

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	RWF 44-31	Wellbore No.	
Well Name	RWF 44-31	Common Name	RWF 44-31
Project	RU 31-06S-094W	Site	RWF 34-31 Pad
Vertical Section	70.01 (°)	North Reference	True
Azimuth		Origin E/W	
Origin N/S		UWI	RWF 44-31
Spud Date	9/22/2011		
Active Datum	KB @5,733.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Started	9/22/2011	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

6360

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
9/22/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/22/2011	NORMAL	115.0	0.44	89.38	115.00	0.00	0.44	0.42	0.38	0.38	0.00	89.38
	NORMAL	175.0	0.79	90.18	175.00	0.01	1.09	1.02	0.58	0.58	1.33	1.81
	NORMAL	266.0	2.02	89.21	265.97	0.03	3.32	3.13	1.35	1.35	-1.07	358.41
	NORMAL	356.0	3.87	72.07	355.85	0.98	7.79	7.66	2.25	2.06	-19.04	325.82
	NORMAL	447.0	6.60	67.06	446.46	3.97	15.53	15.95	3.04	3.00	-5.51	347.99
	NORMAL	518.0	8.57	67.44	516.83	7.59	24.18	25.31	2.78	2.77	0.54	1.65
9/23/2011	NORMAL	610.0	10.47	69.76	607.56	13.11	38.35	40.52	2.11	2.07	2.52	12.56
	NORMAL	700.0	12.36	70.23	695.78	19.20	55.09	58.33	2.10	2.10	0.52	3.05
	NORMAL	791.0	13.85	68.93	784.41	26.41	74.42	78.96	1.67	1.64	-1.43	348.18
	NORMAL	882.0	15.25	66.72	872.49	35.05	95.58	101.80	1.65	1.54	-2.43	337.30
	NORMAL	973.0	15.86	70.80	960.15	43.87	118.32	126.19	1.38	0.67	4.48	62.83
	NORMAL	1,067.0	18.09	71.96	1,050.05	52.62	144.32	153.62	2.40	2.37	1.23	9.19
	NORMAL	1,162.0	20.53	69.87	1,139.70	62.92	173.99	185.02	2.67	2.57	-2.20	343.20
	NORMAL	1,258.0	22.66	68.02	1,228.96	75.64	206.95	220.34	2.33	2.22	-1.93	341.41
	NORMAL	1,353.0	24.53	67.66	1,316.02	89.98	242.17	258.34	1.97	1.97	-0.38	355.43
	NORMAL	1,448.0	25.13	71.21	1,402.24	103.98	279.51	298.21	1.69	0.63	3.74	69.69
	NORMAL	1,543.0	26.90	72.43	1,487.61	116.96	319.09	339.85	1.95	1.86	1.28	17.37
	NORMAL	1,639.0	29.73	72.50	1,572.11	130.68	362.51	385.34	2.95	2.95	0.07	0.70
	NORMAL	1,734.0	28.95	71.21	1,654.93	145.17	406.74	431.86	1.06	-0.82	-1.36	218.46
	NORMAL	1,830.0	26.02	68.94	1,740.09	160.22	448.40	476.16	3.24	-3.05	-2.36	198.67

