



Weatherford®

SURVEY REPORT

Report Date: **1/18/2013**
 Customer: **Anadarko**
 Job Name: **4028333**
 Well Name: **Sparboe 7C-3HZ**

Field: **Wattenburg**
 Rig: **Xtreme 23**
 Rig Loc: **Weld County, Colo.**

Survey Calculation Method: Minimum Curvature						
Magnetic Reference	Target Direction	Total Magnetic Field	Magnetic Dip Angle	Magnetic Declination	Grid Convergence	Total Correction
True North	179.83 deg	52736 nT	66.75 deg	8.62 deg	0.00 deg	8.62 deg
Survey Tie-On	Depth	INC	AZ	TVD	NS	EW
	1776.00 ft	0.27 deg	340.35 deg	1775.98 ft	1.40 ft	-1.93 ft

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		Vsect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
1885.00	0.44	351.60	1884.98	2.06	-2.08	-2.06	0.17
1977.00	2.36	307.07	1976.95	3.55	-3.64	-3.56	2.25
2071.00	4.72	298.50	2070.76	6.56	-8.58	-6.59	2.57
2165.00	6.76	297.25	2164.29	10.94	-16.90	-10.99	2.17
2258.00	8.07	293.63	2256.51	16.06	-27.75	-16.14	1.49
2351.00	8.87	288.15	2348.49	20.91	-40.54	-21.03	1.22
2445.00	10.05	286.09	2441.21	25.44	-55.31	-25.61	1.31
2538.00	11.63	282.19	2532.55	29.67	-72.27	-29.89	1.87
2631.00	10.56	280.72	2623.81	33.24	-89.81	-33.50	1.19
2725.00	10.71	292.23	2716.21	38.14	-106.36	-38.46	2.26
2818.00	11.55	293.86	2807.46	45.18	-122.87	-45.54	0.96
2903.00	11.49	287.50	2890.75	51.17	-138.73	-51.58	1.50
2989.00	10.78	284.85	2975.13	55.80	-154.67	-56.26	1.02
3074.00	11.20	285.57	3058.57	60.06	-170.31	-60.56	0.52
3159.00	11.86	285.89	3141.86	64.66	-186.66	-65.22	0.78
3245.00	10.66	286.12	3226.20	69.29	-202.80	-69.89	1.40
3330.00	10.82	285.50	3309.71	73.61	-218.04	-74.25	0.23
3415.00	11.53	285.78	3393.10	78.05	-233.91	-78.74	0.84
3501.00	10.25	285.08	3477.55	82.38	-249.57	-83.12	1.50
3586.00	9.43	284.14	3561.30	86.05	-263.62	-86.83	0.98
3672.00	10.35	283.75	3646.02	89.60	-277.96	-90.43	1.07
3757.00	12.16	287.36	3729.38	94.09	-293.92	-94.96	2.28
3843.00	12.36	287.88	3813.42	99.62	-311.33	-100.54	0.27
3928.00	10.85	288.05	3896.68	104.89	-327.59	-105.86	1.78
4014.00	10.94	283.39	3981.13	109.29	-343.23	-110.31	1.03
4099.00	10.57	284.38	4064.64	113.09	-358.62	-114.16	0.49
4184.00	12.54	282.47	4147.91	117.02	-375.19	-118.13	2.36
4270.00	12.32	282.63	4231.90	121.04	-393.26	-122.21	0.26
4355.00	11.52	285.99	4315.06	125.37	-410.26	-126.58	1.25
4441.00	10.51	286.07	4399.48	129.90	-426.06	-131.17	1.17
4526.00	11.05	290.84	4482.98	134.95	-441.12	-136.25	1.23
4612.00	11.77	290.40	4567.28	140.94	-457.04	-142.29	0.84
4697.00	11.34	289.68	4650.56	146.77	-473.04	-148.17	0.53
4782.00	10.69	289.56	4733.99	152.23	-488.34	-153.67	0.77
4868.00	10.77	285.38	4818.49	157.03	-503.60	-158.52	0.91

