

## 1 General

### 1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

### 1.2 Well Information

Well	RWF 411-36	Wellbore No.	
Well Name	RWF 411-36	Common Name	RWF 411-36
Project	RU 36-06S-094W	Site	GV 15-36 Pad
Vertical Section Azimuth	316.77 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	2/22/2012	UWI	RWF 411-36
Active Datum	KB @6,413.0ft (above Mean Sea Level)		

## 2 Survey Name

### 2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	2/22/2012	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

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 (°)
2/22/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/22/2012	NORMAL	88.0	1.14	330.29	87.99	0.76	-0.43	0.85	1.30	1.30	0.00	330.29
	NORMAL	178.0	2.29	322.29	177.95	2.96	-1.98	3.51	1.30	1.28	-8.89	344.22
	NORMAL	269.0	4.22	320.63	268.80	6.99	-5.21	8.66	2.12	2.12	-1.82	356.37
	NORMAL	360.0	7.04	320.10	359.35	13.86	-10.92	17.57	3.10	3.10	-0.58	358.68
	NORMAL	451.0	10.03	314.81	449.34	23.73	-20.11	31.06	3.39	3.29	-5.70	342.98
	NORMAL	522.0	11.78	315.87	519.05	33.30	-29.53	44.49	2.48	2.46	1.35	6.40
	NORMAL	613.0	15.12	319.21	607.54	48.96	-43.76	65.64	3.77	3.67	3.67	14.72
	NORMAL	705.0	17.59	316.78	695.82	68.17	-61.12	91.53	2.79	2.68	-2.64	343.35
2/23/2012	NORMAL	796.0	18.23	313.78	782.41	88.04	-80.81	119.50	1.23	0.70	-3.30	303.32
	NORMAL	888.0	16.70	310.34	870.17	106.56	-101.28	147.01	2.01	-1.66	-3.74	212.38
	NORMAL	979.0	17.19	308.76	957.22	123.44	-121.73	173.32	0.74	0.54	-1.74	316.02
	NORMAL	1,075.0	15.81	312.19	1,049.26	141.11	-142.49	200.40	1.76	-1.44	3.57	146.42
	NORMAL	1,124.0	16.36	312.27	1,096.34	150.23	-152.54	213.94	1.12	1.12	0.16	2.35
2/24/2012	NORMAL	1,263.0	17.76	313.54	1,229.23	178.00	-182.39	254.62	1.04	1.01	0.91	15.51
	NORMAL	1,359.0	18.20	317.35	1,320.54	198.12	-203.16	284.23	1.31	0.46	3.97	71.31
	NORMAL	1,454.0	18.94	314.02	1,410.60	220.74	-224.30	314.47	1.36	0.78	-3.51	303.32
	NORMAL	1,550.0	18.82	321.82	1,501.45	243.75	-245.08	345.46	2.83	-0.12	8.13	96.41
	NORMAL	1,645.0	18.99	321.04	1,591.32	267.81	-284.27	376.14	0.32	0.18	-0.82	303.58
	NORMAL	1,741.0	19.91	319.60	1,681.84	292.40	-284.69	408.04	1.08	0.96	-1.50	331.79
	NORMAL	1,837.0	18.32	320.40	1,772.55	316.48	-304.90	439.42	1.68	-1.66	0.83	171.02