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
9/23/2011	NORMAL	1,925.0	24.13	66.74	1,826.13	175.38	485.69	516.38	2.22	-1.99	-2.32	205.27
	NORMAL	2,020.0	25.41	69.44	1,912.39	190.21	522.62	556.15	1.80	1.35	2.84	42.70
	NORMAL	2,116.0	27.17	70.88	1,998.46	204.62	562.61	598.67	1.95	1.83	1.50	20.57
9/24/2011	NORMAL	2,211.0	29.40	72.49	2,082.11	218.75	605.35	643.66	2.48	2.35	1.69	19.60
	NORMAL	2,306.0	28.28	71.49	2,165.33	232.91	648.93	689.45	1.28	-1.18	-1.05	202.86
	NORMAL	2,401.0	27.49	68.42	2,249.30	248.12	690.66	733.87	1.72	-0.83	-3.23	239.83
	NORMAL	2,495.0	26.63	68.92	2,333.01	263.67	730.49	776.62	0.95	-0.91	0.53	165.41
9/26/2011	NORMAL	2,550.0	26.90	68.99	2,382.12	272.57	753.61	801.38	0.49	0.49	0.13	6.69
	NORMAL	2,615.0	26.90	68.99	2,440.09	283.11	781.06	830.79	0.00	0.00	0.00	0.00
	NORMAL	2,680.0	28.43	69.47	2,497.25	293.96	810.05	861.74	1.19	1.18	0.37	8.50
	NORMAL	2,776.0	29.31	69.48	2,581.32	310.22	853.45	908.08	0.92	0.92	0.01	0.32
	NORMAL	2,871.0	28.38	69.06	2,664.53	326.44	896.32	953.91	1.00	-0.98	-0.44	192.11
	NORMAL	2,967.0	26.57	68.31	2,749.70	342.53	937.58	998.19	1.92	-1.89	-0.78	190.49
	NORMAL	3,062.0	26.61	67.12	2,834.66	358.65	976.93	1,040.67	0.56	0.04	-1.25	273.76
	NORMAL	3,158.0	26.23	67.32	2,920.63	375.19	1,016.31	1,083.34	0.41	-0.40	0.21	166.91
	NORMAL	3,253.0	26.61	67.25	3,005.71	391.51	1,055.30	1,125.56	0.40	0.40	-0.07	355.28
	NORMAL	3,347.0	26.80	68.98	3,089.68	407.26	1,094.50	1,167.78	0.85	0.20	1.84	77.04
	NORMAL	3,442.0	26.70	71.14	3,174.52	421.84	1,134.68	1,210.53	1.03	-0.11	2.27	96.84
	NORMAL	3,538.0	26.55	71.00	3,260.34	435.79	1,175.38	1,253.55	0.17	-0.16	-0.15	202.64
	NORMAL	3,633.0	26.08	71.24	3,345.49	449.42	1,215.23	1,295.65	0.51	-0.49	0.25	167.35
	NORMAL	3,729.0	24.89	71.81	3,432.15	462.52	1,254.40	1,336.94	1.27	-1.24	0.59	168.61
	NORMAL	3,824.0	25.88	70.63	3,517.98	475.63	1,292.96	1,377.66	1.17	1.04	-1.24	332.40
	NORMAL	3,919.0	26.90	70.23	3,603.07	489.78	1,332.74	1,419.88	1.09	1.07	-0.42	349.93
	NORMAL	4,014.0	26.42	70.63	3,687.97	504.06	1,372.90	1,462.51	0.54	-0.51	0.42	159.68
	NORMAL	4,110.0	27.16	72.24	3,773.67	517.83	1,413.92	1,505.76	1.08	0.77	1.68	45.16
	NORMAL	4,205.0	26.51	71.56	3,858.44	531.15	1,454.68	1,548.62	0.76	-0.68	-0.72	204.98
	NORMAL	4,300.0	25.98	71.51	3,943.65	544.45	1,494.53	1,590.61	0.56	-0.56	-0.05	182.37
9/27/2011	NORMAL	4,395.0	24.94	71.75	4,029.42	557.32	1,533.29	1,631.43	1.10	-1.09	0.25	174.44
	NORMAL	4,490.0	23.47	72.62	4,116.07	569.25	1,570.37	1,670.35	1.59	-1.55	0.92	166.76
	NORMAL	4,585.0	22.17	71.80	4,203.63	580.50	1,605.45	1,707.17	1.41	-1.37	-0.86	193.37
	NORMAL	4,680.0	20.92	70.65	4,291.99	591.72	1,638.48	1,742.05	1.39	-1.32	-1.21	198.13
	NORMAL	4,776.0	19.63	70.01	4,382.04	602.91	1,669.81	1,775.31	1.36	-1.34	-0.67	189.46
	NORMAL	4,870.0	18.22	71.87	4,470.96	612.88	1,698.61	1,805.79	1.63	-1.50	1.98	157.71
	NORMAL	4,966.0	15.78	69.54	4,562.76	622.11	1,725.11	1,833.85	2.64	-2.54	-2.43	194.49
	NORMAL	5,061.0	14.83	69.55	4,654.39	630.88	1,748.60	1,858.92	1.00	-1.00	0.01	179.85
	NORMAL	5,155.0	14.15	69.41	4,745.39	639.12	1,770.63	1,882.44	0.72	-0.72	-0.15	182.88
	NORMAL	5,250.0	13.25	69.04	4,837.69	647.10	1,791.67	1,904.94	0.95	-0.95	-0.39	185.38
	NORMAL	5,346.0	13.12	68.48	4,931.16	655.03	1,812.08	1,926.83	0.19	-0.14	-0.58	224.22
	NORMAL	5,440.0	12.82	68.42	5,022.76	662.78	1,831.70	1,947.92	0.32	-0.32	-0.06	182.54
	NORMAL	5,535.0	11.60	68.92	5,115.61	670.09	1,850.41	1,968.01	1.29	-1.28	0.53	175.29
	NORMAL	5,629.0	9.91	70.13	5,207.96	676.24	1,866.84	1,985.55	1.81	-1.80	1.29	172.98
	NORMAL	5,725.0	7.44	74.19	5,302.85	680.74	1,880.59	2,000.01	2.65	-2.57	4.23	168.08
9/28/2011	NORMAL	5,821.0	6.42	71.62	5,398.15	684.13	1,891.67	2,011.57	1.11	-1.06	-2.68	195.64
	NORMAL	5,916.0	5.09	69.94	5,492.67	687.25	1,900.67	2,021.10	1.41	-1.40	-1.77	186.38
	NORMAL	6,011.0	3.91	59.50	5,587.38	690.34	1,907.42	2,028.49	1.51	-1.24	-10.99	209.64
	NORMAL	6,107.0	3.00	43.27	5,683.20	693.83	1,911.96	2,033.96	1.38	-0.95	-16.91	219.16
	NORMAL	6,202.0	0.99	359.20	5,778.14	696.46	1,913.65	2,036.45	2.52	-2.12	-46.39	196.75
	NORMAL	6,298.0	0.67	260.92	5,874.14	697.20	1,913.08	2,036.17	1.33	-0.33	-102.38	211.40
	NORMAL	6,393.0	1.14	249.30	5,969.13	696.78	1,911.65	2,034.68	0.53	0.49	-12.23	332.79
	NORMAL	6,488.0	1.01	244.72	6,064.11	696.09	1,910.01	2,032.90	0.16	-0.14	-4.82	211.19
	NORMAL	6,582.0	0.98	358.30	6,158.10	696.54	1,909.24	2,032.33	1.77	-0.03	120.83	147.35
	NORMAL	6,678.0	1.71	9.38	6,254.07	698.77	1,909.45	2,033.29	0.80	0.76	11.54	25.20
9/29/2011	NORMAL	6,773.0	2.02	17.85	6,349.02	701.76	1,910.19	2,035.01	0.44	0.33	8.92	45.93
	NORMAL	6,868.0	1.26	37.86	6,443.99	704.18	1,911.35	2,036.92	0.99	-0.80	21.06	152.72
	NORMAL	6,964.0	1.12	71.79	6,539.97	705.31	1,912.88	2,038.75	0.74	-0.15	35.34	117.88
	NORMAL	7,059.0	1.09	83.58	6,634.95	705.70	1,914.66	2,040.56	0.24	-0.03	12.41	103.38
	NORMAL	7,154.0	0.99	99.64	6,729.93	705.66	1,916.37	2,042.15	0.32	-0.11	16.91	116.85

