



EQT Production - Marcellus

Doddridge County, WV Grid
Doddridge County 513141
Well #513141

Main Wellbore

Survey: 513141 PHX MWD

Standard Survey Report

05 August, 2014



Where energy meets innovation.

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		Using geodetic scale factor

Site			
Site Position:		Northing:	267,906.30 usft
From:	Map	Easting:	1,635,246.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13.3/16"
		Latitude:	39.23
		Longitude:	-80.79
		Grid Convergence:	-0.82"

Well			
Well Position	+N/-S	0.0 usft	Northing: 267,906.30 usft
	+E/-W	0.0 usft	Easting: 1,635,246.00 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Ground Level:	1,202.0 usft
		Latitude:	39° 13' 42.183 N
		Longitude:	80° 47' 15.419 W

Wellbore					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	7/28/2014	-8.46	66.75	52,249

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	346.39	

Survey Program		Date:	8/5/2014
From (')	To (usft)	Survey (Wellbore)	Tool Name
0.00	5,373.0	513141 Gyrodata Gyros (Main Wellbore)	GYD_DP_MS
0.00	15,694.0	513141 PHX MWD (Main Wellbore)	MWD+IGRF
			Description
			Gyrodata gyro-compassing and drop
			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)
5,373.0	0.66	273.20	5,372.8	4,154.8	-27.9	9.7	-29.3	0.00	0.00	0.00
5,440.0	0.80	303.20	5,439.8	4,221.8	-27.6	8.9	-28.9	0.60	0.21	44.78
5,471.0	0.90	349.20	5,470.8	4,252.8	-27.2	8.7	-28.5	2.16	0.32	148.39
5,502.0	2.50	49.90	5,501.8	4,283.8	-26.5	9.1	-27.8	7.11	5.16	195.81
5,534.0	4.90	61.60	5,533.7	4,315.7	-25.4	10.9	-27.3	7.82	7.50	36.56
5,565.0	7.70	63.60	5,564.5	4,346.5	-23.9	13.9	-26.5	9.06	9.03	6.45
5,597.0	10.40	63.10	5,596.1	4,378.1	-21.6	18.4	-25.3	8.44	8.44	-1.56

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Site:		North Reference:	
Well:		Survey Calculation Method:	
Wellbore:			
Design:			

