

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	RWF 21-32	Wellbore No.	
Well Name	RWF 21-32	Common Name	RWF 21-32
Project	RU 32-06S-094W	Site	RWF 11-32 Pad
Vertical Section Azimuth	31.05 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	12/24/2011	UWI	RWF 21-32
Active Datum	KB @5,565.2ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #2

Survey Name	Survey #2	Company	SCIENTIFIC
Date Started	12/24/2011	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

5796

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 (°)
12/24/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/24/2011	NORMAL	86.0	0.18	281.34	86.00	0.03	-0.13	-0.05	0.21	0.21	0.00	281.34
	NORMAL	177.0	1.50	43.68	176.99	0.92	0.55	1.07	1.76	1.45	134.44	127.78
	NORMAL	268.0	3.61	28.83	267.90	4.29	2.75	5.09	2.41	2.32	-16.32	335.07
	NORMAL	359.0	5.10	29.00	358.63	10.34	6.10	12.00	1.64	1.64	0.19	0.58
	NORMAL	449.0	6.25	32.34	448.19	17.97	10.66	20.90	1.33	1.28	3.71	17.69
	NORMAL	540.0	7.13	33.40	538.57	26.87	16.42	31.49	0.98	0.97	1.16	8.51
	NORMAL	630.0	4.93	28.30	628.06	34.94	21.32	40.93	2.51	-2.44	-5.67	191.16
	NORMAL	700.0	5.45	28.79	697.78	40.50	24.35	47.26	0.75	0.74	0.70	5.12
	NORMAL	791.0	6.31	28.70	788.30	48.68	28.83	56.58	0.95	0.95	-0.10	359.34
	NORMAL	882.0	4.84	31.61	878.86	56.33	33.25	65.41	1.64	-1.62	3.20	170.56
	NORMAL	974.0	5.01	28.79	970.53	63.16	37.22	73.31	0.32	0.18	-3.07	303.67
12/25/2011	NORMAL	1,083.0	4.57	33.28	1,059.21	69.53	41.03	80.73	0.65	-0.49	5.04	141.79
12/26/2011	NORMAL	1,155.0	5.22	36.87	1,150.88	75.94	45.56	88.56	0.78	0.71	3.90	27.03
	NORMAL	1,250.0	5.69	38.28	1,245.45	83.10	51.07	97.53	0.51	0.49	1.48	16.62
	NORMAL	1,344.0	6.36	40.62	1,338.93	90.71	57.34	107.29	0.76	0.71	2.49	21.30
	NORMAL	1,437.0	5.89	36.88	1,431.40	98.43	63.56	117.11	0.66	-0.51	-4.02	218.48
	NORMAL	1,531.0	5.54	25.19	1,524.93	106.40	68.39	126.43	1.29	-0.37	-12.44	247.50
	NORMAL	1,626.0	4.22	29.67	1,619.59	113.58	72.07	134.48	1.45	-1.39	4.72	166.12
	NORMAL	1,720.0	4.07	33.51	1,713.34	119.37	75.62	141.27	0.34	-0.16	4.09	120.29
	NORMAL	1,814.0	4.32	34.91	1,807.09	125.06	79.49	148.14	0.29	0.27	1.49	22.98

