

1 General

1.1 Customer Information

Company	PICEANCE HL
Representative	Eric Kolstad
Address	1515 Arapahoe St., Suite 1000 Denver, CO 80202

1.2 Well Information

Well	RGU 422-25-198	Wellbore No.	
Well Name	FEDERAL RGU 422-25-198	Common Name	RGU 422-25-198
Project	RG 25-01S-098W	Site	RGU 32-25-198 Pad
Vertical Section Azimuth	266.85 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	1/22/2012	UWI	RGU 422-25-198
Active Datum	KB @6,691.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	1/22/2012	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 (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
1/22/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/22/2012	NORMAL	223.0	1.78	290.12	222.96	1.19	-3.25	3.18	0.80	0.80	0.00	290.12
	NORMAL	315.0	2.59	271.43	314.90	1.73	-6.67	6.57	1.16	0.88	-20.32	309.07
	NORMAL	407.0	4.46	269.34	406.72	1.75	-12.33	12.21	2.04	2.03	-2.27	355.03
	NORMAL	499.0	6.70	269.57	498.28	1.66	-21.27	21.15	2.43	2.43	0.25	0.69
	NORMAL	592.0	8.11	271.63	590.50	1.81	-33.26	33.11	1.54	1.52	2.22	11.69
	NORMAL	684.0	10.62	274.62	681.27	2.68	-48.19	47.97	2.78	2.73	3.25	12.45
	NORMAL	776.0	12.03	273.13	771.47	3.88	-66.22	65.91	1.57	1.53	-1.62	347.55
	NORMAL	868.0	12.44	266.33	861.39	3.77	-85.68	85.34	1.63	0.45	-7.39	282.54
	NORMAL	994.0	13.85	262.76	984.09	1.00	-114.19	113.96	1.29	1.12	-2.83	328.32
	NORMAL	1,087.0	14.79	260.87	1,074.20	-2.28	-136.95	136.87	1.13	1.01	-2.03	332.64
	NORMAL	1,181.0	14.68	262.49	1,165.10	-5.74	-160.61	160.68	0.45	-0.12	1.72	105.73
	NORMAL	1,275.0	15.28	262.46	1,255.91	-8.93	-184.69	184.90	0.64	0.64	-0.03	359.25
	NORMAL	1,369.0	14.78	266.13	1,346.70	-11.36	-208.94	209.24	1.14	-0.53	3.90	119.48
	NORMAL	1,463.0	15.04	267.21	1,437.53	-12.76	-233.08	233.43	0.40	0.28	1.15	47.43
	NORMAL	1,557.0	15.08	268.58	1,528.30	-13.66	-257.49	257.85	0.38	0.04	1.46	84.25
	NORMAL	1,651.0	14.61	268.46	1,619.17	-14.28	-281.56	281.92	0.50	-0.50	-0.13	183.68
	NORMAL	1,745.0	14.87	268.35	1,710.07	-14.95	-305.47	305.83	0.28	0.28	-0.12	353.80
	NORMAL	1,838.0	15.14	264.68	1,799.90	-16.42	-329.49	329.89	1.06	0.29	-3.95	284.09
1/23/2012	NORMAL	1,961.0	14.70	266.08	1,918.76	-18.97	-361.05	361.55	0.46	-0.36	1.14	141.35

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (%/100ft)	Build Rate (%/100ft)	Turn (%/100ft)	TFace (°)
1/23/2012	NORMAL	2,025.0	14.28	266.48	1,980.72	-20.01	-377.03	377.56	0.67	-0.66	0.63	166.79
	NORMAL	2,118.0	14.79	266.44	2,070.74	-21.45	-400.33	400.90	0.55	0.55	-0.04	358.85