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)
5,628.0	12.40	65.90	5,626.5	4,408.5	-19.0	23.9	-24.1	6.69	6.45	9.03
5,660.0	13.80	71.50	5,657.7	4,439.7	-16.4	30.7	-23.2	5.90	4.38	17.50
5,691.0	15.00	77.00	5,687.7	4,469.7	-14.3	38.1	-22.9	5.87	3.87	17.74
5,723.0	16.70	81.20	5,718.5	4,500.5	-12.7	46.7	-23.3	6.41	5.31	13.13
5,755.0	18.40	82.70	5,749.0	4,531.0	-11.3	56.2	-24.3	5.50	5.31	4.69
5,786.0	20.90	81.90	5,779.2	4,560.2	-9.9	66.6	-25.3	8.11	8.06	-2.58
5,818.0	24.00	81.70	5,807.8	4,589.8	-8.2	78.7	-26.5	9.69	9.69	-0.63
5,850.0	27.20	82.30	5,836.6	4,618.6	-6.3	92.3	-27.8	10.03	10.00	1.88
5,881.0	30.50	81.70	5,863.8	4,645.8	-4.2	107.2	-29.3	10.69	10.65	-1.94
5,913.0	32.90	81.20	5,891.0	4,673.0	-1.7	123.8	-30.8	7.54	7.50	-1.58
5,945.0	35.20	80.80	5,917.5	4,699.5	1.1	141.5	-32.2	7.22	7.19	-1.25
5,976.0	37.60	80.60	5,942.4	4,724.4	4.1	159.6	-33.6	7.75	7.74	-0.65
6,008.0	40.10	80.10	5,967.4	4,749.4	7.5	179.4	-35.0	7.87	7.81	-1.56
6,039.0	42.80	78.80	5,990.6	4,772.6	11.2	199.6	-36.1	9.14	8.71	-4.19
6,071.0	45.60	78.10	6,013.5	4,795.5	15.7	221.4	-36.9	8.88	8.75	-2.19
6,103.0	48.10	78.10	6,035.4	4,817.4	20.5	244.3	-37.6	7.81	7.81	0.00
6,134.0	50.50	78.30	6,056.6	4,837.6	25.3	267.3	-38.3	7.76	7.74	0.65
6,165.0	52.40	79.40	6,075.0	4,857.0	30.0	291.1	-39.4	8.73	5.13	3.55
6,196.0	54.50	79.50	6,093.4	4,875.4	34.6	315.6	-40.7	6.78	6.77	0.32
6,228.0	56.80	79.60	6,111.5	4,893.5	39.4	341.5	-42.1	7.19	7.19	0.31
6,260.0	59.30	79.60	6,128.4	4,910.4	44.3	368.2	-43.7	7.81	7.81	0.00
6,291.0	61.70	79.50	6,143.7	4,925.7	49.1	394.6	-45.2	7.75	7.74	-0.32
6,322.0	64.00	78.80	6,157.8	4,939.8	54.3	421.9	-46.5	7.69	7.42	-2.26
6,354.0	66.00	78.20	6,171.3	4,953.3	60.1	450.3	-47.6	6.48	6.25	-1.88
6,386.0	68.70	78.10	6,183.7	4,965.7	66.2	479.2	-46.5	8.44	6.44	-0.31
6,449.0	72.30	77.30	6,204.7	4,986.7	78.8	537.2	-49.8	5.64	5.71	-1.27
6,512.0	73.80	77.40	6,223.0	5,005.0	92.0	596.0	-50.8	2.39	2.38	0.16
6,575.0	74.50	77.80	6,240.3	5,022.3	105.1	655.2	-52.1	1.27	1.11	0.63
6,607.0	74.80	78.00	6,248.7	5,030.7	111.5	685.4	-52.9	1.11	0.94	0.63
6,639.0	73.80	75.90	6,257.4	5,039.4	118.5	715.4	-53.2	7.05	-3.13	-6.56
6,702.0	71.30	76.40	6,276.3	5,058.3	132.9	773.7	-53.0	4.04	-3.97	0.79
6,764.0	70.30	77.90	6,296.7	5,078.7	145.9	830.8	-53.8	2.80	-1.61	2.42
6,796.0	70.00	78.30	6,307.5	5,089.5	152.1	860.2	-54.7	1.50	-0.94	1.25
6,827.0	69.00	78.80	6,318.4	5,100.4	157.9	888.7	-55.8	3.56	-3.23	1.61
6,859.0	69.10	77.10	6,329.8	5,111.8	164.1	917.9	-56.6	4.97	0.31	-5.31
6,890.0	69.50	73.10	6,340.8	5,122.8	171.6	945.9	-55.9	12.14	1.29	-12.90
6,922.0	69.30	69.10	6,352.1	5,134.1	181.3	974.3	-53.2	11.72	-0.63	-12.50
6,953.0	69.10	65.60	6,363.1	5,145.1	192.4	1,001.0	-48.6	10.57	-0.65	-11.29
6,985.0	69.60	81.50	6,374.4	5,156.4	205.7	1,027.8	-42.0	12.09	1.56	-12.81
7,017.0	70.70	57.80	6,385.2	5,167.2	221.0	1,053.8	-33.3	11.41	3.44	-11.56
7,048.0	71.03	53.90	6,395.4	5,177.4	237.4	1,078.0	-23.0	11.93	1.05	-12.58
7,080.0	71.60	50.50	6,405.6	5,187.6	256.0	1,102.0	-10.6	10.22	1.78	-10.63
7,111.0	71.40	47.00	6,415.5	5,197.5	275.3	1,124.1	3.0	10.73	-0.65	-11.29

