

I General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	RWF 23-36	Wellbore No.	
Well Name	RWF 23-36	Common Name	RWF 23-36
Project	RU 36-06S-094W	Site	RWF 33-36 Pad
Vertical Section	206.15 (°)	North Reference	True
Azimuth		Origin E/W	
Origin N/S		UWI	RWF 23-36
Spud Date	2/8/2013		
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	2/8/2013	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

6822

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 (°)
2/8/2013	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/8/2013	NORMAL	86.0	0.35	62.31	86.00	0.12	0.23	-0.21	0.41	0.41	0.00	62.31
	NORMAL	118.0	0.44	276.86	118.00	0.18	0.20	-0.25	2.36	0.28	-454.53	199.30
	NORMAL	180.0	1.85	228.78	179.99	-0.45	-0.79	0.75	2.56	2.27	-77.55	300.04
	NORMAL	270.0	2.99	222.19	269.90	-3.15	-3.46	4.35	1.30	1.27	-7.32	342.98
	NORMAL	361.0	4.22	204.35	360.73	-7.95	-6.44	9.98	1.81	1.35	-19.60	308.50
2/9/2013	NORMAL	452.0	8.01	204.70	451.19	-16.77	-10.47	19.67	4.17	4.16	0.38	0.74
	NORMAL	541.0	9.24	204.70	539.18	-28.89	-16.04	33.01	1.38	1.38	0.00	0.00
	NORMAL	633.0	9.59	201.18	629.94	-42.75	-21.90	48.03	0.73	0.38	-3.83	299.55
	NORMAL	701.0	9.68	198.77	696.99	-53.44	-25.79	59.34	0.61	0.13	-3.54	281.39
	NORMAL	792.0	9.02	206.42	786.78	-67.08	-31.42	74.06	1.54	-0.73	8.41	121.77
	NORMAL	884.0	9.37	205.43	877.60	-80.30	-37.85	88.76	0.42	0.38	-1.08	335.19
	NORMAL	974.0	10.35	205.10	966.27	-94.24	-44.42	104.17	1.09	1.09	-0.37	356.54
	NORMAL	1,064.0	11.19	203.83	1,054.68	-109.55	-51.38	120.98	0.97	0.93	-1.41	343.60
	NORMAL	1,123.0	11.88	203.13	1,112.49	-120.37	-56.08	132.76	1.19	1.17	-1.19	348.19
2/10/2013	NORMAL	1,256.0	11.41	203.41	1,242.75	-145.03	-66.68	159.58	0.36	-0.35	0.21	173.28
	NORMAL	1,351.0	9.94	212.37	1,336.11	-160.58	-74.81	177.12	2.33	-1.55	9.43	135.88
	NORMAL	1,447.0	10.11	212.72	1,430.64	-174.67	-83.80	193.72	0.19	0.18	0.36	19.89
	NORMAL	1,543.0	8.72	209.54	1,525.35	-188.09	-91.94	209.36	1.55	-1.45	-3.31	198.95
	NORMAL	1,639.0	8.74	206.09	1,620.24	-200.97	-98.74	223.92	0.55	0.02	-3.59	270.48
	NORMAL	1,734.0	8.26	208.87	1,714.20	-213.43	-105.21	237.95	0.66	-0.51	2.93	140.80

