



Weatherford®

SURVEY REPORT

Report Date: **5/10/2013**
 Customer: **Anadarko**
 Job Name: **4029178**
 Well Name: **Cannon 13N-10HZ**

Field: **Wattenberg**
 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	179.65 deg	52710 nT	66.76 deg	8.65 deg	0.00 deg	8.65 deg
Survey Tie-On	Depth	INC	AZ	TVD	NS	EW
	896.00 ft	0.42 deg	6.25 deg	895.96 ft	5.50 ft	-4.40 ft

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		Vsect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
1054.00	0.78	305.20	1053.95	6.70	-5.22	-6.73	0.43
1145.00	1.75	284.82	1144.93	7.41	-7.07	-7.45	1.16
1236.00	2.75	306.10	1235.86	9.05	-10.17	-9.11	1.41
1327.00	4.87	307.77	1326.65	12.70	-14.99	-12.79	2.33
1418.00	6.73	306.33	1417.18	18.23	-22.34	-18.36	2.05
1515.00	7.55	302.24	1513.43	24.99	-32.31	-25.19	0.99
1607.00	8.59	291.83	1604.52	30.77	-43.80	-31.04	1.95
1699.00	9.83	290.61	1695.34	36.09	-57.53	-36.44	1.36
1791.00	10.93	286.35	1785.83	41.31	-73.25	-41.76	1.46
1885.00	11.69	286.86	1878.00	46.58	-90.92	-47.14	0.82
1978.00	11.24	285.69	1969.15	51.77	-108.66	-52.43	0.54
2072.00	11.36	290.74	2061.33	57.52	-126.14	-58.29	1.06
2165.00	12.11	292.67	2152.38	64.53	-143.70	-65.40	0.91
2258.00	10.74	291.74	2243.54	71.50	-160.76	-72.48	1.49
2352.00	9.83	290.00	2336.03	77.49	-176.43	-78.56	1.02
2445.00	9.27	294.04	2427.74	83.25	-190.73	-84.42	0.94
2538.00	11.08	291.53	2519.27	89.58	-205.89	-90.84	2.00
2632.00	11.87	287.85	2611.40	95.86	-223.49	-97.23	1.15
2725.00	12.71	289.01	2702.26	102.13	-242.27	-103.61	0.94
2819.00	12.29	284.93	2794.04	108.07	-261.71	-109.67	1.04
2912.00	12.77	285.45	2884.82	113.36	-281.18	-115.08	0.53
3005.00	11.67	286.75	2975.71	118.81	-300.10	-120.64	1.22
3099.00	12.77	292.86	3067.59	125.59	-318.78	-127.53	1.80
3192.00	11.83	293.32	3158.45	133.35	-337.00	-135.41	1.02
3286.00	10.78	284.78	3250.63	139.41	-354.35	-141.57	2.10
3371.00	11.93	289.95	3333.97	144.44	-370.30	-146.70	1.81
3456.00	9.65	291.40	3417.46	150.03	-385.19	-152.38	2.70
3542.00	9.76	288.41	3502.23	154.97	-398.82	-157.40	0.60
3627.00	11.23	288.99	3585.81	159.94	-413.48	-162.46	1.73
3712.00	10.82	284.19	3669.24	164.59	-429.04	-167.20	1.18
3798.00	10.89	286.35	3753.70	168.85	-444.66	-171.56	0.48
3883.00	10.73	292.78	3837.20	174.17	-459.66	-176.98	1.43
3968.00	11.28	292.27	3920.63	180.39	-474.65	-183.29	0.66
4054.00	12.11	300.01	4004.85	188.09	-490.25	-191.08	2.06
4139.00	11.65	297.08	4088.03	196.46	-505.61	-199.54	0.89

