

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	RWF 531-36	Wellbore No.	
Well Name	RWF 531-36	Common Name	RWF 531-36
Project	RU 36-06S-094W	Site	RWF 32-36 Pad
Vertical Section Azimuth	30.59 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	1/5/2012	UWI	RWF 531-36
Active Datum	KB @6,451.4ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	1/5/2012	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

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Bulld Rate (°/100ft)	Turn (°/100ft)	TFace (°)
1/5/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/5/2012	NORMAL	84.0	0.53	247.68	84.00	-0.15	-0.36	-0.31	0.63	0.63	0.00	247.68
	NORMAL	178.0	1.14	32.34	177.99	0.48	-0.28	0.28	1.70	0.65	153.89	155.69
	NORMAL	269.0	3.43	49.39	268.92	3.01	2.29	3.76	2.60	2.52	18.74	25.17
	NORMAL	360.0	5.01	35.33	359.67	8.03	6.65	10.30	2.06	1.74	-15.45	318.64
	NORMAL	431.0	5.51	26.83	430.37	13.60	9.99	16.79	1.30	0.70	-11.97	298.41
	NORMAL	522.0	5.83	32.78	520.93	21.38	14.46	25.77	0.74	0.35	6.54	64.42
	NORMAL	613.0	4.77	26.97	611.54	28.64	18.68	34.16	1.30	-1.16	-6.38	203.98
	NORMAL	705.0	5.07	20.12	703.20	35.87	21.81	41.88	0.72	0.33	-7.45	293.61
	NORMAL	796.0	6.08	30.07	793.77	43.82	25.61	50.75	1.53	1.11	10.93	48.77
	NORMAL	888.0	5.36	34.55	885.31	51.57	30.49	59.91	0.92	-0.78	4.87	150.41
	NORMAL	980.0	6.06	28.91	976.85	59.36	35.27	69.05	0.97	0.76	-6.13	318.45
	NORMAL	1,075.0	5.95	27.72	1,071.33	68.11	39.99	78.98	0.17	-0.12	-1.25	227.95
	NORMAL	1,113.0	6.33	27.78	1,109.11	71.71	41.88	83.04	1.00	1.00	0.16	1.00
1/6/2012	NORMAL	1,197.0	7.05	28.58	1,192.54	80.41	46.34	92.81	0.87	0.86	-1.43	348.42
	NORMAL	1,263.0	6.00	31.78	1,258.11	86.97	49.97	100.30	1.82	-1.59	7.88	153.20
	NORMAL	1,359.0	4.87	35.97	1,353.68	94.53	55.01	109.37	1.25	-1.18	4.36	162.73
	NORMAL	1,454.0	5.52	28.34	1,448.29	101.82	59.55	117.95	1.00	0.68	-8.03	309.41
	NORMAL	1,549.0	5.95	27.59	1,542.82	110.20	64.00	127.43	0.46	0.45	-0.79	349.74
	NORMAL	1,645.0	5.36	33.05	1,638.35	118.37	68.75	136.88	0.83	-0.61	5.69	140.33
	NORMAL	1,741.0	5.61	33.26	1,733.91	126.05	73.77	146.05	0.26	0.26	0.22	4.70

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (")	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (%/100ft)	Build Rate (%/100ft)	Turn (%/100ft)	TFace (°)
1/6/2012	NORMAL	1,837.0	5.80	31.56	1,829.43	134.11	78.88	155.59	0.26	0.20	-1.77	317.50
	NORMAL	1,930.0	5.87	31.41	1,921.95	142.17	83.82	165.04	0.08	0.08	-0.16	347.64
