

1 General

1.1 Customer Information

Company	PICEANC
Representative	
Address	

1.2 Well/Wellbore Information

Well	RWF 321
Wellbore Legal Name	RWF 321
Project	RU 35-06
Vertical Section Azimuth	38.14 (°)
Origin N/S	
Spud date	10/9/2013
Active datum	KB @5,494

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1
Date Started	10/9/2013
Tool Name	MWD

2.1.1 Tie On Point

MD (ft)	Inc. (°)
0.0	

2.1.2 Survey Stations

Date	Type	MD (ft)
10/9/2013	Tie On	0.0
10/9/2013	NORMAL	74.0
10/10/2013	NORMAL	168.0
	NORMAL	259.0
	NORMAL	350.0
	NORMAL	440.0
	NORMAL	530.0
	NORMAL	691.0
	NORMAL	782.0
	NORMAL	872.0
	NORMAL	963.0
	NORMAL	1,058.0
	NORMAL	1,125.0
10/11/2013	NORMAL	1,243.0
	NORMAL	1,338.0
	NORMAL	1,432.0
	NORMAL	1,526.0
	NORMAL	1,621.0
10/12/2013	NORMAL	1,716.0
	NORMAL	1,810.0
	NORMAL	1,903.0

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
10/12/2013	NORMAL	1,997.0	18.59	36.00	1,914.09	415.41	326.56	528.41	0.17	-0.16	-0.22	204.04
	NORMAL	2,091.0	18.06	34.78	2,003.32	439.50	343.68	557.92	0.70	-0.56	-1.30	215.32
	NORMAL	2,186.0	18.19	35.43	2,093.61	463.68	360.68	587.44	0.25	0.14	0.68	57.57
	NORMAL	2,280.0	18.42	34.16	2,182.85	487.93	377.52	616.91	0.49	0.24	-1.35	299.36
	NORMAL	2,374.0	18.68	36.85	2,271.97	512.26	394.89	646.77	0.95	0.28	2.86	74.38
	NORMAL	2,469.0	18.82	36.72	2,361.93	536.72	413.18	677.30	0.15	0.15	-0.14	343.32
	NORMAL	2,563.0	18.65	39.37	2,450.95	560.49	431.78	707.49	0.92	-0.18	2.82	102.55
	NORMAL	2,656.0	18.46	38.70	2,539.11	583.48	450.41	737.08	0.31	-0.20	-0.72	227.98
	NORMAL	2,750.0	17.84	38.07	2,628.44	606.43	468.60	766.36	0.69	-0.66	-0.67	197.27
	NORMAL	2,844.0	17.98	42.01	2,717.88	628.54	487.19	795.23	1.30	0.15	4.19	85.29
	NORMAL	2,938.0	18.03	41.98	2,807.28	650.14	506.63	824.22	0.05	0.05	-0.03	349.48
	NORMAL	3,032.0	17.37	41.05	2,896.83	671.53	525.57	852.75	0.76	-0.70	-0.99	202.75
	NORMAL	3,126.0	17.03	40.69	2,986.63	692.55	543.76	880.51	0.38	-0.36	-0.38	197.21
	NORMAL	3,220.0	16.40	39.81	3,076.66	713.18	561.23	907.53	0.72	-0.67	-0.94	201.47
	NORMAL	3,312.0	15.73	39.71	3,165.06	732.75	577.51	932.98	0.73	-0.73	-0.11	182.32
	NORMAL	3,406.0	15.36	39.32	3,255.62	752.19	593.54	958.16	0.41	-0.39	-0.41	195.59
	NORMAL	3,499.0	15.00	38.56	3,345.38	771.13	608.85	982.51	0.44	-0.39	-0.82	208.57
	NORMAL	3,593.0	14.76	38.17	3,436.23	790.05	623.83	1,006.65	0.28	-0.26	-0.41	202.46
	NORMAL	3,687.0	13.58	41.53	3,527.37	807.73	638.55	1,029.64	1.53	-1.26	3.57	146.74
	NORMAL	3,780.0	13.44	40.55	3,617.79	824.12	652.82	1,051.34	0.29	-0.15	-1.05	238.08
	NORMAL	3,873.0	13.04	40.20	3,708.32	840.34	666.62	1,072.62	0.44	-0.43	-0.38	191.16
	NORMAL	3,968.0	11.59	40.20	3,801.13	855.82	679.69	1,092.87	1.53	-1.53	0.00	180.00
	NORMAL	4,061.0	10.59	40.51	3,892.40	869.45	691.27	1,110.75	1.08	-1.08	0.33	176.74
	NORMAL	4,156.0	10.91	38.64	3,985.73	883.11	702.56	1,128.46	0.50	0.34	-1.97	311.61
	NORMAL	4,250.0	10.19	38.28	4,078.14	896.59	713.26	1,145.67	0.77	-0.77	-0.38	185.05
	NORMAL	4,344.0	10.28	36.90	4,170.65	909.82	723.45	1,162.37	0.28	0.10	-1.47	289.48
	NORMAL	4,438.0	9.26	37.57	4,263.28	922.52	733.10	1,178.32	1.09	-1.09	0.71	173.97
