

General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	RWF 414-36	Wellbore No.	
Well Name	RWF 414-36	Common Name	RWF 414-36
Project	RU 36-06S-094W	Site	RWF 33-36 Pad
Vertical Section Azimuth	222.86 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	9/30/2012	UWI	RWF 414-36
Active Datum	KB @6,554.0ft (above Mean Sea Level)		

Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	SCIENTIFIC
Date Started	9/30/2012	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

7597

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 (°)
9/30/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/30/2012	NORMAL	160.0	4.53	242.24	159.83	-2.94	-5.59	5.96	2.83	2.83	0.00	242.24
	NORMAL	251.0	6.52	221.43	250.41	-8.49	-12.19	14.52	3.07	2.19	-22.87	304.13
	NORMAL	344.0	8.56	219.11	342.61	-17.82	-20.05	26.71	2.22	2.19	-2.49	350.36
10/1/2012	NORMAL	435.0	10.99	223.31	432.28	-29.39	-30.28	42.14	2.78	2.67	4.62	18.43
	NORMAL	524.0	14.16	221.93	519.13	-43.67	-43.38	61.51	3.58	3.56	-1.55	353.9'
	NORMAL	616.0	18.29	223.42	607.45	-62.53	-60.83	87.21	4.51	4.49	1.62	6.47
	NORMAL	707.0	23.04	222.34	692.57	-86.08	-82.65	119.32	5.24	5.22	-1.19	354.9'
	NORMAL	799.0	28.33	221.90	775.45	-115.66	-109.37	159.17	5.75	5.75	-0.48	357.74
	NORMAL	890.0	31.61	220.43	854.27	-149.89	-139.26	204.60	3.69	3.60	-1.62	346.74
	NORMAL	981.0	34.21	220.17	930.66	-187.60	-171.24	253.99	2.86	2.86	-0.29	356.78
	NORMAL	1,072.0	35.90	220.97	1,005.15	-227.29	-205.23	306.21	1.92	1.86	0.88	15.54
	NORMAL	1,165.0	36.76	220.77	1,080.08	-268.96	-241.28	361.27	0.93	0.92	-0.22	352.07
	NORMAL	1,261.0	34.47	221.40	1,158.11	-311.10	-278.01	417.15	2.42	-2.39	0.66	171.15
	NORMAL	1,357.0	34.03	225.27	1,237.48	-350.38	-315.07	471.15	2.31	-0.46	4.03	103.02
	NORMAL	1,452.0	35.74	225.26	1,315.40	-388.62	-353.66	525.43	1.80	1.80	-0.01	359.80
	NORMAL	1,547.0	36.77	226.03	1,392.01	-427.90	-393.84	581.55	1.19	1.08	0.81	24.16
	NORMAL	1,642.0	35.96	223.86	1,468.51	-467.75	-433.63	637.83	1.60	-0.85	-2.28	236.94
	NORMAL	1,738.0	36.85	223.42	1,545.78	-508.98	-472.95	694.80	0.97	0.93	-0.46	343.47
10/2/2012	NORMAL	1,833.0	37.42	224.30	1,621.51	-550.33	-512.69	752.14	0.82	0.60	0.93	43.34
	NORMAL	1,929.0	36.05	222.57	1,698.45	-592.01	-552.17	809.55	1.79	-1.43	-1.80	216.37

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 (°)
10/2/2012	NORMAL	2,024.0	36.44	222.62	1,775.06	-633.36	-590.18	865.72	0.41	0.41	0.05	4.35
