

1 General

1.1 Customer Information

Company	PICEANCE HL
Representative	
Address	

1.2 Well/Wellbore Information

Well	RGU 333-24-198	Wellbore No.	00
Wellbore Legal Name	RGU 333-24-198	Common Wellbore Name	RGU 333-24-198
Project	RG 24-01S-098W	Site	RGU 33-24-198 Pad
Vertical Section Azimuth	201.76 (°)	North reference	True
Origin N/S		Origin E/W	
Spud date	4/14/2014	UWI	RGU 333-24-198
Active datum	KB @6,617.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	4/14/2014	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

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Bulld Rate (°/100usft)	Turn (°/100usft)	Trace (°)
4/14/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/14/2014	NORMAL	173.0	0.53	222.01	173.00	-0.59	-0.54	0.75	0.31	0.31	0.00	222.01
	NORMAL	234.0	1.50	210.50	233.99	-1.49	-1.13	1.80	1.62	1.59	-18.87	342.34
	NORMAL	326.0	2.11	205.66	325.94	-4.06	-2.47	4.68	0.68	0.66	-5.26	343.54
	NORMAL	418.0	2.20	199.07	417.88	-7.25	-3.78	8.14	0.29	0.10	-7.16	286.65
	NORMAL	511.0	2.64	201.45	510.79	-10.93	-5.15	12.06	0.49	0.47	2.56	14.06
	NORMAL	603.0	2.29	201.09	602.71	-14.62	-6.59	16.02	0.38	-0.38	-0.39	182.35
	NORMAL	695.0	2.73	199.60	694.62	-18.40	-7.98	20.05	0.48	0.48	-1.62	350.82
	NORMAL	787.0	2.46	196.87	786.53	-22.35	-9.29	24.20	0.32	-0.29	-2.97	203.24
	NORMAL	879.0	3.61	192.48	878.40	-27.07	-10.49	29.03	1.27	1.25	-4.77	346.38
4/15/2014	NORMAL	972.0	3.87	194.77	971.20	-32.96	-11.92	35.03	0.32	0.28	2.46	31.02
	NORMAL	1,097.0	4.13	205.84	1,095.90	-41.09	-14.96	43.71	0.65	0.21	8.86	76.97
	NORMAL	1,192.0	3.87	207.16	1,190.66	-47.02	-17.92	50.32	0.29	-0.27	1.39	161.16
	NORMAL	1,287.0	3.52	203.12	1,285.47	-52.56	-20.52	56.42	0.46	-0.37	-4.25	214.64
	NORMAL	1,381.0	3.34	193.18	1,379.30	-57.88	-22.28	62.01	0.66	-0.19	-10.57	248.24
	NORMAL	1,476.0	3.87	217.00	1,474.12	-63.13	-24.84	67.84	1.66	0.56	25.07	82.66
	NORMAL	1,571.0	4.22	210.15	1,568.88	-68.72	-28.53	74.40	0.63	0.37	-7.21	302.47
	NORMAL	1,666.0	4.57	212.96	1,663.60	-74.92	-32.34	81.57	0.43	0.37	2.96	33.01
	NORMAL	1,797.0	4.50	209.33	1,794.19	-83.77	-37.70	91.78	0.23	-0.05	-2.77	254.49
	NORMAL	1,891.0	4.95	207.16	1,887.87	-90.60	-41.36	99.47	0.52	0.48	-2.31	337.25
	NORMAL	1,986.0	3.80	204.06	1,982.59	-97.12	-44.51	106.70	1.24	-1.21	-3.26	190.08

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 (°)
