



Company: Chesapeake Operating
 Lease/Well: Robert Baxter/#10H

Rig Name: Nomac 25
 State/County: West Virginia/Wetzel
 Latitude: 39.71, Longitude: -80.73
 GRID North is 0.78 Degrees West of True North
 VS-Azi: 0.00 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : RKB= 18 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: ...rt baxter #10h gyro survey.ut

Minimum Curvature Method

Report Date/Time: 5/4/2013 / 20:13

Vaughn Energy Services
 1000 Heavy Haul Road
 Morgantown, WV 26508
 (304) 777-2189
 Surveyor: Colby Ware

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.61	36.95	100.00	0.43	0.32	0.43	0.54	36.95	0.61
200.00	0.24	42.64	200.00	1.01	0.78	1.01	1.28	37.87	0.38
300.00	0.26	64.75	299.99	1.26	1.13	1.26	1.69	41.89	0.10
400.00	0.22	94.95	399.99	1.33	1.52	1.33	2.03	48.78	0.13
500.00	0.14	95.62	499.99	1.31	1.84	1.31	2.26	54.69	0.08
600.00	0.15	105.42	599.99	1.26	2.09	1.26	2.44	58.97	0.03
700.00	0.08	91.12	699.99	1.22	2.29	1.22	2.60	61.88	0.07
800.00	0.09	27.57	799.99	1.29	2.40	1.29	2.72	61.75	0.09
900.00	0.14	80.08	899.99	1.38	2.55	1.38	2.90	61.69	0.11
1000.00	0.22	95.18	999.99	1.38	2.87	1.38	3.18	64.32	0.09
1030.00	0.30	102.79	1029.99	1.36	3.00	1.36	3.30	65.69	0.29

HORIZONTAL DISPLACEMENT IS
 3.30 FEET AT 65.69 DEGREES

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Survey Report

Company: Chesapeake Energy
 Well: Baxter WTZ 10H
 API:
 County: Wetzel
 State: WV

Rig: Nomac 25
 Job Number: NE-XX-0900300401
 Engineer: T. Russell, J. Growall
 VS Direction: 132.71
 North Reference: Grid

Tie-on Survey Data: Gyro

MD	INC	AZI	TVD	NS	EW
1030	0.30	102.79	1029.99	1.36	3.00

MD	INC	AZI	TVD	NS	EW	VS	DLS
1030	0.30	102.79	1029.99	1.36	3.00	1.36	0.29
1095	0.59	96.69	1094.99	1.28	3.50	1.70	0.45
1165	0.38	73.03	1164.99	1.31	4.08	2.11	0.41
1274	1.97	87.33	1273.96	1.50	6.30	3.61	1.47
1336	3.73	81.59	1335.88	1.85	9.36	5.63	2.86
1400	5.22	84.72	1399.68	2.42	14.32	8.88	2.36
1463	5.95	87.33	1462.38	2.83	20.43	13.09	1.24
1526	6.16	82.87	1525.03	3.41	27.05	17.56	0.81
1589	6.77	73.68	1587.63	4.87	33.96	21.65	1.91
1651	6.40	79.62	1649.23	6.52	40.87	25.61	1.25
1714	6.24	76.31	1711.84	7.96	47.65	29.62	0.63
1777	5.83	61.31	1774.50	10.31	53.79	32.53	2.58
1839	5.41	58.07	1836.20	13.36	59.03	34.31	0.84
1902	5.08	60.75	1898.94	16.30	63.98	35.96	0.66
1964	4.88	62.85	1960.70	18.84	68.73	37.72	0.43
2027	5.22	67.48	2023.46	21.16	73.76	39.84	0.83
2090	5.82	68.79	2086.17	23.41	79.38	42.45	0.97
2153	5.49	65.03	2148.86	25.84	85.09	44.99	0.78
2216	5.53	64.01	2211.57	28.44	90.55	47.24	0.17
2277	5.24	61.65	2272.30	31.06	95.64	49.21	0.60
2340	5.40	62.07	2335.03	33.81	100.79	51.13	0.25
2403	5.17	57.94	2397.76	36.70	105.82	52.86	0.07
2466	4.51	50.91	2460.54	39.77	110.14	53.96	1.01
2528	3.78	40.06	2522.37	42.87	113.35	54.21	1.71
2576	3.23	30.34	2570.28	45.25	115.05	53.85	1.68
2671	2.68	18.16	2665.16	49.68	117.10	52.35	0.88
2734	2.01	12.00	2728.11	52.16	117.79	51.17	1.15
2797	1.51	7.84	2791.08	54.06	118.13	50.13	0.82
2860	1.24	359.33	2854.06	55.57	118.23	49.19	0.53

