



# Weatherford®

## SURVEY REPORT

Report Date: **4/3/2013**  
 Customer: **Anadarko**  
 Job Name: **4028802**  
 Well Name: **SPARBOE 27C-26HZ**

Field: **Wattenberg**  
 Rig: **Xtreme 23**  
 Rig Loc: **Sparboe 15-35HZ**

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>0.02 deg</b>	<b>52935 nT</b>	<b>66.74 deg</b>	<b>8.41 deg</b>	<b>0.00 deg</b>	<b>8.41 deg</b>
Survey Tie-On	Depth	INC	AZ	TVD	NS	EW
	<b>1746.00 ft</b>	<b>0.09 deg</b>	<b>50.15 deg</b>	<b>1745.93 ft</b>	<b>-2.16 ft</b>	<b>1.95 ft</b>

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head			
				NS (ft)	EW (ft)	Vsect (ft)	Dogleg (deg/100ft)
1902.00	1.19	299.62	1901.92	-1.28	0.64	-1.28	0.78
1995.00	0.88	184.05	1994.91	-1.52	-0.25	-1.52	1.89
2087.00	3.09	166.65	2086.85	-4.63	0.27	-4.63	2.46
2178.00	4.41	152.68	2177.66	-10.13	2.44	-10.13	1.75
2271.00	4.21	152.29	2270.39	-16.33	5.67	-16.33	0.22
2363.00	3.57	150.50	2362.18	-21.81	8.65	-21.81	0.71
2457.00	4.42	146.67	2455.95	-27.38	12.08	-27.38	0.95
2549.00	4.01	144.35	2547.70	-32.96	15.90	-32.95	0.48
2642.00	5.01	153.44	2640.41	-39.23	19.62	-39.23	1.32
2735.00	4.34	150.81	2733.10	-45.94	23.15	-45.93	0.76
2827.00	3.94	152.34	2824.86	-51.78	26.31	-51.77	0.45
2912.00	4.48	152.90	2909.63	-57.32	29.18	-57.31	0.64
2997.00	4.57	153.73	2994.37	-63.31	32.19	-63.30	0.13
3083.00	4.12	151.53	3080.12	-69.10	35.18	-69.09	0.56
3168.00	3.72	153.64	3164.92	-74.25	37.86	-74.24	0.50
3254.00	3.99	158.04	3250.73	-79.53	40.22	-79.52	0.47
3339.00	4.29	158.55	3335.51	-85.23	42.49	-85.22	0.36
3425.00	5.42	160.76	3421.20	-92.06	45.00	-92.04	1.33
3510.00	6.34	168.86	3505.75	-100.45	47.23	-100.44	1.46
3595.00	6.27	174.44	3590.24	-109.68	48.59	-109.66	0.73
3681.00	6.45	169.14	3675.71	-119.10	49.95	-119.08	0.71
3766.00	6.87	159.62	3760.14	-128.55	52.62	-128.53	1.39
3852.00	7.07	160.62	3845.50	-138.37	56.17	-138.35	0.27
3937.00	6.09	159.37	3929.94	-147.52	59.49	-147.50	1.17
4023.00	6.18	158.80	4015.45	-156.11	62.78	-156.08	0.13
4108.00	6.84	160.14	4099.90	-165.13	66.15	-165.11	0.80
4193.00	6.63	160.18	4184.31	-174.51	69.53	-174.48	0.25
4279.00	5.59	159.30	4269.82	-183.10	72.70	-183.07	1.21
4364.00	5.80	148.46	4354.41	-190.63	76.41	-190.60	1.29
4450.00	7.60	148.13	4439.81	-199.17	81.68	-199.14	2.09
4536.00	7.15	151.09	4525.10	-208.68	87.27	-208.65	0.68
4621.00	6.83	149.33	4609.47	-217.66	92.41	-217.63	0.45
4706.00	6.69	150.61	4693.88	-226.32	97.42	-226.29	0.24
4792.00	6.66	151.42	4779.30	-235.06	102.26	-235.03	0.11
4877.00	5.85	151.52	4863.79	-243.20	106.68	-243.16	0.95

