

Deviation Summary

PICEANCE HL

1 General

1.1 Customer Information

Company	PICEANCE HL
Representative	
Address	

1.2 Well/Wellbore Information

Well	RGU 534-24-198	Wellbore No.	00
Wellbore Legal Name	RGU 534-24-198	Common Wellbore Name	RGU 534-24-198
Project	RG 24-01S-098W	Site	RGU 33-24-198 Pad
Vertical Section Azimuth	193.11 (°)	North reference	True
Origin N/S		Origin E/W	
Spud date	6/30/2014	UWI	RGU 534-24-198
Active datum	KB @6,617.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	SDI
Date Started	6/30/2014	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)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
6/30/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/30/2014	NORMAL	148.0	0.62	126.74	148.00	-0.48	0.64	0.32	0.42	0.42	0.00	126.74
	NORMAL	240.0	2.02	169.80	239.97	-2.37	1.33	2.01	1.76	1.52	46.80	58.17
	NORMAL	332.0	2.73	191.34	331.89	-6.12	1.18	5.69	1.23	0.77	23.41	62.59
	NORMAL	424.0	3.43	194.24	423.76	-10.93	0.08	10.63	0.78	0.76	3.15	14.00
	NORMAL	516.0	5.19	191.25	515.50	-17.68	-1.41	17.54	1.93	1.91	-3.25	351.23
	NORMAL	608.0	6.42	191.07	607.02	-26.81	-3.21	26.84	1.34	1.34	-0.20	359.06
	NORMAL	701.0	7.26	189.76	699.36	-37.71	-5.21	37.90	0.92	0.90	-1.41	348.83
	NORMAL	793.0	7.92	195.29	790.56	-49.55	-7.86	50.04	1.07	0.72	6.01	50.66
	NORMAL	885.0	7.48	199.86	881.73	-61.30	-11.57	62.32	0.82	-0.48	4.97	127.95
	NORMAL	962.0	7.58	198.25	958.06	-70.83	-14.86	72.36	0.30	0.13	-2.09	294.56
	NORMAL	1,056.0	8.30	197.18	1,051.16	-83.20	-18.81	85.30	0.78	0.77	-1.14	347.87
	NORMAL	1,151.0	6.83	195.73	1,145.33	-95.19	-22.37	97.78	1.56	-1.55	-1.53	186.68
	NORMAL	1,246.0	7.14	194.57	1,239.63	-106.34	-25.38	109.33	0.36	0.33	-1.22	334.96
	NORMAL	1,340.0	7.95	196.76	1,332.81	-118.22	-28.73	121.66	0.91	0.86	2.33	20.63
	NORMAL	1,435.0	5.98	197.24	1,427.11	-129.24	-32.09	133.15	2.07	-2.07	0.51	178.55
	NORMAL	1,530.0	5.37	192.67	1,521.64	-138.30	-34.53	142.53	0.80	-0.64	-4.81	214.27
	NORMAL	1,625.0	4.98	189.90	1,616.26	-146.70	-36.21	151.09	0.49	-0.41	-2.92	211.27
7/1/2014	NORMAL	1,707.0	5.57	183.46	1,697.91	-154.18	-37.07	158.57	1.02	0.72	-7.85	311.66
	NORMAL	1,802.0	6.20	188.21	1,792.41	-163.86	-38.08	168.23	0.84	0.66	5.00	40.08
	NORMAL	1,897.0	7.13	190.52	1,886.77	-174.73	-39.89	179.23	1.02	0.98	2.43	17.23

