

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 314-25-198	Wellbore No.	
Well Name	FEDERAL RGU 314-25-198	Common Name	RGU 314-25-198
Project	RG 25-01S-098W	Site	RGU 24-25-198 Pad
Vertical Section Azimuth	318.48 (°)	North Reference	
Origin N/S		Origin E/W	
Spud Date	7/28/2012	UWI	RGU 314-25-198
Active Datum	KB @6,706.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	7/28/2012	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 (°)
7/28/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/28/2012	NORMAL	250.0	3.96	307.14	249.80	5.21	-6.88	8.47	1.58	1.58	0.00	307.14
	NORMAL	312.0	5.66	309.34	311.58	8.45	-10.96	13.59	2.76	2.74	3.55	7.29
	NORMAL	404.0	7.54	318.06	402.97	15.81	-18.50	24.10	2.31	2.04	9.48	32.44
	NORMAL	496.0	8.79	322.52	494.04	25.88	-26.81	37.15	1.52	1.36	4.85	29.09
	NORMAL	588.0	9.67	321.29	584.84	37.49	-35.92	51.88	0.98	0.96	-1.34	346.76
	NORMAL	680.0	8.18	321.55	675.73	48.64	-44.82	66.13	1.62	-1.62	0.28	178.58
	NORMAL	772.0	8.62	322.70	766.74	59.25	-53.07	79.55	0.51	0.48	1.25	21.47
	NORMAL	867.0	9.06	320.32	860.61	70.67	-62.16	94.12	0.60	0.46	-2.51	319.09
	NORMAL	961.0	9.23	319.27	953.42	82.08	-71.81	109.06	0.25	0.18	-1.12	315.01
	NORMAL	1,054.0	7.83	316.72	1,045.39	92.35	-81.02	122.85	1.56	-1.51	-2.74	193.86
	NORMAL	1,148.0	7.81	314.42	1,138.51	101.48	-89.97	135.62	0.33	-0.02	-2.45	265.20
	NORMAL	1,243.0	7.79	314.65	1,232.63	110.52	-99.16	148.48	0.04	-0.02	0.24	122.76
	NORMAL	1,336.0	8.27	319.97	1,324.72	120.07	-107.94	161.46	0.95	0.52	5.72	59.79
	NORMAL	1,430.0	8.53	315.58	1,417.71	130.23	-117.17	175.18	0.74	0.28	-4.67	289.89
	NORMAL	1,525.0	7.30	315.93	1,511.81	139.60	-126.30	188.24	1.30	-1.29	0.37	177.93
	NORMAL	1,620.0	7.74	319.71	1,605.99	148.81	-134.64	200.67	0.70	0.46	3.98	50.23
	NORMAL	1,714.0	7.74	318.30	1,699.13	158.37	-142.94	213.33	0.20	0.00	-1.50	269.30
	NORMAL	1,809.0	7.55	315.89	1,793.29	167.63	-151.54	225.96	0.39	-0.20	-2.54	238.16
	NORMAL	1,903.0	8.38	316.26	1,886.38	177.01	-160.57	238.97	0.88	0.88	0.39	3.72

2.1.2 Survey Stations (Continued)