	NORMAL	2,306.0	14.53	262.63	2,252.63	-25.97	-447.67	448.42	0.53	-0.14	-2.03	253.07
	NORMAL	2,400.0	13.92	260.61	2,343.75	-29.33	-470.52	471.42	0.84	-0.65	-2.15	218.16
	NORMAL	2,587.0	14.33	263.46	2,525.09	-35.63	-515.70	516.88	0.43	0.22	1.52	60.87
	NORMAL	2,681.0	14.67	264.77	2,616.10	-38.04	-539.11	540.39	0.50	0.36	1.39	44.61
	NORMAL	2,775.0	15.74	265.94	2,706.81	-40.03	-563.68	565.03	1.18	1.14	1.24	16.57
	NORMAL	2,869.0	16.51	265.57	2,797.11	-41.96	-589.72	591.13	0.83	0.82	-0.39	352.22
	NORMAL	2,963.0	16.88	264.84	2,887.15	-44.22	-616.63	618.13	0.45	0.39	-0.78	330.11
	NORMAL	3,056.0	16.47	265.43	2,976.24	-46.49	-643.22	644.80	0.48	-0.44	0.63	157.85
	NORMAL	3,150.0	14.36	264.62	3,066.85	-48.64	-668.11	669.77	2.26	-2.24	-0.86	185.44
	NORMAL	3,244.0	12.36	262.50	3,158.30	-51.05	-689.69	691.45	2.19	-2.13	-2.26	192.73
	NORMAL	3,337.0	11.90	263.68	3,249.22	-53.40	-709.09	710.95	0.56	-0.49	1.27	152.25
	NORMAL	3,431.0	11.57	263.00	3,341.26	-55.62	-728.08	730.03	0.38	-0.35	-0.72	202.41
	NORMAL	3,526.0	11.00	264.65	3,434.42	-57.63	-746.56	748.60	0.69	-0.60	1.74	151.28
	NORMAL	3,619.0	10.51	264.60	3,525.79	-59.25	-763.84	765.94	0.53	-0.53	-0.05	181.07
	NORMAL	3,713.0	10.95	265.32	3,618.14	-60.79	-781.27	783.43	0.49	0.47	0.77	17.30
	NORMAL	3,807.0	10.89	263.82	3,710.44	-62.47	-798.99	801.22	0.31	-0.06	-1.60	257.34
	NORMAL	3,901.0	11.22	262.45	3,802.70	-64.63	-816.89	819.21	0.45	0.35	-1.46	320.80
	NORMAL	3,950.0	11.52	262.46	3,850.74	-65.90	-826.46	828.84	0.61	0.61	0.02	0.38
4/1/2012	NORMAL	4,100.0	9.03	256.68	3,998.32	-70.58	-852.77	855.36	1.79	-1.66	-3.85	199.67
	NORMAL	4,194.0	8.62	264.66	4,091.21	-72.93	-866.97	869.66	1.37	-0.44	8.49	112.43
	NORMAL	4,288.0	9.23	270.00	4,184.08	-73.59	-881.52	884.23	1.09	0.65	5.68	56.29
4/2/2012	NORMAL	4,383.0	10.38	267.59	4,277.69	-73.95	-897.69	900.40	1.29	1.21	-2.54	339.17
	NORMAL	4,478.0	10.60	276.79	4,371.11	-73.27	-914.92	917.56	1.78	0.23	9.68	87.06
	NORMAL	4,572.0	10.60	276.79	4,463.64	-69.48	-931.28	934.59	0.00	0.00	0.00	0.00
	NORMAL	4,572.0	11.07	276.94	4,463.43	-71.16	-932.46	933.69	0.50	0.50	0.16	3.51
	NORMAL	4,667.0	11.14	280.53	4,556.65	-68.38	-950.54	952.86	0.73	0.07	3.78	85.98
	NORMAL	4,762.0	12.04	271.96	4,649.72	-66.36	-969.46	971.65	2.04	0.95	-9.02	293.35
	NORMAL	4,856.0	10.46	269.49	4,741.91	-66.11	-987.80	989.94	1.76	-1.68	-2.63	195.75
	NORMAL	4,950.0	9.94	266.68	4,834.43	-66.65	-1,004.43	1,006.57	0.77	-0.55	-2.99	222.36
