

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	RWF 32-36	Wellbore No.	
Well Name	RWF 32-36	Common Name	RWF 32-36
Project	RU 36-06S-094W	Site	RWF 32-36 Pad
Vertical Section Azimuth	247.14 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	11/7/2011	UWI	RWF 32-36
Active Datum	KB @6,451.4ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	11/7/2011	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

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 (°)
11/7/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/7/2011	NORMAL	87.0	0.35	49.13	87.00	0.17	0.20	-0.25	0.40	0.40	0.00	49.13
	NORMAL	178.0	0.70	231.15	178.00	0.01	-0.02	0.02	1.15	0.38	-195.58	181.35
	NORMAL	268.0	2.46	257.61	267.96	-0.75	-2.34	2.45	2.07	1.96	29.40	36.11
	NORMAL	360.0	3.52	249.43	359.83	-2.17	-6.91	7.21	1.24	1.15	-8.89	333.96
	NORMAL	360.0	3.52	249.43	359.82	-1.71	-7.75	7.21	1.24	1.15	-8.89	333.96
	NORMAL	431.0	3.78	248.68	430.68	-3.33	-11.97	12.32	0.37	0.37	-1.06	349.22
	NORMAL	431.0	3.78	248.68	430.69	-3.79	-11.13	12.32	0.37	0.37	-1.06	349.22
	NORMAL	522.0	3.96	221.96	521.48	-6.76	-16.86	17.57	1.97	0.20	-29.36	262.27
	NORMAL	522.0	3.96	221.96	521.49	-7.21	-16.03	18.17	1.97	0.20	-29.36	262.27
	NORMAL	614.0	2.81	234.09	613.33	-10.90	-19.98	22.64	1.47	-1.25	13.18	154.04
	NORMAL	614.0	2.81	234.09	613.32	-10.44	-20.82	22.64	1.47	-1.25	13.18	154.04
	NORMAL	705.0	3.52	260.37	704.18	-12.22	-25.38	28.13	1.75	0.78	28.88	77.45
	NORMAL	705.0	3.52	260.37	704.19	-12.67	-24.54	28.13	1.75	0.78	28.88	77.45
	NORMAL	796.0	3.08	261.95	795.04	-13.48	-29.71	32.62	0.49	-0.48	1.74	169.11
	NORMAL	796.0	3.08	261.95	795.03	-13.03	-30.55	32.62	0.49	-0.48	1.74	169.11
	NORMAL	888.0	3.57	228.11	886.90	-15.74	-34.29	38.31	2.16	0.53	-36.78	266.73
	NORMAL	888.0	3.57	228.11	886.89	-15.29	-35.13	37.71	2.16	0.53	-36.78	266.73
	NORMAL	980.0	3.69	232.86	978.71	-19.44	-38.78	43.89	0.35	0.13	5.16	70.63
	NORMAL	980.0	3.69	232.86	978.70	-18.99	-39.62	43.29	0.35	0.13	5.16	70.63
	NORMAL	1,065.0	4.40	249.29	1,063.50	-22.25	-44.02	49.80	1.59	0.84	19.33	66.88

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 (°)
11/7/2011	NORMAL	1,065.0	4.40	249.29	1,063.49	-21.79	-44.85	49.20	1.59	0.84	19.33	66.88
11/9/2011	NORMAL	1,167.0	4.47	250.11	1,165.20	-24.98	-51.41	57.68	0.09	0.07	0.80	42.58
	NORMAL	1,263.0	4.71	257.62	1,260.89	-27.10	-58.78	64.69	0.67	0.25	7.82	72.00
	NORMAL	1,358.0	3.87	245.11	1,355.63	-29.29	-65.50	71.73	1.32	-0.88	-13.17	221.96
	NORMAL	1,454.0	2.56	226.21	1,451.48	-32.13	-69.99	76.97	1.74	-1.36	-19.69	209.80
	NORMAL	1,549.0	3.33	237.81	1,546.35	-35.07	-73.85	81.68	1.02	0.81	12.21	43.63
	NORMAL	1,645.0	3.43	251.23	1,642.18	-37.48	-78.93	87.29	0.83	0.10	13.98	89.53
	NORMAL	1,741.0	3.75	253.84	1,738.00	-39.28	-84.67	93.27	0.37	0.33	2.72	28.36
	NORMAL	1,836.0	2.76	243.19	1,832.84	-41.17	-89.69	98.64	1.22	-1.04	-11.21	206.17
	NORMAL	1,930.0	2.83	242.23	1,926.73	-43.28	-93.76	103.21	0.09	0.07	-1.02	325.75
	NORMAL	2,026.0	3.14	248.61	2,022.60	-45.34	-98.31	108.20	0.47	0.32	6.65	50.20