	NORMAL	2,026.0	5.31	32.81	2,017.50	150.10	88.78	174.39	0.60	-0.58	1.46	167.01
	NORMAL	2,121.0	5.19	32.96	2,112.10	157.40	93.50	183.07	0.13	-0.13	0.16	173.55
	NORMAL	2,217.0	5.10	32.61	2,207.71	164.63	98.16	191.68	0.10	-0.09	-0.36	199.05
	NORMAL	2,313.0	6.16	29.01	2,303.25	172.73	102.96	201.09	1.16	1.10	-3.75	339.78
	NORMAL	2,408.0	6.16	29.36	2,397.70	181.63	107.93	211.28	0.04	0.00	0.37	90.17
1/7/2012	NORMAL	2,503.0	6.16	27.43	2,492.15	190.60	112.78	221.47	0.22	0.00	-2.03	269.04
	NORMAL	2,596.0	5.54	28.83	2,584.66	198.96	117.24	230.93	0.68	-0.67	1.51	167.73
	NORMAL	2,692.0	5.98	27.58	2,680.18	207.45	121.79	240.56	0.48	0.46	-1.30	343.46
	NORMAL	2,787.0	5.83	30.67	2,774.68	215.99	126.54	250.33	0.37	-0.16	3.25	116.79
	NORMAL	2,882.0	5.40	25.44	2,869.22	224.18	130.93	259.60	0.70	-0.45	-5.51	227.38
	NORMAL	2,978.0	5.86	28.39	2,964.76	232.57	135.20	269.00	0.57	0.48	3.07	33.65
	NORMAL	3,072.0	6.28	27.59	3,058.23	241.34	139.86	278.93	0.46	0.45	-0.85	348.21
	NORMAL	3,164.0	5.40	40.87	3,149.76	249.08	145.02	288.21	1.75	-0.96	14.43	129.56
	NORMAL	3,259.0	5.43	42.14	3,244.33	255.79	150.96	297.02	0.13	0.03	1.34	76.58
	NORMAL	3,355.0	4.81	31.86	3,339.95	262.58	156.14	305.49	1.15	-0.65	-10.71	230.90
	NORMAL	3,450.0	5.16	32.13	3,434.59	269.58	160.51	313.74	0.37	0.37	0.28	3.97
	NORMAL	3,546.0	5.33	28.14	3,530.19	277.17	164.91	322.51	0.42	0.18	-4.16	292.99
	NORMAL	3,641.0	5.78	30.58	3,624.74	285.18	169.42	331.71	0.53	0.47	2.55	28.71
	NORMAL	3,737.0	5.72	31.57	3,720.26	293.41	174.38	341.32	0.12	-0.06	1.05	121.17
	NORMAL	3,832.0	5.38	29.55	3,814.81	301.32	179.06	350.51	0.41	-0.36	-2.13	208.88
	NORMAL	3,926.0	5.63	31.56	3,908.38	309.09	183.65	359.53	0.34	0.27	2.14	38.65
	NORMAL	4,022.0	5.19	30.68	4,003.95	316.83	188.33	368.58	0.47	-0.46	-0.92	190.24
	NORMAL	4,117.0	5.72	33.67	4,098.52	324.47	193.14	377.60	0.63	0.56	3.15	29.70
	NORMAL	4,213.0	5.98	34.19	4,194.02	332.59	198.61	387.37	0.28	0.27	0.54	11.78
	NORMAL	4,308.0	5.12	30.77	4,288.58	340.32	203.56	396.55	0.97	-0.91	-3.60	199.34
	NORMAL	4,401.0	5.63	29.89	4,381.17	347.84	207.95	405.26	0.56	0.55	-0.95	350.38
1/8/2012	NORMAL	4,496.0	5.63	30.50	4,475.71	355.90	212.64	414.58	0.06	0.00	0.64	90.30
	NORMAL	4,591.0	5.71	30.48	4,570.24	363.98	217.40	423.96	0.08	0.08	-0.02	358.58
	NORMAL	4,687.0	5.98	32.88	4,665.75	372.30	222.54	433.74	0.38	0.28	2.50	43.35
	NORMAL	4,782.0	5.89	26.37	4,760.24	380.82	227.39	439.54	0.71	-0.09	-6.85	259.16