	NORMAL	2,118.0	36.60	222.86	1,850.61	-674.45	-628.15	921.65	0.23	0.17	0.26	41.85
	NORMAL	2,214.0	36.80	224.18	1,927.58	-716.05	-667.66	979.02	0.85	0.21	1.38	76.30
	NORMAL	2,309.0	37.20	224.55	2,003.45	-756.92	-707.63	1,036.17	0.48	0.42	0.39	29.25
	NORMAL	2,405.0	36.65	225.26	2,080.19	-797.77	-748.34	1,093.81	0.73	-0.57	0.74	142.49
	NORMAL	2,499.0	35.48	223.02	2,156.18	-837.46	-786.89	1,149.12	1.88	-1.24	-2.38	227.52
10/3/2012	NORMAL	2,595.0	36.85	222.01	2,233.68	-879.22	-825.16	1,205.77	1.56	1.43	-1.05	336.08
	NORMAL	2,690.0	38.13	221.78	2,309.06	-922.26	-863.77	1,263.58	1.36	1.35	-0.24	353.67
10/4/2012	NORMAL	2,786.0	37.00	221.96	2,385.15	-965.85	-902.83	1,322.10	1.18	-1.18	0.19	174.52
	NORMAL	2,882.0	37.05	221.31	2,461.80	-1,009.05	-941.24	1,379.89	0.41	0.05	-0.68	277.02
	NORMAL	2,977.0	37.44	222.57	2,537.42	-1,051.82	-979.67	1,437.38	0.90	0.41	1.33	63.42
	NORMAL	3,093.0	36.76	221.75	2,629.94	-1,103.68	-1,026.63	1,507.34	0.72	-0.59	-0.71	215.71
10/5/2012	NORMAL	3,264.0	38.10	221.21	2,765.73	-1,181.55	-1,095.47	1,611.24	0.81	0.78	-0.32	346.02
	NORMAL	3,360.0	36.64	221.82	2,842.02	-1,225.18	-1,134.08	1,669.49	1.57	-1.52	0.64	166.01
	NORMAL	3,456.0	35.33	222.99	2,919.70	-1,266.83	-1,172.11	1,725.89	1.54	-1.36	1.22	152.78
	NORMAL	3,552.0	34.96	222.37	2,998.20	-1,307.46	-1,209.57	1,781.15	0.54	-0.39	-0.65	223.71
	NORMAL	3,648.0	34.62	222.10	3,077.04	-1,348.01	-1,246.39	1,835.93	0.39	-0.35	-0.28	204.26
	NORMAL	3,743.0	35.00	223.60	3,155.04	-1,387.77	-1,283.27	1,890.15	0.99	0.40	1.58	66.69
	NORMAL	3,837.0	35.09	223.58	3,232.00	-1,426.86	-1,320.49	1,944.13	0.10	0.10	-0.02	352.72
	NORMAL	3,933.0	36.40	224.01	3,309.92	-1,467.34	-1,359.31	2,000.20	1.39	1.36	0.45	11.03
	NORMAL	4,027.0	36.10	223.09	3,385.72	-1,507.62	-1,397.60	2,055.77	0.66	-0.32	-0.98	240.75
	NORMAL	4,123.0	34.95	222.76	3,463.85	-1,548.46	-1,435.59	2,111.56	1.21	-1.20	-0.34	189.33
	NORMAL	4,218.0	36.00	223.68	3,541.22	-1,588.64	-1,473.35	2,166.69	1.24	1.11	0.97	27.33
	NORMAL	4,314.0	36.67	223.07	3,618.55	-1,629.98	-1,512.41	2,223.56	0.79	0.70	-0.64	331.41
	NORMAL	4,406.0	38.36	224.03	3,691.52	-1,670.58	-1,551.02	2,279.58	1.94	1.84	1.04	19.46
10/6/2012	NORMAL	4,502.0	38.46	223.56	3,766.75	-1,713.63	-1,592.29	2,339.21	0.32	0.10	-0.49	288.72
	NORMAL	4,596.0	37.99	224.08	3,840.59	-1,755.60	-1,632.56	2,397.37	0.61	-0.50	0.55	145.81
	NORMAL	4,692.0	37.38	224.28	3,916.56	-1,797.68	-1,673.46	2,456.04	0.65	-0.64	0.21	168.75