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		VSect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
4963.00	5.00	148.99	4949.41	-250.26	110.71	-250.23	1.03
5048.00	4.65	147.82	5034.10	-256.36	114.45	-256.32	0.43
5133.00	4.36	157.52	5118.84	-262.26	117.52	-262.22	0.96
5218.00	5.05	157.98	5203.56	-268.71	120.16	-268.67	0.81
5304.00	4.90	150.37	5289.23	-275.41	123.39	-275.37	0.79
5389.00	4.14	147.91	5373.97	-281.17	126.82	-281.12	0.92
5474.00	3.71	148.29	5458.77	-286.11	129.89	-286.06	0.51
5560.00	1.83	138.84	5544.66	-289.51	132.26	-289.46	2.24
5645.00	1.17	155.48	5629.63	-291.32	133.51	-291.27	0.92
5731.00	0.82	158.66	5715.62	-292.69	134.10	-292.64	0.41
5901.00	1.09	106.29	5885.60	-294.28	136.10	-294.23	0.52
5987.00	0.98	101.92	5971.59	-294.66	137.60	-294.61	0.16
6072.00	0.56	148.73	6056.58	-295.16	138.53	-295.12	0.85
6158.00	0.30	143.01	6142.58	-295.70	138.88	-295.65	0.31
6243.00	0.14	133.55	6227.58	-295.95	139.09	-295.90	0.19
6328.00	0.21	214.47	6312.58	-296.15	139.08	-296.10	0.27
6414.00	0.30	172.20	6398.58	-296.51	139.02	-296.46	0.24
6499.00	0.42	202.06	6483.57	-297.01	138.93	-296.97	0.26
6585.00	0.63	216.57	6569.57	-297.69	138.53	-297.64	0.29
6663.00	3.07	336.08	6647.53	-296.12	137.43	-296.07	4.39
6748.00	12.13	358.59	6731.71	-285.09	136.28	-285.04	11.02
6834.00	19.00	0.72	6814.51	-262.03	136.24	-261.98	8.01
6919.00	25.70	359.15	6893.08	-229.73	136.14	-229.68	7.91
7004.00	31.88	355.77	6967.54	-188.87	134.21	-188.83	7.52
7090.00	42.05	357.69	7036.17	-137.31	131.36	-137.26	11.90
7175.00	50.27	355.46	7095.00	-76.18	127.62	-76.13	9.85
7260.00	61.21	356.09	7142.78	-6.22	122.48	-6.18	12.89
7303.00	67.18	357.79	7161.49	32.42	120.43	32.46	14.33
7346.00	71.37	358.73	7176.70	72.61	119.21	72.65	9.96
7389.00	73.50	359.79	7189.68	113.60	118.68	113.64	5.48
7431.00	76.25	0.74	7200.63	154.14	118.87	154.18	6.90
7474.00	78.12	1.85	7210.17	196.05	119.82	196.09	5.02
7517.00	83.42	1.49	7217.07	238.46	121.06	238.50	12.35
7559.00	89.93	1.10	7219.50	280.36	122.01	280.40	15.53
7590.00	92.17	0.65	7218.93	311.35	122.48	311.39	7.37
7677.00	93.46	359.65	7214.66	398.24	122.71	398.28	1.88
7762.00	90.86	359.03	7211.46	483.17	121.73	483.21	3.14
7848.00	90.43	358.35	7210.49	569.14	119.76	569.18	0.94
7933.00	89.91	358.01	7210.24	654.09	117.06	654.13	0.73
8018.00	89.20	356.39	7210.90	738.99	112.91	739.03	2.08
8104.00	89.21	358.18	7212.09	824.88	108.84	824.92	2.08
8189.00	88.85	359.95	7213.53	909.85	107.45	909.89	2.12
8275.00	90.18	359.77	7214.26	995.85	107.24	995.88	1.56
8360.00	89.88	358.73	7214.21	1080.84	106.13	1080.87	1.27
8445.00	90.68	359.92	7213.80	1165.83	105.13	1165.86	1.69
8530.00	90.79	359.24	7212.71	1250.82	104.50	1250.85	0.81
8616.00	89.75	0.65	7212.30	1336.81	104.42	1336.85	2.04
8701.00	89.57	359.59	7212.81	1421.81	104.60	1421.85	1.26
8787.00	89.56	1.36	7213.46	1507.80	105.31	1507.84	2.06
8872.00	89.88	0.44	7213.87	1592.79	106.65	1592.83	1.15

