

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	RWF 334-31	Wellbore No.	
Well Name	RWF 334-31	Common Name	RWF 334-31
Project	RU 31-06S-094W	Site	RWF 34-31 Pad
Vertical Section Azimuth	73.05 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	8/18/2011	UWI	RWF 334-31
Active Datum	KB @5,733.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	8/18/2011	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 (°/100ft)	Buidl Rate (°/100ft)	Turn (°/100ft)	TFace (°)
8/18/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/18/2011	NORMAL	116.0	0.09	63.98	116.00	0.04	0.08	0.09	0.08	0.08	0.00	63.98
	NORMAL	176.0	1.50	119.27	175.99	-0.32	0.81	0.68	2.42	2.35	92.15	58.21
	NORMAL	267.0	2.82	89.91	266.93	-0.90	4.09	3.65	1.85	1.45	-32.26	304.73
	NORMAL	358.0	4.31	66.53	357.75	0.46	9.46	9.19	2.26	1.64	-25.69	303.63
	NORMAL	430.0	5.22	70.18	429.51	2.65	15.03	15.15	1.33	1.26	5.07	20.25
	NORMAL	521.0	7.86	68.65	519.91	6.32	24.72	25.49	2.91	2.90	-1.68	355.46
	NORMAL	611.0	9.93	71.15	608.82	11.07	37.79	39.38	2.34	2.30	2.78	11.82
	NORMAL	701.0	11.40	70.08	697.26	16.61	53.50	56.02	1.65	1.63	-1.19	351.80
	NORMAL	791.0	10.58	67.46	785.61	22.80	69.50	73.12	1.07	-0.91	-2.91	210.06
8/19/2011	NORMAL	881.0	11.15	67.29	874.00	29.33	85.15	90.01	0.63	0.63	-0.19	356.70
	NORMAL	972.0	11.31	69.59	963.25	35.84	101.63	107.67	0.52	0.18	2.53	71.47
	NORMAL	1,067.0	10.77	75.93	1,056.50	41.25	118.98	125.83	1.40	-0.57	6.67	117.07
8/20/2011	NORMAL	1,160.0	11.95	75.64	1,147.68	45.75	136.73	144.13	1.27	1.27	-0.31	357.09
	NORMAL	1,255.0	12.75	75.40	1,240.48	50.83	156.40	164.43	0.84	0.84	-0.25	356.21
	NORMAL	1,350.0	13.31	77.46	1,333.03	55.85	177.22	185.81	0.77	0.59	2.17	40.68
	NORMAL	1,445.0	13.87	78.65	1,425.37	60.46	199.06	208.04	0.66	0.59	1.25	27.11
	NORMAL	1,541.0	12.96	70.36	1,518.76	66.35	220.49	230.25	2.21	-0.95	-8.64	240.69
	NORMAL	1,636.0	11.62	67.84	1,611.58	73.53	239.38	250.42	1.52	-1.41	-2.65	200.59
	NORMAL	1,732.0	10.51	72.87	1,705.80	79.76	256.70	268.80	1.53	-1.16	5.24	141.44
	NORMAL	1,827.0	10.60	73.64	1,799.19	84.77	273.37	286.21	0.18	0.09	0.81	57.84

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 (°)
8/20/2011	NORMAL	1,922.0	10.93	73.51	1,892.52	89.79	290.39	303.95	0.35	0.35	-0.14	355.73
	NORMAL	2,018.0	10.76	74.51	1,986.80	94.77	307.75	322.01	0.26	-0.18	1.04	132.59
	NORMAL	2,113.0	10.81	75.07	2,080.13	99.43	324.90	339.78	0.12	0.05	0.59	64.77
	NORMAL	2,209.0	11.08	74.90	2,174.38	104.15	342.51	357.99	0.28	0.28	-0.18	353.10
	NORMAL	2,304.0	11.22	74.89	2,267.59	108.94	360.24	376.36	0.15	0.15	-0.01	359.20