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2924	1.11	348.32	2918.04	56.86	118.10	48.21	0.41
2987	0.96	343.61	2981.03	57.97	117.83	47.26	0.27
3050	1.01	330.93	3044.02	58.96	117.41	46.28	0.35
3175	1.04	314.02	3169.00	60.71	116.06	44.10	0.24
3237	1.15	313.61	3230.99	61.53	115.21	42.92	0.17
3299	1.10	312.63	3292.98	62.36	114.32	41.71	0.08
3362	1.08	314.85	3355.97	63.19	113.45	40.51	0.07
3425	1.07	309.73	3418.96	63.98	112.58	39.33	0.15
3488	1.04	312.23	3481.95	64.74	111.70	38.17	0.08
3550	0.94	311.35	3543.94	65.46	110.90	37.09	0.16
3614	0.97	318.00	3607.93	66.21	110.14	36.02	0.18
3676	0.94	316.39	3669.92	66.97	109.44	34.99	0.06
3742	0.91	315.45	3735.91	67.74	108.70	33.93	0.05
3804	0.92	319.98	3797.90	68.47	108.03	32.94	0.12
3867	0.81	312.14	3860.90	69.15	107.38	32.00	0.25
3929	0.81	311.38	3922.89	69.74	106.72	31.12	0.02
3992	0.91	310.81	3985.88	70.36	106.01	30.17	0.16
4055	0.91	310.33	4048.88	71.01	105.25	29.17	0.02
4118	0.88	316.50	4111.87	71.68	104.54	28.19	0.16
4181	0.83	330.50	4174.86	72.43	103.98	27.27	0.34
4244	0.81	321.12	4237.86	73.18	103.47	26.39	0.22
4307	1.01	323.39	4300.85	73.97	102.86	25.41	0.32
4369	0.90	322.50	4362.84	74.79	102.24	24.39	0.17
4559	0.91	341.20	4552.82	77.40	100.85	21.60	0.15
4686	0.78	345.49	4679.80	79.19	100.31	19.99	0.10
4749	0.74	337.33	4742.80	79.99	100.04	19.26	0.18
4812	0.77	356.56	4805.79	80.79	99.86	18.58	0.40
4874	0.84	0.33	4867.78	81.65	99.84	17.98	0.14
4937	0.77	353.37	4930.78	82.53	99.79	17.35	0.18
5063	0.74	3.33	5056.77	84.20	99.74	16.18	0.11
5125	0.74	354.00	5118.76	85.00	99.72	15.63	0.19
5188	0.77	2.53	5181.76	85.82	99.70	15.05	0.18
5251	0.59	344.02	5244.75	86.55	99.63	14.50	0.45
5313	0.64	338.43	5306.75	87.18	99.42	13.92	0.12
5376	0.72	7.54	5369.74	87.90	99.34	13.37	0.56
5438	0.65	337.85	5431.74	88.61	99.26	12.83	0.58
5501	0.48	337.24	5494.74	89.18	99.02	12.27	0.28
5627	0.70	344.42	5620.73	90.40	98.61	11.14	0.18
5690	0.65	335.72	5683.73	91.10	98.36	10.49	0.18
5754	0.61	333.28	5747.72	91.73	98.06	9.83	0.08
5816	0.60	340.28	5809.72	92.34	97.80	9.24	0.12
5878	0.47	325.48	5871.72	92.85	97.55	8.70	0.12

