



# **EQT Production - Marcellus**

**Doddridge County, WV Grid**

**Doddridge County 512475**

**Well #512475**

**Well #512475**

**Survey: Survey #1**

## **Standard Survey Report**

**26 July, 2010**

**RECEIVED**  
**Office of Oil & Gas**

**MAR 09 2011**

**WV Department of  
Environmental Protection**



# Nevis Energy Services

## Survey Report

Database: 512475	Local Co-ordinate Reference: Survey #1 (512475 Gyro)	Site Position: 39° 13' 23.139 N
Company: Energy Watchdog Services	TVD Reference: Well #512475	From: 0.0 ft
Project: Design #1 - Corral W.V. Gas	MD Reference: Well #512475	Position Uncertainty: 0.0 ft
Site: 512475	North Reference: Survey #1 (512475)	
Well: 512475	Survey Calculation Method: Minimum Curvature	
Wellbore: 512475		
Design: 512475		

<b>Project</b>		
<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>					
<b>Site Position:</b>	<b>From:</b>	<b>Map</b>	<b>Northing:</b> 265,994.46 ft	<b>Latitude:</b> 39.22	
			<b>Easting:</b> 1,634,196.73 ft	<b>Longitude:</b> -80.79	
<b>Position Uncertainty:</b>	0.0 ft		<b>Slot Radius:</b> "	<b>Grid Convergence:</b> -0.82 °	

<b>Well</b>					
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b> 265,994.46 ft	<b>Latitude:</b> 39° 13' 23.139 N	
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b> 1,634,196.73 ft	<b>Longitude:</b> 80° 47' 28.402 W	
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b> ft	<b>Ground Level:</b> 0.0 ft	

<b>Wellbore</b>					
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	12/31/2009	-8.22	67.21	52,785

<b>Design</b>					
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	5,486.0
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	168.52	

<b>Survey Program</b> Date: 7/26/2010					
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
0.00	4,127.0	Survey #1 (512475 Gyro)	WLST		
0.00	11,126.0	Survey #1 (Well #512475)	WLST		

<b>Survey</b>											
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	Subsea Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
5,486.0	0.36	315.70	5,484.6	5,484.6	-11.1	0.7	11.0	0.00	0.00	0.00	
5,516.0	0.10	335.40	5,514.6	5,514.6	-11.0	0.7	10.9	0.89	-0.87	65.67	
5,547.0	0.90	285.30	5,545.6	5,545.6	-10.9	0.5	10.8	2.71	2.58	-161.61	
5,579.0	5.50	266.50	5,577.6	5,577.6	-10.9	-1.3	10.5	14.55	14.38	-58.75	
5,611.0	10.00	281.50	5,609.3	5,609.3	-10.5	-5.5	9.2	15.30	14.06	46.88	
5,643.0	13.70	286.70	5,640.6	5,640.6	-8.8	-11.9	6.3	12.02	11.56	16.25	
5,675.0	17.30	288.10	5,671.4	5,671.4	-6.3	-20.1	2.1	11.31	11.25	4.38	
5,707.0	21.10	289.70	5,701.6	5,701.6	-2.8	-30.0	-3.2	11.99	11.88	5.00	



# Nevis Energy Services

## Survey Report

017-05889

Database: EGT Production	Local Co-ordinate Reference: SRS Dudgeon	SRS Dudgeon
Company: EGT Production	TVD Reference: WELB 1116	WELB 1116
Project: Bessie's Quarry	MD Reference: WELB 1116	WELB 1116
Site: Doddridge County	North Reference: Cad	Cad
Well: WELB 1116	Survey Calculation Method: Minimum Curvature	Minimum Curvature
Wellbore: WELB 1116		
Design: WELB 1116		

