

## General

### 1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

### 1.2 Well Information

Well	RWF 434-36	Wellbore No.	
Well Name	RWF 434-36	Common Name	RWF 434-36
Project	RU 36-06S-094W	Site	RWF 33-36 Pad
Vertical Section Azimuth	181.16 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	7/24/2013	UWI	RWF 434-36
Active Datum	KB @6,554.0ft (above Mean Sea Level)		

## 2 Survey Name

### 2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	SCIENTIFIC
Date Started	7/24/2013	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

7142

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 (°)
7/24/2013	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/24/2013	NORMAL	89.0	0.97	184.66	89.00	-0.75	-0.06	0.75	1.09	1.09	0.00	184.66
	NORMAL	179.0	2.46	189.14	178.95	-3.42	-0.43	3.43	1.66	1.66	4.98	7.38
	NORMAL	269.0	5.63	186.15	268.72	-9.72	-1.21	9.74	3.53	3.52	-3.32	354.70
	NORMAL	360.0	8.01	188.17	359.07	-20.43	-2.59	20.48	2.63	2.62	2.22	6.76
	NORMAL	451.0	11.09	184.22	448.80	-35.44	-4.13	35.51	3.46	3.38	-4.34	346.03
7/25/2013	NORMAL	520.0	14.25	180.17	516.11	-50.55	-4.65	50.64	4.75	4.58	-5.87	342.3
	NORMAL	611.0	16.65	177.61	603.81	-74.78	-4.14	74.85	2.74	2.64	-2.81	342.90
	NORMAL	701.0	20.53	176.73	689.10	-103.43	-2.70	103.46	4.32	4.31	-0.98	355.45
	NORMAL	792.0	23.74	177.79	773.39	-137.68	-1.08	137.67	3.55	3.53	1.16	7.58
	NORMAL	883.0	26.52	179.24	855.76	-176.30	-0.11	176.27	3.13	3.05	1.59	13.15
	NORMAL	973.0	27.77	177.36	935.85	-217.34	1.13	217.27	1.68	1.39	-2.09	324.70
	NORMAL	1,064.0	26.64	184.03	1,016.80	-258.88	0.67	258.81	3.57	-1.24	7.33	113.28
	NORMAL	1,121.0	27.00	182.44	1,067.67	-284.55	-0.78	284.51	1.41	0.63	-2.79	295.94
7/26/2013	NORMAL	1,255.0	27.79	183.39	1,186.64	-346.13	-3.92	346.14	0.67	0.59	0.71	29.38
	NORMAL	1,350.0	27.12	182.56	1,270.94	-389.87	-6.20	389.91	0.81	-0.71	-0.87	209.37
	NORMAL	1,446.0	26.47	183.24	1,356.64	-433.09	-8.39	433.17	0.75	-0.68	0.71	155.05
	NORMAL	1,542.0	26.03	183.15	1,442.74	-475.48	-10.75	475.60	0.46	-0.46	-0.09	185.13
	NORMAL	1,637.0	25.51	181.56	1,528.29	-516.74	-12.46	516.89	0.91	-0.55	-1.67	232.33
	NORMAL	1,733.0	26.03	179.55	1,614.74	-558.47	-12.85	558.62	1.06	0.54	-2.09	299.85
	NORMAL	1,828.0	26.47	178.32	1,699.95	-600.48	-12.07	600.60	0.74	0.46	-1.29	308.4