4/15/2014	NORMAL	2,081.0	3.91	202.65	2,077.38	-102.98	-47.04	113.08	0.15	0.12	-1.48	318.54
	NORMAL	2,176.0	3.76	202.02	2,172.17	-108.86	-49.46	119.44	0.16	-0.16	-0.66	195.38
	NORMAL	2,271.0	3.55	201.38	2,266.97	-114.49	-51.70	125.49	0.23	-0.22	-0.67	190.68
	NORMAL	2,365.0	3.80	195.36	2,360.78	-120.20	-53.58	131.50	0.49	0.27	-6.40	299.91
	NORMAL	2,460.0	3.31	210.54	2,455.60	-125.60	-55.81	137.34	1.11	-0.52	15.98	124.94
4/16/2014	NORMAL	2,555.0	3.35	214.38	2,550.44	-130.25	-58.77	142.76	0.24	0.04	4.04	81.75
	NORMAL	2,649.0	3.47	198.40	2,644.28	-135.22	-61.22	148.28	1.02	0.13	-17.00	269.17
	NORMAL	2,744.0	3.52	192.69	2,739.10	-140.79	-62.77	154.03	0.37	0.05	-6.01	275.32
	NORMAL	2,839.0	3.29	183.36	2,833.93	-146.36	-63.57	159.49	0.63	-0.24	-9.82	242.85
	NORMAL	2,933.0	3.18	177.88	2,927.78	-151.65	-63.63	164.44	0.35	-0.12	-5.83	247.70
	NORMAL	3,028.0	2.55	189.82	3,022.67	-156.37	-63.89	168.91	0.91	-0.66	12.57	142.41
	NORMAL	3,123.0	1.87	187.46	3,117.59	-159.99	-64.45	172.48	0.72	-0.72	-2.48	186.44
	NORMAL	3,217.0	2.53	206.32	3,211.53	-163.37	-65.57	176.04	1.03	0.70	20.06	57.33
	NORMAL	3,312.0	2.63	192.01	3,306.43	-167.38	-66.96	180.28	0.68	0.11	-15.06	271.63
	NORMAL	3,407.0	2.82	187.76	3,401.32	-171.83	-67.73	184.69	0.29	0.20	-4.47	311.10
	NORMAL	3,502.0	3.05	194.15	3,496.20	-176.59	-68.66	189.46	0.42	0.24	6.73	58.11
	NORMAL	3,587.0	2.72	192.39	3,581.09	-180.76	-69.64	193.70	0.40	-0.39	-2.07	194.15
	NORMAL	3,684.0	2.76	196.62	3,677.98	-185.24	-70.81	198.29	0.21	0.04	4.36	80.93
	NORMAL	3,776.0	2.77	191.06	3,769.88	-189.55	-71.87	202.68	0.29	0.01	-6.04	269.36
	NORMAL	3,871.0	2.37	182.08	3,864.78	-193.76	-72.38	206.79	0.60	-0.42	-9.45	220.76
6/17/2014	NORMAL	4,019.0	2.04	172.46	4,012.67	-199.43	-72.14	211.97	0.33	-0.22	-6.50	223.54
	NORMAL	4,114.0	3.89	186.30	4,107.54	-204.31	-72.28	216.55	2.07	1.95	14.57	28.16
	NORMAL	4,208.0	3.71	184.89	4,201.33	-210.51	-72.88	222.53	0.22	-0.19	-1.50	206.73
	NORMAL	4,303.0	3.80	189.83	4,296.13	-216.68	-73.68	228.55	0.35	0.09	5.20	76.93
	NORMAL	4,398.0	3.27	189.70	4,390.95	-222.45	-74.68	234.28	0.56	-0.56	-0.14	180.80
	NORMAL	4,493.0	3.08	175.42	4,485.81	-227.66	-74.93	239.22	0.85	-0.20	-15.03	249.43
	NORMAL	4,587.0	3.56	218.91	4,579.66	-232.45	-76.56	244.27	2.66	0.51	46.27	101.43
	NORMAL	4,682.0	3.40	215.10	4,674.49	-237.05	-80.03	249.83	0.30	-0.17	-4.01	233.43
