



# Weatherford®

## SURVEY REPORT

Report Date: **11/9/2012**  
 Customer: **Anadarko**  
 Job Name: **4027702**  
 Well Name: **HAYMAKER 4C-9HZ**

Field: **WATTENBERG**  
 Rig: **H&P 307**  
 Rig Loc: **WELD HAYMAKER**

Survey Calculation Method: <b>Minimum Curvature</b>						
Magnetic Reference	Target Direction	Total Magnetic Field	Magnetic Dip Angle	Magnetic Declination	Grid Convergence	Total Correction
<b>True North</b>	<b>6.83 deg</b>	<b>52936 nT</b>	<b>66.94 deg</b>	<b>8.57 deg</b>	<b>0.00 deg</b>	<b>8.57 deg</b>
Survey Tie-On	Depth	INC	AZ	TVD	NS	EW
	<b>1125.00 ft</b>	<b>0.83 deg</b>	<b>305.45 deg</b>	<b>1124.98 ft</b>	<b>-0.23 ft</b>	<b>-5.91 ft</b>

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		Vsect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
1191.00	1.04	287.00	1190.97	0.22	-6.87	-0.60	0.55
1323.00	3.53	234.80	1322.87	-1.77	-11.34	-3.11	2.28
1415.00	3.76	231.75	1414.68	-5.27	-16.02	-7.14	0.33
1509.00	4.14	234.39	1508.46	-9.15	-21.20	-11.61	0.45
1605.00	4.48	236.44	1604.18	-13.24	-27.14	-16.38	0.39
1699.00	3.09	218.04	1697.98	-17.27	-31.76	-20.92	1.95
1794.00	0.95	180.33	1792.92	-20.07	-33.35	-23.90	2.54
1889.00	0.76	173.79	1887.91	-21.49	-33.28	-25.29	0.22
1984.00	0.85	179.00	1982.90	-22.82	-33.20	-26.61	0.12
2078.00	2.22	131.11	2076.87	-24.71	-31.82	-28.32	1.88
2173.00	4.16	119.45	2171.71	-27.62	-27.43	-30.68	2.14
2267.00	5.59	108.68	2265.37	-30.76	-20.12	-32.94	1.80
2362.00	6.86	107.00	2359.81	-33.90	-10.32	-34.89	1.35
2457.00	8.93	105.78	2453.91	-37.57	2.21	-37.04	2.19
2552.00	7.54	103.65	2547.93	-41.04	15.36	-38.92	1.50
2646.00	8.63	112.39	2640.99	-45.18	27.87	-41.55	1.74
2741.00	10.00	116.24	2734.74	-51.55	41.86	-46.20	1.58
2836.00	9.50	115.30	2828.37	-58.54	56.35	-51.43	0.55
2932.00	9.01	116.27	2923.12	-65.26	70.25	-56.44	0.54
3027.00	8.78	110.34	3016.98	-71.07	83.72	-60.61	0.99
3122.00	7.27	107.10	3111.04	-75.36	96.27	-63.37	1.66
3217.00	7.72	107.90	3205.23	-79.09	108.08	-65.67	0.49
3312.00	8.49	104.41	3299.28	-82.79	120.95	-67.82	0.96
3407.00	7.07	103.80	3393.41	-85.93	133.42	-69.46	1.50
3502.00	8.25	111.22	3487.56	-89.79	145.45	-71.86	1.62
3597.00	9.45	111.45	3581.43	-95.11	159.06	-75.52	1.26
3692.00	7.26	110.08	3675.41	-100.03	171.96	-78.87	2.31
3787.00	7.64	110.41	3769.61	-104.29	183.52	-81.72	0.40
3882.00	8.52	110.93	3863.67	-109.01	196.01	-84.92	0.93
3976.00	9.71	110.84	3956.48	-114.31	209.92	-88.54	1.27
4071.00	10.85	111.19	4049.95	-120.40	225.75	-92.69	1.20
4166.00	10.73	110.87	4143.27	-126.78	242.35	-97.06	0.14
4261.00	9.60	104.70	4236.78	-131.94	258.27	-100.29	1.65
4356.00	8.20	103.75	4330.64	-135.56	272.52	-102.19	1.48
4451.00	8.59	117.88	4424.63	-140.49	285.37	-105.55	2.20