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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)
7,143.0	70.40	44.70	6,426.0	5,208.0	296.4	1,145.8	18.4	7.48	-3.13	-7.19
7,174.0	70.00	42.50	6,436.5	5,218.5	317.5	1,165.9	34.2	6.80	-1.29	-7.10
7,205.0	69.50	40.30	6,447.5	5,229.5	340.0	1,185.7	51.4	6.84	-1.55	-6.88
7,237.0	69.20	36.80	6,458.5	5,240.5	352.7	1,203.8	69.2	10.61	-0.97	-11.29
7,269.0	68.20	34.10	6,470.1	5,252.1	387.0	1,221.1	88.7	8.46	-3.13	-8.44
7,301.0	67.30	31.60	6,482.2	5,264.2	411.9	1,237.2	109.1	7.76	-2.81	-7.61
7,332.0	66.50	30.40	6,494.4	5,276.4	436.3	1,251.8	129.4	4.40	-2.58	-3.67
7,364.0	67.00	28.40	6,507.0	5,289.0	461.9	1,265.3	150.9	5.95	1.56	-8.25
7,395.0	68.80	26.00	6,518.7	5,300.7	487.5	1,279.4	172.6	9.23	5.81	-7.74
7,427.0	70.70	24.00	6,529.8	5,311.8	514.7	1,292.1	196.1	8.34	5.94	-8.25
7,458.0	72.20	21.10	6,539.6	5,321.6	541.8	1,303.3	219.8	10.10	4.84	-9.35
7,490.0	73.80	18.10	6,549.0	5,331.0	570.7	1,313.8	245.4	10.26	5.00	-9.38
7,521.0	75.30	15.50	6,557.2	5,339.2	599.3	1,322.2	271.2	9.42	4.84	-8.39
7,552.0	76.40	13.00	6,564.8	5,346.8	628.4	1,329.8	297.8	8.59	3.55	-8.06
7,584.0	77.40	10.30	6,572.1	5,354.1	658.9	1,335.9	325.9	8.79	3.13	-8.44
7,616.0	77.80	7.70	6,578.9	5,360.9	689.8	1,340.8	354.8	8.03	1.25	-8.13
7,647.0	77.40	5.70	6,585.6	5,367.6	719.8	1,344.3	383.2	6.43	-1.29	-6.45
7,679.0	78.00	4.20	6,592.4	5,374.4	751.0	1,347.0	412.8	4.95	1.88	-4.69
7,710.0	78.30	2.40	6,598.8	5,380.8	781.3	1,348.8	441.8	5.76	0.97	-5.81
7,742.0	78.60	359.30	6,605.2	5,387.2	812.6	1,349.3	472.2	9.54	0.94	-9.69
7,774.0	79.60	356.60	6,611.2	5,393.2	844.0	1,348.1	503.0	8.85	3.13	-8.44
7,805.0	81.00	354.10	6,616.5	5,398.5	874.5	1,345.7	533.2	9.14	4.52	-8.06
7,836.0	82.00	351.40	6,621.0	5,403.0	904.9	1,341.8	563.6	9.20	3.23	-8.71
7,868.0	82.50	348.40	6,625.4	5,407.4	936.1	1,336.2	595.3	9.42	1.56	-9.38
7,900.0	83.50	345.00	6,629.3	5,411.3	967.0	1,328.9	627.0	11.00	3.13	-10.63
7,932.0	83.70	341.60	6,632.8	5,414.8	997.5	1,319.8	658.8	10.58	0.63	-10.63
7,963.0	84.00	338.40	6,636.2	5,418.2	1,028.4	1,309.2	689.4	10.31	0.97	-10.32
8,026.0	86.50	334.60	6,641.4	5,423.4	1,084.0	1,284.2	751.2	7.33	3.57	-8.19
8,090.0	87.20	333.60	6,644.9	5,428.9	1,141.4	1,256.2	813.7	1.78	1.09	-1.41
8,152.0	88.80	334.10	6,647.1	5,429.1	1,197.0	1,228.9	874.1	2.70	2.58	0.81
8,215.0	90.90	334.30	6,647.2	5,429.2	1,253.7	1,201.5	935.7	3.35	3.33	0.32
8,278.0	92.60	334.00	6,645.3	5,427.3	1,310.4	1,174.0	997.3	2.74	2.70	-0.48
8,342.0	93.40	333.60	6,641.9	5,423.9	1,367.8	1,145.8	1,059.6	1.40	1.25	-0.63
8,405.0	92.30	334.10	6,638.8	5,420.8	1,424.2	1,118.1	1,121.1	1.92	-1.75	0.79
8,468.0	90.20	335.20	6,637.4	5,419.4	1,481.2	1,091.1	1,182.7	3.76	-3.33	1.75
8,531.0	88.10	334.70	6,638.4	5,420.4	1,538.2	1,064.4	1,244.5	3.43	-3.33	-0.79
8,594.0	89.30	337.20	6,639.8	5,421.8	1,595.7	1,038.8	1,306.4	4.40	1.90	3.97
8,658.0	87.30	334.20	6,641.7	5,423.7	1,654.0	1,012.4	1,369.2	5.63	-3.13	-4.69
8,721.0	87.50	334.20	6,644.6	5,426.6	1,710.7	985.1	1,430.8	0.32	0.32	0.00
8,784.0	89.40	334.40	6,646.3	5,428.3	1,767.4	957.7	1,482.3	3.03	3.02	0.32
8,847.0	91.50	334.10	6,645.8	5,427.8	1,824.2	930.4	1,553.9	3.37	3.33	-0.48

