

Deviation Summary

PICEANCE VLY

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well/Wellbore Information

Well	RWF 633-23	Wellbore No.	00
Wellbore Legal Name	RWF 633-23	Common Wellbore Name	RWF 633-23
Project	RU 23-06S-094W	Site	RWF 43-23 Pad
Vertical Section Azimuth	279.14 (°)	North reference	True
Origin N/S	0.0 (ft)	Origin E/W	0.0 (ft)
Spud date	11/28/2014	UWI	RWF 633-23
Active datum	KB @5,625.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	11/28/2014	Ended	
Tool Name	MWD	Engineer	

2.1.1 Tie On Point

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)
		67.59			

2.1.2 Survey Stations

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
11/28/2014	NORMAL	71.0	0.44	67.59	71.00	0.10	0.25	-0.23	0.62	0.62	0.00	67.59
	NORMAL	101.0	0.70	344.97	101.00	0.32	0.31	-0.26	2.59	0.87	-275.40	243.24
	NORMAL	131.0	0.79	351.83	131.00	0.71	0.23	-0.12	0.42	0.30	22.87	48.21
	NORMAL	161.0	0.88	334.51	160.99	1.12	0.11	0.07	0.89	0.30	-57.73	280.83
	NORMAL	192.0	1.50	303.31	191.99	1.56	-0.34	0.58	2.82	2.00	-100.65	297.42
	NORMAL	222.0	1.67	291.97	221.98	1.94	-1.07	1.36	1.19	0.57	-37.80	292.71
	NORMAL	252.0	2.64	281.43	251.95	2.24	-2.15	2.48	3.48	3.23	-35.13	332.45
	NORMAL	283.0	2.55	280.55	282.92	2.50	-3.53	3.88	0.32	-0.29	-2.84	203.44
	NORMAL	313.0	3.17	266.75	312.88	2.58	-5.01	5.36	3.07	2.07	-46.00	304.97
	NORMAL	343.0	3.61	268.15	342.83	2.50	-6.79	7.10	1.49	1.47	4.67	11.35
	NORMAL	374.0	4.31	268.07	373.76	2.43	-8.93	9.20	2.26	2.26	-0.26	359.51
	NORMAL	404.0	5.54	268.24	403.65	2.35	-11.50	11.73	4.10	4.10	0.57	0.76
	NORMAL	434.0	6.51	266.66	433.48	2.21	-14.65	14.81	3.28	3.23	-5.27	349.51
	NORMAL	464.0	7.04	266.04	463.27	1.98	-18.18	18.26	1.78	1.77	-2.07	351.83
11/28/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/29/2014	NORMAL	495.0	7.83	268.15	494.01	1.78	-22.18	22.18	2.70	2.55	6.81	20.11
	NORMAL	525.0	9.15	271.05	523.68	1.76	-26.61	26.55	4.62	4.40	9.67	19.41
	NORMAL	555.0	9.94	272.02	553.27	1.89	-31.58	31.48	2.69	2.63	3.23	11.99
	NORMAL	585.0	10.56	275.98	582.79	2.27	-36.91	36.80	3.13	2.07	13.20	50.62
	NORMAL	616.0	10.82	274.48	613.25	2.79	-42.63	42.53	1.23	0.84	-4.84	312.32
	NORMAL	646.0	11.61	278.79	642.68	3.47	-48.42	48.36	3.84	2.63	14.37	48.83

