



Weatherford®

SURVEY REPORT

Report Date: **7/4/2012**
 Customer: **Anadarko**
 Job Name: **4026336**
 Well Name: **Camp 24N-30HZ**

Field: **Wattenberg**
 Rig: **H&P Flex # 307**
 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	1.55 deg	52861 nT	66.82 deg	8.67 deg	0.00 deg	8.67 deg
Survey Tie-On	Depth	INC	AZ	TVD	NS	EW
	786.00 ft	0.12 deg	116.60 deg	785.99 ft	0.33 ft	1.85 ft

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head			
				NS (ft)	EW (ft)	Vsect (ft)	Dogleg (deg/100ft)
952.00	0.35	87.16	951.99	0.28	2.51	0.35	0.15
1044.00	0.45	120.27	1043.99	0.11	3.10	0.19	0.27
1134.00	0.45	140.25	1133.98	-0.34	3.64	-0.24	0.17
1226.00	0.51	175.34	1225.98	-1.03	3.90	-0.92	0.32
1316.00	0.16	161.80	1315.98	-1.55	3.97	-1.44	0.40
1407.00	0.10	121.35	1406.98	-1.71	4.08	-1.60	0.12
1499.00	0.14	43.59	1498.98	-1.67	4.23	-1.55	0.17
1590.00	0.20	82.85	1589.98	-1.57	4.46	-1.45	0.14
1681.00	0.20	356.57	1680.98	-1.39	4.61	-1.26	0.30
1772.00	0.25	318.95	1771.98	-1.08	4.47	-0.96	0.17
1864.00	0.22	265.70	1863.98	-0.94	4.16	-0.83	0.23
1958.00	0.60	237.39	1957.97	-1.22	3.57	-1.12	0.45
2053.00	0.69	226.71	2052.97	-1.88	2.73	-1.81	0.16
2148.00	1.28	297.39	2147.96	-1.79	1.37	-1.75	1.30
2243.00	0.36	3.75	2242.95	-1.00	0.45	-0.99	1.24
2338.00	0.22	331.63	2337.95	-0.54	0.38	-0.53	0.22
2433.00	1.04	239.34	2432.94	-0.82	-0.45	-0.83	1.13
2528.00	0.35	96.46	2527.94	-1.29	-0.90	-1.32	1.41
2623.00	0.42	150.50	2622.93	-1.63	-0.44	-1.64	0.37
2717.00	0.98	171.73	2716.93	-2.72	-0.15	-2.73	0.65
2812.00	1.25	43.66	2811.92	-2.78	0.68	-2.76	2.11
2908.00	1.13	48.39	2907.90	-1.39	2.11	-1.33	0.16
3002.00	0.89	57.07	3001.88	-0.38	3.41	-0.29	0.30
3097.00	0.53	67.82	3096.87	0.19	4.44	0.31	0.40
3192.00	0.28	102.96	3191.87	0.30	5.07	0.44	0.36
3287.00	0.07	338.84	3286.87	0.30	5.28	0.45	0.34
3381.00	0.22	279.13	3380.87	0.39	5.08	0.52	0.21
3476.00	2.13	140.01	3475.85	-0.94	6.03	-0.78	2.42
3571.00	3.36	137.89	3570.74	-4.36	9.04	-4.11	1.30
3666.00	2.48	142.79	3665.62	-8.06	12.15	-7.73	0.96
3761.00	2.68	119.00	3760.52	-10.77	15.33	-10.35	1.14
3856.00	4.07	111.09	3855.36	-13.06	20.42	-12.51	1.54
3951.00	6.35	110.45	3949.96	-16.11	28.49	-15.34	2.40
4046.00	6.24	112.16	4044.38	-19.89	38.19	-18.85	0.23
4140.00	6.03	112.68	4137.85	-23.73	47.48	-22.43	0.23

