

# 1 General

## 1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

## 1.2 Well Information

Well	RWF 22-32	Wellbore No.	
Well Name	RWF 22-32	Common Name	RWF 22-32
Project	RU 32-06S-094W	Site	RWF 11-32 Pad
Vertical Section Azimuth	174.09 (°)	North Reference	True
Origin N/S		Origin EW	
Spud Date	2/21/2012	UWI	RWF 22-32
Active Datum	KB @5,565.0ft (above Mean Sea Level)		

# 2 Survey Name

## 2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	SCIENTIFIC
Date Started	2/21/2012	Ended	
Tool Name	MWD	Engineer	

### 2.1.1 Tie On Point

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

### 2.1.2 Survey Stations

6040

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	EW (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
2/21/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/21/2012	NORMAL	116.0	0.62	174.46	116.00	-0.62	0.06	0.63	0.53	0.53	0.00	174.46
	NORMAL	176.0	0.97	193.97	175.99	-1.44	-0.03	1.43	0.73	0.58	32.52	47.74
	NORMAL	267.0	3.08	179.12	266.93	-4.63	-0.18	4.59	2.37	2.32	-16.32	338.54
	NORMAL	358.0	5.98	177.10	357.64	-11.81	0.10	11.76	3.19	3.19	-2.22	355.84
2/22/2012	NORMAL	449.0	9.50	176.66	447.79	-24.05	0.78	24.00	3.87	3.87	-0.48	358.82
	NORMAL	539.0	13.11	173.76	536.03	-41.61	2.32	41.63	4.06	4.01	-3.22	349.62
	NORMAL	609.0	13.77	176.30	604.12	-57.82	3.72	57.90	1.26	0.94	3.63	43.05
	NORMAL	700.0	15.04	173.09	692.26	-80.35	5.84	80.52	1.65	1.40	-3.53	326.28
	NORMAL	790.0	16.18	171.86	778.93	-104.36	9.02	104.73	1.32	1.27	-1.37	343.22
	NORMAL	881.0	16.00	172.30	866.37	-129.34	12.49	129.94	0.24	-0.20	0.48	146.09
	NORMAL	974.0	16.09	172.21	955.75	-154.81	15.96	155.63	0.10	0.10	-0.10	344.51
	NORMAL	1,065.0	14.89	173.01	1,043.44	-178.91	19.09	179.92	1.34	-1.32	0.88	170.29
2/23/2012	NORMAL	1,153.0	14.90	172.40	1,128.48	-201.34	21.96	202.53	0.18	0.01	-0.69	273.35
	NORMAL	1,248.0	16.53	171.51	1,219.93	-226.82	25.57	228.25	1.73	1.72	-0.94	351.16
	NORMAL	1,342.0	16.01	172.15	1,310.16	-252.89	29.32	254.56	0.59	-0.55	0.68	161.28
	NORMAL	1,436.0	16.36	172.12	1,400.44	-278.84	32.90	280.75	0.37	0.37	-0.03	358.62
	NORMAL	1,530.0	15.83	174.67	1,490.76	-304.72	35.91	306.80	0.94	-0.56	2.71	128.08
	NORMAL	1,625.0	16.27	174.32	1,582.05	-330.86	38.43	333.06	0.47	0.46	-0.37	347.43
	NORMAL	1,718.0	15.74	172.92	1,671.45	-356.35	41.28	358.70	0.70	-0.57	-1.51	215.40
	NORMAL	1,812.0	16.27	170.19	1,761.80	-381.97	45.09	384.59	0.98	0.56	-2.90	303.83

