

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	RG 341-15-298	Wellbore No.	00
Wellbore Legal Name	RG 341-15-298	Common Wellbore Name	RG 341-15-298
Project	RG 14-02S-098WV	Site	RG 12-14-298 Pad
Vertical Section Azimuth	312.86 (°)	North reference	True
Origin N/S		Origin E/W	
Spud date	2/12/2014	UWI	RG 341-15-298
Active datum	KB @6,581.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	2/12/2014	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 (°)
2/12/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/12/2014	NORMAL	155.0	2.09	325.08	154.97	2.32	-1.62	2.76	1.35	1.35	0.00	325.08
	NORMAL	247.0	4.57	313.36	246.80	6.21	-5.24	8.07	2.78	2.70	-12.74	338.75
	NORMAL	339.0	8.57	310.68	338.18	13.20	-13.11	18.59	4.36	4.35	-2.91	354.28
	NORMAL	432.0	10.73	309.93	429.86	23.27	-25.01	34.16	2.33	2.32	-0.81	356.30
	NORMAL	524.0	13.63	311.48	519.78	35.95	-39.70	53.55	3.17	3.15	1.68	7.19
	NORMAL	616.0	15.83	312.39	608.75	51.59	-57.09	76.94	2.40	2.39	0.99	6.44
	NORMAL	708.0	15.21	312.04	697.40	68.14	-75.32	101.56	0.68	-0.67	-0.38	188.42
	NORMAL	800.0	16.71	312.04	785.85	85.07	-94.11	126.85	1.63	1.63	0.00	0.00
	NORMAL	893.0	16.71	309.67	874.92	102.56	-114.33	153.57	0.73	0.00	-2.55	268.87
	NORMAL	985.0	16.53	313.18	963.08	119.96	-134.05	179.86	1.11	-0.20	3.82	101.84
	NORMAL	1,080.0	15.39	311.51	1,054.42	137.57	-153.35	205.98	1.29	-1.20	-1.76	201.14
	NORMAL	1,174.0	15.92	311.34	1,144.93	154.35	-172.37	231.34	0.57	0.56	-0.18	354.97
	NORMAL	1,269.0	16.25	308.49	1,236.21	171.23	-192.55	257.62	0.90	0.35	-3.00	291.31
	NORMAL	1,364.0	16.22	310.19	1,327.43	188.06	-213.09	284.12	0.50	-0.03	1.79	94.43
	NORMAL	1,459.0	16.20	312.03	1,418.65	205.50	-233.07	310.63	0.54	-0.02	1.94	93.11
	NORMAL	1,553.0	15.71	310.05	1,509.03	222.46	-252.55	336.45	0.78	-0.52	-2.11	227.05
	NORMAL	1,649.0	15.99	312.53	1,601.38	239.77	-272.25	362.65	0.76	0.29	2.58	68.74
	NORMAL	1,743.0	17.22	317.41	1,691.46	258.76	-291.21	389.47	1.98	1.31	5.19	50.94
	NORMAL	1,839.0	16.58	317.84	1,783.32	279.38	-310.02	417.28	0.68	-0.67	0.45	169.15
	NORMAL	1,933.0	16.22	316.77	1,873.49	298.89	-328.01	443.74	0.50	-0.38	-1.14	219.49

2.1.2 Survey Stations (Continued)

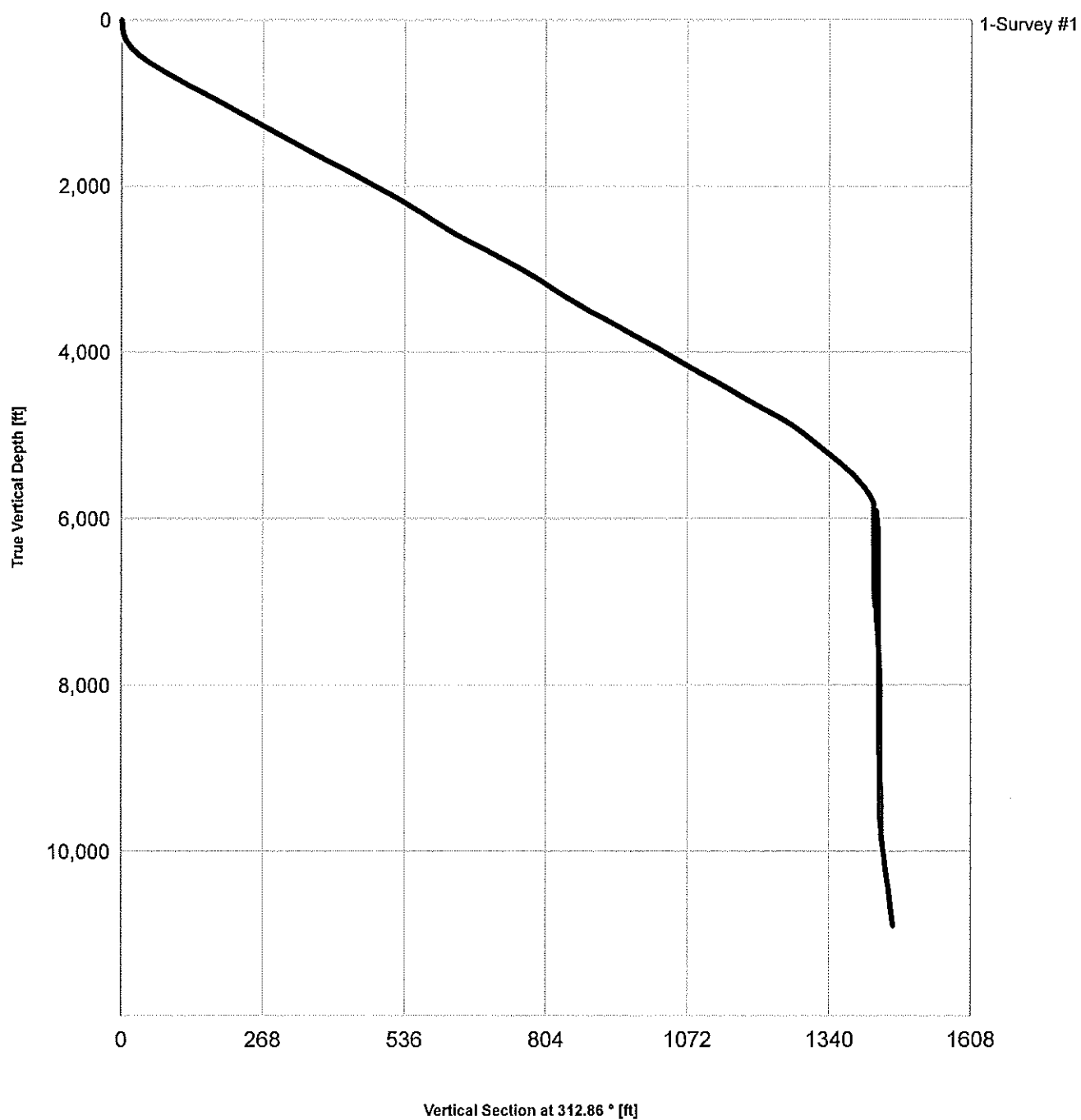