	NORMAL	5,043.0	9.50	267.12	4,926.09	-67.50	-1,020.11	1,022.27	0.48	-0.47	0.47	170.63
	NORMAL	5,137.0	10.29	272.13	5,018.70	-67.58	-1,036.24	1,038.39	1.24	0.84	5.33	49.95
	NORMAL	5,232.0	10.87	274.96	5,112.08	-66.49	-1,053.65	1,055.71	0.82	0.61	2.98	43.25
	NORMAL	5,326.0	8.44	275.12	5,204.74	-65.11	-1,069.35	1,071.31	2.59	-2.59	0.17	179.45
	NORMAL	5,421.0	9.13	274.60	5,298.63	-63.88	-1,083.81	1,085.68	0.73	0.73	-0.55	353.18
	NORMAL	5,515.0	11.64	273.64	5,391.08	-62.68	-1,100.71	1,102.49	2.68	2.67	-1.02	355.58
	NORMAL	5,610.0	10.73	267.74	5,484.28	-62.42	-1,119.11	1,120.85	1.54	-0.96	-6.21	228.64
	NORMAL	5,704.0	11.78	267.12	5,576.47	-63.25	-1,137.44	1,139.19	1.12	1.12	-0.66	353.12
	NORMAL	5,799.0	12.91	268.60	5,669.27	-63.99	-1,157.73	1,159.50	1.24	1.19	1.56	16.37
	NORMAL	5,893.0	12.29	266.30	5,761.01	-64.90	-1,178.21	1,180.00	0.85	-0.66	-2.45	217.86
	NORMAL	5,988.0	12.88	268.11	5,853.73	-65.90	-1,198.89	1,200.70	0.75	0.62	1.91	34.65
	NORMAL	6,082.0	13.89	266.84	5,945.17	-66.87	-1,220.62	1,222.45	1.12	1.07	-1.35	343.15
	NORMAL	6,177.0	12.68	265.55	6,037.63	-68.30	-1,242.41	1,244.28	1.31	-1.27	-1.36	193.14
	NORMAL	6,272.0	11.25	265.31	6,130.56	-69.87	-1,262.04	1,263.97	1.51	-1.51	-0.25	181.88
4/3/2012	NORMAL	4,383.0	10.38	267.59	4,277.69	-73.95	-897.69	900.40	1.29	1.21	-2.54	339.17
4/3/2012	NORMAL	6,366.0	11.62	268.40	6,222.70	-70.88	-1,280.64	1,282.60	0.76	0.39	3.29	60.39
	NORMAL	6,460.0	10.57	269.69	6,314.94	-71.20	-1,298.72	1,300.67	1.15	-1.12	1.37	167.33
	NORMAL	6,555.0	8.53	269.69	6,408.62	-71.28	-1,314.48	1,316.42	2.15	-2.15	0.00	180.00
	NORMAL	6,648.0	7.63	267.84	6,500.69	-71.55	-1,327.55	1,329.48	1.01	-0.97	-1.99	195.20
	NORMAL	6,741.0	7.03	271.95	6,592.93	-71.59	-1,339.41	1,341.32	0.86	-0.65	4.42	140.87
	NORMAL	6,836.0	8.36	267.49	6,687.08	-71.69	-1,352.12	1,354.02	1.53	1.40	-4.69	333.60
	NORMAL	6,931.0	7.07	268.12	6,781.21	-72.19	-1,364.86	1,366.77	1.36	-1.36	0.66	176.56
	NORMAL	7,025.0	6.90	269.93	6,874.52	-72.39	-1,376.29	1,378.19	0.30	-0.18	1.93	128.58
	NORMAL	7,119.0	6.81	268.41	6,967.84	-72.55	-1,387.51	1,389.40	0.22	-0.10	-1.62	242.86
	NORMAL	7,213.0	6.09	267.25	7,061.25	-72.94	-1,398.06	1,399.96	0.78	-0.77	-1.23	189.68
	NORMAL	7,308.0	5.03	272.27	7,155.80	-73.02	-1,407.26	1,409.14	1.23	-1.12	5.28	157.84

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (%/100ft)	Build Rate (%/100ft)	Turn (%/100ft)	TFace (°)
4/3/2012	NORMAL	7,403.0	3.40	281.85	7,250.54	-72.27	-1,414.17	1,416.01	1.86	-1.72	10.08	161.36