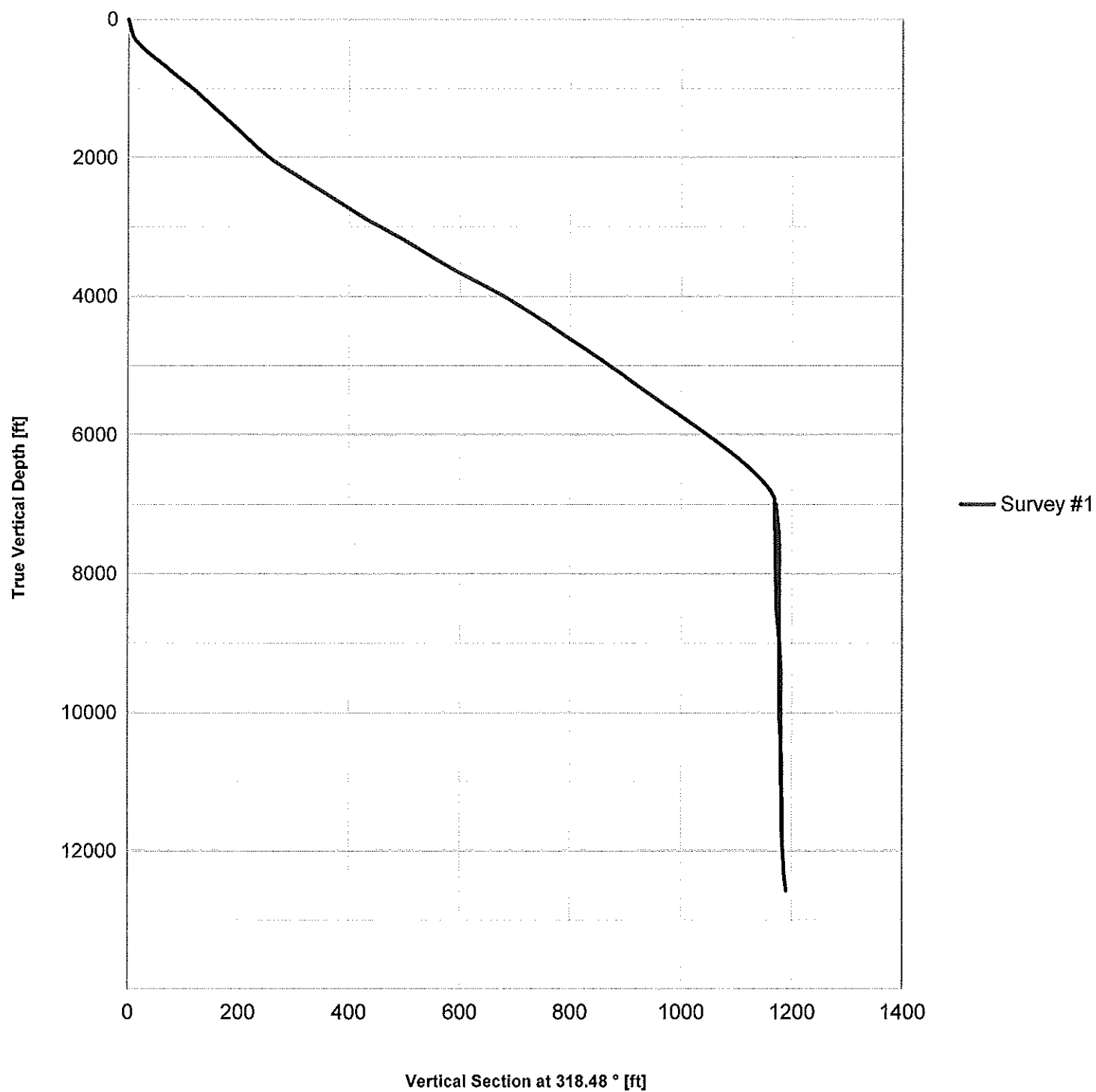
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
7/28/2012	NORMAL	1,996.0	9.33	322.58	1,978.28	187.89	-169.84	253.26	1.46	1.02	6.80	48.83
	NORMAL	2,091.0	9.67	322.78	2,071.97	200.36	-179.35	268.90	0.36	0.36	0.21	5.64
7/29/2012	NORMAL	2,941.0	13.25	334.11	2,905.00	344.91	-265.10	433.97	0.50	0.42	1.33	37.81
	NORMAL	3,035.0	13.01	327.44	2,996.54	363.52	-275.50	454.80	1.63	-0.26	-7.10	257.76
	NORMAL	3,129.0	12.40	319.27	3,088.25	380.09	-287.78	475.34	2.02	-0.65	-8.69	247.29
	NORMAL	3,221.0	12.22	317.60	3,178.13	394.76	-300.79	494.96	0.43	-0.20	-1.82	242.37
	NORMAL	3,316.0	11.70	315.49	3,271.07	409.06	-314.32	514.63	0.72	-0.55	-2.22	219.03
	NORMAL	3,410.0	11.34	314.17	3,363.18	422.29	-327.63	533.36	0.47	-0.38	-1.40	215.57
	NORMAL	3,505.0	12.15	313.97	3,456.19	435.74	-341.53	552.64	0.85	0.85	-0.21	357.02
	NORMAL	3,599.0	12.63	314.01	3,548.00	449.75	-356.04	572.75	0.51	0.51	0.04	1.04
	NORMAL	3,694.0	12.69	313.85	3,640.69	464.19	-371.03	593.50	0.07	0.06	-0.17	329.62
	NORMAL	3,788.0	13.81	314.52	3,732.19	479.21	-386.48	614.99	1.20	1.19	0.71	8.13
	NORMAL	3,883.0	13.89	313.73	3,824.42	495.05	-402.80	637.66	0.22	0.08	-0.83	292.55
	NORMAL	3,907.0	13.89	313.55	3,847.72	499.02	-406.97	643.40	0.18	0.00	-0.75	269.91
8/13/2012	NORMAL	3,997.0	12.75	312.76	3,935.30	513.21	-422.09	664.05	1.28	-1.27	-0.88	188.69
	NORMAL	4,091.0	12.40	308.50	4,027.05	526.53	-437.61	684.31	1.05	-0.37	-4.53	247.25
	NORMAL	4,185.0	11.36	308.30	4,119.03	538.55	-452.77	703.36	1.11	-1.11	-0.21	182.17
	NORMAL	4,280.0	11.24	309.81	4,212.19	550.28	-467.23	721.73	0.34	-0.13	1.59	112.82
	NORMAL	4,375.0	11.43	320.85	4,305.35	563.51	-480.28	740.29	2.29	0.20	11.62	90.42
	NORMAL	4,469.0	11.43	328.14	4,397.49	578.64	-491.08	758.77	1.54	0.00	7.76	93.57
	NORMAL	4,563.0	9.22	323.24	4,489.96	592.59	-500.51	775.46	2.53	-2.35	-5.21	199.27
	NORMAL	4,659.0	11.43	324.54	4,584.40	606.50	-510.63	792.59	2.31	2.30	1.35	6.66
	NORMAL	4,753.0	11.52	318.30	4,676.53	621.10	-522.28	811.24	1.32	0.10	-6.64	271.08
