

## General

## 1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

## 1.2 Well Information

Well	RWF 423-36	Wellbore No.	
Well Name	RWF 423-36	Common Name	RWF 423-36
Project	RU 36-06S-094W	Site	RWF 33-36 Pad
Vertical Section	201.15 (°)	North Reference	True
Azimuth		Origin E/W	
Origin N/S		UWI	RWF 423-36
Spud Date	2/16/2013		
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	2/16/2013	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

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 (°)
2/16/2013	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/16/2013	NORMAL	94.0	0.44	174.73	94.00	-0.36	0.03	0.32	0.47	0.47	0.00	174.73
	NORMAL	183.0	2.11	192.66	182.97	-2.30	-0.29	2.25	1.91	1.88	20.15	22.51
	NORMAL	270.0	2.90	203.20	269.89	-5.88	-1.51	6.03	1.05	0.91	12.11	35.58
	NORMAL	361.0	2.99	209.18	360.77	-10.07	-3.58	10.68	0.35	0.10	6.57	76.67
	NORMAL	450.0	4.22	198.02	449.59	-15.21	-5.72	16.25	1.58	1.38	-12.54	324.65
2/17/2013	NORMAL	540.0	4.57	202.50	539.33	-21.67	-8.12	23.14	0.54	0.39	4.98	46.70
	NORMAL	632.0	5.45	201.80	630.98	-29.12	-11.14	31.18	0.96	0.96	-0.76	355.68
	NORMAL	701.0	5.93	199.40	699.64	-35.52	-13.54	38.02	0.78	0.70	-3.48	332.43
	NORMAL	792.0	6.42	200.21	790.11	-44.73	-16.86	47.80	0.55	0.54	0.89	10.48
	NORMAL	884.0	6.95	200.69	881.48	-54.76	-20.61	58.51	0.58	0.58	0.52	6.26
	NORMAL	974.0	7.74	199.64	970.74	-65.57	-24.57	70.01	0.89	0.88	-1.17	349.84
	NORMAL	1,088.0	8.62	198.94	1,083.58	-80.88	-29.92	86.22	0.78	0.77	-0.61	353.20
2/18/2013	NORMAL	1,160.0	9.07	195.74	1,154.73	-91.44	-33.21	97.27	0.93	0.63	-4.44	310.86
	NORMAL	1,256.0	7.84	202.05	1,249.68	-104.80	-37.72	111.35	1.60	-1.28	6.57	146.07
	NORMAL	1,351.0	6.25	204.62	1,343.96	-115.50	-42.31	122.99	1.71	-1.67	2.71	170.06
	NORMAL	1,447.0	5.96	202.12	1,439.42	-124.87	-46.36	133.19	0.41	-0.30	-2.60	221.28
	NORMAL	1,543.0	5.78	203.96	1,534.92	-133.91	-50.20	143.00	0.27	-0.19	1.92	134.64
	NORMAL	1,639.0	6.04	206.84	1,630.41	-142.83	-54.45	152.85	0.41	0.27	3.00	50.20
	NORMAL	1,734.0	5.31	203.03	1,724.94	-151.33	-58.42	162.22	0.86	-0.77	-4.01	205.4'
	NORMAL	1,830.0	5.62	209.06	1,820.50	-159.53	-62.44	171.32	0.68	0.32	6.28	64.66