	NORMAL	4,777.0	2.08	210.35	4,769.38	-240.84	-82.53	254.28	1.41	-1.39	-5.00	187.39
	NORMAL	4,872.0	2.75	206.67	4,864.29	-244.37	-84.42	258.25	0.72	0.71	-3.87	345.13
	NORMAL	4,967.0	2.53	200.71	4,959.19	-248.37	-86.18	262.62	0.37	-0.23	-6.27	228.34
	NORMAL	5,061.0	1.81	208.37	5,053.12	-251.61	-87.62	266.17	0.82	-0.77	8.15	161.86
	NORMAL	5,156.0	1.12	191.52	5,148.09	-253.84	-88.52	268.57	0.85	-0.73	-17.74	203.74
	NORMAL	5,251.0	0.75	211.65	5,243.08	-255.28	-89.03	270.10	0.52	-0.39	21.19	148.17
	NORMAL	5,346.0	0.63	216.66	5,338.07	-256.23	-89.67	271.22	0.14	-0.13	5.27	155.80
6/18/2014	NORMAL	5,440.0	0.80	203.49	5,432.07	-257.25	-90.24	272.37	0.25	0.18	-14.01	309.26
	NORMAL	5,535.0	1.16	157.38	5,527.05	-258.74	-90.14	273.72	0.88	0.38	-48.54	270.29
	NORMAL	5,630.0	0.85	108.54	5,622.04	-259.86	-89.10	274.37	0.92	-0.33	-51.41	226.82
	NORMAL	5,725.0	0.73	128.79	5,717.03	-260.46	-87.96	274.51	0.32	-0.13	21.32	123.16
	NORMAL	5,819.0	1.91	80.64	5,811.01	-260.58	-85.95	273.87	1.62	1.26	-51.22	290.94
	NORMAL	5,914.0	1.72	70.66	5,905.96	-259.85	-83.04	272.12	0.39	-0.20	-10.51	234.07
	NORMAL	6,009.0	1.47	196.97	6,000.94	-260.54	-82.05	272.39	3.00	-0.26	132.96	155.42
	NORMAL	6,104.0	2.31	194.90	6,095.89	-263.56	-82.90	275.51	0.89	0.88	-2.18	354.32
	NORMAL	6,199.0	1.07	329.62	6,190.87	-264.64	-83.84	276.87	3.32	-1.31	141.81	166.05
	NORMAL	6,293.0	0.69	262.75	6,284.86	-263.96	-84.84	276.60	1.09	-0.40	-71.14	218.46
	NORMAL	6,388.0	0.05	149.65	6,379.86	-264.07	-85.39	276.91	0.75	-0.67	-119.05	183.71
	NORMAL	6,483.0	0.72	259.88	6,474.86	-264.21	-85.96	277.25	0.78	0.71	116.03	113.87
	NORMAL	6,577.0	0.36	160.11	6,568.85	-264.59	-86.44	277.78	0.91	-0.38	-106.14	204.43
	NORMAL	6,672.0	0.77	257.88	6,663.85	-265.00	-86.96	278.36	0.94	0.43	102.92	121.31
	NORMAL	6,767.0	1.03	222.24	6,758.84	-265.77	-88.16	279.51	0.64	0.27	-37.52	276.38
6/18/2014	NORMAL	6,862.0	1.10	205.18	6,853.82	-267.23	-89.12	281.22	0.34	0.07	-17.96	273.83
	NORMAL	6,956.0	1.48	235.53	6,947.80	-268.73	-90.50	283.13	0.82	0.40	32.29	76.67
	NORMAL	7,051.0	1.11	340.01	7,042.79	-268.56	-91.83	283.47	2.17	-0.39	109.98	148.55
	NORMAL	7,146.0	1.02	6.62	7,137.77	-266.85	-92.05	281.96	0.52	-0.09	28.01	113.43
	NORMAL	7,241.0	0.58	32.37	7,232.76	-265.61	-91.69	280.67	0.59	-0.46	27.11	153.14
	NORMAL	7,336.0	0.78	334.50	7,327.76	-264.62	-91.71	279.76	0.72	0.21	-60.92	255.96

