

I General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	RWF 43-36	Wellbore No.	
Well Name	RWF 43-36	Common Name	RWF 43-36
Project	RU 36-06S-094W	Site	RWF 33-36 Pad
Vertical Section Azimuth	110.54 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	3/14/2013	UWI	RWF 43-36
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	3/14/2013	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

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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 (°)
3/14/2013	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/14/2013	NORMAL	95.0	0.79	113.73	95.00	-0.26	0.60	0.65	0.83	0.83	0.00	113.73
	NORMAL	179.0	2.55	94.75	178.96	-0.65	2.99	3.03	2.17	2.10	-22.60	332.91
	NORMAL	270.0	3.43	93.08	269.83	-0.97	7.73	7.58	0.97	0.97	-1.84	353.51
	NORMAL	360.0	3.52	108.28	359.67	-1.98	13.04	12.90	1.03	0.10	16.89	92.04
	NORMAL	430.0	6.75	119.04	429.38	-4.65	18.68	19.12	4.80	4.61	15.37	22.01
	NORMAL	520.0	10.60	116.49	518.34	-10.91	30.72	32.59	4.30	4.28	-2.83	353.03
	NORMAL	611.0	13.95	113.41	607.24	-19.00	48.28	51.88	3.75	3.68	-3.38	347.43
	NORMAL	702.0	16.82	108.36	694.98	-27.51	70.85	75.99	3.48	3.15	-5.55	332.52
	NORMAL	792.0	18.47	108.41	780.74	-36.12	96.73	103.26	1.83	1.83	0.06	0.55
	NORMAL	883.0	20.84	107.25	866.43	-45.47	125.87	133.82	2.64	2.60	-1.27	350.10
	NORMAL	974.0	22.46	106.49	951.01	-55.20	158.00	167.33	1.81	1.78	-0.84	349.83
	NORMAL	1,064.0	22.01	108.19	1,034.32	-65.35	190.51	201.33	0.87	-0.50	1.89	125.76
3/15/2013	NORMAL	1,160.0	22.42	107.35	1,123.19	-76.42	225.07	237.58	0.54	0.43	-0.88	321.85
	NORMAL	1,255.0	21.81	112.45	1,211.21	-88.57	258.68	273.31	2.12	-0.64	5.37	109.98
	NORMAL	1,351.0	22.21	111.37	1,300.21	-101.99	292.06	309.27	0.59	0.42	-1.13	314.16
	NORMAL	1,446.0	22.69	110.25	1,388.01	-114.87	325.97	345.55	0.68	0.51	-1.18	317.78
	NORMAL	1,542.0	23.04	111.57	1,476.47	-128.19	360.81	382.85	0.65	0.36	1.38	56.30
	NORMAL	1,638.0	22.77	111.39	1,564.90	-141.87	395.58	420.21	0.29	-0.28	-0.19	194.46
	NORMAL	1,733.0	21.31	111.99	1,652.96	-155.04	428.71	455.85	1.55	-1.54	0.63	171.57
3/16/2013	NORMAL	1,160.0	22.42	107.35	1,123.19	-76.42	225.07	237.58	0.00	0.00	0.00	0.00

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)	Bulld Rate (°/100ft)	Turn (°/100ft)	TFace (°)
3/16/2013	NORMAL	1,255.0	21.81	112.45	1,211.21	-88.57	258.68	273.31	0.00	0.00	0.00	0.00