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 (°)
2/23/2012	NORMAL	1,905.0	15.48	175.90	1,851.26	-407.19	48.20	409.99	1.88	-0.85	6.14	119.56
	NORMAL	1,999.0	15.56	174.41	1,941.83	-432.25	50.32	435.14	0.43	0.09	-1.59	280.63
	NORMAL	2,094.0	15.56	174.23	2,033.35	-457.61	52.84	460.62	0.05	0.00	-0.19	269.91
	NORMAL	2,187.0	16.53	172.83	2,122.73	-483.15	55.75	486.32	1.12	1.04	-1.51	337.58
	NORMAL	2,281.0	15.65	175.55	2,213.05	-509.06	58.40	512.36	1.23	-0.94	2.89	140.72
	NORMAL	2,374.0	15.92	176.61	2,302.54	-534.30	60.13	537.65	0.42	0.29	1.14	47.39
	NORMAL	2,468.0	16.53	175.38	2,392.80	-560.49	61.97	563.90	0.74	0.65	-1.31	330.01
2/24/2012	NORMAL	2,562.0	15.12	175.64	2,483.23	-586.05	63.98	589.52	1.50	-1.50	0.28	177.25
	NORMAL	2,656.0	15.48	175.55	2,573.90	-610.78	65.88	614.32	0.38	0.38	-0.10	356.18
	NORMAL	2,750.0	15.92	174.41	2,664.39	-636.12	68.11	639.75	0.57	0.47	-1.21	324.42
	NORMAL	2,845.0	16.80	173.27	2,755.55	-662.72	70.99	666.51	0.99	0.93	-1.20	339.41
	NORMAL	2,939.0	15.40	178.02	2,845.86	-688.69	73.02	692.54	2.04	-1.49	5.05	139.01
	NORMAL	3,033.0	15.48	179.42	2,936.47	-713.70	73.57	717.49	0.41	0.09	1.49	78.56
	NORMAL	3,126.0	16.18	178.36	3,025.94	-739.07	74.07	742.76	0.81	0.75	-1.14	337.05
	NORMAL	3,220.0	14.22	175.35	3,116.65	-763.67	75.38	767.37	2.25	-2.09	-3.20	200.49
	NORMAL	3,315.0	14.25	174.06	3,208.73	-786.93	77.54	790.73	0.34	0.03	-1.36	274.78
	NORMAL	3,410.0	14.07	174.06	3,300.85	-810.04	79.94	813.97	0.19	-0.19	0.00	180.00
	NORMAL	3,504.0	14.60	174.41	3,391.92	-833.20	82.28	837.24	0.57	0.56	0.37	9.46
	NORMAL	3,598.0	14.51	173.62	3,482.90	-856.69	84.74	860.86	0.23	-0.10	-0.84	245.23
	NORMAL	3,691.0	14.68	173.62	3,572.90	-879.98	87.34	884.30	0.18	0.18	0.00	0.00
	NORMAL	3,785.0	14.51	172.39	3,663.87	-903.49	90.23	907.98	0.38	-0.18	-1.31	240.66
	NORMAL	3,879.0	14.29	170.87	3,754.92	-926.62	93.63	931.33	0.47	-0.23	-1.62	239.07
	NORMAL	3,973.0	14.86	172.92	3,845.89	-950.03	96.95	954.97	0.82	0.61	2.18	43.14
	NORMAL	4,066.0	15.56	172.48	3,935.63	-974.23	100.06	979.36	0.76	0.75	-0.47	350.42
	NORMAL	4,160.0	14.42	174.59	4,026.43	-998.39	102.81	1,003.67	1.34	-1.21	2.24	155.43
	NORMAL	4,254.0	14.78	172.92	4,117.40	-1,021.94	105.39	1,027.36	0.59	0.38	-1.78	309.73
	NORMAL	4,347.0	14.07	172.48	4,207.47	-1,044.92	108.33	1,050.52	0.77	-0.76	-0.47	188.56
	NORMAL	4,442.0	13.10	174.06	4,299.81	-1,067.07	110.96	1,072.83	1.09	-1.02	1.66	159.83
	NORMAL	4,535.0	13.37	175.11	4,390.34	-1,088.27	112.97	1,094.12	0.39	0.29	1.13	42.19
	NORMAL	4,629.0	12.49	175.29	4,481.95	-1,109.23	114.73	1,115.15	0.94	-0.94	0.19	177.47
	NORMAL	4,723.0	11.52	174.94	4,573.90	-1,128.71	116.39	1,134.69	1.03	-1.03	-0.37	184.12
2/25/2012	NORMAL	4,818.0	10.73	169.66	4,667.11	-1,146.86	118.81	1,153.00	1.36	-0.83	-5.56	229.64
	NORMAL	4,912.0	9.50	171.86	4,759.65	-1,163.15	121.48	1,169.47	1.37	-1.31	2.34	163.64
	NORMAL	5,007.0	8.79	176.43	4,853.44	-1,178.15	123.05	1,184.56	1.07	-0.75	4.81	136.59
	NORMAL	5,101.0	7.74	178.10	4,946.47	-1,191.65	123.70	1,198.05	1.15	-1.12	1.78	167.95
	NORMAL	5,195.0	6.51	179.33	5,039.74	-1,203.30	123.97	1,209.67	1.32	-1.31	1.31	173.54
	NORMAL	5,289.0	5.10	181.62	5,133.25	-1,212.81	123.92	1,219.12	1.52	-1.50	2.44	171.81
	NORMAL	5,381.0	3.87	180.30	5,224.97	-1,220.00	123.79	1,226.26	1.34	-1.34	-1.43	184.14
	NORMAL	5,474.0	3.25	179.86	5,317.79	-1,225.78	123.78	1,232.01	0.67	-0.67	-0.47	182.30
2/26/2012	NORMAL	5,569.0	2.99	166.15	5,412.65	-1,230.87	124.38	1,237.14	0.83	-0.27	-14.43	244.03
	NORMAL	5,662.0	1.23	126.51	5,505.59	-1,233.82	125.76	1,240.21	2.35	-1.89	-42.62	201.02
	NORMAL	5,756.0	0.88	46.35	5,599.58	-1,233.93	127.09	1,240.45	1.47	-0.37	-85.28	218.77
	NORMAL	5,850.0	1.14	19.90	5,693.56	-1,232.55	127.93	1,239.17	0.56	0.28	-28.14	285.49
	NORMAL	5,944.0	1.14	24.73	5,787.54	-1,230.82	128.64	1,237.52	0.10	0.00	5.14	92.41
	NORMAL	6,038.0	0.24	299.65	5,881.54	-1,229.87	128.86	1,236.60	1.22	-0.96	-90.51	192.06
2/27/2012	NORMAL	6,132.0	1.31	214.93	5,975.53	-1,230.66	128.08	1,237.30	1.39	1.14	-90.13	264.77
	NORMAL	6,226.0	0.79	213.61	6,069.51	-1,232.08	127.10	1,238.62	0.55	-0.55	-1.40	182.00
	NORMAL	6,320.0	0.26	130.64	6,163.51	-1,232.76	126.91	1,239.27	0.85	-0.56	-88.27	198.80
	NORMAL	6,414.0	0.44	98.12	6,257.51	-1,232.95	127.43	1,239.51	0.28	0.19	-34.60	295.14
	NORMAL	6,509.0	0.44	108.14	6,352.50	-1,233.11	128.13	1,239.75	0.08	0.00	10.55	95.01
	NORMAL	6,603.0	0.44	72.28	6,446.50	-1,233.11	128.82	1,239.82	0.29	0.00	-38.15	252.07
2/28/2012	NORMAL	6,697.0	0.79	70.44	6,540.50	-1,232.79	129.77	1,239.60	0.37	0.37	-1.96	355.85
	NORMAL	6,790.0	0.88	78.70	6,633.49	-1,232.43	131.08	1,239.38	0.16	0.10	8.88	57.39
	NORMAL	6,883.0	1.06	94.50	6,726.47	-1,232.36	132.64	1,239.47	0.34	0.19	16.99	64.13
	NORMAL	6,977.0	0.35	302.11	6,820.47	-1,232.28	133.26	1,239.45	1.47	-0.76	-162.12	186.75
	NORMAL	7,071.0	0.53	336.66	6,914.47	-1,231.72	132.84	1,238.85	0.33	0.19	36.76	73.94
	NORMAL	7,166.0	0.53	342.46	7,009.46	-1,230.90	132.54	1,238.01	0.06	0.00	6.11	92.90

