



Well Completion Report

June 19 2008

Customer: CNX Gas
Well Name: MC-58 51-01137
Location: Monongalia County, WV
Declination: 8.47° West, True

Nevis Energy Services, Inc.
327 E. Welch Court, Traverse City, MI 49686
(231) 995-0100



Nevis Energy Survey Report

Company:	CNX Gas Company, LLC	Local Co-ordinate Reference:	Well MC-58
Project:	WEST VIRGINIA2	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	MARSHALL COUNTY6	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Well:	MC-58	North Reference:	True
Wellbore:	WEST LEG	Survey Calculation Method:	Minimum Curvature
Design:	AD WEST LEG	Database:	EDM 2003.14 Single User Db

Project:	WEST VIRGINIA2		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	West Virginia Northern Zone		

Site:	MARSHALL COUNTY6			
Site Position:	Northing:	496,507.47 ft	Latitude:	39° 51' 29.050 N
From: Lat/Long	Easting:	1,662,656.84 ft	Longitude:	80° 35' 22.170 W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence: -0.69 °

Well:	MC-58					
Well Position	+N/-S	0.00 ft	Northing:	496,507.47 ft	Latitude:	39° 51' 29.050 N
	+E/-W	0.00 ft	Easting:	1,662,656.84 ft	Longitude:	80° 35' 22.170 W
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft	Ground Level:	0.00 ft	

Wellbore	WEST LEG				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	5/29/2008	-8.47	67.82	53,284

Design:	AD WEST LEG				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	348.04	

Survey Program	Date 6/19/2008				
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
50.00	2,046.00	ADGYROCURVE (WEST LEG)			

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50.00	0.15	51.60	50.00	0.04	0.05	0.03	0.30	0.30	0.00
100.00	0.82	156.70	100.00	-0.25	0.24	-0.29	1.74	1.34	210.20
150.00	1.05	114.80	149.99	-0.77	0.80	-0.92	1.40	0.46	-83.80
200.00	0.54	21.00	199.99	-0.74	1.30	-0.99	2.42	-1.02	-187.60
250.00	0.29	275.20	249.99	-0.51	1.26	-0.76	1.36	-0.50	-211.60
300.00	0.55	241.30	299.99	-0.61	0.92	-0.79	0.70	0.52	-67.80
350.00	0.80	228.80	349.98	-0.96	0.45	-1.03	0.58	0.50	-25.00
400.00	0.86	220.40	399.98	-1.47	-0.06	-1.43	0.27	0.12	-16.80
450.00	0.99	223.20	449.97	-2.07	-0.59	-1.91	0.28	0.26	5.60
500.00	0.69	186.90	499.97	-2.69	-0.93	-2.44	1.19	-0.60	-72.60
550.00	0.64	195.60	549.96	-3.26	-1.04	-2.97	0.23	-0.10	17.40
600.00	0.52	188.70	599.96	-3.75	-1.15	-3.43	0.28	-0.24	-13.80



Nevis Energy

Survey Report

Company:	CNX Gas Company, LLC	Local Co-ordinate Reference:	Well MC-58
Project:	WEST VIRGINIA2	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	MARSHALL COUNTY6	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Well:	MC-58	North Reference:	True
Wellbore:	WEST LEG	Survey Calculation Method:	Minimum Curvature
Design:	AD WEST LEG	Database:	EDM 2003.14 Single User Db

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
650.00	0.66	233.20	649.96	-4.15	-1.41	-3.76	0.93	0.28	89.00
700.00	1.79	319.60	699.95	-3.72	-2.15	-3.20	3.74	2.26	172.80
720.00	2.02	331.30	719.94	-3.18	-2.52	-2.59	2.25	1.15	58.50
750.00	4.30	357.20	749.89	-1.59	-2.83	-0.97	8.78	7.60	86.33
782.00	14.30	17.10	781.44	3.40	-1.72	3.68	32.37	31.25	62.19
814.00	23.90	21.10	811.64	13.25	1.78	12.59	30.26	30.00	12.50
846.00	33.20	20.60	839.72	27.53	7.21	25.44	29.07	29.06	-1.56
877.00	43.20	16.70	864.05	45.68	13.26	41.94	33.17	32.26	-12.58
909.00	53.60	17.30	885.27	68.53	20.26	62.85	32.53	32.50	1.87
927.00	59.40	18.40	895.20	82.81	24.86	75.86	32.62	32.22	6.11
941.00	63.40	18.70	901.90	94.46	28.77	86.45	28.63	28.57	2.14
961.00	69.90	17.70	909.82	111.90	34.50	102.32	32.82	32.50	-5.00
973.00	72.60	16.70	913.68	122.75	37.86	112.24	23.84	22.50	-8.33
989.00	75.00	15.70	918.14	137.51	42.14	125.79	16.16	15.00	-6.25
1,005.00	75.90	15.40	922.16	152.43	46.30	139.52	5.91	5.62	-1.87
1,020.00	78.30	15.20	925.51	166.53	50.15	152.52	16.05	16.00	-1.33
1,037.00	80.60	15.10	928.62	182.66	54.52	167.40	13.54	13.53	-0.59
1,047.00	82.50	15.10	930.09	192.21	57.10	176.20	19.00	19.00	0.00
1,057.00	85.00	15.00	931.18	201.81	59.68	185.06	25.02	25.00	-1.00
1,068.00	86.60	15.30	931.99	212.40	62.55	194.82	14.80	14.55	2.73
1,083.00	88.50	14.20	932.63	226.89	66.36	208.21	14.63	12.67	-7.33
1,100.00	87.50	12.80	933.22	243.41	70.33	223.55	10.12	-5.88	-8.24
1,116.00	85.80	10.80	934.16	259.04	73.59	238.17	16.39	-10.62	-12.50
1,132.00	86.30	9.70	935.26	274.75	76.43	252.95	7.54	3.12	-6.87
1,142.00	87.50	9.00	935.80	284.60	78.06	262.25	13.89	12.00	-7.00
1,152.00	87.70	9.10	936.22	294.47	79.63	271.57	2.24	2.00	1.00
1,164.00	87.40	9.10	936.73	306.31	81.52	282.76	2.50	-2.50	0.00
1,177.00	88.10	8.90	937.24	319.14	83.55	294.89	5.60	5.38	-1.54
1,187.00	89.80	8.60	937.43	329.02	85.08	304.24	17.26	17.00	-3.00
1,196.00	90.80	8.00	937.38	337.92	86.37	312.69	12.96	11.11	-6.67
1,201.00	91.20	7.90	937.29	342.87	87.07	317.39	8.25	8.00	-2.00
1,228.00	92.10	9.20	936.51	369.56	91.08	342.67	5.85	3.33	4.81
1,267.00	92.00	9.70	935.12	408.01	97.48	378.95	1.31	-0.26	1.28
1,299.00	91.60	6.50	934.11	439.67	101.98	408.99	10.07	-1.25	-10.00
1,330.00	91.00	5.00	933.41	470.50	105.09	438.51	5.21	-1.94	-4.84
1,362.00	89.80	4.33	933.19	502.40	107.69	469.17	4.29	-3.75	-2.09
1,394.00	88.00	3.40	933.80	534.32	109.85	499.95	6.33	-5.62	-2.91
1,426.00	87.80	2.83	934.97	566.25	111.59	530.83	1.89	-0.62	-1.78
1,457.00	90.40	1.74	935.46	597.22	112.82	560.87	9.09	8.39	-3.52
1,489.00	91.60	1.50	934.90	629.20	113.73	591.97	3.82	3.75	-0.75
1,521.00	89.90	1.30	934.48	661.18	114.51	623.10	5.35	-5.31	-0.62
1,554.00	91.10	2.60	934.20	694.16	115.63	655.13	5.36	3.64	3.94
1,586.00	91.30	1.80	933.53	726.13	116.86	686.15	2.58	0.62	-2.50
1,618.00	90.00	358.60	933.16	758.12	116.97	717.43	10.79	-4.06	-10.00
1,650.00	90.20	355.00	933.11	790.07	115.18	749.05	11.27	0.62	-11.25
1,682.00	90.40	351.00	932.94	821.82	111.28	780.92	12.52	0.62	-12.50
1,703.00	89.40	348.70	932.98	842.49	107.58	801.91	11.94	-4.76	-10.95
1,745.00	90.90	345.30	932.87	883.41	98.14	843.90	8.85	3.57	-8.10
1,777.00	90.00	341.70	932.61	914.09	89.05	875.79	11.60	-2.81	-11.25
1,809.00	90.30	341.10	932.53	944.41	78.84	907.57	2.10	0.94	-1.87
1,840.00	91.20	341.50	932.12	973.77	68.91	938.36	3.18	2.90	1.29
1,872.00	89.90	341.60	931.82	1,004.13	58.78	970.15	4.07	-4.06	0.31
1,904.00	90.80	340.90	931.62	1,034.43	48.49	1,001.92	3.56	2.81	-2.19
1,936.00	88.50	340.60	931.82	1,064.64	37.95	1,033.66	7.25	-7.19	-0.94



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Project: WEST VIRGINIA2	TVD Reference: WELL @ 0.00ft (Original Well Elev)
Site: MARSHALL COUNTY6	MD Reference: WELL @ 0.00ft (Original Well Elev)
Well: MC-58	North Reference: True
Wellbore: WEST LEG	Survey Calculation Method: Minimum Curvature
Design: AD WEST LEG	Database: EDM 2003.14 Single User Db

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,968.00	88.80	342.50	932.57	1,094.98	27.82	1,065.45	6.01	0.94	5.94
2,000.00	86.20	341.00	933.97	1,125.34	17.81	1,097.22	9.38	-8.12	-4.69
2,046.00	86.20	341.00	937.02	1,168.74	2.87	1,142.77	0.00	0.00	0.00

