

1 General

1.1 Customer Information

Company	PICEANCE HL
Representative	
Address	

1.2 Well/Wellbore Information

Well	RGU 533-24-198	Wellbore No.	00
Wellbore Legal Name	RGU 533-24-198	Common Wellbore Name	RGU 533-24-198
Project	RG 24-01S-098W	Site	RGU 33-24-198 Pad
Vertical Section Azimuth	346.82 (°)	North reference	True
Origin N/S		Origin E/W	
Spud date	4/11/2014	UWI	RGU 533-24-198
Active datum	KB @6,617.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	4/11/2014	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 (°)
4/11/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/11/2014	NORMAL	160.0	1.76	2.55	159.98	2.45	0.11	2.37	1.10	1.10	0.00	2.55
	NORMAL	252.0	4.13	5.80	251.85	7.16	0.51	6.86	2.58	2.58	3.53	5.65
	NORMAL	344.0	4.93	345.50	343.57	14.29	-0.15	13.94	1.93	0.87	-22.07	286.16
	NORMAL	436.0	3.78	333.11	435.30	20.82	-2.51	20.84	1.61	-1.25	-13.47	213.22
	NORMAL	529.0	3.78	351.83	528.10	26.59	-4.33	26.88	1.32	0.00	20.13	99.34
	NORMAL	621.0	3.96	357.63	619.89	32.76	-4.89	33.02	0.47	0.20	6.30	68.22
	NORMAL	713.0	4.05	348.13	711.67	39.12	-5.69	39.38	0.73	0.10	-10.33	272.97
	NORMAL	789.0	3.87	349.25	787.49	44.26	-6.72	44.63	0.26	-0.24	1.47	157.30
	NORMAL	881.0	3.78	345.63	879.28	50.25	-8.06	50.76	0.28	-0.10	-3.93	247.76
	NORMAL	974.0	3.84	346.58	972.08	56.25	-9.54	56.94	0.09	0.06	1.02	46.93
	NORMAL	1,068.0	3.77	345.21	1,065.87	62.30	-11.06	63.18	0.12	-0.07	-1.46	231.72
	NORMAL	1,163.0	3.26	342.95	1,160.69	67.90	-12.65	69.00	0.56	-0.54	-2.38	194.07
	NORMAL	1,258.0	3.43	339.16	1,255.53	73.14	-14.45	74.51	0.29	0.18	-3.99	305.65
4/12/2014	NORMAL	1,352.0	3.16	339.79	1,349.38	78.20	-16.35	79.87	0.29	-0.29	0.67	172.68
	NORMAL	1,447.0	2.56	331.85	1,444.26	82.53	-18.25	84.52	0.76	-0.63	-8.36	209.51
	NORMAL	1,542.0	3.15	336.44	1,539.14	86.79	-20.30	89.13	0.67	0.62	4.83	23.48
	NORMAL	1,637.0	3.73	353.21	1,633.97	92.25	-21.71	94.77	1.22	0.61	17.65	68.59