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		VSect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
4235.00	4.68	101.93	4232.43	-26.45	55.88	-24.93	1.76
4330.00	5.64	105.27	4327.05	-28.48	64.17	-26.74	1.06
4425.00	6.66	121.46	4421.51	-32.59	73.37	-30.59	2.11
4520.00	4.64	130.49	4516.04	-37.96	81.00	-35.75	2.32
4615.00	5.36	125.41	4610.68	-43.02	87.54	-40.64	0.89
4710.00	6.67	113.47	4705.16	-47.79	96.21	-45.17	1.90
4805.00	6.21	113.84	4799.56	-52.07	105.97	-49.18	0.49
4900.00	4.31	107.93	4894.15	-55.24	114.07	-52.14	2.08
4994.00	5.68	111.79	4987.80	-58.06	121.75	-54.74	1.50
5090.00	6.34	115.52	5083.27	-62.10	130.95	-58.54	0.80
5184.00	5.68	115.56	5176.75	-66.35	139.83	-62.54	0.70
5280.00	6.00	120.43	5272.25	-70.94	148.44	-66.90	0.61
5375.00	4.70	119.30	5366.84	-75.36	156.11	-71.11	1.37
5470.00	3.50	118.18	5461.59	-78.63	162.06	-74.22	1.27
5565.00	2.60	113.96	5556.46	-80.88	166.59	-76.34	0.98
5660.00	2.14	106.57	5651.37	-82.26	170.26	-77.62	0.58
5754.00	0.99	94.49	5745.34	-82.82	172.75	-78.12	1.27
5849.00	0.16	256.21	5840.33	-82.92	173.44	-78.20	1.20
5943.00	0.56	235.28	5934.33	-83.21	172.94	-78.50	0.44
6038.00	0.88	205.15	6029.33	-84.13	172.24	-79.44	0.51
6133.00	0.99	186.12	6124.31	-85.61	171.85	-80.93	0.34
6228.00	1.05	207.84	6219.30	-87.20	171.35	-82.53	0.41
6322.00	1.11	212.09	6313.28	-88.73	170.47	-84.09	0.11
6418.00	0.20	244.80	6409.27	-89.59	169.82	-84.96	0.99
6525.00	0.55	170.57	6516.27	-90.18	169.74	-85.55	0.50
6562.00	0.73	195.89	6553.27	-90.58	169.70	-85.95	0.89
6593.00	2.11	337.85	6584.26	-90.24	169.43	-85.62	8.78
6625.00	5.91	344.94	6616.18	-88.10	168.78	-83.50	11.95
6657.00	10.41	347.97	6647.85	-83.68	167.75	-79.11	14.12
6688.00	13.67	352.11	6678.16	-77.31	166.66	-72.77	10.87
6720.00	16.08	356.18	6709.09	-69.14	165.85	-64.63	8.20
6752.00	17.83	357.18	6739.70	-59.83	165.31	-55.33	5.54
6784.00	21.62	356.59	6769.81	-49.04	164.72	-44.57	11.86
6815.00	25.44	356.02	6798.23	-36.70	163.92	-32.25	12.34
6847.00	29.15	355.75	6826.66	-22.06	162.86	-17.65	11.60
6878.00	30.46	357.03	6853.56	-6.69	161.90	-2.30	4.70
6910.00	33.45	357.57	6880.71	10.23	161.10	14.58	9.39
6942.00	37.53	358.13	6906.76	28.79	160.41	33.12	12.79
6973.00	41.48	358.01	6930.67	48.50	159.74	52.80	12.74
7005.00	45.59	358.67	6953.87	70.52	159.11	74.80	12.92
7037.00	48.96	0.53	6975.58	94.03	158.96	98.29	11.36
7068.00	53.43	1.08	6995.00	118.17	159.30	122.44	14.49
7100.00	56.91	1.69	7013.27	144.43	159.94	148.70	10.99
7131.00	60.78	1.51	7029.31	170.94	160.68	175.23	12.49
7163.00	64.33	0.90	7044.05	199.33	161.27	203.62	11.22
7194.00	67.07	0.55	7056.81	227.58	161.63	231.87	8.90
7226.00	69.93	0.86	7068.54	257.35	162.00	261.63	8.98
7258.00	73.25	1.06	7078.64	287.70	162.50	291.99	10.39
7289.00	75.87	1.25	7086.89	317.57	163.11	321.87	8.47
7321.00	78.31	1.75	7094.04	348.75	163.92	353.06	7.78