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
WBHL, MC-58 - hit/miss target - Shape - Point	0.00	0.00	935.00	2,794.71	-592.24	499,309.15	1,662,098.53	39° 51' 56.670 N	80° 35' 29.766 W
- survey misses by 1761.80ft at 2015.59ft MD (935.00 TVD, 1140.05 N, 12.75 E)									
HZ, MC-58 - survey misses by 36.27ft at 1270.79ft MD (935.00 TVD, 411.76 N, 98.01 E) - Point	0.00	0.00	935.00	377.15	108.86	496,883.27	1,662,770.26	39° 51' 32.777 N	80° 35' 20.774 W
TGT1, MC-58 - survey misses by 111.38ft at 1483.40ft MD (935.00 TVD, 623.60 N, 113.57 E) - Point	0.00	0.00	935.00	733.96	128.58	497,239.81	1,662,794.31	39° 51' 36.304 N	80° 35' 20.521 W

Checked By: _____ Approved By: _____ Date: _____

5101137P



Nevis Energy Survey Report

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Project:	WEST VIRGINIA2	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	MARSHALL COUNTY6	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Well:	MC-58	North Reference:	True
Wellbore:	WEST LEG	Survey Calculation Method:	Minimum Curvature
Design:	AD WEST LEG	Database:	EDM 2003.14 Single User Db

Project	WEST VIRGINIA2		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	West Virginia Northern Zone		

Site	MARSHALL COUNTY6				
Site Position:		Northing:	496,507.47 ft	Latitude:	39° 51' 29.050 N
From:	Lat/Long	Easting:	1,662,656.84 ft	Longitude:	80° 35' 22.170 W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	-0.69 °

Well	MC-58					
Well Position	+N/-S	0.00 ft	Northing:	496,507.47 ft	Latitude:	39° 51' 29.050 N
	+E/-W	0.00 ft	Easting:	1,662,656.84 ft	Longitude:	80° 35' 22.170 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	0.00 ft

Wellbore	WEST LEG				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	5/29/2008	-8.47	67.82	53,284

Design	AD WEST LEG				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	348.04	

Survey Program	Date 6/19/2008			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
50.00	1,646.00	ADGYROCURVE (WEST LEG)		
1,650.00	3,790.00	ADWLEG (WEST LEG)		

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,646.00	90.18	355.45	933.12	786.08	115.52	745.08	0.00	0.00	0.00
1,650.00	89.90	355.90	933.12	790.07	115.22	749.04	13.18	-6.88	11.25
1,682.00	89.80	359.90	933.20	822.04	114.05	780.56	12.50	-0.31	12.50
1,713.00	91.40	0.40	932.88	853.04	114.13	810.87	5.41	5.16	1.61
1,745.00	90.80	1.10	932.26	885.03	114.55	842.08	2.88	-1.87	2.19
1,777.00	92.10	359.40	931.45	917.02	114.69	873.34	6.69	4.06	-5.31
1,809.00	90.90	357.90	930.61	948.99	113.93	904.78	6.00	-3.75	-4.69
1,840.00	92.50	353.70	929.69	979.89	111.66	935.48	14.49	5.16	-13.55
1,872.00	92.90	350.40	928.19	1,011.54	107.24	967.36	10.38	1.25	-10.31
1,904.00	89.40	349.20	927.54	1,043.03	101.58	999.33	11.56	-10.94	-3.75
1,936.00	87.40	346.80	928.44	1,074.31	94.93	1,031.32	9.76	-6.25	-7.50
1,968.00	88.60	345.80	929.55	1,105.38	87.35	1,063.28	4.88	3.75	-3.12

01/27/2017



Nevis Energy Survey Report

Company:	CNX Gas Company, LLC	Local Co-ordinate Reference:	Well MC-58
Project:	WEST VIRGINIA2	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	MARSHALL COUNTY6	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Well:	MC-58	North Reference:	True
Wellbore:	WEST LEG	Survey Calculation Method:	Minimum Curvature
Design:	AD WEST LEG	Database:	EDM 2003.14 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
2,000.00	91.00	344.10	929.67	1,136.28	79.05	1,095.23	9.19	7.50	-5.31
2,031.00	90.50	342.00	929.26	1,165.93	70.01	1,126.11	6.96	-1.61	-6.77
2,063.00	89.40	340.40	929.29	1,196.22	59.70	1,157.88	6.07	-3.44	-5.00
2,095.00	89.50	337.30	929.60	1,226.06	48.15	1,189.46	9.69	0.31	-9.69
2,127.00	89.90	336.60	929.76	1,255.50	35.63	1,220.87	2.52	1.25	-2.19
2,159.00	88.90	337.60	930.10	1,284.98	23.17	1,252.28	4.42	-3.12	3.12
2,191.00	88.20	337.90	930.91	1,314.59	11.06	1,283.76	2.38	-2.19	0.94
2,222.00	90.00	338.50	931.39	1,343.36	-0.45	1,314.30	6.12	5.81	1.94
2,254.00	90.70	339.20	931.20	1,373.21	-11.99	1,345.88	3.09	2.19	2.19
2,286.00	90.70	338.10	930.81	1,403.01	-23.64	1,377.45	3.44	0.00	-3.44
2,318.00	90.50	336.20	930.47	1,432.49	-36.07	1,408.87	5.97	-0.62	-5.94
2,349.00	89.70	335.10	930.42	1,460.74	-48.85	1,439.15	4.39	-2.58	-3.55
2,381.00	89.40	337.30	930.67	1,490.01	-61.76	1,470.47	6.94	-0.94	6.87
2,413.00	90.10	337.90	930.81	1,519.60	-73.96	1,501.94	2.88	2.19	1.87
2,445.00	89.70	339.00	930.87	1,549.36	-85.71	1,533.49	3.66	-1.25	3.44
2,476.00	90.10	339.50	930.92	1,578.35	-96.69	1,564.12	2.07	1.29	1.61
2,508.00	91.30	338.90	930.53	1,608.26	-108.05	1,595.74	4.19	3.75	-1.87
2,540.00	90.50	336.50	930.03	1,637.86	-120.20	1,627.22	7.90	-2.50	-7.50
2,572.00	90.10	336.00	929.86	1,667.15	-133.08	1,658.54	2.00	-1.25	-1.56
2,604.00	89.90	335.40	929.86	1,696.32	-146.25	1,689.80	1.98	-0.62	-1.87
2,635.00	89.10	335.10	930.13	1,724.47	-159.23	1,720.03	2.76	-2.58	-0.97
2,667.00	89.70	336.10	930.46	1,753.61	-172.45	1,751.28	3.64	1.87	3.12
2,700.00	90.40	338.10	930.44	1,784.00	-185.29	1,783.67	6.42	2.12	6.06
2,732.00	90.80	338.50	930.10	1,813.73	-197.12	1,815.21	1.77	1.25	1.25
2,764.00	89.30	337.30	930.07	1,843.38	-209.16	1,846.71	6.00	-4.69	-3.75
2,796.00	88.60	336.00	930.66	1,872.75	-221.84	1,878.07	4.61	-2.19	-4.06
2,828.00	89.10	337.20	931.30	1,902.12	-234.54	1,909.43	4.06	1.56	3.75
2,859.00	89.50	338.40	931.68	1,930.82	-246.26	1,939.93	4.08	1.29	3.87
2,891.00	90.20	339.00	931.76	1,960.63	-257.88	1,971.51	2.88	2.19	1.87
2,923.00	91.80	339.60	931.21	1,990.56	-269.19	2,003.13	5.34	5.00	1.87
2,955.00	91.80	339.10	930.20	2,020.49	-280.47	2,034.75	1.56	0.00	-1.56
2,987.00	90.90	338.80	929.45	2,050.34	-291.96	2,066.34	2.96	-2.81	-0.94
3,019.00	90.30	338.90	929.11	2,080.19	-303.50	2,097.93	1.90	-1.87	0.31
3,051.00	89.80	339.00	929.08	2,110.05	-315.00	2,129.52	1.59	-1.56	0.31
3,082.00	90.00	339.30	929.14	2,139.02	-326.03	2,160.15	1.16	0.65	0.97
3,114.00	88.40	339.20	929.58	2,168.94	-337.37	2,191.77	5.01	-5.00	-0.31
3,146.00	89.20	340.50	930.25	2,198.97	-348.39	2,223.44	4.77	2.50	4.06
3,178.00	89.50	341.10	930.62	2,229.19	-358.91	2,255.18	2.10	0.94	1.87
3,210.00	89.50	339.80	930.90	2,259.35	-369.62	2,286.90	4.06	0.00	-4.06
3,241.00	90.10	339.40	931.00	2,288.40	-380.42	2,317.56	2.33	1.94	-1.29
3,273.00	90.80	337.80	930.75	2,318.19	-392.10	2,349.13	5.46	2.19	-5.00
3,305.00	90.90	337.40	930.28	2,347.78	-404.29	2,380.59	1.29	0.31	-1.25
3,337.00	88.50	336.50	930.45	2,377.22	-416.82	2,411.99	8.01	-7.50	-2.81
3,369.00	86.90	335.30	931.73	2,406.40	-429.88	2,443.25	6.25	-5.00	-3.75
3,401.00	88.20	335.80	933.10	2,435.51	-443.11	2,474.46	4.35	4.06	1.56
3,432.00	89.50	338.50	933.72	2,464.06	-455.14	2,504.89	9.66	4.19	8.71
3,464.00	89.90	339.50	933.89	2,493.94	-466.61	2,536.50	3.37	1.25	3.12
3,496.00	89.80	340.00	933.97	2,523.96	-477.68	2,568.16	1.59	-0.31	1.56
3,528.00	90.90	339.80	933.78	2,554.01	-488.68	2,599.84	3.49	3.44	-0.62
3,553.00	91.80	340.00	933.19	2,577.48	-497.27	2,624.58	3.69	3.60	0.80
3,585.00	89.40	338.50	932.85	2,607.40	-508.61	2,656.20	8.84	-7.50	-4.69
3,616.00	88.60	338.00	933.39	2,636.19	-520.09	2,686.74	3.04	-2.58	-1.61
3,647.00	88.00	337.20	934.31	2,664.84	-531.90	2,717.21	3.22	-1.94	-2.58
3,679.00	89.10	336.60	935.12	2,694.26	-544.45	2,748.60	3.92	3.44	-1.87



