

General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	RWF 13-29	Wellbore No.	OH
Well Name	RWF 13-29	Common Name	RWF 13-29
Project	RU 29-06S-094W	Site	RWF 14-29 Pad
Vertical Section Azimuth	0.92 (°)	North Reference	
Origin N/S		Origin E/W	
Spud Date	3/8/2013	UWI	RWF 13-29
Active Datum	KB @5,445.2ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	3/7/2013	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

5962

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 (°)
3/7/2013	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/8/2013	NORMAL	86.0	3.25	7.11	85.95	2.42	0.30	2.42	3.78	3.78	0.00	7.1°
	NORMAL	147.0	5.54	357.00	146.77	7.08	0.36	7.08	3.95	3.75	-16.57	336.22
	NORMAL	239.0	8.04	358.32	238.12	17.94	-0.06	17.94	2.72	2.72	1.43	4.23
	NORMAL	331.0	12.44	2.81	328.63	34.28	0.24	34.28	4.86	4.78	4.88	12.50
	NORMAL	423.0	16.13	1.40	417.77	56.96	1.04	56.97	4.03	4.01	-1.53	353.93
	NORMAL	516.0	16.75	0.61	506.97	83.28	1.49	83.29	0.71	0.67	-0.85	339.79
	NORMAL	546.0	16.13	1.58	535.74	91.77	1.66	91.78	2.26	-2.07	3.23	156.58
	NORMAL	576.0	16.00	1.05	564.57	100.06	1.85	100.08	0.65	-0.43	-1.77	228.19
	NORMAL	606.0	16.35	0.70	593.38	108.42	1.97	108.44	1.21	1.17	-1.17	344.27
	NORMAL	637.0	16.79	0.70	623.10	117.26	2.08	117.28	1.42	1.42	0.00	0.00
	NORMAL	667.0	16.79	0.17	651.82	125.93	2.15	125.94	0.51	0.00	-1.77	269.75
	NORMAL	698.0	16.57	359.82	681.51	134.82	2.15	134.84	0.78	-0.71	-1.13	204.38
	NORMAL	728.0	16.13	359.55	710.30	143.27	2.10	143.28	1.49	-1.47	-0.90	189.67
	NORMAL	759.0	15.12	1.22	740.15	151.62	2.15	151.63	3.57	-3.26	5.39	156.80
	NORMAL	789.0	15.03	2.01	769.12	159.42	2.37	159.43	0.75	-0.30	2.63	114.04
	NORMAL	820.0	15.34	1.49	799.04	167.53	2.62	167.55	1.09	1.00	-1.68	336.03
	NORMAL	850.0	16.04	0.87	827.92	175.64	2.79	175.67	2.40	2.33	-2.07	346.23
3/9/2013	NORMAL	912.0	16.92	0.26	887.37	193.23	2.96	193.25	1.45	1.42	-0.98	348.58
	NORMAL	943.0	17.58	0.61	916.98	202.42	3.03	202.45	2.16	2.13	1.13	9.10
	NORMAL	973.0	17.80	0.43	945.56	211.54	3.11	211.56	0.76	0.73	-0.60	345.95

