

## 1 General

### 1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

### 1.2 Well/Wellbore Information

Well	RWF 413-25	Wellbore No.	00
Wellbore Legal Name	RWF 413-25	Common Wellbore Name	RWF 413-25
Project	RU 25-06S-094W	Site	RWF 23-25 Pad
Vertical Section Azimuth	288.07 (°)	North reference	True
Origin N/S		Origin E/W	
Spud date	3/1/2014	UWI	RWF 413-25
Active datum	KB @6,122.0ft (above Mean Sea Level)		

## 2 Survey Name

### 2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	3/1/2014	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

6432

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 (°)
3/1/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/1/2014	NORMAL	72.0	0.35	64.69	72.00	0.09	0.20	-0.16	0.49	0.49	0.00	64.69
	NORMAL	163.0	1.67	269.91	162.99	0.21	-0.88	0.90	2.19	1.45	-170.09	200.93
	NORMAL	254.0	2.99	284.06	253.91	0.79	-4.50	4.53	1.57	1.45	15.55	30.73
	NORMAL	344.0	6.42	290.92	343.60	3.15	-11.48	11.90	3.86	3.81	7.62	12.75
	NORMAL	435.0	9.85	291.36	433.67	7.81	-23.49	24.75	3.77	3.77	0.48	1.26
	NORMAL	506.0	13.39	289.96	503.20	12.83	-36.88	39.04	5.00	4.99	-1.97	354.76
	NORMAL	596.0	14.54	287.76	590.54	19.83	-57.43	60.75	1.41	1.28	-2.44	334.15
	NORMAL	687.0	15.71	288.78	678.39	27.28	-79.97	84.49	1.32	1.29	1.12	13.31
	NORMAL	777.0	16.97	288.10	764.75	35.28	-104.00	109.81	1.42	1.40	-0.76	351.04
	NORMAL	869.0	16.36	288.46	852.88	43.56	-129.05	136.19	0.67	-0.66	0.39	170.57
	NORMAL	960.0	15.30	286.17	940.43	50.96	-152.74	161.01	1.35	-1.16	-2.52	209.41
	NORMAL	1,055.0	16.18	286.79	1,031.87	58.27	-177.45	186.77	0.94	0.93	0.65	11.12
	NORMAL	1,117.0	16.71	287.66	1,091.33	63.47	-194.21	204.32	0.94	0.85	1.40	25.34
3/2/2014	NORMAL	1,251.0	17.36	289.95	1,219.46	76.14	-231.36	243.56	0.70	0.49	1.71	47.00
	NORMAL	1,347.0	16.48	290.48	1,311.30	85.79	-257.58	271.48	0.93	-0.92	0.55	170.31
3/3/2014	NORMAL	1,442.0	16.75	290.74	1,402.33	95.35	-283.00	298.62	0.29	0.28	0.27	15.52
	NORMAL	1,538.0	17.10	293.03	1,494.18	105.77	-308.93	326.50	0.78	0.36	2.39	63.40
	NORMAL	1,633.0	16.66	288.72	1,585.09	115.61	-334.68	354.03	1.40	-0.46	-4.54	248.58
	NORMAL	1,729.0	16.66	288.02	1,677.06	124.28	-360.80	381.56	0.21	0.00	-0.73	269.66
	NORMAL	1,824.0	16.61	285.73	1,768.08	132.18	-386.82	408.74	0.69	-0.05	-2.41	264.54

