

Deviation Summary

PICEANCE HL

1 General

1.1 Customer Information

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

1.2 Well/Wellbore Information

Well	BCU 33-36-199	Wellbore No.	00
Wellbore Legal Name	BCU 33-36-199	Common Wellbore Name	BCU 33-36-199
Project	BC 36-01N-99W	Site	BCU 442-36-199 Pad
Vertical Section Azimuth	212.50 (°)	North reference	True
Origin N/S		Origin E/W	
Spud date	7/7/2013	UWI	BCU 33-36-199
Active datum	KB @6,889.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	SDI
Date Started	7/7/2013	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 (°)
7/7/2013	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/7/2013	NORMAL	157.0	0.95	220.48	156.99	-0.99	-0.84	1.29	0.61	0.61	0.00	220.48
	NORMAL	249.0	2.73	215.67	248.94	-3.35	-2.62	4.23	1.94	1.93	-5.23	352.63
	NORMAL	341.0	5.19	210.14	340.72	-8.73	-5.99	10.58	2.70	2.67	-6.01	348.41
	NORMAL	434.0	7.83	212.42	433.11	-17.72	-11.49	21.12	2.85	2.84	2.45	6.73
	NORMAL	526.0	10.90	209.43	523.87	-30.59	-19.13	36.07	3.38	3.34	-3.25	349.52
	NORMAL	618.0	13.81	210.93	613.73	-47.58	-29.05	55.74	3.18	3.16	1.63	7.03
	NORMAL	710.0	16.44	214.79	702.54	-67.70	-42.12	79.73	3.06	2.86	4.20	22.83
	NORMAL	803.0	19.26	213.48	791.05	-91.30	-58.10	108.22	3.06	3.03	-1.41	351.27
7/8/2013	NORMAL	895.0	19.87	212.07	877.74	-117.21	-74.77	139.03	0.84	0.66	-1.53	321.59
	NORMAL	987.0	19.87	210.75	964.27	-143.90	-91.07	170.29	0.49	0.00	-1.43	269.38
	NORMAL	1,082.0	18.91	211.81	1,053.88	-170.85	-107.43	201.82	1.08	-1.01	1.12	160.37
	NORMAL	1,177.0	19.17	210.75	1,143.68	-197.34	-123.52	232.80	0.46	0.27	-1.12	306.44
	NORMAL	1,271.0	19.17	214.35	1,232.47	-223.35	-140.12	263.66	1.26	0.00	3.83	91.70
	NORMAL	1,366.0	19.79	213.83	1,322.03	-249.58	-157.88	295.32	0.68	0.65	-0.55	344.13
	NORMAL	1,461.0	19.89	214.44	1,411.39	-276.27	-175.97	327.55	0.24	0.11	0.64	64.51
	NORMAL	1,555.0	20.05	213.20	1,499.74	-302.94	-193.84	359.65	0.48	0.17	-1.32	290.11
	NORMAL	1,650.0	20.14	212.07	1,588.96	-330.43	-211.44	392.29	0.42	0.09	-1.19	282.52
	NORMAL	1,745.0	20.31	213.67	1,678.10	-358.01	-229.26	425.12	0.61	0.18	1.68	73.67
	NORMAL	1,840.0	20.41	213.13	1,767.17	-385.60	-247.46	458.17	0.22	0.11	-0.57	297.77
	NORMAL	1,935.0	20.57	213.73	1,856.16	-413.35	-265.78	491.42	0.28	0.17	0.63	52.98