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5940	0.47	327.27	5933.71	93.27	97.27	8.21	0.02
6003	0.29	335.62	5996.71	93.63	97.06	7.81	0.29
6056	0.36	314.39	6049.71	93.87	96.89	7.52	0.26
6087	0.36	305.54	6080.71	94.00	96.74	7.33	0.18
6149	0.47	327.66	6142.71	94.32	96.45	6.89	0.31
6181	1.41	38.63	6174.71	94.74	96.62	6.73	4.17
6213	3.20	47.24	6206.68	95.66	97.52	6.78	5.69
6244	4.98	51.75	6237.60	97.08	99.22	7.06	5.83
6276	6.51	51.03	6269.44	99.08	101.72	7.54	4.76
6307	7.66	51.33	6300.20	101.48	104.70	8.10	3.72
6339	8.88	48.39	6331.87	104.45	108.21	8.67	4.04
6370	9.75	47.05	6362.46	107.83	111.92	9.10	2.89
6402	9.76	43.70	6394.00	111.64	115.78	9.35	1.78
6434	11.08	43.64	6425.47	115.82	119.77	9.45	4.14
6465	12.55	48.15	6455.81	120.23	124.34	9.82	5.61
6497	16.05	50.20	6486.81	125.38	130.33	10.72	11.05
6529	17.15	55.61	6517.48	130.88	137.63	12.35	5.92
6560	18.58	60.32	6546.99	135.91	145.69	14.87	6.55
6592	20.78	63.31	6577.12	140.98	155.19	18.41	7.54
6623	23.51	65.33	6605.83	146.03	165.73	22.72	9.17
6655	26.36	66.71	6634.84	151.51	178.05	28.07	9.06
6686	29.75	66.43	6662.19	157.30	191.43	33.96	10.95
6717	32.09	67.30	6688.79	163.56	206.07	40.48	7.68
6749	32.09	71.49	6715.90	169.54	221.98	48.11	6.96
6780	37.93	74.61	6741.29	174.68	238.99	57.12	19.68
6811	45.78	75.40	6764.36	180.02	258.96	68.17	25.58
6843	52.73	72.77	6785.23	186.69	282.24	80.76	11.24
6875	56.33	72.92	6803.80	194.37	307.14	93.85	9.11
6906	58.43	75.16	6820.51	201.55	332.24	107.42	12.39
6938	60.42	79.14	6836.79	207.66	359.10	123.01	13.40
6969	63.26	82.59	6851.42	211.99	386.07	139.90	15.36
7000	66.86	86.01	6864.50	214.77	414.03	158.56	12.60
7033	68.74	90.02	6876.97	215.82	444.56	180.27	13.47
7064	71.60	93.26	6887.48	214.98	473.70	202.26	5.46
7096	72.16	95.00	6897.44	212.79	504.04	226.03	0.09
7128	74.84	97.43	6906.52	209.47	534.53	250.69	19.81
7160	78.02	103.07	6914.04	203.92	565.12	276.93	11.41
7191	81.55	103.22	6919.54	196.99	594.83	303.46	10.97
7223	85.02	102.67	6923.28	189.87	625.80	331.05	9.28
7255	87.68	104.00	6925.31	182.50	656.87	358.87	8.67
7286	86.50	106.42	6926.88	174.38	686.74	386.33	13.47
7318	85.79	110.69	6929.04	164.23	717.00	415.46	

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MD	INC	AZI	TVD	NS	EW	VS	DLS
7349	86.98	112.08	6930.99	152.95	745.81	444.27	5.88
7381	87.99	113.27	6932.40	140.63	775.31	474.31	4.88
7411	88.59	117.01	6933.29	127.89	802.45	502.89	12.63
7442	89.43	120.70	6933.83	112.93	829.59	532.98	12.19
7474	89.56	123.48	6934.11	95.94	856.70	564.43	8.70
7505	89.93	126.56	6934.25	78.15	882.08	595.14	10.01
7537	89.93	128.83	6934.29	58.58	907.40	627.02	7.10
7569	89.13	132.10	6934.55	37.82	931.74	658.99	10.52
7600	87.72	134.18	6935.41	16.63	954.35	689.97	8.11
7631	87.55	134.49	6936.69	-5.01	976.51	720.93	1.12
7663	88.19	135.13	6937.88	-27.55	999.19	752.89	2.82
7724	88.92	138.98	6939.42	-72.17	1040.74	813.68	6.42
7787	89.16	138.53	6940.47	-119.53	1082.27	876.32	0.81
7849	89.43	138.60	6941.23	-166.01	1123.29	938.00	0.44
7911	89.83	138.55	6941.63	-212.50	1164.31	999.67	0.66
7974	90.54	138.34	6941.43	-259.65	1206.10	1062.35	1.17
8035	88.22	137.19	6942.09	-304.80	1247.10	1123.11	4.25
8097	87.31	136.24	6944.51	-349.90	1289.58	1184.91	2.12
8160	88.22	136.28	6946.97	-395.38	1333.10	1247.74	1.44
8223	88.76	135.54	6948.63	-440.61	1376.92	1310.62	1.46
8286	89.19	135.51	6949.76	-485.55	1421.06	1373.53	0.69
8348	88.12	133.36	6951.21	-528.94	1465.31	1435.48	3.87
8411	87.74	135.04	6953.48	-572.84	1510.45	1498.42	2.74
8474	88.35	135.19	6955.63	-617.45	1554.88	1561.33	0.99
8537	88.89	135.19	6957.14	-662.13	1599.26	1624.25	0.86
8599	90.13	135.23	6957.67	-706.13	1642.94	1686.19	2.00
8662	91.14	135.12	6956.97	-750.81	1687.35	1749.12	3.05
8725	89.90	136.58	6956.40	-796.01	1731.22	1812.02	0.92
8788	90.37	136.24	6956.25	-841.65	1774.66	1874.89	1.55
8851	91.34	136.18	6955.31	-887.12	1818.25	1937.77	2.52
8915	89.76	135.85	6954.70	-933.17	1862.69	2001.65	3.58
8978	87.51	135.69	6956.19	-978.29	1906.62	2064.54	0.37
9040	87.35	135.85	6958.97	-1022.68	1949.82	2126.39	4.44
9103	89.23	137.92	6960.86	-1068.64	1992.85	2189.19	3.08
9166	88.05	136.38	6962.36	-1114.81	2035.69	2251.98	3.30
9229	86.51	134.99	6965.35	-1159.84	2079.65	2314.82	1.00
9291	86.36	134.38	6969.20	-1203.35	2123.64	2376.66	1.41
9354	87.18	134.72	6972.75	-1247.48	2168.47	2439.53	2.01
9419	87.38	133.43	6975.83	-1292.64	2215.11	2504.44	1.01
9482	88.01	133.38	6978.37	-1335.90	2260.84	2567.38	3.67
9544	86.37	131.80	6981.40	-1377.80	2306.43	2629.30	0.56
9606	86.51	131.48	6985.26	-1418.92	2352.67	2691.17	

