



# Weatherford®

## SURVEY REPORT

Report Date: 11/5/2011  
 Customer: Chesapeake  
 Job Name: 4024248  
 Well Name: Edwin Bunner 10H

Field: Marion County  
 Rig: Nomac 37  
 Rig Loc: Marion County

Survey Calculation Method: <b>Minimum Curvature</b>						
Magnetic Reference	Target Direction	Total Magnetic Field	Magnetic Dip Angle	Magnetic Declination	Grid Convergence	Total Correction
Grid North	137.01 deg	52667 nT	67.14 deg	-8.95 deg	-0.32 deg	-8.63 deg
Survey Tie-On	Depth	INC	AZ	TVD	NS	EW
	444.00 ft	0.10 deg	73.57 deg	443.98 ft	0.99 ft	3.13 ft

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head			Vsect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)			
542.00	0.45	91.12	541.98	1.01	3.59	1.71	0.36	
604.00	2.46	118.10	603.96	0.37	5.01	3.14	3.35	
668.00	3.42	111.01	667.87	-0.96	8.01	6.16	1.60	
795.00	4.41	114.77	794.57	-4.36	15.98	14.09	0.80	
922.00	4.66	122.87	921.18	-9.20	24.74	23.60	0.54	
1048.00	4.95	124.24	1046.74	-15.04	33.52	33.86	0.25	
1174.00	4.11	129.86	1172.34	-20.99	41.49	43.64	0.75	
1300.00	2.71	124.78	1298.12	-25.58	47.40	51.03	1.14	
1424.00	1.03	115.82	1422.04	-27.74	50.81	54.94	1.36	
1548.00	0.79	53.46	1546.03	-27.72	52.50	56.08	0.78	
1674.00	1.12	85.12	1672.01	-27.10	54.43	56.94	0.49	
1801.00	1.47	35.88	1798.99	-25.68	56.62	57.39	0.89	
1927.00	0.31	99.02	1924.97	-24.42	57.91	57.35	1.08	
2053.00	0.29	60.89	2050.97	-24.32	58.53	57.70	0.16	
2179.00	0.47	122.64	2176.97	-24.44	59.25	58.28	0.33	
2305.00	0.14	125.55	2302.96	-24.81	59.81	58.93	0.26	
2429.00	0.63	138.49	2426.96	-25.41	60.38	59.76	0.40	
2556.00	0.95	139.45	2553.95	-26.74	61.53	61.51	0.25	
2681.00	0.55	200.50	2678.94	-28.08	62.00	62.82	0.67	
2805.00	0.25	243.75	2802.94	-28.76	61.55	63.00	0.32	
2883.00	0.74	271.86	2880.93	-28.81	60.89	62.60	0.68	
2951.00	0.69	244.92	2948.93	-28.97	60.09	62.16	0.49	
3077.00	1.48	42.63	3074.92	-28.10	60.50	61.81	1.70	
3141.00	3.34	52.35	3138.86	-26.35	62.54	61.92	2.96	
3267.00	6.11	49.02	3264.42	-19.71	70.50	62.49	2.21	
3395.00	8.24	44.67	3391.41	-8.73	82.09	62.36	1.72	
3522.00	10.69	46.87	3516.67	5.79	97.08	61.96	1.95	
3647.00	13.88	48.62	3638.80	23.63	116.79	62.35	2.57	
3773.00	12.75	50.62	3761.41	42.44	138.87	63.65	0.96	
3900.00	14.14	48.30	3884.93	61.65	161.29	64.88	1.17	
4028.00	16.15	50.83	4008.48	83.29	186.76	66.42	1.65	
4154.00	15.88	55.25	4129.60	104.19	214.50	70.06	0.99	
4281.00	15.63	56.12	4251.83	123.62	242.97	75.25	0.27	
4407.00	14.81	51.75	4373.41	143.05	269.71	79.27	1.12	
4534.00	13.81	47.62	4496.47	163.33	293.66	80.77	1.12	

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WV GEOLOGICAL SURVEY  
 MORGANTOWN, WV