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 (°)
7/8/2013	NORMAL	2,029.0	20.49	214.00	1,944.19	-440.73	-284.15	524.38	0.13	-0.09	0.29	130.32
	NORMAL	2,124.0	20.31	213.74	2,033.23	-468.22	-302.60	557.48	0.21	-0.19	-0.27	206.60
	NORMAL	2,219.0	20.75	213.83	2,122.20	-495.91	-321.13	590.79	0.46	0.46	0.09	4.15
	NORMAL	2,314.0	19.96	213.65	2,211.26	-523.39	-339.48	623.83	0.83	-0.83	-0.19	184.45
	NORMAL	2,408.0	19.17	212.42	2,299.84	-549.77	-356.65	655.30	0.95	-0.84	-1.31	206.96
7/9/2013	NORMAL	2,503.0	20.05	210.49	2,389.33	-576.97	-373.27	687.18	1.15	0.93	-2.03	322.73
	NORMAL	2,598.0	19.96	210.31	2,478.60	-605.01	-389.72	719.65	0.11	-0.09	-0.19	214.30
	NORMAL	2,693.0	19.08	208.99	2,568.14	-632.59	-405.43	751.35	1.04	-0.93	-1.39	206.00
	NORMAL	2,787.0	19.26	209.17	2,656.92	-659.56	-420.43	782.17	0.20	0.19	0.19	18.26
	NORMAL	2,882.0	20.40	210.84	2,746.29	-687.46	-436.56	814.36	1.34	1.20	1.76	27.21
	NORMAL	2,977.0	20.85	211.21	2,835.20	-716.14	-453.81	847.81	0.49	0.47	0.39	16.33
	NORMAL	3,071.0	20.14	209.34	2,923.25	-744.55	-470.40	880.70	1.03	-0.76	-1.99	221.81
	NORMAL	3,166.0	19.43	208.47	3,012.64	-772.70	-485.95	912.79	0.81	-0.75	-0.92	202.12
	NORMAL	3,259.0			3,110.96	-732.42	-463.51	928.37	20.89	-20.89	0.00	180.00
	NORMAL	3,352.0			3,203.96	-732.42	-463.51	959.58	0.00	0.00	0.00	0.00
7/11/2013	NORMAL	3,265.0	18.99	210.14	3,106.13	-801.10	-501.89	867.74	0.71	-0.44	1.69	129.47
	NORMAL	3,360.0	18.47	217.08	3,196.11	-826.48	-518.72	868.03	2.41	-0.55	7.31	106.41
	NORMAL	3,454.0	19.93	217.99	3,284.88	-850.99	-537.56	1,006.55	1.59	1.55	0.97	12.01
	NORMAL	3,549.0	19.43	216.64	3,374.33	-876.43	-556.96	1,038.43	0.71	-0.53	-1.42	221.65
	NORMAL	3,644.0	20.49	214.88	3,463.62	-902.75	-575.90	1,070.80	1.28	1.12	-1.85	329.63
	NORMAL	3,738.0	19.59	213.48	3,551.93	-929.39	-594.00	1,102.99	1.08	-0.96	-1.49	207.40
	NORMAL	3,833.0	18.15	215.56	3,641.83	-954.71	-611.39	1,133.70	1.67	-1.52	2.19	155.94
	NORMAL	3,928.0	18.82	212.68	3,731.93	-979.65	-628.27	1,163.80	1.19	0.71	-3.03	304.90
	NORMAL	4,023.0	18.47	209.17	3,821.94	-1,005.68	-643.88	1,194.14	1.24	-0.37	-3.69	251.02
	NORMAL	4,118.0	18.82	207.06	3,911.96	-1,032.47	-658.19	1,224.42	0.80	0.37	-2.22	296.42
	NORMAL	4,213.0	17.72	206.73	4,002.17	-1,059.03	-671.66	1,254.06	1.16	-1.16	-0.35	185.22
	NORMAL	4,307.0	17.82	211.04	4,091.69	-1,084.13	-685.51	1,282.67	1.40	0.11	4.59	87.71
	NORMAL	4,402.0	16.82	210.65	4,182.38	-1,108.41	-700.02	1,310.94	1.06	-1.05	-0.41	186.44