	NORMAL	2,398.0	11.32	73.82	2,359.77	113.90	377.93	394.72	0.25	0.11	-1.14	295.03
	NORMAL	2,493.0	11.69	74.37	2,452.86	119.09	396.16	413.67	0.41	0.39	0.58	16.78
	NORMAL	2,588.0	12.02	74.79	2,545.84	124.28	414.97	433.17	0.36	0.35	0.44	14.86
	NORMAL	2,683.0	12.20	73.99	2,638.72	129.64	434.16	453.10	0.26	0.19	-0.84	316.61
	NORMAL	2,779.0	12.69	75.10	2,732.47	135.15	454.10	473.78	0.57	0.51	1.16	26.56
	NORMAL	2,874.0	11.43	72.07	2,825.37	140.73	473.14	493.62	1.48	-1.33	-3.19	205.20
	NORMAL	2,969.0	11.22	72.07	2,918.52	146.47	490.89	512.27	0.22	-0.22	0.00	180.00
	NORMAL	3,065.0	11.38	72.80	3,012.66	152.15	508.83	531.08	0.22	0.17	0.76	42.16
	NORMAL	3,160.0	11.26	73.72	3,105.81	157.52	526.68	549.73	0.23	-0.13	0.97	124.05
	NORMAL	3,255.0	11.57	74.12	3,198.93	162.73	544.75	568.53	0.34	0.33	0.42	14.52
	NORMAL	3,350.0	11.24	74.40	3,292.06	167.82	562.83	587.31	0.35	-0.35	0.29	170.61
	NORMAL	3,445.0	10.93	75.79	3,385.28	172.52	580.48	605.56	0.43	-0.33	1.46	139.92
	NORMAL	3,540.0	11.63	73.51	3,478.45	177.45	598.39	624.13	0.87	0.74	-2.40	326.38
	NORMAL	3,636.0	11.71	74.38	3,572.46	182.82	617.05	643.55	0.20	0.08	0.91	65.98
	NORMAL	3,731.0	11.99	72.72	3,665.44	188.35	635.76	663.05	0.46	0.29	-1.75	308.59
	NORMAL	3,827.0	11.64	68.25	3,759.41	194.90	654.28	682.68	1.02	-0.36	-4.66	246.89
8/21/2011	NORMAL	3,922.0	11.53	67.13	3,852.47	202.14	671.93	701.67	0.26	-0.12	-1.18	243.39
	NORMAL	4,017.0	11.58	69.80	3,945.55	209.12	689.62	720.63	0.57	0.05	2.81	85.97
	NORMAL	4,112.0	11.41	70.13	4,038.64	215.61	707.41	739.54	0.19	-0.18	0.35	159.01
	NORMAL	4,207.0	11.35	70.11	4,131.77	221.99	725.04	758.26	0.06	-0.06	-0.02	183.75
	NORMAL	4,303.0	11.35	68.24	4,225.90	228.70	742.69	777.11	0.38	0.00	-1.95	269.08
	NORMAL	4,398.0	11.40	68.14	4,319.03	235.66	760.09	795.78	0.06	0.05	-0.11	338.42
	NORMAL	4,493.0	11.16	70.45	4,412.20	242.23	777.47	814.31	0.54	-0.25	2.43	119.10
	NORMAL	4,588.0	10.49	71.04	4,505.51	248.12	794.31	832.14	0.71	-0.71	0.62	170.90
	NORMAL	4,683.0	10.07	73.32	4,598.98	253.31	810.44	849.09	0.62	-0.44	2.40	137.03
	NORMAL	4,778.0	10.05	74.46	4,692.52	257.92	826.39	865.68	0.21	-0.02	1.20	96.30
	NORMAL	4,873.0	9.66	76.55	4,786.12	261.99	842.12	881.92	0.56	-0.41	2.20	138.50
	NORMAL	4,968.0	8.38	78.48	4,879.94	265.23	856.66	896.77	1.38	-1.35	2.03	167.65
	NORMAL	5,064.0	7.98	80.52	4,974.97	267.73	870.09	910.34	0.51	-0.42	2.13	145.04
	NORMAL	5,158.0	7.55	80.92	5,068.10	269.77	882.62	922.93	0.46	-0.46	0.43	173.03
	NORMAL	5,253.0	6.47	74.66	5,162.39	272.18	893.95	934.46	1.39	-1.14	-6.59	212.20
	NORMAL	5,348.0	5.51	78.50	5,256.87	274.50	903.58	944.35	1.09	-1.01	4.04	159.25