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 (°)
3/9/2013	NORMAL	1,068.0	19.65	0.87	1,035.53	242.03	3.46	242.06	1.95	1.95	0.46	4.57
	NORMAL	1,091.0	20.04	0.96	1,057.16	249.84	3.59	249.87	1.70	1.70	0.39	4.52
3/11/2013	NORMAL	1,165.0	21.23	2.72	1,126.41	275.90	4.43	275.94	1.81	1.61	2.38	28.36
	NORMAL	1,260.0	20.09	1.31	1,215.30	309.40	5.62	309.45	1.31	-1.20	-1.48	202.92
	NORMAL	1,356.0	18.77	358.76	1,305.83	341.32	5.67	341.37	1.63	-1.38	-2.66	211.53
	NORMAL	1,451.0	19.39	357.71	1,395.62	372.36	4.71	372.39	0.75	0.65	-1.11	330.53
	NORMAL	1,546.0	20.13	357.88	1,485.02	404.45	3.47	404.46	0.78	0.78	0.18	4.52
	NORMAL	1,642.0	18.46	357.00	1,575.63	436.14	2.06	436.12	1.77	-1.74	-0.92	189.46
	NORMAL	1,737.0	16.97	359.55	1,666.12	465.03	1.17	464.99	1.77	-1.57	2.68	153.70
3/12/2013	NORMAL	1,832.0	16.53	5.18	1,757.09	492.35	2.28	492.33	1.77	-0.46	5.93	107.86
	NORMAL	1,928.0	17.32	4.21	1,848.94	520.21	4.56	520.21	0.87	0.82	-1.01	339.87
	NORMAL	2,023.0	17.76	5.00	1,939.52	548.74	6.86	548.78	0.53	0.46	0.83	28.79
	NORMAL	2,118.0	18.81	3.42	2,029.72	578.46	9.04	578.54	1.22	1.11	-1.66	333.98
	NORMAL	2,214.0	20.13	2.98	2,120.23	610.41	10.82	610.51	1.38	1.38	-0.46	353.45
	NORMAL	2,309.0	20.70	3.95	2,209.26	643.49	12.83	643.61	0.70	0.60	1.02	31.15
	NORMAL	2,404.0	21.41	3.68	2,297.92	677.54	15.10	677.70	0.75	0.75	-0.28	352.09
	NORMAL	2,499.0	20.22	0.96	2,386.72	711.26	16.49	711.44	1.61	-1.25	-2.86	217.82
	NORMAL	2,595.0	19.16	359.29	2,477.10	743.60	16.57	743.77	1.25	-1.10	-1.74	207.18
	NORMAL	2,690.0	19.25	358.85	2,566.82	774.85	16.06	775.01	0.18	0.09	-0.46	301.67
	NORMAL	2,785.0	18.95	359.47	2,656.59	805.93	15.60	806.08	0.38	-0.32	0.65	146.22
	NORMAL	2,880.0	18.29	359.20	2,746.61	836.26	15.25	836.40	0.70	-0.69	-0.28	187.3'
	NORMAL	2,976.0	18.95	359.29	2,837.59	866.91	14.85	867.04	0.69	0.69	0.09	2.54
	NORMAL	3,071.0	20.00	0.26	2,927.15	898.58	14.73	898.70	1.16	1.11	1.02	17.58
	NORMAL	3,166.0	19.69	359.99	3,016.51	930.83	14.80	930.95	0.34	-0.33	-0.28	196.34
	NORMAL	3,261.0	19.39	0.17	3,106.04	962.61	14.85	962.72	0.32	-0.32	0.19	168.74
	NORMAL	3,357.0	18.73	359.38	3,196.77	993.95	14.73	994.06	0.74	-0.69	-0.82	200.98
	NORMAL	3,452.0	20.26	0.70	3,286.33	1,025.66	14.76	1,025.76	1.68	1.61	1.39	16.66
	NORMAL	3,547.0	20.35	0.43	3,375.42	1,058.62	15.09	1,058.73	0.14	0.09	-0.28	313.72
	NORMAL	3,642.0	19.69	0.08	3,464.68	1,091.14	15.23	1,091.25	0.71	-0.69	-0.37	190.13
	NORMAL	3,738.0	19.12	1.14	3,555.23	1,123.03	15.57	1,123.14	0.70	-0.59	1.10	148.79
	NORMAL	3,833.0	19.25	1.49	3,644.95	1,154.24	16.29	1,154.36	0.18	0.14	0.37	41.67
	NORMAL	3,928.0	19.69	0.87	3,734.52	1,185.90	16.94	1,186.02	0.51	0.46	-0.65	334.55
	NORMAL	4,023.0	20.09	0.87	3,823.85	1,218.22	17.43	1,218.34	0.42	0.42	0.00	0.00
	NORMAL	4,118.0	19.96	0.61	3,913.11	1,250.75	17.85	1,250.87	0.17	-0.14	-0.27	214.28
	NORMAL	4,213.0	20.44	2.28	4,002.26	1,283.54	18.68	1,283.67	0.79	0.51	1.76	51.0'
	NORMAL	4,309.0	20.88	1.22	4,092.09	1,317.39	19.71	1,317.54	0.60	0.46	-1.10	319.14
	NORMAL	4,404.0	18.07	1.05	4,181.65	1,349.05	20.34	1,349.21	2.96	-2.96	-0.18	181.08
3/13/2013	NORMAL	4,499.0	17.19	1.40	4,272.18	1,377.82	20.96	1,377.98	0.93	-0.93	0.37	173.30
	NORMAL	4,594.0	15.91	1.58	4,363.25	1,404.87	21.66	1,405.04	1.35	-1.35	0.19	177.78
	NORMAL	4,690.0	14.33	1.66	4,455.93	1,429.90	22.36	1,430.08	1.65	-1.65	0.08	179.28
	NORMAL	4,785.0	12.62	359.99	4,548.31	1,452.03	22.70	1,452.21	1.85	-1.80	-1.76	192.0'
	NORMAL	4,880.0	12.53	1.31	4,641.03	1,472.71	22.94	1,472.89	0.32	-0.09	1.39	108.03
	NORMAL	4,976.0	10.51	0.08	4,735.09	1,491.88	23.19	1,492.06	2.12	-2.10	-1.28	186.33
	NORMAL	5,071.0	8.57	359.03	4,828.77	1,507.63	23.08	1,507.80	2.05	-2.04	-1.11	184.6'
	NORMAL	5,166.0	8.00	359.38	4,922.78	1,521.31	22.89	1,521.48	0.60	-0.60	0.37	175.12
	NORMAL	5,261.0	6.37	358.76	5,017.03	1,533.19	22.70	1,533.36	1.72	-1.72	-0.65	182.42
	NORMAL	5,356.0	5.54	1.22	5,111.52	1,543.05	22.69	1,543.21	0.91	-0.87	2.59	164.13
	NORMAL	5,451.0	4.35	8.34	5,206.17	1,551.20	23.31	1,551.37	1.41	-1.25	7.49	156.23
	NORMAL	5,547.0	4.04	14.85	5,301.91	1,558.07	24.70	1,558.26	0.59	-0.32	6.78	126.28
	NORMAL	5,642.0	2.55	6.85	5,396.75	1,563.40	25.81	1,563.61	1.64	-1.57	-8.42	193.18
3/14/2013	NORMAL	5,738.0	2.07	336.97	5,492.68	1,567.12	25.39	1,567.32	1.33	-0.50	-31.13	233.76
	NORMAL	5,833.0	0.40	350.85	5,587.65	1,569.02	24.66	1,569.22	1.77	-1.76	14.61	176.73
	NORMAL	5,928.0	0.22	57.74	5,682.65	1,569.45	24.76	1,569.64	0.39	-0.19	70.41	147.17
	NORMAL	6,024.0	0.22	110.21	5,778.65	1,569.48	25.09	1,569.68	0.20	0.00	54.66	116.23
3/16/2013	NORMAL	6,119.0	0.18	41.65	5,873.65	1,569.53	25.36	1,569.74	0.24	-0.04	-72.17	227.37
	NORMAL	6,214.0	0.31	90.78	5,968.65	1,569.64	25.72	1,569.85	0.25	0.14	51.72	84.43
	NORMAL	6,309.0	0.35	63.45	6,063.65	1,569.77	26.24	1,569.98	0.17	0.04	-28.77	270.33