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
11/29/2014	NORMAL	677.0	12.76	279.76	672.98	4.53	-54.88	54.90	3.77	3.71	3.13	10.57
	NORMAL	707.0	12.67	280.55	702.24	5.70	-61.38	61.50	0.65	-0.30	2.63	117.75
	NORMAL	737.0	13.81	280.28	731.44	6.94	-68.14	68.37	3.81	3.80	-0.90	356.76
	NORMAL	768.0	14.87	278.96	761.48	8.22	-75.71	76.05	3.58	3.42	-4.26	342.22
	NORMAL	798.0	15.57	278.79	790.43	9.43	-83.49	83.93	2.34	2.33	-0.57	356.27
	NORMAL	889.0	18.21	280.55	877.49	13.90	-109.54	110.36	2.95	2.90	1.93	11.81
	NORMAL	959.0	19.28	280.12	943.78	17.94	-131.67	132.85	1.54	1.53	-0.61	352.44
	NORMAL	1,054.0	20.96	279.38	1,032.98	23.46	-163.88	165.52	1.79	1.77	-0.78	351.04
	NORMAL	1,135.0	22.51	280.46	1,108.22	28.64	-193.42	195.51	1.98	1.91	1.33	14.97
12/1/2014	NORMAL	1,262.0	22.73	281.07	1,225.45	37.76	-241.41	244.34	0.25	0.17	0.48	47.12
	NORMAL	1,358.0	21.54	280.37	1,314.37	44.50	-276.94	280.50	1.27	-1.24	-0.73	192.17
	NORMAL	1,454.0	20.09	279.66	1,404.11	50.44	-310.54	314.60	1.53	-1.51	-0.74	189.54
	NORMAL	1,549.0	20.13	279.66	1,493.31	55.92	-342.74	347.27	0.04	0.04	0.00	0.00
	NORMAL	1,643.0	19.69	280.98	1,581.70	61.65	-374.23	379.27	0.67	-0.47	1.40	135.01
	NORMAL	1,739.0	19.65	280.28	1,672.09	67.61	-405.99	411.57	0.25	-0.04	-0.73	260.04
	NORMAL	1,834.0	19.30	280.81	1,761.66	73.40	-437.12	443.23	0.41	-0.37	0.56	153.46
	NORMAL	1,929.0	19.16	280.89	1,851.36	79.29	-467.85	474.51	0.15	-0.15	0.08	169.38
	NORMAL	2,025.0	19.08	280.45	1,942.06	85.11	-498.75	505.94	0.17	-0.08	-0.46	240.76
	NORMAL	2,120.0	18.55	280.63	2,031.99	90.72	-528.88	536.57	0.56	-0.56	0.19	173.83
	NORMAL	2,215.0	19.69	279.31	2,121.75	96.10	-559.52	567.68	1.28	1.20	-1.39	338.61
	NORMAL	2,311.0	20.75	276.94	2,211.83	100.77	-592.37	600.85	1.40	1.10	-2.47	321.19
	NORMAL	2,406.0	20.48	276.76	2,300.75	104.76	-625.58	634.27	0.29	-0.28	-0.19	193.13
	NORMAL	2,502.0	20.40	276.15	2,390.70	108.53	-658.89	667.76	0.24	-0.08	-0.64	249.13
	NORMAL	2,597.0	19.82	276.24	2,479.91	112.05	-691.36	700.38	0.61	-0.61	0.09	176.99
	NORMAL	2,693.0	21.45	275.36	2,569.75	115.46	-725.02	734.15	1.73	1.70	-0.92	348.82
	NORMAL	2,788.0	21.14	278.08	2,658.27	119.49	-759.27	768.61	1.09	-0.33	2.86	108.69
	NORMAL	2,882.0	21.01	278.17	2,745.98	124.27	-792.74	802.41	0.14	-0.14	0.10	166.06
	NORMAL	2,978.0	20.61	278.35	2,835.72	129.17	-826.49	836.51	0.42	-0.42	0.19	171.00
	NORMAL	3,073.0	20.18	279.05	2,924.76	134.17	-859.21	869.62	0.52	-0.45	0.74	150.76