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 (°)
6/18/2014	NORMAL	7,431.0	0.24	298.30	7,422.75	-263.94	-92.17	279.30	0.63	-0.57	-38.11	193.59
	NORMAL	7,526.0	0.77	319.14	7,517.75	-263.36	-92.76	278.99	0.58	0.56	21.94	29.73
	NORMAL	7,620.0	0.20	342.01	7,611.74	-262.73	-93.22	278.57	0.63	-0.61	24.33	172.44
	NORMAL	7,715.0	0.60	303.31	7,706.74	-262.30	-93.69	278.34	0.49	0.42	-40.74	305.57
	NORMAL	7,809.0	0.81	271.46	7,800.74	-262.01	-94.77	278.47	0.46	0.22	-33.88	281.64
	NORMAL	7,904.0	0.37	246.56	7,895.73	-262.12	-95.72	278.92	0.53	-0.46	-26.21	198.18
	NORMAL	7,999.0	0.86	322.26	7,990.73	-261.68	-96.44	278.78	0.89	0.52	79.68	100.71
	NORMAL	8,094.0	1.23	299.76	8,085.71	-260.61	-97.76	278.28	0.57	0.39	-23.68	300.42
	NORMAL	8,188.0	1.97	48.98	8,179.69	-259.04	-97.42	276.70	2.81	0.79	116.19	135.27
	NORMAL	8,283.0	2.00	66.99	8,274.63	-257.32	-94.66	274.08	0.65	0.03	18.96	96.27
6/19/2014	NORMAL	8,378.0	1.73	73.59	8,369.58	-256.27	-91.76	272.03	0.36	-0.28	6.95	144.76
	NORMAL	8,473.0	0.97	70.95	8,464.56	-255.60	-89.62	270.61	0.80	-0.80	-2.78	183.36
	NORMAL	8,567.0	1.59	82.69	8,558.53	-255.18	-87.57	269.46	0.71	0.66	12.49	28.87
	NORMAL	8,662.0	1.44	99.00	8,653.50	-255.20	-85.09	268.56	0.48	-0.16	17.17	117.21
	NORMAL	8,757.0	1.93	96.01	8,748.46	-255.55	-82.32	267.86	0.52	0.52	-3.15	348.33
	NORMAL	8,852.0	1.76	148.53	8,843.42	-256.96	-79.97	268.30	1.73	-0.18	55.28	121.58
	NORMAL	8,947.0	1.45	173.55	8,938.38	-259.40	-79.07	270.23	0.80	-0.33	26.34	126.03
	NORMAL	9,041.0	1.06	140.35	9,032.36	-261.25	-78.38	271.69	0.86	-0.41	-35.32	225.87
	NORMAL	9,136.0	1.53	135.19	9,127.34	-262.83	-76.93	272.62	0.51	0.49	-5.43	343.48
	NORMAL	9,231.0	1.77	232.77	9,222.31	-264.62	-77.20	274.38	2.62	0.25	102.72	135.13
6/20/2014	NORMAL	9,326.0	1.28	182.79	9,317.28	-266.56	-78.42	276.64	1.43	-0.52	-52.61	226.00
	NORMAL	9,420.0	1.24	211.51	9,411.26	-268.48	-79.00	278.64	0.67	-0.04	30.55	107.90
	NORMAL	9,515.0	1.34	204.05	9,506.24	-270.37	-79.99	280.76	0.21	0.11	-7.85	297.01
	NORMAL	9,610.0	1.57	171.71	9,601.21	-272.67	-80.26	283.00	0.88	0.24	-34.04	269.08
	NORMAL	9,705.0	1.39	100.85	9,696.18	-274.18	-78.94	283.91	1.81	-0.19	-74.59	229.69
	NORMAL	9,800.0	1.23	139.07	9,791.16	-275.17	-77.14	284.16	0.92	-0.17	40.23	119.10
6/21/2014	NORMAL	9,894.0	1.47	123.76	9,885.13	-276.60	-75.48	284.87	0.46	0.26	-16.29	295.83
	NORMAL	9,989.0	1.60	204.83	9,980.11	-278.48	-75.02	286.45	2.10	0.14	85.34	127.69