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 (")
12/26/2011	NORMAL	1,907.0	4.41	37.76	1,899.82	130.76	83.68	155.18	0.25	0.10	3.06	68.89
	NORMAL	2,001.0	4.53	37.87	1,993.53	136.54	88.18	162.46	0.13	0.13	0.12	4.14
	NORMAL	2,095.0	4.31	39.61	2,087.25	142.19	92.71	169.64	0.27	-0.23	1.85	149.50
	NORMAL	2,188.0	4.38	38.01	2,179.99	147.68	97.12	176.62	0.15	0.08	-1.72	299.21
	NORMAL	2,282.0	4.26	41.86	2,273.72	153.11	101.66	183.61	0.33	-0.13	4.10	114.39
	NORMAL	2,376.0	4.73	33.00	2,367.43	158.96	106.10	190.91	0.89	0.50	-9.43	299.62
	NORMAL	2,470.0	4.66	32.31	2,461.12	165.44	110.25	198.60	0.10	-0.07	-0.73	218.55
	NORMAL	2,564.0	4.75	25.98	2,554.80	172.17	114.00	206.30	0.56	0.10	-6.73	276.67
	NORMAL	2,658.0	5.02	27.47	2,648.46	179.31	117.60	214.28	0.32	0.29	1.59	25.91
	NORMAL	2,752.0	5.05	28.21	2,742.10	186.61	121.46	222.52	0.08	0.03	0.79	65.58
	NORMAL	2,847.0	4.71	28.38	2,836.75	193.73	125.29	230.59	0.36	-0.36	0.18	177.65
	NORMAL	2,941.0	4.60	29.00	2,930.44	200.42	128.95	238.21	0.13	-0.12	0.66	155.73
	NORMAL	3,035.0	4.66	31.34	3,024.14	206.98	132.76	245.80	0.21	0.06	2.49	73.55
	NORMAL	3,128.0	5.38	28.64	3,116.78	214.03	136.82	253.93	0.81	0.77	-2.90	340.49
	NORMAL	3,222.0	5.14	28.59	3,210.38	221.59	140.94	262.54	0.26	-0.26	-0.05	181.07
	NORMAL	3,317.0	5.14	28.90	3,305.00	229.06	145.04	271.04	0.03	0.00	0.33	90.15
	NORMAL	3,411.0	5.08	28.79	3,398.63	236.39	149.08	279.41	0.06	-0.06	-0.12	189.22
	NORMAL	3,506.0	4.75	29.76	3,493.28	243.49	153.05	287.55	0.36	-0.35	1.02	166.35
	NORMAL	3,599.0	4.68	30.70	3,585.96	250.10	156.90	295.19	0.11	-0.08	1.01	132.64
	NORMAL	3,693.0	4.57	32.22	3,679.66	256.56	160.86	302.77	0.18	-0.12	1.62	132.66
	NORMAL	3,787.0	5.19	30.55	3,773.32	263.39	165.01	310.76	0.68	0.66	-1.78	346.26
	NORMAL	3,881.0	6.15	21.73	3,866.86	271.73	169.04	319.98	1.38	1.02	-9.38	313.32
12/27/2011	NORMAL	3,975.0	6.16	21.68	3,960.31	281.09	172.77	329.93	0.01	0.01	-0.05	331.78
	NORMAL	4,068.0	6.19	22.73	4,052.77	290.35	176.55	339.81	0.13	0.03	1.13	75.65
	NORMAL	4,162.0	6.57	20.77	4,146.19	300.06	180.41	350.12	0.47	0.40	-2.09	329.20
	NORMAL	4,256.0	6.75	23.99	4,239.56	310.13	184.57	360.89	0.44	0.19	3.43	65.87
	NORMAL	4,349.0	6.68	29.50	4,331.92	319.83	189.45	371.72	0.70	-0.08	5.92	98.93
	NORMAL	4,444.0	6.86	29.05	4,426.26	329.60	194.93	382.92	0.20	0.19	-0.47	343.36
	NORMAL	4,537.0	5.72	29.41	4,518.70	338.50	199.90	393.10	1.23	-1.23	0.39	178.20
	NORMAL	4,631.0	5.42	27.61	4,612.25	346.51	204.26	402.21	0.37	-0.32	-1.91	209.32
	NORMAL	4,725.0	5.63	30.03	4,705.82	354.44	208.62	411.26	0.33	0.22	2.57	49.18
	NORMAL	4,819.0	5.36	25.54	4,799.39	362.39	212.82	420.24	0.54	-0.29	-4.78	235.65
	NORMAL	4,914.0	3.61	19.39	4,894.09	369.21	215.73	427.58	1.91	-1.84	-6.47	192.31
	NORMAL	5,009.0	2.99	18.60	4,988.93	374.38	217.51	432.93	0.65	-0.65	-0.83	183.80
	NORMAL	5,102.0	3.25	15.44	5,081.80	379.22	218.99	437.84	0.34	0.28	-3.40	324.93
	NORMAL	5,197.0	2.55	33.01	5,176.68	383.59	220.86	442.54	1.18	-0.74	18.49	136.77
	NORMAL	5,291.0	1.67	55.51	5,270.61	386.12	223.12	445.88	1.27	-0.94	23.94	147.60
	NORMAL	5,384.0	1.49	71.07	5,363.58	387.28	225.38	448.04	0.50	-0.19	16.73	120.41
12/28/2011	NORMAL	5,477.0	1.58	89.97	5,456.54	387.67	227.81	449.63	0.55	0.10	20.32	89.46
	NORMAL	5,570.0	0.97	115.81	5,549.52	387.33	229.80	450.36	0.89	-0.66	27.78	149.12
	NORMAL	5,664.0	0.79	156.59	5,643.51	386.39	230.78	450.06	0.68	-0.19	43.38	125.77
	NORMAL	5,758.0	0.92	154.53	5,737.50	385.11	231.36	449.27	0.14	0.14	-2.19	345.67
	NORMAL	5,852.0	1.06	151.40	5,831.49	383.67	232.10	448.41	0.16	0.15	-3.33	337.31
	NORMAL	5,946.0	1.13	153.30	5,925.47	382.08	232.93	447.48	0.08	0.07	2.02	28.37
	NORMAL	6,040.0	0.88	189.11	6,019.46	380.54	233.23	446.31	0.70	-0.27	38.10	128.96
	NORMAL	6,134.0	1.32	198.16	6,113.44	378.80	232.78	444.59	0.50	0.47	9.63	26.11
	NORMAL	6,228.0	0.88	222.24	6,207.42	377.23	231.96	442.82	0.67	-0.47	25.62	145.20
12/29/2011	NORMAL	6,322.0	0.98	303.05	6,301.41	377.14	230.80	442.14	1.29	0.11	85.97	126.79
	NORMAL	6,416.0	1.14	312.95	6,395.40	378.21	229.44	442.36	0.26	0.17	10.53	53.88
	NORMAL	6,510.0	1.06	306.62	6,489.38	379.37	228.06	442.64	0.15	-0.09	-6.73	233.50
	NORMAL	6,605.0	0.97	282.89	6,584.36	380.07	226.57	442.48	0.45	-0.09	-24.98	246.22
	NORMAL	6,697.0	0.88	357.42	6,676.36	380.95	225.78	442.82	1.22	-0.10	81.01	130.92
12/30/2011	NORMAL	6,789.0	0.88	21.59	6,768.35	382.31	226.01	444.11	0.40	0.00	26.27	102.08
	NORMAL	6,883.0	0.96	38.60	6,862.33	383.60	226.76	445.60	0.30	0.09	18.10	82.29
	NORMAL	6,977.0	0.97	70.63	6,956.32	384.48	228.01	446.99	0.57	0.01	34.07	104.98
	NORMAL	7,071.0	1.06	73.18	7,050.31	385.00	229.59	448.25	0.11	0.10	2.71	27.93
	NORMAL	7,165.0	0.70	72.56	7,144.29	385.42	230.97	449.33	0.38	-0.38	-0.66	181.21