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 (°)
2/10/2013	NORMAL	1,830.0	8.25	209.45	1,809.20	-225.47	-111.92	251.72	0.09	-0.01	0.60	97.13
	NORMAL	1,925.0	8.66	206.87	1,903.17	-237.78	-118.51	265.67	0.59	0.43	-2.72	315.94
	NORMAL	2,021.0	8.71	204.13	1,998.07	-250.86	-124.74	280.16	0.43	0.05	-2.85	275.54
	NORMAL	2,117.0	8.82	205.05	2,092.95	-264.16	-130.83	294.79	0.19	0.11	0.96	52.34
	NORMAL	2,213.0	8.79	203.95	2,187.82	-277.54	-136.92	309.47	0.18	-0.03	-1.15	259.35
	NORMAL	2,308.0	8.27	200.17	2,281.77	-290.58	-142.23	323.52	0.80	-0.55	-3.98	225.30
	NORMAL	2,402.0	9.29	206.21	2,374.66	-303.74	-147.91	337.83	1.46	1.09	6.43	45.12
	NORMAL	2,498.0	9.32	207.91	2,469.40	-317.56	-154.97	353.35	0.29	0.03	1.77	84.61
	NORMAL	2,593.0	9.06	204.39	2,563.18	-331.17	-161.66	368.52	0.65	-0.27	-3.71	243.45
	NORMAL	2,688.0	8.62	204.13	2,657.05	-344.48	-167.66	383.11	0.47	-0.46	-0.27	185.06
	NORMAL	2,784.0	9.64	205.75	2,751.84	-358.28	-174.09	398.34	1.10	1.06	1.69	14.95
	NORMAL	2,879.0	10.02	205.38	2,845.44	-372.91	-181.09	414.55	0.41	0.40	-0.39	350.38
	NORMAL	2,971.0	9.58	208.96	2,936.10	-386.84	-188.23	430.20	0.82	-0.48	3.89	127.59
	NORMAL	3,067.0	9.07	210.76	3,030.83	-400.34	-195.97	445.73	0.61	-0.53	1.88	151.12
2/11/2013	NORMAL	3,162.0	8.88	208.52	3,124.67	-413.21	-203.30	460.52	0.42	-0.20	-2.36	240.36
	NORMAL	3,257.0	8.53	208.08	3,218.57	-425.87	-210.11	474.88	0.38	-0.37	-0.46	190.56
	NORMAL	3,353.0	9.97	206.48	3,313.32	-439.59	-217.17	490.31	1.52	1.50	-1.67	349.08
	NORMAL	3,448.0	9.79	203.13	3,406.91	-454.38	-224.01	506.60	0.63	-0.19	-3.53	250.97
	NORMAL	3,544.0	9.38	204.63	3,501.57	-469.00	-230.48	522.57	0.50	-0.43	1.56	149.36
	NORMAL	3,640.0	8.91	204.42	3,596.35	-482.88	-236.81	537.82	0.49	-0.49	-0.22	183.96
	NORMAL	3,734.0	9.23	204.83	3,689.18	-496.35	-242.99	552.63	0.35	0.34	0.44	11.62
	NORMAL	3,830.0	8.97	204.04	3,783.97	-510.17	-249.27	567.81	0.30	-0.27	-0.82	205.28
	NORMAL	3,925.0	9.09	203.74	3,877.79	-523.80	-255.31	582.71	0.14	0.13	-0.32	338.43
	NORMAL	4,021.0	8.96	205.52	3,972.60	-537.49	-261.58	597.76	0.32	-0.14	1.85	115.84
	NORMAL	4,116.0	8.70	200.41	4,066.48	-550.90	-267.27	612.31	0.87	-0.27	-5.38	249.15
	NORMAL	4,212.0	9.17	203.52	4,161.32	-564.72	-272.86	627.17	0.70	0.49	3.24	47.33
	NORMAL	4,307.0	9.01	203.75	4,255.12	-578.47	-278.87	642.17	0.17	-0.17	0.24	167.32
	NORMAL	4,402.0	9.10	209.72	4,348.94	-591.80	-285.60	657.10	0.99	0.09	6.28	87.48
2/12/2013	NORMAL	4,498.0	8.88	209.67	4,443.76	-604.84	-293.03	672.07	0.23	-0.23	-0.05	182.0'
	NORMAL	4,594.0	9.09	207.32	4,538.58	-618.01	-300.17	687.05	0.44	0.22	-2.45	298.6'
	NORMAL	4,690.0	9.24	207.63	4,633.36	-631.58	-307.23	702.33	0.16	0.16	0.32	18.37
	NORMAL	4,785.0	8.71	208.87	4,727.19	-644.63	-314.24	717.14	0.59	-0.56	1.31	160.56
	NORMAL	4,881.0	8.08	203.80	4,822.17	-657.17	-320.47	731.15	1.01	-0.66	-5.28	227.1'
	NORMAL	4,977.0	8.18	203.95	4,917.20	-669.59	-325.97	744.71	0.11	0.10	0.16	12.05
	NORMAL	5,073.0	8.27	207.56	5,012.22	-681.95	-331.93	758.44	0.55	0.09	3.76	81.90
	NORMAL	5,168.0	8.27	208.54	5,106.23	-694.01	-338.36	772.10	0.15	0.00	1.03	90.48
	NORMAL	5,262.0	6.72	205.92	5,199.42	-704.89	-343.99	784.35	1.69	-1.65	-2.79	191.14
	NORMAL	5,357.0	6.40	209.25	5,293.80	-714.51	-349.01	795.20	0.52	-0.34	3.51	131.72
	NORMAL	5,453.0	5.21	206.33	5,389.31	-723.09	-353.56	804.90	1.28	-1.24	-3.04	192.46
	NORMAL	5,547.0	4.92	207.12	5,482.94	-730.50	-357.29	813.20	0.32	-0.31	0.84	166.87
	NORMAL	5,643.0	3.69	205.27	5,578.67	-736.96	-360.48	820.40	1.29	-1.28	-1.93	185.52
	NORMAL	5,738.0	3.85	200.22	5,673.46	-742.72	-362.89	826.63	0.39	0.17	-5.32	293.16
2/13/2013	NORMAL	5,834.0	2.81	217.40	5,769.30	-747.61	-365.44	832.14	1.49	-1.08	17.90	144.54
	NORMAL	5,929.0	1.92	225.41	5,864.22	-750.58	-367.98	835.93	1.00	-0.94	8.43	163.60
	NORMAL	6,022.0	1.76	216.87	5,957.17	-752.81	-369.95	838.80	0.34	-0.17	-9.18	235.5'
	NORMAL	6,118.0	1.48	217.04	6,053.13	-754.98	-371.58	841.47	0.29	-0.29	0.18	179.10
	NORMAL	6,213.0	0.88	231.46	6,148.11	-756.42	-372.89	843.33	0.70	-0.63	15.18	160.76
	NORMAL	6,309.0	0.10	210.28	6,244.11	-756.95	-373.51	844.08	0.82	-0.81	-22.06	182.63
	NORMAL	6,404.0	0.35	127.28	6,339.11	-757.20	-373.32	844.22	0.37	0.26	-87.37	260.63
	NORMAL	6,500.0	0.48	162.70	6,435.10	-757.76	-372.97	844.57	0.29	0.14	36.90	81.58
	NORMAL	6,596.0	0.97	151.83	6,531.10	-758.86	-372.46	845.34	0.53	0.51	-11.32	338.84
	NORMAL	6,691.0	0.97	181.80	6,626.08	-760.37	-372.11	846.54	0.53	0.00	31.55	104.98
	NORMAL	6,787.0	1.14	166.16	6,722.07	-762.11	-371.91	848.01	0.35	0.18	-16.29	292.58
	NORMAL	6,882.0	0.88	53.22	6,817.06	-762.59	-371.10	848.09	1.78	-0.27	-118.88	208.66
	NORMAL	6,978.0	0.85	96.29	6,913.05	-762.23	-369.80	847.19	0.66	-0.03	44.86	114.05
	NORMAL	7,074.0	0.12	71.92	7,009.05	-762.27	-368.99	846.87	0.77	-0.76	-25.39	183.82
2/14/2013	NORMAL	7,169.0	0.48	167.45	7,104.04	-762.63	-368.81	847.12	0.53	0.38	100.56	109.19