## 2.1.2 Survey Stations (Continued)

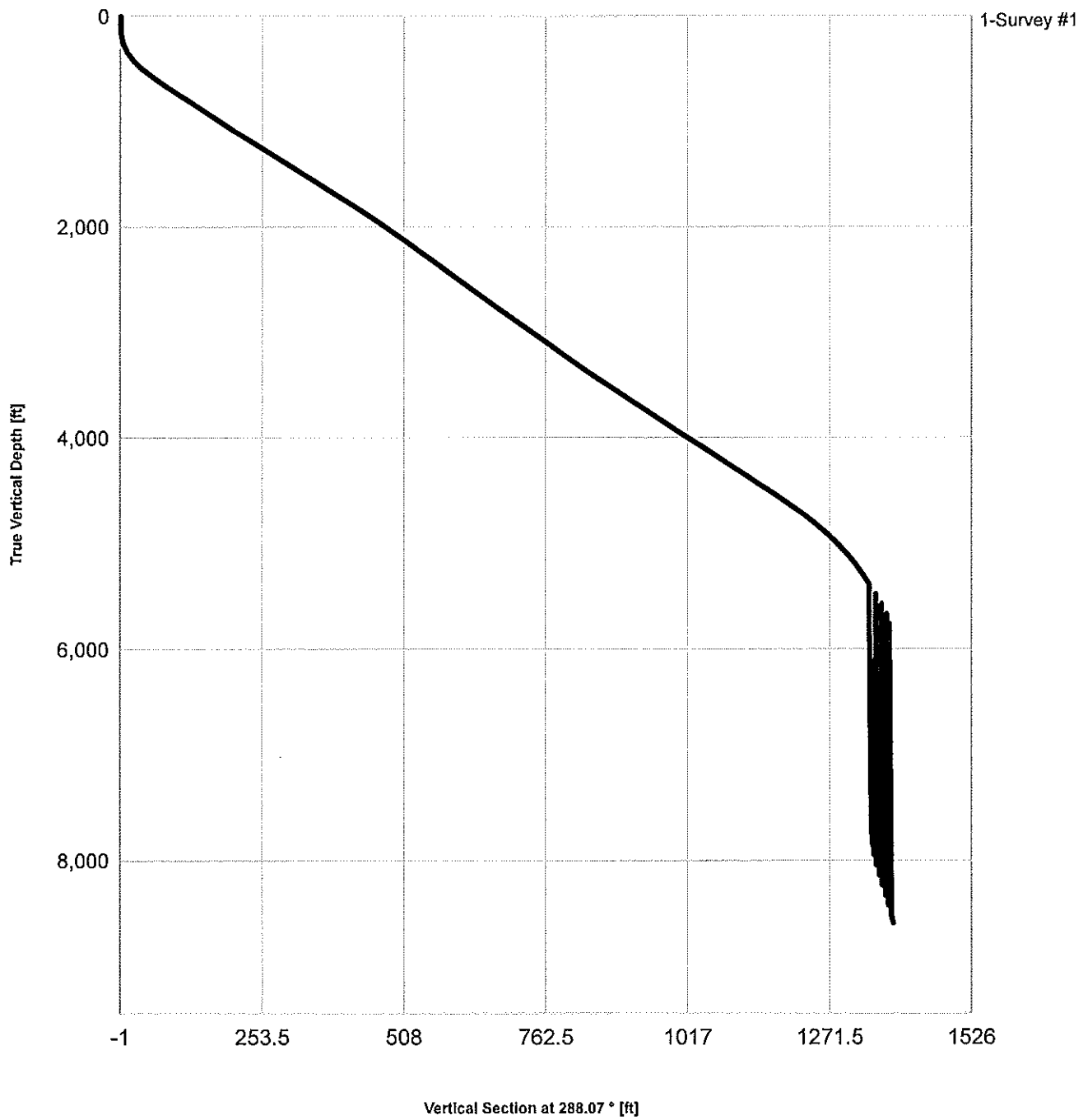
Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Bulld Rate (°/100usft)	Turn (°/100usft)	Tface (°)
3/3/2014	NORMAL	1,920.0	16.44	285.38	1,860.12	139.50	-413.13	436.02	0.21	-0.18	-0.36	210.19
	NORMAL	2,015.0	15.39	288.72	1,951.47	147.11	-438.03	462.05	1.47	-1.11	3.52	140.50
	NORMAL	2,111.0	15.12	287.05	2,044.09	154.87	-462.06	487.31	0.54	-0.28	-1.74	237.63
	NORMAL	2,206.0	15.12	285.73	2,135.80	161.86	-485.84	512.08	0.36	0.00	-1.39	269.36
	NORMAL	2,302.0	14.37	285.38	2,228.64	168.41	-509.37	536.49	0.79	-0.78	-0.36	186.60
	NORMAL	2,397.0	14.77	286.17	2,320.59	174.91	-532.37	560.37	0.47	0.42	0.83	26.80
	NORMAL	2,493.0	14.29	284.94	2,413.52	181.38	-555.57	584.43	0.59	-0.50	-1.28	212.14
	NORMAL	2,588.0	14.64	289.16	2,505.51	188.34	-578.24	608.14	1.17	0.37	4.44	73.68
	NORMAL	2,684.0	14.42	286.79	2,598.44	195.77	-601.14	632.22	0.66	-0.23	-2.47	248.55
	NORMAL	2,779.0	14.81	287.75	2,690.36	202.89	-624.03	656.19	0.48	0.41	1.01	32.31
	NORMAL	2,875.0	14.90	287.58	2,783.16	210.36	-647.48	680.80	0.10	0.09	-0.18	334.08
	NORMAL	2,981.0	14.99	287.66	2,885.57	218.64	-673.54	708.13	0.09	0.08	0.08	12.95
	NORMAL	3,076.0	14.99	288.10	2,977.34	226.18	-696.92	732.71	0.12	0.00	0.46	90.21
	NORMAL	3,172.0	15.08	287.87	3,070.05	233.87	-720.61	757.61	0.11	0.09	-0.24	326.35
	NORMAL	3,268.0	14.24	286.96	3,162.92	241.15	-743.79	781.90	0.91	-0.88	-0.95	194.89
	NORMAL	3,363.0	15.25	289.33	3,254.80	248.69	-766.76	806.08	1.24	1.06	2.49	32.00
	NORMAL	3,459.0	14.90	289.25	3,347.49	256.94	-790.32	831.04	0.37	-0.36	-0.08	183.36
	NORMAL	3,554.0	16.48	288.81	3,438.95	265.31	-814.61	856.72	1.67	1.66	-0.46	355.48
	NORMAL	3,649.0	16.26	289.69	3,530.10	274.14	-839.89	883.49	0.35	-0.23	0.93	132.00
	NORMAL	3,745.0	16.04	288.81	3,622.31	282.94	-865.09	910.19	0.34	-0.23	-0.92	227.63
	NORMAL	3,841.0	16.35	289.42	3,714.50	291.71	-890.39	936.96	0.37	0.32	0.64	29.05
3/4/2014	NORMAL	3,936.0	15.91	289.60	3,805.76	300.52	-915.27	963.34	0.47	-0.46	0.19	173.60
	NORMAL	4,032.0	15.43	289.33	3,898.19	309.16	-939.72	989.26	0.51	-0.50	-0.28	188.51
	NORMAL	4,127.0	16.79	288.28	3,989.46	317.65	-964.67	1,015.62	1.46	1.43	-1.11	347.40
	NORMAL	4,222.0	16.26	286.61	4,080.54	325.76	-990.45	1,042.64	0.75	-0.56	-1.76	221.07
	NORMAL	4,318.0	16.13	285.91	4,172.73	333.26	-1,016.15	1,069.40	0.24	-0.14	-0.73	236.01
	NORMAL	4,413.0	16.04	286.70	4,264.01	340.64	-1,041.41	1,095.71	0.25	-0.09	0.83	112.73