	NORMAL	5,443.0	4.95	78.45	5,351.48	276.23	912.06	952.97	0.59	-0.59	-0.05	180.44
	NORMAL	5,538.0	3.65	75.10	5,446.21	277.83	919.00	960.08	1.39	-1.37	-3.53	189.27
	NORMAL	5,632.0	1.72	60.24	5,540.10	279.30	923.12	964.44	2.17	-2.05	-15.81	192.51
	NORMAL	5,728.0	0.94	53.76	5,636.08	280.48	925.00	966.59	0.83	-0.81	-6.75	187.69
8/22/2011	NORMAL	5,823.0	0.55	41.01	5,731.07	281.28	925.93	967.71	0.44	-0.41	-13.42	196.74
	NORMAL	5,919.0	0.92	49.50	5,827.06	282.13	926.82	968.81	0.40	0.39	8.84	20.67
8/22/2011	NORMAL	6,014.0	0.90	63.61	5,922.05	282.96	928.07	970.25	0.24	-0.02	14.85	102.13
8/23/2011	NORMAL	6,109.0	0.94	78.63	6,017.04	283.44	929.50	971.76	0.26	0.04	15.81	88.14
	NORMAL	6,204.0	1.08	45.14	6,112.02	284.23	930.90	973.32	0.63	0.15	-35.25	266.23
	NORMAL	6,300.0	1.29	32.49	6,208.00	285.78	932.12	974.94	0.35	0.22	-13.18	302.32
	NORMAL	6,396.0	1.50	22.16	6,303.97	287.85	933.18	976.56	0.34	0.22	-10.76	304.62
	NORMAL	6,490.0	1.19	28.27	6,397.95	289.85	934.10	978.03	0.36	-0.33	6.50	158.21
	NORMAL	6,585.0	0.95	40.70	6,492.93	291.32	935.08	979.39	0.35	-0.25	13.08	142.06
	NORMAL	6,681.0	1.00	44.47	6,588.92	292.52	936.19	980.80	0.08	0.05	3.93	53.96
	NORMAL	6,776.0	1.20	49.55	6,683.90	293.76	937.53	982.44	0.23	0.21	5.35	28.55
	NORMAL	6,871.0	1.43	42.79	6,778.87	295.27	939.09	984.38	0.29	0.24	-7.12	322.59
	NORMAL	6,976.0	1.42	49.48	6,883.84	297.08	940.97	986.70	0.16	-0.01	6.37	96.78
	NORMAL	7,062.0	1.12	58.64	6,969.82	298.21	942.49	988.49	0.42	-0.35	10.65	150.43
	NORMAL	7,157.0	0.96	52.48	7,064.80	299.18	943.92	990.14	0.21	-0.17	-6.48	211.89
8/24/2011	NORMAL	7,252.0	0.68	75.69	7,159.80	299.80	945.10	991.44	0.45	-0.29	24.43	141.34

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 (°)
8/26/2011	NORMAL	7,347.0	0.65	77.87	7,254.79	300.05	946.17	992.54	0.04	-0.03	2.29	140.94
8/27/2011	NORMAL	7,442.0	0.40	100.45	7,349.78	300.11	947.02	993.38	0.34	-0.26	23.77	151.31
	NORMAL	7,538.0	0.66	150.55	7,445.78	299.56	947.62	993.79	0.53	0.27	52.19	87.36
	NORMAL	7,633.0	0.87	148.19	7,540.77	298.48	948.27	994.10	0.22	0.22	-2.48	350.29
	NORMAL	7,728.0	0.68	127.85	7,635.76	297.52	949.10	994.61	0.35	-0.20	-21.41	225.48
	NORMAL	7,824.0	0.71	203.13	7,731.76	296.62	949.31	994.55	0.88	0.03	78.42	126.03
8/28/2011	NORMAL	7,919.0	0.91	225.50	7,826.75	295.55	948.55	993.50	0.39	0.21	23.55	69.20
	NORMAL	8,014.0	0.86	221.20	7,921.74	294.48	947.54	992.23	0.09	-0.05	-4.53	230.89
	NORMAL	8,091.0	0.91	204.27	7,998.73	293.49	946.91	991.34	0.34	0.06	-21.99	272.28
	NORMAL	8,146.0	0.91	204.27	8,053.72	292.70	946.55	990.76	0.00	0.00	0.00	0.00