

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	RWF 13-36	Wellbore No.	
Well Name	RWF 13-36	Common Name	RWF 13-36
Project	RU 36-06S-094W	Site	RWF 33-36 Pad
Vertical Section Azimuth	233.86 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	12/28/2012	UWI	RWF 13-36
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	12/28/2012	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

6639

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Buidl Rate (°/100ft)	Turn (°/100ft)	TFace (°)
12/28/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/28/2012	NORMAL	87.0	0.26	294.87	87.00	0.08	-0.18	0.10	0.30	0.30	0.00	294.87
	NORMAL	179.0	1.76	254.44	178.98	-0.21	-1.73	1.52	1.71	1.63	-43.95	313.41
	NORMAL	270.0	2.99	240.12	269.90	-1.77	-5.13	5.19	1.49	1.35	-15.74	326.97
	NORMAL	361.0	4.84	241.88	360.69	-4.76	-10.58	11.35	2.04	2.03	1.93	4.59
	NORMAL	451.0	8.18	236.51	450.10	-10.08	-19.27	21.51	3.77	3.71	-5.97	346.99
	NORMAL	542.0	12.32	233.09	539.62	-19.49	-32.44	37.69	4.60	4.55	-3.76	349.95
12/29/2012	NORMAL	609.0	12.95	233.71	605.00	-28.22	-44.20	52.34	0.96	0.94	0.93	12.45
	NORMAL	700.0	14.77	234.99	693.35	-40.92	-61.92	74.14	2.03	2.00	1.41	10.19
	NORMAL	791.0	18.82	235.52	780.45	-55.89	-83.53	100.42	4.45	4.45	0.58	2.42
	NORMAL	881.0	20.24	233.80	865.27	-73.30	-108.06	130.50	1.70	1.58	-1.91	337.14
	NORMAL	972.0	21.93	232.74	950.17	-92.89	-134.29	163.23	1.90	1.86	-1.16	346.79
	NORMAL	1,068.0	22.89	232.80	1,038.92	-115.03	-163.43	199.82	1.00	1.00	0.06	1.39
	NORMAL	1,121.0	23.04	232.44	1,087.72	-127.58	-179.87	220.50	0.39	0.28	-0.68	316.72
12/30/2012	NORMAL	1,256.0	22.95	230.97	1,212.00	-160.26	-221.25	273.20	0.43	-0.07	-1.09	260.42
	NORMAL	1,351.0	23.04	230.07	1,299.45	-183.86	-249.90	310.24	0.38	0.09	-0.95	283.94
	NORMAL	1,447.0	22.77	229.19	1,387.88	-208.06	-278.36	347.50	0.45	-0.28	-0.92	231.35
	NORMAL	1,543.0	21.98	231.65	1,476.65	-231.35	-306.51	383.97	1.28	-0.82	2.56	131.28
	NORMAL	1,639.0	21.26	230.11	1,565.90	-253.66	-333.96	419.29	0.95	-0.75	-1.60	217.53
	NORMAL	1,734.0	22.94	235.96	1,653.93	-275.07	-362.52	454.99	2.91	1.77	6.16	55.38
	NORMAL	1,830.0	22.69	234.20	1,742.42	-296.37	-393.04	492.20	0.76	-0.26	-1.83	249.07

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 (°)
12/30/2012	NORMAL	1,926.0	23.07	232.90	1,830.86	-318.55	-423.06	529.52	0.66	0.40	-1.35	306.34