	NORMAL	4,878.0	6.40	24.06	4,855.69	390.12	231.76	403.39	0.59	0.53	-2.41	332.98
	NORMAL	4,973.0	5.89	30.06	4,950.14	399.18	236.36	412.14	0.86	-0.54	6.32	131.41
	NORMAL	5,069.0	6.14	28.13	5,045.61	407.97	241.25	420.80	0.33	0.26	-2.01	320.07
	NORMAL	5,164.0	5.19	32.77	5,140.15	416.06	245.97	428.88	1.11	-1.00	4.88	156.56
	NORMAL	5,260.0	5.63	31.82	5,235.72	423.71	250.80	437.32	0.47	0.46	-0.99	348.02
	NORMAL	5,355.0	5.36	33.40	5,330.28	431.38	255.70	444.50	0.33	-0.28	1.66	151.52
1/9/2012	NORMAL	5,451.0	5.80	34.28	5,425.83	439.13	260.90	452.53	0.47	0.46	0.92	11.44
	NORMAL	5,546.0	5.72	33.23	5,520.35	447.05	266.20	460.74	0.14	-0.08	-1.11	232.27
	NORMAL	5,642.0	4.84	32.00	5,615.94	454.49	270.97	468.91	0.92	-0.92	-1.28	186.72
	NORMAL	4,782.0	5.89		4,760.25	432.30	44.04	442.88	0.00	0.00	0.00	0.00
	NORMAL	4,878.0	6.40		4,855.69	442.57	44.04	453.06	0.00	0.00	0.00	0.00
	NORMAL	4,973.0	5.89		4,950.15	452.74	44.04	463.90	0.00	0.00	0.00	0.00
	NORMAL	5,069.0	6.14		5,045.62	462.80	44.04	473.96	0.00	0.00	0.00	0.00
	NORMAL	5,164.0	5.19		5,140.15	472.18	44.04	483.33	0.00	0.00	0.00	0.00
	NORMAL	5,260.0	5.63		5,235.73	481.23	44.04	492.38	0.46	0.46	0.00	0.00
	NORMAL	5,355.0	5.36		5,330.29	490.33	44.04	501.2	0.00	0.00	0.00	0.00
1/10/2012	NORMAL	5,451.0	5.80		5,425.83	499.66	44.04	510.12	0.00	0.00	0.00	0.00
	NORMAL	5,546.0	5.72		5,520.35	509.20	44.04	520.30	0.08	-0.08	0.00	180.00
	NORMAL	5,642.0	4.84		5,615.95	518.03	44.04	529.13	0.00	0.00	0.00	0.00
	NORMAL	4,782.0	5.89		4,760.25	432.30	44.04	394.54	0.00	0.00	0.00	0.00
	NORMAL	4,878.0	6.40		4,855.69	442.57	44.04	403.39	0.00	0.00	0.00	0.00
	NORMAL	4,973.0	5.89		4,950.15	452.74	44.04	463.23	0.00	0.00	0.00	0.00

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 (°)
1/10/2012	NORMAL	5,355.0	5.36		5,330.29	490.33	44.04	444.50	0.28	-0.28	0.00	180.00
	NORMAL	5,451.0	5.80		5,425.83	499.66	44.04	510.79	0.00	0.00	0.00	0.00
	NORMAL	5,546.0	5.72		5,520.35	509.20	44.04	460.74	0.08	-0.08	0.00	180.00
	NORMAL	5,642.0	4.84		5,615.95	518.03	44.04	468.35	0.00	0.00	0.00	0.00
1/11/2012	NORMAL	5,738.0	4.31	16.35	5,711.64	461.39	274.13	475.33	1.41	-0.55	-16.30	239.32
	NORMAL	5,833.0	4.31	17.24	5,806.37	468.22	276.19	543.61	0.07	0.00	0.94	90.44
	NORMAL	5,928.0	4.48	15.15	5,901.09	475.21	278.22	550.66	0.25	0.18	-2.20	315.66
	NORMAL	6,024.0	4.67	21.85	5,996.78	482.46	280.65	558.14	0.59	0.20	6.98	73.79
	NORMAL	6,119.0	4.58	23.90	6,091.48	489.52	283.63	565.73	0.20	-0.09	2.16	119.59