Nevis Energy
Survey Report

Company:	CNX Gas Company, LLC	Local Co-ordinate Reference:	Well MC-58
Project:	WEST VIRGINIA2	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	MARSHALL COUNTY6	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Well:	MC-58	North Reference:	True
Wellbore:	WEST LEG	Survey Calculation Method:	Minimum Curvature
Design:	AD WEST LEG	Database:	EDM 2003.14 Single User Db

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,710.00	90.30	335.90	935.29	2,722.63	-556.93	2,778.95	4.48	3.87	-2.26
3,741.00	90.10	336.10	935.18	2,750.95	-569.54	2,809.26	0.91	-0.65	0.65
3,762.00	89.90	335.30	935.18	2,770.09	-578.18	2,829.78	3.93	-0.95	-3.81
3,790.00	89.90	335.30	935.23	2,795.53	-589.89	2,857.09	0.00	0.00	0.00

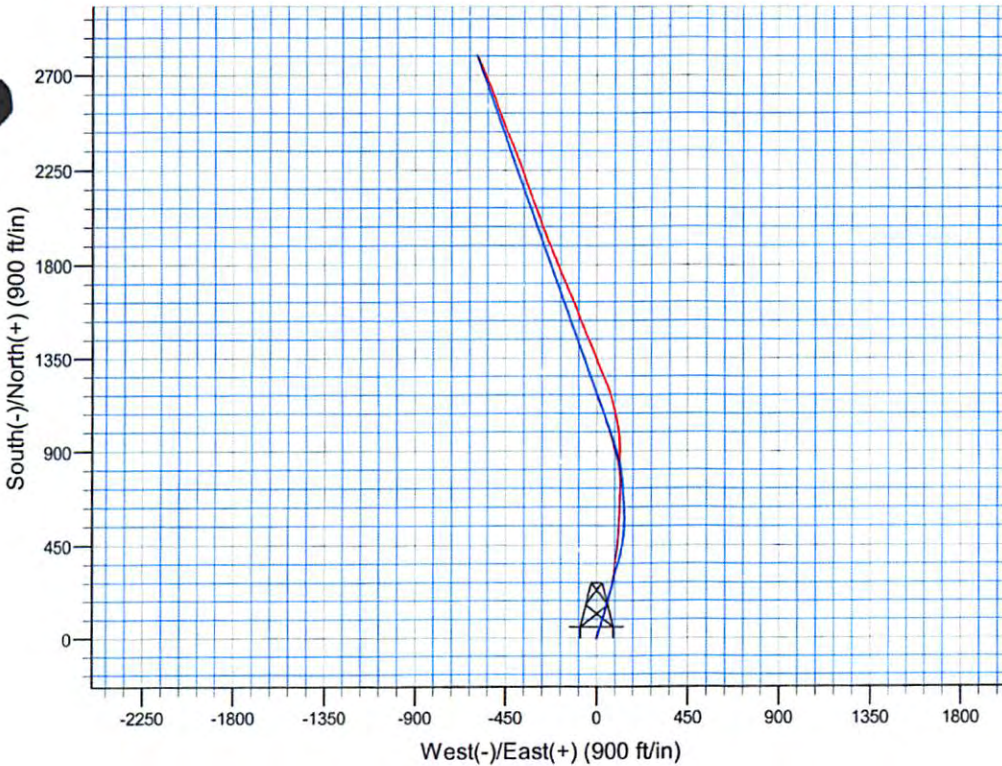
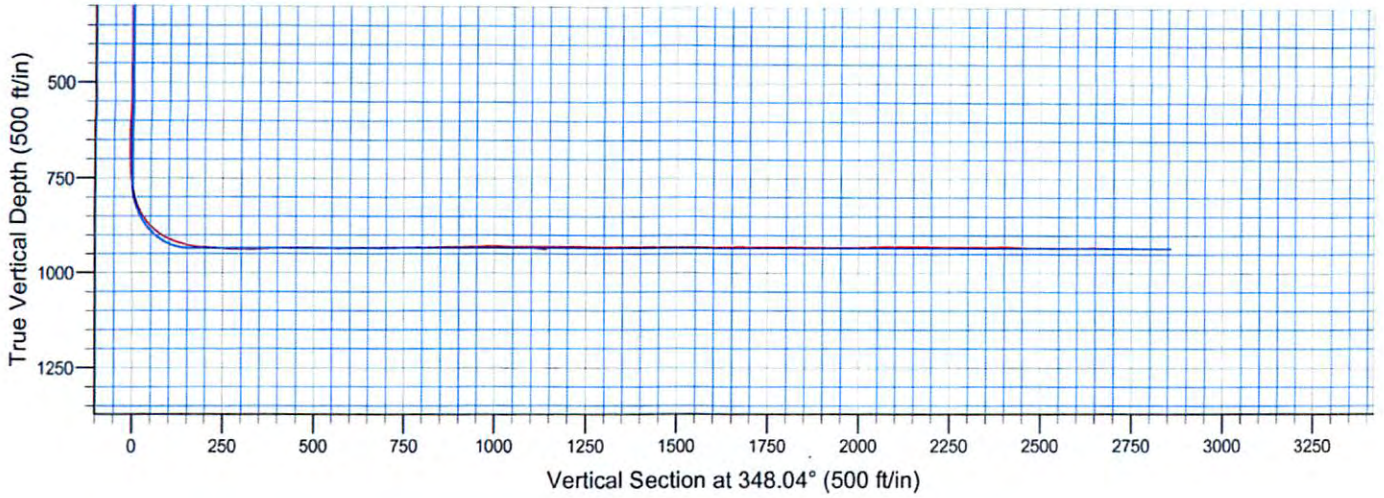
Target Name	hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
WBHL, MC-58	-	0.00	0.00	935.00	2,794.71	-592.24	499,309.15	1,662,098.53	39° 51' 56.670 N	80° 35' 29.766 W
- survey misses by 118.15ft at 3672.08ft MD (935.00 TVD, 2687.91 N, -541.71 E)										
- Point										
HZ, MC-58	-	0.00	0.00	935.00	377.15	108.86	496,883.27	1,662,770.26	39° 51' 32.777 N	80° 35' 20.774 W
- survey misses by 2400.60ft at 3672.08ft MD (935.00 TVD, 2687.91 N, -541.71 E)										
- Point										
GT1, MC-58	-	0.00	0.00	935.00	733.96	128.58	497,239.81	1,662,794.31	39° 51' 36.304 N	80° 35' 20.521 W
- survey misses by 2065.72ft at 3672.08ft MD (935.00 TVD, 2687.91 N, -541.71 E)										
- Point										

Checked By: _____ Approved By: _____ Date: _____



CNX Gas Company, LLC

GH-58 - WEST LEG
MARSHALL COUNTY
WEST VIRGINIA



LEGEND

- MC-58, WEST LEG, AD WLEG
- MC-58, WEST LEG, ADGYROCURVE
- PLANNED WELL

Azimuths to True North
Magnetic North: -8.47°

Magnetic Field
Strength: 53284.2nT
Dip Angle: 67.82°
Date: 5/29/2008
Model: IGRF200510

01/27/2017



Nevis Energy
Survey Report

Company:	CNX Gas Company, LLC	Local Co-ordinate Reference:	Well MC-58
Project:	WEST VIRGINIA2	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	MARSHALL COUNTY6	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Well:	MC-58	North Reference:	True
Wellbore:	EAST CENTER LEG	Survey Calculation Method:	Minimum Curvature
Design:	AD EAST CENTER LEG	Database:	EDM 2003.14 Single User Db

Project:	WEST VIRGINIA2		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	West Virginia Northern Zone		

Site:	MARSHALL COUNTY6				
Site Position:	Lat/Long	Northing:	496,507.47 ft	Latitude:	39° 51' 29.050 N
From:		Easting:	1,662,656.84 ft	Longitude:	80° 35' 22.170 W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	-0.69 °

Well:	MC-58					
Well Position	+N/-S	0.00 ft	Northing:	496,507.47 ft	Latitude:	39° 51' 29.050 N
	+E/-W	0.00 ft	Easting:	1,662,656.84 ft	Longitude:	80° 35' 22.170 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	0.00 ft

Wellbore:	EAST CENTER LEG				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	5/29/2008	-8.47	67.82	53,284

Design:	AD EAST CENTER LEG				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	1,300.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	25.12	

Survey Program	Date: 6/19/2008				
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
50.00	1,300.00	ADGYROCURVE (WEST LEG)			
1,300.00	4,629.00	AD ECTR LEG (EAST CENTER LEG)			

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,300.00	91.58	6.45	934.09	440.66	102.10	442.33	0.00	0.00	0.00
1,330.00	88.10	11.50	934.17	470.28	106.78	471.13	20.44	-11.60	16.83
1,362.00	88.90	14.50	935.01	501.44	113.97	502.40	9.70	2.50	9.37
1,394.00	88.90	16.20	935.62	532.30	122.44	533.93	5.31	0.00	5.31
1,428.00	89.60	19.70	936.07	564.63	132.92	567.66	10.50	2.06	10.29
1,459.00	91.90	19.70	935.66	593.81	143.37	598.51	7.42	7.42	0.00
1,491.00	92.10	21.60	934.54	623.74	154.64	630.39	5.97	0.62	5.94
1,522.00	89.90	24.00	934.00	652.31	166.65	661.36	10.50	-7.10	7.74
1,554.00	90.70	27.60	933.84	681.11	180.58	693.35	11.52	2.50	11.25
1,586.00	91.80	30.60	933.14	709.06	196.14	725.26	9.98	3.44	9.37
1,618.00	91.60	32.90	932.19	736.26	212.97	757.03	7.21	-0.62	7.19
1,650.00	90.90	32.20	931.49	763.23	230.18	788.76	3.09	-2.19	-2.19



