

# Deviation Summary

PICEANCE VLY

## 1 General

### 1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

### 1.2 Well/Wellbore Information

Well	RWF 321-25	Wellbore No.	00
Wellbore Legal Name	RWF 321-25	Common Wellbore Name	RWF 321-25
Project	RU 25-06S-094W	Site	RWF 22-25 Pad
Vertical Section Azimuth	13.12 (°)	North reference	True
Origin N/S		Origin E/W	
Spud date	3/31/2014	UWI	RWF 321-25
Active datum	KB @6,058.4ft (above Mean Sea Level)		

## 2 Survey Name

### 2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	3/31/2014	Ended	
Tool Name	MWD	Engineer	

#### 2.1.1 Tie On Point

MD (ft)	Inc. (°)	Azl. (°)	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. (°)	Azl. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
3/31/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/31/2014	NORMAL	74.0	0.62	17.05	74.00	0.38	0.12	0.40	0.84	0.84	0.00	17.05
	NORMAL	164.0	2.64	21.53	163.96	2.78	1.02	2.94	2.25	2.24	4.98	5.85
	NORMAL	254.0	5.98	15.56	253.69	9.22	3.04	9.67	3.74	3.71	-6.63	349.36
4/1/2014	NORMAL	345.0	9.41	12.22	343.86	21.06	5.89	21.85	3.80	3.77	-3.67	350.91
	NORMAL	435.0	13.37	13.45	432.07	38.38	9.87	39.62	4.41	4.40	1.37	4.11
	NORMAL	527.0	16.89	10.99	520.87	61.85	14.89	63.62	3.89	3.83	-2.67	348.47
	NORMAL	617.0	20.23	13.36	606.17	89.84	20.98	92.25	3.80	3.71	2.63	13.85
	NORMAL	689.0	22.34	13.35	673.26	115.26	27.02	118.39	2.93	2.93	-0.01	359.90
	NORMAL	780.0	26.38	12.56	756.14	151.84	35.41	155.91	4.45	4.44	-0.87	355.03
	NORMAL	871.0	28.50	11.89	836.90	192.82	44.28	197.84	2.35	2.33	-0.74	351.42
	NORMAL	962.0	29.15	11.72	916.62	235.77	53.25	241.70	0.72	0.71	-0.19	352.74
	NORMAL	1,056.0	29.28	13.52	998.67	280.54	63.28	287.58	0.94	0.14	1.91	82.37
	NORMAL	1,151.0	27.05	14.12	1,082.41	324.08	73.98	332.41	2.37	-2.35	0.63	173.03
4/2/2014	NORMAL	1,242.0	27.58	13.31	1,163.27	364.64	83.88	374.17	0.71	0.58	-0.89	324.60
	NORMAL	1,336.0	27.93	12.45	1,246.45	407.32	93.64	417.94	0.57	0.37	-0.91	310.77
	NORMAL	1,431.0	27.85	11.63	1,330.42	450.78	102.91	462.37	0.41	-0.08	-0.86	257.86
	NORMAL	1,526.0	28.63	15.43	1,414.12	494.46	113.43	507.30	2.06	0.82	4.00	68.23
	NORMAL	1,621.0	29.28	14.95	1,497.24	538.84	125.48	553.26	0.73	0.68	-0.51	340.12
	NORMAL	1,716.0	28.98	14.94	1,580.22	583.52	137.41	599.48	0.32	-0.32	-0.01	180.93
	NORMAL	1,810.0	28.61	14.78	1,662.60	627.28	149.02	644.74	0.40	-0.39	-0.17	191.70