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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)
8,910.0	92.50	334.10	6,843.6	5,425.6	1,880.8	902.9	1,615.4	1.59	1.59	0.00
8,974.0	92.30	334.60	6,640.9	5,422.9	1,936.5	875.2	1,676.0	0.84	-0.31	0.78
9,037.0	92.00	334.40	6,638.5	5,420.5	1,995.3	846.1	1,739.6	0.57	-0.48	-0.32
9,100.0	90.30	335.40	6,637.3	5,419.3	2,052.3	821.4	1,891.3	3.13	-2.70	1.59
9,162.0	89.00	334.80	6,637.6	5,419.6	2,108.5	795.3	1,862.1	2.31	-2.10	-0.97
9,226.0	89.20	335.00	6,636.6	5,420.6	2,166.5	768.1	1,924.8	0.44	0.31	0.31
9,289.0	89.30	335.00	6,639.5	5,421.5	2,223.6	741.5	1,986.6	0.16	0.16	0.00
9,352.0	89.50	334.90	6,640.1	5,422.1	2,280.7	714.8	2,048.3	0.35	0.32	-0.16
9,415.0	89.90	335.40	6,640.5	5,422.5	2,337.8	688.4	2,110.1	1.02	0.63	0.79
9,479.0	90.10	335.60	6,640.5	5,422.5	2,396.1	661.8	2,173.0	0.44	0.31	0.31
9,542.0	88.60	335.70	6,641.2	5,423.2	2,453.5	635.8	2,234.9	2.39	-2.38	0.16
9,605.0	88.90	335.80	6,642.5	5,424.5	2,510.9	610.0	2,296.8	0.50	0.48	0.16
9,668.0	89.40	336.20	6,643.5	5,425.5	2,568.4	584.4	2,358.7	1.02	0.79	0.63
9,730.0	89.80	335.90	6,643.9	5,425.9	2,625.1	559.2	2,419.7	0.81	0.65	-0.48
9,793.0	90.00	335.60	6,644.0	5,426.0	2,682.5	533.3	2,481.6	0.57	0.32	-0.48
9,856.0	89.80	334.90	6,644.1	5,426.1	2,739.7	506.9	2,543.4	1.16	-0.32	-1.11
9,919.0	90.00	334.50	6,644.2	5,426.2	2,796.7	480.0	2,605.1	0.71	0.32	-0.63
9,982.0	89.50	335.10	6,644.5	5,426.5	2,853.7	453.2	2,666.8	1.24	-0.79	0.95
10,045.0	89.50	335.90	6,645.1	5,427.1	2,911.0	427.1	2,728.7	1.27	0.00	1.27
10,108.0	89.60	336.40	6,645.6	5,427.6	2,968.6	401.6	2,790.7	0.81	0.16	0.79
10,171.0	89.10	337.10	6,646.3	5,428.3	3,026.5	376.7	2,852.8	1.37	-0.79	1.11