	NORMAL	2,121.0	3.22	251.03	2,117.45	-47.16	-103.25	113.46	0.16	0.08	2.55	60.42
	NORMAL	2,217.0	2.77	243.94	2,213.32	-49.05	-107.89	118.47	0.61	-0.47	-7.39	215.96
	NORMAL	2,313.0	3.18	253.93	2,309.19	-50.81	-112.53	123.43	0.69	0.43	10.41	56.72
	NORMAL	2,408.0	3.52	251.56	2,404.03	-52.46	-117.83	128.95	0.39	0.36	-2.49	336.65
	NORMAL	2,503.0	3.35	247.09	2,498.86	-54.46	-123.15	134.64	0.33	-0.18	-4.71	235.38
	NORMAL	2,596.0	2.81	250.61	2,591.73	-56.28	-127.81	139.63	0.61	-0.58	3.78	162.45
	NORMAL	2,691.0	2.81	244.19	2,686.61	-58.06	-132.10	144.28	0.33	0.00	-6.76	266.79
	NORMAL	2,787.0	2.81	248.24	2,782.50	-59.96	-136.40	148.98	0.21	0.00	4.22	92.02
	NORMAL	2,882.0	3.08	255.18	2,877.37	-61.48	-141.03	153.84	0.47	0.28	7.31	56.36
	NORMAL	2,978.0	3.08	255.36	2,973.23	-62.79	-146.02	158.94	0.01	0.00	0.19	90.09
	NORMAL	3,071.0	2.73	259.40	3,066.11	-63.83	-150.62	163.58	0.44	-0.38	4.34	151.68
	NORMAL	3,164.0	3.25	256.85	3,158.99	-64.83	-155.36	168.34	0.58	0.56	-2.74	344.38
	NORMAL	3,259.0	3.77	257.30	3,253.81	-66.13	-161.03	174.07	0.55	0.55	0.47	3.26
	NORMAL	3,355.0	3.69	253.95	3,349.61	-67.68	-167.08	180.25	0.24	-0.08	-3.49	248.18
	NORMAL	3,450.0	3.58	248.57	3,444.41	-69.61	-172.78	186.25	0.38	-0.12	-5.66	249.45
	NORMAL	3,546.0	3.87	252.64	3,540.21	-71.67	-178.66	192.47	0.41	0.30	4.24	44.40
	NORMAL	3,641.0	3.78	256.94	3,635.00	-73.34	-184.77	198.75	0.32	-0.09	4.53	109.56
	NORMAL	3,737.0	3.51	259.79	3,730.81	-74.57	-190.74	204.73	0.34	-0.28	2.97	147.55
	NORMAL	3,832.0	3.43	259.31	3,825.63	-75.62	-196.40	210.35	0.09	-0.08	-0.51	199.72
11/10/2011	NORMAL	3,926.0	2.69	254.51	3,919.50	-76.73	-201.29	215.28	0.83	-0.79	-5.11	196.71
	NORMAL	4,022.0	1.76	270.21	4,015.42	-77.32	-204.93	218.87	1.15	-0.97	16.35	154.44
	NORMAL	4,117.0	0.81	274.55	4,110.40	-77.26	-207.06	220.81	1.00	-1.00	4.57	176.32
	NORMAL	4,212.0	1.18	267.06	4,205.39	-77.26	-208.71	222.33	0.41	0.39	-7.88	336.86
	NORMAL	4,307.0	0.62	282.25	4,300.37	-77.20	-210.19	223.67	0.64	-0.59	15.99	164.40
	NORMAL	4,401.0	1.35	22.48	4,394.36	-76.07	-210.26	223.30	1.68	0.78	106.63	122.90
	NORMAL	4,496.0	1.89	32.33	4,489.33	-73.71	-208.99	221.21	0.64	0.57	10.37	32.26
	NORMAL	4,591.0	1.55	55.07	4,584.28	-71.65	-207.10	218.67	0.80	-0.36	23.94	127.54
	NORMAL	4,686.0	1.21	76.53	4,679.26	-70.68	-205.07	216.43	0.65	-0.36	22.59	133.76
	NORMAL	4,782.0	0.18	344.57	4,775.25	-70.30	-204.13	215.41	1.28	-1.07	-95.79	188.41
	NORMAL	4,878.0	0.30	245.67	4,871.25	-70.26	-204.40	215.64	0.39	0.12	-103.02	232.62
	NORMAL	4,973.0	0.51	238.03	4,966.25	-70.59	-204.98	216.30	0.23	0.22	-8.04	341.74
	NORMAL	5,069.0	0.84	229.18	5,062.24	-71.27	-205.88	217.39	0.36	0.34	-9.22	338.01
	NORMAL	5,164.0	0.79	234.09	5,157.23	-72.11	-206.93	218.70	0.09	-0.05	5.17	128.04
11/11/2011	NORMAL	5,260.0	0.81	199.52	5,253.22	-73.14	-207.70	219.80	0.50	0.02	-36.01	255.02
	NORMAL	5,355.0	0.68	189.69	5,348.21	-74.33	-208.02	220.55	0.19	-0.14	-10.35	219.67
	NORMAL	5,450.0	0.79	217.04	5,443.21	-75.41	-208.51	221.42	0.38	0.12	28.79	86.58
	NORMAL	5,546.0	0.53	194.27	5,539.20	-76.37	-209.01	222.26	0.38	-0.27	-23.72	214.25