## 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 (°)
2/18/2013	NORMAL	1,926.0	6.07	194.63	1,916.01	-168.55	-66.01	181.02	1.60	0.47	-15.03	279.76
	NORMAL	2,021.0	5.74	195.94	2,010.51	-177.98	-68.58	190.74	0.38	-0.35	1.38	158.44
	NORMAL	2,117.0	7.09	199.76	2,105.90	-188.17	-71.90	201.44	1.47	1.41	3.98	19.45
	NORMAL	2,213.0	6.95	200.34	2,201.18	-199.19	-75.93	213.17	0.16	-0.15	0.60	153.43
	NORMAL	2,309.0	6.44	197.49	2,296.53	-209.78	-79.56	224.35	0.63	-0.53	-2.97	211.67
	NORMAL	2,402.0	8.03	199.27	2,388.79	-220.88	-83.27	236.05	1.73	1.71	1.91	8.9'
	NORMAL	2,498.0	7.83	197.18	2,483.87	-233.46	-87.42	249.27	0.37	-0.21	-2.18	234.22
	NORMAL	2,593.0	8.73	205.58	2,577.88	-246.15	-92.44	262.92	1.58	0.95	8.84	57.56
	NORMAL	2,688.0	8.77	202.75	2,671.77	-259.33	-98.36	277.35	0.46	0.04	-2.98	273.91
	NORMAL	2,784.0	9.05	202.96	2,766.62	-273.03	-104.13	292.21	0.29	0.29	0.22	6.73
	NORMAL	2,879.0	8.87	203.58	2,860.46	-286.62	-109.98	306.99	0.22	-0.19	0.65	152.09
	NORMAL	2,972.0	8.71	205.53	2,952.36	-299.55	-115.88	321.18	0.36	-0.17	2.10	119.19
	NORMAL	3,067.0	6.95	199.73	3,046.48	-311.45	-120.92	334.10	2.03	-1.85	-6.11	201.32
	NORMAL	3,162.0	6.76	199.86	3,140.80	-322.12	-124.76	345.43	0.20	-0.20	0.14	175.40
	NORMAL	3,257.0	5.40	200.22	3,235.26	-331.57	-128.21	355.49	1.43	-1.43	0.38	178.57
	NORMAL	3,353.0	5.80	205.09	3,330.80	-340.20	-131.82	364.85	0.65	0.42	5.07	52.35
	NORMAL	3,448.0	5.87	203.87	3,425.31	-348.99	-135.82	374.49	0.15	0.07	-1.28	298.83
	NORMAL	3,544.0	5.63	200.50	3,520.83	-357.89	-139.46	384.10	0.43	-0.25	-3.51	232.92
	NORMAL	3,640.0	5.08	194.02	3,616.41	-366.43	-142.14	393.03	0.85	-0.57	-6.75	224.52
2/19/2013	NORMAL	3,734.0	4.85	196.94	3,710.06	-374.27	-144.31	401.12	0.36	-0.24	3.11	133.75
	NORMAL	3,830.0	5.95	196.51	3,805.63	-382.92	-146.90	410.13	1.15	1.15	-0.45	357.68
	NORMAL	3,925.0	5.98	200.96	3,900.12	-392.26	-150.07	419.99	0.49	0.03	4.68	88.50
	NORMAL	4,021.0	5.43	200.44	3,995.64	-401.19	-153.45	429.53	0.58	-0.57	-0.54	185.1'
	NORMAL	4,117.0	6.69	201.81	4,091.10	-410.64	-157.11	439.66	1.32	1.31	1.43	7.23
	NORMAL	4,212.0	6.94	201.02	4,185.43	-421.13	-161.22	450.93	0.28	0.26	-0.83	339.05
	NORMAL	4,308.0	6.84	200.27	4,280.74	-431.91	-165.29	462.45	0.14	-0.10	-0.78	221.6'
	NORMAL	4,402.0	6.75	199.93	4,374.08	-442.35	-169.11	473.57	0.10	-0.10	-0.36	203.9'
	NORMAL	4,498.0	6.68	200.17	4,469.42	-452.90	-172.96	484.79	0.08	-0.07	0.25	158.27
	NORMAL	4,594.0	6.81	196.07	4,564.75	-463.61	-176.46	496.05	0.52	0.14	-4.27	283.07
	NORMAL	4,690.0	6.16	205.79	4,660.14	-473.71	-180.27	506.85	1.33	-0.68	10.13	125.40
2/20/2013	NORMAL	4,785.0	6.13	207.01	4,754.60	-482.82	-184.80	516.97	0.14	-0.03	1.28	103.54
	NORMAL	4,881.0	5.54	201.13	4,850.10	-491.71	-188.79	526.71	0.87	-0.61	-6.12	222.48
	NORMAL	4,977.0	5.72	204.91	4,945.64	-500.37	-192.48	536.12	0.43	0.19	3.94	66.00
	NORMAL	5,073.0	5.36	200.34	5,041.19	-508.92	-196.05	545.37	0.59	-0.38	-4.76	228.53
	NORMAL	5,168.0	5.00	199.83	5,135.80	-516.97	-199.00	553.95	0.38	-0.38	-0.54	187.03
	NORMAL	5,262.0	5.08	202.71	5,229.44	-524.66	-202.00	562.20	0.28	0.09	3.06	73.89
	NORMAL	5,358.0	4.04	198.94	5,325.13	-531.78	-204.73	569.83	1.13	-1.08	-3.93	194.20
	NORMAL	5,453.0	2.22	209.02	5,419.99	-536.56	-206.71	575.00	1.99	-1.92	10.61	168.17
	NORMAL	5,547.0	0.70	244.02	5,513.96	-538.40	-208.11	577.22	1.80	-1.62	37.23	166.29
	NORMAL	5,643.0	0.26	236.99	5,609.95	-538.78	-208.82	577.83	0.46	-0.46	-7.32	184.12
2/21/2013	NORMAL	5,738.0	0.18	298.43	5,704.95	-538.82	-209.13	577.99	0.25	-0.08	64.67	137.73
	NORMAL	5,834.0	0.79	219.50	5,800.95	-539.26	-209.69	578.59	0.81	0.64	-82.22	267.9'
	NORMAL	5,929.0	0.66	78.58	5,895.94	-539.66	-209.57	578.92	1.44	-0.14	-148.34	197.72
	NORMAL	6,022.0	0.75	78.74	5,988.94	-539.43	-208.45	578.31	0.10	0.10	0.17	1.33
	NORMAL	6,118.0	0.67	70.34	6,084.93	-539.12	-207.30	577.60	0.14	-0.08	-8.75	228.30
	NORMAL	6,214.0	0.40	77.08	6,180.93	-538.86	-206.45	577.05	0.29	-0.28	7.02	170.23
	NORMAL	6,309.0	0.44	176.71	6,275.92	-539.15	-206.10	577.20	0.68	0.04	104.87	137.5'
	NORMAL	6,405.0	0.50	152.72	6,371.92	-539.89	-205.89	577.81	0.21	0.06	-24.99	274.73
	NORMAL	6,500.0	0.65	177.27	6,466.92	-540.80	-205.67	578.58	0.30	0.16	25.84	71.33
	NORMAL	6,596.0	0.43	249.52	6,562.91	-541.47	-205.98	579.31	0.69	-0.23	75.26	141.72
	NORMAL	6,691.0	0.42	345.23	6,657.91	-541.25	-206.41	579.27	0.66	-0.01	100.75	138.46
	NORMAL	6,787.0	0.18	9.97	6,753.91	-540.77	-206.47	578.84	0.28	-0.25	25.77	163.63
	NORMAL	6,882.0	0.44	178.28	6,848.91	-540.98	-206.43	579.03	0.65	0.27	177.17	171.70
	NORMAL	6,978.0	0.50	212.34	6,944.91	-541.71	-206.65	579.78	0.29	0.06	35.48	95.26
	NORMAL	7,074.0	0.17	266.49	7,040.91	-542.07	-207.01	580.25	0.44	-0.34	56.41	161.0'
	NORMAL	7,169.0	0.77	242.85	7,135.90	-542.37	-207.72	580.78	0.65	0.63	-24.88	330.03
	NORMAL	7,265.0	0.21	86.52	7,231.90	-542.65	-208.12	581.19	1.01	-0.58	-162.84	185.0'