Date	Type	MD (ft)	Inc. (")	Azi. (")	TVD (ft)	N/S (ft)	EW (ft)	V. sec. (ft)	DLS ("/100usft)	Build Rate ("/100usft)	Turn ("/100usft)	Tface (")
2/12/2014	NORMAL	2,028.0	16.00	315.37	1,964.76	317.87	-346.30	470.08	0.47	-0.23	-1.47	239.81
	NORMAL	2,123.0	16.08	314.81	2,056.07	336.46	-364.83	496.29	0.18	0.08	-0.59	297.07
	NORMAL	2,217.0	15.49	312.54	2,146.52	354.12	-383.31	521.85	0.91	-0.63	-2.41	225.22
2/13/2014	NORMAL	2,312.0	14.51	309.52	2,238.28	370.27	-401.84	546.42	1.32	-1.03	-3.18	217.12
	NORMAL	2,407.0	14.22	309.05	2,330.31	385.20	-420.08	569.94	0.33	-0.31	-0.49	201.68
	NORMAL	2,501.0	13.54	309.58	2,421.57	399.48	-437.53	592.45	0.74	-0.72	0.56	169.67
	NORMAL	2,596.0	14.68	313.53	2,513.70	414.86	-454.83	615.59	1.57	1.20	4.16	42.11
	NORMAL	2,691.0	15.77	313.89	2,605.37	432.10	-472.86	640.53	1.15	1.15	0.38	5.13
	NORMAL	2,786.0	17.50	314.85	2,696.39	451.13	-492.29	667.72	1.84	1.82	1.01	9.49
	NORMAL	2,881.0	16.53	313.45	2,787.23	470.49	-512.23	695.51	1.11	-1.02	-1.47	202.23
	NORMAL	2,975.0	15.83	312.04	2,877.51	488.28	-531.46	721.70	0.85	-0.74	-1.50	208.63
	NORMAL	3,070.0	16.62	310.99	2,968.72	505.86	-551.34	748.24	0.89	0.83	-1.11	339.12
	NORMAL	3,135.0	15.56	306.59	3,031.18	517.16	-565.36	766.19	2.48	-1.63	-6.77	226.90
3/26/2014	NORMAL	3,253.0	13.38	303.24	3,145.43	534.08	-589.49	795.39	1.98	-1.85	-2.84	199.39
	NORMAL	3,348.0	13.55	309.18	3,237.82	547.14	-607.31	817.34	1.47	0.18	6.25	85.89
	NORMAL	3,443.0	14.96	318.70	3,329.91	563.38	-624.03	840.64	2.87	1.48	10.02	63.65
	NORMAL	3,537.0	15.31	323.31	3,420.65	582.45	-639.45	864.92	1.33	0.37	4.90	76.02
	NORMAL	3,632.0	15.41	323.79	3,512.26	602.69	-654.40	889.65	0.17	0.11	0.51	52.05
	NORMAL	3,726.0	17.41	319.86	3,602.43	623.52	-670.85	915.87	2.43	2.13	-4.18	329.07
	NORMAL	3,821.0	15.04	314.50	3,693.64	643.03	-688.81	942.30	2.95	-2.49	-5.64	209.74
	NORMAL	3,916.0	15.65	315.46	3,785.26	660.80	-706.59	967.42	0.70	0.64	1.01	23.07
	NORMAL	4,011.0	17.23	318.28	3,876.37	680.44	-724.94	994.23	1.86	1.66	2.97	28.16
	NORMAL	4,106.0	14.07	315.29	3,967.84	699.15	-742.43	1,019.78	3.43	-3.33	-3.15	192.88
	NORMAL	4,200.0	15.16	314.30	4,058.80	715.86	-759.27	1,043.49	1.19	1.16	-1.05	346.61
