



# Weatherford®

## SURVEY REPORT

Report Date: **9/25/2012**  
 Customer: **Anadarko**  
 Job Name: **4027300**  
 Well Name: **Sarchet 15N-32HZ**

Field: **Wattenberg**  
 Rig: **H&P 307**  
 Rig Loc: **Weld\_Sarchet**

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>174.34 deg</b>	<b>52807 nT</b>	<b>66.81 deg</b>	<b>8.65 deg</b>	<b>0.00 deg</b>	<b>8.65 deg</b>
Survey Tie-On	Depth	INC	AZ	TVD	NS	EW
	<b>725.00 ft</b>	<b>0.30 deg</b>	<b>243.97 deg</b>	<b>724.99 ft</b>	<b>0.47 ft</b>	<b>-1.42 ft</b>

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		Vsect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
858.00	0.25	141.49	857.99	0.09	-1.55	-0.24	0.32
949.00	0.22	136.83	948.99	-0.19	-1.31	0.06	0.04
1040.00	0.29	167.18	1039.99	-0.54	-1.14	0.43	0.16
1131.00	0.14	154.26	1130.99	-0.87	-1.04	0.76	0.17
1223.00	0.29	180.85	1222.99	-1.20	-0.99	1.10	0.19
1316.00	0.49	199.17	1315.98	-1.81	-1.13	1.69	0.25
1407.00	0.55	210.55	1406.98	-2.56	-1.48	2.40	0.13
1502.00	0.66	223.70	1501.97	-3.35	-2.09	3.12	0.19
1596.00	0.79	236.62	1595.97	-4.09	-3.00	3.78	0.22
1691.00	0.56	274.17	1690.96	-4.42	-4.01	4.00	0.51
1786.00	0.58	272.01	1785.96	-4.37	-4.96	3.86	0.03
1881.00	0.78	259.21	1880.95	-4.47	-6.07	3.85	0.26
1976.00	0.84	265.45	1975.94	-4.65	-7.40	3.90	0.11
2072.00	0.84	298.98	2071.93	-4.37	-8.72	3.48	0.50
2167.00	0.95	293.94	2166.92	-3.71	-10.05	2.70	0.14
2262.00	1.07	273.92	2261.90	-3.33	-11.65	2.16	0.39
2357.00	0.56	299.84	2356.89	-3.04	-12.94	1.75	0.65
2452.00	0.82	287.29	2451.89	-2.60	-13.99	1.21	0.31
2547.00	0.56	107.06	2546.88	-2.54	-14.20	1.13	1.45
2642.00	2.67	90.96	2641.84	-2.71	-11.54	1.56	2.25
2737.00	3.97	77.53	2736.68	-2.04	-6.12	1.42	1.59
2831.00	4.92	63.03	2830.40	0.49	0.65	-0.43	1.56
2926.00	6.45	65.90	2924.93	4.52	9.16	-3.59	1.64
3021.00	7.73	65.64	3019.20	9.33	19.85	-7.33	1.35
3116.00	9.22	67.52	3113.16	14.88	32.70	-11.58	1.60
3211.00	9.56	61.03	3206.89	21.61	46.64	-16.91	1.17
3306.00	7.81	61.39	3300.80	28.52	59.20	-22.54	1.84
3401.00	8.83	60.71	3394.80	35.18	71.23	-27.98	1.08
3495.00	9.73	67.52	3487.57	41.75	84.86	-33.18	1.51
3590.00	7.73	66.02	3581.46	47.42	98.12	-37.51	2.12
3685.00	8.24	76.92	3675.55	51.55	110.59	-40.39	1.68
3780.00	8.29	70.24	3769.56	55.41	123.67	-42.94	1.01
3874.00	9.16	66.27	3862.48	60.71	136.89	-46.91	1.13
3969.00	10.25	66.60	3956.12	67.11	151.57	-51.83	1.15
4064.00	9.20	66.63	4049.75	73.48	166.30	-56.72	1.11