## 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 (°)
7/26/2013	NORMAL	1,922.0	26.45	177.67	1,784.10	-642.34	-10.60	642.42	0.31	-0.02	-0.69	265.76
	NORMAL	2,017.0	27.17	180.59	1,868.89	-685.17	-9.97	685.23	1.58	0.76	3.07	62.64
	NORMAL	2,113.0	27.28	180.83	1,954.25	-729.09	-10.51	729.15	0.16	0.11	0.25	45.05
	NORMAL	2,207.0	26.73	180.43	2,038.01	-771.77	-10.98	771.83	0.62	-0.59	-0.43	198.10
	NORMAL	2,302.0	26.38	179.81	2,122.98	-814.23	-11.07	814.29	0.47	-0.37	-0.65	218.10
	NORMAL	2,398.0	25.50	179.55	2,209.31	-856.23	-10.84	856.27	0.92	-0.92	-0.27	187.25
	NORMAL	2,493.0	25.68	181.75	2,294.99	-897.25	-11.31	897.30	1.02	0.19	2.32	80.27
	NORMAL	2,589.0	25.24	181.13	2,381.67	-938.51	-12.35	938.56	0.54	-0.46	-0.65	210.93
	NORMAL	2,685.0	25.85	182.28	2,468.29	-979.88	-13.58	979.96	0.82	0.64	1.20	39.63
	NORMAL	2,777.0	26.60	182.13	2,550.82	-1,020.51	-15.14	1,020.60	0.82	0.82	-0.16	354.88
	NORMAL	2,871.0	27.60	180.89	2,634.50	-1,063.31	-16.27	1,063.42	1.22	1.06	-1.32	329.99
	NORMAL	2,966.0	27.52	181.05	2,718.72	-1,107.26	-17.01	1,107.38	0.11	-0.08	0.17	137.29
	NORMAL	3,062.0	27.61	180.87	2,803.82	-1,151.68	-17.75	1,151.80	0.13	0.09	-0.19	317.14
	NORMAL	3,157.0	27.03	180.48	2,888.22	-1,195.27	-18.27	1,195.40	0.64	-0.61	-0.41	196.98
	NORMAL	3,252.0	26.19	179.76	2,973.16	-1,237.82	-18.36	1,237.94	0.95	-0.88	-0.76	200.68
	NORMAL	3,348.0	27.51	181.03	3,058.81	-1,281.18	-18.67	1,281.30	1.50	1.38	1.32	24.06
	NORMAL	3,443.0	27.50	180.69	3,143.07	-1,325.05	-19.33	1,325.17	0.17	-0.01	-0.36	266.2'
	NORMAL	3,539.0	27.25	180.56	3,228.32	-1,369.19	-19.81	1,369.31	0.27	-0.26	-0.14	193.39
	NORMAL	3,635.0	26.68	180.23	3,313.88	-1,412.72	-20.11	1,412.83	0.61	-0.59	-0.34	194.56
	NORMAL	3,730.0	26.79	182.31	3,398.73	-1,455.44	-21.06	1,455.57	0.99	0.12	2.19	84.22
	NORMAL	3,826.0	26.62	181.81	3,484.49	-1,498.55	-22.61	1,498.70	0.29	-0.18	-0.52	232.67
	NORMAL	3,921.0	25.85	181.57	3,569.70	-1,540.53	-23.85	1,540.69	0.82	-0.81	-0.25	187.74
7/27/2013	NORMAL	4,017.0	27.35	182.28	3,655.54	-1,583.49	-25.30	1,583.67	1.60	1.56	0.74	12.28
	NORMAL	4,112.0	27.34	181.81	3,739.92	-1,627.10	-26.86	1,627.31	0.23	-0.01	-0.49	267.14
	NORMAL	4,208.0	27.08	180.52	3,825.30	-1,670.98	-27.76	1,671.20	0.67	-0.27	-1.34	245.64
	NORMAL	4,304.0	26.75	180.91	3,910.90	-1,714.43	-28.30	1,714.65	0.39	-0.34	0.41	152.03
	NORMAL	4,400.0	26.35	180.42	3,996.78	-1,757.34	-28.80	1,757.56	0.48	-0.42	-0.51	208.48
	NORMAL	4,495.0	25.76	180.78	4,082.12	-1,799.06	-29.23	1,799.29	0.64	-0.62	0.38	165.16