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		VSect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
4224.00	12.50	293.42	4171.15	204.02	-521.69	-207.20	1.35
4310.00	12.45	295.04	4255.12	211.64	-538.63	-214.93	0.41
4395.00	11.13	292.37	4338.33	218.64	-554.52	-222.03	1.68
4481.00	10.53	288.38	4422.80	224.28	-569.66	-227.76	1.12
4566.00	11.43	278.60	4506.25	227.99	-585.36	-231.56	2.43
4651.00	10.43	273.34	4589.70	229.70	-601.37	-233.37	1.66
4737.00	11.15	280.91	4674.19	231.72	-617.30	-235.49	1.85
4822.00	12.68	289.01	4757.36	236.32	-634.19	-240.19	2.66
4908.00	11.09	285.04	4841.52	241.54	-651.11	-245.51	2.08
4993.00	9.99	283.08	4925.08	245.33	-666.18	-249.39	1.36
5078.00	10.40	283.26	5008.74	248.76	-680.83	-252.91	0.48
5163.00	11.16	289.34	5092.24	253.24	-696.06	-257.49	1.61
5249.00	12.42	290.01	5176.42	259.16	-712.61	-263.51	1.47
5334.00	12.51	288.20	5259.42	265.17	-729.94	-269.62	0.47
5420.00	9.01	284.87	5343.90	269.81	-745.30	-274.35	4.13
5505.00	9.05	287.89	5427.84	273.57	-758.10	-278.19	0.56
5591.00	12.06	286.70	5512.38	278.23	-773.14	-282.95	3.51
5676.00	11.65	284.47	5595.57	282.92	-789.96	-287.74	0.72
5761.00	9.00	288.18	5679.18	287.14	-804.59	-292.05	3.21
5847.00	9.96	289.77	5764.01	291.76	-817.98	-296.75	1.16
5932.00	10.48	291.73	5847.66	297.11	-832.08	-302.18	0.74
6018.00	7.02	285.47	5932.65	301.41	-844.41	-306.56	4.17
6102.00	6.28	293.24	6016.08	304.59	-853.58	-309.80	1.39
6188.00	5.34	292.32	6101.64	307.96	-861.60	-313.22	1.10
6273.00	4.37	292.07	6186.33	310.68	-868.27	-315.98	1.14
6359.00	3.64	283.92	6272.12	312.57	-873.95	-317.90	1.07
6444.00	2.51	279.26	6357.00	313.52	-878.41	-318.88	1.36
6530.00	1.82	276.80	6442.94	313.98	-881.62	-319.36	0.81
6615.00	1.41	274.23	6527.90	314.22	-884.01	-319.61	0.49
6700.00	0.97	233.60	6612.89	313.87	-885.63	-319.27	1.09
6786.00	2.32	174.21	6698.86	311.71	-886.04	-317.11	2.33
6872.00	10.79	165.18	6784.22	302.17	-883.80	-307.57	9.89
6957.00	19.18	170.55	6866.26	280.67	-879.46	-286.04	9.99
7000.00	22.59	171.03	6906.43	265.54	-877.02	-270.89	7.94
7043.00	26.11	172.54	6945.59	247.99	-874.50	-253.33	8.31
7085.00	29.61	175.27	6982.72	228.48	-872.44	-233.81	8.87
7128.00	33.50	180.24	7019.36	206.02	-871.62	-211.34	10.88
7171.00	38.09	183.06	7054.23	180.89	-872.37	-186.22	11.34
7213.00	42.55	183.13	7086.25	153.76	-873.84	-159.10	10.62
7256.00	47.67	184.68	7116.59	123.38	-875.93	-128.73	12.18
7298.00	52.39	184.89	7143.56	91.32	-878.62	-96.68	11.24
7341.00	55.68	184.15	7168.81	56.63	-881.36	-62.01	7.78
7384.00	60.20	182.84	7191.63	20.26	-883.57	-25.66	10.82
7427.00	64.98	182.70	7211.42	-17.86	-885.41	12.45	11.12
7469.00	70.33	179.75	7227.38	-56.67	-886.22	51.26	14.30
7512.00	76.24	178.09	7239.75	-97.83	-885.44	92.42	14.23
7554.00	81.02	177.16	7248.02	-138.96	-883.73	133.56	11.59
7608.00	86.02	177.39	7254.12	-192.54	-881.18	187.15	9.27
7750.00	91.05	181.42	7257.75	-334.41	-879.71	329.03	4.54
7835.00	90.86	181.85	7256.33	-419.36	-882.14	413.96	0.55