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		Vsect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
8957.00	90.35	0.30	7213.70	1677.79	107.20	1677.82	0.58
9043.00	89.94	0.56	7213.49	1763.78	107.84	1763.82	0.56
9128.00	89.57	0.86	7213.85	1848.78	108.89	1848.81	0.56
9214.00	89.14	0.99	7214.82	1934.76	110.28	1934.80	0.52
9299.00	90.74	0.19	7214.91	2019.75	111.16	2019.79	2.10
9384.00	90.37	359.81	7214.08	2104.75	111.16	2104.79	0.62
9470.00	89.81	358.90	7213.95	2190.74	110.19	2190.78	1.24
9555.00	88.77	357.99	7215.00	2275.70	107.88	2275.74	1.63
9640.00	89.01	359.46	7216.65	2360.66	105.99	2360.70	1.75
9726.00	90.62	359.91	7216.93	2446.66	105.52	2446.69	1.94
9811.00	89.63	358.85	7216.74	2531.65	104.60	2531.69	1.71
9896.00	90.26	359.77	7216.82	2616.64	103.58	2616.68	1.31
9982.00	89.51	359.29	7217.00	2702.64	102.87	2702.67	1.04
10067.00	89.82	359.64	7217.49	2787.63	102.08	2787.67	0.55
10152.00	90.06	358.66	7217.58	2872.62	100.82	2872.66	1.19
10238.00	88.89	359.18	7218.37	2958.60	99.20	2958.64	1.49
10323.00	89.63	1.29	7219.47	3043.59	99.54	3043.62	2.63
10409.00	90.43	1.58	7219.42	3129.56	101.70	3129.60	0.99
10485.00	90.55	1.29	7218.77	3205.53	103.60	3205.57	0.41
10570.00	90.06	1.60	7218.32	3290.50	105.74	3290.54	0.68
10656.00	90.43	0.78	7217.95	3376.48	107.53	3376.52	1.05
10741.00	89.94	0.29	7217.68	3461.48	108.32	3461.52	0.82
10826.00	89.20	359.49	7218.32	3546.48	108.16	3546.51	1.28
10912.00	88.40	358.33	7220.12	3632.44	106.53	3632.48	1.64
10997.00	89.82	359.07	7221.44	3717.40	104.60	3717.44	1.88
11082.00	90.25	359.74	7221.38	3802.40	103.71	3802.44	0.94
11168.00	88.33	358.71	7222.45	3888.38	102.55	3888.42	2.53
11253.00	87.66	357.84	7225.42	3973.29	99.99	3973.32	1.29
11339.00	88.40	357.89	7228.38	4059.18	96.79	4059.21	0.86
11412.00	89.94	359.03	7229.44	4132.14	94.83	4132.17	2.62
11497.00	90.31	359.99	7229.25	4217.13	94.10	4217.17	1.21
11582.00	92.64	0.83	7227.06	4302.10	94.71	4302.13	2.91
11668.00	92.56	1.01	7223.16	4388.00	96.09	4388.03	0.23
11753.00	93.46	2.31	7218.70	4472.84	98.55	4472.88	1.86
11838.00	93.64	3.25	7213.44	4557.58	102.66	4557.61	1.12
11924.00	90.80	2.30	7210.11	4643.40	106.82	4643.44	3.48
12009.00	88.83	1.67	7210.38	4728.35	109.77	4728.39	2.43
12095.00	89.88	1.80	7211.35	4814.30	112.37	4814.34	1.23
12180.00	87.28	357.72	7213.46	4899.25	112.02	4899.29	5.69
12264.00	88.15	354.81	7216.81	4982.99	106.55	4983.03	3.61
12349.00	88.95	354.66	7218.96	5067.61	98.75	5067.64	0.96
12435.00	87.84	353.94	7221.36	5153.15	90.22	5153.18	1.54
12520.00	87.59	354.72	7224.75	5237.66	81.82	5237.69	0.96
12605.00	90.68	356.80	7226.04	5322.41	75.54	5322.43	4.38
12691.00	91.42	357.18	7224.46	5408.27	71.03	5408.30	0.97
12776.00	92.04	358.97	7221.89	5493.18	68.17	5493.21	2.23
12861.00	91.30	0.40	7219.42	5578.14	67.71	5578.16	1.89
12947.00	89.82	0.98	7218.58	5664.13	68.74	5664.15	1.85
13032.00	89.51	1.04	7219.07	5749.11	70.24	5749.14	0.37
13118.00	88.40	1.85	7220.64	5835.07	72.41	5835.10	1.60

