

I General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	RWF 44-36	Wellbore No.	
Well Name	RWF 44-36	Common Name	RWF 44-36
Project	RU 36-06S-094W	Site	RWF 33-36 Pad
Vertical Section Azimuth	140.54 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	6/13/2013	UWI	RWF 44-36
Active Datum	KB @6,554.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	6/13/2013	Ended	
Tool Name	MWD	Engineer	

2.1.1 Tie On Point

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)
0.0	0.00	0.00	0.00	0.00	0.00

2.1.2 Survey Stations

7439

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
6/13/2013	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/13/2013	NORMAL	86.0	0.35	176.40	86.00	-0.26	0.02	0.21	0.41	0.41	0.00	176.40
	NORMAL	178.0	3.70	145.11	177.93	-2.98	1.73	3.40	3.70	3.64	-34.01	325.65
	NORMAL	269.0	5.54	144.23	268.63	-8.95	5.98	10.71	2.02	2.02	-0.97	357.36
	NORMAL	359.0	9.15	139.22	357.88	-17.90	13.20	22.20	4.07	4.01	-5.57	347.45
	NORMAL	450.0	13.28	135.79	447.12	-30.87	25.22	39.86	4.60	4.54	-3.77	349.14
	NORMAL	519.0	17.50	146.51	513.65	-45.22	36.47	58.09	7.35	6.12	15.54	39.24
	NORMAL	610.0	20.85	140.77	599.59	-69.18	54.27	87.90	4.22	3.68	-6.31	327.86
	NORMAL	701.0	24.01	138.60	683.70	-95.62	76.76	122.61	3.59	3.47	-2.38	344.3'
	NORMAL	791.0	27.26	137.46	764.83	-124.55	102.81	161.50	3.65	3.61	-1.27	350.86
6/14/2013	NORMAL	882.0	29.85	141.18	844.76	-157.56	131.11	204.97	3.45	2.85	4.09	36.12
	NORMAL	973.0	30.78	139.83	923.32	-192.99	160.33	250.90	1.27	1.02	-1.48	323.19
	NORMAL	1,063.0	32.72	139.53	999.85	-229.10	190.97	298.25	2.16	2.16	-0.33	355.22
	NORMAL	1,159.0	32.00	138.40	1,080.94	-267.86	224.70	349.61	0.98	-0.75	-1.18	219.55
	NORMAL	1,254.0	32.95	138.35	1,161.08	-305.99	258.58	400.58	1.00	1.00	-0.05	358.36
	NORMAL	1,350.0	35.53	139.31	1,240.44	-346.65	294.12	454.57	2.75	2.69	1.00	12.22
	NORMAL	1,445.0	34.65	138.16	1,318.17	-387.71	330.14	509.15	1.16	-0.93	-1.21	216.45
	NORMAL	1,540.0	32.98	140.71	1,397.10	-427.84	364.53	562.00	2.31	-1.76	2.68	140.70
	NORMAL	1,636.0	33.24	143.35	1,477.52	-469.18	396.78	614.41	1.53	0.27	2.75	80.86
	NORMAL	1,732.0	34.91	143.79	1,557.03	-512.45	428.72	668.12	1.76	1.74	0.46	8.58
	NORMAL	1,828.0	33.77	143.00	1,636.30	-555.93	461.00	722.20	1.27	-1.19	-0.82	201.03

