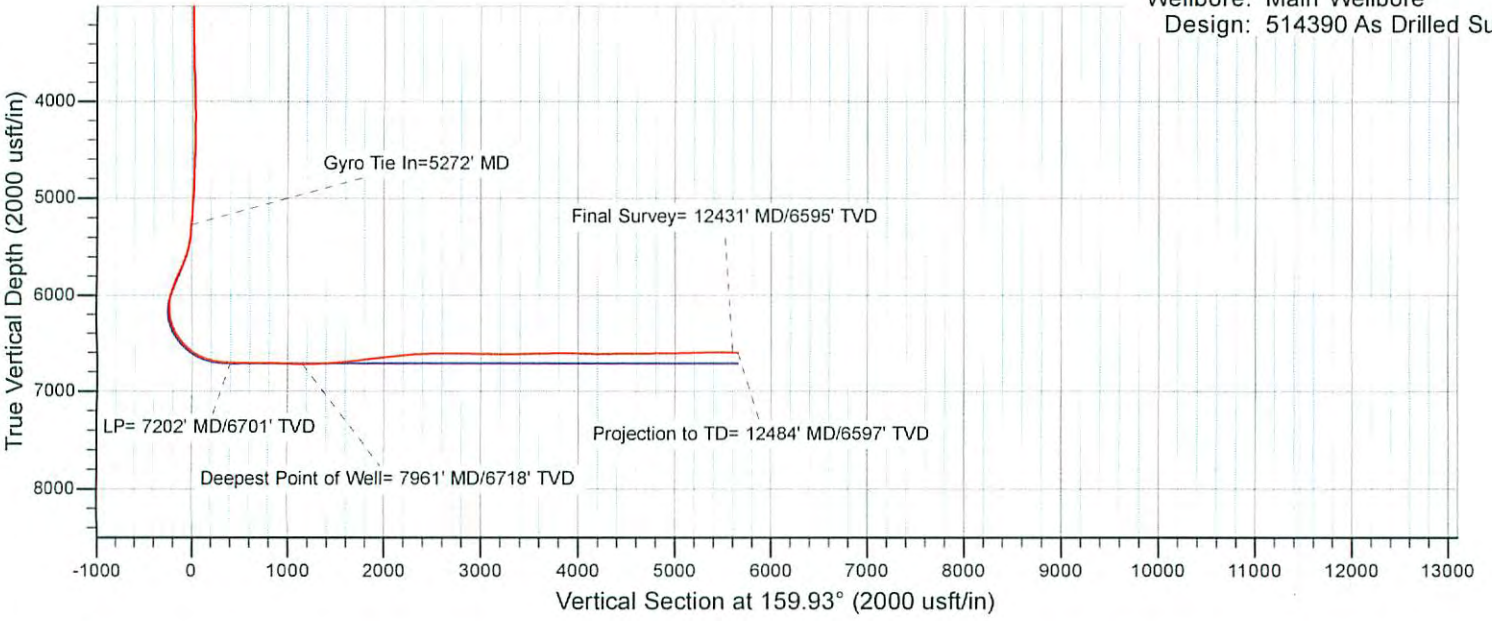
Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

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Project: Doddridge County, WV Grid  
 Site: Doddridge County 514390  
 Well: Well #514390  
 Wellbore: Main Wellbore  
 Design: 514390 As Drilled Surveys



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