

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	RWF 312-32	Wellbore No.	1
Well Name	RWF 312-32	Common Name	RWF 312-32
Project	RU 32-06S-094W	Site	RWF 11-32 Pad
Vertical Section Azimuth	248.31 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	7/13/2012	UWI	RWF 312-32
Active Datum	KB @5,560.2ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	7/13/2012	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

5899

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 (°)
7/13/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/13/2012	NORMAL	73.0	0.62	355.61	73.00	0.39	-0.03	-0.12	0.85	0.85	0.00	355.61
	NORMAL	164.0	3.08	243.90	163.96	-0.19	-2.26	2.17	3.69	2.70	-122.76	238.43
	NORMAL	254.0	3.43	245.65	253.81	-2.36	-6.89	7.27	0.40	0.39	1.94	16.72
	NORMAL	344.0	5.63	247.85	343.52	-5.14	-13.43	14.38	2.45	2.44	2.44	5.61
	NORMAL	434.0	9.15	251.02	432.76	-9.13	-24.29	25.95	3.94	3.91	3.52	8.18
	NORMAL	525.0	12.58	248.29	522.12	-15.15	-40.34	43.09	3.81	3.77	-3.00	350.12
	NORMAL	615.0	15.13	247.24	609.49	-23.32	-60.28	64.64	2.85	2.83	-1.17	353.86
	NORMAL	686.0	15.80	247.22	677.92	-30.65	-77.74	83.56	0.94	0.94	-0.03	359.53
	NORMAL	777.0	15.24	247.76	765.60	-39.98	-100.23	107.91	0.64	-0.62	0.59	165.79
	NORMAL	868.0	15.54	246.62	853.34	-49.34	-122.49	132.06	0.47	0.33	-1.25	314.21
	NORMAL	959.0	14.00	249.20	941.33	-58.09	-143.97	155.25	1.84	-1.69	2.84	158.12
	NORMAL	1,053.0	14.47	248.82	1,032.45	-66.37	-165.55	178.36	0.51	0.50	-0.40	348.57
	NORMAL	1,111.0	15.01	247.47	1,088.54	-71.86	-179.25	193.12	1.10	0.93	-2.33	326.89
7/15/2012	NORMAL	1,209.0	16.09	246.87	1,182.95	-82.06	-203.46	219.38	1.11	1.10	-0.61	351.24
	NORMAL	1,240.0	16.12	247.42	1,212.73	-85.40	-211.38	227.98	0.50	0.10	1.77	79.14
	NORMAL	1,334.0	15.59	246.10	1,303.16	-95.53	-234.98	253.65	0.68	-0.56	-1.40	213.60
	NORMAL	1,428.0	15.80	247.44	1,393.65	-105.56	-258.35	279.07	0.45	0.22	1.43	60.56
	NORMAL	1,522.0	14.73	249.34	1,484.33	-114.68	-281.35	303.81	1.26	-1.14	2.02	155.86
	NORMAL	1,616.0	14.70	249.89	1,575.25	-123.00	-303.73	327.68	0.15	-0.03	0.59	102.39
	NORMAL	1,709.0	14.90	250.61	1,665.17	-131.03	-326.09	351.43	0.29	0.22	0.77	42.95