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		VSect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
7352.00	78.88	1.76	7100.17	379.12	164.86	383.45	1.84
7384.00	80.58	1.66	7105.88	410.60	165.79	414.93	5.32
7416.00	83.48	1.30	7110.31	442.27	166.61	446.62	9.13
7447.00	84.61	1.88	7113.53	473.09	167.47	477.45	4.09
7479.00	84.68	1.24	7116.52	504.94	168.34	509.31	2.00
7580.00	89.45	0.46	7121.69	605.77	169.83	610.14	4.79
7671.00	89.14	0.07	7122.81	696.76	170.25	701.11	0.55
7763.00	88.40	359.50	7124.78	788.74	169.91	793.04	1.02
7855.00	90.26	359.33	7125.86	880.72	168.97	884.97	2.03
7945.00	89.51	357.98	7126.04	970.69	166.85	974.85	1.72
8037.00	90.68	358.28	7125.88	1062.64	163.85	1066.69	1.31
8127.00	90.62	1.79	7124.86	1152.62	163.91	1156.64	3.90
8218.00	90.18	0.91	7124.23	1243.60	166.05	1247.63	1.08
8310.00	90.18	1.73	7123.94	1335.57	168.17	1339.63	0.89
8401.00	89.75	1.93	7123.99	1426.52	171.08	1430.63	0.52
8492.00	90.00	1.27	7124.19	1517.49	173.62	1521.63	0.78
8584.00	90.37	0.17	7123.90	1609.48	174.77	1613.62	1.26
8675.00	90.68	359.56	7123.06	1700.47	174.56	1704.57	0.75
8766.00	90.37	358.47	7122.23	1791.45	172.99	1795.48	1.25
8857.00	89.88	0.72	7122.03	1882.45	172.35	1886.42	2.53
8948.00	89.88	359.41	7122.22	1973.44	172.45	1977.39	1.44
9040.00	90.31	358.99	7122.07	2065.43	171.17	2069.31	0.65
9132.00	89.82	1.91	7121.96	2157.42	171.89	2161.28	3.22
9226.00	88.83	0.99	7123.07	2251.38	174.27	2255.27	1.44
9321.00	90.49	0.92	7123.63	2346.36	175.85	2350.26	1.75
9416.00	90.06	0.63	7123.18	2441.35	177.14	2445.25	0.55
9511.00	89.88	359.32	7123.23	2536.35	177.10	2540.21	1.39
9606.00	89.01	359.81	7124.15	2631.34	176.38	2635.15	1.05
9701.00	91.23	356.82	7123.95	2726.29	173.58	2729.98	3.92
9796.00	90.49	354.72	7122.52	2821.01	166.58	2824.48	2.34
9891.00	90.86	351.90	7121.40	2915.35	155.51	2918.49	2.99
9986.00	89.38	350.15	7121.20	3009.18	140.69	3011.88	2.41
10081.00	89.51	350.20	7122.13	3102.78	124.48	3105.01	0.15
10176.00	87.35	348.81	7124.73	3196.15	107.19	3197.88	2.70
10272.00	89.81	349.37	7127.11	3290.38	89.03	3291.58	2.63
10367.00	91.48	351.20	7126.04	3384.00	73.00	3384.74	2.61
10462.00	91.54	350.75	7123.53	3477.79	58.10	3478.09	0.48
10557.00	89.75	350.76	7122.46	3571.55	42.84	3571.40	1.88
10652.00	89.38	353.07	7123.19	3665.59	29.48	3665.05	2.46
10747.00	86.79	352.46	7126.36	3759.78	17.52	3758.87	2.80
10842.00	86.36	352.32	7132.04	3853.77	4.96	3852.50	0.48
10938.00	86.98	352.31	7137.61	3948.75	-7.85	3947.09	0.65
11033.00	86.30	352.43	7143.18	4042.74	-20.44	4040.71	0.73
11128.00	85.56	352.03	7149.92	4136.63	-33.25	4134.22	0.88
11223.00	86.48	355.11	7156.52	4230.80	-43.87	4228.06	3.38
11318.00	85.68	353.68	7163.01	4325.12	-53.12	4322.10	1.72
11413.00	88.21	354.78	7168.08	4419.49	-62.66	4416.18	2.90
11507.00	89.08	356.99	7170.30	4513.22	-69.40	4509.69	2.53
11602.00	90.25	359.86	7170.85	4608.17	-72.01	4604.53	3.26
11698.00	89.01	359.02	7171.47	4704.16	-72.95	4700.46	1.56

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		VSect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
11793.00	90.62	359.86	7171.78	4799.15	-73.88	4795.40	1.91
11888.00	90.68	1.94	7170.70	4894.13	-72.38	4890.38	2.19
11983.00	90.86	1.17	7169.43	4989.08	-69.81	4985.37	0.83
12079.00	90.31	0.67	7168.45	5085.06	-68.27	5081.36	0.77
12174.00	90.31	359.90	7167.93	5180.06	-67.79	5176.33	0.81
12269.00	89.38	0.74	7168.19	5275.06	-67.26	5271.31	1.32
12364.00	88.34	2.37	7170.08	5370.00	-64.69	5366.28	2.03
12459.00	89.81	5.82	7171.61	5464.73	-57.90	5461.16	3.95
12555.00	89.38	4.20	7172.29	5560.36	-49.52	5556.98	1.75
12651.00	90.18	7.44	7172.66	5655.85	-39.79	5652.70	3.48
12746.00	90.12	10.36	7172.41	5749.69	-25.09	5746.91	3.07
12841.00	89.14	8.63	7173.03	5843.38	-9.42	5840.99	2.09
12936.00	90.74	11.92	7173.12	5936.84	7.52	5934.88	3.85
13031.00	92.22	10.75	7170.67	6029.96	26.19	6028.46	1.99
13126.00	93.95	10.72	7165.56	6123.15	43.86	6122.10	1.82
13220.00	93.83	9.12	7159.18	6215.53	60.01	6214.88	1.70
13315.00	92.28	9.69	7154.12	6309.12	75.51	6308.85	1.74
13410.00	93.51	12.90	7149.32	6402.15	94.09	6402.35	3.61
13504.00	93.02	12.33	7143.97	6493.73	114.59	6494.45	0.80
13600.00	93.52	11.49	7138.49	6587.51	134.37	6588.73	1.02
13695.00	92.77	10.89	7133.28	6680.56	152.78	6682.25	1.01
13790.00	92.09	9.99	7129.25	6773.90	169.98	6776.02	1.19
13884.00	91.32	9.55	7126.45	6866.50	185.92	6869.01	0.94
13923.00	90.86	9.09	7125.71	6904.97	192.23	6907.65	1.67

Weatherford Surveys from 952.00 ft MD to 13923.00 ft MD.

TD at 13978.00 ft MD.

The total correction is 8.67 deg relative to True North.