Nevis Energy
Survey Report

Company:	CNX Gas Company,LLC	Local Co-ordinate Reference:	Well MC-58
Project:	WEST VIRGINIA2	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	MARSHALL COUNTY6	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Well:	MC-58	North Reference:	True
Wellbore:	EAST CENTER LEG	Survey Calculation Method:	Minimum Curvature
Design:	AD EAST CENTER LEG	Database:	EDM 2003.14 Single User Db

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,682.00	92.40	30.80	930.57	790.50	246.89	820.54	6.41	4.69	-4.37
1,713.00	92.70	28.40	929.19	817.42	262.19	851.42	7.79	0.97	-7.74
1,745.00	91.40	25.70	928.04	845.90	276.73	883.37	9.36	-4.06	-8.44
1,777.00	87.20	25.60	928.43	874.74	290.58	915.36	13.13	-13.12	-0.31
1,809.00	89.50	25.30	929.36	903.62	304.32	947.35	7.25	7.19	-0.94
1,840.00	89.00	25.80	929.76	931.59	317.69	978.34	2.28	-1.61	1.61
1,872.00	87.20	29.50	930.82	959.91	332.53	1,010.29	12.85	-5.62	11.56
1,904.00	88.90	30.60	931.91	987.59	348.54	1,042.15	6.33	5.31	3.44
1,935.00	90.60	31.50	932.05	1,014.15	364.53	1,072.98	6.20	5.48	2.90
1,968.00	92.10	31.30	931.27	1,042.31	381.72	1,105.77	4.59	4.55	-0.61
2,000.00	93.50	30.70	929.71	1,069.70	398.18	1,137.57	4.76	4.37	-1.87
2,032.00	92.20	30.30	928.12	1,097.24	414.40	1,169.38	4.25	-4.06	-1.25
2,063.00	89.60	29.40	927.63	1,124.12	429.83	1,200.27	8.88	-8.39	-2.90
2,095.00	87.60	29.30	928.41	1,152.01	445.51	1,232.17	6.26	-6.25	-0.31
2,127.00	85.40	27.80	930.36	1,180.06	460.77	1,264.05	8.32	-6.87	-4.69
2,159.00	86.10	27.80	932.74	1,208.29	475.65	1,295.93	2.19	2.19	0.00
2,191.00	88.60	31.10	934.22	1,236.12	491.37	1,327.80	12.93	7.81	10.31
2,222.00	91.00	31.60	934.32	1,262.59	507.49	1,358.61	7.91	7.74	1.61
2,254.00	92.10	30.90	933.46	1,289.93	524.09	1,390.42	4.07	3.44	-2.19
2,286.00	91.90	30.50	932.34	1,317.43	540.42	1,422.25	1.40	-0.62	-1.25
2,318.00	91.40	29.90	931.42	1,345.08	556.51	1,454.11	2.44	-1.56	-1.87
2,349.00	90.00	29.90	931.04	1,371.95	571.96	1,485.00	4.52	-4.52	0.00
2,381.00	88.90	30.20	931.35	1,399.65	587.98	1,516.88	3.56	-3.44	0.94
2,413.00	90.30	31.00	931.57	1,427.19	604.27	1,548.73	5.04	4.37	2.50
2,445.00	90.00	32.70	931.49	1,454.37	621.15	1,580.51	5.39	-0.94	5.31
2,476.00	90.40	32.60	931.38	1,480.47	637.88	1,611.24	1.33	1.29	-0.32
2,508.00	89.90	32.00	931.30	1,507.52	654.98	1,642.99	2.44	-1.56	-1.87
2,540.00	89.70	33.20	931.41	1,534.48	672.22	1,674.71	3.80	-0.62	3.75
2,572.00	90.40	34.10	931.38	1,561.11	689.95	1,706.36	3.56	2.19	2.81
2,604.00	90.90	34.10	931.02	1,587.61	707.89	1,737.96	1.56	1.56	0.00
2,635.00	91.00	30.60	930.50	1,613.79	724.47	1,768.71	11.29	0.32	-11.29
2,667.00	91.30	29.50	929.86	1,641.48	740.49	1,800.58	3.56	0.94	-3.44
2,699.00	90.10	28.90	929.47	1,669.41	756.10	1,832.50	4.19	-3.75	-1.87
2,730.00	89.60	28.70	929.55	1,696.58	771.04	1,863.44	1.74	-1.61	-0.65
2,762.00	90.30	28.20	929.58	1,724.72	786.28	1,895.38	2.69	2.19	-1.56
2,794.00	90.90	28.10	929.24	1,752.93	801.38	1,927.33	1.90	1.87	-0.31
2,826.00	90.20	28.00	928.94	1,781.17	816.42	1,959.29	2.21	-2.19	-0.31
2,858.00	88.70	28.80	929.24	1,809.31	831.64	1,991.24	5.31	-4.69	2.50
2,890.00	88.30	26.20	930.08	1,837.69	846.41	2,023.19	8.22	-1.25	-8.12
2,922.00	92.40	30.80	929.89	1,865.79	861.67	2,055.12	19.25	12.81	14.37
2,954.00	92.20	30.80	928.60	1,893.26	878.05	2,086.94	0.62	-0.62	0.00
2,985.00	90.80	29.30	927.79	1,920.08	893.56	2,117.81	6.62	-4.52	-4.84
3,017.00	89.10	30.00	927.82	1,947.89	909.39	2,149.71	5.75	-5.31	2.19
3,049.00	89.30	29.20	928.26	1,975.71	925.20	2,181.61	2.58	0.62	-2.50
3,081.00	90.80	27.70	928.24	2,003.85	940.44	2,213.55	6.63	4.69	-4.69
3,113.00	92.00	27.30	927.45	2,032.22	955.21	2,245.52	3.95	3.75	-1.25
3,145.00	93.10	25.90	926.03	2,060.80	969.53	2,277.47	5.56	3.44	-4.37
3,176.00	91.60	24.60	924.76	2,088.82	982.74	2,308.45	6.40	-4.84	-4.19
3,210.00	89.80	23.00	924.34	2,119.92	996.46	2,342.43	7.08	-5.29	-4.71
3,241.00	88.60	22.60	924.78	2,148.50	1,008.47	2,373.40	4.08	-3.87	-1.29
3,273.00	88.50	23.40	925.59	2,177.94	1,020.97	2,405.37	2.52	-0.31	2.50
3,305.00	89.30	23.40	926.20	2,207.30	1,033.67	2,437.35	2.50	2.50	0.00
3,337.00	88.90	22.90	926.70	2,236.72	1,046.25	2,469.33	2.00	-1.25	-1.56
3,369.00	90.70	24.10	926.82	2,266.07	1,059.01	2,501.31	6.76	5.62	3.75

5101137P



Nevis Energy
Survey Report

Company:	CNX Gas Company, LLC	Local Co-ordinate Reference:	Well MC-58
Project:	WEST VIRGINIA2	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	MARSHALL COUNTY6	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Well:	MC-58	North Reference:	True
Wellbore:	EAST CENTER LEG	Survey Calculation Method:	Minimum Curvature
Design:	AD EAST CENTER LEG	Database:	EDM 2003.14 Single User Db