	NORMAL	7,497.0	2.46	282.24	7,344.42	-71.27	-1,418.87	1,420.65	1.00	-1.00	0.41	178.98
	NORMAL	7,592.0	2.37	278.02	7,439.33	-70.57	-1,422.81	1,424.54	0.21	-0.09	-4.44	241.06
	NORMAL	7,687.0	1.23	272.92	7,534.29	-70.24	-1,425.77	1,427.48	1.21	-1.20	-5.37	185.46
4/4/2012	NORMAL	7,781.0	0.17	186.84	7,628.28	-70.33	-1,426.80	1,428.51	1.31	-1.13	-91.57	187.93
	NORMAL	7,875.0	0.34	137.34	7,722.28	-70.67	-1,426.63	1,428.35	0.28	0.18	-52.66	281.12
	NORMAL	7,970.0	0.24	168.78	7,817.28	-71.07	-1,426.40	1,428.15	0.19	-0.11	33.09	137.21
	NORMAL	8,063.0	0.37	242.62	7,910.27	-71.40	-1,426.63	1,428.39	0.41	0.14	79.40	111.08
	NORMAL	8,156.0	0.53	217.81	8,003.27	-71.88	-1,427.16	1,428.95	0.27	0.17	-26.68	296.54
	NORMAL	8,251.0	0.60	198.64	8,098.27	-72.70	-1,427.58	1,429.42	0.21	0.07	-20.18	280.56
	NORMAL	8,344.0	0.77	236.61	8,191.26	-73.51	-1,428.26	1,430.14	0.51	0.18	40.83	89.15
	NORMAL	8,439.0	0.14	32.21	8,286.26	-73.76	-1,428.73	1,430.63	0.95	-0.66	163.79	176.31
	NORMAL	8,533.0	0.17	298.39	8,380.26	-73.60	-1,428.79	1,430.68	0.24	0.03	-99.81	228.26
	NORMAL	8,627.0	0.09	21.91	8,474.26	-73.46	-1,428.89	1,430.77	0.19	-0.09	88.85	150.77
	NORMAL	8,720.0	0.21	201.69	8,567.26	-73.55	-1,428.93	1,430.81	0.32	0.13	193.31	179.85
	NORMAL	8,815.0	0.70	194.26	8,662.25	-74.28	-1,429.13	1,431.05	0.52	0.52	-7.82	349.41
	NORMAL	8,909.0	1.02	168.26	8,756.24	-75.65	-1,429.10	1,431.10	0.53	0.34	-27.66	295.87
	NORMAL	9,003.0	0.84	197.26	8,850.23	-77.13	-1,429.14	1,431.22	0.53	-0.19	30.85	125.01
4/5/2012	NORMAL	9,098.0	0.71	260.92	8,945.23	-77.89	-1,429.93	1,432.05	0.87	-0.14	67.01	129.52
	NORMAL	9,191.0	1.02	254.67	9,038.21	-78.20	-1,431.29	1,433.43	0.35	0.33	-6.72	339.93
	NORMAL	9,286.0	0.49	271.84	9,133.21	-78.41	-1,432.51	1,434.66	0.60	-0.56	18.07	165.31
	NORMAL	9,380.0	0.37	5.51	9,227.20	-78.09	-1,432.89	1,435.01	0.67	-0.13	99.65	144.29
	NORMAL	9,474.0	0.53	335.98	9,321.20	-77.39	-1,433.03	1,435.12	0.29	0.17	-31.41	289.24
	NORMAL	9,569.0	0.87	335.11	9,416.19	-76.34	-1,433.52	1,435.55	0.36	0.36	-0.92	357.77
	NORMAL	9,663.0	3.08	59.33	9,510.14	-74.40	-1,431.65	1,433.57	3.31	2.35	89.60	100.34
	NORMAL	9,757.0	2.33	52.84	9,604.04	-71.96	-1,427.95	1,429.75	0.86	-0.80	-6.90	198.99
	NORMAL	9,849.0	1.57	68.53	9,695.99	-70.37	-1,425.29	1,427.00	1.00	-0.83	17.05	152.58
	NORMAL	9,944.0	0.77	156.02	9,790.97	-70.47	-1,423.82	1,425.54	1.81	-0.84	92.09	153.40