	NORMAL	4,847.0	10.02	314.87	4,768.87	633.88	-534.32	828.79	1.73	-1.60	-3.65	201.46
	NORMAL	4,941.0	9.85	317.60	4,861.46	645.58	-545.53	844.99	0.53	-0.18	2.90	111.19
	NORMAL	5,035.0	10.64	320.15	4,953.96	658.18	-556.52	861.70	0.97	0.84	2.71	31.12
	NORMAL	5,130.0	9.85	319.62	5,047.45	671.11	-567.40	878.59	0.84	-0.83	-0.56	186.54
	NORMAL	5,224.0	9.94	314.10	5,140.05	682.88	-578.44	894.72	1.01	0.10	-5.87	272.70
	NORMAL	5,319.0	9.41	312.24	5,233.70	693.80	-590.07	910.62	0.65	-0.56	-1.96	209.62
	NORMAL	5,413.0	10.29	314.43	5,326.31	704.85	-601.76	926.63	1.02	0.94	2.33	24.14
	NORMAL	5,507.0	10.02	316.37	5,418.84	716.64	-613.40	943.18	0.46	-0.29	2.06	129.24
	NORMAL	5,602.0	9.94	317.33	5,512.40	728.65	-624.66	959.63	0.19	-0.08	1.01	116.15
	NORMAL	5,696.0	10.82	321.73	5,604.87	741.55	-635.62	976.55	1.26	0.94	4.68	44.19
8/14/2012	NORMAL	5,790.0	9.76	318.83	5,697.35	754.42	-646.38	993.33	1.25	-1.13	-3.09	204.62
	NORMAL	5,884.0	9.94	317.16	5,789.97	766.37	-657.14	1,009.41	0.36	0.19	-1.78	301.39
	NORMAL	5,978.0	10.64	319.36	5,882.45	778.90	-668.31	1,026.19	0.85	0.74	2.34	30.40
	NORMAL	6,072.0	9.67	317.33	5,974.98	791.29	-679.31	1,042.76	1.10	-1.03	-2.16	199.26
	NORMAL	6,167.0	9.23	318.21	6,068.69	802.84	-689.80	1,058.36	0.49	-0.46	0.93	162.25
	NORMAL	6,261.0	9.50	315.84	6,161.44	814.03	-700.23	1,073.65	0.50	0.29	-2.52	303.82
	NORMAL	6,356.0	9.23	310.13	6,255.18	824.56	-711.51	1,089.02	1.02	-0.28	-6.01	250.99
	NORMAL	6,450.0	8.94	309.79	6,348.00	834.09	-722.89	1,103.70	0.31	-0.31	-0.36	190.32
	NORMAL	6,544.0	8.09	320.94	6,440.97	843.90	-732.67	1,117.53	1.97	-0.90	11.86	122.68
	NORMAL	6,639.0	7.53	317.00	6,535.08	853.65	-741.13	1,130.43	0.82	-0.59	-4.15	221.77
	NORMAL	6,732.0	6.86	311.01	6,627.35	861.75	-749.48	1,142.03	1.08	-0.72	-6.44	225.29
	NORMAL	6,825.0	6.07	316.37	6,719.76	868.95	-757.06	1,152.45	1.07	-0.85	5.76	145.26
	NORMAL	6,920.0	5.01	325.42	6,814.32	876.00	-762.88	1,161.58	1.44	-1.12	9.53	144.95
	NORMAL	7,015.0	3.34	336.93	6,909.06	881.97	-766.32	1,168.33	1.96	-1.76	12.12	159.02