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Buuld Rate (°/100ft)	Turn (°/100ft)	TFace (°)
6/14/2013	NORMAL	1,923.0	34.29	143.26	1,715.03	-598.46	492.90	775.31	0.57	0.55	0.27	15.74
	NORMAL	2,016.0	33.85	139.91	1,792.07	-639.27	525.26	827.38	2.07	-0.47	-3.60	255.42
	NORMAL	2,112.0	34.56	140.54	1,871.47	-680.75	559.78	881.35	0.83	0.74	0.66	26.77
	NORMAL	2,207.0	35.00	142.47	1,949.50	-723.16	593.50	935.52	1.25	0.46	2.03	69.01
6/15/2013	NORMAL	2,301.0	33.98	140.43	2,026.98	-764.79	626.66	988.74	1.64	-1.09	-2.17	227.72
	NORMAL	2,397.0	33.05	139.08	2,107.02	-805.25	660.90	1,041.74	1.24	-0.97	-1.41	218.15
	NORMAL	2,492.0	33.59	138.99	2,186.40	-844.66	695.11	1,093.90	0.57	0.57	-0.09	354.73
	NORMAL	2,588.0	34.52	140.46	2,265.94	-885.68	729.86	1,147.65	1.29	0.97	1.53	42.12
6/17/2013	NORMAL	2,684.0	35.19	141.10	2,344.71	-928.18	764.54	1,202.52	0.80	0.70	0.67	28.89
	NORMAL	2,779.0	32.98	137.99	2,423.39	-968.70	799.04	1,255.73	2.96	-2.33	-3.27	216.98
	NORMAL	2,871.0	32.89	136.67	2,500.61	-1,005.48	832.94	1,305.67	0.79	-0.10	-1.43	262.30
	NORMAL	2,965.0	32.60	138.62	2,579.67	-1,043.05	867.20	1,356.44	1.16	-0.31	2.07	106.19
6/18/2013	NORMAL	3,043.0	32.89	138.34	2,645.28	-1,074.64	895.16	1,398.61	0.42	0.37	-0.36	332.31
	NORMAL	3,157.0	33.43	137.87	2,740.71	-1,121.05	936.80	1,460.90	0.52	0.47	-0.41	334.35
	NORMAL	3,252.0	33.13	137.73	2,820.13	-1,159.67	971.82	1,512.97	0.33	-0.32	-0.15	194.30
	NORMAL	3,348.0	32.45	140.89	2,900.84	-1,199.07	1,005.72	1,564.94	1.92	-0.71	3.29	112.99
6/19/2013	NORMAL	3,443.0	33.41	141.86	2,980.58	-1,239.42	1,037.95	1,616.57	1.15	1.01	1.02	29.19
	NORMAL	3,539.0	33.24	141.86	3,060.79	-1,280.90	1,070.52	1,669.30	0.18	-0.18	0.00	180.00
	NORMAL	3,635.0	33.77	141.42	3,140.84	-1,322.45	1,103.41	1,722.28	0.61	0.55	-0.46	335.20
	NORMAL	3,730.0	34.38	141.50	3,219.53	-1,364.08	1,136.57	1,775.50	0.64	0.64	0.08	4.24
6/20/2013	NORMAL	3,826.0	34.65	141.06	3,298.63	-1,406.52	1,170.60	1,829.89	0.38	0.28	-0.46	317.10
	NORMAL	3,921.0	34.65	140.89	3,376.78	-1,448.48	1,204.61	1,883.90	0.10	0.00	-0.18	269.93
	NORMAL	4,017.0	34.36	140.40	3,455.89	-1,490.53	1,239.09	1,938.28	0.42	-0.30	-0.51	223.54
	NORMAL	4,112.0	33.85	140.63	3,534.55	-1,531.64	1,272.96	1,991.55	0.55	-0.54	0.24	165.90
6/21/2013	NORMAL	4,208.0	33.33	140.36	3,614.52	-1,572.62	1,306.75	2,044.66	0.56	-0.54	-0.28	195.97
	NORMAL	4,304.0	33.15	140.10	3,694.82	-1,613.07	1,340.41	2,097.28	0.24	-0.19	-0.27	218.26
	NORMAL	4,399.0	32.98	140.27	3,774.43	-1,652.88	1,373.60	2,149.11	0.20	-0.18	0.18	151.45
	NORMAL	4,495.0	32.45	139.39	3,855.20	-1,692.53	1,407.06	2,200.99	0.74	-0.55	-0.92	221.53