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 (°)
7/1/2014	NORMAL	1,992.0	7.62	191.70	1,980.98	-186.70	-42.24	191.41	0.54	0.52	1.24	17.76
	NORMAL	2,087.0	7.75	192.19	2,075.13	-199.13	-44.87	204.11	0.15	0.14	0.52	26.99
	NORMAL	2,182.0	8.10	194.18	2,169.22	-211.88	-47.86	217.21	0.47	0.37	2.09	39.08
	NORMAL	2,276.0	7.79	193.08	2,262.32	-224.50	-50.92	230.20	0.37	-0.33	-1.17	205.58
	NORMAL	2,371.0	7.57	192.93	2,356.47	-236.87	-53.78	242.90	0.23	-0.23	-0.16	185.13
	NORMAL	2,466.0	7.51	194.08	2,450.65	-248.99	-56.69	255.36	0.17	-0.06	1.21	112.25
	NORMAL	2,560.0	7.38	197.11	2,543.85	-260.72	-59.96	267.53	0.44	-0.14	3.22	109.82
	NORMAL	2,655.0	7.18	194.38	2,638.09	-272.30	-63.23	279.55	0.42	-0.21	-2.87	238.62
	NORMAL	2,750.0	6.99	196.96	2,732.36	-283.58	-66.39	291.25	0.39	-0.20	2.72	122.12
	NORMAL	2,844.0	7.71	193.41	2,825.59	-295.19	-69.52	303.27	0.91	0.77	-3.78	325.99
	NORMAL	2,939.0	8.18	188.98	2,919.68	-308.06	-72.06	316.38	0.81	0.49	-4.66	305.30
	NORMAL	3,033.0	7.84	188.05	3,012.76	-321.02	-74.00	329.44	0.39	-0.36	-0.99	200.40
	NORMAL	3,128.0	7.58	187.47	3,106.90	-333.65	-75.72	342.12	0.29	-0.27	-0.61	196.37
	NORMAL	3,223.0	6.60	186.85	3,201.18	-345.28	-77.19	353.79	1.03	-1.03	-0.65	184.16
	NORMAL	3,318.0	7.77	186.42	3,295.43	-357.08	-78.56	365.59	1.23	1.23	-0.45	357.15
	NORMAL	3,412.0	8.40	187.09	3,388.49	-370.21	-80.11	378.73	0.68	0.67	0.71	8.84
	NORMAL	3,507.0	8.78	186.68	3,482.43	-384.30	-81.81	392.84	0.41	0.40	-0.43	350.64
	NORMAL	3,602.0	9.77	191.07	3,576.19	-399.41	-84.20	408.10	1.28	1.04	4.62	37.73
	NORMAL	3,696.0	10.13	190.33	3,668.77	-415.37	-87.22	424.33	0.41	0.38	-0.79	340.08
	NORMAL	3,791.0	10.57	189.87	3,762.23	-432.17	-90.21	441.37	0.47	0.46	-0.48	349.14
	NORMAL	3,887.0	10.10	189.61	3,856.67	-449.15	-93.12	458.56	0.49	-0.49	-0.27	185.54
8/11/2014	NORMAL	4,009.0	9.19	182.73	3,976.95	-469.43	-95.37	478.82	1.20	-0.75	-5.64	228.35
	NORMAL	4,104.0	9.31	193.43	4,070.72	-484.48	-97.52	493.97	1.81	0.13	11.26	91.30
	NORMAL	4,198.0	9.51	187.01	4,163.46	-499.58	-100.23	509.30	1.14	0.21	-6.83	277.61
	NORMAL	4,293.0	9.18	191.59	4,257.20	-514.80	-102.71	524.68	0.86	-0.35	4.82	116.18
	NORMAL	4,388.0	9.53	199.93	4,350.94	-529.61	-106.92	540.06	1.47	0.37	8.78	79.66
	NORMAL	4,483.0	8.21	195.67	4,444.80	-543.54	-111.43	554.65	1.55	-1.39	-4.48	204.36
	NORMAL	4,578.0	10.37	194.81	4,538.55	-558.34	-115.45	569.97	2.28	2.27	-0.91	355.90