	NORMAL	4,497.0	16.80	213.56	4,273.32	-1,131.68	-714.61	1,338.41	0.89	-0.02	3.06	92.75
	NORMAL	4,591.0	18.17	212.19	4,362.98	-1,155.40	-729.93	1,366.65	1.52	1.46	-1.46	342.62
	NORMAL	4,686.0	17.32	211.56	4,453.46	-1,179.99	-745.22	1,395.60	0.92	-0.89	-0.66	192.43
	NORMAL	4,781.0	16.27	211.28	4,544.40	-1,203.41	-759.54	1,423.04	1.11	-1.11	-0.29	184.27
	NORMAL	4,876.0	13.72	213.83	4,636.16	-1,224.15	-772.72	1,447.62	2.77	-2.68	2.68	166.72
	NORMAL	4,971.0	13.07	211.61	4,728.58	-1,242.65	-784.62	1,469.62	0.87	-0.68	-2.34	217.28
	NORMAL	5,066.0	11.24	212.64	4,821.44	-1,259.60	-795.25	1,489.62	1.94	-1.93	1.08	173.74
	NORMAL	5,160.0	9.32	212.95	4,913.93	-1,273.70	-804.33	1,508.40	2.04	-2.04	0.33	178.50
7/12/2013	NORMAL	5,255.0	7.56	205.37	5,007.90	-1,285.81	-811.19	1,520.29	2.19	-1.85	-7.98	208.59
	NORMAL	5,349.0	6.60	207.46	5,101.18	-1,296.19	-816.33	1,531.81	1.06	-1.02	2.22	166.01
	NORMAL	5,444.0	6.16	209.08	5,195.60	-1,305.49	-821.33	1,542.33	0.50	-0.46	1.71	158.55
	NORMAL	5,539.0	5.36	211.10	5,290.12	-1,313.74	-826.10	1,551.86	0.87	-0.84	2.13	166.78
	NORMAL	5,633.0	5.27	208.99	5,383.71	-1,321.27	-830.46	1,560.56	0.23	-0.10	-2.24	244.23
	NORMAL	5,728.0	4.35	206.63	5,478.38	-1,328.31	-834.19	1,568.49	0.99	-0.97	-2.48	190.97
	NORMAL	5,823.0	3.87	213.56	5,573.13	-1,334.20	-837.57	1,575.28	0.73	-0.51	7.29	137.44
	NORMAL	5,917.0	3.63	215.05	5,666.93	-1,339.28	-841.03	1,581.43	0.28	-0.26	1.59	158.64
	NORMAL	6,012.0	1.93	232.46	5,761.82	-1,342.72	-844.03	1,585.94	1.98	-1.79	18.33	162.10
	NORMAL	6,107.0	0.26	137.19	5,856.80	-1,343.85	-845.15	1,587.49	2.07	-1.76	-100.28	187.55
	NORMAL	6,202.0	0.35	165.66	5,951.80	-1,344.29	-844.93	1,587.75	0.18	0.09	29.97	74.05
	NORMAL	6,296.0	0.26	135.52	6,045.80	-1,344.72	-844.71	1,587.99	0.19	-0.10	-32.06	226.21
	NORMAL	6,391.0	0.44	209.98	6,140.80	-1,345.19	-844.75	1,588.41	0.47	0.19	78.38	108.53
	NORMAL	6,486.0	0.79	79.09	6,235.79	-1,345.38	-844.28	1,588.32	1.19	0.37	-137.78	211.96
	NORMAL	6,580.0	0.62	119.96	6,329.79	-1,345.52	-843.21	1,587.85	0.55	-0.18	43.48	128.37
	NORMAL	6,675.0	0.44	179.11	6,424.79	-1,346.14	-842.76	1,588.13	0.57	-0.19	62.26	136.23
	NORMAL	6,770.0	0.53	223.67	6,519.78	-1,346.82	-843.05	1,588.87	0.40	0.09	46.91	99.52
	NORMAL	6,864.0	0.83	36.12	6,613.78	-1,346.58	-842.95	1,588.62	1.44	0.32	183.46	175.39
	NORMAL	6,959.0	0.70	6.58	6,708.77	-1,345.45	-842.48	1,587.41	0.43	-0.14	-31.09	237.37
7/13/2013	NORMAL	7,054.0	0.62	290.91	6,803.77	-1,344.69	-842.89	1,586.99	0.85	-0.08	-79.65	227.70