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		VSect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
4953.00	10.92	282.80	4901.97	160.92	-519.11	-162.46	0.60
5039.00	11.41	283.66	4986.34	164.73	-535.32	-166.32	0.60
5124.00	12.17	286.84	5069.55	169.31	-552.06	-170.95	1.18
5209.00	10.11	281.93	5152.94	173.45	-567.94	-175.13	2.67
5295.00	10.61	281.59	5237.54	176.60	-583.08	-178.33	0.59
5380.00	11.50	287.41	5320.97	180.71	-598.83	-182.48	1.68
5466.00	11.27	286.05	5405.27	185.60	-615.09	-187.42	0.41
5551.00	11.34	286.12	5488.62	190.21	-631.10	-192.09	0.08
5636.00	10.23	287.27	5572.12	194.78	-646.34	-196.69	1.33
5722.00	9.17	289.37	5656.89	199.32	-660.09	-201.27	1.30
5807.00	7.73	287.96	5740.97	203.32	-671.92	-205.32	1.71
5893.00	7.75	283.81	5826.18	206.49	-683.05	-208.52	0.65
5978.00	7.91	290.23	5910.39	209.88	-694.11	-211.94	1.05
6063.00	7.79	289.22	5994.60	213.80	-705.04	-215.89	0.22
6148.00	8.11	289.29	6078.78	217.68	-716.13	-219.80	0.38
6234.00	7.39	289.25	6163.99	221.51	-727.08	-223.66	0.84
6319.00	6.31	287.92	6248.39	224.75	-736.69	-226.93	1.28
6404.00	5.56	286.34	6332.93	227.34	-745.08	-229.55	0.90
6490.00	4.16	290.97	6418.62	229.63	-751.99	-231.86	1.69
6575.00	2.51	295.74	6503.47	231.54	-756.55	-233.79	1.97
6660.00	0.98	229.52	6588.44	231.88	-758.78	-234.13	2.70
6708.00	1.29	192.84	6636.43	231.08	-759.21	-233.34	1.61
6751.00	4.71	180.98	6679.36	228.85	-759.35	-231.10	8.04
6794.00	9.34	178.58	6722.03	223.59	-759.29	-225.84	10.79
6836.00	13.82	179.30	6763.16	215.16	-759.15	-217.42	10.67
6879.00	14.49	178.97	6804.86	204.65	-758.99	-206.90	1.57
6922.00	17.53	175.59	6846.18	192.81	-758.39	-195.06	7.39
6964.00	21.10	174.48	6885.81	178.97	-757.18	-181.22	8.54
7007.00	24.47	176.13	6925.45	162.38	-755.83	-164.62	7.98
7050.00	28.51	179.40	6963.93	143.22	-755.12	-145.46	9.99
7092.00	31.89	179.59	7000.23	122.10	-754.94	-124.34	8.05
7135.00	36.22	179.27	7035.84	98.03	-754.70	-100.27	10.08
7178.00	39.27	180.71	7069.84	71.71	-754.70	-73.95	7.38
7221.00	43.89	181.42	7102.00	43.19	-755.24	-45.43	10.80
7263.00	48.90	182.16	7130.96	12.80	-756.20	-15.04	12.00
7306.00	52.57	182.50	7158.17	-20.46	-757.56	18.21	8.56
7348.00	55.18	182.80	7182.93	-54.34	-759.13	52.09	6.24
7391.00	56.87	182.12	7206.96	-89.97	-760.65	87.71	4.14
7435.00	60.68	180.78	7229.76	-127.57	-761.60	125.31	9.04
7477.00	67.27	180.04	7248.18	-165.29	-761.86	163.03	15.77
7520.00	74.88	179.97	7262.12	-205.94	-761.86	203.68	17.70
7563.00	78.82	180.03	7271.90	-247.80	-761.86	245.54	9.16
7605.00	81.45	179.61	7279.09	-289.18	-761.73	286.92	6.34
7637.00	83.21	179.28	7283.36	-320.89	-761.42	318.63	5.59
7757.00	90.88	179.10	7289.54	-440.63	-759.73	438.37	6.39
7850.00	91.05	178.55	7287.98	-533.60	-757.82	531.34	0.62
7944.00	91.05	178.24	7286.26	-627.54	-755.19	625.30	0.33
8037.00	90.18	178.93	7285.26	-720.51	-752.90	718.27	1.19
8130.00	90.35	179.28	7284.83	-813.50	-751.44	811.26	0.42
8224.00	90.99	179.81	7283.73	-907.49	-750.70	905.25	0.88