	NORMAL	10,084.0	2.02	199.42	10,075.06	-281.26	-76.13	289.44	0.48	0.44	-5.69	335.14
	NORMAL	10,179.0	1.77	209.09	10,170.01	-284.12	-77.40	292.57	0.43	-0.26	10.18	132.79
	NORMAL	10,274.0	1.85	206.67	10,264.96	-286.77	-78.80	295.55	0.12	0.08	-2.55	315.09
	NORMAL	10,368.0	1.60	238.98	10,358.92	-288.81	-80.61	298.11	1.05	-0.27	34.37	120.19
6/22/2014	NORMAL	10,463.0	2.54	306.59	10,453.87	-288.24	-83.44	298.63	2.56	0.99	71.17	105.05
	NORMAL	10,557.0	1.56	283.22	10,547.81	-286.70	-86.36	298.29	1.35	-1.04	-24.86	209.18
	NORMAL	10,652.0	1.77	294.38	10,642.77	-285.80	-88.95	298.41	0.41	0.22	11.75	62.73
	NORMAL	10,747.0	1.48	286.62	10,737.73	-284.84	-91.46	298.45	0.38	-0.31	-8.17	213.36
	NORMAL	10,841.0	1.02	289.00	10,831.71	-284.22	-93.42	298.60	0.49	-0.49	2.53	174.75
	NORMAL	10,936.0	0.65	337.91	10,926.70	-283.45	-94.42	298.26	0.81	-0.39	51.48	140.43
	NORMAL	11,031.0	0.54	303.78	11,021.70	-282.70	-94.99	297.77	0.38	-0.12	-35.93	236.18
	NORMAL	11,126.0	0.62	26.00	11,116.70	-281.99	-95.14	297.17	0.81	0.08	86.55	126.59
	NORMAL	11,220.0	1.24	104.87	11,210.69	-281.79	-93.93	296.54	1.36	0.66	83.90	107.37
	NORMAL	11,315.0	0.27	300.93	11,305.68	-281.94	-93.13	296.38	1.58	-1.02	-172.57	182.85
	NORMAL	11,409.0	1.32	194.16	11,399.67	-282.88	-93.59	297.42	1.51	1.12	-113.59	242.75
6/23/2014	NORMAL	11,505.0	1.01	186.47	11,495.65	-284.79	-93.95	299.33	0.36	-0.32	-8.01	202.95
	NORMAL	11,599.0	1.36	167.23	11,589.63	-286.70	-93.80	301.05	0.56	0.37	-20.47	301.45
	NORMAL	11,694.0	0.21	292.46	11,684.62	-287.74	-93.71	301.97	1.57	-1.21	131.82	173.39
	NORMAL	11,789.0	0.55	306.64	11,779.62	-287.40	-94.24	301.85	0.37	0.36	14.93	22.63
	NORMAL	11,883.0	0.74	228.47	11,873.62	-287.53	-95.06	302.28	0.88	0.20	-83.16	241.19
	NORMAL	11,978.0	0.12	93.71	11,968.62	-287.94	-95.42	302.80	0.87	-0.65	-141.85	185.90
	NORMAL	12,072.0	0.27	166.08	12,062.62	-288.16	-95.26	302.95	0.28	0.16	76.99	98.45
	NORMAL	12,167.0	0.45	135.43	12,157.61	-288.65	-94.95	303.28	0.27	0.19	-32.26	297.05
	NORMAL	12,262.0	0.82	140.96	12,252.61	-289.44	-94.26	303.76	0.39	0.39	5.82	12.18
	NORMAL	12,356.0	0.72	130.44	12,346.60	-290.35	-93.39	304.28	0.18	-0.11	-11.19	229.54
	NORMAL	12,440.0	0.57	84.16	12,430.58	-291.36	-90.62	304.20	0.18	-0.05	-16.30	231.64
	NORMAL	12,535.0	0.57	84.16	12,525.58	-291.25	-89.53	303.69	0.00	0.00	0.00	0.00