

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 312-14-298	Wellbore No.	00
Wellbore Legal Name	RG 312-14-298 #1	Common Wellbore Name	RG 312-14-298 #1
Project	RG 14-02S-098W	Site	RG 12-14-298 Pad
Vertical Section Azimuth	100.60 (°)	North reference	True
Origin N/S		Origin E/W	
Spud date	1/15/2014	UWI	RG 312-14-298
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	1/15/2014	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 (°)
1/15/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/15/2014	NORMAL	145.0	0.44	52.38	145.00	0.34	0.44	0.37	0.30	0.30	0.00	52.38
	NORMAL	237.0	1.14	109.61	236.99	0.25	1.58	1.51	1.06	0.76	62.10	79.42
	NORMAL	329.0	1.94	109.78	328.96	-0.58	3.91	3.95	0.87	0.87	0.29	0.65
	NORMAL	421.0	3.08	82.88	420.87	-0.80	7.83	7.84	1.75	1.24	-29.24	300.09
	NORMAL	495.0	2.90	80.37	494.77	-0.24	11.65	11.49	0.30	-0.24	-3.39	214.78
	NORMAL	587.0	2.90	88.46	586.65	0.21	16.27	15.95	0.44	0.00	8.79	94.04
	NORMAL	679.0	2.81	96.28	678.54	0.02	20.84	20.48	0.43	-0.10	8.50	106.90
	NORMAL	771.0	3.61	81.78	770.40	0.19	25.95	25.47	1.23	0.87	-15.76	307.18
	NORMAL	864.0	3.96	74.48	863.19	1.47	31.94	31.12	0.64	0.38	-7.85	302.31
	NORMAL	956.0	3.96	86.61	954.98	2.51	38.17	37.06	0.91	0.00	13.18	96.05
	NORMAL	1,050.0	3.96	90.57	1,048.75	2.67	44.66	43.40	0.29	0.00	4.21	91.98
	NORMAL	1,176.0	3.17	91.53	1,174.51	2.53	52.49	51.13	0.63	-0.63	0.76	176.16
	NORMAL	1,271.0	4.04	93.82	1,269.32	2.24	58.45	57.04	0.93	0.92	2.41	10.54
	NORMAL	1,366.0	4.04	100.50	1,364.08	1.40	65.08	63.71	0.50	0.00	7.03	93.33
	NORMAL	1,460.0	4.22	100.76	1,457.84	0.16	71.74	70.48	0.19	0.19	0.28	6.07
	NORMAL	1,555.0	3.78	88.98	1,552.61	-0.44	78.30	77.05	0.98	-0.46	-12.40	236.04
	NORMAL	1,650.0	3.61	88.72	1,647.41	-0.32	84.42	83.04	0.18	-0.18	-0.27	185.50
	NORMAL	1,745.0	3.69	89.95	1,742.22	-0.25	90.47	88.97	0.12	0.08	1.29	45.00
	NORMAL	1,840.0	3.43	91.88	1,837.04	-0.34	96.37	94.79	0.30	-0.27	2.03	156.21
	NORMAL	1,935.0	3.43	93.47	1,931.87	-0.61	102.04	100.41	0.10	0.00	1.67	90.79

2.1.2 Survey Stations (Continued)

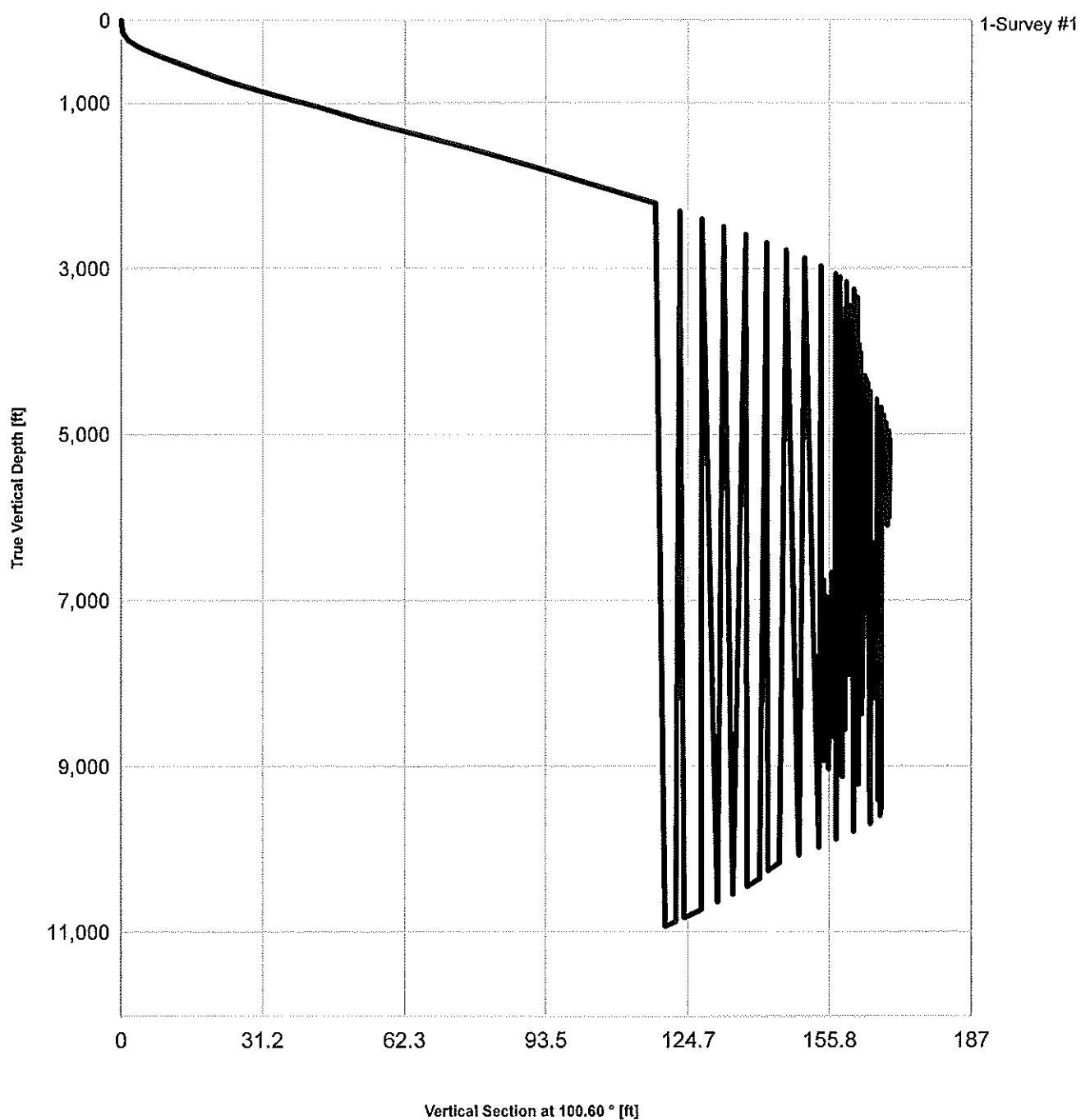