	NORMAL	1,731.0	3.45	358.03	1,727.79	98.11	-22.16	100.58	0.44	-0.30	5.13	135.24
	NORMAL	1,826.0	3.35	1.64	1,822.62	103.75	-22.18	106.07	0.25	-0.11	3.80	116.83
	NORMAL	1,921.0	6.76	355.87	1,917.24	112.10	-22.51	114.28	3.62	3.59	-6.07	348.64

2.1.2 Survey Stations (Continued)

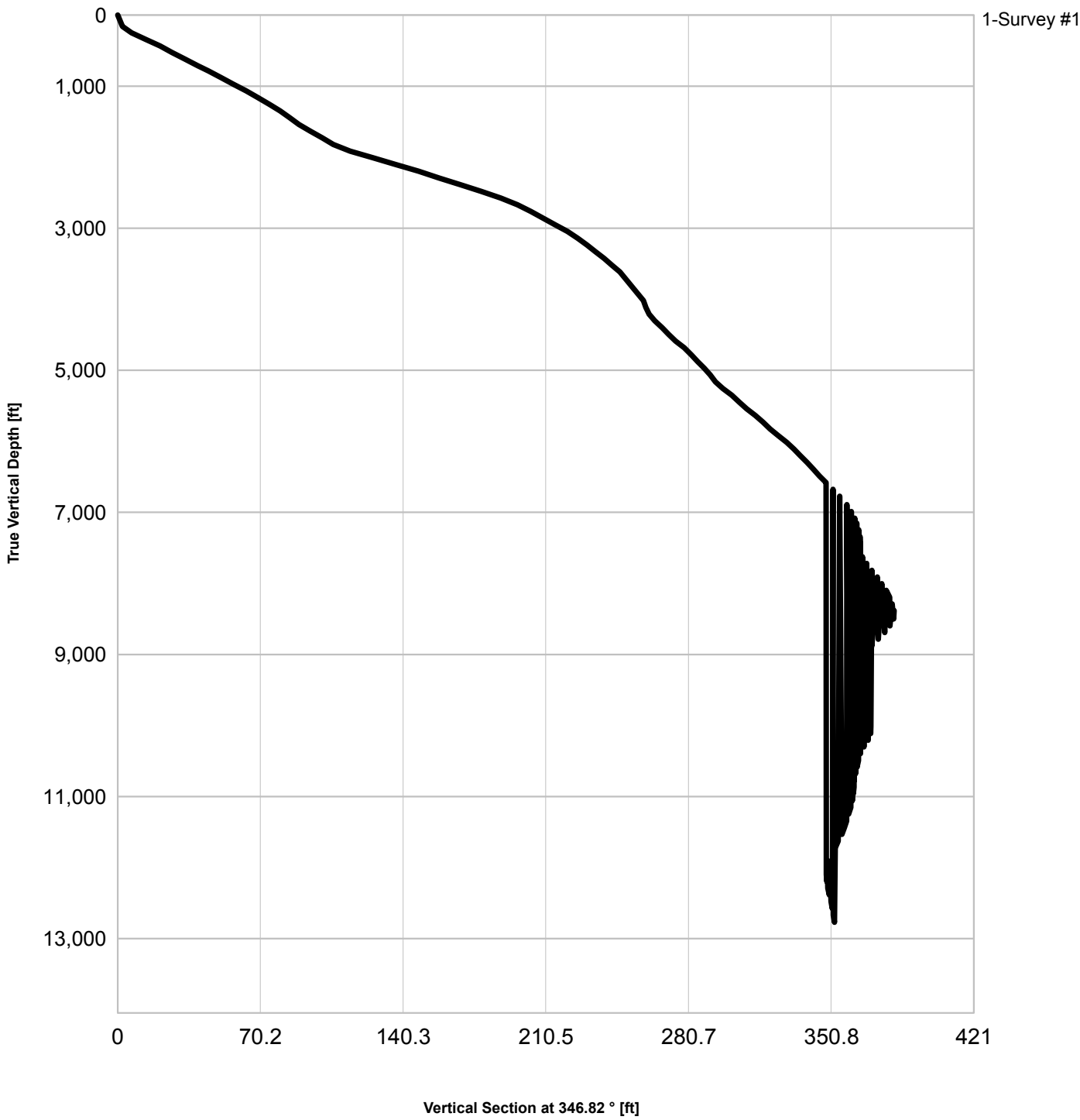
Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
4/12/2014	NORMAL	2,016.0	7.19	359.01	2,011.53	123.62	-23.01	125.61	0.60	0.45	3.31	43.13
	NORMAL	2,111.0	6.99	356.64	2,105.81	135.34	-23.45	137.12	0.37	-0.21	-2.49	234.47
	NORMAL	2,205.0	6.31	353.56	2,199.17	146.18	-24.37	147.88	0.82	-0.72	-3.28	206.15
	NORMAL	2,300.0	6.18	349.89	2,293.61	156.40	-25.85	158.18	0.44	-0.14	-3.86	250.14
	NORMAL	2,395.0	6.60	359.34	2,388.02	166.89	-26.81	168.61	1.19	0.44	9.95	72.97
	NORMAL	2,489.0	6.04	345.09	2,481.46	177.08	-28.15	178.83	1.77	-0.60	-15.16	243.37
	NORMAL	2,584.0	5.63	337.62	2,575.97	186.21	-31.21	188.42	0.91	-0.43	-7.86	237.95
	NORMAL	2,679.0	4.34	347.93	2,670.61	194.04	-33.73	196.62	1.65	-1.36	10.85	150.28
	NORMAL	2,773.0	3.63	347.95	2,764.38	200.43	-35.10	203.15	0.76	-0.76	0.02	179.90
	NORMAL	2,868.0	3.56	348.09	2,859.19	206.25	-36.33	209.11	0.07	-0.07	0.15	172.92
	NORMAL	2,962.0	3.84	348.18	2,953.00	212.19	-37.58	215.17	0.30	0.30	0.10	1.23
	NORMAL	3,057.0	3.39	344.83	3,047.81	218.02	-38.97	221.16	0.52	-0.47	-3.53	203.48
	NORMAL	3,152.0	2.86	341.13	3,142.67	222.97	-40.47	226.32	0.60	-0.56	-3.89	198.99
	NORMAL	3,247.0	2.58	343.05	3,237.56	227.26	-41.86	230.82	0.31	-0.29	2.02	162.93
	NORMAL	3,341.0	2.49	344.08	3,331.47	231.24	-43.04	234.97	0.11	-0.10	1.10	153.67
4/13/2014	NORMAL	3,436.0	2.56	345.62	3,426.38	235.28	-44.13	239.15	0.10	0.07	1.62	44.88
	NORMAL	3,531.0	2.22	351.05	3,521.29	239.16	-44.94	243.10	0.43	-0.36	5.72	149.03
	NORMAL	3,626.0	2.53	353.94	3,616.21	243.06	-45.45	247.02	0.35	0.33	3.04	22.57
4/30/2014	NORMAL	4,031.0	1.06	32.44	4,021.02	255.11	-44.38	258.51	0.45	-0.36	9.51	158.79