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 (°)
2/14/2013	NORMAL	7,265.0	0.57	158.49	7,200.04	-763.47	-368.55	847.75	0.13	0.09	-9.33	313.09
	NORMAL	7,360.0	0.64	203.55	7,295.04	-764.39	-368.59	848.60	0.49	0.07	47.43	104.59
	NORMAL	7,456.0	0.57	208.33	7,391.03	-765.31	-369.03	849.61	0.09	-0.07	4.98	146.58
	NORMAL	7,552.0	1.04	245.28	7,487.02	-766.09	-370.05	850.77	0.71	0.49	38.49	67.33
	NORMAL	7,647.0	1.23	251.76	7,582.00	-766.77	-371.80	852.15	0.24	0.20	6.82	37.31
	NORMAL	7,743.0	1.14	282.79	7,677.98	-766.88	-373.71	853.09	0.67	-0.09	32.32	113.30
	NORMAL	7,838.0	0.53	304.94	7,772.97	-766.42	-374.99	853.24	0.71	-0.64	23.32	162.89
	NORMAL	7,934.0	0.35	57.17	7,868.97	-766.01	-375.11	852.92	0.77	-0.19	116.91	153.94
	NORMAL	8,030.0	0.79	169.41	7,964.97	-766.50	-374.74	853.20	1.02	0.46	116.92	131.59
2/15/2013	NORMAL	8,125.0	0.79	190.77	8,059.96	-767.79	-374.74	854.36	0.31	0.00	22.48	100.68
	NORMAL	8,221.0	1.20	221.14	8,155.94	-769.19	-375.53	855.97	0.68	0.43	31.64	67.98
	NORMAL	8,317.0	2.55	214.32	8,251.89	-771.71	-377.39	859.05	1.42	1.41	-7.10	347.19
	NORMAL	8,412.0	2.63	203.18	8,346.79	-775.46	-379.44	863.32	0.54	0.08	-11.73	273.44
	NORMAL	8,508.0	2.29	231.99	8,442.71	-778.67	-381.82	867.25	1.32	-0.35	30.01	119.46
	NORMAL	8,603.0	2.97	223.30	8,537.61	-781.63	-385.01	871.31	0.83	0.72	-9.15	325.22
	NORMAL	8,699.0	3.53	222.04	8,633.45	-785.63	-388.69	876.52	0.59	0.58	-1.31	352.10
	NORMAL	8,857.0	3.96	235.07	8,791.12	-792.37	-396.42	885.98	0.60	0.27	8.25	69.80