10/13/2013	NORMAL	4,532.0	9.24	35.48	4,356.06	934.66	742.09	1,193.42	0.36	-0.02	-2.22	265.56
	NORMAL	4,624.0	10.40	35.06	4,446.71	947.47	751.15	1,209.09	1.26	1.26	-0.46	356.26
	NORMAL	4,719.0	9.63	34.73	4,540.26	961.02	760.60	1,225.59	0.81	-0.81	-0.35	184.10
	NORMAL	4,812.0	8.57	33.78	4,632.09	973.18	768.89	1,240.26	1.15	-1.14	-1.02	187.60
	NORMAL	4,905.0	7.80	32.83	4,724.14	984.24	776.16	1,253.45	0.84	-0.83	-1.02	189.49
	NORMAL	4,999.0	7.36	31.91	4,817.32	994.71	782.80	1,265.79	0.49	-0.47	-0.98	194.96
	NORMAL	5,093.0	6.36	38.47	4,910.65	1,003.90	789.22	1,276.98	1.35	-1.06	6.98	145.15
	NORMAL	5,186.0	5.96	41.08	5,003.11	1,011.57	795.60	1,286.96	0.52	-0.43	2.81	146.29
	NORMAL	5,281.0	5.19	42.77	5,097.66	1,018.44	801.76	1,296.16	0.83	-0.81	1.78	168.80
	NORMAL	5,374.0	4.73	41.09	5,190.31	1,024.42	807.14	1,304.19	0.52	-0.49	-1.81	196.69
	NORMAL	5,469.0	4.05	46.29	5,285.03	1,029.69	812.14	1,311.42	0.83	-0.72	5.47	152.23
	NORMAL	5,563.0	3.19	48.14	5,378.85	1,033.73	816.48	1,317.28	0.92	-0.91	1.97	173.19
	NORMAL	5,657.0	2.99	44.71	5,472.71	1,037.22	820.16	1,322.29	0.29	-0.21	-3.65	221.05
	NORMAL	5,750.0	2.47	42.53	5,565.60	1,040.42	823.22	1,326.70	0.57	-0.56	-2.34	190.20
	NORMAL	5,846.0	2.09	50.14	5,661.53	1,043.06	825.96	1,330.47	0.51	-0.40	7.93	145.22
	NORMAL	5,939.0	1.48	55.82	5,754.48	1,044.83	828.25	1,333.28	0.68	-0.66	6.11	166.65
10/14/2013	NORMAL	6,034.0	1.78	52.28	5,849.45	1,046.42	830.44	1,335.88	0.33	0.32	-3.73	339.67
	NORMAL	6,129.0	1.82	64.28	5,944.40	1,047.98	832.96	1,338.66	0.40	0.04	12.63	89.96
	NORMAL	6,223.0	1.03	68.15	6,038.37	1,048.94	835.09	1,340.73	0.85	-0.84	4.12	174.99
	NORMAL	6,317.0	0.84	91.32	6,132.36	1,049.24	836.40	1,341.78	0.54	-0.41	24.65	150.31
	NORMAL	6,411.0	0.48	107.86	6,226.36	1,049.11	837.30	1,342.23	0.24	-0.17	17.60	142.77
	NORMAL	6,504.0	0.38	124.70	6,319.35	1,048.81	837.92	1,342.38	0.17	-0.11	18.11	136.57
	NORMAL	6,598.0	0.09	229.45	6,413.35	1,048.59	838.12	1,342.33	0.44	-0.31	111.44	167.81
	NORMAL	6,693.0	0.36	237.03	6,508.35	1,048.38	837.82	1,341.98	0.29	0.28	7.98	10.09
	NORMAL	6,788.0	0.77	236.42	6,603.35	1,047.86	837.03	1,341.09	0.43	0.43	-0.64	358.85
	NORMAL	6,883.0	0.56	239.91	6,698.34	1,047.27	836.10	1,340.05	0.23	-0.22	3.67	170.82
	NORMAL	6,978.0	0.88	246.34	6,793.33	1,046.75	835.03	1,338.98	0.35	0.34	6.77	17.40
10/15/2013	NORMAL	7,073.0	0.99	242.09	6,888.32	1,046.07	833.64	1,337.58	0.14	0.12	-4.47	325.63
	NORMAL	7,166.0	0.96	215.99	6,981.31	1,045.07	832.47	1,336.07	0.47	-0.03	-28.06	253.15

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	Tface (°)
10/15/2013	NORMAL	7,260.0	1.20	231.13	7,075.29	1,043.81	83.1	57.67
	NORMAL	7,354.0	1.13	241.97	7,169.27	1,042.76	82.9	112.99
	NORMAL	7,448.0	0.85	228.69	7,263.26	1,041.86	82.8	212.82
	NORMAL	7,543.0	0.87	227.29	7,358.25	1,040.91	82.7	312.88
10/16/2013	NORMAL	7,637.0	0.40	235.77	7,452.24	1,040.24	82.6	172.91
	NORMAL	7,731.0	0.48	171.21	7,546.24	1,039.67	82.6	245.91
	NORMAL	7,826.0	0.57	173.55	7,641.24	1,038.80	82.6	14.57
	NORMAL	7,920.0	0.62	203.61	7,735.23	1,037.87	82.6	96.14
	NORMAL	7,958.0	1.06	195.70	7,773.23	1,037.34	82.6	341.26
	NORMAL	8,023.0	1.06	195.70	7,838.22	1,036.19	82.5	0.00