

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	RWF 324-36	Wellbore No.	
Well Name	RWF 324-36	Common Name	RWF 324-36
Project	RU 36-06S-094W	Site	RWF 33-36 Pad
Vertical Section Azimuth	196.98 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	12/8/2012	UWI	RWF 324-36
Active Datum	KB @6,554.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	12/8/2012	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

6241

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 (°)
12/8/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/8/2012	NORMAL	89.0	0.62	80.07	89.00	0.08	0.47	-0.22	0.70	0.70	0.00	80.07
	NORMAL	179.0	1.58	182.29	178.99	-1.07	0.90	0.76	2.02	1.07	113.58	121.71
	NORMAL	240.0	3.34	203.47	239.93	-3.54	0.16	3.34	3.20	2.89	34.72	38.17
	NORMAL	330.0	5.01	202.32	329.69	-9.58	-2.37	9.86	1.86	1.86	-1.28	356.56
	NORMAL	420.0	6.95	199.86	419.19	-18.34	-5.72	19.21	2.17	2.16	-2.73	351.25
12/9/2012	NORMAL	511.0	10.29	196.70	509.15	-31.31	-9.92	32.84	3.71	3.67	-3.47	350.36
	NORMAL	602.0	14.08	196.52	598.09	-49.71	-15.41	52.04	4.17	4.16	-0.20	359.34
	NORMAL	692.0	16.36	197.67	684.92	-72.29	-22.37	75.67	2.56	2.53	1.28	8.10
	NORMAL	783.0	15.22	195.91	772.49	-95.99	-29.53	100.43	1.36	-1.25	-1.93	201.94
	NORMAL	853.0	15.64	194.79	839.97	-113.95	-34.46	119.04	0.74	0.60	-1.60	324.10
	NORMAL	944.0	16.62	194.09	927.38	-138.43	-40.76	144.30	1.10	1.08	-0.77	348.44
	NORMAL	1,034.0	15.56	194.10	1,013.86	-162.62	-46.84	169.21	1.18	-1.18	0.01	179.85
	NORMAL	1,093.0	15.65	194.04	1,070.68	-178.02	-50.69	185.06	0.15	0.15	-0.10	349.80
12/11/2012	NORMAL	1,192.0	16.22	192.90	1,165.88	-204.45	-57.02	212.19	0.66	0.58	-1.15	330.68
	NORMAL	1,256.0	16.56	194.86	1,227.28	-221.98	-61.36	230.22	1.01	0.53	3.06	59.36
	NORMAL	1,351.0	16.44	194.66	1,318.36	-248.07	-68.23	257.18	0.14	-0.13	-0.21	205.24
	NORMAL	1,447.0	16.76	198.88	1,410.37	-274.31	-76.15	284.59	1.30	0.33	4.40	77.16
	NORMAL	1,543.0	17.00	198.96	1,502.23	-300.68	-85.19	312.45	0.25	0.25	0.08	5.57
	NORMAL	1,639.0	16.93	197.92	1,594.05	-327.25	-94.05	340.45	0.32	-0.07	-1.08	256.51
	NORMAL	1,734.0	16.18	197.88	1,685.11	-353.01	-102.37	367.52	0.79	-0.79	-0.04	180.85