	NORMAL	1,351.0	22.21	111.37	1,300.21	-101.99	292.06	309.27	0.00	0.00	0.00	0.00
	NORMAL	1,446.0	22.69	110.25	1,388.01	-114.87	325.97	345.55	0.00	0.00	0.00	0.00
	NORMAL	1,542.0	23.04	111.57	1,476.47	-128.19	360.81	382.85	0.00	0.00	0.00	0.00
	NORMAL	1,638.0	22.77	111.39	1,564.90	-141.87	395.58	420.21	0.00	0.00	0.00	0.00
	NORMAL	1,733.0	21.31	111.99	1,652.96	-155.04	428.71	455.85	0.00	0.00	0.00	0.00
	NORMAL	1,829.0	19.51	110.49	1,742.93	-167.18	459.90	489.32	1.95	-1.88	-1.56	195.50
	NORMAL	1,922.0	20.99	108.89	1,830.18	-178.01	490.21	521.50	1.70	1.59	-1.72	338.73
	NORMAL	2,017.0	19.95	111.89	1,919.18	-189.57	521.35	554.71	1.55	-1.09	3.16	136.15
	NORMAL	2,113.0	20.05	110.95	2,009.39	-201.56	551.91	587.54	0.35	0.10	-0.98	286.84
	NORMAL	2,207.0	20.58	110.69	2,097.54	-213.15	582.42	620.18	0.57	0.56	-0.28	350.21
	NORMAL	2,303.0	20.89	110.12	2,187.33	-225.00	614.27	654.17	0.39	0.32	-0.59	326.67
	NORMAL	2,398.0	20.49	109.81	2,276.20	-236.46	645.82	687.73	0.44	-0.42	-0.33	195.17
	NORMAL	2,494.0	20.80	110.86	2,366.03	-248.23	677.55	721.57	0.50	0.32	1.09	50.55
	NORMAL	2,589.0	21.04	109.82	2,454.77	-260.02	709.36	755.49	0.47	0.25	-1.09	302.39
	NORMAL	2,685.0	21.19	110.25	2,544.33	-271.86	741.85	790.08	0.22	0.16	0.45	46.12
	NORMAL	2,777.0	20.49	110.07	2,630.31	-283.15	772.57	822.80	0.76	-0.76	-0.20	185.14
	NORMAL	2,871.0	20.82	110.74	2,718.26	-294.71	803.65	855.96	0.43	0.35	0.71	35.92
	NORMAL	2,967.0	20.95	110.88	2,807.96	-306.87	835.64	890.18	0.15	0.14	0.15	21.07
	NORMAL	3,062.0	20.93	111.74	2,896.68	-319.20	867.27	924.13	0.32	-0.02	0.91	94.12
	NORMAL	3,158.0	21.46	112.53	2,986.19	-332.28	899.42	958.83	0.63	0.55	0.82	28.66
	NORMAL	3,252.0	20.84	109.02	3,073.86	-344.32	931.11	992.73	1.50	-0.66	-3.73	242.29
	NORMAL	3,348.0	21.45	108.56	3,163.40	-355.48	963.90	1,027.34	0.66	0.64	-0.48	344.57
	NORMAL	3,444.0	19.61	107.47	3,253.30	-365.90	995.91	1,060.97	1.96	-1.92	-1.14	191.23
	NORMAL	3,540.0	19.59	106.83	3,343.73	-375.40	1,026.68	1,093.12	0.22	-0.02	-0.67	264.38
	NORMAL	3,635.0	19.28	110.81	3,433.32	-385.58	1,056.58	1,124.70	1.43	-0.33	4.19	105.05
	NORMAL	3,731.0	19.47	109.94	3,523.89	-396.67	1,086.44	1,156.54	0.36	0.20	-0.91	302.95
	NORMAL	3,826.0	19.52	111.57	3,613.44	-407.90	1,116.08	1,188.24	0.57	0.05	1.72	85.52
	NORMAL	3,922.0	20.16	111.85	3,703.74	-419.95	1,146.35	1,220.82	0.67	0.67	0.29	8.58
	NORMAL	4,017.0	19.70	112.01	3,793.05	-432.05	1,176.39	1,253.19	0.49	-0.48	0.17	173.3'
