

## I General

### 1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

### 1.2 Well Information

Well	RWF 433-36	Wellbore No.	
Well Name	RWF 433-36	Common Name	RWF 433-36
Project	RU 36-06S-094W	Site	RWF 33-36 Pad
Vertical Section Azimuth	136.06 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	5/23/2013	UWI	RWF 433-36
Active Datum	KB @6,554.0ft (above Mean Sea Level)		

## 2 Survey Name

### 2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	5/23/2013	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

6897

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 (°)
5/23/2013	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/23/2013	NORMAL	93.0	0.53	211.38	93.00	-0.37	-0.22	0.11	0.57	0.57	0.00	211.38
	NORMAL	179.0	1.50	97.21	178.99	-0.85	0.69	1.09	2.07	1.13	-132.76	230.11
	NORMAL	270.0	4.05	139.66	269.88	-3.45	3.95	5.22	3.42	2.80	46.65	61.41
	NORMAL	360.0	6.86	142.65	359.47	-10.14	9.27	13.74	3.14	3.12	3.32	7.27
	NORMAL	430.0	7.41	141.85	428.92	-17.02	14.59	22.38	0.80	0.79	-1.14	349.36
	NORMAL	520.0	9.51	131.49	517.94	-26.51	23.75	35.57	2.87	2.33	-11.51	318.83
	NORMAL	611.0	11.75	131.68	607.38	-37.65	36.30	52.30	2.46	2.46	0.21	0.99
	NORMAL	702.0	13.55	131.58	696.16	-50.89	51.20	72.17	1.98	1.98	-0.11	359.25
	NORMAL	792.0	14.22	137.21	783.54	-66.00	66.59	93.73	1.67	0.74	6.26	66.37
	NORMAL	883.0	15.15	137.29	871.56	-82.94	82.25	116.80	1.02	1.02	0.09	1.29
	NORMAL	974.0	16.05	134.44	959.21	-100.49	99.30	141.26	1.30	0.99	-3.13	318.20
	NORMAL	1,083.0	16.97	134.31	1,063.72	-122.15	121.44	172.22	0.84	0.84	-0.12	357.64
5/24/2013	NORMAL	1,162.0	17.62	134.95	1,139.15	-138.65	138.15	195.70	0.86	0.82	0.81	16.62
	NORMAL	1,258.0	15.11	136.80	1,231.25	-158.04	157.01	222.74	2.67	-2.61	1.93	169.15
	NORMAL	1,353.0	15.27	136.27	1,322.93	-176.10	174.13	247.64	0.22	0.17	-0.56	318.79
	NORMAL	1,449.0	13.33	138.80	1,415.95	-193.57	190.16	271.33	2.12	-2.02	2.64	163.37
	NORMAL	1,544.0	12.92	139.43	1,508.47	-209.87	204.28	292.87	0.46	-0.43	0.66	161.07
	NORMAL	1,640.0	12.26	138.63	1,602.16	-225.68	218.00	313.77	0.71	-0.69	-0.83	194.4
	NORMAL	1,736.0	13.63	137.65	1,695.72	-241.69	232.35	335.26	1.45	1.43	-1.02	350.42
	NORMAL	1,831.0	13.28	137.91	1,788.11	-258.06	247.21	357.36	0.37	-0.37	0.27	170.32