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
9/29/2011	NORMAL	7,250.0	1.54	109.69	6,825.91	705.09	1,918.40	2,043.86	0.62	0.57	10.47	27.04
	NORMAL	7,345.0	0.94	112.47	6,920.89	704.36	1,920.33	2,045.42	0.63	-0.63	2.93	175.66
	NORMAL	7,440.0	0.07	100.80	7,015.88	704.05	1,921.10	2,046.05	0.92	-0.92	-12.28	180.93
	NORMAL	7,535.0	0.11	165.34	7,110.88	703.95	1,921.18	2,046.09	0.11	0.04	67.94	102.88
	NORMAL	7,630.0	0.35	201.89	7,205.88	703.60	1,921.10	2,045.88	0.28	0.25	38.47	50.61
9/30/2011	NORMAL	7,726.0	0.44	178.41	7,301.88	702.96	1,921.00	2,045.57	0.19	0.09	-24.46	286.99
	NORMAL	7,821.0	0.86	195.19	7,396.87	701.90	1,920.82	2,045.05	0.48	0.44	17.66	32.93
	NORMAL	7,916.0	1.68	194.16	7,491.85	699.86	1,920.29	2,043.85	0.86	0.86	-1.08	357.89
	NORMAL	8,012.0	1.69	196.18	7,587.81	697.14	1,919.56	2,042.23	0.06	0.01	2.10	81.45
	NORMAL	8,107.0	1.61	196.38	7,682.77	694.51	1,918.79	2,040.61	0.08	-0.08	0.21	175.98
	NORMAL	8,203.0	2.18	202.69	7,778.71	691.54	1,917.70	2,038.57	0.63	0.59	6.57	23.28
	NORMAL	8,299.0	0.71	153.03	7,874.68	689.32	1,917.27	2,037.41	1.88	-1.53	-51.73	197.46
	NORMAL	8,394.0	0.40	135.10	7,969.68	688.56	1,917.77	2,037.62	0.37	-0.33	-18.87	200.50
	NORMAL	8,461.0	0.60	128.12	8,036.68	688.18	1,918.21	2,037.90	0.31	0.30	-10.42	339.55
	NORMAL	8,526.0	0.60	128.12	8,101.67	687.76	1,918.75	2,038.26	0.00	0.00	0.00	0.00