	NORMAL	3,169.0	19.87	278.52	3,014.96	139.19	-891.70	902.49	0.37	-0.32	-0.55	210.10
	NORMAL	3,264.0	19.82	281.25	3,104.32	144.73	-923.46	934.73	0.98	-0.05	2.87	94.37
	NORMAL	3,358.0	19.34	281.16	3,192.88	150.85	-954.37	966.21	0.51	-0.51	-0.10	183.55
	NORMAL	3,454.0	19.30	280.02	3,283.48	156.69	-985.58	997.96	0.40	-0.04	-1.19	263.41
	NORMAL	3,549.0	18.77	280.72	3,373.28	162.26	-1,016.06	1,028.94	0.61	-0.56	0.74	157.03
	NORMAL	3,645.0	19.65	281.33	3,463.93	168.31	-1,047.06	1,060.50	0.94	0.92	0.64	13.14
	NORMAL	3,740.0	21.67	279.58	3,552.82	174.36	-1,080.03	1,094.01	2.22	2.13	-1.84	342.18
	NORMAL	3,836.0	21.54	280.37	3,642.08	180.48	-1,114.84	1,129.35	0.33	-0.14	0.82	114.45
	NORMAL	3,931.0	21.01	280.89	3,730.60	186.84	-1,148.72	1,163.81	0.59	-0.56	0.55	160.65
	NORMAL	4,027.0	20.22	280.81	3,820.46	193.20	-1,181.91	1,197.60	0.82	-0.82	-0.08	182.00
	NORMAL	4,122.0	20.18	280.63	3,909.61	199.31	-1,214.14	1,230.39	0.08	-0.04	-0.19	237.15
12/2/2014	NORMAL	4,217.0	20.09	281.16	3,998.81	205.49	-1,246.26	1,263.07	0.21	-0.09	0.56	116.51
	NORMAL	4,312.0	18.64	281.77	4,088.43	211.74	-1,277.13	1,294.55	1.54	-1.53	0.64	172.35
	NORMAL	4,408.0	17.32	283.09	4,179.74	218.11	-1,306.07	1,324.13	1.44	-1.38	1.38	163.47
	NORMAL	4,504.0	16.48	279.05	4,271.60	223.49	-1,333.43	1,352.00	1.50	-0.88	-4.21	232.50
	NORMAL	4,599.0	14.33	280.72	4,363.18	227.79	-1,358.30	1,377.23	2.31	-2.26	1.76	169.15
	NORMAL	4,695.0	13.45	279.93	4,456.37	231.93	-1,380.97	1,400.27	0.94	-0.92	-0.82	191.78
	NORMAL	4,791.0	11.74	280.10	4,550.06	235.57	-1,401.58	1,421.20	1.78	-1.78	0.18	178.84
	NORMAL	4,887.0	10.77	275.80	4,644.21	238.19	-1,420.12	1,439.93	1.34	-1.01	-4.48	218.77
	NORMAL	4,982.0	9.05	276.50	4,737.79	239.93	-1,436.38	1,456.25	1.81	-1.81	0.74	176.34
	NORMAL	5,077.0	7.17	278.96	4,831.84	241.70	-1,449.66	1,469.64	2.01	-1.98	2.59	170.76
	NORMAL	5,172.0	6.37	279.58	4,926.17	243.50	-1,460.71	1,480.84	0.85	-0.84	0.65	175.09
	NORMAL	5,268.0	4.62	282.39	5,021.73	245.22	-1,469.74	1,490.03	1.84	-1.82	2.93	172.66
	NORMAL	5,362.0	3.12	293.90	5,115.51	247.06	-1,475.78	1,496.28	1.79	-1.60	12.24	158.28
	NORMAL	5,457.0	2.07	307.17	5,210.42	249.15	-1,479.51	1,500.30	1.27	-1.11	13.97	156.74
	NORMAL	5,553.0	0.79	277.38	5,306.39	250.28	-1,481.54	1,502.49	1.50	-1.33	-31.03	195.83
12/3/2014	NORMAL	5,649.0	0.92	345.41	5,402.38	251.11	-1,482.39	1,503.46	1.00	0.14	70.86	117.58