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 (°)
3/16/2013	NORMAL	6,404.0	0.26	67.58	6,158.64	1,569.98	26.70	1,570.20	0.10	-0.09	4.35	168.33
	NORMAL	6,499.0	0.35	41.21	6,253.64	1,570.28	27.09	1,570.51	0.17	0.09	-27.76	289.02
	NORMAL	6,595.0	0.44	80.06	6,349.64	1,570.56	27.64	1,570.80	0.29	0.09	40.47	91.52
	NORMAL	6,690.0	0.35	97.81	6,444.64	1,570.59	28.29	1,570.84	0.16	-0.09	18.68	134.99
	NORMAL	6,785.0	0.70	94.04	6,539.63	1,570.51	29.16	1,570.77	0.37	0.37	-3.97	352.48
	NORMAL	6,881.0	0.70	103.62	6,635.63	1,570.33	30.31	1,570.61	0.12	0.00	9.98	94.79
	NORMAL	6,976.0	0.66	96.41	6,730.62	1,570.13	31.42	1,570.43	0.10	-0.04	-7.59	241.37
	NORMAL	7,071.0	0.26	96.50	6,825.62	1,570.04	32.18	1,570.36	0.42	-0.42	0.09	179.94
	NORMAL	7,166.0	0.26	86.09	6,920.62	1,570.03	32.60	1,570.35	0.05	0.00	-10.96	264.80
	NORMAL	7,262.0	0.22	174.63	7,016.62	1,569.86	32.84	1,570.19	0.35	-0.04	92.23	139.16
3/18/2013	NORMAL	7,357.0	0.09	302.42	7,111.62	1,569.72	32.79	1,570.05	0.30	-0.14	134.52	165.51
	NORMAL	7,453.0	0.35	243.45	7,207.61	1,569.63	32.47	1,569.95	0.33	0.27	-61.43	286.78
	NORMAL	7,548.0	0.18	182.45	7,302.61	1,569.35	32.20	1,569.67	0.32	-0.18	-64.21	210.93
	NORMAL	7,643.0	0.53	89.91	7,397.61	1,569.21	32.63	1,569.53	0.60	0.37	-97.41	248.98
	NORMAL	7,738.0	0.57	77.60	7,492.61	1,569.31	33.54	1,569.64	0.13	0.04	-12.96	282.48
	NORMAL	7,834.0	1.01	76.28	7,588.60	1,569.61	34.82	1,569.97	0.46	0.46	-1.38	356.97
	NORMAL	7,929.0	1.63	90.70	7,683.57	1,569.79	36.99	1,570.18	0.74	0.65	15.18	35.52
	NORMAL	8,024.0	1.85	101.59	7,778.53	1,569.47	39.84	1,569.91	0.42	0.23	11.46	61.88
	NORMAL	8,119.0	1.93	112.05	7,873.48	1,568.56	42.83	1,569.05	0.37	0.08	11.01	82.2'
	NORMAL	8,170.0	1.93	112.05	7,924.45	1,567.91	44.42	1,568.43	0.00	0.00	0.00	0.00