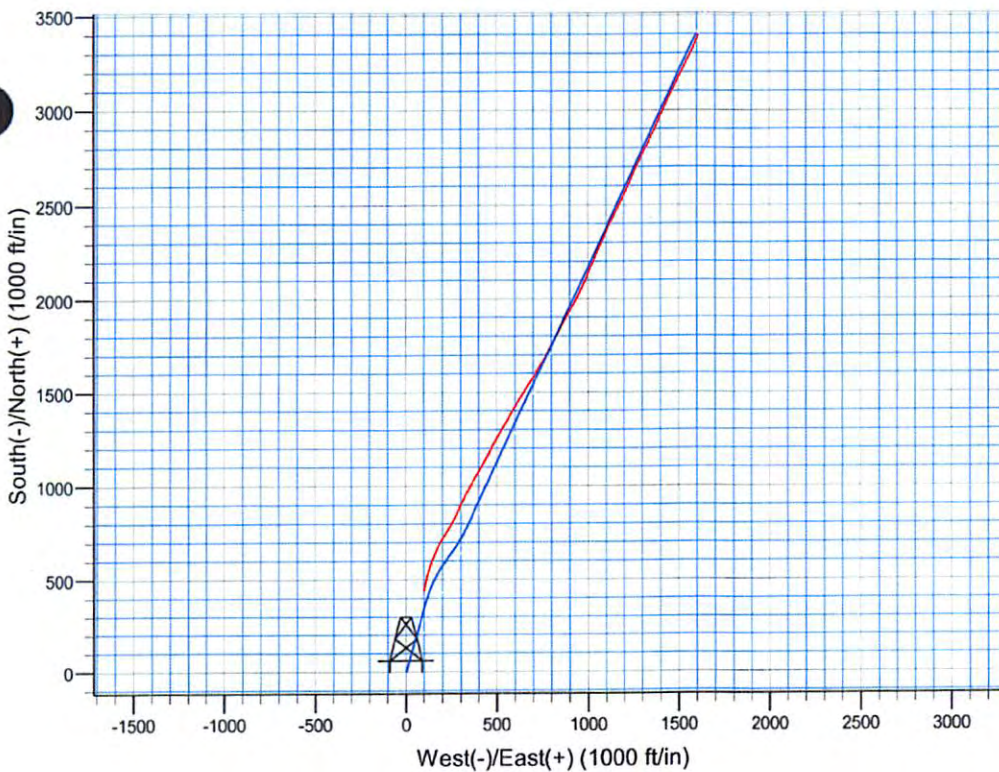
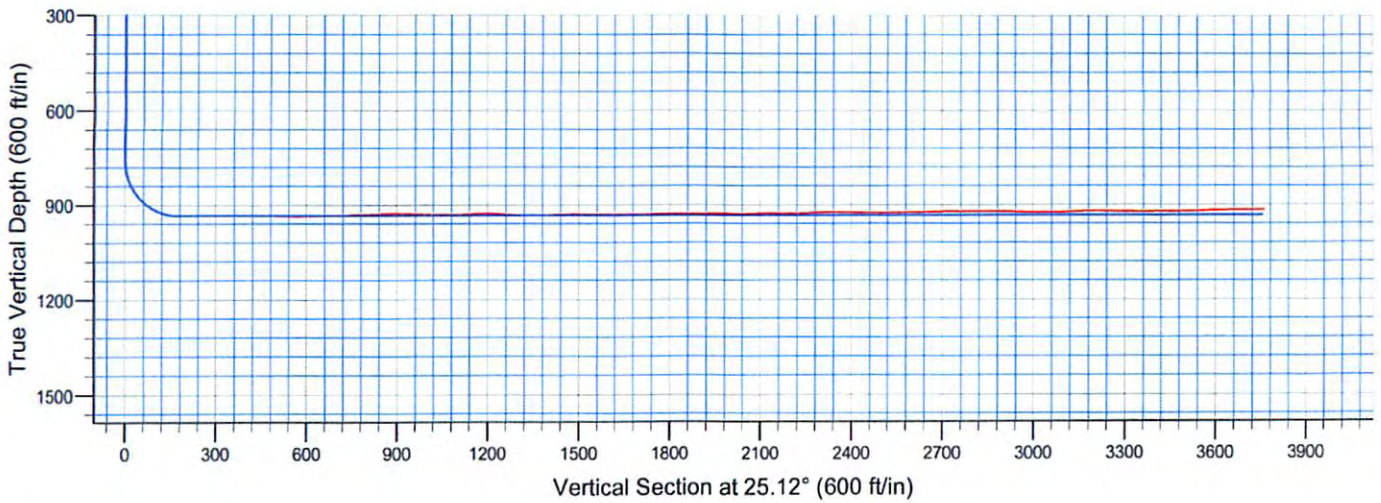
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,401.00	91.00	24.10	926.34	2,295.28	1,072.08	2,533.30	0.94	0.94	0.00
3,432.00	91.80	24.70	925.58	2,323.50	1,084.88	2,564.29	3.23	2.58	1.94
3,464.00	90.60	25.80	924.91	2,352.43	1,098.52	2,596.28	5.09	-3.75	3.44
3,496.00	91.80	26.10	924.24	2,381.20	1,112.52	2,628.27	3.87	3.75	0.94
3,528.00	91.60	28.40	923.29	2,409.63	1,127.17	2,660.23	7.21	-0.62	7.19
3,560.00	91.70	27.30	922.37	2,437.92	1,142.11	2,692.18	3.45	0.31	-3.44
3,591.00	90.00	28.70	921.91	2,465.28	1,156.66	2,723.14	7.10	-5.48	4.52
3,623.00	89.50	26.70	922.05	2,493.61	1,171.54	2,755.10	6.44	-1.56	-6.25
3,655.00	90.50	26.50	922.05	2,522.23	1,185.86	2,787.09	3.19	3.12	-0.62
3,687.00	90.90	26.70	921.66	2,550.84	1,200.19	2,819.08	1.40	1.25	0.62
3,712.00	91.10	25.20	921.23	2,573.31	1,211.13	2,844.07	6.05	0.80	-6.00
3,744.00	89.40	23.50	921.09	2,602.46	1,224.32	2,876.07	7.51	-5.31	-5.31
3,775.00	88.60	23.70	921.63	2,630.87	1,236.73	2,907.05	2.66	-2.58	0.65
3,807.00	88.10	23.90	922.55	2,660.13	1,249.64	2,939.03	1.68	-1.56	0.62
3,839.00	88.80	24.40	923.41	2,689.32	1,262.73	2,971.01	2.69	2.19	1.56
3,871.00	88.60	26.80	924.14	2,718.17	1,276.55	3,003.00	7.52	-0.62	7.50
3,903.00	89.50	27.00	924.67	2,746.70	1,291.02	3,034.98	2.88	2.81	0.62
3,934.00	90.60	27.90	924.64	2,774.21	1,305.31	3,065.95	4.58	3.55	2.90
3,966.00	91.70	28.50	924.00	2,802.41	1,320.43	3,097.90	3.92	3.44	1.87
3,998.00	92.90	25.80	922.72	2,830.86	1,335.02	3,129.85	9.23	3.75	-8.44
4,030.00	92.40	26.00	921.24	2,859.61	1,348.98	3,161.81	1.68	-1.56	0.62
4,062.00	90.30	25.30	920.48	2,888.45	1,362.83	3,193.80	6.92	-6.56	-2.19
4,093.00	89.60	25.90	920.51	2,916.40	1,376.23	3,224.80	2.97	-2.26	1.94
4,124.00	89.20	24.10	920.83	2,944.50	1,389.33	3,255.80	5.95	-1.29	-5.81
4,156.00	89.20	24.50	921.28	2,973.66	1,402.49	3,287.79	1.25	0.00	1.25
4,195.00	88.70	23.90	922.00	3,009.22	1,418.48	3,326.78	2.00	-1.28	-1.54
4,227.00	89.20	24.70	922.58	3,038.38	1,431.64	3,358.77	2.95	1.56	2.50
4,250.00	91.70	27.00	922.40	3,059.08	1,441.67	3,381.76	14.77	10.87	10.00
4,282.00	90.70	26.50	921.73	3,087.65	1,456.07	3,413.74	3.49	-3.12	-1.56
4,315.00	90.30	27.50	921.44	3,117.05	1,471.05	3,446.72	3.26	-1.21	3.03
4,353.00	90.80	26.90	921.08	3,150.85	1,488.42	3,484.70	2.06	1.32	-1.58
4,379.00	90.60	27.70	920.76	3,173.95	1,500.34	3,510.68	3.17	-0.77	3.08
4,417.00	92.10	27.20	919.87	3,207.66	1,517.85	3,548.63	4.16	3.95	-1.32
4,448.00	91.10	26.60	919.00	3,235.29	1,531.87	3,579.61	3.76	-3.23	-1.94
4,480.00	91.20	27.30	918.36	3,263.81	1,546.37	3,611.58	2.21	0.31	2.19
4,512.00	91.00	26.50	917.74	3,292.34	1,560.85	3,643.56	2.58	-0.62	-2.50
4,543.00	89.80	25.00	917.53	3,320.26	1,574.32	3,674.56	6.20	-3.87	-4.84
4,575.00	89.60	23.80	917.70	3,349.40	1,587.54	3,706.55	3.80	-0.62	-3.75
4,601.00	90.10	23.70	917.76	3,373.20	1,598.01	3,732.55	1.96	1.92	-0.38
4,629.00	90.10	23.70	917.71	3,398.84	1,609.26	3,760.54	0.00	0.00	0.00

01/27/2017



CNX Gas Company, LLC

GH-58 - EAST CENTER LEG
MARSHALL COUNTY
WEST VIRGINIA



LEGEND

- MC-58, EAST CENTER LEG, AD ECTR LEG
- PLANNED WELL

Azimuths to True North
 Magnetic North: -8.47°
 Magnetic Field
 Strength: 53284.2nT
 Dip Angle: 67.82°
 Date: 5/29/2008
 Model: IGRF200510

01/27/2017

5101137A



Nevis Energy Survey Report

Company:	CNX Gas Company, LLC	Local Co-ordinate Reference:	Well MC-58
Project:	WEST VIRGINIA2	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	MARSHALL COUNTY6	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Well:	MC-58	North Reference:	True
Wellbore:	WEST CENTER LEG	Survey Calculation Method:	Minimum Curvature
Design:	AD WEST CENTER LEG	Database:	EDM 2003.14 Single User Db

Project:	WEST VIRGINIA2		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	West Virginia Northern Zone		

Site:	MARSHALL COUNTY6				
Site Position:		Northing:	496,507.47ft	Latitude:	39° 51' 29.050 N
From:	Lat/Long	Easting:	1,662,656.84ft	Longitude:	80° 35' 22.170 W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	-0.69 °

Well:	MC-58					
Well Position	+N/-S	0.00 ft	Northing:	496,507.47 ft	Latitude:	39° 51' 29.050 N
	+E/-W	0.00 ft	Easting:	1,662,656.84 ft	Longitude:	80° 35' 22.170 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	0.00 ft

Wellbore:	WEST CENTER LEG				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF200510	5/29/2008	(°)	(°)	(nT)
			-8.47	67.82	53,284

Design:	AD WEST CENTER LEG				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	1,775.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.00	0.00	0.00	7.24	

Survey Program	Date: 6/19/2008				
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
50.00	1,646.00	ADGYROCURVE (WEST LEG)			
1,650.00	1,775.00	AD WLEG (WEST LEG)			
1,775.00	4,062.00	AD WCTR LEG (WEST CENTER LEG)			

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,775.00	92.02	359.51	931.52	915.02	114.70	922.18	0.00	0.00	0.00
1,809.00	88.70	3.60	931.31	949.00	115.63	956.00	15.50	-9.76	12.04
1,840.00	88.60	6.00	932.04	979.88	118.22	986.96	7.75	-0.32	7.74
1,872.00	92.00	9.20	931.87	1,011.59	122.45	1,018.95	14.59	10.62	10.00
1,904.00	91.50	10.20	930.90	1,043.12	127.84	1,050.91	3.49	-1.56	3.12
1,936.00	89.30	9.10	930.67	1,074.66	133.20	1,082.88	7.69	-6.87	-3.44
1,968.00	88.70	9.00	931.23	1,106.26	138.24	1,114.86	1.90	-1.87	-0.31
2,000.00	91.00	10.10	931.31	1,137.81	143.54	1,146.83	7.97	7.19	3.44
2,031.00	90.30	9.00	930.96	1,168.38	148.69	1,177.80	4.21	-2.26	-3.55
2,063.00	89.30	9.40	931.07	1,199.97	153.80	1,209.78	3.37	-3.12	1.25
2,095.00	89.70	10.70	931.35	1,231.47	159.39	1,241.74	4.25	1.25	4.06