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	EW (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
2/28/2012	NORMAL	7,259.0	0.53	342.11	7,102.46	-1,230.08	132.28	1,237.16	0.00	0.00	-0.38	269.83
	NORMAL	7,352.0	0.79	349.84	7,195.45	-1,229.04	132.03	1,236.10	0.29	0.28	8.31	22.80
2/29/2012	NORMAL	7,446.0	0.88	1.00	7,289.44	-1,227.68	131.93	1,234.74	0.20	0.10	11.87	66.70
	NORMAL	7,540.0	0.53	357.40	7,383.43	-1,226.53	131.92	1,233.59	0.38	-0.37	-3.83	185.42
	NORMAL	7,633.0	0.53	354.50	7,476.43	-1,225.67	131.86	1,232.73	0.03	0.00	-3.12	268.55
	NORMAL	7,728.0	0.62	344.83	7,571.43	-1,224.73	131.68	1,231.78	0.14	0.09	-10.18	307.94
	NORMAL	7,821.0	0.75	329.25	7,664.42	-1,223.73	131.24	1,230.73	0.24	0.14	-16.75	296.96
	NORMAL	7,914.0	0.79	308.71	7,757.41	-1,222.80	130.43	1,229.73	0.30	0.04	-22.09	267.89
	NORMAL	7,943.0	0.79	305.98	7,786.41	-1,222.56	130.11	1,229.46	0.13	0.00	-9.41	268.64
	NORMAL	8,004.0	0.79	305.98	7,847.40	-1,222.06	129.43	1,228.90	0.00	0.00	0.00	0.00