

1 General**1.1 Customer Information**

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	RWF 511-32	Wellbore No.	
Well Name	RWF 511-32	Common Name	RWF 511-32
Project	RU 32-06S-094W	Site	RWF 11-32 Pad
Vertical Section Azimuth	313.50 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	1/1/2012	UWI	RWF 511-32
Active Datum	KB @5,565.2ft (above Mean Sea Level)		

2 Survey Name**2.1 Survey Name: Survey #1**

Survey Name	Survey #1	Company	SCIENTIFIC
Date Started	1/1/2012	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

6043

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 (°)
1/1/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/1/2012	NORMAL	86.0	0.53	10.38	86.00	0.39	0.07	0.22	0.62	0.62	0.00	10.38
	NORMAL	174.0	2.29	345.85	173.97	2.50	-0.28	1.93	2.07	2.00	-27.88	328.53
1/2/2012	NORMAL	250.0	2.90	326.47	249.89	5.57	-1.72	5.08	1.40	0.80	-25.50	294.87
	NORMAL	341.0	7.56	310.12	340.49	11.35	-7.57	13.31	5.33	5.12	-17.97	334.00
	NORMAL	432.0	11.60	308.97	430.20	20.97	-19.27	28.41	4.44	4.44	-1.26	356.72
	NORMAL	522.0	13.10	311.53	518.12	33.42	-33.94	47.62	1.77	1.67	2.84	21.31
	NORMAL	612.0	14.16	311.09	605.58	47.42	-49.87	68.82	1.18	1.18	-0.49	354.20
	NORMAL	703.0	15.21	312.94	693.61	62.87	-67.00	91.87	1.26	1.15	2.03	24.96
	NORMAL	793.0	16.19	312.42	780.25	79.37	-84.90	116.22	1.10	1.09	-0.58	351.58
	NORMAL	884.0	14.68	315.04	867.97	96.09	-102.42	140.44	1.83	-1.66	2.88	156.47
	NORMAL	976.0	14.86	316.10	956.93	112.84	-118.84	163.87	0.35	0.20	1.15	56.85
	NORMAL	1,069.0	15.39	316.89	1,046.71	130.44	-135.54	188.11	0.61	0.57	0.85	21.63
1/3/2012	NORMAL	1,157.0	15.83	316.98	1,131.46	147.74	-151.71	211.74	0.50	0.50	0.10	3.19
	NORMAL	1,251.0	15.92	316.98	1,221.88	166.54	-169.25	237.41	0.10	0.10	0.00	0.00
	NORMAL	1,346.0	15.21	314.25	1,313.39	184.76	-187.07	262.88	1.07	-0.75	-2.87	224.59
	NORMAL	1,439.0	15.98	314.07	1,402.97	202.18	-205.00	287.88	0.83	0.83	-0.19	356.32
	NORMAL	1,533.0	15.21	311.79	1,493.51	219.40	-223.49	313.14	1.05	-0.82	-2.43	217.43
	NORMAL	1,628.0	15.65	312.46	1,585.08	236.35	-242.24	338.41	0.50	0.46	0.71	22.38
1/4/2012	NORMAL	1,722.0	16.00	312.94	1,675.52	253.74	-261.08	364.04	0.40	0.37	0.51	20.74
	NORMAL	1,815.0	16.00	312.50	1,764.92	271.13	-279.91	389.67	0.13	0.00	-0.47	269.79