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 (°)
7/13/2013	NORMAL	7,148.0	1.06	299.78	6,897.76	-1,344.08	-844.12	1,587.13	0.49	0.47	9.44	20.93
	NORMAL	7,243.0	1.52	35.74	6,992.74	-1,342.62	-844.15	1,585.92	2.04	0.48	101.01	128.85
	NORMAL	7,338.0	1.61	41.58	7,087.71	-1,340.60	-842.53	1,583.34	0.19	0.09	6.15	63.51
	NORMAL	7,432.0	0.74	8.87	7,181.69	-1,339.01	-841.56	1,581.48	1.13	-0.93	-34.80	202.05
	NORMAL	7,527.0	0.43	300.41	7,276.68	-1,338.22	-841.77	1,580.93	0.74	-0.33	-72.06	214.49
	NORMAL	7,622.0	1.04	256.61	7,371.68	-1,338.24	-842.92	1,581.56	0.83	0.64	-46.11	294.01
	NORMAL	7,716.0	1.06	262.43	7,465.66	-1,338.56	-844.61	1,582.74	0.12	0.02	6.19	82.30
	NORMAL	7,811.0	0.44	356.82	7,560.65	-1,338.31	-845.50	1,583.00	1.24	-0.65	99.36	158.14
	NORMAL	7,906.0	0.53	341.80	7,655.65	-1,337.53	-845.66	1,582.43	0.16	0.09	-15.81	297.63
	NORMAL	8,000.0	0.62	301.72	7,749.65	-1,336.85	-846.23	1,582.16	0.43	0.10	-42.64	262.07
	NORMAL	8,095.0	0.79	268.57	7,844.64	-1,336.59	-847.32	1,582.53	0.46	0.18	-34.89	275.48
	NORMAL	8,189.0	0.97	257.16	7,938.63	-1,336.78	-848.74	1,583.46	0.27	0.19	-12.14	309.97
	NORMAL	8,284.0	1.49	254.96	8,033.61	-1,337.28	-850.72	1,584.95	0.55	0.55	-2.32	353.71
	NORMAL	8,379.0	0.79	226.13	8,128.59	-1,338.06	-852.38	1,586.49	0.93	-0.74	-30.35	205.52
7/14/2013	NORMAL	8,473.0	1.85	49.82	8,222.58	-1,337.53	-851.69	1,585.67	2.81	1.13	-187.56	182.59
	NORMAL	8,567.0	2.29	49.38	8,316.51	-1,335.33	-849.11	1,582.43	0.47	0.47	-0.47	357.71
	NORMAL	8,662.0	1.14	51.05	8,411.47	-1,333.50	-846.93	1,579.72	1.21	-1.21	1.76	178.35
	NORMAL	8,756.0	0.65	17.03	8,505.46	-1,332.40	-846.05	1,578.32	0.75	-0.52	-36.19	211.17
	NORMAL	8,851.0	0.85	30.43	8,600.45	-1,331.28	-845.53	1,577.09	0.28	0.21	14.11	48.08
	NORMAL	8,946.0	0.44	22.05	8,695.45	-1,330.33	-845.04	1,576.03	0.44	-0.43	-8.82	188.79
	NORMAL	9,041.0	0.53	151.42	8,790.44	-1,330.38	-844.69	1,575.88	0.92	0.09	136.18	152.17
	NORMAL	9,135.0	0.62	240.02	8,884.44	-1,331.01	-844.93	1,576.54	0.86	0.10	94.26	129.71
	NORMAL	9,230.0	1.41	253.03	8,979.43	-1,331.61	-846.49	1,577.89	0.86	0.83	13.69	22.83
	NORMAL	9,325.0	0.97	181.92	9,074.41	-1,332.76	-847.63	1,579.47	1.50	-0.46	-74.85	219.95
	NORMAL	9,419.0	1.93	230.17	9,168.38	-1,334.57	-848.88	1,581.66	1.57	1.02	51.33	77.65
	NORMAL	9,514.0	2.46	233.87	9,263.31	-1,336.79	-851.75	1,585.09	0.58	0.56	3.89	16.82
	NORMAL	9,609.0	2.90	240.11	9,358.21	-1,339.19	-855.48	1,589.11	0.56	0.46	6.57	36.69
	NORMAL	9,704.0	2.81	250.63	9,453.09	-1,341.16	-859.76	1,593.07	0.56	-0.09	11.07	104.97
7/15/2013	NORMAL	9,799.0	3.17	254.70	9,547.96	-1,342.63	-864.49	1,596.85	0.44	0.38	4.28	32.57
	NORMAL	9,894.0	3.87	256.19	9,642.78	-1,344.09	-870.14	1,601.12	0.74	0.74	1.57	8.19
	NORMAL	9,989.0	3.96	254.87	9,737.56	-1,345.71	-876.42	1,605.86	0.13	0.09	-1.39	314.30
	NORMAL	10,083.0	3.87	258.65	9,831.34	-1,347.18	-882.66	1,610.45	0.29	-0.10	4.02	111.10
	NORMAL	10,178.0	3.34	267.09	9,926.15	-1,347.95	-888.57	1,614.28	0.79	-0.56	8.88	139.12
	NORMAL	10,278.0	3.34	267.26	10,025.99	-1,348.24	-894.39	1,617.65	0.01	0.00	0.17	90.08