	NORMAL	2,021.0	22.78	235.23	1,918.36	-340.27	-453.02	566.52	1.00	-0.31	2.45	108.79
	NORMAL	2,117.0	22.82	233.96	2,006.86	-361.82	-483.34	603.72	0.51	0.04	-1.32	274.06
	NORMAL	2,213.0	22.20	238.57	2,095.55	-382.23	-513.87	640.41	1.95	-0.65	4.80	111.48
	NORMAL	2,309.0	22.21	238.63	2,184.43	-401.13	-544.83	676.57	0.03	0.01	0.06	66.23
	NORMAL	2,402.0	21.54	238.04	2,270.74	-419.32	-574.33	711.11	0.76	-0.72	-0.63	197.89
12/31/2012	NORMAL	2,498.0	21.47	237.39	2,360.06	-438.12	-604.08	746.22	0.26	-0.07	-0.68	253.33
	NORMAL	2,593.0	21.50	235.98	2,448.45	-457.23	-633.15	780.97	0.54	0.03	-1.48	272.67
	NORMAL	2,688.0	20.96	236.94	2,537.01	-476.24	-661.82	815.34	0.68	-0.57	1.01	147.68
	NORMAL	2,784.0	20.56	235.66	2,626.77	-495.11	-690.13	849.33	0.63	-0.42	-1.33	228.00
	NORMAL	2,879.0	22.69	236.49	2,715.08	-514.64	-719.19	884.31	2.27	2.24	0.87	8.56
	NORMAL	2,972.0	24.05	233.44	2,800.45	-535.83	-749.37	921.18	1.96	1.46	-3.28	316.94
	NORMAL	3,067.0	23.57	232.97	2,887.37	-558.80	-780.08	959.53	0.54	-0.51	-0.49	201.35
	NORMAL	3,162.0	22.96	233.16	2,974.64	-581.35	-810.07	997.05	0.65	-0.64	0.20	173.07
	NORMAL	3,257.0	23.53	231.18	3,061.93	-604.36	-839.68	1,034.52	1.02	0.60	-2.08	305.20
	NORMAL	3,353.0	22.81	229.52	3,150.19	-628.44	-868.76	1,072.22	1.01	-0.75	-1.73	221.45
	NORMAL	3,448.0	22.70	230.01	3,237.80	-652.18	-896.81	1,108.87	0.23	-0.12	0.52	120.36
	NORMAL	3,544.0	22.12	229.15	3,326.55	-675.90	-924.68	1,145.37	0.69	-0.60	-0.90	209.08
	NORMAL	3,640.0	21.47	232.20	3,415.69	-698.49	-952.23	1,180.95	1.36	-0.68	3.18	121.27
	NORMAL	3,734.0	22.49	235.90	3,502.86	-719.12	-980.71	1,216.11	1.83	1.09	3.94	55.35
	NORMAL	3,830.0	22.35	235.84	3,591.60	-739.66	-1,011.02	1,252.70	0.15	-0.15	-0.06	189.26
	NORMAL	3,925.0	21.70	235.80	3,679.67	-759.68	-1,040.49	1,288.31	0.68	-0.68	-0.04	181.30
	NORMAL	4,021.0	22.67	234.26	3,768.56	-780.46	-1,070.19	1,324.55	1.18	1.01	-1.60	328.34
	NORMAL	4,117.0	22.86	234.03	3,857.08	-802.22	-1,100.30	1,361.69	0.22	0.20	-0.24	334.79
	NORMAL	4,212.0	22.64	233.94	3,944.69	-823.82	-1,130.01	1,398.43	0.23	-0.23	-0.09	188.95
	NORMAL	4,308.0	22.26	233.62	4,033.42	-845.48	-1,159.59	1,435.09	0.42	-0.40	-0.33	197.68
	NORMAL	4,402.0	23.13	235.08	4,120.14	-866.61	-1,189.06	1,471.35	1.10	0.93	1.55	33.60