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 (°)
1/4/2012	NORMAL	1,908.0	17.06	313.37	1,854.07	289.16	-299.28	416.13	1.17	1.14	0.94	13.56
	NORMAL	2,002.0	16.94	313.55	1,943.97	308.06	-319.23	443.61	0.14	-0.13	0.19	156.41
	NORMAL	2,097.0	16.97	314.69	2,034.84	327.35	-339.11	471.31	0.35	0.03	1.20	85.39
	NORMAL	2,190.0	16.36	315.13	2,123.93	346.17	-358.00	497.97	0.67	-0.66	0.47	168.52
	NORMAL	2,284.0	16.62	314.96	2,214.06	365.05	-376.85	524.65	0.28	0.28	-0.18	349.40
	NORMAL	2,378.0	16.09	312.85	2,304.26	383.41	-395.92	551.11	0.85	-0.56	-2.24	227.26
	NORMAL	2,471.0	15.92	311.53	2,393.66	400.63	-414.91	576.74	0.43	-0.18	-1.42	244.33
	NORMAL	2,565.0	16.18	310.56	2,483.99	417.70	-434.51	602.71	0.40	0.28	-1.03	313.65
	NORMAL	2,660.0	16.18	310.39	2,575.23	434.88	-454.65	629.14	0.05	0.00	-0.18	269.92
	NORMAL	2,753.0	16.27	310.91	2,664.53	451.81	-474.37	655.10	0.18	0.10	0.56	58.02
	NORMAL	2,849.0	16.09	311.27	2,756.72	469.39	-494.53	681.83	0.22	-0.19	0.38	151.26
	NORMAL	2,943.0	15.92	310.74	2,847.08	486.40	-514.09	707.72	0.24	-0.18	-0.56	220.43
	NORMAL	3,037.0	15.92	309.95	2,937.47	503.09	-533.74	733.46	0.23	0.00	-0.84	269.62
	NORMAL	3,130.0	15.78	311.55	3,026.94	519.67	-552.98	758.83	0.49	-0.15	1.72	108.53
	NORMAL	3,224.0	15.39	311.53	3,117.48	536.41	-571.88	784.07	0.41	-0.41	-0.02	180.78
	NORMAL	3,319.0	15.39	312.85	3,209.08	553.34	-590.56	809.28	0.37	0.00	1.39	90.64
	NORMAL	3,413.0	15.65	313.90	3,299.65	570.62	-608.84	834.43	0.41	0.28	1.12	47.72
	NORMAL	3,507.0	15.12	314.78	3,390.28	588.05	-626.68	859.36	0.62	-0.56	0.94	156.65
	NORMAL	3,601.0	15.04	316.28	3,481.04	605.50	-643.81	883.80	0.42	-0.09	1.60	102.31
	NORMAL	3,695.0	14.68	316.98	3,571.90	623.02	-660.37	907.87	0.43	-0.38	0.74	153.83
1/5/2012	NORMAL	3,789.0	14.33	317.59	3,662.90	640.32	-676.34	931.36	0.41	-0.37	0.65	156.71
	NORMAL	3,882.0	14.60	316.54	3,752.95	657.32	-692.16	954.55	0.40	0.29	-1.13	315.32
	NORMAL	3,976.0	15.21	315.31	3,843.79	674.69	-708.98	978.70	0.73	0.65	-1.31	331.99
	NORMAL	4,069.0	15.30	315.13	3,933.52	692.06	-726.22	1,003.16	0.11	0.10	-0.19	332.16
	NORMAL	4,163.0	15.83	314.34	4,024.07	709.81	-744.14	1,028.38	0.61	0.56	-0.84	337.82
	NORMAL	4,257.0	15.04	315.57	4,114.68	727.48	-761.85	1,053.39	0.91	-0.84	1.31	158.08
	NORMAL	4,350.0	14.95	316.89	4,204.51	744.85	-778.49	1,077.42	0.38	-0.10	1.42	105.40
	NORMAL	4,445.0	13.72	311.62	4,296.55	761.28	-795.29	1,100.91	1.89	-1.29	-5.55	224.16
	NORMAL	4,538.0	13.28	310.21	4,386.99	775.50	-811.69	1,122.60	0.59	-0.47	-1.52	216.12
	NORMAL	4,632.0	13.45	307.75	4,478.44	789.17	-828.58	1,144.26	0.63	0.18	-2.62	285.45
1/6/2012	NORMAL	4,726.0	12.49	309.86	4,570.04	802.37	-845.03	1,165.28	1.14	-1.02	2.24	154.77
	NORMAL	4,821.0	12.49	309.86	4,662.79	815.54	-860.80	1,185.78	0.00	0.00	0.00	0.00
	NORMAL	4,915.0	10.90	313.64	4,754.84	828.19	-875.03	1,204.82	1.88	-1.69	4.02	156.11
	NORMAL	5,010.0	10.20	318.56	4,848.24	840.70	-887.10	1,222.18	1.20	-0.74	5.18	130.25
	NORMAL	5,104.0	8.79	319.18	4,940.95	852.37	-897.31	1,237.62	1.50	-1.50	0.66	176.16
	NORMAL	5,198.0	7.12	317.33	5,034.04	862.09	-905.95	1,250.58	1.80	-1.78	-1.97	187.80
	NORMAL	5,292.0	5.54	316.28	5,127.46	869.65	-913.03	1,260.92	1.69	-1.68	-1.12	183.67
	NORMAL	5,384.0	5.19	314.43	5,219.06	875.78	-919.08	1,269.52	0.42	-0.38	-2.01	205.38
	NORMAL	5,478.0	5.01	312.50	5,312.69	881.52	-925.14	1,277.87	0.26	-0.19	-2.05	222.67
	NORMAL	5,572.0	4.57	311.62	5,406.36	886.78	-930.96	1,285.72	0.47	-0.47	-0.94	189.04
1/7/2012	NORMAL	5,665.0	3.78	303.79	5,499.11	890.95	-936.28	1,292.44	1.05	-0.85	-8.42	211.95
	NORMAL	5,759.0	2.81	297.11	5,592.95	893.72	-940.91	1,297.71	1.11	-1.03	-7.11	198.28
	NORMAL	5,853.0	2.73	294.57	5,686.85	895.70	-944.99	1,302.04	0.16	-0.09	-2.70	235.64
	NORMAL	5,947.0	2.02	305.99	5,780.76	897.61	-948.37	1,305.80	0.90	-0.76	12.15	151.93
	NORMAL	6,041.0	0.79	343.08	5,874.74	899.20	-949.90	1,308.00	1.56	-1.31	39.46	161.08
	NORMAL	6,135.0	0.44	54.45	5,968.73	900.03	-949.79	1,308.50	0.82	-0.37	75.93	147.30
	NORMAL	6,229.0	0.18	89.52	6,062.73	900.24	-949.35	1,308.32	0.33	-0.28	37.31	160.54
	NORMAL	6,324.0	0.00	305.99	6,157.73	900.24	-949.20	1,308.22	0.19	-0.19	0.00	180.00
	NORMAL	6,418.0	0.26	141.64	6,251.73	900.08	-949.07	1,308.00	0.28	0.28	0.00	141.64
	NORMAL	6,512.0	0.62	159.65	6,345.73	899.43	-948.76	1,307.34	0.41	0.38	19.16	30.18
1/8/2012	NORMAL	6,606.0	1.32	172.40	6,439.71	897.88	-948.44	1,306.04	0.77	0.74	13.56	23.58
	NORMAL	6,700.0	1.23	126.87	6,533.69	896.20	-947.49	1,304.19	1.05	-0.10	-48.44	242.43
	NORMAL	6,792.0	1.49	103.76	6,625.67	895.33	-945.54	1,302.17	0.65	0.28	-25.12	283.51
	NORMAL	6,885.0	1.06	16.48	6,718.65	895.87	-944.12	1,301.51	1.92	-0.46	-93.85	216.34
	NORMAL	6,980.0	1.85	3.03	6,813.62	898.24	-943.79	1,302.91	0.90	0.83	-14.16	329.80
	NORMAL	7,073.0	2.37	354.86	6,906.56	901.65	-943.88	1,305.33	0.64	0.56	-8.78	325.83
	NORMAL	7,168.0	2.55	349.50	7,001.47	905.69	-944.45	1,308.51	0.31	0.19	-5.64	305.34
	NORMAL											
	NORMAL											
	NORMAL											
1/9/2012	NORMAL											
	NORMAL											

