

## 1 General

### 1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

### 1.2 Well/Wellbore Information

Well	RWF 422-25	Wellbore No.	00
Wellbore Legal Name	RWF 422-25	Common Wellbore Name	RWF 422-25
Project	RU 25-06S-094W	Site	RWF 22-25 Pad
Vertical Section Azimuth	59.08 (°)	North reference	True
Origin N/S		Origin E/W	
Spud date	9/23/2013	UWI	RWF 422-25
Active datum	KB @6,062.0ft (above Mean Sea Level)		

## 2 Survey Name

### 2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	SDI
Date Started	9/23/2013	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

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft )	Tface (°)
9/23/2013	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/23/2013	NORMAL	71.0	0.26	27.77	71.00	0.14	0.08	0.14	0.37	0.37	0.00	27.77
	NORMAL	131.0	1.06	34.63	131.00	0.72	0.45	0.76	1.34	1.33	11.43	9.08
	NORMAL	222.0	2.64	63.98	221.95	2.33	2.82	3.61	1.97	1.74	32.25	46.18
	NORMAL	313.0	4.22	59.15	312.78	4.97	7.57	9.05	1.76	1.74	-5.31	347.22
	NORMAL	404.0	6.16	57.83	403.40	9.29	14.58	17.28	2.14	2.13	-1.45	355.82
	NORMAL	481.0	7.82	58.76	479.83	14.20	22.56	26.65	2.16	2.16	1.21	4.36
9/24/2013	NORMAL	571.0	9.06	62.37	568.85	20.66	34.07	39.85	1.50	1.38	4.01	24.93
	NORMAL	662.0	9.15	62.90	658.71	27.28	46.86	54.22	0.14	0.10	0.58	43.24
	NORMAL	752.0	8.98	59.91	747.58	34.06	59.31	68.38	0.56	-0.19	-3.32	248.69
	NORMAL	844.0	8.81	58.71	838.48	41.32	71.54	82.61	0.27	-0.18	-1.30	226.91
	NORMAL	935.0	8.77	59.54	928.41	48.46	83.48	96.51	0.15	-0.04	0.91	107.91
	NORMAL	1,025.0	8.85	59.84	1,017.35	55.42	95.38	110.30	0.10	0.09	0.33	30.02
10/5/2013	NORMAL	1,061.0	8.79	58.87	1,052.92	58.23	100.13	115.82	0.45	-0.17	-2.69	247.55
	NORMAL	1,152.0	8.81	62.35	1,142.85	65.06	112.25	129.73	0.59	0.02	3.82	89.57
	NORMAL	1,242.0	8.81	58.23	1,231.79	71.88	124.21	143.50	0.70	0.00	-4.58	267.96
	NORMAL	1,333.0	8.71	61.65	1,321.73	78.83	136.20	157.35	0.58	-0.11	3.76	102.56
	NORMAL	1,424.0	9.76	63.04	1,411.55	85.59	149.14	171.93	1.18	1.15	1.53	12.68
	NORMAL	1,514.0	9.32	66.75	1,500.31	91.93	162.64	186.76	0.84	-0.49	4.12	127.41
	NORMAL	1,605.0	9.55	62.37	1,590.08	98.34	176.10	201.60	0.83	0.25	-4.81	285.59
	NORMAL	1,696.0	9.22	58.83	1,679.86	105.61	189.02	216.43	0.73	-0.36	-3.89	238.51