	NORMAL	4,591.0	25.14	180.16	4,168.81	-1,840.32	-29.57	1,840.54	0.70	-0.65	-0.65	202.97
	NORMAL	4,684.0	24.53	180.87	4,253.21	-1,879.37	-29.92	1,879.59	0.73	-0.66	0.76	154.27
	NORMAL	4,780.0	24.23	180.27	4,340.65	-1,919.00	-30.32	1,919.22	0.41	-0.31	-0.63	219.27
	NORMAL	4,876.0	23.85	180.31	4,428.32	-1,958.11	-30.51	1,958.32	0.40	-0.40	0.04	177.56
	NORMAL	4,971.0	23.39	179.73	4,515.36	-1,996.17	-30.53	1,996.38	0.54	-0.48	-0.61	206.54
	NORMAL	5,163.0	21.81	180.87	4,692.49	-2,070.24	-29.92	2,070.42	1.31	-1.02	2.17	142.1'
	NORMAL	5,258.0	18.82	183.83	4,781.57	-2,103.18	-31.22	2,103.38	3.33	-3.15	3.12	162.4'
	NORMAL	5,354.0	16.22	183.90	4,873.11	-2,132.01	-33.16	2,132.24	2.71	-2.71	0.07	179.57
	NORMAL	5,448.0	15.30	184.83	4,963.58	-2,157.47	-35.10	2,157.74	1.01	-0.98	0.99	165.09
	NORMAL	5,544.0	15.30	184.42	5,056.17	-2,182.72	-37.14	2,183.02	0.11	0.00	-0.43	269.80
	NORMAL	5,639.0	13.63	184.12	5,148.16	-2,206.38	-38.91	2,206.71	1.76	-1.76	-0.32	182.42
7/27/2013	NORMAL	5,067.0	22.79	178.79	4,603.67	-2,033.81	-30.05	2,034.01	0.73	-0.63	-0.98	211.14
7/28/2013	NORMAL	5,733.0	12.03	187.00	5,239.81	-2,227.15	-40.90	2,227.52	1.83	-1.70	3.06	159.6'
	NORMAL	5,829.0	10.52	184.22	5,333.96	-2,245.82	-42.77	2,246.23	1.67	-1.57	-2.90	198.44
	NORMAL	5,923.0	10.33	183.97	5,426.40	-2,262.79	-43.98	2,263.21	0.21	-0.20	-0.27	193.27
	NORMAL	6,017.0	8.86	181.15	5,519.09	-2,278.43	-44.71	2,278.87	1.64	-1.56	-3.00	196.35
	NORMAL	6,113.0	7.46	176.22	5,614.11	-2,292.04	-44.45	2,292.47	1.63	-1.46	-5.14	204.13
	NORMAL	6,208.0	6.37	178.56	5,708.42	-2,303.47	-43.91	2,303.88	1.18	-1.15	2.46	166.67
	NORMAL	6,303.0	4.74	174.64	5,802.97	-2,312.64	-43.41	2,313.05	1.76	-1.72	-4.13	191.16
	NORMAL	6,399.0	3.25	176.30	5,898.74	-2,319.31	-42.86	2,319.70	1.56	-1.55	1.73	176.39
	NORMAL	6,494.0	1.32	192.73	5,993.66	-2,323.06	-42.93	2,323.46	2.12	-2.03	17.29	169.34
7/29/2013	NORMAL	6,590.0	0.52	0.57	6,089.65	-2,323.71	-43.17	2,324.10	1.91	-0.83	174.83	176.57
	NORMAL	6,683.0	0.62	18.97	6,182.65	-2,322.81	-43.00	2,323.20	0.22	0.11	19.78	70.76
	NORMAL	6,779.0	0.53	340.74	6,278.64	-2,321.90	-42.98	2,322.29	0.40	-0.09	-39.82	238.16
	NORMAL	6,874.0	0.47	320.18	6,373.64	-2,321.18	-43.38	2,321.59	0.20	-0.06	-21.64	241.42
	NORMAL	6,969.0	0.48	282.35	6,468.64	-2,320.80	-44.01	2,321.22	0.32	0.01	-39.82	252.85
	NORMAL	7,064.0	0.57	260.08	6,563.63	-2,320.80	-44.87	2,321.23	0.23	0.09	-23.44	282.40
7/30/2013	NORMAL	7,160.0	0.88	5.59	6,659.63	-2,320.14	-45.27	2,320.59	1.22	0.32	109.91	133.52
	NORMAL	7,254.0	1.00	16.15	6,753.61	-2,318.64	-44.97	2,319.07	0.22	0.13	11.23	60.65