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 (°)
12/11/2012	NORMAL	1,830.0	15.50	197.69	1,777.47	-377.96	-110.37	393.72	0.71	-0.71	-0.20	184.27
	NORMAL	1,925.0	14.79	197.21	1,869.17	-401.64	-117.82	418.53	0.76	-0.75	-0.51	189.79
	NORMAL	2,021.0	14.34	196.40	1,962.08	-424.75	-124.80	442.68	0.51	-0.47	-0.84	203.96
	NORMAL	2,117.0	13.79	195.69	2,055.20	-447.17	-131.25	466.00	0.60	-0.57	-0.74	197.07
	NORMAL	2,213.0	14.86	197.37	2,148.22	-469.93	-138.02	489.75	1.20	1.11	1.75	22.05
	NORMAL	2,308.0	15.59	196.06	2,239.88	-493.82	-145.19	514.70	0.85	0.77	-1.38	334.13
	NORMAL	2,402.0	15.88	195.39	2,330.36	-518.36	-152.09	540.18	0.36	0.31	-0.71	327.61
	NORMAL	2,498.0	15.36	194.91	2,422.82	-543.31	-158.85	566.02	0.56	-0.54	-0.50	193.73
	NORMAL	2,593.0	16.08	198.41	2,514.26	-567.95	-166.24	591.74	1.25	0.76	3.68	54.49
	NORMAL	2,688.0	15.99	198.35	2,605.57	-592.86	-174.52	617.98	0.10	-0.09	-0.06	190.41
	NORMAL	2,784.0	15.88	197.74	2,697.88	-617.92	-182.68	644.33	0.21	-0.11	-0.64	236.41
	NORMAL	2,879.0	15.32	198.02	2,789.38	-642.23	-190.53	669.87	0.59	-0.59	0.29	172.48
	NORMAL	2,971.0	16.44	198.44	2,877.87	-666.14	-198.40	695.04	1.22	1.22	0.46	6.06
	NORMAL	3,067.0	16.80	198.53	2,969.86	-692.18	-207.11	722.49	0.38	0.38	0.09	4.13
	NORMAL	3,162.0	17.06	198.35	3,060.74	-718.42	-215.86	750.14	0.28	0.27	-0.19	348.52
	NORMAL	3,257.0	17.49	197.75	3,151.45	-745.25	-224.60	778.35	0.49	0.45	-0.63	337.21
	NORMAL	3,353.0	16.00	198.96	3,243.38	-771.50	-233.30	806.00	1.59	-1.55	1.26	167.41
	NORMAL	3,448.0	16.16	198.57	3,334.66	-796.41	-241.76	832.30	0.20	0.17	-0.41	325.79
	NORMAL	3,544.0	16.41	198.28	3,426.81	-821.95	-250.27	859.21	0.27	0.26	-0.30	341.84
12/12/2012	NORMAL	3,639.0	14.68	198.96	3,518.33	-846.08	-258.39	884.66	1.83	-1.82	0.72	174.31
	NORMAL	3,734.0	14.86	199.32	3,610.19	-868.96	-266.33	908.86	0.21	0.19	0.38	27.19
	NORMAL	3,830.0	15.23	196.45	3,702.90	-892.67	-273.97	933.77	0.87	0.39	-2.99	295.02
	NORMAL	3,925.0	15.04	196.33	3,794.61	-916.47	-280.97	958.57	0.20	-0.20	-0.13	189.31
	NORMAL	4,021.0	14.55	195.46	3,887.43	-940.04	-287.69	983.08	0.56	-0.51	-0.91	203.97
	NORMAL	4,116.0	14.35	194.74	3,979.42	-962.93	-293.87	1,006.77	0.28	-0.21	-0.76	221.59
	NORMAL	4,212.0	15.63	196.34	4,072.15	-986.85	-300.53	1,031.59	1.40	1.33	1.67	18.69
	NORMAL	4,307.0	15.89	197.43	4,163.58	-1,011.54	-308.03	1,057.40	0.41	0.27	1.15	49.24
	NORMAL	4,402.0	15.63	196.96	4,255.01	-1,036.19	-315.66	1,083.20	0.30	-0.27	-0.49	205.92
	NORMAL	4,498.0	15.36	196.54	4,347.52	-1,060.74	-323.05	1,108.84	0.30	-0.28	-0.44	202.36
	NORMAL	4,594.0	15.92	196.97	4,439.97	-1,085.53	-330.51	1,134.72	0.60	0.58	0.45	11.90
	NORMAL	4,690.0	16.43	197.42	4,532.17	-1,111.07	-338.42	1,161.47	0.55	0.53	0.47	14.03
	NORMAL	4,785.0	17.09	197.93	4,623.13	-1,137.17	-346.74	1,188.86	0.71	0.69	0.54	12.81
	NORMAL	4,881.0	15.74	198.43	4,715.22	-1,162.95	-355.20	1,215.98	1.41	-1.41	0.52	174.26
	NORMAL	4,977.0	15.30	197.03	4,807.71	-1,187.41	-363.02	1,241.66	0.60	-0.46	-1.46	219.74
	NORMAL	5,073.0	15.39	199.05	4,900.29	-1,211.56	-370.89	1,267.06	0.56	0.09	2.10	81.42
	NORMAL	5,168.0	15.74	199.14	4,991.81	-1,235.65	-379.23	1,292.54	0.37	0.37	0.09	3.99
	NORMAL	5,262.0	15.04	196.50	5,082.44	-1,259.39	-386.87	1,317.47	1.05	-0.74	-2.81	223.76
	NORMAL	5,357.0	14.59	195.22	5,174.28	-1,282.76	-393.52	1,341.76	0.59	-0.47	-1.35	215.41
	NORMAL	5,453.0	12.75	196.50	5,267.56	-1,304.58	-399.70	1,364.44	1.94	-1.92	1.33	171.29
12/13/2012	NORMAL	5,547.0	11.27	194.30	5,359.50	-1,323.43	-404.91	1,383.99	1.65	-1.57	-2.34	196.11
	NORMAL	5,643.0	9.75	196.74	5,453.88	-1,340.30	-409.57	1,401.49	1.65	-1.58	2.54	164.88
	NORMAL	5,738.0	8.18	195.51	5,547.72	-1,354.52	-413.70	1,416.29	1.66	-1.65	-1.29	186.35
	NORMAL	5,834.0	7.94	196.57	5,642.77	-1,367.46	-417.41	1,429.75	0.29	-0.25	1.10	148.76
	NORMAL	5,929.0	6.91	198.92	5,736.98	-1,379.15	-421.14	1,442.02	1.13	-1.08	2.47	164.74
	NORMAL	6,022.0	5.28	193.52	5,829.45	-1,388.61	-423.95	1,451.88	1.86	-1.75	-5.81	196.71
	NORMAL	6,118.0	3.78	189.91	5,925.15	-1,396.02	-425.53	1,459.43	1.59	-1.56	-3.76	188.97
12/14/2012	NORMAL	6,213.0	2.40	181.43	6,020.01	-1,401.09	-426.12	1,464.46	1.53	-1.45	-8.93	194.12
	NORMAL	6,309.0	1.41	178.40	6,115.95	-1,404.28	-426.14	1,467.51	1.04	-1.03	-3.16	184.30
	NORMAL	6,404.0	0.75	179.52	6,210.93	-1,406.07	-426.10	1,469.21	0.70	-0.69	1.18	178.73
	NORMAL	6,500.0	0.44	212.88	6,306.93	-1,407.01	-426.29	1,470.17	0.47	-0.32	34.75	147.68
	NORMAL	6,596.0	0.34	156.89	6,402.93	-1,407.58	-426.38	1,470.74	0.39	-0.10	-58.32	228.45
	NORMAL	6,691.0	0.26	205.20	6,497.93	-1,408.04	-426.36	1,471.17	0.27	-0.08	50.85	130.71
	NORMAL	6,787.0	0.88	197.91	6,593.92	-1,408.93	-426.68	1,472.12	0.65	0.65	-7.59	349.67
	NORMAL	6,882.0	0.35	89.54	6,688.92	-1,409.63	-426.62	1,472.76	1.10	-0.56	-114.07	198.54
	NORMAL	6,978.0	0.18	26.88	6,784.92	-1,409.49	-426.26	1,472.53	0.32	-0.18	-65.27	210.88
	NORMAL	7,074.0	0.26	198.96	6,880.92	-1,409.56	-426.26	1,472.60	0.46	0.08	179.25	175.32
	NORMAL	7,169.0	0.18	301.27	6,975.91	-1,409.69	-426.46	1,472.78	0.36	-0.08	107.69	149.48