Date	Type	MD (ft)	Inc. (")	Azi. (")	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS ("/100usft)	Build Rate ("/100usft)	Turn ("/100usft)	Tface (")
1/15/2014	NORMAL	2,030.0	3.61	95.66	2,026.69	-1.07	107.86	106.21	0.24	0.19	2.31	37.86
	NORMAL	2,124.0	3.43	101.90	2,120.51	-1.94	113.55	111.97	0.45	-0.19	6.64	118.26
1/16/2014	NORMAL	2,219.0	3.34	101.02	2,215.34	-3.06	119.05	117.58	0.11	-0.09	-0.93	209.56
	NORMAL	2,314.0	3.08	100.94	2,310.20	-4.07	124.27	122.90	0.27	-0.27	-0.08	180.95
	NORMAL	2,409.0	2.81	100.94	2,405.07	-5.00	129.07	127.78	0.28	-0.28	0.00	180.00
	NORMAL	2,503.0	3.08	91.00	2,498.95	-5.48	133.85	132.58	0.61	0.29	-10.57	292.84
	NORMAL	2,598.0	2.90	89.69	2,593.82	-5.51	138.81	137.45	0.20	-0.19	-1.38	200.13
	NORMAL	2,693.0	2.73	88.98	2,688.70	-5.46	143.47	142.03	0.18	-0.18	-0.76	191.24
	NORMAL	2,787.0	2.64	90.83	2,782.60	-5.45	147.88	146.35	0.13	-0.10	1.97	137.00
	NORMAL	2,882.0	2.29	94.87	2,877.51	-5.84	151.95	150.40	0.41	-0.37	4.25	155.61
	NORMAL	2,977.0	2.11	92.85	2,972.44	-5.89	155.59	154.02	0.21	-0.19	-2.13	202.30
	NORMAL	3,072.0	1.85	93.91	3,067.39	-6.08	158.87	157.28	0.28	-0.27	1.12	172.51
	NORMAL	3,107.0	1.32	103.05	3,102.37	-6.21	159.83	158.24	1.67	-1.51	26.11	159.02
1/27/2014	NORMAL	3,169.0	1.48	132.93	3,164.36	-6.92	161.11	159.63	1.19	0.26	48.19	92.85
	NORMAL	3,261.0	1.93	36.25	3,256.33	-6.48	162.89	161.31	2.79	0.49	-105.09	228.37
	NORMAL	3,356.0	0.89	18.93	3,351.30	-4.49	164.08	162.10	1.17	-1.09	-18.23	193.78
1/28/2014	NORMAL	3,451.0	2.81	247.19	3,446.27	-4.69	162.17	160.27	3.65	2.02	-138.67	217.23
	NORMAL	3,545.0	1.40	200.45	3,540.21	-6.66	159.65	158.15	2.25	-1.50	-49.72	208.86
	NORMAL	3,640.0	0.85	51.99	3,635.20	-7.32	159.80	158.41	2.28	-0.58	-156.27	191.82
	NORMAL	3,735.0	1.49	78.02	3,730.18	-6.63	161.56	160.02	0.86	0.67	27.40	53.21
	NORMAL	3,829.0	0.95	76.68	3,824.16	-6.19	163.51	161.86	0.58	-0.57	-1.43	182.35
	NORMAL	3,924.0	0.32	219.99	3,919.15	-6.22	164.11	162.45	1.29	-0.66	150.85	171.00
	NORMAL	4,019.0	0.56	113.49	4,014.15	-6.60	164.36	162.77	0.76	0.25	-112.11	228.26
