

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well/Wellbore Information

Well	RWF 322-25	Wellbore No.	00
Wellbore Legal Name	RWF 322-25	Common Wellbore Name	RWF 322-25
Project	RU 25-06S-094W	Site	RWF 22-25 Pad
Vertical Section Azimuth	37.49 (°)	North reference	True
Origin N/S		Origin E/W	
Spud date	2/12/2014	UWI	RWF 322-25
Active datum	KB @6,058.4ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	Scientific Drilling
Date Started	2/12/2014	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 (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
2/12/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/12/2014	NORMAL	74.0	0.18	8.09	74.00	0.12	0.02	0.10	0.24	0.24	0.00	8.09
	NORMAL	165.0	1.50	38.85	164.99	1.18	0.78	1.42	1.48	1.45	33.80	34.67
	NORMAL	255.0	3.08	42.45	254.91	3.89	3.15	5.00	1.76	1.76	4.00	7.00
	NORMAL	346.0	5.54	37.27	345.65	9.19	7.47	11.83	2.73	2.70	-5.69	348.42
	NORMAL	437.0	8.01	37.79	436.01	17.69	14.01	22.57	2.72	2.71	0.57	1.68
	NORMAL	527.0	10.29	37.88	524.86	29.00	22.79	36.88	2.53	2.53	0.10	0.40
	NORMAL	617.0	12.49	37.62	613.08	43.05	33.67	54.65	2.45	2.44	-0.29	358.54
	NORMAL	707.0	14.87	37.53	700.52	59.92	46.65	75.93	2.64	2.64	-0.10	359.44
	NORMAL	778.0	14.79	35.69	769.15	74.50	57.48	94.10	0.67	-0.11	-2.59	259.47
	NORMAL	868.0	15.63	34.56	856.00	93.82	71.06	117.69	0.99	0.93	-1.26	340.01
2/13/2014	NORMAL	959.0	15.57	35.03	943.65	113.92	85.03	142.14	0.15	-0.07	0.52	115.62
	NORMAL	1,053.0	15.48	35.65	1,034.22	134.44	99.58	167.28	0.20	-0.10	0.66	118.77
	NORMAL	1,108.0	15.94	36.35	1,087.16	146.49	108.33	182.17	0.90	0.84	1.27	22.73
2/14/2014	NORMAL	1,239.0	16.40	36.83	1,212.98	175.78	130.08	218.64	0.37	0.35	0.37	16.43
	NORMAL	1,333.0	14.84	35.80	1,303.51	196.16	145.08	243.95	1.69	-1.66	-1.10	189.59
	NORMAL	1,428.0	14.29	39.64	1,395.46	215.06	159.68	267.82	1.17	-0.58	4.04	121.51
	NORMAL	1,523.0	13.98	39.95	1,487.58	232.88	174.52	291.00	0.34	-0.33	0.33	166.43
	NORMAL	1,618.0	14.13	39.62	1,579.74	250.61	189.29	314.06	0.18	0.16	-0.35	331.73
	NORMAL	1,713.0	14.70	37.77	1,671.75	269.07	204.06	337.70	0.77	0.60	-1.95	320.16
	NORMAL	1,807.0	14.61	38.27	1,762.69	287.81	218.71	361.48	0.17	-0.10	0.53	125.67