5101137 P



Nevis Energy
Survey Report

Company:	CNX Gas Company,LLC	Local Co-ordinate Reference:	Well MC-58
Project:	WEST VIRGINIA2	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	MARSHALL COUNTY6	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Well:	MC-58	North Reference:	True
Wellbore:	WEST CENTER LEG	Survey Calculation Method:	Minimum Curvature
Design:	AD WEST CENTER LEG	Database:	EDM 2003.14 Single User Db

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
2,127.00	91.60	11.30	930.99	1,262.88	165.49	1,273.67	6.23	5.94	1.87
2,158.00	91.40	7.30	930.18	1,293.46	170.50	1,304.63	12.91	-0.65	-12.90
2,191.00	89.90	8.10	929.80	1,326.16	174.92	1,337.63	5.15	-4.55	2.42
2,222.00	89.30	8.10	930.02	1,356.85	179.29	1,368.62	1.94	-1.94	0.00
2,254.00	88.90	7.80	930.52	1,388.53	183.71	1,400.62	1.56	-1.25	-0.94
2,286.00	88.50	7.30	931.25	1,420.25	187.92	1,432.61	2.00	-1.25	-1.56
2,318.00	91.30	8.60	931.31	1,451.94	192.34	1,464.60	9.65	8.75	4.06
2,349.00	90.90	8.10	930.71	1,482.60	196.84	1,495.59	2.07	-1.29	-1.61
2,381.00	89.30	8.30	930.65	1,514.27	201.41	1,527.58	5.04	-5.00	0.62
2,413.00	89.30	8.90	931.05	1,545.91	206.19	1,559.57	1.87	0.00	1.87
2,445.00	90.40	7.40	931.13	1,577.59	210.73	1,591.57	5.81	3.44	-4.69
2,476.00	89.10	7.70	931.26	1,608.32	214.80	1,622.57	4.30	-4.19	0.97
2,508.00	90.90	9.44	931.26	1,639.96	219.57	1,654.55	7.82	5.62	5.44
2,540.00	91.00	9.50	930.73	1,671.52	224.83	1,686.53	0.36	0.31	0.19
2,572.00	91.50	8.70	930.04	1,703.11	229.89	1,718.50	2.95	1.56	-2.50
2,604.00	91.10	9.30	929.31	1,734.70	234.90	1,750.48	2.25	-1.25	1.87
2,635.00	90.50	7.30	928.88	1,765.38	239.37	1,781.47	6.74	-1.94	-6.45
2,667.00	90.80	7.30	928.51	1,797.11	243.44	1,813.46	0.94	0.94	0.00
2,699.00	89.50	7.20	928.43	1,828.86	247.48	1,845.46	4.07	-4.06	-0.31
2,731.00	89.10	6.00	928.82	1,860.64	251.15	1,877.46	3.95	-1.25	-3.75
2,762.00	92.00	7.60	928.52	1,891.42	254.82	1,908.45	10.68	9.35	5.16
2,794.00	92.80	7.60	927.18	1,923.11	259.05	1,940.42	2.50	2.50	0.00
2,826.00	90.80	7.10	926.18	1,954.83	263.14	1,972.41	6.44	-6.25	-1.56
2,858.00	91.00	6.90	925.68	1,986.59	267.04	2,004.40	0.88	0.62	-0.62
2,890.00	90.20	5.70	925.34	2,018.39	270.55	2,036.39	4.51	-2.50	-3.75
2,922.00	89.60	4.50	925.40	2,050.26	273.40	2,068.37	4.19	-1.87	-3.75
2,954.00	89.90	5.70	925.54	2,082.14	276.24	2,100.35	3.87	0.94	3.75
2,985.00	89.20	7.50	925.78	2,112.93	279.81	2,131.34	6.23	-2.26	5.81
3,017.00	89.40	7.60	926.17	2,144.65	284.01	2,163.34	0.70	0.62	0.31
3,049.00	90.90	7.40	926.09	2,176.37	288.19	2,195.34	4.73	4.69	-0.62
3,081.00	91.40	8.03	925.44	2,208.08	292.48	2,227.33	2.51	1.56	1.97
3,113.00	90.10	6.80	925.03	2,239.81	296.61	2,259.33	5.59	-4.06	-3.84
3,145.00	89.60	6.10	925.11	2,271.60	300.21	2,291.32	2.69	-1.56	-2.19
3,176.00	90.80	6.10	925.00	2,302.43	303.50	2,322.32	3.87	3.87	0.00
3,208.00	90.50	5.30	924.64	2,334.27	306.68	2,354.30	2.67	-0.94	-2.50
3,240.00	91.80	7.50	924.00	2,366.06	310.24	2,386.29	7.98	4.06	6.87
3,272.00	89.00	5.03	923.77	2,397.86	313.73	2,418.28	11.67	-8.75	-7.72
3,304.00	88.80	5.50	924.39	2,429.72	316.67	2,450.25	1.60	-0.62	1.47
3,336.00	88.90	5.80	925.03	2,461.56	319.82	2,482.24	0.99	0.31	0.94
3,367.00	90.80	6.20	925.11	2,492.39	323.06	2,513.23	6.26	6.13	1.29
3,399.00	89.80	4.70	924.94	2,524.24	326.10	2,545.21	5.63	-3.12	-4.69
3,431.00	88.40	4.80	925.45	2,556.12	328.75	2,577.17	4.39	-4.37	0.31
3,463.00	90.80	6.10	925.67	2,587.98	331.79	2,609.16	8.53	7.50	4.06
3,495.00	92.20	5.90	924.83	2,619.79	335.13	2,641.14	4.42	4.37	-0.62
3,521.00	92.80	5.20	923.70	2,645.64	337.64	2,667.10	3.54	2.31	-2.69
3,553.00	91.80	5.00	922.41	2,677.49	340.49	2,699.05	3.19	-3.12	-0.62
3,585.00	90.00	4.60	921.91	2,709.37	343.16	2,731.02	5.76	-5.62	-1.25
3,616.00	89.40	3.50	922.07	2,740.29	345.35	2,761.97	4.04	-1.94	-3.55
3,646.00	88.10	5.00	922.73	2,770.20	347.58	2,791.92	6.62	-4.33	5.00
3,678.00	88.30	6.40	923.73	2,802.03	350.75	2,823.89	4.42	0.62	4.37
3,709.00	88.70	6.90	924.54	2,832.81	354.34	2,854.88	2.07	1.29	1.61
3,741.00	90.70	9.10	924.71	2,864.49	358.79	2,886.87	9.29	6.25	6.87
3,780.00	91.60	8.70	923.93	2,903.01	364.83	2,925.85	2.53	2.31	-1.03
3,812.00	91.10	8.40	923.17	2,934.65	369.58	2,957.83	1.82	-1.56	-0.94

5101137P



Nevis Energy Survey Report

Company: CNX Gas Company, LLC	Local Co-ordinate Reference: Well MC-58
Project: WEST VIRGINIA2	TVD Reference: WELL @ 0.00ft (Original Well Elev)
Site: MARSHALL COUNTY6	MD Reference: WELL @ 0.00ft (Original Well Elev)
Well: MC-58	North Reference: True
Wellbore: WEST CENTER LEG	Survey Calculation Method: Minimum Curvature
Design: AD WEST CENTER LEG	Database: EDM 2003.14 Single User Db

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,844.00	90.20	9.30	922.81	2,966.27	374.50	2,989.81	3.98	-2.81	2.81
3,875.00	91.30	8.20	922.41	2,996.90	379.22	3,020.80	5.02	3.55	-3.55
3,907.00	91.80	9.70	921.54	3,028.50	384.20	3,052.77	4.94	1.56	4.69
3,939.00	91.40	9.40	920.65	3,060.04	389.50	3,084.73	1.56	-1.25	-0.94
3,971.00	90.50	9.90	920.12	3,091.59	394.87	3,116.70	3.22	-2.81	1.56
4,003.00	90.90	9.10	919.73	3,123.14	400.15	3,148.67	2.79	1.25	-2.50
4,034.00	90.90	9.80	919.24	3,153.72	405.24	3,179.65	2.26	0.00	2.26
4,062.00	90.90	9.80	918.80	3,181.31	410.00	3,207.61	0.00	0.00	0.00