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		VSect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
4159.00	8.89	68.12	4143.57	79.23	180.09	-61.08	0.41
4253.00	9.53	74.61	4236.36	84.00	194.33	-64.43	1.30
4348.00	7.58	70.86	4330.30	88.14	207.83	-67.22	2.13
4442.00	8.59	73.49	4423.36	92.17	220.42	-69.98	1.14
4537.00	9.54	73.66	4517.17	96.40	234.78	-72.78	1.00
4632.00	8.97	74.72	4610.94	100.57	249.48	-75.47	0.63
4727.00	8.47	73.83	4704.84	104.47	263.34	-77.99	0.55
4822.00	8.06	67.00	4798.85	109.02	276.19	-81.25	1.12
4918.00	7.32	69.13	4893.99	113.83	288.10	-84.86	0.83
5012.00	7.29	63.09	4987.23	118.66	299.01	-88.59	0.82
5107.00	8.51	65.88	5081.33	124.26	310.80	-93.00	1.35
5201.00	8.64	60.52	5174.28	130.58	323.30	-98.06	0.86
5296.00	7.86	55.16	5268.29	137.80	334.84	-104.10	1.15
5391.00	8.68	59.85	5362.31	145.11	346.37	-110.24	1.12
5486.00	9.49	59.90	5456.11	152.64	359.35	-116.46	0.85
5580.00	7.58	58.82	5549.07	159.74	371.36	-122.33	2.04
5675.00	7.99	60.75	5643.19	166.21	382.48	-127.67	0.51
5771.00	6.65	55.57	5738.41	172.61	392.89	-133.02	1.55
5865.00	5.27	50.78	5831.90	178.42	400.72	-138.03	1.56
5960.00	4.40	55.83	5926.56	183.22	407.11	-142.18	1.02
6054.00	3.61	59.37	6020.33	186.76	412.64	-145.15	0.88
6149.00	3.12	60.45	6115.17	189.55	417.47	-147.46	0.52
6244.00	1.98	73.73	6210.07	191.29	421.29	-148.81	1.34
6338.00	0.75	112.31	6304.05	191.51	423.42	-148.82	1.56
6433.00	0.60	111.02	6399.04	191.10	424.46	-148.30	0.16
6528.00	0.77	100.21	6494.03	190.81	425.55	-147.90	0.22
6542.00	0.82	105.66	6508.03	190.76	425.74	-147.84	0.65
6623.00	4.43	157.75	6588.94	187.71	427.48	-144.63	4.91
6654.00	8.79	162.63	6619.72	184.34	428.65	-141.16	14.17
6686.00	12.91	166.81	6651.15	178.52	430.19	-135.22	13.10
6718.00	15.60	169.78	6682.16	170.81	431.77	-127.39	8.71
6749.00	15.87	169.76	6712.00	162.53	433.26	-119.01	0.87
6780.00	16.94	171.44	6741.73	153.89	434.69	-110.27	3.78
6812.00	20.02	173.93	6772.08	143.84	435.96	-100.14	9.93
6845.00	23.22	175.98	6802.76	131.73	437.02	-87.98	9.96
6876.00	25.68	178.24	6830.97	118.91	437.65	-75.17	8.49
6908.00	27.73	179.72	6859.56	104.54	437.90	-60.84	6.73
6940.00	30.63	179.31	6887.50	88.94	438.04	-45.30	9.08
6971.00	34.01	180.28	6913.69	72.37	438.09	-28.81	11.03
7003.00	36.83	181.87	6939.77	53.83	437.73	-10.39	9.27
7035.00	39.24	182.05	6964.97	34.12	437.06	9.15	7.54
7066.00	41.46	183.44	6988.59	14.08	436.09	29.00	7.73
7098.00	43.24	184.59	7012.24	-7.42	434.58	50.25	6.07
7130.00	45.83	184.26	7035.05	-29.80	432.85	72.34	8.13
7161.00	49.45	183.66	7055.93	-52.65	431.27	94.92	11.76
7192.00	53.36	182.86	7075.27	-76.83	429.90	118.86	12.77
7224.00	57.12	181.36	7093.51	-103.10	428.94	144.90	12.36
7256.00	60.26	182.03	7110.14	-130.42	428.12	172.01	9.97
7287.00	63.07	181.69	7124.85	-157.69	427.24	199.06	9.12
7319.00	64.97	181.07	7138.87	-186.45	426.55	227.61	6.19