## 2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft )	Tface (°)
10/5/2013	NORMAL	1,786.0	8.49	58.91	1,768.79	112.78	200.88	230.28	0.81	-0.81	0.09	179.07
	NORMAL	1,877.0	9.00	53.96	1,858.73	120.43	212.39	244.09	1.00	0.56	-5.44	301.66
	NORMAL	1,968.0	9.12	57.46	1,948.59	128.50	224.22	258.39	0.62	0.13	3.85	79.45
	NORMAL	2,058.0	8.92	56.03	2,037.48	136.24	236.02	272.49	0.33	-0.22	-1.59	227.56
	NORMAL	2,149.0	9.72	55.27	2,127.28	144.55	248.19	287.20	0.89	0.88	-0.84	350.88
	NORMAL	2,240.0	8.82	58.84	2,217.09	152.54	260.47	301.84	1.17	-0.99	3.92	149.18
	NORMAL	2,330.0	9.72	56.62	2,305.92	160.29	272.72	316.33	1.08	1.00	-2.47	337.23
	NORMAL	2,421.0	9.41	55.72	2,395.65	168.71	285.28	331.43	0.38	-0.34	-0.99	205.31
	NORMAL	2,512.0	8.91	58.91	2,485.49	176.54	297.47	345.90	0.78	-0.55	3.51	136.12
	NORMAL	2,603.0	10.03	54.22	2,575.25	184.81	309.93	360.85	1.49	1.23	-5.15	323.11
	NORMAL	2,693.0	9.71	54.79	2,663.92	193.77	322.49	376.22	0.37	-0.36	0.63	163.30
	NORMAL	2,784.0	9.00	55.26	2,753.71	202.25	334.61	390.98	0.78	-0.78	0.52	174.09
	NORMAL	2,875.0	9.83	54.30	2,843.48	210.84	346.77	405.82	0.93	0.91	-1.05	348.81
	NORMAL	2,966.0	9.22	55.85	2,933.23	219.46	359.11	420.84	0.73	-0.67	1.70	157.96
	NORMAL	3,056.0	9.20	56.86	3,022.07	227.44	371.10	435.23	0.18	-0.02	1.12	97.55
	NORMAL	3,146.0	8.75	61.38	3,110.97	234.66	383.13	449.26	0.93	-0.50	5.02	124.76
	NORMAL	3,237.0	9.76	61.99	3,200.78	241.60	396.02	463.88	1.12	1.11	0.67	5.85
	NORMAL	3,328.0	9.26	56.16	3,290.53	249.29	408.91	478.90	1.19	-0.55	-6.41	239.71
	NORMAL	3,419.0	9.55	56.89	3,380.31	257.50	421.31	493.75	0.34	0.32	0.80	22.72
	NORMAL	3,510.0	8.97	58.91	3,470.12	265.28	433.71	508.39	0.73	-0.64	2.22	151.73
	NORMAL	3,600.0	8.22	60.71	3,559.11	272.05	445.33	521.84	0.89	-0.83	2.00	161.16
	NORMAL	3,691.0	8.58	57.47	3,649.14	278.89	456.73	535.13	0.65	0.40	-3.56	305.65
	NORMAL	3,782.0	8.87	59.36	3,739.08	286.11	468.49	548.93	0.45	0.32	2.08	45.61
	NORMAL	3,873.0	9.19	61.52	3,828.96	293.15	480.91	563.20	0.51	0.35	2.37	47.72
	NORMAL	3,964.0	8.54	60.36	3,918.87	299.96	493.17	577.22	0.74	-0.71	-1.27	194.80
	NORMAL	4,055.0	9.35	57.62	4,008.76	307.26	505.29	591.36	1.01	0.89	-3.01	330.90
	NORMAL	4,146.0	8.30	55.36	4,098.68	314.95	516.94	605.31	1.21	-1.15	-2.48	197.16
	NORMAL	4,237.0	9.59	55.81	4,188.58	322.95	528.61	619.43	1.42	1.42	0.49	3.33
	NORMAL	4,328.0	9.78	58.08	4,278.28	331.29	541.44	634.73	0.47	0.21	2.49	64.67
	NORMAL	4,420.0	9.45	61.26	4,368.99	339.06	554.70	650.09	0.68	-0.36	3.46	123.41
10/6/2013	NORMAL	4,511.0	9.16	61.16	4,458.79	346.14	567.59	664.79	0.32	-0.32	-0.11	183.14
	NORMAL	4,602.0	8.15	62.23	4,548.75	352.64	579.64	678.47	1.12	-1.11	1.18	171.47
	NORMAL	4,693.0	7.45	64.71	4,638.91	358.17	590.69	690.78	0.85	-0.77	2.73	155.55
	NORMAL	4,784.0	7.63	59.97	4,729.12	363.71	601.25	702.69	0.71	0.20	-5.21	283.78
	NORMAL	4,876.0	7.52	63.57	4,820.32	369.45	611.93	714.80	0.53	-0.12	3.91	104.83
	NORMAL	4,967.0	8.47	60.16	4,910.44	375.43	623.07	727.44	1.17	1.04	-3.75	331.77
	NORMAL	5,058.0	7.91	57.13	5,000.51	382.17	634.15	740.40	0.78	-0.62	-3.33	216.13
	NORMAL	5,149.0	7.09	61.70	5,090.73	388.23	644.35	752.27	1.11	-0.90	5.02	146.22
	NORMAL	5,240.0	8.27	55.37	5,180.92	394.61	654.68	764.41	1.59	1.30	-6.96	321.20
	NORMAL	5,331.0	7.54	58.71	5,271.05	401.43	665.17	776.91	0.95	-0.80	3.67	149.47
	NORMAL	5,423.0	7.02	54.38	5,362.31	407.84	674.90	788.55	0.82	-0.57	-4.71	224.40
	NORMAL	5,514.0	6.47	57.52	5,452.68	413.83	683.74	799.22	0.73	-0.60	3.45	147.71
	NORMAL	5,605.0	5.53	63.95	5,543.18	418.51	692.01	808.71	1.27	-1.03	7.07	147.60
	NORMAL	5,695.0	4.49	59.47	5,632.84	422.20	698.94	816.55	1.23	-1.16	-4.98	198.39
	NORMAL	5,787.0	3.82	64.93	5,724.60	425.33	704.82	823.20	0.84	-0.73	5.93	152.14
10/7/2013	NORMAL	5,878.0	3.27	64.95	5,815.42	427.71	709.91	828.80	0.60	-0.60	0.02	179.88
	NORMAL	5,969.0	3.52	64.46	5,906.26	430.02	714.79	834.16	0.28	0.27	-0.54	353.13
	NORMAL	6,061.0	3.50	65.44	5,998.09	432.40	719.89	839.77	0.07	-0.02	1.07	108.92
	NORMAL	6,152.0	2.81	66.57	6,088.95	434.44	724.46	844.74	0.76	-0.76	1.24	175.41
	NORMAL	6,243.0	2.52	67.62	6,179.85	436.09	728.36	848.93	0.32	-0.32	1.15	170.97
	NORMAL	6,334.0	1.62	29.08	6,270.80	437.98	730.83	852.02	1.77	-0.99	-42.35	218.86
	NORMAL	6,425.0	1.31	28.02	6,361.77	440.02	731.95	854.03	0.34	-0.34	-1.16	184.47
10/8/2013	NORMAL	6,516.0	0.90	19.42	6,452.75	441.61	732.67	855.47	0.48	-0.45	-9.45	197.76
	NORMAL	6,607.0	0.74	41.25	6,543.74	442.73	733.30	856.58	0.38	-0.18	23.99	127.75
	NORMAL	6,698.0	0.80	43.17	6,634.73	443.63	734.12	857.75	0.07	0.07	2.11	24.23
	NORMAL	6,789.0	0.28	75.16	6,725.73	444.15	734.77	858.57	0.64	-0.57	35.15	165.23

