

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	RWF 523-36	Wellbore No.	
Well Name	RWF 523-36	Common Name	RWF 523-36
Project	RU 36-06S-094W	Site	RWF 33-36 Pad
Vertical Section Azimuth	195.19 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	1/7/2013	UWI	RWF 523-36
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	1/7/2013	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 (°)
1/7/2013	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/7/2013	NORMAL	88.0	0.26	101.16	88.00	-0.04	0.20	-0.01	0.30	0.30	0.00	101.16
	NORMAL	149.0	0.79	205.75	149.00	-0.44	0.15	0.39	1.46	0.87	171.46	120.98
	NORMAL	240.0	1.76	182.99	239.97	-2.40	-0.20	2.37	1.18	1.07	-25.01	320.74
	NORMAL	330.0	3.78	199.34	329.87	-6.58	-1.25	6.68	2.39	2.24	18.17	29.66
	NORMAL	421.0	6.86	194.50	420.46	-14.68	-3.61	15.11	3.42	3.38	-5.32	349.29
1/9/2013	NORMAL	1,160.0	11.96	195.26	1,149.28	-131.36	-34.83	135.89	0.69	0.69	0.10	1.77
	NORMAL	1,256.0	12.18	198.41	1,243.16	-150.56	-40.65	155.95	0.72	0.23	3.28	73.08
	NORMAL	1,351.0	11.70	196.91	1,336.10	-169.29	-46.61	175.59	0.60	-0.51	-1.58	212.15
	NORMAL	1,447.0	11.26	197.64	1,430.18	-187.53	-52.29	194.68	0.48	-0.46	0.76	162.08
	NORMAL	1,543.0	12.40	195.70	1,524.14	-206.39	-57.91	214.35	1.26	1.19	-2.02	339.82
	NORMAL	1,639.0	12.01	198.12	1,617.97	-225.80	-63.81	234.63	0.67	-0.41	2.52	128.50
	NORMAL	1,734.0	12.98	192.19	1,710.72	-245.63	-69.14	255.16	1.69	1.02	-6.24	304.17
	NORMAL	1,830.0	12.66	191.75	1,804.33	-266.46	-73.56	276.43	0.35	-0.33	-0.46	196.75
	NORMAL	1,925.0	12.29	190.50	1,897.09	-286.60	-77.52	296.90	0.48	-0.39	-1.32	215.51
	NORMAL	2,021.0	12.43	196.40	1,990.87	-306.56	-82.30	317.41	1.32	0.15	6.15	86.56
	NORMAL	2,117.0	12.92	196.84	2,084.53	-326.74	-88.32	338.47	0.52	0.51	0.46	11.36
	NORMAL	2,213.0	13.10	192.78	2,178.07	-347.62	-93.84	360.06	0.97	0.19	-4.23	279.16
	NORMAL	2,308.0	12.19	192.44	2,270.76	-367.92	-98.38	380.84	0.96	-0.96	-0.36	184.51
	NORMAL	2,402.0	12.25	192.35	2,362.63	-387.35	-102.65	400.71	0.07	0.06	-0.10	342.34
	NORMAL	2,498.0	12.08	192.08	2,456.47	-407.12	-106.93	420.91	0.19	-0.18	-0.28	198.37

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 (°)
1/9/2013	NORMAL	2,593.0	11.79	191.41	2,549.42	-426.35	-110.93	440.53	0.34	-0.31	-0.71	205.21
	NORMAL	2,688.0	11.88	197.99	2,642.41	-445.17	-115.87	459.98	1.42	0.09	6.93	89.41
	NORMAL	2,784.0	11.83	198.52	2,736.36	-463.90	-122.05	479.67	0.12	-0.05	0.55	114.92
	NORMAL	2,879.0	11.44	197.41	2,829.41	-482.12	-127.96	498.81	0.47	-0.41	-1.17	209.31
	NORMAL	2,971.0	11.24	197.23	2,919.61	-499.39	-133.35	516.88	0.22	-0.22	-0.20	189.95
	NORMAL	3,067.0	11.00	197.42	3,013.81	-517.07	-138.86	535.39	0.25	-0.25	0.20	171.41