	NORMAL	4,673.0	9.45	197.02	4,632.13	-574.06	-119.92	586.30	1.05	-0.97	2.33	158.62
	NORMAL	4,767.0	10.47	187.20	4,724.72	-589.91	-123.25	602.49	2.10	1.09	-10.45	296.09
	NORMAL	4,862.0	9.80	195.59	4,818.24	-606.27	-126.50	619.16	1.70	-0.71	8.83	118.50
	NORMAL	4,957.0	9.14	189.76	4,911.95	-621.49	-129.95	634.77	1.22	-0.69	-6.14	232.62
	NORMAL	5,052.0	10.13	192.53	5,005.61	-637.08	-133.05	650.66	1.15	1.04	2.92	26.46
	NORMAL	5,146.0	10.33	199.40	5,098.12	-653.10	-137.64	667.30	1.31	0.21	7.31	84.08
	NORMAL	5,241.0	8.87	198.82	5,191.79	-668.07	-142.83	683.06	1.54	-1.54	-0.61	183.50
	NORMAL	5,336.0	9.39	197.10	5,285.58	-682.41	-147.47	698.07	0.62	0.55	-1.81	331.46
	NORMAL	5,431.0	8.95	196.97	5,379.37	-696.89	-151.91	713.18	0.46	-0.46	-0.14	182.63
	NORMAL	5,524.0	8.44	200.30	5,471.30	-710.21	-156.39	727.17	0.77	-0.55	3.58	137.01
	NORMAL	5,620.0	9.45	202.91	5,566.13	-724.07	-161.90	741.92	1.13	1.05	2.72	23.18
	NORMAL	5,715.0	10.63	197.93	5,659.68	-739.59	-167.63	758.34	1.54	1.24	-5.24	321.19
	NORMAL	5,810.0	10.63	202.94	5,753.05	-756.00	-173.75	775.71	0.97	0.00	5.27	92.46
	NORMAL	5,904.0	10.19	204.65	5,845.50	-771.54	-180.59	792.40	0.57	-0.47	1.82	145.76
	NORMAL	5,999.0	9.69	198.64	5,939.08	-786.76	-186.65	808.59	1.21	-0.53	-6.33	241.33
	NORMAL	6,094.0	8.65	197.30	6,032.87	-801.15	-191.33	823.67	1.12	-1.09	-1.41	190.94
	NORMAL	6,189.0	7.42	197.77	6,126.93	-813.82	-195.33	836.91	1.30	-1.29	0.49	177.18
8/12/2014	NORMAL	6,283.0	6.46	199.23	6,220.24	-824.59	-198.93	848.22	1.04	-1.02	1.55	170.31
	NORMAL	6,378.0	5.03	206.27	6,314.76	-833.37	-202.53	857.59	1.68	-1.51	7.41	157.24
	NORMAL	6,473.0	4.19	207.59	6,409.46	-840.18	-205.98	865.00	0.89	-0.88	1.39	173.46
	NORMAL	6,568.0	3.17	196.83	6,504.26	-845.77	-208.35	870.98	1.29	-1.07	-11.33	208.81
	NORMAL	6,662.0	2.47	183.46	6,598.15	-850.28	-209.22	875.58	1.02	-0.74	-14.22	216.67
	NORMAL	6,757.0	2.19	174.11	6,693.07	-854.13	-209.16	879.31	0.50	-0.29	-9.84	229.01
	NORMAL	6,852.0	2.05	146.08	6,788.01	-857.35	-208.03	882.18	1.09	-0.15	-29.51	248.46
	NORMAL	6,946.0	1.86	153.60	6,881.95	-860.11	-206.41	884.51	0.34	-0.20	8.00	130.24
	NORMAL	7,041.0	1.07	144.43	6,976.92	-862.21	-205.21	886.28	0.86	-0.83	-9.65	191.98
	NORMAL	7,136.0	1.07	142.28	7,071.90	-863.63	-204.15	887.43	0.04	0.00	-2.26	268.93
	NORMAL	7,231.0	1.68	227.11	7,166.88	-865.28	-204.63	889.14	2.01	0.64	89.29	118.76