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		VSect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
7350.00	66.33	180.53	7151.65	-214.69	426.15	255.67	4.67
7382.00	68.52	180.00	7163.93	-244.23	426.02	285.06	7.01
7414.00	70.10	179.50	7175.24	-274.17	426.15	314.86	5.15
7445.00	72.24	179.30	7185.24	-303.50	426.46	344.08	6.93
7477.00	76.02	179.21	7193.99	-334.28	426.86	374.75	11.82
7508.00	79.67	178.76	7200.52	-364.57	427.40	404.95	11.86
7540.00	80.31	178.01	7206.08	-396.07	428.28	436.38	3.05
7572.00	83.42	178.03	7210.61	-427.73	429.38	467.99	9.72
7604.00	87.20	177.69	7213.22	-459.59	430.57	499.82	11.86
7610.00	87.62	177.82	7213.49	-465.58	430.80	505.80	7.33
7729.00	88.77	178.07	7217.24	-584.44	435.07	624.50	0.99
7824.00	89.94	179.35	7218.31	-679.41	437.21	719.22	1.83
7919.00	91.15	180.89	7217.41	-774.40	437.01	813.72	2.06
8014.00	91.67	182.49	7215.07	-869.33	434.21	907.91	1.77
8109.00	90.99	182.98	7212.87	-964.19	429.68	1001.87	0.88
8204.00	91.11	184.37	7211.12	-1058.98	423.59	1095.59	1.47
8298.00	90.93	183.63	7209.45	-1152.73	417.03	1188.24	0.81
8393.00	90.12	185.39	7208.58	-1247.43	409.56	1281.74	2.04
8487.00	90.19	184.82	7208.33	-1341.06	401.20	1374.09	0.61
8582.00	89.81	184.68	7208.33	-1435.73	393.33	1467.52	0.43
8677.00	89.32	183.98	7209.05	-1530.46	386.16	1561.08	0.90
8772.00	89.94	183.24	7209.66	-1625.26	380.18	1654.84	1.02
8867.00	90.31	181.88	7209.45	-1720.17	375.94	1748.86	1.48
8961.00	90.19	179.60	7209.04	-1814.15	374.72	1842.26	2.43
9057.00	89.51	179.51	7209.30	-1910.15	375.47	1937.87	0.71
9151.00	89.88	177.69	7209.80	-2004.11	377.76	2031.60	1.98
9246.00	89.69	177.15	7210.15	-2099.02	382.04	2126.46	0.60
9340.00	89.01	177.27	7211.22	-2192.90	386.61	2220.34	0.73
9436.00	90.37	177.48	7211.74	-2288.79	391.01	2316.20	1.43
9530.00	91.36	178.44	7210.32	-2382.72	394.36	2410.00	1.47
9625.00	91.48	178.66	7207.96	-2477.66	396.76	2504.71	0.26
9720.00	91.73	179.39	7205.30	-2572.61	398.38	2599.36	0.81
9814.00	92.04	179.53	7202.21	-2666.56	399.26	2692.93	0.36
9910.00	90.74	178.78	7199.88	-2762.51	400.68	2788.56	1.56
10004.00	89.88	178.31	7199.37	-2856.48	403.06	2882.31	1.04
10099.00	89.32	177.76	7200.04	-2951.42	406.32	2977.11	0.83
10194.00	89.01	177.95	7201.42	-3046.35	409.88	3071.92	0.38
10288.00	88.83	177.44	7203.19	-3140.25	413.66	3165.74	0.58
10383.00	89.14	177.74	7204.88	-3235.15	417.65	3260.57	0.45
10478.00	89.07	177.46	7206.36	-3330.06	421.63	3355.41	0.30
10572.00	89.32	177.06	7207.68	-3423.94	426.12	3449.28	0.50
10667.00	88.27	178.46	7209.68	-3518.84	429.83	3544.08	1.84
10762.00	89.51	178.13	7211.52	-3613.78	432.66	3638.84	1.35
10857.00	90.31	179.17	7211.67	-3708.75	434.90	3733.56	1.38
10952.00	90.68	178.61	7210.85	-3803.73	436.74	3828.26	0.71
11047.00	90.49	178.83	7209.88	-3898.70	438.86	3922.98	0.31
11142.00	90.37	178.31	7209.17	-3993.67	441.23	4017.72	0.56
11237.00	89.88	177.95	7208.96	-4088.62	444.33	4112.51	0.64
11332.00	89.74	178.42	7209.27	-4183.57	447.34	4207.29	0.52
11426.00	88.89	178.31	7210.40	-4277.53	450.02	4301.05	0.91

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Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		VSect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
11521.00	88.40	178.28	7212.64	-4372.46	452.85	4395.80	0.52
11556.00	88.09	178.15	7213.71	-4407.42	453.94	4430.70	0.96
11611.00	88.09	178.15	7215.55	-4462.36	455.71	4485.55	0.00

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\*Weatherford M/LWD surveys from 858.00 ft MD to 11556.00 ft MD.\*

\*TD at 11611.00 ft MD.\*

The total correction is 8.65 deg relative to True North.

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