## 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 (°)
4/2/2014	NORMAL	1,904.0	28.09	13.83	1,745.33	670.53	160.05	689.36	0.73	-0.55	-1.01	220.53
	NORMAL	1,997.0	28.45	12.62	1,827.24	713.41	170.13	733.41	0.73	0.39	-1.30	301.60
	NORMAL	2,091.0	28.38	11.68	1,909.91	757.14	179.54	778.13	0.48	-0.07	-1.00	260.69
	NORMAL	2,184.0	28.49	10.98	1,991.69	800.56	188.24	822.39	0.38	0.12	-0.75	287.96
	NORMAL	2,278.0	28.75	13.44	2,074.21	844.56	197.77	867.40	1.28	0.28	2.62	78.64
	NORMAL	2,371.0	29.19	12.72	2,155.57	888.43	207.96	912.45	0.60	0.47	-0.77	321.29
	NORMAL	2,465.0	28.61	12.63	2,237.87	932.75	217.93	957.87	0.62	-0.62	-0.10	184.25
4/3/2014	NORMAL	2,558.0	27.71	12.62	2,319.86	975.58	227.52	1,001.76	0.97	-0.97	-0.01	180.30
	NORMAL	2,652.0	28.28	11.75	2,402.86	1,018.71	236.83	1,045.88	0.75	0.61	-0.93	324.00
	NORMAL	2,746.0	27.91	11.61	2,485.78	1,062.06	245.79	1,080.13	0.40	-0.39	-0.15	190.04
	NORMAL	2,839.0	29.22	12.59	2,567.46	1,105.54	255.12	1,134.59	1.50	1.41	1.05	20.11
	NORMAL	2,932.0	28.81	12.57	2,648.79	1,149.56	264.94	1,179.70	0.44	-0.44	-0.02	181.35
	NORMAL	3,026.0	28.29	12.38	2,731.36	1,193.43	274.65	1,224.62	0.56	-0.55	-0.20	189.82
	NORMAL	3,120.0	29.05	14.61	2,813.83	1,237.27	285.18	1,269.71	1.40	0.81	2.37	55.59
	NORMAL	3,215.0	28.01	14.86	2,897.30	1,281.15	296.72	1,315.06	1.10	-1.09	0.26	173.56
	NORMAL	3,310.0	28.46	14.34	2,980.99	1,324.64	308.05	1,359.99	0.54	0.47	-0.55	331.11
	NORMAL	3,403.0	27.47	13.93	3,063.13	1,366.93	318.70	1,403.59	1.08	-1.06	-0.44	190.81
	NORMAL	3,494.0	28.82	13.39	3,143.37	1,408.64	328.83	1,446.52	1.51	1.48	-0.59	349.08
	NORMAL	3,588.0	28.37	13.22	3,225.91	1,452.43	339.19	1,491.51	0.49	-0.48	-0.18	190.17
	NORMAL	3,682.0	28.47	14.04	3,308.58	1,495.90	349.73	1,536.24	0.43	0.11	0.87	75.99
	NORMAL	3,776.0	29.34	12.86	3,390.87	1,540.09	360.29	1,581.67	1.11	0.93	-1.26	326.23
	NORMAL	3,870.0	29.11	11.68	3,472.90	1,584.93	370.05	1,627.56	0.66	-0.24	-1.26	247.72
	NORMAL	3,964.0	29.04	12.26	3,555.06	1,629.82	379.52	1,673.23	0.31	-0.07	0.62	104.20
	NORMAL	4,058.0	28.42	11.96	3,637.48	1,673.80	389.00	1,718.41	0.68	-0.66	-0.32	192.96
	NORMAL	4,151.0	28.58	11.54	3,719.21	1,717.24	398.04	1,762.77	0.28	0.17	-0.45	308.42
	NORMAL	4,245.0	27.58	14.99	3,802.15	1,760.30	408.16	1,807.00	2.03	-1.06	3.67	123.14
	NORMAL	4,339.0	26.40	15.73	3,885.91	1,801.43	419.46	1,849.62	1.31	-1.26	0.79	164.44
	NORMAL	4,432.0	25.02	15.55	3,969.71	1,840.28	430.34	1,889.93	1.49	-1.48	-0.19	183.16