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 (°)
8/12/2014	NORMAL	7,326.0	1.85	228.70	7,261.84	-867.24	-206.80	891.54	0.19	0.18	1.67	16.87
	NORMAL	7,421.0	1.15	266.33	7,356.81	-868.31	-208.90	893.07	1.23	-0.74	39.61	143.22
	NORMAL	7,516.0	1.01	268.90	7,451.79	-868.39	-210.69	893.55	0.16	-0.15	2.71	162.20
	NORMAL	7,610.0	0.96	344.89	7,545.78	-867.65	-211.72	893.06	1.29	-0.05	80.84	129.85
	NORMAL	7,705.0	0.71	326.51	7,640.77	-866.39	-212.26	891.95	0.38	-0.26	-19.35	218.03
	NORMAL	7,800.0	0.59	324.06	7,735.77	-865.50	-212.87	891.23	0.13	-0.13	-2.58	191.82
	NORMAL	7,895.0	0.65	337.43	7,830.76	-864.61	-213.36	890.47	0.16	0.06	14.07	74.25
	NORMAL	7,989.0	0.69	322.90	7,924.75	-863.66	-213.91	889.67	0.19	0.04	-15.46	275.91
	NORMAL	8,084.0	0.50	337.52	8,019.75	-862.82	-214.41	888.97	0.25	-0.20	15.39	148.53
8/13/2014	NORMAL	8,179.0	0.37	344.76	8,114.75	-862.15	-214.65	888.36	0.15	-0.14	7.62	160.67
	NORMAL	8,274.0	0.26	332.38	8,209.75	-861.66	-214.83	887.93	0.14	-0.12	-13.03	205.66
	NORMAL	8,368.0	0.13	137.31	8,303.75	-861.55	-214.86	887.83	0.41	-0.14	175.46	174.99
	NORMAL	8,463.0	0.26	209.49	8,398.75	-861.82	-214.89	888.10	0.27	0.14	75.98	101.52
	NORMAL	8,558.0	0.28	204.95	8,493.74	-862.21	-215.10	888.53	0.03	0.02	-4.78	310.79
	NORMAL	8,652.0	0.24	173.44	8,587.74	-862.62	-215.17	888.94	0.16	-0.04	-33.52	238.99
	NORMAL	8,747.0	0.70	209.82	8,682.74	-863.32	-215.44	889.68	0.55	0.48	38.29	52.07
	NORMAL	8,842.0	1.02	203.08	8,777.73	-864.60	-216.06	891.07	0.35	0.34	-7.09	339.07
8/14/2014	NORMAL	8,937.0	0.40	245.52	8,872.72	-865.51	-216.69	892.11	0.81	-0.65	44.67	159.57
	NORMAL	9,032.0	0.75	239.82	8,967.72	-865.96	-217.53	892.73	0.37	0.37	-6.00	347.86
	NORMAL	9,126.0	0.47	308.99	9,061.71	-866.03	-218.36	892.99	0.78	-0.30	73.59	143.00
	NORMAL	9,221.0	0.84	7.13	9,156.71	-865.10	-218.58	892.13	0.75	0.39	61.20	92.13
	NORMAL	9,316.0	0.78	2.80	9,251.70	-863.76	-218.46	890.80	0.09	-0.06	-4.56	223.42
	NORMAL	9,410.0	0.77	358.07	9,345.69	-862.49	-218.45	889.56	0.07	-0.01	-5.03	258.76
	NORMAL	9,505.0	0.78	354.09	9,440.68	-861.21	-218.54	888.33	0.06	0.01	-4.19	278.53
	NORMAL	9,600.0	0.80	23.97	9,535.67	-859.96	-218.33	887.07	0.43	0.02	31.45	102.22
	NORMAL	9,695.0	1.73	40.23	9,630.65	-858.26	-217.14	885.14	1.04	0.98	17.12	29.36
	NORMAL	9,790.0	1.61	50.24	9,725.61	-856.31	-215.19	882.80	0.33	-0.13	10.54	117.31
	NORMAL	9,885.0	1.78	35.16	9,820.57	-854.25	-213.31	880.37	0.50	0.18	-15.87	283.22
8/15/2014	NORMAL	9,980.0	2.11	61.91	9,915.52	-852.22	-210.92	877.85	1.01	0.35	28.16	83.73