	NORMAL	4,294.0	15.48	315.38	4,149.46	733.37	-776.88	1,068.31	0.46	0.34	1.15	42.25
	NORMAL	4,390.0	15.74	319.33	4,241.92	752.37	-794.36	1,094.05	1.14	0.27	4.11	78.16
	NORMAL	4,484.0	16.62	320.12	4,332.20	772.35	-811.29	1,120.05	0.96	0.94	0.84	14.42
	NORMAL	4,579.0	14.60	316.52	4,423.69	791.47	-828.24	1,145.48	2.36	-2.13	-3.79	203.90
	NORMAL	4,674.0	15.06	317.42	4,515.53	809.24	-844.83	1,169.73	0.54	0.48	0.95	27.04
	NORMAL	4,769.0	15.83	320.91	4,607.10	828.39	-861.35	1,194.87	1.27	0.81	3.67	52.05
	NORMAL	4,863.0	16.88	324.43	4,697.29	849.44	-877.38	1,220.93	1.54	1.12	3.74	45.05
	NORMAL	4,958.0	15.48	322.32	4,788.53	870.70	-893.15	1,246.95	1.60	-1.47	-2.22	201.77
	NORMAL	5,053.0	13.72	320.39	4,880.46	889.41	-908.08	1,270.63	1.92	-1.85	-2.03	194.52
	NORMAL	5,148.0	11.26	315.29	4,973.21	904.69	-921.79	1,291.07	2.84	-2.59	-5.37	201.68
	NORMAL	5,242.0	10.55	312.65	5,065.51	917.04	-934.58	1,308.84	0.92	-0.78	-2.81	213.83
	NORMAL	5,337.0	11.43	314.41	5,158.77	929.52	-947.70	1,326.95	0.99	0.93	1.85	21.74
	NORMAL	5,432.0	11.33	312.62	5,251.90	942.42	-961.29	1,345.69	0.39	-0.11	-1.88	253.32
	NORMAL	5,527.0	10.46	309.58	5,345.19	954.24	-974.81	1,363.63	1.10	-0.92	-3.20	211.96
	NORMAL	5,621.0	9.14	304.13	5,437.82	963.86	-987.56	1,379.53	1.71	-1.40	-5.80	212.43
	NORMAL	5,716.0	8.95	315.03	5,531.64	973.33	-999.03	1,394.37	1.81	-0.20	11.47	101.69
	NORMAL	5,811.0	6.60	315.73	5,625.76	982.46	-1,008.07	1,407.21	2.48	-2.47	0.74	178.04
	NORMAL	5,905.0	5.35	304.82	5,719.25	988.84	-1,015.44	1,416.95	1.79	-1.33	-11.61	216.92
3/27/2014	NORMAL	6,000.0	4.13	329.09	5,813.93	994.30	-1,020.83	1,424.62	2.44	-1.28	25.55	133.02
	NORMAL	6,095.0	2.11	339.55	5,908.79	998.87	-1,023.20	1,429.47	2.20	-2.13	11.01	169.44
	NORMAL	6,189.0	0.70	324.43	6,002.76	1,000.96	-1,024.14	1,431.58	1.54	-1.50	-16.09	187.26
	NORMAL	6,284.0	0.62	307.03	6,097.75	1,001.74	-1,024.89	1,432.66	0.23	-0.08	-18.32	239.69
	NORMAL	6,379.0	0.97	117.80	6,192.75	1,001.68	-1,024.58	1,432.39	1.67	0.37	179.76	174.37
	NORMAL	6,473.0	0.97	131.07	6,286.74	1,000.79	-1,023.28	1,430.83	0.24	0.00	14.12	96.63
	NORMAL	6,568.0	1.25	150.41	6,381.72	999.36	-1,022.16	1,429.03	0.49	0.29	20.36	63.16