	NORMAL	4,114.0	1.14	226.22	4,109.15	-7.44	164.11	162.68	1.53	0.61	118.66	133.57
	NORMAL	4,208.0	0.58	100.60	4,203.14	-8.18	163.90	162.61	1.65	-0.60	-133.64	197.70
	NORMAL	4,303.0	1.16	53.23	4,298.13	-7.69	165.14	163.74	0.92	0.61	-49.86	283.55
	NORMAL	4,398.0	0.88	5.49	4,393.12	-6.39	165.98	164.33	0.91	-0.29	-50.25	228.90
	NORMAL	4,493.0	2.29	29.66	4,488.08	-4.01	166.99	164.88	1.61	1.48	25.44	37.78
	NORMAL	4,587.0	2.11	37.30	4,582.01	-1.00	168.97	166.27	0.37	-0.19	8.13	125.32
	NORMAL	4,682.0	1.41	22.19	4,676.97	1.47	170.47	167.29	0.88	-0.74	-15.91	206.15
	NORMAL	4,777.0	0.88	35.72	4,771.95	3.14	171.34	167.84	0.62	-0.56	14.24	159.63
	NORMAL	4,871.0	0.97	24.91	4,865.93	4.45	172.09	168.34	0.21	0.10	-11.50	291.81
	NORMAL	4,966.0	0.53	120.10	4,960.93	4.96	172.81	168.95	1.21	-0.46	100.20	152.59
	NORMAL	5,061.0	0.62	210.36	5,055.93	4.30	172.93	169.19	0.86	0.09	95.01	130.67
	NORMAL	5,156.0	0.97	193.49	5,150.92	3.07	172.49	168.98	0.44	0.37	-17.76	317.60
	NORMAL	5,250.0	1.41	220.38	5,244.90	1.42	171.55	168.36	0.74	0.47	28.61	65.72
1/29/2014	NORMAL	5,345.0	1.39	209.74	5,339.87	-0.48	170.22	167.41	0.27	-0.02	-11.20	260.29
	NORMAL	5,440.0	2.02	202.01	5,434.83	-3.03	169.02	166.70	0.70	0.66	-8.14	336.05
	NORMAL	5,535.0	0.30	212.92	5,529.80	-4.79	168.26	166.27	1.82	-1.81	11.48	178.11
	NORMAL	5,629.0	0.79	35.28	5,623.80	-4.47	168.50	166.45	1.16	0.52	-188.98	181.71
	NORMAL	5,724.0	1.85	23.77	5,718.78	-2.53	169.50	167.07	1.14	1.12	-12.12	340.16
	NORMAL	5,819.0	1.94	37.63	5,813.72	0.15	171.10	168.15	0.49	0.09	14.59	85.87
	NORMAL	5,913.0	1.15	15.60	5,907.69	2.32	172.32	168.96	1.04	-0.84	-23.44	206.27
	NORMAL	6,008.0	0.79	6.28	6,002.68	3.89	172.65	168.99	0.41	-0.38	-9.81	199.05
	NORMAL	6,103.0	0.79	340.44	6,097.67	5.15	172.50	168.61	0.37	0.00	-27.20	257.08
	NORMAL	6,198.0	1.41	305.55	6,192.65	6.45	171.33	167.22	0.93	0.65	-36.73	294.45
	NORMAL	6,292.0	1.41	296.84	6,286.62	7.65	169.36	165.06	0.23	0.00	-9.27	265.65
	NORMAL	6,387.0	1.32	295.00	6,381.60	8.64	167.33	162.88	0.11	-0.09	-1.94	205.05