10,234.0	88.00	337.80	6,647.9	5,429.9	3,084.7	352.6	2,915.0	2.07	-1.75	1.11
10,297.0	88.00	337.50	6,650.1	5,432.1	3,142.9	328.6	2,977.3	0.48	0.00	-0.48
10,360.0	87.40	338.60	6,652.6	5,434.6	3,200.9	304.2	3,039.4	1.46	-0.95	-1.11
10,423.0	87.40	338.50	6,655.5	5,437.5	3,258.7	279.2	3,101.4	0.48	0.00	-0.48
10,486.0	87.70	338.60	6,659.2	5,440.2	3,316.5	254.2	3,163.4	0.50	0.48	0.16
10,549.0	87.70	336.50	6,660.7	5,442.7	3,374.2	229.1	3,225.5	0.16	0.00	-0.16
10,612.0	87.60	335.80	6,663.3	5,445.3	3,431.8	203.7	3,287.4	1.12	-0.16	-1.11
10,675.0	89.50	335.80	6,664.9	5,446.9	3,489.2	177.9	3,349.3	3.02	3.02	0.00
10,738.0	89.20	335.80	6,666.1	5,448.1	3,546.7	152.1	3,411.2	2.06	-2.06	0.00
10,801.0	89.60	335.60	6,667.9	5,449.9	3,604.1	126.1	3,473.1	0.71	0.63	-0.32
10,864.0	88.90	335.80	6,669.3	5,451.3	3,661.5	100.2	3,535.0	0.57	0.48	0.32
10,927.0	89.20	335.70	6,670.3	5,452.3	3,718.9	74.3	3,596.9	0.50	0.48	-0.16
10,990.0	87.50	335.40	6,672.1	5,454.1	3,776.2	48.3	3,658.6	2.74	-2.70	-0.48
11,052.0	88.90	335.00	6,675.1	5,457.1	3,832.4	22.3	3,719.5	1.16	-0.97	-0.65
11,115.0	87.20	335.00	6,678.4	5,460.4	3,889.5	-4.3	3,781.2	0.48	0.48	0.00
11,178.0	87.90	336.90	6,681.1	5,463.1	3,946.9	-29.9	3,843.1	3.21	1.11	3.02
11,241.0	87.50	336.90	6,683.6	5,465.6	4,004.8	-54.6	3,905.2	0.63	-0.63	0.00
11,304.0	88.90	335.20	6,686.7	5,468.7	4,062.3	-80.2	3,967.1	2.86	-0.95	-2.70
11,366.0	86.80	334.60	6,690.1	5,472.1	4,118.4	-106.4	4,027.7	0.98	-0.16	-0.97
11,430.0	86.90	334.30	6,693.6	5,475.6	4,176.1	-134.0	4,090.3	0.49	0.16	-0.47
11,492.0	87.60	334.80	6,696.6	5,478.6	4,232.0	-160.6	4,150.9	1.39	1.13	0.61
11,555.0	87.60	334.70	6,699.3	5,481.3	4,289.8	-187.9	4,213.5	0.16	0.00	-0.16