	NORMAL	4,508.0	16.22	284.94	4,355.27	347.84	-1,066.80	1,122.08	0.55	0.19	-1.85	289.36
	NORMAL	4,603.0	16.09	285.38	4,446.52	354.75	-1,092.32	1,148.48	0.19	-0.14	0.46	136.93
	NORMAL	4,699.0	15.82	285.47	4,538.82	361.77	-1,117.75	1,174.84	0.28	-0.28	0.09	174.81
	NORMAL	4,794.0	15.30	284.85	4,630.34	368.43	-1,142.35	1,200.29	0.57	-0.55	-0.65	197.44
	NORMAL	4,890.0	14.42	288.81	4,723.13	375.53	-1,165.91	1,224.89	1.40	-0.92	4.13	132.81
	NORMAL	4,985.0	13.06	294.34	4,815.41	383.77	-1,186.89	1,247.39	1.99	-1.43	5.82	138.66
	NORMAL	5,080.0	11.30	293.47	4,908.27	391.90	-1,205.20	1,267.32	1.86	-1.85	-0.92	185.53
	NORMAL	5,174.0	10.90	293.64	5,000.51	399.14	-1,221.79	1,285.34	0.43	-0.43	0.18	175.41
	NORMAL	5,269.0	9.93	290.13	5,093.94	405.56	-1,237.71	1,302.46	1.22	-1.02	-3.69	211.47
	NORMAL	5,365.0	8.04	290.48	5,188.76	410.75	-1,251.78	1,317.44	1.97	-1.97	0.36	178.52
	NORMAL	5,461.0	7.38	293.03	5,283.89	415.52	-1,263.74	1,330.29	0.77	-0.69	2.66	153.86
3/5/2014	NORMAL	5,557.0	7.08	293.20	5,379.13	420.26	-1,274.85	1,342.33	0.31	-0.31	0.18	176.01
	NORMAL	5,652.0	6.95	290.13	5,473.42	424.54	-1,285.63	1,353.90	0.42	-0.14	-3.23	249.36
	NORMAL	5,747.0	5.98	291.27	5,567.81	428.32	-1,295.64	1,364.59	1.03	-1.02	1.20	173.03
	NORMAL	5,842.0	5.10	286.98	5,662.37	432.03	-1,304.01	1,373.70	1.09	-0.93	6.01	150.76
3/6/2014	NORMAL	5,938.0	1.19	275.89	5,758.21	434.07	-1,308.81	1,378.89	4.18	-4.07	-21.97	186.13
	NORMAL	6,034.0	1.45	76.02	5,854.20	434.46	-1,308.62	1,378.84	2.71	0.27	166.80	169.07
	NORMAL	6,129.0	2.77	75.58	5,949.13	435.32	-1,305.23	1,375.88	1.39	1.39	-0.46	359.08
	NORMAL	6,225.0	2.86	76.38	6,045.02	436.47	-1,300.66	1,371.89	0.10	0.09	0.83	23.98
	NORMAL	6,320.0	3.03	85.16	6,139.89	437.24	-1,295.85	1,367.56	0.51	0.18	9.24	73.77
	NORMAL	6,416.0	2.20	72.24	6,235.79	438.01	-1,291.57	1,363.73	1.06	-0.86	-13.46	209.04
	NORMAL	6,511.0	2.15	67.41	6,330.72	439.25	-1,288.19	1,360.90	0.20	-0.05	-5.08	252.34
	NORMAL	6,607.0	1.63	72.77	6,426.67	440.35	-1,285.22	1,358.42	0.57	-0.54	5.58	163.89
	NORMAL	6,702.0	1.36	68.11	6,521.64	441.17	-1,282.88	1,356.45	0.31	-0.28	-4.91	201.92
	NORMAL	6,798.0	1.19	79.45	6,617.62	441.78	-1,280.85	1,354.70	0.32	-0.18	11.81	129.55
	NORMAL	6,893.0	0.97	102.48	6,712.60	441.78	-1,279.09	1,353.04	0.51	-0.23	24.24	128.08
	NORMAL	6,989.0	0.92	95.86	6,808.59	441.53	-1,277.53	1,351.47	0.12	-0.05	-6.90	242.11
3/7/2014	NORMAL	7,180.0	1.32	200.92	6,999.56	439.32	-1,276.79	1,350.08	0.94	0.21	55.01	134.73
	NORMAL	7,275.0	1.67	155.83	7,094.54	437.03	-1,276.62	1,349.21	1.25	0.37	-47.46	263.21