	NORMAL	4,113.0	20.90	112.44	3,883.09	-444.65	1,207.22	1,286.48	1.26	1.25	0.45	7.26
	NORMAL	4,209.0	21.11	112.62	3,972.71	-457.83	1,239.00	1,320.87	0.23	0.22	0.19	17.16
	NORMAL	4,305.0	21.25	111.27	4,062.23	-470.79	1,271.17	1,355.55	0.53	0.15	-1.41	285.38
	NORMAL	4,400.0	21.07	111.60	4,150.82	-483.33	1,303.09	1,389.83	0.23	-0.19	0.35	146.66
	NORMAL	4,496.0	21.46	112.09	4,240.28	-496.28	1,335.41	1,424.64	0.45	0.41	0.51	24.73
	NORMAL	4,591.0	21.94	113.87	4,328.55	-510.00	1,367.74	1,459.73	0.86	0.51	1.87	54.73
	NORMAL	4,685.0	21.46	110.51	4,415.89	-523.13	1,399.91	1,494.46	1.42	-0.51	-3.57	247.32
	NORMAL	4,780.0	21.54	109.98	4,504.28	-535.18	1,432.58	1,529.28	0.22	0.08	-0.56	292.14
	NORMAL	4,876.0	21.98	110.16	4,593.44	-547.39	1,466.00	1,564.86	0.46	0.46	0.19	8.7'
	NORMAL	4,972.0	22.16	111.13	4,682.41	-560.11	1,499.76	1,600.93	0.42	0.19	1.01	64.17
	NORMAL	5,068.0	20.47	107.76	4,771.84	-571.76	1,532.63	1,635.81	2.17	-1.76	-3.51	214.37
	NORMAL	5,163.0	19.82	104.56	4,861.03	-580.87	1,564.04	1,668.42	1.35	-0.68	-3.37	237.97
	NORMAL	5,289.0	18.84	110.12	4,979.94	-593.24	1,603.83	1,710.01	1.65	-0.78	4.41	120.64
	NORMAL	5,355.0	19.52	108.53	5,042.28	-600.41	1,624.29	1,731.69	1.30	1.03	-2.41	321.72
	NORMAL	5,449.0	19.70	108.84	5,130.82	-610.52	1,654.17	1,763.22	0.22	0.19	0.33	30.17
	NORMAL	5,545.0	16.88	111.30	5,221.97	-620.81	1,682.48	1,793.34	3.04	-2.94	2.56	165.85
	NORMAL	5,640.0	14.42	112.89	5,313.44	-630.42	1,706.23	1,818.95	2.63	-2.59	1.67	170.87
	NORMAL	5,734.0	14.07	114.82	5,404.55	-639.77	1,727.38	1,842.04	0.63	-0.37	2.05	127.32
3/18/2013	NORMAL	5,830.0	12.95	112.06	5,497.89	-648.71	1,747.94	1,864.43	1.35	-1.17	-2.88	208.59
	NORMAL	5,923.0	11.87	108.84	5,588.72	-655.71	1,766.66	1,884.41	1.38	-1.16	-3.46	211.08
	NORMAL	6,018.0	11.34	102.78	5,681.78	-660.94	1,785.01	1,903.43	1.40	-0.56	-6.38	243.55
	NORMAL	6,113.0	10.64	102.43	5,775.04	-664.89	1,802.69	1,921.37	0.74	-0.74	-0.37	185.27
	NORMAL	6,208.0	8.97	108.23	5,868.65	-669.10	1,818.29	1,937.45	2.04	-1.76	6.11	152.23
3/19/2013	NORMAL	6,304.0	8.08	106.36	5,963.59	-673.34	1,831.87	1,951.66	0.97	-0.93	-1.95	196.38
	NORMAL	6,399.0	6.33	102.87	6,057.83	-676.38	1,843.38	1,963.51	1.90	-1.84	-3.67	192.32
	NORMAL	6,495.0	5.28	100.58	6,153.34	-678.37	1,852.88	1,973.10	1.12	-1.09	-2.39	191.30
	NORMAL	6,590.0	3.78	108.23	6,248.04	-680.16	1,860.15	1,980.54	1.70	-1.58	8.05	161.84

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 (°)