	NORMAL	4,126.0	0.93	24.60	4,116.00	256.55	-43.59	259.74	0.20	-0.14	-8.25	222.45
	NORMAL	4,221.0	1.23	5.37	4,210.99	258.27	-43.18	261.31	0.49	0.32	-20.24	299.74
	NORMAL	4,316.0	2.22	347.70	4,305.94	261.08	-43.47	264.12	1.17	1.04	-18.60	322.73
	NORMAL	4,411.0	2.20	346.12	4,400.87	264.65	-44.30	267.78	0.07	-0.02	-1.66	251.04
	NORMAL	4,506.0	1.58	346.47	4,495.82	267.69	-45.04	270.91	0.65	-0.65	0.37	179.11
	NORMAL	4,600.0	2.68	342.60	4,589.75	271.05	-46.01	274.40	1.18	1.17	-4.12	350.61
	NORMAL	4,695.0	2.37	345.94	4,684.66	275.08	-47.15	278.58	0.36	-0.33	3.52	156.27
5/1/2014	NORMAL	4,790.0	1.75	352.92	4,779.60	278.42	-47.80	281.99	0.70	-0.65	7.35	161.43
	NORMAL	4,889.0	1.95	347.52	4,878.55	281.57	-48.35	285.17	0.27	0.20	-5.45	316.20
	NORMAL	4,984.0	2.02	346.21	4,973.49	284.77	-49.10	288.46	0.09	0.07	-1.38	326.39
	NORMAL	5,078.0	1.52	343.12	5,067.45	287.57	-49.86	291.37	0.54	-0.53	-3.29	189.27
	NORMAL	5,173.0	1.67	337.24	5,162.41	290.05	-50.76	293.99	0.23	0.16	-6.19	309.54
	NORMAL	5,268.0	2.72	351.26	5,257.34	293.56	-51.64	297.60	1.23	1.11	14.76	34.21
	NORMAL	5,363.0	2.64	1.15	5,352.24	297.97	-51.94	301.97	0.49	-0.08	10.41	104.73
	NORMAL	5,458.0	1.93	0.79	5,447.16	301.76	-51.87	305.64	0.75	-0.75	-0.38	180.98
	NORMAL	5,552.0	2.55	349.63	5,541.09	305.40	-52.22	309.26	0.80	0.66	-11.87	319.21
	NORMAL	5,647.0	2.64	349.28	5,635.99	309.63	-53.01	313.56	0.10	0.09	-0.37	349.84
	NORMAL	5,742.0	2.00	344.53	5,730.91	313.38	-53.86	317.40	0.70	-0.67	-5.00	194.36
	NORMAL	5,837.0	2.20	342.95	5,825.85	316.72	-54.84	320.88	0.22	0.21	-1.66	343.06
	NORMAL	5,931.0	2.64	352.97	5,919.77	320.59	-55.63	324.83	0.65	0.47	10.66	48.96
	NORMAL	6,026.0	2.37	353.05	6,014.68	324.71	-56.14	328.96	0.28	-0.28	0.08	179.30
	NORMAL	6,121.0	1.93	356.31	6,109.61	328.26	-56.48	332.49	0.48	-0.46	3.43	166.09
	NORMAL	6,215.0	2.02	354.29	6,203.55	331.49	-56.75	335.69	0.12	0.10	-2.15	321.27
	NORMAL	6,310.0	2.02	344.01	6,298.49	334.76	-57.37	339.03	0.38	0.00	-10.82	264.86
