



Weatherford®

SURVEY REPORT

Report Date: **5/20/2013**
 Customer: **Anadarko**
 Job Name: **4029179**
 Well Name: **Cannon 13C-10HZ**

Field: **Wattenburg**
 Rig: **Xtreme 23**
 Rig Loc: **Weld County**

Survey Calculation Method: Minimum Curvature						
Magnetic Reference	Target Direction	Total Magnetic Field	Magnetic Dip Angle	Magnetic Declination	Grid Convergence	Total Correction
True North	179.52 deg	52739 nT	66.78 deg	8.62 deg	0.00 deg	8.62 deg
Survey Tie-On	Depth	INC	AZ	TVD	NS	EW
	906.00 ft	0.10 deg	24.76 deg	905.98 ft	3.47 ft	-4.11 ft

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		VSect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
1051.00	0.36	307.16	1050.98	3.86	-4.42	-3.90	0.24
1142.00	2.18	331.18	1141.95	5.55	-5.48	-5.60	2.04
1233.00	4.60	310.70	1232.79	9.45	-9.08	-9.52	2.93
1324.00	6.18	312.10	1323.38	15.11	-15.48	-15.24	1.74
1413.00	7.13	294.55	1411.79	20.62	-24.06	-20.82	2.51
1523.00	6.96	292.78	1520.96	26.03	-36.42	-26.34	0.25
1616.00	6.44	300.81	1613.33	30.89	-46.09	-31.27	1.15
1709.00	6.77	303.19	1705.71	36.56	-55.16	-37.02	0.46
1802.00	6.67	300.45	1798.07	42.30	-64.40	-42.84	0.36
1895.00	6.56	311.24	1890.46	48.54	-73.06	-49.15	1.34
1988.00	6.30	309.60	1982.87	55.29	-80.98	-55.97	0.34
2082.00	5.88	307.34	2076.34	61.50	-88.78	-62.24	0.51
2175.00	5.75	309.71	2168.86	67.37	-96.15	-68.17	0.29
2268.00	5.28	309.04	2261.43	73.04	-103.06	-73.90	0.51
2362.00	6.36	313.77	2354.95	79.36	-110.18	-80.28	1.26
2456.00	6.45	312.95	2448.36	86.56	-117.81	-87.55	0.14
2550.00	6.55	303.97	2541.76	93.16	-126.12	-94.21	1.09
2643.00	6.17	305.80	2634.19	99.04	-134.57	-100.17	0.46
2737.00	6.41	300.09	2727.62	104.63	-143.21	-105.82	0.71
2830.00	7.91	302.44	2819.89	110.66	-153.10	-111.94	1.64
2924.00	7.68	303.65	2913.03	117.61	-163.79	-118.98	0.30
3017.00	7.50	301.87	3005.21	124.26	-174.11	-125.72	0.32
3111.00	7.23	302.52	3098.44	130.68	-184.31	-132.22	0.30
3204.00	7.03	303.18	3190.72	136.94	-194.01	-138.56	0.23
3298.00	6.32	301.72	3284.08	142.81	-203.23	-144.51	0.78
3383.00	5.84	303.32	3368.60	147.65	-210.82	-149.41	0.60
3468.00	6.65	307.01	3453.10	152.98	-218.36	-154.81	1.06
3553.00	6.12	308.21	3537.57	158.75	-225.85	-160.64	0.64
3639.00	5.49	308.91	3623.13	164.17	-232.66	-166.11	0.74
3724.00	5.43	309.65	3707.74	169.29	-238.92	-171.28	0.11
3810.00	4.83	309.88	3793.40	174.21	-244.83	-176.25	0.70
3895.00	5.29	309.39	3878.06	178.99	-250.60	-181.08	0.54
3981.00	5.98	306.08	3963.65	184.14	-257.29	-186.29	0.89
4066.00	6.27	303.87	4048.16	189.34	-264.72	-191.55	0.44
4152.00	6.87	305.29	4133.60	194.92	-272.82	-197.20	0.72