6/22/2013	NORMAL	4,590.0	31.74	138.87	3,935.68	-1,730.70	1,440.09	2,251.45	0.80	-0.75	-0.55	201.04
	NORMAL	4,684.0	31.48	138.60	4,015.74	-1,767.73	1,472.58	2,300.70	0.31	-0.28	-0.29	208.44
	NORMAL	4,780.0	29.37	138.43	4,098.51	-1,804.15	1,504.78	2,349.28	2.20	-2.20	-0.18	182.26
	NORMAL	4,875.0	29.46	139.04	4,181.27	-1,839.22	1,535.56	2,395.91	0.33	0.09	0.64	73.55
6/23/2013	NORMAL	4,971.0	27.70	137.46	4,265.57	-1,873.49	1,566.12	2,441.80	2.00	-1.83	-1.65	202.55
	NORMAL	5,067.0	26.03	138.69	4,351.20	-1,905.76	1,595.11	2,485.13	1.83	-1.74	1.28	162.14
	NORMAL	5,162.0	25.85	139.39	4,436.63	-1,937.14	1,622.36	2,526.67	0.37	-0.19	0.74	120.76
	NORMAL	5,258.0	24.71	136.85	4,523.44	-1,967.67	1,649.70	2,567.62	1.64	-1.19	-2.65	222.43
6/24/2013	NORMAL	5,354.0	22.69	136.23	4,611.34	-1,995.68	1,676.24	2,606.12	2.12	-2.10	-0.65	186.75
	NORMAL	5,448.0	21.19	138.96	4,698.53	-2,021.59	1,699.93	2,641.18	1.93	-1.60	2.90	147.04
	NORMAL	5,544.0	20.05	139.39	4,788.38	-2,047.17	1,722.04	2,674.98	1.20	-1.19	0.45	172.63
	NORMAL	5,639.0	18.11	139.66	4,878.16	-2,070.79	1,742.20	2,706.03	2.04	-2.04	0.28	177.52
6/25/2013	NORMAL	5,733.0	17.50	140.01	4,967.65	-2,092.75	1,760.74	2,734.77	0.66	-0.65	0.37	170.22
	NORMAL	5,829.0	15.31	137.36	5,059.74	-2,113.14	1,778.60	2,761.86	2.41	-2.28	-2.76	197.60
	NORMAL	5,922.0	14.60	138.60	5,149.59	-2,130.96	1,794.67	2,785.83	0.84	-0.76	1.33	156.34
	NORMAL	6,017.0	12.57	139.39	5,241.93	-2,147.79	1,809.32	2,808.14	2.15	-2.14	0.83	175.16
6/26/2013	NORMAL	6,112.0	11.78	141.50	5,334.79	-2,163.23	1,822.08	2,828.17	0.95	-0.83	2.22	151.64
	NORMAL	6,208.0	11.43	141.68	5,428.83	-2,178.36	1,834.08	2,847.48	0.37	-0.36	0.19	174.18
	NORMAL	6,303.0	10.38	142.30	5,522.11	-2,192.52	1,845.15	2,865.44	1.11	-1.11	0.65	173.93
	NORMAL	6,399.0	8.79	141.33	5,616.77	-2,205.09	1,855.03	2,881.42	1.66	-1.66	-1.01	185.32
6/27/2013	NORMAL	6,494.0	6.33	137.81	5,710.94	-2,214.64	1,863.08	2,893.91	2.63	-2.59	-3.71	188.92
	NORMAL	6,590.0	5.63	138.16	5,806.41	-2,222.07	1,869.78	2,903.90	0.73	-0.73	0.36	177.19
	NORMAL	6,683.0	5.28	139.92	5,898.99	-2,228.74	1,875.57	2,912.74	0.42	-0.38	1.89	155.32
	NORMAL	6,779.0	4.66	126.65	5,994.63	-2,234.45	1,881.55	2,920.94	1.36	-0.65	-13.82	235.16
6/28/2013	NORMAL	6,874.0	4.48	124.45	6,089.33	-2,238.85	1,887.70	2,928.25	0.26	-0.19	-2.32	223.15
	NORMAL	6,969.0	2.73	143.00	6,184.14	-2,242.76	1,892.12	2,934.08	2.19	-1.84	19.53	155.34
	NORMAL	7,064.0	1.41	132.89	6,279.08	-2,245.36	1,894.34	2,937.50	1.44	-1.39	-10.64	190.45
	NORMAL	7,160.0	1.14	142.82	6,375.06	-2,246.92	1,895.78	2,939.62	0.36	-0.28	10.34	145.60
6/29/2013	NORMAL	7,254.0	0.18	169.28	6,469.05	-2,247.81	1,896.38	2,940.69	1.04	-1.02	28.15	175.32