## 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 (°)
5/25/2013	NORMAL	3,065.0	14.60	135.80	2,982.59	-480.72	462.26	666.91	0.27	-0.27	0.00	180.00
5/25/2013	NORMAL	1,925.0	15.12	136.94	1,879.24	-275.03	262.82	380.41	1.97	1.96	-1.03	352.16
	NORMAL	2,020.0	14.86	135.80	1,971.00	-292.81	279.77	404.98	0.41	-0.27	-1.20	228.05
	NORMAL	2,115.0	14.42	134.22	2,062.92	-309.80	296.74	428.98	0.63	-0.46	-1.66	221.46
	NORMAL	2,209.0	14.42	133.60	2,153.96	-326.03	313.60	452.37	0.16	0.00	-0.66	269.70
	NORMAL	2,305.0	14.16	132.64	2,246.99	-342.23	330.90	476.04	0.37	-0.27	-1.00	221.88
	NORMAL	2,400.0	15.24	136.84	2,338.88	-359.21	347.99	500.12	1.60	1.14	4.42	46.67
	NORMAL	2,496.0	15.21	137.56	2,431.51	-377.70	365.12	525.33	0.20	-0.03	0.75	99.36
	NORMAL	2,592.0	14.55	137.07	2,524.29	-395.83	381.83	549.97	0.70	-0.69	-0.51	190.56
	NORMAL	2,687.0	13.98	137.30	2,616.36	-413.00	397.74	573.38	0.60	-0.60	0.24	174.43
	NORMAL	2,780.0	13.54	136.77	2,706.69	-429.19	412.81	595.50	0.49	-0.47	-0.57	195.73
	NORMAL	2,874.0	14.60	136.50	2,797.87	-445.80	428.50	618.35	1.13	1.13	-0.29	356.33
	NORMAL	2,969.0	14.86	135.80	2,889.75	-463.22	445.24	642.50	0.33	0.27	-0.74	325.27
	NORMAL	3,160.0	14.42	136.15	3,074.56	-497.83	478.80	690.71	0.21	-0.19	0.37	154.19
	NORMAL	3,255.0	14.01	136.10	3,166.65	-514.65	494.97	714.04	0.43	-0.43	-0.05	181.69
	NORMAL	3,350.0	14.33	135.80	3,258.76	-531.36	511.14	737.30	0.35	0.34	-0.32	346.93
	NORMAL	3,446.0	13.98	135.89	3,351.85	-548.20	527.49	760.77	0.37	-0.36	0.09	176.45
	NORMAL	3,542.0	13.37	136.68	3,445.13	-564.61	543.18	783.47	0.66	-0.64	0.82	163.36
	NORMAL	3,637.0	13.81	135.89	3,537.47	-580.74	558.61	805.79	0.50	0.46	-0.83	336.74
	NORMAL	3,733.0	14.07	135.54	3,630.64	-597.29	574.75	828.91	0.28	0.27	-0.36	341.86
	NORMAL	3,828.0	14.07	134.83	3,722.79	-613.68	591.03	852.01	0.18	0.00	-0.75	269.66
	NORMAL	3,924.0	14.02	134.05	3,815.92	-629.99	607.66	875.29	0.20	-0.05	-0.81	254.83
	NORMAL	4,020.0	13.89	133.34	3,909.09	-645.98	624.40	898.43	0.22	-0.14	-0.74	232.45
5/26/2013	NORMAL	4,115.0	13.54	133.52	4,001.38	-661.47	640.76	920.93	0.37	-0.37	0.19	173.14
	NORMAL	4,211.0	14.42	132.37	4,094.53	-677.26	657.74	944.08	0.96	0.92	-1.20	341.92
	NORMAL	4,307.0	14.33	131.32	4,187.53	-693.16	675.49	967.85	0.29	-0.09	-1.09	250.44
	NORMAL	4,402.0	13.89	131.76	4,279.66	-708.52	692.83	990.94	0.48	-0.46	0.46	166.5'
	NORMAL	4,498.0	14.25	135.54	4,372.78	-724.62	709.70	1,014.24	1.03	0.38	3.94	70.45
	NORMAL	4,593.0	14.42	135.45	4,464.83	-741.40	726.19	1,037.76	0.18	0.18	-0.09	352.49
	NORMAL	4,687.0	13.63	135.89	4,556.02	-757.69	742.11	1,060.54	0.85	-0.84	0.47	172.53
	NORMAL	4,783.0	13.63	136.50	4,649.32	-774.02	757.77	1,083.16	0.15	0.00	0.64	90.30
	NORMAL	4,878.0	13.72	136.07	4,741.63	-790.25	773.29	1,105.62	0.14	0.09	-0.45	311.3'
	NORMAL	4,974.0	13.54	137.74	4,834.92	-806.77	788.75	1,128.24	0.45	-0.19	1.74	115.39
	NORMAL	5,070.0	13.45	137.56	4,928.27	-823.33	803.84	1,150.64	0.10	-0.09	-0.19	204.93
	NORMAL	5,165.0	13.63	134.57	5,020.63	-839.33	819.27	1,172.87	0.76	0.19	-3.15	282.96
	NORMAL	5,261.0	13.28	135.89	5,114.00	-855.19	835.00	1,195.20	0.49	-0.36	1.38	139.37
	NORMAL	5,357.0	12.05	134.31	5,207.66	-870.11	849.85	1,216.25	1.33	-1.28	-1.65	194.96
	NORMAL	5,451.0	11.52	135.36	5,299.68	-883.64	863.46	1,235.44	0.61	-0.56	1.12	158.48
	NORMAL	5,547.0	9.94	129.65	5,394.00	-895.75	876.58	1,253.26	1.98	-1.65	-5.95	211.15
	NORMAL	5,642.0	9.06	126.57	5,487.70	-905.44	888.90	1,268.79	1.07	-0.93	-3.24	208.50
5/27/2013	NORMAL	5,736.0	8.15	127.27	5,580.64	-913.88	900.15	1,282.67	0.97	-0.97	0.74	173.78
	NORMAL	5,832.0	6.68	118.95	5,675.84	-920.71	910.45	1,294.73	1.89	-1.53	-8.67	212.07
	NORMAL	5,925.0	6.66	118.84	5,768.21	-925.93	919.91	1,305.05	0.03	-0.02	-0.12	212.52
	NORMAL	6,020.0	5.19	118.84	5,862.70	-930.66	928.50	1,314.42	1.55	-1.55	0.00	180.00
	NORMAL	6,115.0	4.13	120.68	5,957.38	-934.47	935.20	1,321.82	1.13	-1.12	1.94	172.89
	NORMAL	6,211.0	3.08	125.69	6,053.19	-937.74	940.27	1,327.69	1.14	-1.09	5.22	165.79
	NORMAL	6,306.0	1.88	118.59	6,148.10	-939.98	943.71	1,331.69	1.30	-1.26	-7.47	190.83
	NORMAL	6,402.0	0.97	87.11	6,244.07	-940.69	945.90	1,333.73	1.22	-0.95	-32.79	205.70
	NORMAL	6,497.0	0.53	96.34	6,339.06	-940.70	947.14	1,334.59	0.48	-0.46	9.72	169.23
	NORMAL	6,592.0	0.88	90.27	6,434.05	-940.75	948.31	1,335.44	0.38	0.37	-6.39	344.9'
	NORMAL	6,686.0	0.79	35.34	6,528.05	-940.22	949.41	1,335.82	0.82	-0.10	-58.44	236.62
5/28/2013	NORMAL	6,781.0	0.79	39.57	6,623.04	-939.19	950.20	1,335.63	0.06	0.00	4.45	92.1'
	NORMAL	6,877.0	0.62	31.12	6,719.03	-938.23	950.89	1,335.42	0.21	-0.18	-8.80	207.27
	NORMAL	6,972.0	0.70	41.67	6,814.02	-937.36	951.54	1,335.24	0.15	0.08	11.11	61.99
	NORMAL	7,067.0	0.53	47.74	6,909.02	-936.63	952.26	1,335.21	0.19	-0.18	6.39	162.05
	NORMAL	7,163.0	0.35	65.05	7,005.01	-936.21	952.85	1,335.32	0.23	-0.19	18.03	152.00
	NORMAL	7,257.0	0.53	98.18	7,099.01	-936.15	953.54	1,335.75	0.32	0.19	35.24	72.05