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	Subsea Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,738.0	23.80	293.90	5,730.3	5,730.3	1.6	-41.0	-9.7	10.13	8.71	13.55
5,770.0	27.00	293.00	5,759.2	5,759.2	7.0	-53.6	-17.5	10.07	10.00	-2.81
5,801.0	29.70	292.70	5,786.5	5,786.5	12.7	-67.1	-25.8	8.72	8.71	-0.97
5,833.0	32.40	293.40	5,813.9	5,813.9	19.2	-82.3	-35.2	8.51	8.44	2.19
5,865.0	35.50	296.10	5,840.4	5,840.4	26.7	-98.5	-45.8	10.77	9.69	8.44
5,897.0	36.20	295.80	5,866.4	5,866.4	34.9	-115.4	-57.2	2.26	2.19	-0.94
5,929.0	39.20	298.10	5,891.7	5,891.7	43.8	-132.8	-69.3	10.35	9.38	7.19
5,960.0	42.10	298.90	5,915.2	5,915.2	53.4	-150.6	-82.3	9.50	9.35	2.58
5,992.0	45.10	299.90	5,938.4	5,938.4	64.3	-169.8	-96.8	9.62	9.38	3.13
6,024.0	47.90	300.80	5,960.4	5,960.4	76.0	-189.8	-112.2	8.98	8.75	2.81
6,055.0	49.90	302.40	5,980.8	5,980.8	88.2	-209.7	-128.2	7.53	6.45	5.16
6,087.0	53.00	303.10	6,000.7	6,000.7	101.8	-230.8	-145.7	9.84	9.69	2.19
6,117.0	56.70	303.40	6,018.0	6,018.0	115.2	-251.3	-162.9	12.36	12.33	1.00
6,149.0	60.10	302.00	6,034.7	6,034.7	129.9	-274.2	-181.9	11.26	10.63	-4.38
6,181.0	63.40	302.20	6,049.9	6,049.9	144.9	-298.1	-201.3	10.33	10.31	0.63
6,212.0	61.80	298.50	6,064.2	6,064.2	158.8	-321.8	-219.7	11.79	-5.16	-11.94
6,244.0	58.80	294.50	6,080.0	6,080.0	171.2	-346.7	-236.8	14.34	-9.38	-12.50
6,276.0	56.00	291.70	6,097.3	6,097.3	181.8	-371.5	-252.1	11.44	-8.75	-8.75
6,307.0	54.40	290.50	6,114.9	6,114.9	191.0	-395.2	-265.8	6.06	-5.16	-3.87
6,339.0	52.20	288.90	6,134.1	6,134.1	199.6	-419.4	-279.1	7.96	-6.88	-5.00
6,371.0	49.90	284.70	6,154.2	6,154.2	206.8	-443.2	-290.9	12.48	-7.19	-13.13
6,402.0	47.90	280.40	6,174.6	6,174.6	211.9	-466.0	-300.4	12.28	-6.45	-13.87
6,434.0	47.20	274.70	6,196.2	6,196.2	215.0	-489.3	-308.1	13.32	-2.19	-17.81
6,465.0	46.80	269.30	6,217.3	6,217.3	215.8	-512.0	-313.4	12.80	-1.29	-17.42
6,497.0	47.60	264.20	6,239.1	6,239.1	214.5	-535.4	-316.8	11.96	2.50	-15.94
6,529.0	49.20	258.50	6,260.3	6,260.3	210.9	-559.0	-317.9	14.22	5.00	-17.81
6,561.0	50.60	252.60	6,281.0	6,281.0	204.8	-582.7	-316.6	14.76	4.38	-18.44
6,593.0	50.60	249.30	6,301.3	6,301.3	196.7	-606.1	-313.4	7.97	0.00	-10.31
6,624.0	51.30	245.10	6,320.8	6,320.8	187.4	-628.3	-308.7	10.76	2.26	-13.55
6,655.0	51.80	241.60	6,340.1	6,340.1	176.5	-650.0	-302.3	8.99	1.61	-11.29
6,687.0	53.40	236.50	6,359.5	6,359.5	163.4	-671.7	-293.8	13.61	5.00	-15.94
6,719.0	55.20	233.60	6,378.2	6,378.2	148.5	-693.0	-283.5	9.26	5.63	-9.06
6,751.0	56.00	228.90	6,396.3	6,396.3	132.0	-713.6	-271.4	12.37	2.50	-14.89
6,782.0	55.70	224.90	6,413.7	6,413.7	114.5	-732.3	-257.9	10.72	-0.97	-12.90
6,813.0	56.40	220.60	6,431.0	6,431.0	95.6	-749.8	-242.9	11.72	2.26	-13.87
6,845.0	57.80	217.30	6,448.4	6,448.4	74.7	-766.7	-225.8	9.70	4.38	-10.31
6,876.0	59.60	213.40	6,464.5	6,464.5	53.1	-782.0	-207.7	12.22	5.81	-12.58
6,908.0	61.10	208.90	6,480.3	6,480.3	29.3	-796.4	-187.2	13.09	4.69	-14.06
6,939.0	62.30	204.60	6,495.0	6,495.0	4.9	-808.6	-165.8	12.81	3.87	-13.87
6,971.0	62.80	200.30	6,509.8	6,509.8	-21.3	-819.5	-142.2	12.03	1.56	-13.44
7,002.0	62.50	196.70	6,524.0	6,524.0	-47.4	-828.2	-118.4	10.36	-0.97	-11.81
7,033.0	62.70	194.30	6,538.3	6,538.3	-73.9	-835.6	-93.8	6.90	0.65	-7.74