	NORMAL	4,787.0	35.96	224.56	3,992.76	-1,838.21	-1,713.17	2,512.75	1.51	-1.49	0.29	173.40
	NORMAL	4,883.0	35.16	223.36	4,070.86	-1,878.39	-1,751.93	2,568.57	1.11	-0.83	-1.25	220.61
	NORMAL	4,979.0	34.99	222.43	4,149.42	-1,918.80	-1,789.47	2,623.73	0.58	-0.18	-0.97	251.97
	NORMAL	5,074.0	33.41	222.89	4,227.99	-1,958.07	-1,825.65	2,677.13	1.69	-1.66	0.48	170.90
	NORMAL	5,169.0	31.13	225.91	4,308.32	-1,994.33	-1,861.10	2,727.81	2.94	-2.40	3.18	146.00
	NORMAL	5,264.0	29.02	223.86	4,390.53	-2,028.03	-1,894.71	2,775.38	2.47	-2.22	-2.16	205.08
	NORMAL	5,360.0	27.96	222.89	4,474.90	-2,061.31	-1,926.16	2,821.17	1.20	-1.10	-1.01	203.16
	NORMAL	5,455.0	26.75	223.14	4,559.28	-2,093.23	-1,955.94	2,864.82	1.28	-1.27	0.26	174.69
	NORMAL	5,551.0	25.53	222.22	4,645.46	-2,124.32	-1,984.61	2,907.11	1.34	-1.27	-0.96	197.97
	NORMAL	5,647.0	24.64	221.54	4,732.40	-2,154.62	-2,011.79	2,947.81	0.97	-0.93	-0.71	197.64
	NORMAL	5,742.0	22.85	224.04	4,819.36	-2,182.70	-2,037.74	2,986.05	2.16	-1.88	2.63	151.79
10/7/2012	NORMAL	5,837.0	22.34	223.77	4,907.07	-2,209.00	-2,063.06	3,022.55	0.55	-0.54	-0.28	191.37
	NORMAL	5,933.0	20.09	223.17	4,996.56	-2,234.20	-2,086.96	3,057.28	2.35	-2.34	-0.63	185.23
	NORMAL	6,028.0	18.52	222.35	5,086.21	-2,257.25	-2,108.29	3,088.69	1.68	-1.65	-0.86	189.41
	NORMAL	6,124.0	17.20	223.38	5,177.58	-2,278.84	-2,128.31	3,118.13	1.41	-1.38	1.07	167.03
	NORMAL	6,220.0	15.83	225.88	5,269.62	-2,298.27	-2,147.46	3,145.40	1.61	-1.43	2.60	153.78
	NORMAL	6,316.0	13.98	224.74	5,362.39	-2,315.63	-2,165.02	3,170.06	1.95	-1.93	-1.19	188.46
	NORMAL	6,412.0	12.54	220.63	5,455.83	-2,331.77	-2,179.97	3,192.07	1.79	-1.50	-4.28	211.22
	NORMAL	6,507.0	11.34	220.52	5,548.77	-2,346.70	-2,192.76	3,211.71	1.26	-1.26	-0.12	181.03
	NORMAL	6,603.0	10.29	220.70	5,643.06	-2,360.38	-2,204.48	3,229.71	1.09	-1.09	0.19	178.25
	NORMAL	6,697.0	8.81	218.41	5,735.76	-2,372.38	-2,214.43	3,245.27	1.63	-1.57	-2.44	193.27
	NORMAL	6,792.0	7.62	222.29	5,829.78	-2,382.74	-2,223.19	3,258.83	1.38	-1.25	4.08	156.93
	NORMAL	6,888.0	6.80	220.32	5,925.02	-2,391.78	-2,231.15	3,270.87	0.89	-0.85	-2.05	195.80
	NORMAL	6,981.0	5.70	222.77	6,017.47	-2,399.37	-2,237.85	3,280.99	1.22	-1.18	2.63	167.59
	NORMAL	7,077.0	2.99	223.42	6,113.18	-2,404.69	-2,242.81	3,288.26	2.82	-2.82	0.68	179.28
10/8/2012	NORMAL	7,173.0	1.40	213.82	6,209.11	-2,407.49	-2,245.18	3,291.92	1.69	-1.66	-10.00	188.25
	NORMAL	7,268.0	1.37	212.26	6,304.08	-2,409.41	-2,246.43	3,294.18	0.05	-0.03	-1.64	230.72