4/6/2012	NORMAL	10,038.0	0.97	153.65	9,884.96	-71.76	-1,423.21	1,425.00	0.22	0.21	-2.52	348.61
	NORMAL	10,133.0	1.41	164.60	9,979.94	-73.61	-1,422.54	1,424.43	0.52	0.46	11.53	32.88
	NORMAL	10,228.0	0.54	291.04	10,074.93	-74.58	-1,422.65	1,424.60	1.88	-0.92	133.09	165.91
	NORMAL	10,323.0	0.67	282.20	10,169.93	-74.30	-1,423.61	1,425.54	0.17	0.14	-9.31	319.85
	NORMAL	10,417.0	1.05	258.37	10,263.91	-74.36	-1,424.99	1,426.92	0.55	0.40	-25.35	304.40
	NORMAL	10,511.0	0.81	270.28	10,357.90	-74.53	-1,426.50	1,428.44	0.33	-0.26	12.67	147.00
	NORMAL	10,606.0	1.05	358.63	10,452.89	-73.65	-1,427.19	1,429.08	1.38	0.25	93.00	126.61
	NORMAL	10,700.0	0.75	335.29	10,546.88	-72.23	-1,427.47	1,429.28	0.50	-0.32	-24.83	219.43
	NORMAL	10,794.0	0.82	312.39	10,640.87	-71.22	-1,428.22	1,429.98	0.34	0.07	-24.36	270.97
	NORMAL	10,889.0	1.03	25.15	10,735.86	-69.99	-1,428.36	1,430.05	1.17	0.22	76.59	117.62
	NORMAL	10,984.0	1.34	27.84	10,830.84	-68.24	-1,427.48	1,429.07	0.33	0.33	2.83	11.52
	NORMAL	11,078.0	1.24	31.73	10,924.82	-66.40	-1,426.43	1,427.92	0.14	-0.11	4.14	140.72
	NORMAL	11,172.0	1.36	38.34	11,018.80	-64.66	-1,425.20	1,426.60	0.20	0.13	7.03	54.67
	NORMAL	11,266.0	0.93	44.02	11,112.78	-63.23	-1,423.98	1,425.30	0.47	-0.46	6.04	168.04
4/7/2012	NORMAL	11,361.0	0.72	59.81	11,207.77	-62.38	-1,422.93	1,424.21	0.32	-0.22	16.62	140.44
	NORMAL	11,455.0	0.89	54.06	11,301.76	-61.65	-1,421.83	1,423.07	0.20	0.18	-6.12	331.69
	NORMAL	11,644.0	0.17	324.54	11,490.75	-60.56	-1,420.80	1,421.98	0.48	-0.38	-47.37	190.83
	NORMAL	11,738.0	0.62	86.94	11,584.75	-60.42	-1,420.37	1,421.55	0.77	0.48	130.21	133.81
	NORMAL	11,801.0	1.04	131.00	11,647.74	-60.78	-1,419.60	1,420.80	1.17	0.67	69.94	80.01
	NORMAL	11,895.0	0.44	118.23	11,741.73	-61.51	-1,418.64	1,419.88	0.66	-0.64	-13.59	189.05
	NORMAL	11,989.0	0.21	282.02	11,835.73	-61.65	-1,418.49	1,419.74	0.69	-0.24	174.24	174.78
	NORMAL	12,083.0	0.60	267.66	11,929.73	-61.63	-1,419.15	1,420.39	0.43	0.41	-15.28	338.16
	NORMAL	12,272.0	0.66	282.03	12,118.72	-61.44	-1,421.20	1,422.43	0.09	0.03	7.60	76.49
	NORMAL	12,460.0	0.18	314.10	12,306.71	-61.01	-1,422.48	1,423.68	0.27	-0.26	17.06	169.33
4/8/2012	NORMAL	12,555.0	0.18	4.53	12,401.71	-60.76	-1,422.57	1,423.76	0.16	0.00	53.08	115.21
	NORMAL	12,649.0	0.44	264.75	12,495.71	-60.65	-1,422.92	1,424.10	0.53	0.28	-106.15	239.57
	NORMAL	12,743.0	0.77	266.30	12,589.71	-60.72	-1,423.91	1,425.09	0.35	0.35	1.65	3.61
	NORMAL	12,885.0	0.77	266.30	12,731.69	-60.84	-1,425.81	1,427.00	0.00	0.00	0.00	0.00