# Nevis Energy Services

## Survey Report

017-05889

<b>Database:</b> 017-05889	<b>Local Co-ordinate Reference:</b> Site Doodnace Graph	<b>Site Doodnace Graph:</b> 017-05889
<b>Company:</b> ECL Production Services	<b>TVD Reference:</b> WELL @ 017-05889	<b>WELL @ 017-05889:</b> 017-05889
<b>Project:</b> Doodnace Column 252475	<b>MD Reference:</b> WELL @ 017-05889	<b>WELL @ 017-05889:</b> 017-05889
<b>Site:</b> Doodnace Column 252475	<b>North Reference:</b> Grid	<b>Grid:</b> 017-05889
<b>Well:</b> Well 512175	<b>Survey Calculation Method:</b> Minimum Curvature	<b>Minimum Curvature:</b> 017-05889
<b>Wellbore:</b> Well 512175		
<b>Design:</b> Well 512175		

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	Subsea Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,065.0	65.30	190.10	6,552.3	6,552.3	-102.0	-841.6	-67.5	14.32	8.13	-13.13
7,096.0	67.80	187.60	6,564.7	6,564.7	-130.1	-846.0	-40.8	10.94	8.06	-8.06
7,128.0	70.90	184.30	6,576.0	6,576.0	-159.9	-849.1	-12.3	13.67	9.69	-10.31
7,160.0	73.30	181.40	6,585.8	6,585.8	-190.3	-850.6	17.2	11.43	7.50	-9.06
7,192.0	74.50	179.80	6,594.7	6,594.7	-221.1	-850.9	47.3	6.09	3.75	-5.00
7,223.0	76.00	177.80	6,602.6	6,602.6	-251.0	-850.3	76.8	7.90	4.84	-6.45
7,254.0	75.80	174.20	6,610.1	6,610.1	-281.0	-848.2	106.6	11.28	-0.65	-11.61
7,286.0	74.20	169.80	6,618.4	6,618.4	-311.6	-843.9	137.4	14.19	-5.00	-13.75
7,318.0	75.60	165.40	6,626.8	6,626.8	-341.8	-837.3	168.3	13.98	4.38	-13.75
7,350.0	77.60	162.70	6,634.2	6,634.2	-371.7	-828.7	199.3	10.32	6.25	-8.44
7,381.0	77.90	159.40	6,640.8	6,640.8	-400.4	-818.9	229.4	10.45	0.97	-10.65
7,412.0	77.50	155.90	6,647.4	6,647.4	-428.4	-807.4	259.1	11.11	-1.29	-11.29
7,444.0	79.70	155.00	6,653.7	6,653.7	-456.9	-794.3	289.7	7.41	6.88	-2.81
7,476.0	82.60	153.90	6,658.6	6,658.6	-485.4	-780.7	320.3	9.68	9.06	-3.44
7,507.0	86.40	153.00	6,661.6	6,661.6	-513.0	-766.9	350.1	12.59	12.26	-2.90
7,572.0	91.50	152.00	6,662.8	6,662.8	-570.6	-736.9	412.6	8.00	7.85	-1.54
7,635.0	90.00	149.90	6,661.9	6,661.9	-625.7	-706.3	472.6	4.10	-2.38	-3.33
7,698.0	90.80	151.50	6,661.5	6,661.5	-680.6	-675.5	532.6	2.84	1.27	2.54
7,761.0	91.20	153.10	6,660.4	6,660.4	-736.4	-646.2	593.1	2.62	0.63	2.54