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		Vsect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
8317.00	88.95	180.61	7283.78	-1000.48	-751.04	998.25	2.36
8410.00	88.46	180.02	7285.88	-1093.45	-751.55	1091.22	0.82
8504.00	90.44	178.22	7286.78	-1187.43	-750.11	1185.20	2.85
8597.00	90.00	178.75	7286.42	-1280.40	-747.65	1278.17	0.74
8691.00	91.32	179.45	7285.34	-1374.37	-746.17	1372.15	1.59
8784.00	91.79	181.51	7282.82	-1467.33	-746.95	1465.11	2.27
8878.00	89.01	181.15	7282.16	-1561.29	-749.13	1559.07	2.98
8971.00	88.77	181.57	7283.96	-1654.25	-751.34	1652.01	0.52
9062.00	88.15	181.00	7286.41	-1745.19	-753.38	1742.95	0.93
9153.00	90.86	179.15	7287.19	-1836.18	-753.50	1833.93	3.61
9244.00	90.06	179.77	7286.46	-1927.17	-752.64	1924.93	1.11
9335.00	89.63	179.39	7286.71	-2018.17	-751.97	2015.93	0.63
9427.00	90.31	179.95	7286.76	-2110.16	-751.44	2107.93	0.96
9512.00	89.32	179.80	7287.03	-2195.16	-751.26	2192.92	1.18
9596.00	88.27	178.24	7288.80	-2279.13	-749.82	2276.89	2.24
9681.00	89.88	177.19	7290.17	-2364.05	-746.43	2361.82	2.26
9767.00	90.49	178.14	7289.89	-2449.97	-742.93	2447.76	1.31
9852.00	91.23	178.70	7288.62	-2534.93	-740.58	2532.72	1.09
9937.00	91.48	181.30	7286.61	-2619.90	-740.58	2617.69	3.07
10023.00	91.36	181.26	7284.48	-2705.85	-742.50	2703.64	0.15
10108.00	91.15	181.22	7282.61	-2790.81	-744.34	2788.59	0.25
10194.00	90.74	180.98	7281.20	-2876.78	-745.99	2874.56	0.55
10279.00	90.62	181.05	7280.19	-2961.76	-747.50	2959.53	0.16
10365.00	90.37	180.77	7279.44	-3047.75	-748.87	3045.51	0.44
10450.00	90.49	180.52	7278.81	-3132.74	-749.82	3130.50	0.33
10536.00	90.06	180.22	7278.39	-3218.74	-750.38	3216.50	0.61
10621.00	90.06	180.38	7278.30	-3303.74	-750.82	3301.49	0.19
10706.00	90.00	179.68	7278.26	-3388.74	-750.87	3386.49	0.83
10792.00	89.94	179.59	7278.31	-3474.73	-750.32	3472.49	0.13
10877.00	90.37	179.36	7278.08	-3559.73	-749.54	3557.49	0.57
10962.00	91.48	179.66	7276.70	-3644.71	-748.81	3642.48	1.35
11048.00	91.54	180.33	7274.44	-3730.68	-748.81	3728.45	0.78
11133.00	91.79	179.81	7271.97	-3815.65	-748.91	3813.41	0.68
11218.00	91.42	180.60	7269.59	-3900.61	-749.21	3898.37	1.03
11304.00	87.66	180.64	7270.28	-3986.59	-750.14	3984.35	4.37
11389.00	88.58	179.92	7273.07	-4071.54	-750.56	4069.30	1.37
11475.00	89.01	179.98	7274.87	-4157.52	-750.48	4155.28	0.50
11560.00	89.14	180.25	7276.25	-4242.51	-750.65	4240.27	0.35
11646.00	89.26	180.07	7277.45	-4328.50	-750.90	4326.26	0.25
11731.00	88.89	179.76	7278.82	-4413.49	-750.77	4411.24	0.57
11817.00	89.69	180.29	7279.88	-4499.48	-750.81	4497.24	1.12
11902.00	90.55	180.05	7279.71	-4584.48	-751.06	4582.23	1.05
11987.00	90.74	180.00	7278.75	-4669.48	-751.10	4667.23	0.23
12073.00	90.86	179.35	7277.55	-4755.47	-750.61	4753.22	0.77
12158.00	90.80	179.13	7276.32	-4840.45	-749.48	4838.20	0.27
12244.00	91.11	178.69	7274.88	-4926.42	-747.85	4924.18	0.63
12329.00	90.62	178.01	7273.60	-5011.38	-745.40	5009.14	0.99
12415.00	89.94	178.73	7273.18	-5097.34	-742.95	5095.11	1.15
12500.00	89.69	179.29	7273.46	-5182.33	-741.48	5180.10	0.72
12586.00	89.38	180.32	7274.15	-5268.32	-741.19	5266.10	1.25