8/15/2012	NORMAL	7,109.0	1.19	345.91	7,002.99	885.43	-767.63	1,171.79	2.31	-2.29	9.55	175.09
	NORMAL	7,204.0	0.79	334.65	7,097.97	886.98	-768.15	1,173.30	0.47	-0.42	-11.85	200.38
	NORMAL	7,299.0	0.70	325.42	7,192.96	888.05	-768.76	1,174.50	0.16	-0.09	-9.72	228.58
	NORMAL	7,393.0	0.88	292.99	7,286.96	888.80	-769.75	1,175.72	0.50	0.19	-34.50	275.18
	NORMAL	7,487.0	0.88	254.84	7,380.94	888.90	-771.11	1,176.70	0.61	0.00	-40.59	250.93
	NORMAL	7,581.0	0.56	36.32	7,474.94	889.08	-771.54	1,177.11	1.45	-0.34	150.51	165.18
	NORMAL	7,675.0	0.35	246.67	7,568.94	889.34	-771.53	1,177.30	0.94	-0.22	-159.20	191.59
	NORMAL	7,770.0	0.26	222.59	7,663.94	889.06	-771.94	1,177.37	0.16	-0.09	-25.35	223.29
	NORMAL	7,864.0	0.29	123.01	7,757.94	888.78	-771.89	1,177.12	0.45	0.03	-105.94	222.85
	NORMAL	7,958.0	1.32	65.35	7,851.93	889.10	-770.70	1,176.57	1.27	1.10	-61.34	290.46

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 (°)
8/15/2012	NORMAL	8,053.0	0.97	65.18	7,946.91	889.89	-768.98	1,176.02	0.37	-0.37	-0.18	180.47
	NORMAL	8,147.0	0.44	117.21	8,040.90	890.06	-767.93	1,175.46	0.83	-0.56	55.35	153.62
	NORMAL	8,242.0	0.70	160.80	8,135.90	889.35	-767.42	1,174.58	0.51	0.27	45.88	82.09
	NORMAL	8,337.0	0.78	179.44	8,230.89	888.15	-767.22	1,173.56	0.27	0.08	19.62	81.09
	NORMAL	8,431.0	1.06	189.01	8,324.88	886.65	-767.35	1,172.52	0.34	0.30	10.18	33.60
	NORMAL	8,525.0	0.44	166.95	8,418.87	885.44	-767.41	1,171.65	0.72	-0.66	-23.47	194.22
	NORMAL	8,619.0	0.62	271.72	8,512.87	885.11	-767.83	1,171.68	0.90	0.19	111.46	134.93
	NORMAL	8,714.0	1.85	19.12	8,607.85	886.57	-767.85	1,172.79	2.23	1.29	113.05	123.60
8/16/2012	NORMAL	8,809.0	1.85	27.30	8,702.80	889.38	-766.64	1,174.09	0.28	0.00	8.61	94.09
	NORMAL	8,904.0	1.49	22.64	8,797.76	891.88	-765.46	1,175.19	0.40	-0.38	-4.91	198.35
	NORMAL	8,998.0	1.32	14.73	8,891.73	894.06	-764.72	1,176.32	0.27	-0.18	-8.41	224.86
	NORMAL	9,092.0	0.79	7.26	8,985.72	895.75	-764.36	1,177.35	0.58	-0.56	-7.95	190.83
	NORMAL	9,186.0	0.53	317.86	9,079.71	896.71	-764.57	1,178.21	0.64	-0.28	-52.55	222.12