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		VSect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
13203.00	89.32	1.60	7222.33	5920.01	74.97	5920.04	1.12
13289.00	90.18	1.89	7222.71	6005.97	77.58	6006.00	1.06
13374.00	88.71	1.56	7223.53	6090.93	80.14	6090.95	1.77
13460.00	89.12	1.71	7225.16	6176.88	82.60	6176.91	0.51
13545.00	90.18	1.36	7225.68	6261.84	84.87	6261.87	1.31
13631.00	90.00	1.20	7225.54	6347.82	86.79	6347.85	0.28
13716.00	90.68	0.92	7225.04	6432.80	88.37	6432.84	0.87
13801.00	89.44	0.98	7224.95	6517.79	89.78	6517.82	1.46
13887.00	90.06	1.40	7225.33	6603.77	91.56	6603.80	0.87
13972.00	90.86	1.89	7224.64	6688.73	94.00	6688.77	1.10
14058.00	90.43	2.10	7223.68	6774.67	97.00	6774.71	0.56
14143.00	90.00	359.80	7223.36	6859.66	98.41	6859.69	2.75
14228.00	88.94	359.07	7224.14	6944.65	97.57	6944.68	1.51
14314.00	90.43	1.34	7224.62	7030.64	97.87	7030.67	3.16
14398.00	90.74	1.56	7223.76	7114.61	100.00	7114.64	0.45
14484.00	90.53	1.36	7222.81	7200.57	102.19	7200.61	0.34
14569.00	89.38	359.03	7222.87	7285.56	102.48	7285.60	3.06
14654.00	89.45	0.47	7223.74	7370.56	102.11	7370.59	1.70
14740.00	90.00	2.89	7224.15	7456.51	104.63	7456.55	2.89
14825.00	88.03	1.03	7225.61	7541.44	107.54	7541.48	3.19
14911.00	88.64	1.95	7228.11	7627.38	109.77	7627.41	1.28
14996.00	88.03	1.58	7230.58	7712.30	112.39	7712.34	0.84
15081.00	87.53	2.01	7233.88	7797.19	115.05	7797.23	0.78
15167.00	87.47	0.93	7237.63	7883.08	117.25	7883.12	1.26
15252.00	89.20	1.69	7240.10	7968.02	119.20	7968.06	2.22
15338.00	88.71	0.53	7241.66	8053.99	120.86	8054.03	1.46
15423.00	89.63	0.53	7242.90	8138.97	121.65	8139.02	1.08
15508.00	91.11	0.79	7242.35	8223.96	122.63	8224.01	1.77
15593.00	91.23	1.38	7240.61	8308.93	124.24	8308.97	0.71
15678.00	91.23	1.72	7238.79	8393.88	126.54	8393.92	0.40
15764.00	91.36	1.88	7236.84	8479.82	129.24	8479.86	0.24
15849.00	90.88	1.36	7235.18	8564.76	131.64	8564.81	0.83
15935.00	90.06	0.21	7234.48	8650.75	132.82	8650.80	1.64
16020.00	89.26	0.14	7234.98	8735.75	133.08	8735.79	0.94
16105.00	89.94	0.36	7235.57	8820.75	133.45	8820.79	0.84
16191.00	90.00	0.65	7235.62	8906.74	134.21	8906.79	0.34
16276.00	90.35	0.48	7235.36	8991.74	135.04	8991.78	0.46
16362.00	91.06	0.65	7234.30	9077.73	135.89	9077.77	0.85
16447.00	90.71	0.65	7232.99	9162.71	136.86	9162.76	0.41
16533.00	90.37	0.48	7232.18	9248.70	137.70	9248.75	0.44
16618.00	89.32	359.50	7232.41	9333.70	137.69	9333.75	1.69
16704.00	89.94	0.78	7232.96	9419.70	137.90	9419.74	1.65
16789.00	90.93	0.49	7232.32	9504.69	138.84	9504.73	1.21
16875.00	90.93	0.57	7230.92	9590.67	139.64	9590.72	0.09
16960.00	90.37	0.33	7229.96	9675.66	140.30	9675.71	0.72
17075.00	89.63	359.99	7229.96	9790.66	140.63	9790.71	0.71
17129.00	89.63	359.99	7230.31	9844.66	140.62	9844.71	0.00