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		VSect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
7920.00	89.57	181.94	7256.01	-504.31	-884.95	498.90	1.52
8006.00	91.48	181.49	7255.22	-590.26	-887.52	584.83	2.28
8091.00	93.46	181.15	7251.56	-675.16	-889.48	669.71	2.36
8177.00	92.47	179.94	7247.11	-761.04	-890.29	755.58	1.82
8262.00	91.36	178.82	7244.27	-845.98	-889.37	840.53	1.85
8348.00	87.16	178.04	7245.38	-931.92	-887.02	926.49	4.97
8433.00	85.87	177.47	7250.55	-1016.70	-883.70	1011.28	1.66
8519.00	87.66	178.19	7255.40	-1102.50	-880.44	1097.10	2.24
8603.00	87.84	177.41	7258.70	-1186.37	-877.22	1180.99	0.95
8689.00	90.31	177.80	7260.09	-1272.27	-873.63	1266.91	2.91
8774.00	92.10	178.98	7258.30	-1357.22	-871.24	1351.87	2.52
8860.00	91.79	179.15	7255.38	-1443.16	-869.84	1437.82	0.41
8945.00	90.86	178.92	7253.42	-1528.12	-868.41	1522.79	1.13
9030.00	90.62	179.88	7252.32	-1613.11	-867.52	1607.78	1.16
9116.00	90.86	180.18	7251.21	-1699.10	-867.56	1693.77	0.45
9201.00	90.37	179.56	7250.30	-1784.09	-867.37	1778.76	0.93
9287.00	90.19	180.40	7249.87	-1870.09	-867.34	1864.76	1.00
9372.00	89.94	180.16	7249.78	-1955.09	-867.76	1949.75	0.41
9458.00	89.08	179.90	7250.51	-2041.09	-867.80	2035.75	1.04
9543.00	88.52	180.70	7252.29	-2126.07	-868.25	2120.72	1.15
9628.00	90.43	181.48	7253.07	-2211.04	-869.86	2205.69	2.43
9714.00	88.58	180.25	7253.82	-2297.02	-871.16	2291.66	2.58
9799.00	88.40	181.11	7256.06	-2381.99	-872.17	2376.62	1.03
9885.00	88.03	180.16	7258.73	-2467.94	-873.12	2462.56	1.18
9970.00	88.58	180.34	7261.25	-2552.90	-873.49	2547.52	0.68
10055.00	89.63	180.99	7262.58	-2637.88	-874.48	2632.49	1.45
10141.00	88.27	180.38	7264.15	-2723.86	-875.51	2718.46	1.73
10226.00	90.06	181.26	7265.39	-2808.84	-876.72	2803.43	2.35
10312.00	90.92	180.22	7264.66	-2894.83	-877.83	2889.41	1.57
10397.00	90.31	179.98	7263.74	-2979.82	-877.98	2974.40	0.77
10483.00	91.23	179.31	7262.59	-3065.81	-877.45	3060.39	1.32
10568.00	90.49	178.58	7261.31	-3150.79	-875.88	3145.38	1.22
10653.00	91.17	178.86	7260.08	-3235.75	-873.99	3230.36	0.87
10739.00	91.60	178.92	7258.00	-3321.71	-872.32	3316.32	0.50
10824.00	91.79	179.37	7255.49	-3406.67	-871.05	3401.28	0.57
10910.00	91.36	178.44	7253.12	-3492.62	-869.41	3487.24	1.19
10995.00	91.54	179.11	7250.97	-3577.57	-867.59	3572.20	0.82
11080.00	91.79	178.85	7248.50	-3662.52	-866.08	3657.16	0.42
11166.00	92.28	179.42	7245.45	-3748.46	-864.78	3743.10	0.87
11251.00	92.47	178.91	7241.93	-3833.37	-863.55	3828.03	0.64
11337.00	92.65	178.79	7238.09	-3919.27	-861.82	3913.93	0.25
11422.00	92.10	178.63	7234.56	-4004.18	-859.91	3998.85	0.67
11507.00	92.77	178.20	7230.95	-4089.07	-857.56	4083.75	0.94
11551.00	92.83	177.93	7228.80	-4132.99	-856.08	4127.68	0.63
11605.00	92.83	177.93	7226.14	-4186.89	-854.13	4181.59	0.00

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		VSect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
Weatherford Surveys from 1054 ft MD to 11551 ft MD.							
TD at 11605 ft MD.							
The total correction is 8.65 deg relative to True North.							