	NORMAL	4,498.0	22.60	234.64	4,208.59	-888.08	-1,219.57	1,508.65	0.58	-0.55	-0.46	197.68
	NORMAL	4,594.0	22.16	234.73	4,297.36	-909.21	-1,249.39	1,545.20	0.46	-0.46	0.09	175.59
	NORMAL	4,690.0	21.81	234.38	4,386.38	-930.05	-1,278.67	1,581.13	0.39	-0.36	-0.36	200.36
	NORMAL	4,785.0	22.78	233.22	4,474.28	-951.34	-1,307.75	1,617.17	1.12	1.02	-1.22	335.06
	NORMAL	4,881.0	22.60	233.10	4,562.85	-973.54	-1,337.39	1,654.20	0.19	-0.19	-0.12	194.37
	NORMAL	4,977.0	22.25	232.80	4,651.59	-995.61	-1,366.61	1,690.82	0.38	-0.36	-0.31	197.97
1/1/2013	NORMAL	5,073.0	20.29	236.38	4,741.05	-1,015.81	-1,394.96	1,725.62	2.45	-2.04	3.73	148.13
	NORMAL	5,168.0	19.90	236.23	4,830.27	-1,033.92	-1,422.11	1,758.23	0.41	-0.41	-0.16	187.46
	NORMAL	5,262.0	19.17	233.15	4,918.86	-1,052.07	-1,447.76	1,789.65	1.34	-0.78	-3.28	233.23
	NORMAL	5,358.0	16.82	234.10	5,010.15	-1,069.67	-1,471.63	1,819.30	2.47	-2.45	0.99	173.33
	NORMAL	5,453.0	14.99	233.72	5,101.51	-1,085.00	-1,492.67	1,845.34	1.93	-1.93	-0.40	183.07
	NORMAL	5,547.0	14.77	233.94	5,192.36	-1,099.25	-1,512.15	1,869.48	0.24	-0.23	0.23	165.70
1/2/2013	NORMAL	5,643.0	13.34	233.35	5,285.49	-1,113.06	-1,530.93	1,892.79	1.50	-1.49	-0.61	185.44
	NORMAL	5,738.0	11.37	231.61	5,378.28	-1,125.42	-1,547.07	1,913.11	2.11	-2.07	-1.83	189.85
	NORMAL	5,834.0	11.08	231.21	5,472.44	-1,137.08	-1,561.68	1,931.78	0.31	-0.30	-0.42	194.83
	NORMAL	5,929.0	8.96	231.65	5,565.99	-1,147.39	-1,574.59	1,948.29	2.23	-2.23	0.46	178.15
	NORMAL	6,022.0	8.79	232.36	5,657.88	-1,156.22	-1,585.90	1,962.63	0.22	-0.18	0.76	147.55
	NORMAL	6,118.0	7.62	230.65	5,752.89	-1,164.74	-1,596.63	1,976.32	1.24	-1.22	-1.78	190.94
	NORMAL	6,214.0	5.25	231.07	5,848.28	-1,171.53	-1,604.97	1,987.06	2.47	-2.47	0.44	179.07
	NORMAL	6,309.0	3.09	226.50	5,943.02	-1,176.03	-1,610.21	1,993.94	2.30	-2.27	-4.81	186.47
	NORMAL	6,405.0	1.76	234.54	6,038.94	-1,178.66	-1,613.29	1,997.98	1.43	-1.39	8.37	169.65
	NORMAL	6,500.0	0.48	23.58	6,133.92	-1,179.14	-1,614.32	1,999.10	2.30	-1.35	156.88	173.51
1/3/2013	NORMAL	6,596.0	0.47	315.27	6,229.92	-1,178.50	-1,614.43	1,998.81	0.56	-0.01	-71.16	234.96
	NORMAL	6,691.0	0.26	324.56	6,324.92	-1,178.04	-1,614.83	1,998.87	0.23	-0.22	9.78	168.87
	NORMAL	6,787.0	0.53	268.39	6,420.92	-1,177.88	-1,615.40	1,999.23	0.46	0.28	-58.51	274.55