	NORMAL	3,162.0	10.72	197.87	3,107.11	-534.12	-144.29	553.27	0.31	-0.29	0.47	163.37
	NORMAL	3,257.0	10.55	197.02	3,200.47	-550.85	-149.54	570.79	0.24	-0.18	-0.89	222.28
	NORMAL	3,353.0	11.87	196.11	3,294.64	-568.72	-154.90	589.44	1.38	1.38	-0.65	354.48
	NORMAL	3,448.0	11.98	195.17	3,387.59	-587.61	-160.24	609.07	0.29	0.12	-1.29	292.80
	NORMAL	3,544.0	11.59	194.65	3,481.57	-606.56	-165.29	628.68	0.42	-0.41	-0.54	194.98
	NORMAL	3,640.0	11.33	193.99	3,575.65	-625.04	-170.01	647.75	0.30	-0.27	-0.69	206.44
	NORMAL	3,734.0	12.43	197.09	3,667.64	-643.67	-175.21	667.09	1.35	1.17	3.30	31.64
	NORMAL	3,830.0	12.51	196.48	3,761.37	-663.52	-181.20	687.81	0.16	0.08	-0.64	300.98
	NORMAL	3,925.0	12.11	196.55	3,854.19	-682.93	-186.96	708.06	0.42	-0.42	0.07	177.90
1/10/2013	NORMAL	4,021.0	11.88	196.06	3,948.09	-702.08	-192.56	728.01	0.26	-0.24	-0.51	203.64
	NORMAL	4,116.0	11.87	194.82	4,041.06	-720.93	-197.76	747.56	0.27	-0.01	-1.31	267.15
	NORMAL	4,212.0	12.13	194.82	4,134.96	-740.22	-202.87	767.52	0.27	0.27	0.00	0.00
	NORMAL	4,307.0	11.70	194.30	4,227.92	-759.20	-207.80	787.13	0.47	-0.45	-0.55	193.76
	NORMAL	4,402.0	11.43	193.51	4,320.99	-777.69	-212.38	806.17	0.33	-0.28	-0.83	210.01
	NORMAL	4,498.0	12.40	193.86	4,414.92	-796.95	-217.07	825.98	1.01	1.01	0.36	4.43
	NORMAL	4,594.0	12.49	194.12	4,508.66	-817.02	-222.07	846.66	0.11	0.09	0.27	32.03
	NORMAL	4,690.0	12.65	194.78	4,602.36	-837.25	-227.29	867.56	0.22	0.17	0.69	42.24
	NORMAL	4,785.0	12.75	193.77	4,695.04	-857.49	-232.44	888.44	0.26	0.11	-1.06	293.75
	NORMAL	4,881.0	12.89	193.96	4,788.64	-878.17	-237.54	909.73	0.15	0.15	0.20	16.85
	NORMAL	4,977.0	12.80	193.92	4,882.24	-898.89	-242.68	931.07	0.09	-0.09	-0.04	185.62
	NORMAL	5,073.0	11.43	190.96	4,976.10	-918.55	-247.05	951.19	1.57	-1.43	-3.08	202.95
	NORMAL	5,168.0	11.37	192.35	5,069.23	-936.94	-250.84	969.93	0.30	-0.06	1.46	103.00
	NORMAL	5,262.0	9.68	188.88	5,161.64	-953.80	-254.04	987.04	1.92	-1.80	-3.69	198.86
	NORMAL	5,357.0	8.70	187.20	5,255.42	-968.82	-256.18	1,002.09	1.07	-1.03	-1.77	194.48
1/11/2013	NORMAL	5,453.0	7.18	189.27	5,350.50	-981.94	-258.05	1,015.25	1.61	-1.58	2.16	170.37
	NORMAL	5,547.0	6.95	188.58	5,443.79	-993.37	-259.85	1,026.74	0.26	-0.24	-0.73	199.91
	NORMAL	5,643.0	5.36	177.51	5,539.23	-1,003.59	-260.52	1,036.79	2.06	-1.66	-11.53	211.32
	NORMAL	5,738.0	4.04	180.67	5,633.91	-1,011.37	-260.37	1,044.25	1.42	-1.39	3.33	170.47
	NORMAL	5,834.0	3.96	181.46	5,729.68	-1,018.06	-260.49	1,050.75	0.10	-0.08	0.82	145.83
	NORMAL	5,929.0	1.93	196.49	5,824.55	-1,022.88	-261.03	1,055.54	2.27	-2.14	15.82	166.57
	NORMAL	6,022.0	1.85	211.61	5,917.50	-1,025.66	-262.26	1,058.54	0.54	-0.09	16.26	106.62