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9669	87.08	132.13	6988.78	-1460.85	2399.56	2754.06	1.36
9733	87.31	132.61	6991.91	-1503.93	2446.79	2817.99	0.83
9796	87.24	132.17	6994.90	-1546.35	2493.27	2880.91	0.71
9859	87.65	131.79	6997.71	-1588.45	2540.05	2943.85	0.88
9921	88.96	134.24	6999.55	-1630.72	2585.36	3005.81	4.47
9985	89.63	133.43	7000.33	-1675.05	2631.52	3069.79	1.65
10048	90.34	132.54	7000.35	-1718.00	2677.61	3132.79	1.80
10111	90.67	132.64	6999.79	-1760.63	2723.98	3195.79	0.55
10174	90.97	132.17	6998.89	-1803.11	2770.50	3258.78	0.88
10237	91.37	131.98	6997.60	-1845.32	2817.25	3321.77	0.70
10299	89.46	132.03	6997.15	-1886.81	2863.32	3383.76	3.09
10362	89.19	132.79	6997.89	-1929.30	2909.83	3446.75	1.28
10426	89.33	132.79	6998.71	-1972.77	2956.79	3510.74	0.21
10489	88.66	132.66	6999.82	-2015.51	3003.06	3573.73	1.09
10552	87.78	131.22	7001.78	-2057.59	3049.90	3636.70	2.68
10615	88.29	131.47	7003.94	-2099.18	3097.17	3699.64	0.89
10678	88.89	131.45	7005.49	-2140.88	3144.37	3762.61	0.96
10741	88.01	131.28	7007.19	-2182.50	3191.63	3825.57	1.42
10805	88.63	131.28	7009.06	-2224.71	3239.71	3889.52	0.95
10867	89.43	131.62	7010.12	-2265.74	3286.17	3951.49	1.41
10930	88.22	133.05	7011.41	-2308.16	3332.73	4014.48	2.97
10990	88.79	133.67	7012.98	-2349.34	3376.34	4074.45	1.41
11053	87.25	132.40	7015.16	-2392.31	3422.36	4137.41	3.17
11116	87.38	132.72	7018.11	-2434.87	3468.71	4200.34	0.55
11179	87.21	132.78	7021.08	-2477.59	3514.92	4263.27	0.28
11238	87.78	133.95	7023.65	-2518.06	3557.77	4322.21	2.20
11301	87.72	133.81	7026.13	-2561.69	3603.15	4385.15	0.23
11364	87.69	133.29	7028.66	-2605.07	3648.77	4448.09	0.83
11426	89.49	135.42	7030.18	-2648.40	3693.08	4510.04	1.50
11489	90.91	137.31	7029.96	-2693.99	3736.56	4572.91	3.74
11551	89.46	136.25	7029.76	-2739.16	3779.01	4634.75	2.89
11614	89.53	136.15	7030.31	-2784.63	3822.62	4697.63	0.19
11677	89.83	136.42	7030.66	-2830.17	3866.15	4760.50	0.65
11741	89.63	135.27	7030.96	-2876.09	3910.73	4824.41	1.83
11803	88.45	133.80	7032.00	-2919.56	3954.92	4886.36	0.04
11865	88.49	133.25	7033.65	-2962.24	3999.86	4948.33	0.88
11928	88.39	133.03	7035.37	-3005.31	4045.81	5011.31	0.39
11991	89.50	133.83	7036.53	-3048.61	4091.55	5074.29	0.29
12054	89.16	132.52	7037.27	-3091.71	4137.49	5137.28	2.15
12117	90.50	132.85	7037.45	-3134.42	4183.80	5200.28	2.20
12180	91.18	133.05	7036.53	-3177.34	4229.91	5263.27	1.11
12243	91.51	132.77	7035.05	-3220.23	4276.03	5326.26	1.69
12264	91.95	133.11	7034.41	-3234.53	4291.40	5347.25	2.63

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