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		VSect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
4237.00	6.78	304.69	4218.00	200.72	-281.09	-203.07	0.14
4323.00	6.45	305.33	4303.42	206.40	-289.21	-208.82	0.39
4408.00	6.15	304.64	4387.91	211.75	-296.85	-214.23	0.36
4493.00	5.84	305.94	4472.44	216.88	-304.10	-219.42	0.40
4579.00	6.69	304.45	4557.93	222.28	-311.77	-224.88	1.01
4664.00	6.45	304.30	4642.37	227.77	-319.80	-230.44	0.28
4750.00	6.08	304.70	4727.86	233.08	-327.53	-235.82	0.43
4835.00	6.20	305.26	4812.37	238.30	-334.98	-241.09	0.16
4921.00	5.76	303.22	4897.90	243.34	-342.38	-246.20	0.57
5006.00	5.93	301.75	4982.46	247.99	-349.68	-250.91	0.27
5091.00	6.49	303.63	5066.96	252.96	-357.42	-255.94	0.70
5176.00	6.71	306.82	5151.40	258.60	-365.39	-261.65	0.50
5262.00	6.30	307.23	5236.84	264.46	-373.17	-267.58	0.48
5347.00	6.42	304.67	5321.32	269.99	-380.79	-273.17	0.36
5433.00	6.57	311.97	5406.77	276.01	-388.41	-279.26	0.98
5604.00	8.69	306.00	5576.25	290.15	-406.13	-293.54	1.32
5689.00	8.28	305.06	5660.32	297.44	-416.34	-300.92	0.51
5774.00	6.94	306.03	5744.57	303.98	-425.50	-307.53	1.58
5860.00	7.16	300.40	5829.92	309.74	-434.32	-313.37	0.84
5945.00	7.02	304.41	5914.27	315.36	-443.18	-319.06	0.60
6030.00	6.22	305.54	5998.70	320.97	-451.21	-324.74	0.95
6116.00	5.23	305.14	6084.27	325.94	-458.21	-329.76	1.15
6201.00	4.23	301.82	6168.98	329.82	-464.04	-333.69	1.22
6287.00	3.28	300.26	6254.80	332.73	-468.86	-336.65	1.11
6372.00	2.67	300.39	6339.68	334.96	-472.67	-338.91	0.72
6458.00	2.03	297.98	6425.61	336.69	-475.74	-340.66	0.75
6543.00	1.78	295.14	6510.56	337.95	-478.27	-341.95	0.31
6629.00	0.49	292.49	6596.54	338.66	-479.81	-342.67	1.50
6714.00	0.10	289.22	6681.54	338.82	-480.22	-342.84	0.46
6750.00	0.10	139.85	6717.54	338.81	-480.23	-342.82	0.54
6793.00	0.38	107.97	6760.54	338.74	-480.07	-342.75	0.70
6879.00	8.44	170.34	6846.22	332.42	-478.74	-336.42	9.62
6964.00	16.10	181.54	6929.23	314.46	-478.01	-318.45	9.40
7049.00	20.80	182.37	7009.84	287.58	-478.95	-291.58	5.54
7092.00	24.06	181.57	7049.58	271.19	-479.50	-275.19	7.61
7135.00	27.25	184.21	7088.34	252.60	-480.47	-256.62	7.88
7177.00	31.87	187.53	7124.86	232.01	-482.63	-236.04	11.67
7220.00	36.52	188.95	7160.42	208.10	-486.11	-212.17	10.97
7262.00	41.13	186.32	7193.14	182.01	-489.57	-186.11	11.66
7305.00	45.74	182.73	7224.36	152.55	-491.87	-156.67	12.16
7348.00	52.01	179.51	7252.63	120.19	-492.45	-124.31	15.63
7391.00	57.09	179.77	7277.56	85.18	-492.24	-89.30	11.82
7433.00	61.71	180.60	7298.93	49.04	-492.36	-53.16	11.13
7476.00	68.29	180.67	7317.10	10.09	-492.79	-14.22	15.30
7518.00	74.77	180.76	7330.40	-29.72	-493.29	25.59	15.43
7561.00	79.51	179.81	7339.96	-71.63	-493.50	67.50	11.23
7610.00	84.53	177.98	7346.76	-120.13	-492.56	116.00	10.89
7754.00	87.96	178.41	7356.19	-263.73	-488.03	259.63	2.40
7840.00	87.10	177.82	7359.90	-349.60	-485.20	345.52	1.21
7925.00	86.55	176.63	7364.61	-434.37	-481.10	430.32	1.54