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 (°)
1/9/2012	NORMAL	7,262.0	1.58	345.02	7,095.41	909.00	-945.16	1,311.31	1.05	-1.03	-4.77	187.21
	NORMAL	7,354.0	0.88	324.36	7,187.39	910.80	-945.90	1,313.08	0.89	-0.76	-22.46	202.31
	NORMAL	7,448.0	0.53	307.57	7,281.38	911.65	-946.67	1,314.22	0.43	-0.37	-17.86	202.34
	NORMAL	7,542.0	0.35	321.64	7,375.38	912.14	-947.19	1,314.94	0.22	-0.19	14.97	155.93
1/10/2012	NORMAL	7,635.0	0.09	114.39	7,468.37	912.33	-947.30	1,315.15	0.46	-0.28	164.25	174.53
	NORMAL	7,730.0	0.53	162.82	7,563.37	911.88	-947.10	1,314.70	0.50	0.46	50.98	56.58
	NORMAL	7,823.0	0.97	180.75	7,656.36	910.68	-946.98	1,313.79	0.53	0.47	19.28	37.24
	NORMAL	7,917.0	1.23	194.81	7,750.35	908.91	-947.25	1,312.76	0.40	0.28	14.96	53.24
	NORMAL	8,011.0	0.97	191.73	7,844.33	907.16	-947.67	1,311.86	0.28	-0.28	-3.28	191.28
	NORMAL	8,090.0	0.97	191.73	7,923.32	905.85	-947.94	1,311.16	0.00	0.00	0.00	0.00
	NORMAL											