3/19/2013	NORMAL	6,684.0	0.70	120.09	6,341.96	-681.41	1,863.59	1,984.20	3.30	-3.28	12.62	177.34
	NORMAL	6,779.0	1.14	295.37	6,436.95	-681.30	1,863.24	1,983.83	1.94	0.46	184.51	177.08
	NORMAL	6,875.0	1.41	302.55	6,532.93	-680.26	1,861.38	1,981.73	0.33	0.28	7.48	34.24
	NORMAL	6,969.0	0.88	282.60	6,626.91	-679.48	1,859.70	1,979.88	0.70	-0.56	-21.22	207.26
	NORMAL	7,065.0	1.46	268.76	6,722.89	-679.34	1,857.76	1,978.01	0.67	0.60	-14.42	326.99
	NORMAL	7,161.0	1.07	213.74	6,818.87	-680.11	1,856.04	1,976.67	1.27	-0.41	-57.31	226.01
	NORMAL	7,254.0	1.08	203.47	6,911.85	-681.64	1,855.21	1,976.43	0.21	0.01	-11.04	267.83
3/20/2013	NORMAL	7,350.0	0.53	111.92	7,007.85	-682.63	1,855.26	1,976.83	1.27	-0.57	-95.36	205.84
	NORMAL	7,445.0	0.62	118.60	7,102.84	-683.04	1,856.12	1,977.78	0.12	0.09	7.03	40.05
	NORMAL	7,550.0	0.53	181.70	7,207.84	-683.80	1,856.61	1,978.50	0.58	-0.09	60.10	128.81
	NORMAL	7,636.0	0.18	162.72	7,293.83	-684.33	1,856.63	1,978.71	0.42	-0.41	-22.07	189.24
	NORMAL	7,732.0	0.87	47.59	7,389.83	-683.98	1,857.22	1,979.13	1.00	0.72	-119.93	235.10
3/21/2013	NORMAL	7,827.0	0.97	49.87	7,484.82	-682.98	1,858.36	1,979.85	0.11	0.11	2.40	21.25
	NORMAL	7,923.0	0.62	62.88	7,580.81	-682.22	1,859.45	1,980.60	0.41	-0.36	13.55	159.12
	NORMAL	8,019.0	0.18	16.65	7,676.81	-681.83	1,859.95	1,980.94	0.53	-0.46	-48.16	194.70
	NORMAL	8,115.0	0.35	273.29	7,772.81	-681.67	1,859.70	1,980.65	0.45	0.18	-107.67	232.55
	NORMAL	8,210.0	0.44	209.92	7,867.80	-681.97	1,859.23	1,980.31	0.44	0.09	-66.71	248.77
3/22/2013	NORMAL	8,306.0	0.79	233.82	7,963.80	-682.68	1,858.51	1,979.89	0.44	0.36	24.90	48.59
	NORMAL	8,400.0	1.04	217.33	8,057.79	-683.74	1,857.47	1,979.29	0.38	0.27	-17.54	305.07
	NORMAL	8,493.0	1.49	219.58	8,150.76	-685.35	1,856.19	1,978.65	0.49	0.48	2.42	7.42
	NORMAL	8,589.0	1.58	214.22	8,246.73	-687.40	1,854.65	1,977.93	0.18	0.09	-5.58	299.38
3/23/2013	NORMAL	8,685.0	1.85	209.21	8,342.69	-689.85	1,853.15	1,977.38	0.32	0.28	-5.22	328.44
	NORMAL	8,781.0	1.39	209.40	8,438.65	-692.22	1,851.82	1,976.97	0.48	-0.48	0.20	179.43
3/24/2013	NORMAL	8,876.0	1.78	209.45	8,533.61	-694.51	1,850.53	1,976.56	0.41	0.41	0.05	0.23
	NORMAL	8,972.0	2.46	217.65	8,629.55	-697.44	1,848.54	1,975.73	0.77	0.71	8.54	28.17
	NORMAL	9,067.0	2.64	228.73	8,724.45	-700.49	1,845.65	1,974.09	0.55	0.19	11.66	75.53
	NORMAL	9,250.0	2.90	230.31	8,907.24	-706.23	1,838.92	1,969.80	0.15	0.14	0.86	17.16