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		Vsect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
4545.00	8.45	111.44	4517.59	-146.30	298.01	-109.82	1.03
4641.00	8.35	114.72	4612.56	-151.79	310.90	-113.74	0.51
4736.00	10.46	112.90	4706.28	-158.03	325.11	-118.24	2.24
4831.00	9.65	107.09	4799.82	-163.73	340.67	-122.05	1.37
4926.00	8.39	102.99	4893.65	-167.62	355.03	-124.21	1.49
5021.00	8.62	105.49	4987.60	-171.08	368.65	-126.03	0.46
5116.00	8.94	113.02	5081.49	-175.87	382.30	-129.16	1.25
5211.00	10.63	115.00	5175.11	-182.46	397.04	-133.95	1.81
5307.00	8.85	114.64	5269.72	-189.28	411.78	-138.97	1.86
5402.00	9.15	116.32	5363.55	-195.68	425.19	-143.72	0.42
5496.00	7.55	116.24	5456.55	-201.72	437.43	-148.27	1.70
5591.00	6.14	114.78	5550.87	-206.61	447.64	-151.91	1.50
5686.00	4.75	112.25	5645.44	-210.23	455.89	-154.52	1.48
5780.00	5.70	114.01	5739.05	-213.60	463.76	-156.94	1.02
5875.00	4.87	112.02	5833.64	-217.04	471.81	-159.39	0.89
5970.00	4.86	108.44	5928.30	-219.82	479.36	-161.25	0.32
6065.00	2.83	106.93	6023.08	-221.78	485.43	-162.47	2.14
6160.00	1.09	112.54	6118.02	-222.81	488.50	-163.13	1.84
6254.00	0.29	67.29	6212.02	-223.06	489.55	-163.25	0.97
6349.00	0.36	40.70	6307.02	-222.74	489.97	-162.89	0.17
6444.00	0.25	24.58	6402.01	-222.32	490.25	-162.44	0.15
6540.00	0.29	8.18	6498.01	-221.89	490.37	-162.00	0.09
6615.00	0.30	346.78	6573.01	-221.51	490.35	-161.63	0.15
6635.00	0.44	354.48	6593.01	-221.39	490.33	-161.50	0.74
6666.00	0.98	351.87	6624.01	-221.00	490.28	-161.13	1.74
6697.00	3.86	3.23	6654.98	-219.70	490.30	-159.83	9.37
6729.00	7.45	0.14	6686.82	-216.55	490.37	-156.70	11.25
6761.00	10.95	349.60	6718.40	-211.48	489.83	-151.73	12.10
6792.00	13.63	343.11	6748.69	-205.09	488.23	-145.57	9.71
6825.00	14.18	341.79	6780.72	-197.53	485.84	-138.35	1.92
6856.00	13.92	347.37	6810.80	-190.29	483.84	-131.40	4.45
6888.00	14.62	357.56	6841.82	-182.49	482.82	-123.78	8.14
6919.00	16.58	358.51	6871.67	-174.16	482.54	-115.54	6.38
6952.00	20.21	359.37	6902.98	-163.75	482.36	-105.23	11.03
6984.00	23.57	1.71	6932.67	-151.83	482.49	-93.37	10.85
7015.00	26.60	2.69	6960.74	-138.70	483.00	-80.27	9.87
7047.00	30.15	4.18	6988.89	-123.52	483.92	-65.09	11.31
7078.00	33.81	4.47	7015.19	-107.15	485.16	-48.69	11.82
7109.00	37.32	4.09	7040.40	-89.17	486.50	-30.68	11.34
7141.00	40.79	3.33	7065.24	-69.06	487.80	-10.55	10.95
7172.00	44.12	0.36	7088.12	-48.15	488.46	10.28	12.54
7204.00	47.59	359.05	7110.40	-25.19	488.33	33.06	11.23
7236.00	51.55	357.22	7131.15	-0.85	487.53	57.13	13.12
7267.00	55.60	355.45	7149.55	24.03	485.93	81.65	13.85
7299.00	59.90	354.90	7166.62	50.99	483.65	108.15	13.52
7330.00	64.49	354.91	7181.08	78.30	481.21	134.97	14.81
7362.00	69.05	354.87	7193.70	107.58	478.59	163.73	14.25
7393.00	71.86	354.78	7204.07	136.67	475.96	192.30	9.07
7425.00	74.36	355.80	7213.37	167.18	473.45	222.30	8.39
7458.00	77.81	356.80	7221.30	199.14	471.38	253.79	10.86