	NORMAL	6,118.0	1.81	221.10	6,013.45	-1,028.12	-264.07	1,061.39	0.32	-0.04	9.89	102.24
	NORMAL	6,213.0	2.03	218.38	6,108.40	-1,030.57	-266.10	1,064.29	0.25	0.23	-2.86	336.14
1/12/2013	NORMAL	6,309.0	0.62	225.59	6,204.37	-1,032.27	-267.53	1,066.30	1.48	-1.47	7.51	176.85
	NORMAL	6,404.0	0.26	224.44	6,299.37	-1,032.78	-268.04	1,066.93	0.38	-0.38	-1.21	180.83
	NORMAL	6,500.0	0.88	220.49	6,395.36	-1,033.50	-268.67	1,067.79	0.65	0.65	-4.11	354.40
	NORMAL	6,596.0	0.17	62.97	6,491.36	-1,033.99	-269.03	1,068.36	1.08	-0.74	-164.08	183.59
	NORMAL	6,691.0	0.26	103.68	6,586.36	-1,033.98	-268.69	1,068.26	0.18	0.09	42.85	80.93
	NORMAL	6,787.0	0.32	132.60	6,682.36	-1,034.21	-268.28	1,068.37	0.16	0.06	30.12	82.60
	NORMAL	6,882.0	0.35	108.69	6,777.35	-1,034.48	-267.81	1,068.51	0.15	0.03	-25.17	269.99
	NORMAL	6,978.0	0.20	179.10	6,873.35	-1,034.75	-267.53	1,068.69	0.35	-0.16	73.34	146.34
	NORMAL	7,074.0	0.29	162.10	6,969.35	-1,035.14	-267.45	1,069.06	0.12	0.09	-17.71	312.37
	NORMAL	7,169.0	0.15	179.57	7,064.35	-1,035.50	-267.38	1,069.38	0.16	-0.15	18.39	162.96
	NORMAL	7,265.0	0.45	214.28	7,160.35	-1,035.93	-267.59	1,069.86	0.35	0.31	36.16	49.36
	NORMAL	7,360.0	0.69	229.26	7,255.35	-1,036.62	-268.23	1,070.68	0.30	0.25	15.77	39.47
	NORMAL	7,456.0	1.34	230.92	7,351.33	-1,037.70	-269.54	1,072.07	0.68	0.68	1.73	3.42
	NORMAL	7,552.0	1.29	224.33	7,447.31	-1,039.18	-271.17	1,073.93	0.17	-0.05	-6.86	248.43
1/13/2013	NORMAL	7,647.0	0.79	258.07	7,542.29	-1,040.08	-272.56	1,075.16	0.81	-0.53	35.52	145.27
	NORMAL	7,743.0	1.14	252.59	7,638.28	-1,040.50	-274.12	1,075.98	0.38	0.36	-5.71	342.48
	NORMAL	7,838.0	0.88	236.75	7,733.26	-1,041.19	-275.63	1,077.03	0.40	-0.27	-16.67	219.30
	NORMAL	7,934.0	0.62	199.04	7,829.25	-1,042.08	-276.42	1,078.10	0.57	-0.27	-39.28	224.24

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 (°)
1/13/2013	NORMAL	8,030.0	1.06	195.35	7,925.24	-1,043.43	-276.82	1,079.51	0.46	0.46	-3.84	351.14
	NORMAL	8,125.0	1.76	208.45	8,020.21	-1,045.56	-277.75	1,081.81	0.81	0.74	13.79	31.37
	NORMAL	8,221.0	2.42	220.35	8,116.15	-1,048.40	-279.76	1,085.08	0.82	0.69	12.40	39.37
	NORMAL	8,317.0	2.73	235.35	8,212.05	-1,051.25	-282.96	1,088.66	0.77	0.32	15.63	72.91
	NORMAL	8,412.0	3.02	237.57	8,306.93	-1,053.87	-286.93	1,092.23	0.33	0.31	2.34	22.12
1/14/2013	NORMAL	8,508.0	3.46	236.55	8,402.78	-1,056.83	-291.48	1,096.28	0.46	0.46	-1.06	352.03
	NORMAL	8,603.0	3.78	234.73	8,497.59	-1,060.21	-296.43	1,100.84	0.36	0.34	-1.92	339.34
	NORMAL	8,699.0	4.05	233.05	8,593.37	-1,064.08	-301.72	1,105.96	0.31	0.28	-1.75	336.14
	NORMAL	8,794.0	4.10	232.36	8,688.13	-1,068.17	-307.09	1,111.32	0.07	0.05	-0.73	315.22
	NORMAL	8,900.0	4.13	233.50	8,793.85	-1,072.76	-313.16	1,117.33	0.08	0.03	1.08	70.43