	NORMAL	6,405.0	1.85	325.20	6,393.44	337.63	-58.71	342.12	0.69	-0.18	-19.80	245.74
	NORMAL	6,500.0	2.02	325.99	6,488.39	340.28	-60.52	345.11	0.18	0.18	0.83	9.31
5/2/2014	NORMAL	6,595.0	2.20	323.71	6,583.32	343.14	-62.54	348.36	0.21	0.19	-2.40	333.86
	NORMAL	6,689.0	2.29	327.40	6,677.25	346.17	-64.62	351.79	0.18	0.10	3.93	59.94
	NORMAL	6,784.0	1.76	345.33	6,772.19	349.18	-66.01	355.04	0.86	-0.56	18.87	138.64
	NORMAL	6,904.0	1.67	342.62	6,892.14	352.63	-67.00	358.62	0.10	-0.07	-2.26	220.67
	NORMAL	6,999.0	1.01	351.44	6,987.11	354.78	-67.54	360.84	0.73	-0.69	9.28	167.02
	NORMAL	7,094.0	0.95	335.50	7,082.10	356.33	-67.99	362.44	0.29	-0.06	-16.78	249.70
	NORMAL	7,164.0	0.70	327.31	7,152.09	357.22	-68.46	363.42	0.39	-0.36	-11.70	201.20
	NORMAL	7,258.0	0.79	299.27	7,246.09	358.02	-69.33	364.39	0.40	0.10	-29.83	269.58
	NORMAL	7,353.0	0.88	277.12	7,341.08	358.43	-70.63	365.09	0.35	0.09	-23.32	274.32
	NORMAL	7,448.0	0.97	253.66	7,436.06	358.29	-72.12	365.30	0.41	0.09	-24.69	271.46
5/3/2014	NORMAL	7,542.0	0.62	257.17	7,530.05	357.95	-73.38	365.26	0.38	-0.37	3.73	173.83

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 (°)
5/3/2014	NORMAL	7,637.0	1.33	16.71	7,625.05	358.90	-73.57	366.22	1.81	0.75	125.83	137.79
	NORMAL	7,732.0	1.70	21.03	7,720.01	361.27	-72.75	368.34	0.41	0.39	4.55	19.32
	NORMAL	7,827.0	2.40	32.40	7,814.95	364.26	-71.17	370.90	0.85	0.74	11.97	35.92
	NORMAL	7,922.0	2.25	35.30	7,909.87	367.46	-69.03	373.52	0.20	-0.16	3.05	143.34
	NORMAL	8,016.0	2.14	39.33	8,003.81	370.33	-66.85	375.81	0.20	-0.12	4.29	127.48
	NORMAL	8,111.0	1.93	38.06	8,098.75	372.96	-64.74	377.90	0.23	-0.22	-1.34	191.49
	NORMAL	8,206.0	1.95	49.64	8,193.69	375.26	-62.52	379.64	0.41	0.02	12.19	92.88
	NORMAL	8,300.0	1.85	57.66	8,287.64	377.11	-60.02	380.86	0.30	-0.11	8.53	114.59
	NORMAL	8,395.0	2.46	63.02	8,382.57	378.86	-56.91	381.85	0.68	0.64	5.64	20.97