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 (°)
12/15/2012	NORMAL	7,265.0	0.26	274.99	7,071.91	-1,409.59	-426.80	1,472.78	0.13	0.08	-27.38	294.77
	NORMAL	7,360.0	0.71	240.78	7,166.91	-1,409.86	-427.53	1,473.25	0.54	0.47	-36.01	309.34
	NORMAL	7,456.0	0.24	20.32	7,262.91	-1,409.96	-427.98	1,473.48	0.94	-0.49	145.35	170.10
	NORMAL	7,552.0	0.14	234.13	7,358.91	-1,409.84	-428.00	1,473.37	0.38	-0.10	-152.28	192.33
	NORMAL	7,647.0	0.81	275.39	7,453.90	-1,409.85	-428.77	1,473.60	0.75	0.71	43.43	48.72
	NORMAL	7,743.0	0.93	313.13	7,549.89	-1,409.25	-430.01	1,473.39	0.60	0.12	39.31	97.46
	NORMAL	7,838.0	0.61	334.04	7,644.89	-1,408.27	-430.80	1,472.68	0.44	-0.34	22.01	148.85
	NORMAL	7,934.0	0.57	269.48	7,740.88	-1,407.81	-431.50	1,472.45	0.66	-0.04	-67.25	234.65
	NORMAL	8,030.0	0.18	300.13	7,836.88	-1,407.74	-432.10	1,472.56	0.44	-0.41	31.93	167.54
	NORMAL	8,125.0	0.35	41.38	7,931.88	-1,407.45	-432.04	1,472.27	0.45	0.18	106.58	125.88
	NORMAL	8,221.0	0.44	22.74	8,027.88	-1,406.89	-431.71	1,471.63	0.16	0.09	-19.42	295.45
	NORMAL	8,317.0	0.44	276.31	8,123.87	-1,406.51	-431.93	1,471.33	0.73	0.00	-110.86	216.79
	NORMAL	8,412.0	0.47	242.36	8,218.87	-1,406.65	-432.64	1,471.67	0.28	0.03	-35.74	259.19
	NORMAL	8,507.0	1.23	227.35	8,313.86	-1,407.52	-433.73	1,472.83	0.83	0.80	-15.80	336.08
12/16/2012	NORMAL	8,603.0	1.74	232.66	8,409.83	-1,409.10	-435.65	1,474.90	0.55	0.53	5.53	17.76
	NORMAL	8,699.0	2.18	222.54	8,505.77	-1,411.33	-438.04	1,477.73	0.58	0.46	-10.54	316.68
	NORMAL	8,794.0	2.37	219.85	8,600.70	-1,414.17	-440.52	1,481.17	0.23	0.20	-2.83	329.32
	NORMAL	8,884.0	2.81	223.31	8,690.61	-1,417.20	-443.23	1,484.86	0.52	0.49	3.84	21.30
12/17/2012	NORMAL	8,940.0	2.81	223.31	8,746.54	-1,419.20	-445.11	1,487.32	0.00	0.00	0.00	0.00