## 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 (°)
2/24/2012	NORMAL	1,931.0	17.67	318.28	1,881.95	338.51	-323.81	468.43	0.98	-0.69	-2.26	224.21
	NORMAL	2,026.0	17.44	320.80	1,952.53	360.32	-342.39	497.04	0.87	-0.24	2.76	107.47
	NORMAL	2,122.0	17.45	315.85	2,044.12	381.81	-361.49	525.79	1.58	0.01	-5.26	267.97
	NORMAL	2,217.0	18.01	315.10	2,134.60	402.44	-381.77	554.71	0.64	0.59	-0.79	337.45
	NORMAL	2,313.0	17.29	319.89	2,226.09	423.86	-401.44	583.79	1.69	-0.75	4.99	118.64
	NORMAL	2,409.0	17.97	319.63	2,317.58	446.05	-420.23	612.82	0.71	0.71	-0.27	353.27
	NORMAL	2,503.0	18.28	319.50	2,406.91	468.31	-439.19	642.03	0.33	0.33	-0.14	352.51
	NORMAL	2,597.0	17.50	318.42	2,496.37	490.09	-458.15	670.89	0.90	-0.83	-1.15	202.53
	NORMAL	2,692.0	18.05	315.92	2,586.83	511.35	-477.86	699.88	0.99	0.58	-2.63	304.58
	NORMAL	2,787.0	17.32	319.04	2,677.35	532.60	-497.37	728.73	1.26	-0.77	3.28	129.08
	NORMAL	2,883.0	17.37	320.85	2,768.98	554.51	-515.79	757.30	0.56	0.05	1.89	85.57
	NORMAL	2,978.0	17.62	316.33	2,859.59	575.91	-534.67	785.82	1.45	0.26	-4.76	278.26
	NORMAL	3,072.0	18.38	314.67	2,948.99	596.62	-555.03	814.86	0.98	0.81	-1.77	325.19
	NORMAL	3,164.0	17.58	316.76	3,036.50	616.94	-574.87	843.25	1.12	-0.87	2.27	142.11
	NORMAL	3,260.0	18.37	316.43	3,127.81	638.46	-595.23	872.88	0.83	0.82	-0.34	352.50
	NORMAL	3,355.0	17.08	317.93	3,218.30	659.66	-614.89	901.79	1.44	-1.36	1.58	161.22
	NORMAL	3,451.0	16.80	316.49	3,310.14	680.19	-633.89	929.76	0.53	-0.29	-1.50	235.60
2/25/2012	NORMAL	3,548.0	17.02	314.30	3,401.03	699.86	-653.29	957.38	0.71	0.23	-2.31	288.00
	NORMAL	3,641.0	16.41	314.04	3,492.01	718.90	-672.89	984.68	0.65	-0.64	-0.27	186.86
	NORMAL	3,737.0	16.69	313.54	3,584.04	737.82	-692.63	1,011.99	0.33	0.29	-0.52	332.80
	NORMAL	3,832.0	17.10	315.33	3,674.94	757.15	-712.34	1,039.57	0.70	0.43	1.88	52.62
	NORMAL	3,927.0	18.03	320.36	3,765.51	778.41	-731.54	1,068.21	1.87	0.98	5.29	60.92
	NORMAL	4,022.0	18.03	319.74	3,855.85	800.95	-750.42	1,097.56	0.20	0.00	-0.65	269.71
	NORMAL	4,117.0	18.29	319.30	3,946.12	823.47	-769.64	1,127.14	0.31	0.27	-0.46	331.98
	NORMAL	4,213.0	17.59	317.63	4,037.45	845.60	-789.24	1,156.69	0.90	-0.73	-1.74	215.52
	NORMAL	4,308.0	17.50	319.21	4,128.03	867.02	-808.25	1,185.31	0.51	-0.09	1.66	101.45
	NORMAL	4,402.0	17.76	316.31	4,217.62	888.09	-827.38	1,213.77	0.97	0.28	-3.09	285.10
	NORMAL	4,497.0	17.85	316.84	4,308.07	909.19	-847.35	1,242.82	0.20	0.09	0.56	61.21
2/26/2012	NORMAL	4,591.0	17.41	315.26	4,397.65	929.69	-867.11	1,271.28	0.69	-0.47	-1.68	226.65