	NORMAL	8,515.0	2.10	100.83	8,502.49	379.61	-52.46	381.57	1.26	-0.30	31.51	121.88
	NORMAL	8,610.0	2.13	113.47	8,597.42	378.58	-49.13	379.81	0.49	0.03	13.31	92.65
	NORMAL	8,704.0	2.07	145.18	8,691.36	376.49	-46.55	377.19	1.22	-0.06	33.73	108.73
	NORMAL	8,799.0	1.98	151.31	8,786.30	373.64	-44.79	374.01	0.25	-0.09	6.45	115.61
	NORMAL	8,894.0	1.90	148.74	8,881.25	370.86	-43.18	370.94	0.12	-0.08	-2.71	226.12
	NORMAL	8,989.0	2.04	189.57	8,976.20	367.85	-42.65	367.88	1.45	0.15	42.98	104.95
	NORMAL	9,083.0	2.62	205.18	9,070.12	364.25	-43.84	364.65	0.91	0.62	16.61	55.55
	NORMAL	9,178.0	2.46	248.23	9,165.03	361.53	-46.66	362.64	1.97	-0.17	45.32	116.07
	NORMAL	9,273.0	2.41	250.12	9,259.95	360.09	-50.43	362.11	0.10	-0.05	1.99	122.85
5/4/2014	NORMAL	9,368.0	2.16	253.66	9,354.87	358.91	-54.02	361.78	0.30	-0.26	3.73	152.31
	NORMAL	9,463.0	1.77	292.48	9,449.82	358.97	-57.10	362.53	1.43	-0.41	40.86	125.13
	NORMAL	9,558.0	1.73	306.44	9,544.78	360.38	-59.61	364.48	0.45	-0.04	14.69	102.31
	NORMAL	9,652.0	1.61	291.85	9,638.74	361.72	-61.97	366.32	0.47	-0.13	-15.52	247.03
	NORMAL	9,747.0	1.10	353.83	9,733.72	363.12	-63.31	367.99	1.54	-0.54	65.24	138.38
	NORMAL	9,842.0	1.58	55.99	9,828.70	364.76	-62.32	369.36	1.52	0.51	65.43	104.52
	NORMAL	9,937.0	1.50	62.04	9,923.66	366.07	-60.14	370.14	0.19	-0.08	6.37	119.20
5/5/2014	NORMAL	10,031.0	1.52	77.46	10,017.63	366.92	-57.84	370.44	0.43	0.02	16.40	94.91
	NORMAL	10,126.0	1.62	81.76	10,112.59	367.39	-55.28	370.31	0.16	0.11	4.53	51.84
	NORMAL	10,221.0	1.44	143.57	10,207.57	366.62	-53.24	369.10	1.66	-0.19	65.06	126.51
	NORMAL	10,316.0	1.26	177.15	10,302.54	364.62	-52.48	366.98	0.84	-0.19	35.35	119.25
	NORMAL	10,410.0	0.77	178.76	10,396.53	362.95	-52.41	365.34	0.52	-0.52	1.71	177.47
	NORMAL	10,505.0	0.44	173.65	10,491.52	361.95	-52.36	364.36	0.35	-0.35	-5.38	186.74
	NORMAL	10,600.0	0.54	197.20	10,586.52	361.16	-52.45	363.61	0.23	0.11	24.79	75.69