	NORMAL	6,663.0	1.67	183.80	6,476.69	997.07	-1,021.74	1,427.17	0.98	0.44	35.15	81.07
	NORMAL	6,757.0	0.18	130.54	6,570.68	995.61	-1,021.72	1,426.16	1.67	-1.59	-56.66	185.28
	NORMAL	6,852.0	0.38	91.00	6,665.68	995.51	-1,021.29	1,425.78	0.28	0.21	-41.62	295.05
	NORMAL	6,947.0	0.26	200.77	6,760.68	995.30	-1,021.05	1,425.46	0.56	-0.13	115.55	152.40
	NORMAL	7,042.0	0.62	226.96	6,855.67	994.75	-1,021.51	1,425.42	0.42	0.38	27.57	42.72
	NORMAL	7,137.0	0.53	313.62	6,950.67	994.70	-1,022.20	1,425.90	0.83	-0.09	91.22	138.07
	NORMAL	7,231.0	1.32	340.78	7,044.66	996.02	-1,022.87	1,427.29	0.94	0.84	28.89	43.07

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)	Bulld Rate (%/100usft)	Turn (%/100usft)	Tface (°)
3/28/2014	NORMAL	7,326.0	1.58	359.94	7,139.63	998.37	-1,023.23	1,429.15	0.58	0.27	20.17	71.60
	NORMAL	7,420.0	2.02	26.22	7,233.58	1,001.15	-1,022.50	1,430.50	0.98	0.47	27.96	75.50
	NORMAL	7,515.0	1.41	18.04	7,328.54	1,003.76	-1,021.40	1,431.47	0.69	-0.64	-8.61	197.81
	NORMAL	7,610.0	1.23	4.77	7,423.51	1,005.89	-1,020.95	1,432.59	0.37	-0.19	-13.97	232.99
	NORMAL	7,705.0	0.97	18.39	7,518.50	1,007.67	-1,020.62	1,433.55	0.39	-0.27	14.34	141.51
	NORMAL	7,799.0	0.53	307.82	7,612.49	1,008.69	-1,020.71	1,434.32	1.00	-0.47	-75.07	212.20
	NORMAL	7,894.0	0.88	270.20	7,707.48	1,008.96	-1,021.78	1,435.29	0.59	0.37	-39.60	287.27
	NORMAL	7,989.0	0.97	14.09	7,802.48	1,009.74	-1,022.32	1,436.22	1.53	0.09	109.36	139.76
	NORMAL	8,083.0	1.06	29.91	7,896.46	1,011.27	-1,021.69	1,436.79	0.31	0.10	16.83	80.21
	NORMAL	8,178.0	0.79	56.71	7,991.45	1,012.39	-1,020.71	1,436.83	0.53	-0.28	28.21	134.89
	NORMAL	8,273.0	0.70	171.15	8,086.45	1,012.18	-1,020.07	1,436.22	1.32	-0.09	120.46	149.45
	NORMAL	8,368.0	1.37	214.80	8,181.43	1,010.67	-1,020.63	1,435.61	1.04	0.71	45.95	72.88
	NORMAL	8,462.0	2.11	230.83	8,275.39	1,008.66	-1,022.61	1,435.69	0.93	0.79	17.05	41.52
	NORMAL	8,557.0	1.93	228.80	8,370.33	1,006.50	-1,025.17	1,436.10	0.20	-0.19	-2.14	200.67
	NORMAL	8,651.0	2.00	219.02	8,464.28	1,004.18	-1,027.39	1,436.15	0.36	0.07	-10.40	276.88
	NORMAL	8,746.0	1.76	214.04	8,559.22	1,001.68	-1,029.25	1,435.82	0.31	-0.25	-5.24	211.77
3/29/2014	NORMAL	8,841.0	1.58	212.11	8,654.18	999.37	-1,030.77	1,435.35	0.20	-0.19	-2.03	196.39