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 (°)
7/15/2012	NORMAL	1,803.0	14.94	249.28	1,756.00	-139.33	-348.82	375.62	0.37	0.04	-1.41	276.02
	NORMAL	1,896.0	14.02	251.33	1,846.04	-147.17	-370.71	398.85	1.13	-0.99	2.20	151.86
	NORMAL	1,991.0	14.41	247.40	1,938.14	-155.40	-392.52	422.16	1.10	0.41	-4.14	290.09
	NORMAL	2,085.0	14.12	247.65	2,029.24	-164.25	-413.93	445.32	0.32	-0.31	0.27	168.13
	NORMAL	2,178.0	13.39	246.25	2,119.57	-172.91	-434.27	467.43	0.86	-0.78	-1.51	203.83
	NORMAL	2,273.0	14.72	250.23	2,211.73	-181.42	-455.70	490.49	1.73	1.40	4.19	37.95
	NORMAL	2,367.0	14.32	248.67	2,302.72	-189.69	-477.77	514.05	0.60	-0.43	-1.66	223.60
	NORMAL	2,459.0	14.74	248.18	2,391.78	-198.18	-499.23	537.13	0.48	0.46	-0.53	343.45
	NORMAL	2,553.0	14.95	249.59	2,482.64	-206.85	-521.70	561.21	0.44	0.22	1.50	60.51
	NORMAL	2,647.0	14.63	250.56	2,573.53	-215.03	-544.26	585.19	0.43	-0.34	1.03	142.74
	NORMAL	2,740.0	14.99	247.85	2,663.44	-223.47	-566.47	608.96	0.84	0.39	-2.91	296.15
	NORMAL	2,833.0	14.12	248.33	2,753.46	-232.20	-588.15	632.33	0.94	-0.94	0.52	172.34
	NORMAL	2,927.0	14.80	245.79	2,844.48	-241.35	-609.76	655.79	0.99	0.72	-2.70	315.76
	NORMAL	3,020.0	14.77	246.87	2,934.40	-250.88	-631.50	679.51	0.30	-0.03	1.16	96.73
	NORMAL	3,114.0	14.16	247.04	3,025.42	-260.07	-653.10	702.98	0.65	-0.65	0.18	176.10
	NORMAL	3,208.0	14.89	245.19	3,116.41	-269.63	-674.65	726.53	0.92	0.78	-1.97	326.66
	NORMAL	3,302.0	14.89	246.86	3,207.26	-279.44	-696.72	750.67	0.46	0.00	1.78	90.81
	NORMAL	3,395.0	14.33	245.65	3,297.25	-288.88	-718.19	774.11	0.69	-0.60	-1.30	208.01
	NORMAL	3,488.0	15.21	246.26	3,387.18	-298.54	-739.85	797.80	0.96	0.95	0.66	10.32
	NORMAL	3,583.0	14.90	247.90	3,478.92	-308.15	-762.57	822.46	0.55	-0.33	1.73	126.83
	NORMAL	3,677.0	14.51	251.96	3,569.84	-316.34	-784.96	846.30	1.17	-0.41	4.32	112.68
	NORMAL	3,770.0	15.43	251.48	3,659.68	-323.88	-807.77	870.28	1.00	0.99	-0.52	352.09
	NORMAL	3,864.0	15.95	249.94	3,750.18	-332.28	-831.76	895.68	0.71	0.55	-1.64	320.57
	NORMAL	3,958.0	14.83	252.95	3,840.81	-340.24	-855.40	920.58	1.46	-1.19	3.20	145.95
	NORMAL	4,052.0	14.76	252.44	3,931.69	-347.38	-878.31	944.51	0.16	-0.07	-0.54	241.50
	NORMAL	4,146.0	13.63	250.47	4,022.82	-354.70	-900.17	967.53	1.31	-1.20	-2.10	202.19
	NORMAL	4,239.0	13.43	251.44	4,113.24	-361.80	-920.74	989.26	0.33	-0.22	1.04	131.86
7/16/2012	NORMAL	4,333.0	12.11	250.69	4,204.91	-368.52	-940.40	1,010.01	1.42	-1.40	-0.80	186.79
	NORMAL	4,427.0	12.24	247.89	4,296.80	-375.53	-958.93	1,029.83	0.64	0.14	-2.98	281.04
	NORMAL	4,521.0	11.34	245.90	4,388.82	-383.05	-976.60	1,049.03	1.05	-0.96	-2.12	203.34
	NORMAL	4,614.0	11.51	246.19	4,479.97	-390.53	-993.44	1,067.43	0.19	0.18	0.31	18.81
	NORMAL	4,706.0	10.72	246.13	4,570.25	-397.70	-1,009.66	1,085.16	0.86	-0.86	-0.07	180.81
	NORMAL	4,800.0	8.98	246.45	4,662.86	-404.17	-1,024.38	1,101.23	1.85	-1.85	0.34	178.36
	NORMAL	4,892.0	8.87	250.76	4,753.75	-409.37	-1,037.66	1,115.49	0.74	-0.12	4.68	101.47
	NORMAL	4,987.0	7.70	246.52	4,847.75	-414.32	-1,050.41	1,129.17	1.39	-1.23	-4.46	205.49
	NORMAL	5,081.0	6.68	24.48	4,941.44	-411.85	-1,053.94	1,131.53	14.28	-1.09	146.77	160.39
	NORMAL	5,174.0	5.45	246.08	5,034.22	-408.70	-1,055.74	1,132.04	12.20	-1.32	-148.82	198.70
	NORMAL	5,268.0	5.28	246.95	5,127.81	-412.21	-1,063.80	1,140.83	0.20	-0.18	0.93	154.86
	NORMAL	5,364.0	5.19	246.69	5,223.40	-415.65	-1,071.85	1,149.58	0.10	-0.09	-0.27	194.64
	NORMAL	5,459.0	4.31	238.08	5,318.08	-419.24	-1,078.83	1,157.39	1.19	-0.93	-9.06	214.78
	NORMAL	5,554.0	4.13	243.70	5,412.82	-422.65	-1,084.93	1,164.31	0.47	-0.19	5.92	116.31
	NORMAL	5,648.0	4.04	243.53	5,506.58	-425.62	-1,090.93	1,170.99	0.10	-0.10	-0.18	187.58
	NORMAL	5,744.0	4.04	235.44	5,602.35	-429.05	-1,096.74	1,177.65	0.59	0.00	-8.43	265.97
7/17/2012	NORMAL	5,840.0	2.61	241.00	5,698.18	-432.02	-1,101.43	1,183.12	1.53	-1.49	5.79	170.06
	NORMAL	5,936.0	1.78	276.57	5,794.11	-432.91	-1,104.83	1,186.60	1.62	-0.86	37.05	138.29
	NORMAL	6,032.0	0.90	343.75	5,890.09	-432.02	-1,106.52	1,187.84	1.72	-0.92	69.98	149.89
	NORMAL	6,127.0	0.85	337.81	5,985.08	-430.65	-1,107.00	1,187.78	0.11	-0.05	-6.25	238.19
	NORMAL	6,223.0	1.06	328.52	6,081.07	-429.23	-1,107.73	1,187.94	0.27	0.22	-9.68	318.89
7/18/2012	NORMAL	6,319.0	0.24	2.01	6,177.06	-428.28	-1,108.18	1,188.01	0.91	-0.85	34.89	171.24
	NORMAL	6,416.0	0.35	88.24	6,274.06	-428.06	-1,107.88	1,187.65	0.42	0.11	88.90	121.85
	NORMAL	6,512.0	0.79	84.27	6,370.05	-427.99	-1,106.93	1,186.73	0.46	0.46	-4.14	352.88
	NORMAL	6,607.0	0.64	90.45	6,465.05	-427.93	-1,105.75	1,185.61	0.18	-0.16	6.51	155.86
	NORMAL	6,702.0	0.44	357.87	6,560.04	-427.57	-1,105.23	1,185.00	0.83	-0.21	-97.45	213.67
	NORMAL	6,796.0	0.48	219.49	6,654.04	-427.51	-1,105.49	1,185.22	0.91	0.04	-147.21	201.76
7/19/2012	NORMAL	6,891.0	0.35	131.73	6,749.04	-428.01	-1,105.53	1,185.44	0.61	-0.14	-92.38	216.87
	NORMAL	6,985.0	0.44	128.04	6,843.04	-428.42	-1,105.03	1,185.13	0.10	0.10	-3.93	342.37
	NORMAL	7,080.0	0.18	5.61	6,938.04	-428.50	-1,104.73	1,184.88	0.59	-0.27	-128.87	195.81