5/6/2014	NORMAL	10,694.0	0.95	110.41	10,680.51	360.47	-51.85	362.79	1.13	0.44	-92.33	242.83
	NORMAL	10,789.0	1.05	82.53	10,775.50	360.30	-50.25	362.27	0.52	0.11	-29.35	267.45
	NORMAL	10,884.0	0.73	87.00	10,870.49	360.45	-48.78	362.08	0.34	-0.34	4.71	169.99
	NORMAL	10,978.0	0.42	103.52	10,964.48	360.40	-47.85	361.82	0.37	-0.33	17.57	159.96
	NORMAL	11,073.0	0.41	173.35	11,059.48	359.98	-47.47	361.32	0.50	-0.01	73.51	125.90
	NORMAL	11,168.0	0.69	204.98	11,154.48	359.13	-47.67	360.54	0.42	0.29	33.29	63.87
	NORMAL	11,263.0	0.90	205.63	11,249.47	357.93	-48.24	359.50	0.22	0.22	0.68	2.78
	NORMAL	11,357.0	0.72	207.02	11,343.46	356.74	-48.83	358.48	0.19	-0.19	1.48	174.46
	NORMAL	11,452.0	0.79	193.99	11,438.45	355.58	-49.26	357.44	0.19	0.07	-13.72	285.58
	NORMAL	11,546.0	0.90	172.88	11,532.44	354.21	-49.32	356.13	0.35	0.12	-22.46	278.70
	NORMAL	11,641.0	1.24	155.20	11,627.42	352.54	-48.80	354.38	0.49	0.36	-18.61	306.77
	NORMAL	11,736.0	0.91	209.35	11,722.41	350.95	-48.74	352.82	1.08	-0.35	57.00	133.79
	NORMAL	11,830.0	0.90	187.09	11,816.40	349.57	-49.19	351.57	0.37	-0.01	-23.68	257.26
	NORMAL	11,925.0	0.81	171.01	11,911.39	348.16	-49.18	350.21	0.27	-0.09	-16.93	241.52
	NORMAL	12,020.0	0.79	143.00	12,006.38	346.98	-48.68	348.94	0.41	-0.02	-29.48	253.13
	NORMAL	12,114.0	1.03	264.26	12,100.37	346.37	-49.13	348.45	1.69	0.26	129.00	146.38
5/7/2014	NORMAL	12,209.0	1.14	268.31	12,195.36	346.26	-50.93	348.75	0.14	0.12	4.26	36.92
	NORMAL	12,303.0	1.02	276.38	12,289.34	346.33	-52.69	349.22	0.21	-0.13	8.59	132.26
	NORMAL	12,398.0	0.63	8.89	12,384.33	346.94	-53.45	349.99	1.29	-0.41	97.38	149.00
	NORMAL	12,493.0	0.84	43.39	12,479.33	347.96	-52.89	350.85	0.51	0.22	36.32	82.54
	NORMAL	12,588.0	0.44	40.92	12,574.32	348.74	-52.18	351.45	0.42	-0.42	-2.60	182.71
	NORMAL	12,682.0	0.51	39.22	12,668.32	349.34	-51.67	351.92	0.08	0.07	-1.81	347.77
	NORMAL	12,783.0	0.51	39.22	12,769.31	350.03	-51.11	352.47	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