	NORMAL	8,936.0	1.67	223.79	8,749.15	997.26	-1,032.42	1,435.13	0.36	0.09	12.29	80.69
	NORMAL	9,030.0	1.23	248.05	8,843.12	995.89	-1,034.30	1,435.58	0.79	-0.47	25.81	137.35
	NORMAL	9,125.0	0.53	22.09	8,938.11	995.92	-1,035.08	1,436.17	1.73	-0.74	141.09	166.59
	NORMAL	9,220.0	1.78	29.51	9,033.09	997.61	-1,034.19	1,436.66	1.32	1.32	7.81	10.54
	NORMAL	9,315.0	2.78	28.61	9,128.01	1,000.91	-1,032.36	1,437.57	1.05	1.05	-0.95	357.50
3/30/2014	NORMAL	9,409.0	0.97	356.69	9,221.96	1,003.71	-1,031.32	1,438.71	2.15	-1.93	-33.96	194.69
	NORMAL	9,504.0	1.06	75.35	9,316.95	1,004.74	-1,030.51	1,438.82	1.36	0.09	82.80	126.23
	NORMAL	9,599.0	2.81	58.56	9,411.89	1,006.17	-1,027.68	1,437.71	1.92	1.84	-17.67	333.54
	NORMAL	9,693.0	2.37	51.09	9,505.80	1,008.60	-1,024.20	1,436.81	0.59	-0.47	-7.95	213.80
	NORMAL	9,788.0	1.14	30.52	9,600.75	1,010.64	-1,022.19	1,436.73	1.43	-1.29	-21.65	197.09
	NORMAL	9,883.0	0.88	273.63	9,695.75	1,011.50	-1,022.44	1,437.50	1.82	-0.27	-123.04	207.04
	NORMAL	9,977.0	1.76	258.78	9,789.72	1,011.27	-1,024.57	1,438.91	1.00	0.94	-15.80	331.22
	NORMAL	10,072.0	2.17	256.43	9,884.66	1,010.56	-1,027.75	1,440.76	0.44	0.43	-2.47	347.71
	NORMAL	10,168.0	2.37	253.77	9,978.59	1,009.60	-1,031.35	1,442.74	0.24	0.21	-2.83	330.89
	NORMAL	10,261.0	2.55	252.62	10,073.50	1,008.42	-1,035.25	1,444.80	0.20	0.19	-1.21	344.09
	NORMAL	10,356.0	3.25	239.09	10,168.38	1,006.41	-1,039.58	1,446.60	1.03	0.74	-14.24	308.75
	NORMAL	10,450.0	3.52	242.25	10,262.22	1,003.69	-1,044.42	1,448.30	0.35	0.29	3.36	36.23
	NORMAL	10,545.0	3.56	246.05	10,357.04	1,001.14	-1,049.70	1,450.43	0.25	0.04	4.00	82.23
	NORMAL	10,640.0	3.69	244.10	10,451.85	998.61	-1,055.14	1,452.70	0.19	0.14	-2.05	315.54
	NORMAL	10,735.0	3.25	239.35	10,546.67	995.90	-1,060.21	1,454.57	0.55	-0.46	-5.00	210.81
3/31/2014	NORMAL	10,830.0	3.69	239.09	10,641.50	992.96	-1,065.15	1,456.19	0.46	0.46	-0.27	357.82
	NORMAL	10,924.0	3.96	241.64	10,735.29	989.86	-1,070.60	1,458.08	0.34	0.29	2.71	33.49
	NORMAL	11,014.0	4.48	239.35	10,825.05	986.59	-1,076.36	1,460.08	0.61	0.58	-2.54	340.90
	NORMAL	11,076.0	4.48	239.35	10,886.86	984.12	-1,080.52	1,461.45	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