7,824.0	91.70	155.60	6,658.8	6,658.8	-793.2	-618.9	654.1	4.05	0.79	3.97
7,887.0	91.30	156.70	6,657.2	6,657.2	-850.8	-593.5	715.6	1.86	-0.63	1.75
7,951.0	91.50	156.40	6,655.6	6,655.6	-909.5	-568.0	778.2	0.56	0.31	-0.47
8,014.0	91.30	158.30	6,654.1	6,654.1	-967.6	-543.8	840.0	3.03	-0.32	3.02
8,078.0	90.50	157.70	6,653.1	6,653.1	-1,026.9	-519.8	902.9	1.56	-1.25	-0.94
8,141.0	89.70	157.00	6,652.9	6,652.9	-1,085.1	-495.5	964.7	1.69	-1.27	-1.11
8,204.0	89.10	156.00	6,653.6	6,653.6	-1,142.8	-470.4	1,026.4	1.85	-0.95	-1.59
8,267.0	89.70	155.50	6,654.3	6,654.3	-1,200.3	-444.5	1,087.8	1.24	0.95	-0.79
8,329.0	90.00	156.00	6,654.4	6,654.4	-1,256.8	-419.1	1,148.3	0.94	0.48	0.81
8,392.0	90.50	155.30	6,654.1	6,654.1	-1,314.2	-393.1	1,209.7	1.37	0.79	-1.11
8,455.0	90.60	154.50	6,653.5	6,653.5	-1,371.2	-366.4	1,270.9	1.28	0.16	-1.27
8,518.0	89.50	152.30	6,653.5	6,653.5	-1,427.6	-338.2	1,331.7	3.90	-1.75	-3.49
8,581.0	89.30	153.70	6,654.1	6,654.1	-1,483.7	-309.6	1,392.4	2.24	-0.32	2.22
8,645.0	89.50	155.10	6,654.8	6,654.8	-1,541.4	-281.9	1,454.5	2.21	0.31	2.19
8,708.0	90.10	155.10	6,655.0	6,655.0	-1,598.6	-255.4	1,515.8	0.95	0.95	0.00
8,772.0	88.80	153.70	6,655.7	6,655.7	-1,656.3	-227.7	1,577.8	2.99	-2.03	-2.19
8,835.0	89.60	155.50	6,656.5	6,656.5	-1,713.2	-200.7	1,639.0	3.13	1.27	2.86
8,897.0	90.00	155.80	6,656.7	6,656.7	-1,769.7	-175.2	1,699.4	0.81	0.65	0.48
8,960.0	89.80	154.60	6,656.9	6,656.9	-1,826.8	-148.7	1,760.7	1.93	-0.32	-1.90
9,023.0	90.90	155.80	6,656.5	6,656.5	-1,884.0	-122.3	1,822.0	2.58	1.75	1.90
9,086.0	91.00	155.60	6,655.4	6,655.4	-1,941.4	-96.4	1,883.4	0.35	0.16	-0.32
9,149.0	91.30	155.70	6,654.2	6,654.2	-1,998.8	-70.4	1,944.8	0.50	0.48	0.16
9,212.0	89.90	154.60	6,653.5	6,653.5	-2,056.0	-43.9	2,006.1	2.83	-2.22	-1.75
9,275.0	90.40	154.30	6,653.3	6,653.3	-2,112.8	-16.8	2,067.2	0.93	0.79	-0.48



# Nevis Energy Services

## Survey Report

Database: ESR Production	Local Co-ordinate Reference: Site	Site
Company: ESR Production	TVD Reference: WEI	WEI
Project: ESR Production	MD Reference: WEI	WEI
Site: ESR Production	North Reference: WEI	WEI
Well: WEI	Survey Calculation Method: Minimum Curvature	
Wellbore: WEI		
Design: WEI		