	NORMAL	4,526.0	23.13	14.23	4,055.53	1,877.33	440.20	1,928.25	2.09	-2.01	-1.40	195.30
	NORMAL	4,621.0	22.70	14.31	4,143.03	1,913.18	449.32	1,965.23	0.45	-0.45	0.08	175.89
	NORMAL	4,715.0	21.47	12.72	4,230.13	1,947.54	457.59	2,000.57	1.45	-1.31	-1.69	205.19
	NORMAL	4,807.0	21.07	13.07	4,315.86	1,980.07	465.04	2,033.95	0.46	-0.43	0.38	162.55
4/4/2014	NORMAL	4,901.0	19.87	13.50	4,403.93	2,012.07	472.59	2,066.82	1.29	-1.28	0.46	173.06
	NORMAL	4,995.0	18.99	12.03	4,492.57	2,042.56	479.51	2,098.08	1.07	-0.94	-1.56	208.37
	NORMAL	5,089.0	17.90	11.02	4,581.74	2,071.70	485.46	2,127.81	1.21	-1.16	-1.07	195.86
	NORMAL	5,184.0	17.68	14.46	4,672.20	2,100.00	491.85	2,156.82	1.13	-0.23	3.62	103.46
	NORMAL	5,278.0	15.74	17.48	4,762.23	2,125.98	499.24	2,183.81	2.26	-2.06	3.21	157.33
	NORMAL	5,371.0	15.13	17.43	4,851.88	2,149.59	506.67	2,208.49	0.66	-0.66	-0.05	181.23
	NORMAL	5,465.0	13.87	17.88	4,942.88	2,172.02	513.80	2,231.95	1.35	-1.34	0.48	175.11
	NORMAL	5,558.0	13.37	16.67	5,033.26	2,192.93	520.31	2,253.79	0.62	-0.54	-1.30	209.09
	NORMAL	5,653.0	11.08	17.65	5,126.10	2,212.15	526.23	2,273.86	2.42	-2.41	1.03	175.30
	NORMAL	5,745.0	10.55	16.16	5,216.47	2,228.67	531.25	2,291.08	0.65	-0.58	-1.62	207.08
	NORMAL	5,839.0	10.26	15.35	5,308.92	2,245.01	535.86	2,308.04	0.35	-0.31	-0.86	206.37
	NORMAL	5,934.0	7.53	15.86	5,402.77	2,259.16	539.81	2,322.72	2.87	-2.87	0.54	178.60
	NORMAL	6,028.0	7.56	13.57	5,495.96	2,271.09	542.94	2,335.05	0.32	0.03	-2.44	274.56
	NORMAL	6,123.0	6.44	20.42	5,590.25	2,282.16	546.27	2,346.59	1.47	-1.18	7.21	146.67
	NORMAL	6,218.0	5.38	20.45	5,684.74	2,291.33	549.68	2,356.29	1.12	-1.12	0.03	179.85
4/5/2014	NORMAL	6,312.0	4.16	16.99	5,778.42	2,298.72	552.22	2,364.06	1.33	-1.30	-3.68	191.55
	NORMAL	6,406.0	4.48	22.05	5,872.15	2,305.38	554.59	2,371.09	0.53	0.34	5.38	52.53
	NORMAL	6,499.0	2.54	9.58	5,964.97	2,310.78	556.30	2,376.73	2.23	-2.09	-13.41	195.34
	NORMAL	6,592.0	2.09	24.36	6,057.90	2,314.35	557.34	2,380.45	0.80	-0.48	15.89	134.24
	NORMAL	6,686.0	1.50	19.16	6,151.85	2,317.08	558.45	2,383.36	0.65	-0.63	-5.53	192.84
	NORMAL	6,780.0	1.32	20.91	6,245.82	2,319.25	559.24	2,385.65	0.20	-0.19	1.86	167.42
4/6/2014	NORMAL	6,874.0	0.88	358.46	6,339.81	2,320.98	559.61	2,387.43	0.65	-0.47	-23.88	213.55
	NORMAL	6,969.0	0.53	313.85	6,434.80	2,322.02	559.27	2,388.36	0.66	-0.37	-46.96	216.52
	NORMAL	7,064.0	0.61	326.16	6,529.79	2,322.74	558.67	2,388.93	0.15	0.08	12.96	63.10