## 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 (°)
5/28/2013	NORMAL	7,352.0	0.35	127.36	7,194.01	-936.38	954.21	1,336.39	0.30	-0.19	30.72	142.75
	NORMAL	7,448.0	0.35	129.82	7,290.01	-936.75	954.66	1,336.97	0.02	0.00	2.56	91.23
	NORMAL	7,543.0	0.09	333.73	7,385.01	-936.87	954.85	1,337.19	0.46	-0.27	-164.31	184.82
5/29/2013	NORMAL	7,639.0	0.44	291.72	7,481.01	-936.67	954.48	1,336.78	0.39	0.36	-43.76	308.82
	NORMAL	7,734.0	0.18	282.58	7,576.00	-936.50	953.99	1,336.32	0.28	-0.27	-9.62	186.22
	NORMAL	7,830.0	0.44	243.82	7,672.00	-936.63	953.52	1,336.08	0.33	0.27	-40.38	300.63
	NORMAL	7,925.0	0.35	278.89	7,767.00	-936.74	952.90	1,335.74	0.27	-0.09	36.92	127.36
	NORMAL	8,021.0	0.26	242.85	7,863.00	-936.80	952.42	1,335.44	0.22	-0.09	-37.54	227.58
5/30/2013	NORMAL	8,117.0	0.97	248.21	7,958.99	-937.20	951.47	1,335.08	0.74	0.74	5.58	7.32
	NORMAL	8,213.0	0.97	246.98	8,054.98	-937.82	949.97	1,334.48	0.02	0.00	-1.28	269.39
	NORMAL	8,309.0	1.76	249.27	8,150.95	-938.66	947.84	1,333.61	0.82	0.82	2.39	5.10
	NORMAL	8,403.0	2.46	244.26	8,244.89	-940.05	944.67	1,332.41	0.77	0.74	-5.33	342.73
	NORMAL	8,496.0	2.37	250.32	8,337.80	-941.56	941.07	1,331.00	0.29	-0.10	6.52	112.43
	NORMAL	8,592.0	2.46	253.93	8,433.72	-942.80	937.22	1,329.22	0.18	0.09	3.76	61.20
	NORMAL	8,687.0	3.08	256.83	8,528.61	-943.94	932.77	1,326.96	0.67	0.65	3.05	14.19
	NORMAL	8,783.0	2.64	261.05	8,624.49	-944.88	928.08	1,324.37	0.51	-0.46	4.40	156.52
	NORMAL	8,879.0	2.64	249.36	8,720.39	-946.00	923.82	1,322.23	0.56	0.00	-12.18	264.16
	NORMAL	8,955.0	2.55	241.62	8,796.31	-947.42	920.70	1,321.08	0.48	-0.12	-10.18	251.75
	NORMAL	9,051.0	2.55	241.62	8,892.21	-949.45	916.94	1,319.94	0.00	0.00	0.00	0.00