	NORMAL	10,074.0	1.40	74.12	10,009.47	-851.09	-208.29	876.15	0.85	-0.76	12.99	158.24
	NORMAL	10,169.0	1.88	88.16	10,104.43	-850.72	-205.61	875.19	0.66	0.51	14.78	47.09
8/16/2014	NORMAL	10,264.0	1.77	157.12	10,199.40	-852.02	-203.48	875.97	2.18	-0.12	72.59	126.98
	NORMAL	10,358.0	0.91	209.19	10,293.37	-854.01	-203.28	877.86	1.50	-0.91	55.39	149.33
	NORMAL	10,453.0	1.11	205.95	10,388.36	-855.50	-204.05	879.49	0.22	0.21	-3.41	342.44
	NORMAL	10,548.0	1.15	175.90	10,483.34	-857.28	-204.39	881.29	0.62	0.04	-31.63	258.75
	NORMAL	10,643.0	0.88	251.39	10,578.33	-858.46	-205.01	882.59	1.33	-0.28	79.46	137.49
	NORMAL	10,737.0	0.73	220.58	10,672.32	-859.15	-206.09	883.50	0.48	-0.16	-32.78	235.91
	NORMAL	10,832.0	0.65	190.08	10,767.31	-860.14	-206.57	884.57	0.39	-0.08	-32.11	242.75
	NORMAL	10,927.0	1.52	89.84	10,862.30	-860.66	-205.41	884.82	1.85	0.92	-105.52	238.41
	NORMAL	11,021.0	1.19	194.85	10,956.29	-861.60	-204.41	885.51	2.30	-0.35	111.71	147.84
	NORMAL	11,116.0	1.54	192.89	11,051.26	-863.80	-204.95	887.78	0.37	0.37	-2.06	351.42
	NORMAL	11,211.0	1.65	204.10	11,146.22	-866.29	-205.79	890.39	0.35	0.12	11.80	76.24
8/17/2014	NORMAL	11,305.0	0.54	163.48	11,240.21	-867.96	-206.22	892.11	1.37	-1.18	-43.21	195.83
	NORMAL	11,400.0	0.45	70.75	11,335.20	-868.26	-205.74	892.30	0.76	-0.09	-97.61	218.68
	NORMAL	11,495.0	0.70	28.21	11,430.20	-867.63	-205.11	891.54	0.50	0.26	-44.78	277.91
	NORMAL	11,590.0	0.57	32.27	11,525.19	-866.72	-204.59	890.53	0.14	-0.14	4.27	162.93
	NORMAL	11,684.0	0.37	6.81	11,619.19	-866.02	-204.30	889.79	0.30	-0.21	-27.09	213.99
	NORMAL	11,779.0	0.40	319.93	11,714.19	-865.46	-204.48	889.28	0.32	0.03	-49.35	251.70
	NORMAL	11,874.0	0.14	314.68	11,809.19	-865.13	-204.77	889.02	0.27	-0.27	-5.53	182.81
	NORMAL	11,968.0	0.47	223.48	11,903.19	-865.32	-205.12	889.30	0.52	0.35	-97.02	252.31
	NORMAL	12,063.0	0.08	57.65	11,998.19	-865.57	-205.33	889.59	0.58	-0.41	-174.56	182.05
8/18/2014	NORMAL	12,157.0	0.32	106.84	12,092.19	-865.61	-205.03	889.56	0.29	0.26	52.33	61.93
8/19/2014	NORMAL	12,252.0	0.34	115.72	12,187.19	-865.81	-204.52	889.63	0.06	0.02	9.35	73.12
	NORMAL	12,346.0	0.37	135.46	12,281.18	-866.15	-204.05	889.86	0.13	0.03	21.00	86.22
	NORMAL	12,441.0	0.31	57.01	12,376.18	-866.23	-203.62	889.84	0.46	-0.06	-82.58	224.61
	NORMAL	12,535.0	0.41	43.57	12,470.18	-865.85	-203.18	889.36	0.14	0.11	-14.30	312.97

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 (°)
8/19/2014	NORMAL	12,630.0	0.45	54.63	12,565.18	-865.38	-202.64	888.79	0.10	0.04	11.64	69.87
	NORMAL	12,819.0	0.45	54.63	12,754.17	-864.52	-201.43	887.68	0.00	0.00	0.00	0.00