	NORMAL	6,882.0	0.79	243.61	6,515.91	-1,178.18	-1,616.43	2,000.24	0.40	0.27	-26.08	299.49
	NORMAL	6,978.0	0.09	44.27	6,611.91	-1,178.42	-1,616.97	2,000.82	0.91	-0.73	167.35	178.05
	NORMAL	7,074.0	0.30	123.79	6,707.91	-1,178.51	-1,616.71	2,000.65	0.31	0.22	82.83	96.85
1/4/2013	NORMAL	7,169.0	0.38	207.86	6,802.91	-1,178.92	-1,616.65	2,000.85	0.48	0.08	88.49	124.60
	NORMAL	7,265.0	0.53	215.04	6,898.90	-1,179.57	-1,617.05	2,001.56	0.17	0.16	7.48	24.43

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 (°)
1/4/2013	NORMAL	7,361.0	0.53	187.34	6,994.90	-1,180.37	-1,617.36	2,002.28	0.26	0.00	-28.85	256.15
	NORMAL	7,456.0	0.96	186.42	7,089.89	-1,181.60	-1,617.51	2,003.13	0.45	0.45	-0.97	357.95
	NORMAL	7,552.0	0.29	114.66	7,185.89	-1,182.50	-1,617.38	2,003.55	0.95	-0.70	-74.75	197.58
	NORMAL	7,648.0	0.23	229.63	7,281.88	-1,182.73	-1,617.30	2,003.62	0.46	-0.06	119.76	151.69
	NORMAL	7,743.0	0.70	203.62	7,376.88	-1,183.38	-1,617.68	2,004.32	0.53	0.49	-27.38	322.43
	NORMAL	7,838.0	1.06	132.95	7,471.87	-1,184.51	-1,617.27	2,004.65	1.12	0.38	-74.39	250.76
	NORMAL	7,934.0	1.23	135.32	7,567.85	-1,185.85	-1,615.90	2,004.33	0.18	0.18	2.47	16.75
	NORMAL	8,030.0	0.09	240.00	7,663.85	-1,186.62	-1,615.24	2,004.25	1.31	-1.19	109.04	176.02
	NORMAL	8,126.0	0.53	277.44	7,759.84	-1,186.60	-1,615.74	2,004.65	0.48	0.46	39.00	44.24
	NORMAL	8,221.0	1.23	257.40	7,854.83	-1,186.77	-1,617.17	2,005.90	0.79	0.74	-21.09	326.03
	NORMAL	8,317.0	1.20	229.39	7,950.81	-1,187.65	-1,618.94	2,007.85	0.61	-0.03	-29.18	253.16
	NORMAL	8,412.0	1.39	229.25	8,045.79	-1,189.05	-1,620.57	2,009.99	0.20	0.20	-0.15	358.98
	NORMAL	8,508.0	1.51	220.59	8,141.76	-1,190.77	-1,622.27	2,012.38	0.26	0.12	-9.02	294.33
	NORMAL	8,603.0	1.67	211.61	8,236.72	-1,192.90	-1,623.81	2,014.88	0.31	0.17	-9.45	298.16
	NORMAL	8,699.0	2.16	211.31	8,332.67	-1,195.63	-1,625.49	2,017.85	0.51	0.51	-0.31	358.68
1/5/2013	NORMAL	8,794.0	2.36	212.69	8,427.59	-1,198.81	-1,627.47	2,021.32	0.22	0.21	1.45	15.91
	NORMAL	8,890.0	2.30	218.89	8,523.51	-1,201.97	-1,629.75	2,025.03	0.27	-0.06	6.46	106.47
	NORMAL	8,986.0	2.38	218.63	8,619.43	-1,205.03	-1,632.21	2,028.81	0.08	0.08	-0.27	352.31
	NORMAL	9,009.0	2.50	224.43	8,642.41	-1,205.76	-1,632.85	2,029.77	1.19	0.52	25.22	67.00
1/7/2013	NORMAL	9,065.0	2.50	224.43	8,698.36	-1,207.50	-1,634.56	2,032.18	0.00	0.00	0.00	0.00