2.1.2 Survey Stations (Continued)

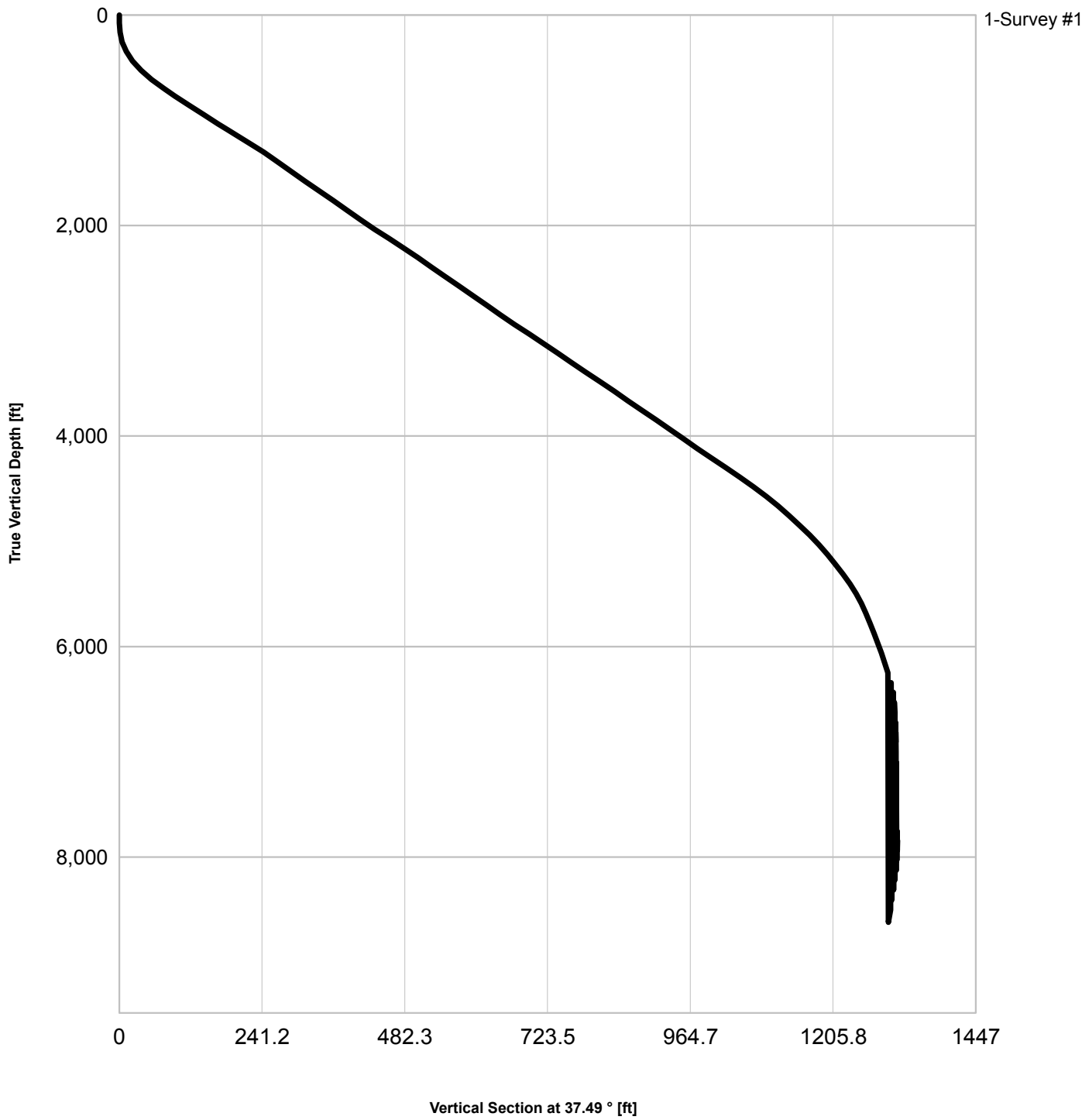
Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
2/14/2014	NORMAL	1,901.0	14.07	36.54	1,853.76	306.30	232.86	384.76	0.73	-0.57	-1.84	217.60
	NORMAL	1,994.0	13.99	36.17	1,943.98	324.45	246.22	407.30	0.13	-0.09	-0.40	228.09
	NORMAL	2,088.0	15.44	36.28	2,034.90	343.72	260.33	431.17	1.54	1.54	0.12	1.16
	NORMAL	2,181.0	15.50	35.45	2,124.53	363.82	274.87	455.96	0.25	0.06	-0.89	284.76
	NORMAL	2,275.0	15.06	34.40	2,215.21	384.13	289.05	480.71	0.55	-0.47	-1.12	211.66
	NORMAL	2,368.0	14.57	37.83	2,305.12	403.34	303.05	504.47	1.08	-0.53	3.69	120.84
	NORMAL	2,462.0	14.25	38.14	2,396.16	421.77	317.45	527.87	0.35	-0.34	0.33	166.60
	NORMAL	2,555.0	14.42	35.86	2,486.26	440.16	331.30	550.89	0.63	0.18	-2.45	285.65
	NORMAL	2,649.0	14.60	38.49	2,577.27	458.92	345.53	574.43	0.73	0.19	2.80	76.00
	NORMAL	2,743.0	14.32	36.69	2,668.29	477.51	359.85	597.90	0.56	-0.30	-1.91	237.21
	NORMAL	2,836.0	14.43	38.63	2,758.38	495.79	373.96	620.99	0.53	0.12	2.09	78.08
	NORMAL	2,929.0	14.07	39.37	2,848.52	513.58	388.36	643.87	0.43	-0.39	0.80	153.52
	NORMAL	3,023.0	15.21	38.67	2,939.46	532.04	403.31	667.62	1.23	1.21	-0.74	350.84
	NORMAL	3,117.0	15.34	38.61	3,030.14	551.39	418.78	692.38	0.14	0.14	-0.06	353.04
	NORMAL	3,212.0	14.53	37.27	3,121.93	570.69	433.84	716.86	0.93	-0.85	-1.41	202.45
	NORMAL	3,307.0	14.87	39.00	3,213.82	589.65	448.72	740.96	0.58	0.36	1.82	53.08
	NORMAL	3,399.0	14.29	37.29	3,302.86	607.85	463.03	764.12	0.79	-0.63	-1.86	215.76
	NORMAL	3,491.0	15.23	39.37	3,391.82	626.23	477.58	787.55	1.17	1.02	2.26	30.42
	NORMAL	3,585.0	15.12	39.33	3,482.55	645.26	493.18	812.14	0.12	-0.12	-0.04	185.42
	NORMAL	3,679.0	14.54	39.20	3,573.42	663.88	508.41	836.19	0.62	-0.62	-0.14	183.22
	NORMAL	3,773.0	14.15	39.44	3,664.48	681.90	523.16	859.47	0.42	-0.41	0.26	171.45
	NORMAL	3,866.0	14.88	38.64	3,754.52	700.01	537.84	882.77	0.81	0.78	-0.86	344.25
	NORMAL	3,961.0	14.57	39.18	3,846.40	718.80	553.01	906.91	0.36	-0.33	0.57	156.38
2/15/2014	NORMAL	4,055.0	14.46	35.06	3,937.40	737.57	567.22	930.45	1.10	-0.12	-4.38	261.93
	NORMAL	4,148.0	14.10	33.59	4,027.52	756.51	580.15	953.36	0.55	-0.39	-1.58	224.49