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)
11,618.0	88.90	335.30	6,702.2	5,484.2	4,345.9	-214.1	4,274.2	1.49	-1.13	0.97
11,681.0	86.10	335.00	6,706.1	5,488.1	4,403.0	-240.5	4,335.9	1.36	-1.27	-0.48
11,744.0	86.10	334.70	6,710.4	5,492.4	4,459.9	-267.2	4,397.5	0.48	0.00	-0.48
11,807.0	86.30	334.80	6,714.5	5,496.5	4,516.7	-294.0	4,459.0	0.35	0.32	0.16
11,870.0	85.80	334.00	6,718.9	5,500.9	4,573.4	-321.2	4,520.5	1.49	-0.79	-1.27
11,933.0	85.80	334.40	6,723.5	5,505.5	4,630.0	-348.5	4,581.9	0.63	0.00	0.63
11,996.0	86.20	334.50	6,727.9	5,509.9	4,686.7	-375.8	4,643.4	0.65	0.63	0.16
12,059.0	86.10	333.60	6,732.1	5,514.1	4,743.2	-403.1	4,704.8	1.43	-0.16	-1.43
12,122.0	86.10	333.60	6,736.4	5,518.4	4,799.5	-431.1	4,766.1	0.30	0.00	0.00
12,185.0	86.40	334.00	6,740.5	5,522.5	4,855.9	-458.8	4,827.5	0.79	0.48	0.63
12,248.0	88.70	333.60	6,743.2	5,525.2	4,912.4	-486.6	4,888.9	3.71	3.65	-0.63
12,312.0	91.40	334.30	6,743.2	5,525.2	4,969.9	-514.7	4,951.4	4.36	4.22	1.09
12,375.0	92.20	334.60	6,741.2	5,523.2	5,026.7	-541.9	5,013.0	1.36	1.27	0.48
12,437.0	92.50	334.50	6,738.6	5,520.6	5,082.6	-568.5	5,073.6	0.51	0.48	-0.16
12,500.0	88.80	330.80	6,737.9	5,519.9	5,138.6	-597.4	5,134.8	8.19	-5.87	-5.71
12,564.0	88.40	329.90	6,739.5	5,521.5	5,194.2	-629.0	5,196.3	1.68	-0.63	-1.56
12,627.0	89.00	330.10	6,740.9	5,522.9	5,248.8	-660.5	5,256.8	1.00	0.95	0.32
12,690.0	89.50	330.70	6,741.7	5,523.7	5,303.5	-691.6	5,317.3	1.24	0.79	0.95
12,753.0	89.50	330.00	6,742.3	5,524.3	5,358.3	-722.7	5,377.9	1.11	0.00	-1.11
12,816.0	89.40	329.60	6,742.9	5,524.9	5,412.7	-754.4	5,438.2	0.65	-0.16	-0.83
12,879.0	90.00	329.50	6,743.2	5,525.2	5,467.0	-786.4	5,498.5	0.97	0.95	-0.16
12,943.0	90.80	329.70	6,742.8	5,524.8	5,522.2	-818.7	5,559.8	1.29	1.25	0.31
13,006.0	91.30	330.20	6,741.6	5,523.6	5,576.8	-850.3	5,620.2	1.12	0.79	0.79
13,069.0	92.40	331.90	6,739.6	5,521.6	5,631.9	-880.8	5,680.9	3.21	1.75	2.70
13,132.0	92.70	333.10	6,736.8	5,518.8	5,687.7	-909.6	5,742.0	1.96	0.48	1.90
13,195.0	93.00	334.70	6,733.7	5,515.7	5,744.2	-937.5	5,803.5	2.59	0.48	2.54
13,259.0	91.50	337.70	6,731.1	5,513.1	5,802.7	-963.3	5,866.4	5.24	-2.34	4.89
13,322.0	89.80	339.00	6,730.4	5,512.4	5,861.2	-986.6	5,928.8	3.40	-2.70	2.06
13,385.0	89.80	339.90	6,730.7	5,512.7	5,920.2	-1,008.7	5,991.3	1.43	0.00	1.43
13,448.0	89.90	340.10	6,730.8	5,512.8	5,979.4	-1,030.2	6,053.9	0.35	0.16	0.32
13,512.0	89.90	339.50	6,730.9	5,512.9	6,039.5	-1,052.3	6,117.5	0.94	0.00	-0.94
13,575.0	90.50	339.40	6,730.7	5,512.7	6,098.5	-1,074.4	6,180.0	0.97	0.95	-0.16
13,638.0	91.20	339.40	6,729.8	5,511.8	6,157.5	-1,096.6	6,242.6	1.11	1.11	0.00
13,701.0	89.50	339.00	6,729.4	5,511.4	6,216.3	-1,119.0	6,305.1	2.77	-2.70	-0.63
13,764.0	89.10	339.10	6,730.2	5,512.2	6,275.2	-1,141.5	6,367.5	0.65	-0.63	0.16
13,827.0	89.50	339.40	6,730.9	5,512.9	6,334.1	-1,163.8	6,430.1	0.79	0.63	0.48
13,890.0	89.90	339.40	6,731.3	5,513.3	6,393.1	-1,186.0	6,492.6	0.63	0.63	0.00
13,954.0	90.20	337.80	6,731.2	5,513.2	6,452.6	-1,209.3	6,556.0	2.54	0.47	-2.50
14,017.0	90.20	335.50	6,731.0	5,513.0	6,510.5	-1,234.3	6,618.1	3.65	0.00	-3.65
14,079.0	92.10	335.80	6,728.7	5,511.7	6,568.9	-1,259.9	6,679.0	3.07	3.06	0.16
14,143.0	92.40	335.70	6,727.2	5,509.2	6,625.2	-1,286.3	6,741.6	0.49	0.47	0.16
14,205.0	93.20	336.10	6,724.2	5,506.2	6,681.7	-1,311.6	6,802.7	1.44	1.29	0.65