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
12/3/2014	NORMAL	5,744.0	0.79	341.63	5,497.37	252.47	-1,482.79	1,504.07	0.15	-0.14	-3.98	201.57
	NORMAL	5,840.0	0.66	311.13	5,593.36	253.46	-1,483.42	1,504.85	0.42	-0.14	-31.77	236.55
	NORMAL	5,935.0	1.10	75.93	5,688.35	254.04	-1,482.95	1,504.47	1.66	0.46	131.37	144.95
	NORMAL	6,030.0	0.70	81.12	5,783.34	254.36	-1,481.49	1,503.08	0.43	-0.42	5.46	171.07
	NORMAL	6,124.0	0.83	100.19	5,877.34	254.32	-1,480.25	1,501.85	0.30	0.14	20.29	72.70
	NORMAL	6,220.0	0.57	113.90	5,973.33	254.01	-1,479.13	1,500.70	0.32	-0.27	14.28	153.94
12/4/2014	NORMAL	6,314.0	0.61	85.69	6,067.32	253.86	-1,478.20	1,499.76	0.31	0.04	-30.01	263.58
12/5/2014	NORMAL	6,409.0	0.92	31.20	6,162.32	254.55	-1,477.30	1,498.98	0.79	0.33	-57.36	264.24
	NORMAL	6,504.0	0.61	63.01	6,257.31	255.43	-1,476.46	1,498.29	0.54	-0.33	33.48	141.32
	NORMAL	6,600.0	0.57	87.80	6,353.30	255.68	-1,475.53	1,497.41	0.27	-0.04	25.82	111.16
	NORMAL	6,695.0	0.66	94.04	6,448.30	255.66	-1,474.51	1,496.40	0.12	0.09	6.57	39.80
	NORMAL	6,791.0	1.71	56.77	6,544.28	256.40	-1,472.76	1,494.79	1.30	1.09	-38.82	304.09
	NORMAL	6,886.0	1.63	65.56	6,639.24	257.74	-1,470.34	1,492.61	0.28	-0.08	9.25	111.70
	NORMAL	6,981.0	1.05	80.42	6,734.21	258.44	-1,468.25	1,490.66	0.71	-0.61	15.64	156.36
	NORMAL	7,076.0	0.61	70.13	6,829.20	258.76	-1,466.92	1,489.40	0.49	-0.46	-10.83	193.62
	NORMAL	7,171.0	0.66	125.86	6,924.20	258.61	-1,466.00	1,488.47	0.63	0.05	58.66	113.60
	NORMAL	7,264.0	0.61	196.43	7,017.19	257.82	-1,465.71	1,488.05	0.79	-0.05	75.88	128.47
	NORMAL	7,360.0	0.75	205.57	7,113.19	256.77	-1,466.12	1,488.29	0.18	0.15	9.52	42.40
	NORMAL	7,455.0	0.83	209.44	7,208.18	255.61	-1,466.73	1,488.71	0.10	0.08	4.07	35.65
	NORMAL	7,551.0	0.83	214.71	7,304.17	254.43	-1,467.47	1,489.25	0.08	0.00	5.49	92.63
12/6/2014	NORMAL	7,647.0	1.32	202.67	7,400.15	252.84	-1,468.29	1,489.81	0.56	0.51	-12.54	329.15
	NORMAL	7,742.0	1.76	226.23	7,495.12	250.82	-1,469.76	1,490.94	0.80	0.46	24.80	67.36
	NORMAL	7,838.0	2.02	220.69	7,591.07	248.52	-1,471.93	1,492.72	0.33	0.27	-5.77	322.11
	NORMAL	7,933.0	2.68	227.99	7,685.99	245.76	-1,474.67	1,494.99	0.76	0.69	7.68	28.07
	NORMAL	8,029.0	2.73	229.22	7,781.88	242.76	-1,478.07	1,497.87	0.08	0.05	1.28	49.88
	NORMAL	8,124.0	2.81	236.33	7,876.77	240.00	-1,481.72	1,501.03	0.37	0.08	7.48	80.46
	NORMAL	8,220.0	2.99	240.90	7,972.65	237.47	-1,485.87	1,504.73	0.31	0.19	4.76	54.40
	NORMAL	8,315.0	3.56	233.70	8,067.49	234.52	-1,490.41	1,508.74	0.74	0.60	-7.58	320.55
	NORMAL	8,410.0	3.74	234.58	8,162.30	230.98	-1,495.31	1,513.02	0.20	0.19	0.93	17.73
	NORMAL	8,506.0	3.56	233.87	8,258.10	227.41	-1,500.27	1,517.35	0.19	-0.19	-0.74	193.74
	NORMAL	8,564.0	3.56	233.87	8,315.99	225.28	-1,503.18	1,519.88	0.00	0.00	0.00	0.00