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		VSect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
4662.00	14.94	51.12	4620.46	183.98	317.79	82.11	1.11
4788.00	13.63	50.12	4742.57	203.69	341.82	84.08	1.06
4915.00	14.19	52.25	4865.85	222.81	365.60	86.31	0.60
5042.00	14.19	49.87	4988.97	242.37	389.81	88.51	0.46
5168.00	14.94	50.62	5110.93	262.63	414.17	90.30	0.61
5294.00	15.38	52.50	5232.54	283.10	439.97	92.92	0.52
5421.00	15.18	53.98	5355.05	303.13	466.78	96.55	0.34
5548.00	12.63	55.25	5478.32	320.83	491.64	100.56	2.03
5675.00	11.91	45.00	5602.44	338.01	512.32	102.09	1.80
5801.00	14.38	47.12	5725.13	357.85	532.98	101.66	1.99
5929.00	14.88	53.37	5848.99	378.47	557.81	103.51	1.29
6056.00	14.50	53.75	5971.84	397.60	583.71	107.18	0.30
6183.00	14.94	54.50	6094.67	416.51	609.86	111.18	0.38
6311.00	12.75	56.00	6218.94	433.99	635.00	115.54	1.73
6438.00	12.38	52.87	6342.90	450.04	657.47	119.11	0.61
6565.00	12.81	48.25	6466.85	467.63	678.82	120.81	0.87
6693.00	13.13	48.37	6591.59	486.74	700.27	121.46	0.25
6851.00	13.00	49.12	6745.50	510.29	727.12	122.54	0.13
6894.00	14.19	50.55	6787.29	516.80	734.84	123.04	2.87
6926.00	18.65	51.89	6817.98	522.46	741.90	123.72	14.01
6958.00	22.84	52.24	6847.90	529.42	750.84	124.72	13.11
6989.00	27.20	53.89	6875.98	537.28	761.33	126.12	14.22
7021.00	29.24	61.96	6904.19	545.27	774.14	129.01	13.52
7053.00	29.70	73.35	6932.07	551.22	788.64	134.55	17.55
7085.00	29.79	82.70	6959.87	554.50	804.13	142.71	14.49
7117.00	30.58	94.66	6987.55	554.85	820.15	153.37	18.92
7148.00	31.32	103.27	7014.15	552.36	835.86	165.91	14.48
7180.00	33.03	112.41	7041.25	547.12	852.02	180.76	16.09
7212.00	36.35	119.11	7067.57	539.18	868.38	197.73	15.80
7243.00	39.39	125.93	7092.05	528.93	884.38	216.13	16.68
7275.00	40.22	133.68	7116.65	515.83	900.09	236.42	15.72
7305.00	39.50	142.02	7139.70	501.61	912.97	255.61	17.95
7337.00	40.36	146.65	7164.24	484.93	924.93	275.97	9.67
7368.00	45.61	147.23	7186.91	467.22	936.45	296.78	16.98
7399.00	50.56	146.55	7207.61	447.91	949.05	319.50	16.07
7430.00	56.47	146.44	7226.04	427.13	962.81	344.07	19.05
7462.00	62.31	145.09	7242.33	404.38	978.30	371.28	18.63
7494.00	66.59	144.37	7256.12	380.81	994.97	399.89	13.51
7525.00	68.63	145.20	7267.93	357.40	1011.49	428.28	7.01
7556.00	69.94	145.92	7278.90	333.48	1027.89	456.95	4.76
7588.00	71.85	147.49	7289.37	308.21	1044.48	486.76	7.56
7620.00	75.91	149.64	7298.26	281.98	1060.51	516.87	14.23
7652.00	79.71	152.41	7305.02	254.63	1075.65	547.20	14.57
7680.00	82.56	154.29	7309.33	229.90	1088.06	573.75	12.17
7712.00	88.09	155.44	7311.94	201.04	1101.60	604.09	17.64
7743.00	90.88	155.47	7312.22	172.84	1114.47	633.49	9.02
7775.00	91.69	153.58	7311.50	143.97	1128.23	664.00	6.42
7837.00	91.85	150.01	7309.58	89.36	1157.52	723.91	5.76
7901.00	91.85	148.08	7307.52	34.51	1190.42	786.47	3.01
8028.00	91.74	145.02	7303.54	-71.39	1260.38	811.64	2.41