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		VSect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
7489.00	81.50	357.18	7226.87	229.59	469.78	283.83	11.96
7521.00	83.83	358.11	7230.95	261.30	468.48	315.16	7.83
7552.00	87.34	359.79	7233.34	292.20	467.91	345.77	12.55
7584.00	88.46	1.60	7234.51	324.17	468.30	377.56	6.65
7600.00	88.25	1.25	7234.97	340.16	468.70	393.49	2.55
7730.00	89.38	1.92	7237.66	470.08	472.29	522.91	1.01
7825.00	89.69	2.21	7238.43	565.02	475.72	617.58	0.45
7920.00	89.69	2.33	7238.94	659.94	479.48	712.28	0.13
8014.00	90.80	3.06	7238.54	753.83	483.90	806.03	1.41
8109.00	88.52	0.45	7239.11	848.77	486.81	900.64	3.65
8204.00	87.96	358.75	7242.02	943.72	486.15	994.84	1.88
8300.00	89.07	359.56	7244.51	1039.68	484.73	1089.94	1.43
8395.00	89.44	359.72	7245.75	1134.67	484.13	1184.19	0.42
8490.00	89.57	359.62	7246.57	1229.66	483.59	1278.44	0.17
8585.00	90.99	359.52	7246.10	1324.65	482.87	1372.68	1.50
8680.00	87.72	355.31	7247.17	1419.52	478.59	1466.36	5.61
8774.00	88.64	355.42	7250.16	1513.16	471.00	1558.44	0.99
8869.00	89.81	355.51	7251.44	1607.85	463.49	1651.56	1.24
8964.00	90.06	358.03	7251.55	1702.70	458.14	1745.10	2.67
9059.00	90.44	0.11	7251.14	1797.68	456.60	1839.22	2.23
9153.00	90.12	359.11	7250.68	1891.67	455.96	1932.47	1.12
9248.00	89.75	0.89	7250.78	1986.67	455.96	2026.79	1.91
9342.00	89.51	0.01	7251.39	2080.66	456.69	2120.21	0.97
9437.00	90.31	1.33	7251.54	2175.65	457.80	2214.66	1.62
9532.00	90.49	1.74	7250.88	2270.62	460.35	2309.25	0.47
9627.00	90.06	1.03	7250.42	2365.59	462.65	2403.82	0.87
9721.00	89.51	0.88	7250.77	2459.57	464.21	2497.32	0.61
9816.00	90.56	4.84	7250.72	2554.43	468.95	2592.08	4.31
9911.00	89.81	4.28	7250.41	2649.13	476.50	2687.00	0.99
10006.00	89.38	3.31	7251.08	2743.92	482.79	2781.86	1.12
10101.00	91.30	4.21	7250.52	2838.71	489.02	2876.72	2.23
10196.00	90.80	4.23	7248.78	2933.43	496.01	2971.60	0.53
10292.00	89.81	4.24	7248.27	3029.17	503.10	3067.50	1.03
10387.00	90.49	1.09	7248.02	3124.05	507.52	3162.24	3.39
10481.00	87.66	357.40	7249.53	3218.01	506.28	3255.38	4.95
10576.00	88.83	357.20	7252.44	3312.86	501.81	3349.02	1.25
10672.00	89.57	359.01	7253.78	3408.79	498.63	3443.90	2.04
10767.00	89.75	0.29	7254.35	3503.78	498.05	3538.15	1.36
10861.00	91.60	1.89	7253.24	3597.75	499.84	3631.66	2.60
10957.00	89.26	1.69	7252.52	3693.70	502.84	3727.28	2.45
11052.00	88.58	1.35	7254.31	3788.65	505.36	3821.86	0.80
11147.00	89.74	3.46	7255.70	3883.54	509.34	3916.56	2.53
11242.00	89.32	3.01	7256.48	3978.39	514.70	4011.37	0.65
11337.00	89.32	3.61	7257.61	4073.22	520.19	4106.18	0.63
11433.00	89.07	2.58	7258.96	4169.07	525.37	4201.97	1.10
11528.00	88.27	1.81	7261.16	4263.98	529.01	4296.63	1.17
11615.00	88.52	2.03	7263.60	4350.89	531.92	4383.28	0.38

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		VSect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
Projected to Total Depth:							
11667.00	88.52	2.03	7264.96	4403.30	533.78	4435.53	0.00

\*Weatherford M/LWD surveys from 1191.00 ft MD to 11615.00 ft MD.\*

\*TD at 11667.00 ft MD.\*

The total correction is 8.57 deg relative to True North.