## 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 (°)
7/30/2013	NORMAL	7,349.0	0.75	22.09	6,848.60	-2,317.27	-44.50	2,317.69	0.28	-0.26	6.25	163.01
	NORMAL	7,445.0	0.57	10.96	6,944.60	-2,316.21	-44.18	2,316.63	0.23	-0.19	-11.59	209.98
	NORMAL	7,540.0	0.64	2.13	7,039.59	-2,315.22	-44.07	2,315.64	0.12	0.07	-9.29	302.43
	NORMAL	7,636.0	0.52	332.01	7,135.59	-2,314.30	-44.25	2,314.72	0.34	-0.12	-31.38	233.91
	NORMAL	7,732.0	0.41	267.48	7,231.58	-2,313.93	-44.80	2,314.36	0.53	-0.11	-67.22	227.12
	NORMAL	7,827.0	1.06	113.11	7,326.58	-2,314.29	-44.33	2,314.71	1.52	0.68	-162.49	198.56
	NORMAL	7,923.0	1.23	121.63	7,422.56	-2,315.18	-42.64	2,315.57	0.25	0.18	8.87	49.35
	NORMAL	8,019.0	1.07	142.98	7,518.54	-2,316.44	-41.22	2,316.80	0.47	-0.17	22.24	120.93
	NORMAL	8,114.0	1.28	149.21	7,613.52	-2,318.06	-40.14	2,318.39	0.26	0.22	6.56	34.45
	NORMAL	8,210.0	1.76	162.06	7,709.49	-2,320.38	-39.14	2,320.70	0.61	0.50	13.39	41.92
7/31/2013	NORMAL	8,306.0	2.19	173.34	7,805.43	-2,323.60	-38.47	2,323.91	0.60	0.45	11.75	47.84
	NORMAL	8,400.0	2.22	180.69	7,899.36	-2,327.21	-38.29	2,327.51	0.30	0.03	7.82	87.62
	NORMAL	8,493.0	2.44	188.02	7,992.28	-2,330.97	-38.58	2,331.27	0.40	0.24	7.88	57.26
	NORMAL	8,589.0	2.96	195.04	8,088.18	-2,335.39	-39.51	2,335.71	0.64	0.54	7.31	35.99
	NORMAL	8,685.0	3.57	205.54	8,184.02	-2,340.48	-41.44	2,340.84	0.89	0.64	10.94	49.75
	NORMAL	8,780.0	4.24	206.21	8,278.80	-2,346.30	-44.27	2,346.71	0.71	0.71	0.71	4.23
	NORMAL	8,876.0	4.67	210.71	8,374.51	-2,352.84	-47.83	2,353.33	0.58	0.45	4.69	41.37
	NORMAL	8,971.0	4.71	213.75	8,469.19	-2,359.41	-51.98	2,359.98	0.26	0.04	3.20	82.38
	NORMAL	9,067.0	4.57	214.09	8,564.88	-2,365.85	-56.31	2,366.51	0.15	-0.15	0.35	169.05
	NORMAL	9,161.0	4.13	216.03	8,658.61	-2,371.69	-60.40	2,372.43	0.49	-0.47	2.06	162.47
	NORMAL	9,210.0	4.13	216.03	8,707.48	-2,374.55	-62.47	2,375.32	0.00	0.00	0.00	0.00