	NORMAL	6,482.0	1.32	287.70	6,476.57	9.43	165.29	160.74	0.18	0.00	-7.68	266.35
	NORMAL	6,576.0	1.32	259.84	6,570.55	9.57	163.19	158.65	0.68	0.00	-29.64	256.07
	NORMAL	6,671.0	1.67	249.47	6,665.52	8.89	160.82	156.44	0.46	0.37	-10.92	317.04
	NORMAL	6,765.0	1.23	227.24	6,759.49	7.73	158.80	154.67	0.75	-0.47	-23.65	221.21
	NORMAL	6,860.0	1.23	184.08	6,854.47	6.02	157.98	154.17	0.95	0.00	-45.43	248.42
1/30/2014	NORMAL	6,955.0	1.41	141.28	6,949.44	4.09	158.64	155.18	1.03	0.19	-45.05	258.48
	NORMAL	7,050.0	1.58	136.97	7,044.41	2.22	160.26	157.12	0.21	0.18	-4.54	324.35
	NORMAL	7,145.0	1.58	173.11	7,139.38	-0.04	161.31	158.57	1.03	0.00	38.04	108.06

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 (°)
1/30/2014	NORMAL	7,239.0	1.93	186.01	7,233.33	-2.90	161.30	159.08	0.56	0.37	13.72	55.03
	NORMAL	7,334.0	1.74	187.35	7,328.29	-5.92	160.95	159.29	0.21	-0.20	1.41	167.94
	NORMAL	7,429.0	1.32	207.02	7,423.25	-8.33	160.27	159.06	0.70	-0.44	20.71	138.20
	NORMAL	7,524.0	0.86	191.02	7,518.24	-10.00	159.63	158.75	0.58	-0.48	-16.84	205.67
	NORMAL	7,618.0	0.31	198.39	7,612.23	-10.94	159.42	158.71	0.59	-0.59	7.84	175.88
	NORMAL	7,713.0	0.62	211.59	7,707.23	-11.62	159.07	158.49	0.34	0.33	13.89	25.74
	NORMAL	7,808.0	0.79	170.19	7,802.22	-12.70	158.91	158.53	0.55	0.18	-43.58	267.00
	NORMAL	7,903.0	1.85	80.02	7,897.20	-13.08	160.53	160.20	2.12	1.12	-94.92	246.74
1/31/2014	NORMAL	7,997.0	2.02	79.58	7,991.15	-12.52	163.66	163.17	0.18	0.18	-0.47	354.79
	NORMAL	8,092.0	0.97	103.05	8,086.12	-12.40	166.09	165.53	1.26	-1.11	24.71	161.13
	NORMAL	8,187.0	0.44	217.42	8,181.11	-12.87	166.65	166.17	1.28	-0.56	120.39	160.81
	NORMAL	8,281.0	1.32	257.47	8,275.10	-13.39	165.37	165.01	1.09	0.94	42.61	56.11
	NORMAL	8,376.0	1.40	254.77	8,370.07	-13.93	163.18	162.96	0.11	0.08	-2.84	319.95
	NORMAL	8,471.0	0.88	268.90	8,465.06	-14.25	161.33	161.20	0.62	-0.55	14.87	158.54
	NORMAL	8,566.0	1.67	248.42	8,560.03	-14.77	159.32	159.32	0.95	0.83	-21.56	319.52
2/1/2014	NORMAL	8,657.0	1.55	266.77	8,651.00	-15.33	156.86	157.00	0.58	-0.13	20.16	112.17