	NORMAL	4,699.0	16.18	320.36	4,501.05	952.75	-888.08	1,302.46	1.78	-1.14	4.72	132.27
	NORMAL	4,783.0	16.67	319.77	4,581.62	970.96	-903.33	1,326.17	0.62	0.58	-0.70	340.91
	NORMAL	4,878.0	16.89	317.40	4,672.58	991.53	-921.47	1,353.58	0.76	0.23	-2.49	286.69
	NORMAL	4,974.0	15.25	316.75	4,764.82	1,010.99	-939.56	1,380.15	1.72	-1.71	-0.68	185.95
	NORMAL	5,069.0	14.77	319.12	4,856.58	1,029.24	-956.05	1,404.74	0.82	-0.51	2.49	129.17
	NORMAL	5,165.0	13.56	323.03	4,949.66	1,047.49	-970.83	1,428.16	1.61	-1.26	4.07	143.55
	NORMAL	5,260.0	12.66	320.62	5,042.19	1,064.43	-984.13	1,449.62	1.11	-0.95	-2.54	210.10
	NORMAL	5,356.0	10.73	317.98	5,136.19	1,079.21	-996.79	1,469.05	2.09	-2.01	-2.75	194.21
	NORMAL	5,451.0	10.03	313.59	5,229.64	1,091.48	-1,008.70	1,486.15	1.11	-0.74	-4.62	226.35
2/27/2012	NORMAL	4,591.0	17.41	315.26	4,397.65	929.69	-867.11	1,271.28	0.69	-0.47	-1.68	226.65
	NORMAL	4,699.0	16.18	320.36	4,501.05	952.75	-888.08	1,302.46	1.78	-1.14	4.72	132.27
	NORMAL	4,783.0	16.67	319.77	4,581.62	970.96	-903.33	1,326.17	0.62	0.58	-0.70	340.91
	NORMAL	4,878.0	16.89	317.40	4,672.58	991.53	-921.47	1,353.58	0.00	0.00	0.00	0.00
	NORMAL	4,974.0	15.25	316.75	4,764.82	1,010.99	-939.56	1,380.15	0.00	0.00	0.00	0.00
	NORMAL	5,069.0	14.77	319.12	4,856.58	1,029.24	-956.05	1,404.74	0.00	0.00	0.00	0.00
	NORMAL	5,165.0	13.56	323.03	4,949.66	1,047.49	-970.83	1,428.16	0.00	0.00	0.00	0.00
	NORMAL	5,260.0	12.66	320.62	5,042.19	1,064.43	-984.13	1,449.62	1.11	-0.95	-2.54	210.10
	NORMAL	5,356.0	10.73	317.98	5,136.19	1,079.21	-996.79	1,469.05	2.09	-2.01	-2.75	194.21
	NORMAL	5,451.0	10.03	313.59	5,229.64	1,091.48	-1,008.70	1,486.15	0.00	0.00	0.00	0.00
	NORMAL	5,547.0	8.97	316.14	5,324.32	1,102.64	-1,019.94	1,501.98	1.19	-1.10	2.66	159.60
	NORMAL	5,642.0	8.75	315.61	5,418.18	1,113.15	-1,030.13	1,516.61	0.25	-0.23	-0.58	200.10
	NORMAL	5,738.0	7.68	315.41	5,513.20	1,122.93	-1,039.74	1,530.33	1.11	-1.11	-0.21	181.43
	NORMAL	5,834.0	6.51	320.36	5,608.46	1,131.69	-1,047.71	1,542.17	1.37	-1.22	5.16	154.85
	NORMAL	5,929.0	5.80	318.69	5,702.91	1,139.44	-1,054.32	1,552.34	0.77	-0.75	-1.76	193.33
	NORMAL	6,024.0	4.92	312.27	5,797.50	1,145.79	-1,060.50	1,561.20	1.12	-0.93	-6.76	211.11
	NORMAL	6,120.0	3.96	316.05	5,893.21	1,150.95	-1,065.85	1,568.62	1.04	-1.00	3.94	164.93
2/28/2012	NORMAL	6,216.0	2.81	319.83	5,989.04	1,155.13	-1,069.67	1,574.29	1.22	-1.20	3.94	170.90
	NORMAL	6,311.0	1.61	317.05	6,083.97	1,157.89	-1,072.08	1,577.95	1.27	-1.26	-2.93	183.72