## 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 (°)
2/21/2013	NORMAL	7,361.0	0.70	36.60	7,327.90	-542.17	-207.60	580.55	0.61	0.51	-52.00	294.20
2/22/2013	NORMAL	7,456.0	0.90	60.33	7,422.89	-541.33	-206.60	579.41	0.40	0.21	24.98	71.11
	NORMAL	7,552.0	0.92	57.89	7,518.87	-540.55	-205.29	578.21	0.05	0.02	-2.54	296.08
	NORMAL	7,648.0	1.04	65.21	7,614.86	-539.78	-203.85	576.97	0.18	0.12	7.63	49.91
	NORMAL	7,743.0	0.93	25.96	7,709.85	-538.72	-202.73	575.58	0.70	-0.12	-41.32	241.48
	NORMAL	7,838.0	0.90	59.21	7,804.84	-537.65	-201.75	574.22	0.55	-0.03	35.00	109.77
	NORMAL	7,934.0	0.69	66.73	7,900.83	-537.03	-200.57	573.23	0.24	-0.22	7.83	157.31
	NORMAL	8,030.0	0.40	135.64	7,996.82	-537.04	-199.81	572.96	0.69	-0.30	71.78	145.65
	NORMAL	8,126.0	0.71	125.94	8,092.82	-537.63	-199.09	573.25	0.34	0.32	-10.10	338.25
	NORMAL	8,221.0	0.70	222.49	8,187.81	-538.41	-199.01	573.94	1.11	-0.01	101.63	138.64
	NORMAL	8,317.0	1.44	239.15	8,283.80	-539.46	-200.44	575.44	0.83	0.77	17.35	31.28
	NORMAL	8,412.0	2.34	220.75	8,378.75	-541.54	-202.73	578.21	1.13	0.95	-19.37	316.58
	NORMAL	8,508.0	2.11	239.28	8,474.67	-543.93	-205.53	581.44	0.78	-0.24	19.30	116.84
	NORMAL	8,603.0	2.99	233.92	8,569.58	-546.28	-209.03	584.90	0.96	0.93	-5.64	342.15
	NORMAL	8,699.0	2.47	234.87	8,665.47	-548.94	-212.75	588.73	0.54	-0.54	0.99	175.50
	NORMAL	8,794.0	3.31	235.05	8,760.35	-551.69	-216.67	592.71	0.88	0.88	0.19	0.71
	NORMAL	8,814.0	3.34	231.02	8,780.31	-552.39	-217.60	593.69	1.18	0.15	-20.15	275.30