	NORMAL	6,215.0	3.66	35.74	6,187.23	495.51	286.97	572.59	1.30	-0.98	12.33	143.05
	NORMAL	6,311.0	1.54	46.79	6,283.12	498.88	289.70	576.88	2.26	-2.21	11.51	172.18
	NORMAL	6,406.0	0.79	83.41	6,378.10	499.83	291.28	578.50	1.07	-0.79	38.55	152.52
	NORMAL	6,502.0	0.97	7.83	6,474.10	500.71	292.05	579.65	1.13	0.19	-78.73	239.73
	NORMAL	6,597.0	1.06	1.85	6,569.08	502.38	292.19	581.16	0.15	0.09	-6.29	307.34
	NORMAL	6,693.0	0.97	338.91	6,665.07	504.03	291.93	582.44	0.43	-0.09	-23.90	246.21
	NORMAL	6,787.0	0.86	35.86	6,759.06	505.34	292.05	583.64	0.93	-0.12	60.59	124.80
	NORMAL	6,882.0	0.62	68.65	6,854.05	506.11	292.95	584.75	0.50	-0.25	34.52	135.26
	NORMAL	6,978.0	0.53	49.66	6,950.04	506.58	293.77	585.58	0.22	-0.09	-19.78	235.43
	NORMAL	7,073.0	0.62	154.87	7,045.04	506.40	294.33	585.71	0.96	0.09	110.75	139.18
	NORMAL	7,169.0	1.06	183.08	7,141.03	505.05	294.50	584.63	0.62	0.46	29.39	57.92
	NORMAL	7,263.0	0.82	227.23	7,235.02	503.72	293.96	583.21	0.79	-0.26	46.97	129.55
	NORMAL	7,358.0	1.15	279.10	7,330.01	503.41	292.52	582.21	0.96	0.35	54.60	96.93
	NORMAL	7,453.0	1.10	267.73	7,424.99	503.53	290.66	581.37	0.24	-0.05	-11.97	251.73
1/12/2012	NORMAL	7,548.0	1.40	261.88	7,519.97	503.33	288.60	580.15	0.34	0.32	-6.05	334.42
	NORMAL	7,644.0	1.38	257.65	7,615.94	502.92	286.31	578.63	0.11	-0.02	-4.51	257.06
	NORMAL	7,739.0	0.18	337.55	7,710.93	502.81	285.14	577.94	1.43	-1.26	84.11	172.51
	NORMAL	7,833.0	0.53	163.57	7,804.93	502.53	285.21	577.73	0.75	0.37	-185.09	184.49
	NORMAL	7,929.0	1.06	189.23	7,900.92	501.23	285.19	576.60	0.65	0.55	26.73	47.17
	NORMAL	8,023.0	0.88	201.45	7,994.90	499.70	284.79	575.08	0.29	-0.19	13.00	137.03
	NORMAL	8,119.0	1.23	179.48	8,090.89	497.98	284.53	573.47	0.55	0.36	-22.89	299.53
	NORMAL	8,214.0	1.84	184.94	8,185.85	495.44	284.40	571.22	0.66	0.64	5.75	16.22
1/13/2012	NORMAL	8,309.0	1.64	181.73	8,280.81	492.56	284.23	568.66	0.23	-0.21	-3.38	204.38
	NORMAL	8,405.0	2.46	190.11	8,376.75	489.16	283.83	565.52	0.91	0.85	8.73	24.30
	NORMAL	8,500.0	3.52	200.04	8,471.62	484.41	282.47	560.75	1.24	1.12	10.45	31.06
	NORMAL	8,596.0	3.87	206.02	8,567.42	478.73	280.04	554.62	0.54	0.36	6.23	50.76
1/14/2012	NORMAL	8,692.0	4.31	209.01	8,663.17	472.67	276.87	547.78	0.51	0.46	3.11	27.35
	NORMAL	8,776.0	5.01	210.68	8,746.90	466.75	273.47	540.96	0.85	0.83	1.99	11.80
1/15/2012	NORMAL	8,832.0	5.01	210.68	8,802.68	462.55	270.97	536.07	0.00	0.00	0.00	0.00