	NORMAL	4,242.0	14.43	36.78	4,118.63	775.43	593.50	976.49	0.91	0.35	3.39	68.78
	NORMAL	4,336.0	15.33	37.46	4,209.47	794.67	608.07	1,000.63	0.98	0.96	0.72	11.31
	NORMAL	4,429.0	14.54	36.84	4,299.33	813.77	622.55	1,024.60	0.87	-0.85	-0.67	191.14
	NORMAL	4,523.0	14.77	41.31	4,390.28	832.22	637.53	1,048.35	1.23	0.24	4.76	80.67
	NORMAL	4,618.0	13.60	41.49	4,482.38	849.68	652.93	1,071.58	1.23	-1.23	0.19	177.93
	NORMAL	4,712.0	12.97	38.92	4,573.86	866.17	666.88	1,093.15	0.92	-0.67	-2.73	221.90
	NORMAL	4,804.0	11.70	39.81	4,663.74	881.37	679.34	1,112.79	1.40	-1.38	0.97	171.92
	NORMAL	4,897.0	11.03	37.89	4,754.91	895.63	690.84	1,131.11	0.83	-0.72	-2.06	208.51
	NORMAL	4,992.0	10.82	38.90	4,848.19	909.74	702.02	1,149.11	0.30	-0.22	1.06	138.15
	NORMAL	5,086.0	10.46	33.76	4,940.58	923.70	712.30	1,166.45	1.08	-0.38	-5.47	246.71
	NORMAL	5,181.0	9.06	42.10	5,034.21	936.43	722.11	1,182.51	2.09	-1.47	8.78	138.78
	NORMAL	5,274.0	8.24	44.55	5,126.15	946.61	731.69	1,196.42	0.97	-0.88	2.63	157.01
	NORMAL	5,367.0	8.43	39.82	5,218.17	956.59	740.73	1,209.85	0.76	0.20	-5.09	283.14
	NORMAL	5,462.0	7.60	38.24	5,312.24	966.88	749.08	1,223.09	0.90	-0.87	-1.66	194.08
2/16/2014	NORMAL	5,555.0	6.68	35.51	5,404.52	976.11	756.03	1,234.64	1.05	-0.99	-2.94	198.89
	NORMAL	5,650.0	5.98	36.91	5,498.94	984.56	762.21	1,245.11	0.75	-0.74	1.47	168.26
	NORMAL	5,742.0	4.82	26.05	5,590.53	991.87	766.79	1,253.69	1.68	-1.26	-11.80	216.06
	NORMAL	5,836.0	4.49	39.12	5,684.22	998.27	770.84	1,261.24	1.18	-0.35	13.90	113.72
	NORMAL	5,931.0	4.19	31.97	5,778.95	1,004.10	775.03	1,268.41	0.65	-0.32	-7.53	237.46
	NORMAL	6,025.0	4.13	41.31	5,872.70	1,009.56	779.08	1,275.21	0.72	-0.06	9.94	99.71
	NORMAL	6,120.0	3.53	48.27	5,967.49	1,014.07	783.52	1,281.49	0.80	-0.63	7.33	145.67
	NORMAL	6,215.0	3.84	44.56	6,062.29	1,018.29	787.94	1,287.52	0.41	0.33	-3.91	320.57
	NORMAL	6,309.0	3.22	43.87	6,156.11	1,022.43	791.97	1,293.27	0.66	-0.66	-0.73	183.58
	NORMAL	6,403.0	3.43	31.94	6,249.96	1,026.72	795.29	1,298.69	0.77	0.22	-12.69	280.87
2/17/2014	NORMAL	6,496.0	3.17	44.73	6,342.80	1,030.91	798.57	1,304.01	0.84	-0.28	13.75	115.76
	NORMAL	6,589.0	1.50	17.87	6,435.73	1,033.89	800.76	1,307.71	2.10	-1.80	-28.88	200.31