	NORMAL	7,364.0	0.18	276.63	6,400.07	-2,410.36	-2,247.19	3,295.40	1.36	-1.24	67.05	172.84
	NORMAL	7,457.0	0.20	54.08	6,493.07	-2,410.25	-2,247.21	3,295.33	0.38	0.02	147.80	157.55

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 (°)
10/8/2012	NORMAL	7,553.0	0.21	108.90	6,589.07	-2,410.21	-2,246.91	3,295.09	0.20	0.01	57.10	114.72
	NORMAL	7,648.0	0.14	39.92	6,684.07	-2,410.18	-2,246.67	3,294.91	0.22	-0.07	-72.61	219.28
10/9/2012	NORMAL	7,744.0	0.18	275.80	6,780.07	-2,410.07	-2,246.74	3,294.88	0.30	0.04	-129.29	211.73
	NORMAL	7,839.0	0.18	327.66	6,875.07	-2,409.93	-2,246.97	3,294.93	0.17	0.00	54.59	115.93
	NORMAL	7,935.0	0.26	293.82	6,971.07	-2,409.71	-2,247.25	3,294.96	0.16	0.08	-35.25	283.95
	NORMAL	8,031.0	0.35	254.45	7,067.07	-2,409.71	-2,247.73	3,295.29	0.23	0.09	-41.01	272.73
	NORMAL	8,127.0	0.49	244.13	7,163.07	-2,409.96	-2,248.38	3,295.92	0.17	0.15	-10.75	326.39
	NORMAL	8,222.0	0.26	25.58	7,258.07	-2,409.95	-2,248.66	3,296.09	0.75	-0.24	148.89	166.85
	NORMAL	8,317.0	1.14	89.21	7,353.06	-2,409.74	-2,247.62	3,295.23	1.11	0.93	66.98	76.44
	NORMAL	8,413.0	0.79	89.95	7,449.05	-2,409.72	-2,246.00	3,294.12	0.36	-0.36	0.77	178.33
	NORMAL	8,509.0	0.54	119.28	7,545.04	-2,409.95	-2,244.94	3,293.57	0.43	-0.26	30.55	140.35
	NORMAL	8,604.0	0.59	67.05	7,640.04	-2,409.97	-2,244.10	3,293.01	0.53	0.05	-54.98	249.04
	NORMAL	8,700.0	0.45	44.28	7,736.03	-2,409.51	-2,243.39	3,292.19	0.26	-0.15	-23.72	224.85
	NORMAL	8,795.0	0.17	142.10	7,831.03	-2,409.36	-2,243.04	3,291.84	0.53	-0.29	102.97	160.41
10/10/2012	NORMAL	8,891.0	0.26	153.02	7,927.03	-2,409.66	-2,242.85	3,291.93	0.10	0.09	11.38	30.01
	NORMAL	8,986.0	0.37	185.19	8,022.03	-2,410.16	-2,242.78	3,292.25	0.21	0.12	33.86	74.89
	NORMAL	9,082.0	0.44	160.12	8,118.03	-2,410.81	-2,242.69	3,292.67	0.20	0.07	-26.11	278.71
	NORMAL	9,178.0	1.41	176.24	8,214.01	-2,412.34	-2,242.48	3,293.65	1.04	1.01	16.79	23.17
	NORMAL	9,273.0	2.37	197.32	8,308.96	-2,415.38	-2,242.99	3,296.22	1.23	1.01	22.19	46.76
	NORMAL	9,369.0	2.99	200.74	8,404.86	-2,419.62	-2,244.47	3,300.33	0.67	0.65	3.56	16.17
	NORMAL	9,464.0	3.87	209.80	8,499.69	-2,424.72	-2,246.94	3,305.75	1.09	0.93	9.54	36.21
	NORMAL	9,560.0	4.30	218.62	8,595.44	-2,430.34	-2,250.80	3,312.49	0.79	0.45	9.19	60.06
10/11/2012	NORMAL	9,656.0	4.39	223.78	8,691.17	-2,435.81	-2,255.58	3,319.76	0.42	0.09	5.37	79.62
	NORMAL	9,725.0	4.39	223.78	8,759.96	-2,439.62	-2,259.24	3,325.04	0.00	0.00	0.00	0.00