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	Subsea Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,337.0	89.80	155.40	6,653.2	6,653.2	-2,168.9	9.6	2,127.5	2.02	-0.97	1.77
9,400.0	88.30	155.80	6,654.3	6,654.3	-2,226.3	35.6	2,188.9	2.46	-2.38	0.63
9,464.0	88.70	156.00	6,656.0	6,656.0	-2,284.7	61.7	2,251.3	0.70	0.63	0.31
9,527.0	88.80	156.20	6,657.3	6,657.3	-2,342.3	87.2	2,312.8	0.35	0.16	0.32
9,590.0	88.60	154.60	6,658.8	6,658.8	-2,399.6	113.5	2,374.1	2.56	-0.32	-2.54
9,653.0	88.60	154.40	6,660.3	6,660.3	-2,456.4	140.6	2,435.2	0.32	0.00	-0.32
9,718.0	88.60	154.40	6,661.9	6,661.9	-2,515.0	168.7	2,498.3	0.00	0.00	0.00
9,782.0	88.90	154.00	6,663.3	6,663.3	-2,572.6	196.5	2,560.3	0.78	0.47	-0.63
9,845.0	89.40	154.10	6,664.2	6,664.2	-2,629.3	224.1	2,621.3	0.81	0.79	0.16
9,909.0	88.30	154.20	6,665.5	6,665.5	-2,686.8	252.0	2,683.2	1.73	-1.72	0.16
9,973.0	88.80	154.00	6,667.1	6,667.1	-2,744.4	279.9	2,745.2	0.84	0.78	-0.31
10,037.0	88.40	153.70	6,668.7	6,668.7	-2,801.8	308.1	2,807.1	0.78	-0.63	-0.47
10,100.0	89.30	154.00	6,669.9	6,669.9	-2,858.4	335.9	2,868.0	1.51	1.43	0.48
10,164.0	89.80	154.90	6,670.4	6,670.4	-2,916.1	363.5	2,930.1	1.61	0.78	1.41
10,227.0	90.30	155.20	6,670.4	6,670.4	-2,973.2	390.0	2,991.4	0.93	0.79	0.48
10,289.0	90.20	155.10	6,670.1	6,670.1	-3,029.5	416.1	3,051.7	0.23	-0.16	-0.16
10,353.0	90.30	155.30	6,669.8	6,669.8	-3,087.6	442.9	3,114.0	0.35	0.16	0.31
10,415.0	89.70	154.00	6,669.8	6,669.8	-3,143.6	469.5	3,174.2	2.31	-0.97	-2.10
10,478.0	90.40	154.30	6,669.8	6,669.8	-3,200.3	497.0	3,235.2	1.21	1.11	0.48
10,542.0	90.30	154.60	6,669.4	6,669.4	-3,258.0	524.6	3,297.3	0.49	-0.16	0.47
10,605.0	90.60	154.30	6,668.9	6,668.9	-3,314.9	551.7	3,358.4	0.67	0.48	-0.48
10,669.0	90.80	153.90	6,668.1	6,668.1	-3,372.5	579.7	3,420.4	0.70	0.31	-0.63
10,732.0	89.50	154.80	6,668.0	6,668.0	-3,429.2	607.0	3,481.4	2.51	-2.06	1.43
10,795.0	90.30	156.50	6,668.1	6,668.1	-3,486.6	632.9	3,542.9	2.98	1.27	2.70
10,858.0	90.40	156.10	6,667.7	6,667.7	-3,544.3	658.3	3,604.4	0.65	0.16	-0.63
10,921.0	90.50	156.60	6,667.2	6,667.2	-3,602.0	683.5	3,666.0	0.81	0.16	0.79
10,984.0	90.50	156.00	6,666.6	6,666.6	-3,659.7	708.8	3,727.6	0.95	0.00	-0.95
11,046.0	90.20	155.00	6,666.3	6,666.3	-3,716.1	734.6	3,788.0	1.68	-0.48	-1.61
11,081.0	90.30	154.60	6,666.1	6,666.1	-3,747.8	749.5	3,822.0	1.18	0.29	-1.14
11,126.0	90.30	154.60	6,665.9	6,665.9	-3,788.4	768.8	3,865.7	0.00	0.00	0.00

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
11,126.0	6,665.9	-3,788.4	768.8	Ext. to TD = 11126ft

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