## 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 (°)
4/6/2014	NORMAL	7,158.0	0.36	240.39	6,623.79	2,323.01	558.14	2,389.07	0.73	-0.27	-91.24	211.61
4/7/2014	NORMAL	7,251.0	0.24	245.60	6,716.79	2,322.79	557.71	2,388.75	0.13	-0.13	5.60	169.79
	NORMAL	7,345.0	0.54	241.22	6,810.79	2,322.49	557.14	2,388.33	0.32	0.32	-4.66	352.13
	NORMAL	7,439.0	0.93	292.34	6,904.78	2,322.57	556.05	2,388.16	0.77	0.41	54.38	86.54
	NORMAL	7,532.0	0.94	294.51	6,997.77	2,323.17	554.65	2,388.43	0.04	0.01	2.33	75.32
	NORMAL	7,625.0	0.88	337.84	7,090.76	2,324.15	553.69	2,389.17	0.72	-0.06	46.59	116.41
	NORMAL	7,719.0	0.88	353.13	7,184.75	2,325.54	553.33	2,390.43	0.25	0.00	16.27	97.64
	NORMAL	7,813.0	0.53	303.83	7,278.74	2,326.50	552.88	2,391.27	0.71	-0.37	-52.45	216.94
	NORMAL	7,908.0	1.25	260.45	7,373.73	2,326.57	551.50	2,391.02	0.99	0.76	-45.66	293.79
	NORMAL	8,000.0	1.13	239.21	7,465.71	2,325.94	549.73	2,390.01	0.49	-0.13	-23.09	244.33
	NORMAL	8,094.0	1.05	245.35	7,559.69	2,325.10	548.15	2,388.84	0.15	-0.09	6.53	127.45
	NORMAL	8,188.0	1.67	241.22	7,653.67	2,324.08	546.17	2,387.39	0.67	0.66	-4.39	348.95
4/8/2014	NORMAL	8,282.0	1.94	272.62	7,747.62	2,323.50	543.38	2,386.19	1.08	0.29	33.40	90.79
	NORMAL	8,375.0	1.82	261.83	7,840.57	2,323.36	540.34	2,385.37	0.40	-0.13	-11.60	245.93
	NORMAL	8,469.0	1.68	254.94	7,934.53	2,322.79	537.53	2,384.17	0.27	-0.15	-7.33	232.95
	NORMAL	8,563.0	2.14	258.49	8,028.48	2,322.08	534.48	2,382.79	0.51	0.49	3.78	16.20
	NORMAL	8,658.0	1.98	251.27	8,123.41	2,321.20	531.19	2,381.19	0.32	-0.17	-7.60	234.77
	NORMAL	8,752.0	2.42	254.73	8,217.35	2,320.16	527.74	2,379.38	0.49	0.47	3.68	18.53
	NORMAL	8,847.0	2.90	248.19	8,312.24	2,318.74	523.57	2,377.06	0.60	0.51	-6.88	324.40
	NORMAL	8,941.0	3.08	231.84	8,406.12	2,316.29	519.38	2,373.72	0.92	0.19	-17.39	273.68
4/9/2014	NORMAL	9,035.0	3.96	233.95	8,499.94	2,312.82	514.77	2,369.30	0.95	0.94	2.24	9.43
	NORMAL	9,129.0	3.72	225.27	8,593.73	2,308.76	509.98	2,364.26	0.67	-0.26	-9.23	243.27
	NORMAL	9,145.0	3.76	230.09	8,609.69	2,308.06	509.21	2,363.40	1.98	0.25	30.13	85.16
	NORMAL	9,210.0	3.92	249.67	8,674.55	2,305.92	505.49	2,360.47	2.02	0.25	30.12	92.88