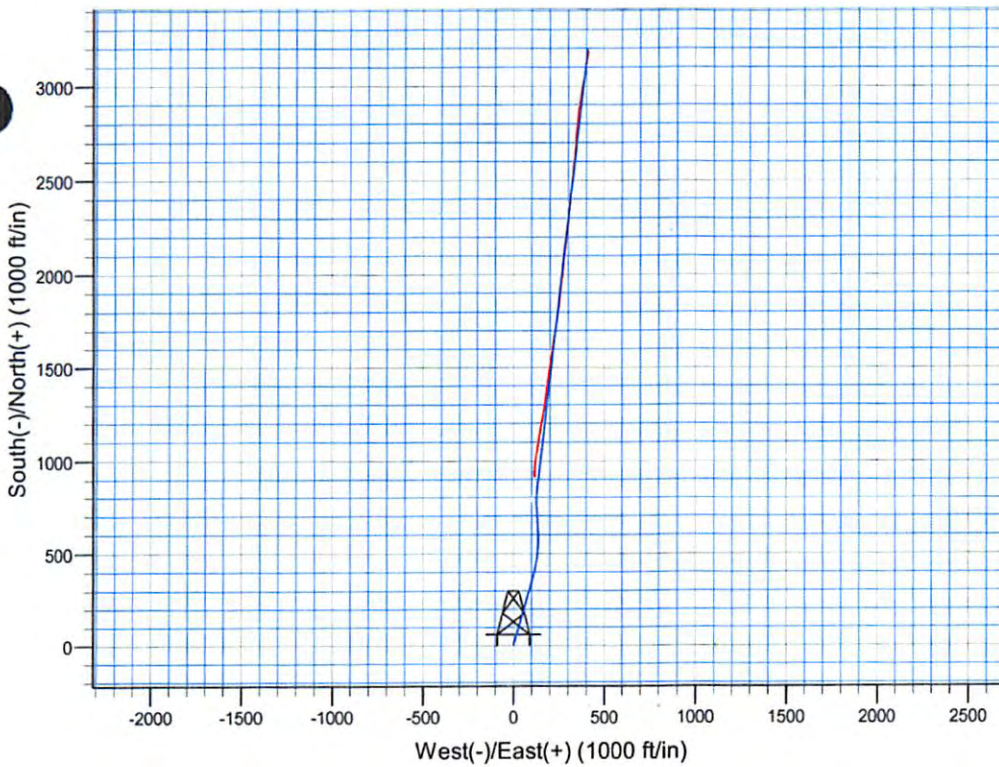
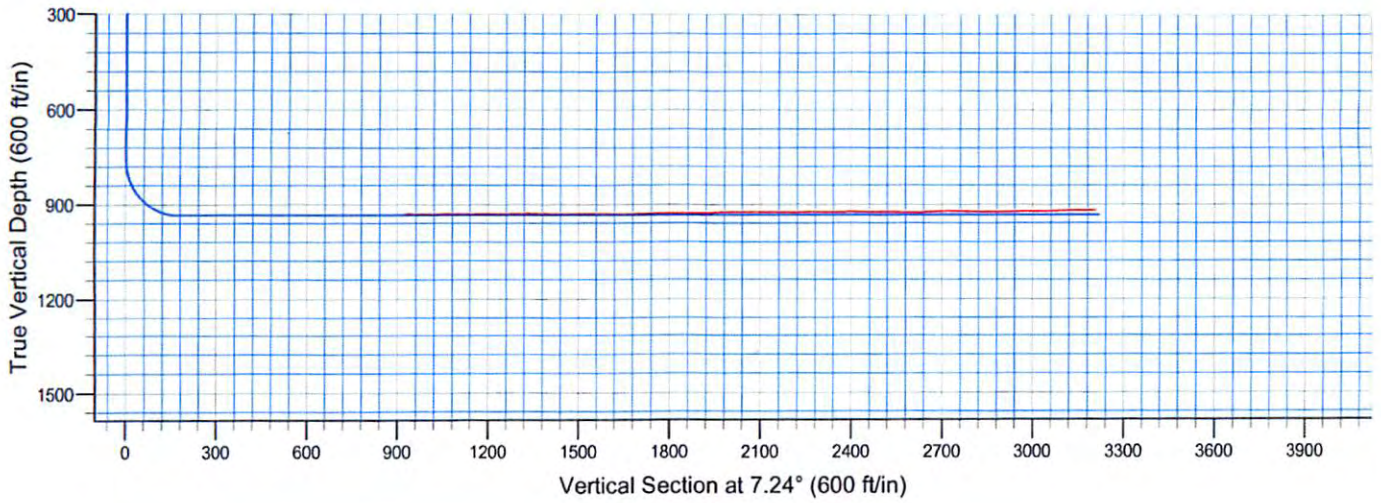
Target Name	hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
WCTRBHL, MC-58		0.00	0.00	935.00	3,192.15	405.51	499,694.46	1,663,101.03	39° 52' 0.598 N	80° 35' 16.969 W
- survey misses by 20.01ft at 4062.00ft MD (918.80 TVD, 3181.31 N, 410.00 E)										
- Point										

Checked By: _____ Approved By: _____ Date: _____



CNX Gas Company, LLC

GH-58 - WEST CENTER LEG
MARSHALL COUNTY
WEST VIRGINIA



LEGEND

- MC-58, WEST CENTER LEG, AD WCTR LEG
- PLANNED WELL

Azimuths to True North
 Magnetic North: -8.47°
 Magnetic Field
 Strength: 53284.2nT
 Dip Angle: 67.82°
 Date: 5/29/2008
 Model: IGRF200510

01/27/2017



Nevis Energy Survey Report

Company:	CNX Gas Company, LLC	Local Co-ordinate Reference:	Well MC-58
Project:	WEST VIRGINIA2	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	MARSHALL COUNTY6	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Well:	MC-58	North Reference:	True
Wellbore:	EAST LEG	Survey Calculation Method:	Minimum Curvature
Design:	AD EAST LEG	Database:	EDM 2003.14 Single User Db

Project:	WEST VIRGINIA2		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	West Virginia Northern Zone		

Site:	MARSHALL COUNTY6				
Site Position:		Northing:	496,507.47 ft	Latitude:	39° 51' 29.050 N
From:	Lat/Long	Easting:	1,662,656.84 ft	Longitude:	80° 35' 22.170 W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	-0.69 °

Well:	MC-58					
Well Position	+N/-S	0.00 ft	Northing:	496,507.47 ft	Latitude:	39° 51' 29.050 N
	+E/-W	0.00 ft	Easting:	1,662,656.84 ft	Longitude:	80° 35' 22.170 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	0.00 ft

Wellbore:	EAST LEG				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	5/29/2008	-8.47	67.82	53,284

Design:	AD EAST LEG				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	1,713.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	51.27	

Survey Program	Date 6/19/2008				
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
50.00	1,300.00	ADGYROCURVE (WEST LEG)			
1,300.00	1,713.00	AD ECTR LEG (EAST CENTER LEG)			
1,713.00	3,956.00	AD ELEG (EAST LEG)			

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,713.00	92.70	28.40	929.19	817.43	262.18	715.95	0.00	0.00	0.00
1,745.00	85.70	31.10	929.64	845.19	278.05	745.70	23.44	-21.87	8.44
1,777.00	84.60	33.20	932.34	872.18	295.01	775.82	7.39	-3.44	6.56
1,809.00	88.80	36.60	934.18	898.37	313.28	806.46	16.87	13.12	10.62
1,840.00	91.70	39.50	934.05	922.78	332.39	836.63	13.23	9.35	9.35
1,872.00	92.60	41.40	932.85	947.11	353.13	868.04	6.57	2.81	5.94
1,904.00	87.50	44.20	932.82	970.58	374.86	899.68	18.18	-15.94	8.75
1,936.00	86.00	46.40	934.63	993.05	397.57	931.45	8.31	-4.69	6.87
1,969.00	90.70	50.10	935.58	1,015.01	422.17	964.38	18.12	14.24	11.21
2,000.00	89.50	54.20	935.53	1,034.02	446.64	995.37	13.78	-3.87	13.23
2,031.00	89.20	59.00	935.88	1,051.08	472.51	1,026.22	15.51	-0.97	15.48



Nevis Energy Survey Report

Company: CNX Gas Company, LLC
Project: WEST VIRGINIA2
Site: MARSHALL COUNTY6
Well: MC-58
Wellbore: EAST LEG
Design: AD EAST LEG

Local Co-ordinate Reference: Well MC-58
TVD Reference: WELL @ 0.00ft (Original Well Elev)
MD Reference: WELL @ 0.00ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.14 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
2,063.00	89.10	65.60	936.36	1,065.95	500.83	1,057.61	20.63	-0.31	20.62
2,095.00	89.20	67.20	936.83	1,078.76	530.15	1,088.50	5.01	0.31	5.00
2,127.00	92.60	71.90	936.33	1,089.93	560.11	1,118.86	18.12	10.62	14.69
2,159.00	93.50	73.40	934.63	1,099.46	590.61	1,148.62	5.46	2.81	4.69
2,191.00	92.00	73.30	933.09	1,108.62	621.24	1,178.24	4.70	-4.69	-0.31
2,222.00	90.10	72.70	932.52	1,117.68	650.87	1,207.03	6.43	-6.13	-1.94
2,254.00	90.60	72.50	932.33	1,127.25	681.41	1,236.84	1.68	1.56	-0.62
2,285.00	89.00	72.20	932.44	1,136.65	710.95	1,265.76	5.25	-5.16	-0.97
2,318.00	86.40	70.30	933.76	1,147.25	742.17	1,296.74	9.76	-7.88	-5.76
2,349.00	87.80	72.00	935.33	1,157.25	771.47	1,325.86	7.10	4.52	5.48
2,381.00	89.70	73.60	936.03	1,166.71	802.03	1,355.62	7.76	5.94	5.00
2,413.00	89.30	74.30	936.31	1,175.55	832.78	1,385.14	2.52	-1.25	2.19
2,445.00	90.90	76.20	936.25	1,183.70	863.72	1,414.38	7.76	5.00	5.94
2,476.00	91.20	77.10	935.68	1,190.86	893.88	1,442.38	3.06	0.97	2.90
2,508.00	90.40	77.80	935.24	1,197.81	925.11	1,471.09	3.32	-2.50	2.19
2,540.00	91.10	76.70	934.82	1,204.87	956.32	1,499.86	4.07	2.19	-3.44
2,572.00	91.90	75.00	933.98	1,212.69	987.33	1,528.94	5.87	2.50	-5.31
2,604.00	89.90	72.80	933.48	1,221.56	1,018.07	1,558.47	9.29	-6.25	-6.87
2,635.00	89.20	71.70	933.72	1,231.01	1,047.59	1,587.42	4.21	-2.26	-3.55
2,667.00	90.50	69.70	933.80	1,241.59	1,077.79	1,617.59	7.45	4.06	-6.25
2,699.00	90.30	69.70	933.58	1,252.69	1,107.81	1,647.95	0.62	-0.62	0.00
2,721.00	90.80	71.30	933.37	1,260.03	1,128.54	1,668.72	7.62	2.27	7.27
2,762.00	92.90	72.80	932.05	1,272.66	1,167.52	1,707.03	6.29	5.12	3.66
2,794.00	91.00	73.70	930.96	1,281.88	1,198.15	1,736.69	6.57	-5.94	2.81
2,826.00	90.90	70.90	930.43	1,291.61	1,228.62	1,766.55	8.75	-0.31	-8.75
2,858.00	91.40	70.20	929.78	1,302.26	1,258.79	1,796.75	2.69	1.56	-2.19
2,890.00	91.70	67.40	928.92	1,313.83	1,288.61	1,827.25	8.80	0.94	-8.75
2,922.00	91.50	65.60	928.02	1,326.58	1,317.94	1,858.11	5.66	-0.62	-5.62
2,954.00	90.30	65.20	927.52	1,339.90	1,347.04	1,889.14	3.95	-3.75	-1.25
2,985.00	89.10	65.40	927.68	1,352.85	1,375.20	1,919.21	3.92	-3.87	0.65
3,017.00	89.30	64.70	928.13	1,366.35	1,404.21	1,950.29	2.27	0.62	-2.19
3,049.00	93.30	67.10	927.40	1,379.41	1,433.40	1,981.23	14.58	12.50	7.50
3,081.00	95.40	69.20	924.98	1,391.28	1,463.02	2,011.76	9.27	6.56	6.56
3,113.00	93.10	66.80	922.61	1,403.24	1,492.60	2,042.32	10.37	-7.19	-7.50
3,145.00	89.40	66.30	921.91	1,415.97	1,521.94	2,073.18	11.67	-11.56	-1.56
3,176.00	89.90	66.00	922.10	1,428.50	1,550.30	2,103.14	1.88	1.61	-0.97
3,210.00	89.30	66.00	922.33	1,442.33	1,581.36	2,136.02	1.76	-1.76	0.00
3,241.00	89.10	65.93	922.77	1,454.96	1,609.67	2,166.00	0.68	-0.65	-0.23
3,273.00	89.70	67.30	923.10	1,467.66	1,639.04	2,196.86	4.67	1.87	4.28
3,305.00	92.30	70.10	922.54	1,479.28	1,668.84	2,227.38	11.94	8.12	8.75
3,337.00	93.30	69.90	920.98	1,490.21	1,698.87	2,257.65	3.19	3.12	-0.62
3,369.00	94.60	67.40	918.78	1,501.83	1,728.60	2,288.11	8.79	4.06	-7.81
3,401.00	91.60	66.30	917.05	1,514.39	1,757.98	2,318.88	9.98	-9.37	-3.44
3,432.00	89.60	63.30	916.72	1,527.59	1,786.02	2,349.02	11.63	-6.45	-9.68
3,464.00	90.10	63.30	916.80	1,541.96	1,814.61	2,380.31	1.56	1.56	0.00
3,496.00	87.40	62.70	917.50	1,556.49	1,843.11	2,411.64	8.64	-8.44	-1.87
3,528.00	88.90	62.30	918.54	1,571.25	1,871.48	2,443.01	4.85	4.69	-1.25
3,554.00	90.20	60.30	918.74	1,583.74	1,894.29	2,468.61	9.17	5.00	-7.69
3,585.00	90.80	60.50	918.47	1,599.05	1,921.24	2,499.21	2.04	1.94	0.65
3,617.00	91.90	59.90	917.72	1,614.95	1,949.00	2,530.81	3.92	3.44	-1.87
3,649.00	90.90	59.80	916.93	1,631.02	1,976.66	2,562.45	3.14	-3.12	-0.31
3,681.00	89.40	57.60	916.85	1,647.64	2,004.00	2,594.17	8.32	-4.69	-6.87
3,712.00	90.40	59.10	916.90	1,663.90	2,030.39	2,624.94	5.82	3.23	4.84
3,744.00	91.30	57.50	916.43	1,680.72	2,057.61	2,656.69	5.74	2.81	-5.00