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

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)
14,268.0	92.40	335.00	6,721.1	5,503.1	6,739.0	-1,337.6	6,864.5	2.16	-1.27	-1.75
14,331.0	92.80	334.80	6,718.3	5,500.3	6,796.0	-1,364.3	6,926.2	0.71	0.63	-0.32
14,394.0	91.80	337.20	6,715.7	5,497.7	6,853.5	-1,389.9	6,988.1	4.12	-1.59	3.81
14,457.0	92.50	338.30	6,713.4	5,495.4	6,911.3	-1,414.8	7,050.1	1.81	1.11	-1.43
14,521.0	90.50	336.60	6,711.7	5,493.7	6,970.0	-1,440.4	7,113.2	3.16	-3.13	0.47
14,584.0	89.80	337.10	6,711.5	5,493.5	7,027.9	-1,465.1	7,175.3	1.37	-1.11	0.79
14,647.0	89.80	337.10	6,711.7	5,493.7	7,085.9	-1,489.6	7,237.5	0.00	0.00	0.00
14,710.0	90.00	337.50	6,711.9	5,493.9	7,144.0	-1,513.9	7,299.7	0.71	0.32	0.63
14,774.0	90.20	337.40	6,711.7	5,493.7	7,203.1	-1,538.5	7,362.9	0.35	0.31	-0.16
14,837.0	90.40	335.70	6,711.4	5,493.4	7,260.9	-1,563.6	7,425.0	2.72	0.32	-2.70
14,899.0	90.70	335.00	6,710.8	5,492.8	7,317.3	-1,589.4	7,485.8	1.23	0.48	-1.13
14,962.0	90.80	334.30	6,710.0	5,492.0	7,374.2	-1,615.4	7,547.5	1.12	0.16	-1.11
15,025.0	92.40	335.80	6,708.2	5,490.2	7,431.3	-1,643.0	7,609.2	3.48	2.54	2.36
15,088.0	92.40	335.70	6,705.6	5,487.6	7,488.7	-1,668.8	7,671.1	0.16	0.00	-0.16
15,150.0	92.80	336.10	6,702.8	5,484.8	7,545.2	-1,694.1	7,732.0	0.91	0.85	0.65
15,213.0	91.70	334.90	6,700.3	5,482.3	7,602.5	-1,720.2	7,793.8	2.58	-1.75	-1.90
15,276.0	92.10	333.60	6,698.2	5,480.2	7,659.2	-1,747.6	7,855.4	2.15	0.63	-2.05
15,338.0	92.20	333.60	6,695.9	5,477.9	7,714.7	-1,775.1	7,915.8	0.16	0.16	0.00
15,401.0	92.20	333.60	6,693.5	5,475.5	7,771.1	-1,803.1	7,977.2	0.00	0.00	0.00
15,464.0	93.00	333.00	6,690.6	5,472.6	7,827.5	-1,831.1	8,038.6	1.27	1.27	0.00
15,527.0	92.00	333.40	6,687.9	5,469.9	7,883.8	-1,859.2	8,099.9	1.62	-1.59	-0.32
15,590.0	91.50	333.60	6,685.0	5,468.0	7,940.2	-1,887.3	8,161.3	0.85	-0.78	0.32
15,641.0	92.30	333.70	6,684.3	5,466.3	7,985.8	-1,909.9	8,211.0	1.58	1.57	0.20
15,694.0	92.30	333.70	6,682.1	5,464.1	8,033.3	-1,933.3	8,262.7	0.00	0.00	0.00

Measured Depth (')	Vertical Depth (')	Local Coordinates		Comment
		+N/-S (')	+E/-W (')	
5,373.0	5,372.8	-27.9	9.7	Gyro Tie In=5373' MD
8,152.0	6,647.1	1,197.0	1,228.9	LP=8152' MD/ 6647' TVD
15,641.0	6,684.3	7,985.8	-1,909.9	Last Survey=15641' MD/ 6684' TVD
15,694.0	6,682.1	8,033.3	-1,933.3	Projection to TD=15694' MD/ 6682' TVD

Checked By: _____ Approved By: _____ Date: _____

Project: Doddridge County, WV Grid
Site: Doddridge County 513141
Well: Well #513141
Wellbore: Main Wellbore
Design: As Drilled Surveys