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head			Vsect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)			
8153.00	91.68	144.11	7299.81	-173.19	1332.82	1035.49	0.73	
8280.00	90.60	143.06	7297.29	-275.37	1408.19	1161.63	1.19	
8403.00	90.14	141.36	7296.49	-372.56	1483.57	1284.12	1.43	
8527.00	89.74	144.08	7296.61	-471.21	1558.67	1407.49	2.22	
8652.00	90.83	144.69	7295.99	-572.83	1631.46	1531.45	1.00	
8778.00	93.85	147.17	7290.84	-677.09	1701.98	1655.80	3.10	
8902.00	92.87	148.54	7283.57	-781.90	1767.84	1777.37	1.36	
9026.00	90.48	148.45	7279.93	-887.57	1832.60	1898.83	1.93	
9150.00	88.60	146.94	7280.92	-992.37	1898.86	2020.67	1.95	
9275.00	89.69	146.80	7282.79	-1097.03	1967.17	2143.80	0.88	
9404.00	89.34	144.71	7283.88	-1203.66	2039.76	2271.29	1.64	
9528.00	89.34	144.37	7285.30	-1304.65	2111.69	2394.21	0.27	
9654.00	89.46	144.27	7286.62	-1406.99	2185.18	2519.18	0.12	
9779.00	89.00	145.98	7288.30	-1509.52	2256.65	2642.92	1.42	
9905.00	88.89	146.78	7290.62	-1614.43	2326.40	2767.21	0.65	
10031.00	90.14	146.79	7291.68	-1719.84	2395.41	2891.38	1.00	
10158.00	90.26	146.10	7291.24	-1825.68	2465.60	3016.66	0.55	
10285.00	90.31	145.23	7290.61	-1930.55	2537.23	3142.21	0.69	
10411.00	90.26	145.21	7289.98	-2034.04	2609.10	3266.91	0.05	
10536.00	90.82	146.14	7288.80	-2137.26	2679.58	3390.48	0.87	
10660.00	90.88	146.40	7286.95	-2240.38	2748.43	3512.85	0.22	
10784.00	91.05	147.42	7284.86	-2344.25	2816.12	3634.99	0.83	
10908.00	89.91	146.61	7283.81	-2448.25	2883.63	3757.09	1.12	
11033.00	89.52	147.50	7284.43	-2553.15	2951.60	3880.17	0.78	
11157.00	88.94	145.54	7286.10	-2656.57	3019.99	4002.45	1.65	
11280.00	91.16	145.80	7285.98	-2758.13	3089.35	4124.04	1.82	
11406.00	90.83	145.62	7283.80	-2862.22	3160.33	4248.57	0.30	
11531.00	90.77	147.14	7282.05	-2966.30	3229.53	4371.89	1.22	
11658.00	90.94	146.56	7280.16	-3072.61	3298.97	4497.00	0.48	
11782.00	89.86	144.86	7279.30	-3175.05	3368.83	4619.57	1.62	
11909.00	90.26	145.46	7279.17	-3279.29	3441.38	4745.29	0.57	
12033.00	90.14	145.31	7278.74	-3381.34	3511.82	4867.96	0.15	
12158.00	89.52	146.09	7279.11	-3484.59	3582.26	4991.53	0.80	
12283.00	90.20	145.43	7279.42	-3587.93	3652.60	5115.07	0.76	
12410.00	90.03	145.16	7279.17	-3692.33	3724.90	5240.74	0.25	
12535.00	90.09	144.79	7279.05	-3794.70	3796.64	5364.54	0.30	
12662.00	90.37	145.51	7278.54	-3898.92	3869.21	5490.26	0.61	
12788.00	89.46	145.06	7278.73	-4002.49	3940.96	5614.94	0.81	
12915.00	90.09	146.79	7279.24	-4107.68	4012.12	5740.40	1.45	
13042.00	91.45	147.52	7277.53	-4214.37	4080.99	5865.40	1.22	
13167.00	91.11	147.37	7274.74	-4319.70	4148.23	5988.30	0.29	
13294.00	90.31	147.01	7273.15	-4426.43	4217.04	6113.29	0.69	
13422.00	90.14	147.27	7272.65	-4533.95	4286.50	6239.30	0.24	
13549.00	90.37	147.35	7272.08	-4640.82	4355.10	6364.25	0.19	
13665.00	90.60	148.80	7271.10	-4739.27	4416.44	6478.09	1.27	

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Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		Vsect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		

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Vertical Section is 6540.63 ft along the target direction of 137.01 deg at a measured depth of 13728.90 ft.  
Horizontal Displacement is 6540.65 ft along the well bore azimuth of 137.13 deg.  
The total correction is -8.63 deg relative to Grid North.

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