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (%/100ft)	Build Rate (%/100ft)	Turn (%/100ft)	TFace (°)
6/21/2013	NORMAL	7,349.0	0.35	169.63	6,564.05	-2,248.25	1,896.46	2,941.07	0.18	0.18	0.37	0.72
	NORMAL	7,445.0	0.26	353.94	6,660.05	-2,248.32	1,896.49	2,941.15	0.63	-0.09	-183.01	181.84
	NORMAL	7,540.0	0.35	296.10	6,755.05	-2,247.98	1,896.20	2,940.70	0.32	0.09	-60.88	256.03
	NORMAL	7,636.0	0.53	290.65	6,851.04	-2,247.69	1,895.52	2,940.05	0.19	0.19	-5.68	344.18
6/22/2013	NORMAL	7,732.0	0.18	101.69	6,947.04	-2,247.56	1,895.26	2,939.78	0.74	-0.36	178.17	177.73
	NORMAL	7,827.0	0.35	120.32	7,042.04	-2,247.74	1,895.65	2,940.17	0.20	0.18	19.61	36.40
	NORMAL	7,923.0	0.35	92.55	7,138.04	-2,247.90	1,896.20	2,940.64	0.17	0.00	-28.93	256.12
	NORMAL	8,018.0	0.34	135.48	7,233.04	-2,248.12	1,896.69	2,941.12	0.27	-0.01	45.19	113.58
	NORMAL	8,114.0	0.79	197.58	7,329.03	-2,248.95	1,896.69	2,941.76	0.73	0.47	64.69	87.57
	NORMAL	8,210.0	0.26	168.57	7,425.03	-2,249.79	1,896.53	2,942.31	0.60	-0.55	-30.22	192.63
	NORMAL	8,306.0	0.35	192.57	7,521.03	-2,250.29	1,896.51	2,942.69	0.16	0.09	25.00	67.23
	NORMAL	8,400.0	0.79	209.88	7,615.02	-2,251.14	1,896.12	2,943.09	0.50	0.47	18.41	30.18
	NORMAL	8,493.0	1.41	210.59	7,708.00	-2,252.68	1,895.22	2,943.71	0.67	0.67	0.76	1.61
6/23/2013	NORMAL	8,589.0	0.62	169.98	7,803.99	-2,254.20	1,894.71	2,944.56	1.06	-0.82	-42.30	203.25
	NORMAL	8,684.0	0.79	175.43	7,898.98	-2,255.36	1,894.85	2,945.55	0.19	0.18	5.74	24.27
	NORMAL	8,780.0	0.97	196.00	7,994.97	-2,256.80	1,894.68	2,946.55	0.38	0.19	21.43	70.88
	NORMAL	8,876.0	1.06	213.84	8,090.96	-2,258.32	1,893.96	2,947.27	0.34	0.09	18.58	83.14
	NORMAL	8,971.0	1.41	218.67	8,185.93	-2,259.97	1,892.74	2,947.76	0.38	0.37	5.08	18.99
	NORMAL	9,067.0	1.49	224.12	8,281.90	-2,261.78	1,891.14	2,948.14	0.17	0.08	5.68	62.63
	NORMAL	9,162.0	2.37	217.18	8,376.85	-2,264.24	1,889.09	2,948.74	0.96	0.93	-7.31	341.64
	NORMAL	9,258.0	2.99	214.63	8,472.74	-2,267.88	1,886.47	2,949.88	0.66	0.65	-2.66	347.84
	NORMAL	9,354.0	3.34	217.35	8,568.60	-2,272.16	1,883.35	2,951.21	0.40	0.36	2.83	24.58
	NORMAL	9,449.0	3.61	219.20	8,663.42	-2,276.68	1,879.78	2,952.43	0.31	0.28	1.95	23.48
	NORMAL	9,615.0	3.52	219.11	8,829.10	-2,284.68	1,873.26	2,954.46	0.05	-0.05	-0.05	183.57