	NORMAL	6,682.0	0.57	18.76	6,528.71	1,035.49	801.28	1,309.30	1.00	-1.00	0.96	179.45
	NORMAL	6,777.0	0.84	59.70	6,623.70	1,036.29	802.03	1,310.39	0.58	0.28	43.09	83.31
	NORMAL	6,871.0	0.88	24.43	6,717.69	1,037.30	802.93	1,311.73	0.56	0.04	-37.52	256.55
	NORMAL	6,966.0	1.25	288.47	6,812.68	1,038.29	802.24	1,312.10	1.69	0.39	-101.01	230.92
	NORMAL	7,061.0	1.65	316.75	6,907.65	1,039.61	800.32	1,311.99	0.85	0.42	29.77	75.43

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
2/18/2014	NORMAL	7,155.0	0.50	315.86	7,001.64	1,040.89	799.11	1,312.26	1.22	-1.22	-0.95	180.39
	NORMAL	7,248.0	0.53	329.92	7,094.63	1,041.56	798.61	1,312.49	0.14	0.03	15.12	83.74
	NORMAL	7,342.0	0.85	328.84	7,188.62	1,042.53	798.03	1,312.91	0.34	0.34	-1.15	357.13
	NORMAL	7,436.0	0.96	283.85	7,282.61	1,043.31	796.91	1,312.84	0.74	0.12	-47.86	255.86
	NORMAL	7,529.0	0.66	91.60	7,375.61	1,043.49	796.69	1,312.85	1.73	-0.32	180.38	175.01
	NORMAL	7,622.0	0.47	251.52	7,468.61	1,043.35	796.86	1,312.84	1.20	-0.20	171.96	171.66
	NORMAL	7,716.0	0.70	111.97	7,562.61	1,043.01	797.03	1,312.68	1.17	0.24	-148.46	204.37
	NORMAL	7,810.0	0.61	42.64	7,656.60	1,043.17	797.90	1,313.33	0.80	-0.10	-73.76	229.66
	NORMAL	7,904.0	0.48	49.96	7,750.60	1,043.79	798.54	1,314.21	0.16	-0.14	7.79	155.45
	NORMAL	7,997.0	0.86	100.14	7,843.59	1,043.91	799.53	1,314.91	0.71	0.41	53.96	83.89
	NORMAL	8,091.0	1.21	169.86	7,937.58	1,042.81	800.39	1,314.57	1.30	0.37	74.17	111.21
	NORMAL	8,185.0	0.85	146.35	8,031.56	1,041.26	800.96	1,313.67	0.58	-0.38	-25.01	218.22
2/19/2014	NORMAL	8,279.0	1.38	187.58	8,125.55	1,039.55	801.19	1,312.47	0.99	0.56	43.86	78.33
	NORMAL	8,372.0	1.32	194.68	8,218.52	1,037.41	800.77	1,310.51	0.19	-0.06	7.63	113.26
	NORMAL	8,466.0	1.59	232.40	8,312.49	1,035.56	799.47	1,308.25	1.04	0.29	40.13	93.66
	NORMAL	8,560.0	2.11	248.90	8,406.45	1,034.15	796.82	1,305.51	0.79	0.55	17.55	54.13
	NORMAL	8,655.0	1.35	251.84	8,501.40	1,033.17	794.12	1,303.10	0.81	-0.80	3.09	174.81
	NORMAL	8,707.0	2.02	229.22	8,553.38	1,032.38	792.85	1,301.70	1.79	1.29	-43.50	303.53
	NORMAL	8,772.0	2.02	229.22	8,618.34	1,030.88	791.11	1,299.45	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