### 2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft )	Tface (°)
10/8/2013	NORMAL	6,881.0	0.13	73.59	6,817.73	444.24	735.09	858.89	0.16	-0.16	-1.71	181.36
	NORMAL	6,972.0	0.34	148.50	6,908.73	444.04	735.33	858.99	0.36	0.23	82.32	97.20
	NORMAL	7,063.0	0.49	129.78	6,999.73	443.56	735.77	859.12	0.22	0.16	-20.57	308.27
	NORMAL	7,155.0	0.71	158.68	7,091.72	442.78	736.28	859.16	0.40	0.24	31.41	69.02
	NORMAL	7,246.0	1.25	206.77	7,182.71	441.37	736.03	858.23	1.03	0.59	52.85	82.35
	NORMAL	7,337.0	0.42	259.11	7,273.70	440.42	735.26	857.07	1.15	-0.91	57.52	161.49
	NORMAL	7,428.0	0.69	242.05	7,364.70	440.10	734.45	856.21	0.34	0.30	-18.75	319.81
	NORMAL	7,519.0	1.14	253.56	7,455.68	439.59	733.10	854.79	0.53	0.49	12.65	28.04
10/9/2013	NORMAL	7,611.0	1.53	241.81	7,547.66	438.75	731.14	852.68	0.52	0.42	-12.77	318.97
10/10/2013	NORMAL	7,701.0	1.16	246.63	7,637.63	437.82	729.24	850.57	0.43	-0.41	5.36	165.40
	NORMAL	7,792.0	1.25	253.99	7,728.61	437.18	727.44	848.70	0.20	0.10	8.09	63.54
	NORMAL	7,884.0	1.66	264.25	7,820.59	436.77	725.15	846.52	0.53	0.45	11.15	37.63
	NORMAL	7,975.0	2.08	254.74	7,911.54	436.20	722.25	843.74	0.57	0.46	-10.45	318.72
	NORMAL	8,067.0	2.40	249.78	8,003.47	435.10	718.83	840.24	0.41	0.35	-5.39	326.30
	NORMAL	8,157.0	2.82	239.97	8,093.37	433.34	715.14	836.18	0.68	0.47	-10.90	308.26
	NORMAL	8,248.0	3.08	237.47	8,184.25	430.90	711.14	831.49	0.32	0.29	-2.75	332.42
	NORMAL	8,339.0	3.09	237.84	8,275.12	428.28	707.01	826.60	0.02	0.01	0.41	63.52
	NORMAL	8,430.0	3.33	239.72	8,365.98	425.64	702.65	821.50	0.29	0.26	2.07	24.62
	NORMAL	8,522.0	3.27	228.58	8,457.83	422.56	698.37	816.25	0.70	-0.07	-12.11	259.11
	NORMAL	8,613.0	3.47	235.01	8,548.67	419.26	694.17	810.95	0.47	0.22	7.07	65.35
	NORMAL	8,680.0	3.47	235.01	8,615.55	416.94	690.85	806.91	0.00	0.00	0.00	0.00