Nevis Energy Survey Report

Company: CNX Gas Company, LLC
 Project: WEST VIRGINIA2
 Site: MARSHALL COUNTY6
 Well: MC-58
 Wellbore: EAST LEG
 Design: AD EAST LEG

Local Co-ordinate Reference: Well MC-58
 TVD Reference: WELL @ 0.00ft (Original Well Elev)
 MD Reference: WELL @ 0.00ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: EDM 2003.14 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,775.00	91.80	57.90	915.59	1,697.28	2,083.80	2,687.48	2.07	1.61	1.29
3,813.00	90.40	57.20	914.86	1,717.66	2,115.86	2,725.25	4.12	-3.68	-1.84
3,845.00	90.00	56.70	914.75	1,735.11	2,142.69	2,757.09	2.00	-1.25	-1.56
3,877.00	88.90	57.00	915.06	1,752.61	2,169.48	2,788.94	3.56	-3.44	0.94
3,909.00	89.10	55.30	915.62	1,770.43	2,196.05	2,820.82	5.35	0.62	-5.31
3,928.00	88.80	54.90	915.96	1,781.30	2,211.63	2,839.77	2.63	-1.58	-2.11
3,956.00	88.80	54.90	916.55	1,797.40	2,234.53	2,867.71	0.00	0.00	0.00

Targets

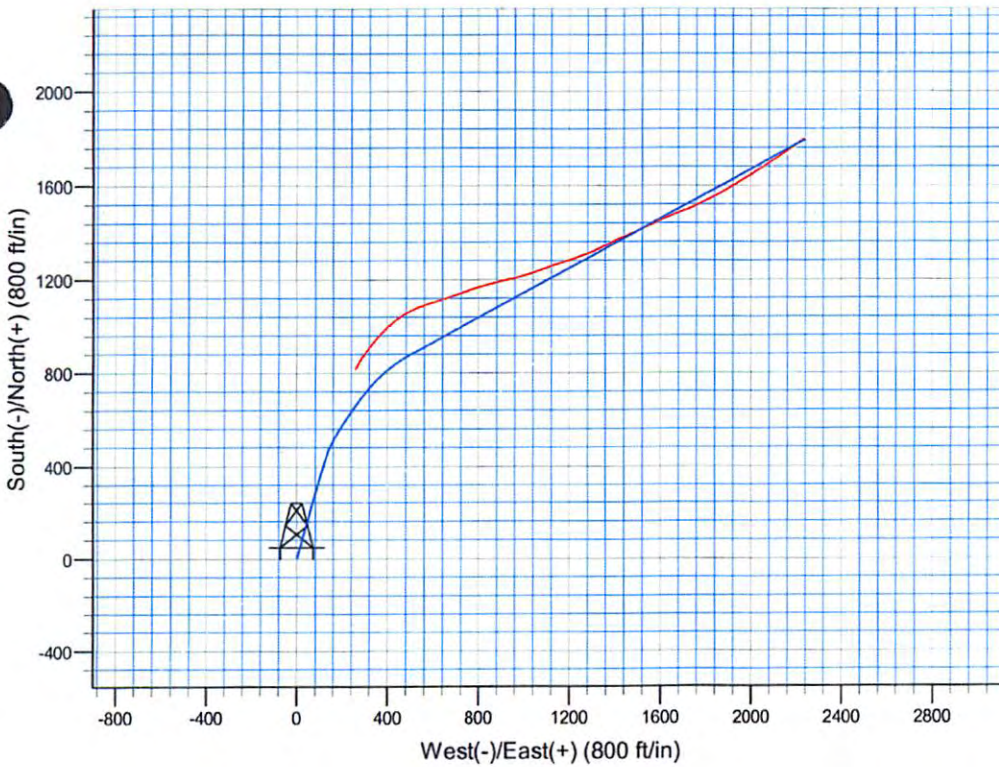
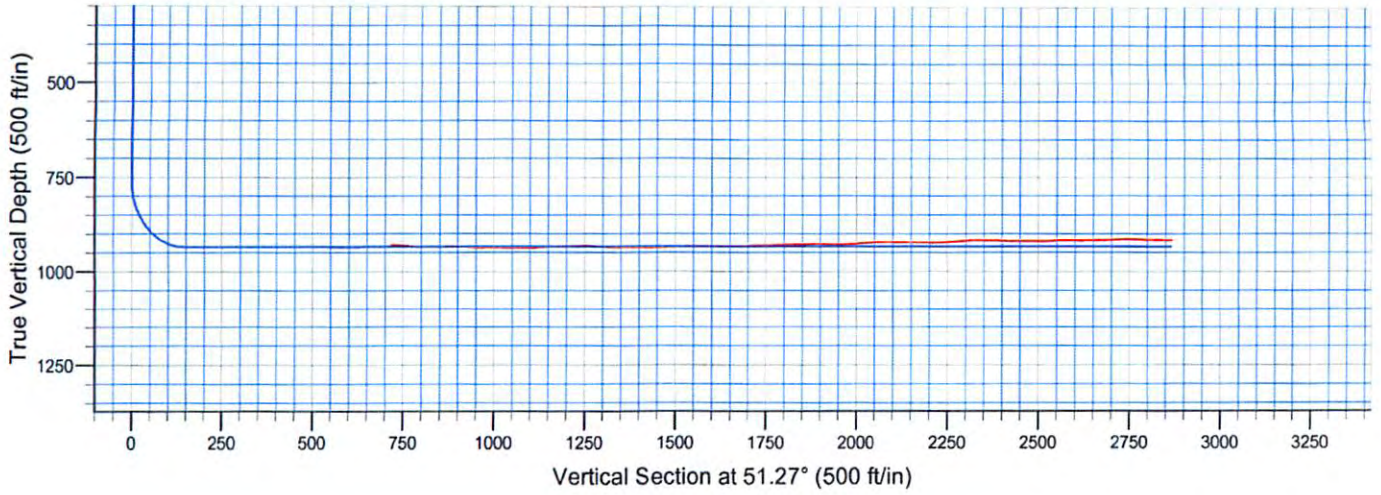
Target Name	hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
EBHL, MC-58		0.00	0.00	935.00	1,792.21	2,234.83	498,272.44	1,664,913.24	39° 51' 46.762 N	80° 34' 53.509 W
- survey misses by 1420.69ft at 2525.98ft MD (935.00 TVD, 1201.78 N, 942.64 E)										
- Point										

Checked By: _____ Approved By: _____ Date: _____



CNX Gas Company, LLC

GH-58 - EAST LEG
MARSHALL COUNTY
WEST VIRGINIA



LEGEND

- MC-58, EAST LEG, AD ELEG
- PLANNED WELL

Azimuths to True North
 Magnetic North: -8.47°
 Magnetic Field
 Strength: 53284.2nT
 Dip Angle: 67.82°
 Date: 5/29/2008
 Model: IGRF200510

01/27/2017