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		VSect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
8011.00	88.89	176.62	7368.03	-520.15	-476.04	516.14	2.72
8096.00	87.65	176.58	7370.60	-604.96	-471.00	600.99	1.46
8182.00	87.10	177.81	7374.53	-690.76	-466.79	686.83	1.57
8267.00	88.34	178.40	7377.92	-775.65	-463.99	771.73	1.62
8352.00	88.89	178.79	7379.97	-860.60	-461.90	856.70	0.79
8438.00	88.46	178.67	7381.96	-946.55	-460.00	942.66	0.52
8523.00	90.06	179.37	7383.06	-1031.53	-458.54	1027.65	2.05
8608.00	89.75	179.81	7383.20	-1116.53	-457.94	1112.65	0.63
8694.00	89.51	179.00	7383.75	-1202.52	-457.04	1198.65	0.98
8779.00	89.20	178.82	7384.71	-1287.50	-455.43	1283.64	0.42
8865.00	88.83	179.93	7386.19	-1373.48	-454.49	1369.62	1.36
8950.00	89.32	179.86	7387.56	-1458.47	-454.33	1454.61	0.58
9035.00	89.32	181.62	7388.57	-1543.45	-455.43	1539.58	2.07
9120.00	86.42	181.20	7391.73	-1628.36	-457.52	1624.47	3.45
9206.00	87.29	182.62	7396.45	-1714.18	-460.38	1710.26	1.93
9291.00	84.94	181.66	7402.21	-1798.91	-463.55	1794.97	2.99
9376.00	84.01	181.32	7410.39	-1883.49	-465.75	1879.52	1.16
9462.00	85.87	182.00	7417.97	-1969.11	-468.23	1965.12	2.30
9547.00	86.11	182.01	7423.92	-2053.85	-471.20	2049.84	0.28
9632.00	86.05	180.68	7429.73	-2138.63	-473.19	2134.59	1.56
9718.00	85.06	181.04	7436.39	-2224.36	-474.48	2220.31	1.22
9803.00	85.99	180.42	7443.03	-2309.09	-475.56	2305.03	1.31
9889.00	87.04	180.47	7448.25	-2394.93	-476.22	2390.86	1.22
9974.00	87.97	178.59	7451.95	-2479.84	-475.52	2475.77	2.47
10059.00	88.58	179.38	7454.51	-2564.79	-474.02	2560.73	1.17
10145.00	90.62	180.33	7455.11	-2650.78	-473.80	2646.72	2.62
10230.00	90.18	179.75	7454.52	-2735.78	-473.86	2731.71	0.86
10316.00	88.89	178.56	7455.22	-2821.76	-472.59	2817.71	2.04
10401.00	89.82	178.13	7456.17	-2906.72	-470.14	2902.68	1.21
10486.00	90.00	178.24	7456.31	-2991.68	-467.45	2987.66	0.25
10572.00	90.18	178.90	7456.17	-3077.65	-465.30	3073.65	0.80
10656.00	90.18	179.81	7455.91	-3161.64	-464.36	3157.64	1.08
10741.00	91.79	180.14	7454.45	-3246.63	-464.32	3242.63	1.93
10826.00	91.36	180.03	7452.11	-3331.60	-464.44	3327.59	0.52
10912.00	90.55	179.96	7450.68	-3417.58	-464.44	3413.57	0.95
10997.00	90.49	179.02	7449.91	-3502.58	-463.68	3498.57	1.11
11083.00	89.51	177.77	7449.91	-3588.54	-461.27	3584.55	1.85
11168.00	89.38	178.19	7450.73	-3673.48	-458.28	3669.51	0.52
11253.00	89.38	177.92	7451.65	-3758.43	-455.39	3754.48	0.32
11339.00	89.38	178.36	7452.58	-3844.38	-452.60	3840.45	0.51
11424.00	89.14	177.27	7453.68	-3929.31	-449.36	3925.41	1.31
11509.00	90.74	177.45	7453.77	-4014.21	-445.44	4010.34	1.89
11594.00	91.85	177.89	7451.85	-4099.12	-441.99	4095.27	1.40
11679.00	91.35	177.95	7449.47	-4184.03	-438.91	4180.21	0.59
11765.00	91.06	177.69	7447.66	-4269.95	-435.63	4266.15	0.45
11847.00	87.16	172.82	7448.94	-4351.62	-428.86	4347.87	7.61
11899.00	87.16	172.82	7451.52	-4403.15	-422.37	4399.46	0.00

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		VSect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
Weatherford surveys from 1051 ft Md to 11847 ft MD.							
TD at 11899 ft MD.							
The total correction is 8.62 deg relative to True North.							