	NORMAL	5,642.0	0.14	329.88	5,635.20	-76.69	-209.18	222.55	0.66	-0.41	141.26	171.16
	NORMAL	5,738.0	0.15	240.04	5,731.20	-76.66	-209.35	222.69	0.21	0.01	-93.58	227.06
11/12/2011	NORMAL	5,833.0	0.84	236.91	5,826.19	-77.10	-210.04	223.49	0.73	0.73	-3.29	356.19
	NORMAL	5,928.0	1.52	251.55	5,921.17	-77.88	-211.82	225.44	0.78	0.72	15.41	31.35
	NORMAL	6,024.0	1.17	272.92	6,017.15	-78.23	-214.01	227.59	0.63	-0.36	22.26	135.27
	NORMAL	6,119.0	0.78	297.63	6,112.13	-77.88	-215.55	228.87	0.59	-0.41	26.01	144.75
	NORMAL	6,215.0	0.78	331.94	6,208.13	-77.00	-216.43	229.35	0.48	0.00	35.74	107.15
	NORMAL	6,311.0	0.97	353.82	6,304.11	-75.62	-216.83	229.17	0.40	0.20	22.79	71.62
	NORMAL	6,406.0	0.97	11.11	6,399.10	-74.03	-216.76	228.49	0.31	0.00	18.20	98.64

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 (°)
11/13/2011	NORMAL	5,833.0	0.84	236.91	5,826.19	-77.10	-210.04	223.49	0.00	0.00	0.00	0.00
	NORMAL	5,928.0	1.52	251.55	5,921.17	-77.88	-211.82	225.44	0.00	0.00	0.00	0.00
	NORMAL	6,024.0	1.17	272.92	6,017.15	-78.23	-214.01	227.59	0.00	0.00	0.00	0.00
	NORMAL	6,119.0	0.78	297.63	6,112.13	-77.88	-215.55	228.87	0.00	0.00	0.00	0.00
	NORMAL	6,215.0	0.78	331.94	6,208.13	-77.00	-216.43	229.35	0.00	0.00	0.00	0.00
	NORMAL	6,311.0	0.97	353.82	6,304.11	-75.62	-216.83	229.17	0.00	0.00	0.00	0.00
	NORMAL	6,406.0	0.97	11.11	6,399.10	-74.03	-216.76	228.49	0.00	0.00	0.00	0.00
11/14/2011	NORMAL	6,977.0	1.03	121.25	6,970.05	-71.95	-211.44	222.78	0.29	0.01	19.29	143.87
	NORMAL	7,073.0	0.71	119.94	7,066.04	-72.69	-210.19	221.92	0.33	-0.33	-1.36	182.90
	NORMAL	7,168.0	0.69	147.80	7,161.04	-73.47	-209.37	221.47	0.36	-0.02	29.33	107.23
	NORMAL	7,263.0	0.59	201.80	7,256.03	-74.41	-209.25	221.72	0.62	-0.11	56.84	125.72
	NORMAL	7,358.0	0.70	243.93	7,351.02	-75.12	-209.95	222.64	0.50	0.12	44.35	98.58
	NORMAL	7,453.0	0.35	269.07	7,446.02	-75.38	-210.76	223.49	0.43	-0.37	26.46	158.79
	NORMAL	7,548.0	0.35	254.30	7,541.02	-75.46	-211.33	224.05	0.09	0.00	-15.55	262.62
	NORMAL	7,643.0	0.62	22.18	7,636.02	-75.06	-211.42	223.97	0.93	0.28	134.61	146.19
	NORMAL	7,739.0	0.81	44.23	7,732.01	-74.10	-210.75	222.98	0.34	0.20	22.97	66.73
	NORMAL	7,833.0	0.44	28.51	7,826.00	-73.30	-210.11	222.09	0.43	-0.39	-16.72	197.14
	NORMAL	7,929.0	0.88	151.91	7,922.00	-73.63	-209.59	221.73	1.23	0.46	128.54	141.52
	NORMAL	8,022.0	1.14	188.30	8,014.99	-75.17	-209.39	222.15	0.73	0.28	39.13	86.81
11/15/2011	NORMAL	8,118.0	1.23	223.72	8,110.97	-76.86	-210.24	223.59	0.76	0.09	36.90	100.92
	NORMAL	8,213.0	1.13	261.13	8,205.95	-77.75	-211.87	225.43	0.80	-0.11	39.38	115.84
	NORMAL	8,309.0	1.48	247.22	8,301.92	-78.37	-213.95	227.59	0.49	0.36	-14.49	310.76
	NORMAL	8,404.0	1.76	227.32	8,396.89	-79.84	-216.15	230.19	0.66	0.29	-20.95	286.28
	NORMAL	8,500.0	2.90	228.37	8,492.81	-82.45	-219.05	233.87	1.19	1.19	1.09	2.67
	NORMAL	8,596.0	2.62	222.32	8,588.69	-85.68	-222.34	238.17	0.42	-0.29	-6.30	223.14
	NORMAL	8,675.0	2.60	218.67	8,667.61	-88.42	-224.68	241.38	0.21	-0.03	-4.62	261.32
	NORMAL	8,732.0	2.60	218.67	8,724.55	-90.44	-226.29	243.65	0.00	0.00	0.00	0.00