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 (°)
7/19/2012	NORMAL	7,174.0	0.26	15.10	7,032.04	-428.15	-1,104.66	1,184.68	0.09	0.09	10.10	29.28
	NORMAL	7,267.0	0.33	339.96	7,125.04	-427.69	-1,104.70	1,184.55	0.20	0.08	-37.78	272.97
	NORMAL	7,361.0	0.88	19.14	7,219.03	-426.76	-1,104.55	1,184.07	0.70	0.59	41.68	57.65
7/20/2012	NORMAL	7,456.0	0.24	96.84	7,314.03	-426.09	-1,104.12	1,183.42	0.91	-0.67	81.79	164.20
	NORMAL	7,549.0	0.35	344.43	7,407.03	-425.84	-1,104.00	1,183.22	0.53	0.12	-120.87	220.91
	NORMAL	7,644.0	1.60	18.93	7,502.01	-424.31	-1,103.65	1,182.32	1.40	1.32	36.32	43.09
	NORMAL	7,738.0	1.41	350.05	7,595.98	-421.93	-1,103.42	1,181.23	0.82	-0.20	-30.72	241.79
	NORMAL	7,832.0	1.32	337.66	7,689.95	-419.78	-1,104.03	1,181.01	0.33	-0.10	-13.18	246.91
7/21/2012	NORMAL	7,925.0	0.79	5.26	7,782.94	-418.16	-1,104.38	1,180.73	0.77	-0.57	29.68	149.44
7/22/2012	NORMAL	8,020.0	0.44	20.90	7,877.93	-417.16	-1,104.19	1,180.19	0.41	-0.37	16.46	162.06
	NORMAL	8,075.0	0.35	63.00	7,932.93	-416.89	-1,103.97	1,179.88	0.54	-0.16	76.55	127.54
	NORMAL	8,140.0	0.35	63.00	7,997.93	-416.71	-1,103.61	1,179.48	0.00	0.00	0.00	0.00