	NORMAL	8,752.0	2.43	350.77	8,745.95	-13.41	155.25	155.07	2.89	0.93	88.42	118.18
	NORMAL	8,847.0	3.91	14.14	8,840.81	-8.29	155.72	154.58	2.04	1.56	24.60	53.19
	NORMAL	8,941.0	3.62	11.10	8,934.61	-2.27	157.07	154.81	0.37	-0.31	-3.23	213.03
	NORMAL	9,036.0	3.55	28.95	9,029.42	3.25	159.07	155.76	1.17	-0.07	18.79	102.47
2/2/2014	NORMAL	9,131.0	2.58	117.38	9,124.33	4.84	162.40	158.74	4.56	-1.02	93.08	143.42
	NORMAL	9,225.0	2.02	126.34	9,218.26	2.89	165.61	162.25	0.71	-0.60	9.53	151.72
	NORMAL	9,320.0	1.56	137.49	9,313.21	0.94	167.83	164.80	0.61	-0.48	11.74	148.35
	NORMAL	9,415.0	1.73	162.66	9,408.17	-1.38	169.13	166.50	0.77	0.18	26.49	89.55
	NORMAL	9,510.0	1.95	183.21	9,503.12	-4.36	169.47	167.38	0.73	0.23	21.63	82.02
	NORMAL	9,604.0	2.13	207.70	9,597.07	-7.51	168.57	167.07	0.94	0.19	26.05	90.74
	NORMAL	9,699.0	2.24	252.50	9,692.00	-9.63	165.98	164.92	1.76	0.12	47.16	108.89
	NORMAL	9,794.0	2.79	253.81	9,786.91	-10.83	161.99	161.22	0.58	0.58	1.38	6.62
	NORMAL	9,888.0	2.20	269.37	9,880.82	-11.49	157.99	157.40	0.95	-0.63	16.55	138.65
	NORMAL	9,983.0	2.43	276.16	9,975.75	-11.29	154.16	153.61	0.38	0.24	7.15	53.44
	NORMAL	10,077.0	3.01	267.47	10,069.64	-11.19	149.71	149.22	0.76	0.62	-9.24	320.19
	NORMAL	10,172.0	2.59	252.34	10,164.53	-11.95	145.18	144.90	0.89	-0.44	-15.93	232.98
	NORMAL	10,266.0	1.32	229.26	10,258.47	-13.30	142.33	142.35	1.56	-1.35	-24.55	200.62
2/3/2014	NORMAL	10,361.0	2.00	234.27	10,353.43	-14.98	140.16	140.52	0.73	0.72	5.27	14.56
	NORMAL	10,456.0	2.33	243.14	10,448.37	-16.82	137.09	137.84	0.49	0.35	9.34	49.93
	NORMAL	10,551.0	2.47	244.51	10,543.28	-18.58	133.52	134.66	0.16	0.15	1.44	22.97
	NORMAL	10,645.0	2.81	241.12	10,637.18	-20.56	129.67	131.24	0.40	0.36	-3.61	333.63
	NORMAL	10,740.0	2.96	238.46	10,732.06	-22.97	125.54	127.63	0.21	0.16	-2.80	316.92
	NORMAL	10,835.0	3.12	236.34	10,826.93	-25.68	121.30	123.95	0.21	0.17	-2.23	323.84
	NORMAL	10,882.0	3.47	235.07	10,873.85	-27.21	119.07	122.04	0.76	0.74	-2.70	347.58
	NORMAL	10,936.0	3.47	235.07	10,927.75	-29.08	116.39	119.75	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