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 (°)
12/30/2011	NORMAL	7,259.0	1.00	114.03	7,238.28	385.26	232.27	449.86	0.71	0.32	44.12	85.74
	NORMAL	7,351.0	1.32	131.01	7,330.27	384.24	233.80	449.77	0.51	0.35	18.46	55.75
	NORMAL	7,446.0	1.49	165.99	7,425.24	382.32	234.92	448.71	0.91	0.18	36.82	96.62
	NORMAL	7,539.0	2.02	167.57	7,518.20	379.54	235.57	446.67	0.57	0.57	1.70	6.01
12/31/2011	NORMAL	7,632.0	1.28	191.59	7,611.16	376.93	235.71	444.50	1.07	-0.80	25.83	148.52
	NORMAL	7,727.0	0.35	172.58	7,706.15	375.60	235.54	443.27	1.01	-0.98	-20.01	186.85
	NORMAL	7,820.0	0.35	148.59	7,799.14	375.08	235.72	442.92	0.16	0.00	-25.80	258.01
	NORMAL	7,866.0	0.70	151.23	7,845.14	374.71	235.93	442.71	0.76	0.76	5.74	5.27
	NORMAL	7,926.0	0.70	151.23	7,905.14	374.07	236.28	442.34	0.00	0.00	0.00	0.00

2.2 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	12/24/2011	Ended	
Tool Name	MWD	Engineer	

2.2.1 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

2.2.2 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 (°)
12/24/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00