## 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 (°)
2/28/2012	NORMAL	6,407.0	1.49	311.81	6,179.93	1,159.71	-1,073.93	1,580.54	0.19	-0.12	-5.46	227.15
	NORMAL	6,502.0	1.02	333.50	6,274.91	1,161.29	-1,075.23	1,582.58	0.70	-0.49	22.83	145.19
	NORMAL	6,597.0	0.62	36.80	6,369.90	1,162.45	-1,075.29	1,583.48	0.97	-0.42	66.63	143.24
	NORMAL	6,693.0	0.77	54.12	6,465.90	1,163.25	-1,074.46	1,583.48	0.27	0.16	18.04	63.34
	NORMAL	6,787.0	0.44	104.25	6,559.89	1,163.53	-1,073.60	1,583.10	0.63	-0.35	53.33	145.31
	NORMAL	6,883.0	0.58	170.86	6,655.89	1,162.96	-1,073.16	1,582.39	0.60	0.15	69.39	111.50
	NORMAL	6,978.0	0.26	174.00	6,750.88	1,162.27	-1,073.07	1,581.82	0.34	-0.34	3.31	177.45
	NORMAL	7,073.0	0.70	216.03	6,845.88	1,161.59	-1,073.38	1,581.54	0.56	0.46	44.24	60.88
	NORMAL	7,169.0	0.44	232.20	6,941.88	1,160.89	-1,074.02	1,581.46	0.32	-0.27	16.84	156.17
	NORMAL	7,263.0	0.35	354.19	7,035.88	1,160.95	-1,074.34	1,581.72	0.74	-0.10	129.78	154.81
2/29/2012	NORMAL	7,359.0	0.62	17.31	7,131.87	1,161.74	-1,074.21	1,582.21	0.34	0.28	24.08	47.87
	NORMAL	7,453.0	0.35	3.25	7,225.87	1,162.51	-1,074.04	1,582.66	0.31	-0.29	-14.98	196.86
	NORMAL	7,549.0	0.22	171.62	7,321.87	1,162.62	-1,074.00	1,582.71	0.59	-0.14	175.39	175.52
	NORMAL	7,644.0	0.22	290.28	7,416.87	1,162.50	-1,074.14	1,582.72	0.40	0.00	124.91	149.33
	NORMAL	7,740.0	0.47	242.51	7,512.87	1,162.39	-1,074.67	1,583.00	0.38	0.26	-49.76	285.41
	NORMAL	7,834.0	0.26	175.94	7,606.86	1,162.00	-1,074.99	1,582.94	0.47	-0.22	-70.82	213.05
	NORMAL	7,929.0	0.53	159.60	7,701.86	1,161.37	-1,074.82	1,582.36	0.31	0.28	-17.20	329.04
	NORMAL	8,023.0	0.97	134.29	7,795.85	1,160.41	-1,074.10	1,581.17	0.58	0.47	-26.93	309.91
	NORMAL	8,118.0	0.88	171.21	7,891.84	1,159.11	-1,073.41	1,579.75	0.62	-0.09	38.46	116.75
	NORMAL	8,214.0	0.85	190.64	7,986.83	1,157.70	-1,073.43	1,578.73	0.31	-0.03	20.45	105.50
3/1/2012	NORMAL	8,309.0	0.53	135.61	8,081.83	1,156.69	-1,073.25	1,577.88	0.73	-0.34	-57.93	218.49
	NORMAL	8,405.0	0.43	182.24	8,177.82	1,156.01	-1,072.95	1,577.18	0.41	-0.10	48.57	126.80
	NORMAL	8,501.0	1.41	196.08	8,273.81	1,154.52	-1,073.29	1,576.32	1.04	1.02	14.42	19.76
	NORMAL	8,596.0	1.93	209.70	8,368.77	1,152.00	-1,074.41	1,575.26	0.68	0.55	14.34	44.29
	NORMAL	8,692.0	2.46	204.08	8,464.70	1,148.72	-1,076.05	1,573.99	0.60	0.55	-5.85	335.07
	NORMAL	8,788.0	2.81	207.24	8,560.60	1,144.75	-1,077.97	1,572.41	0.39	0.36	3.29	24.13
	NORMAL	8,883.0	2.84	201.98	8,655.48	1,140.49	-1,079.92	1,570.64	0.27	0.03	-5.54	273.97
	NORMAL	8,919.0	3.08	210.49	8,691.43	1,138.83	-1,080.74	1,570.00	1.39	0.67	23.64	65.65
	NORMAL	8,975.0	3.46	223.73	8,747.34	1,136.32	-1,082.67	1,569.49	1.51	0.68	23.64	70.00