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		VSect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
12671.00	90.79	181.04	7274.03	-5353.31	-742.20	5351.09	1.86
12756.00	91.36	180.42	7272.43	-5438.29	-743.28	5436.06	0.99
12841.00	90.37	180.19	7271.15	-5523.28	-743.73	5521.05	1.20
12927.00	90.86	180.64	7270.23	-5609.27	-744.36	5607.04	0.77
13012.00	90.37	181.18	7269.31	-5694.25	-745.71	5692.02	0.86
13098.00	89.81	180.48	7269.18	-5780.24	-746.95	5778.00	1.04
13183.00	90.31	180.84	7269.09	-5865.24	-747.93	5862.99	0.72
13269.00	90.37	180.59	7268.58	-5951.23	-749.00	5948.98	0.30
13354.00	90.74	180.49	7267.76	-6036.22	-749.81	6033.97	0.45
13439.00	90.31	180.31	7266.98	-6121.22	-750.40	6118.96	0.55
13525.00	89.63	180.64	7267.02	-6207.21	-751.11	6204.96	0.88
13610.00	89.51	179.92	7267.66	-6292.21	-751.53	6289.95	0.86
13695.00	89.32	179.20	7268.53	-6377.20	-750.88	6374.94	0.88
13781.00	89.57	178.88	7269.36	-6463.18	-749.43	6460.93	0.47
13866.00	89.51	178.36	7270.04	-6548.16	-747.39	6545.91	0.62
13952.00	90.99	178.64	7269.67	-6634.12	-745.14	6631.88	1.75
14037.00	90.18	178.59	7268.80	-6719.09	-743.08	6716.86	0.95
14122.00	91.42	178.57	7267.61	-6804.06	-740.98	6801.83	1.46
14208.00	90.43	178.18	7266.23	-6890.01	-738.54	6887.79	1.24
14293.00	90.31	177.95	7265.68	-6974.96	-735.67	6972.75	0.31
14378.00	90.49	177.94	7265.08	-7059.90	-732.62	7057.70	0.21
14432.00	90.80	177.59	7264.48	-7113.86	-730.51	7111.66	0.87
Projected to Total Depth:							
14488.00	90.80	177.59	7263.69	-7169.79	-728.16	7167.60	0.00

Weatherford M/LWD surveys from 1885.00 ft MD to 14432.00 ft MD.

TD at 14488.00 ft MD.

The total correction is 8.62 deg relative to True North.