## 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 (°)
3/7/2014	NORMAL	7,370.0	2.11	155.30	7,189.48	434.18	-1,275.32	1,347.09	0.46	0.46	-0.56	357.46
	NORMAL	7,466.0	1.32	200.92	7,285.44	431.54	-1,274.97	1,345.95	1.58	-0.82	47.52	141.51
	NORMAL	7,560.0	1.45	211.46	7,379.42	429.52	-1,275.98	1,346.27	0.30	0.14	11.21	68.30
3/8/2014	NORMAL	7,655.0	1.19	190.81	7,474.39	427.52	-1,276.79	1,346.43	0.57	-0.27	-21.74	231.28
	NORMAL	7,749.0	1.45	211.46	7,568.37	425.55	-1,277.60	1,346.58	0.57	0.28	21.97	71.93
	NORMAL	7,845.0	1.98	201.27	7,664.32	422.97	-1,278.83	1,346.95	0.63	0.55	-10.61	324.93
3/9/2014	NORMAL	7,940.0	3.52	212.25	7,759.21	418.97	-1,280.99	1,347.76	1.71	1.62	11.56	24.42
	NORMAL	8,035.0	3.69	211.29	7,854.02	413.89	-1,284.13	1,349.17	0.19	0.18	-1.01	339.97
	NORMAL	8,130.0	3.43	238.27	7,948.85	409.78	-1,288.13	1,351.71	1.77	-0.27	28.40	112.13
	NORMAL	8,226.0	3.08	260.51	8,044.70	407.85	-1,293.12	1,355.85	1.36	-0.36	23.17	116.32
	NORMAL	8,322.0	3.82	258.66	8,140.52	406.79	-1,298.80	1,360.92	0.78	0.77	-1.93	350.49
	NORMAL	8,417.0	4.48	247.50	8,235.27	404.75	-1,305.33	1,366.50	1.09	0.69	-11.75	303.60
	NORMAL	8,512.0	4.35	247.67	8,329.99	401.96	-1,312.09	1,372.06	0.14	-0.14	0.18	174.34
	NORMAL	8,607.0	4.25	247.15	8,424.72	399.23	-1,318.67	1,377.46	0.11	-0.11	-0.55	201.04
	NORMAL	8,703.0	4.00	247.15	8,520.48	396.55	-1,325.03	1,382.68	0.26	-0.26	0.00	180.00
	NORMAL	8,773.0	4.00	247.15	8,590.30	394.85	-1,329.53	1,386.37	0.00	0.00	0.00	0.00

### 3 Charts

#### 3.1 Vertical Section View



### 3.2 Plan View