	NORMAL	9,280.0	1.06	270.58	9,173.70	897.05	-765.73	1,179.23	0.85	0.56	-50.30	283.65
	NORMAL	9,374.0	1.49	242.28	9,267.68	896.49	-767.68	1,180.10	0.80	0.46	-30.11	289.63
	NORMAL	9,469.0	1.58	227.86	9,362.65	895.03	-769.74	1,180.38	0.42	0.09	-15.18	275.84
8/17/2012	NORMAL	9,564.0	1.23	183.56	9,457.62	893.14	-770.78	1,179.65	1.17	-0.37	-46.63	230.84
	NORMAL	9,658.0	1.32	207.73	9,551.60	891.17	-771.35	1,178.55	0.58	0.10	25.71	92.72
	NORMAL	9,753.0	1.14	223.12	9,646.58	889.51	-772.50	1,178.08	0.39	-0.19	16.20	126.13
	NORMAL	9,848.0	0.26	53.05	9,741.57	888.95	-772.97	1,177.97	1.47	-0.93	-179.02	181.84
	NORMAL	9,942.0	0.26	136.10	9,835.57	888.93	-772.66	1,177.74	0.37	0.00	88.35	131.52
	NORMAL	10,037.0	0.35	176.88	9,930.57	888.48	-772.49	1,177.30	0.24	0.09	42.93	88.74
	NORMAL	10,131.0	0.26	294.13	10,024.57	888.28	-772.67	1,177.27	0.56	-0.10	124.73	153.77
	NORMAL	10,225.0	0.44	263.28	10,118.57	888.33	-773.22	1,177.67	0.27	0.19	-32.82	297.56
8/18/2012	NORMAL	10,320.0	0.53	310.57	10,213.56	888.57	-773.92	1,178.31	0.42	0.09	49.78	101.68
	NORMAL	10,414.0	0.44	255.20	10,307.56	888.76	-774.60	1,178.90	0.49	-0.10	-58.90	232.29
	NORMAL	10,508.0	0.59	281.34	10,401.56	888.76	-775.42	1,179.45	0.29	0.16	27.81	70.97
	NORMAL	10,588.0	0.70	265.83	10,481.55	888.81	-776.31	1,180.08	0.26	0.14	-19.39	294.30
	NORMAL	10,668.0			10,561.55	888.77	-776.80	1,180.37	0.88	-0.88	0.00	180.00
	NORMAL	10,682.0	0.79	305.47	10,575.54	889.14	-777.41	1,181.06	0.54	0.10	42.17	100.30
	NORMAL	10,777.0	0.26	213.18	10,670.54	889.34	-778.06	1,181.64	0.89	-0.56	-97.15	197.98
	NORMAL	10,870.0	0.62	169.50	10,763.54	888.67	-778.09	1,181.15	0.50	0.39	-46.97	293.75
8/19/2012	NORMAL	10,965.0	0.70	109.38	10,858.53	887.97	-777.45	1,180.20	0.70	0.08	-63.28	245.92
	NORMAL	11,059.0	0.62	9.54	10,952.53	888.29	-776.82	1,180.02	1.08	-0.09	-106.21	217.16
	NORMAL	11,153.0	0.35	315.40	11,046.53	888.99	-776.94	1,180.63	0.53	-0.29	-57.60	214.36
	NORMAL	11,248.0	0.97	303.01	11,141.52	889.64	-777.82	1,181.69	0.67	0.65	-13.04	340.79
	NORMAL	11,342.0	0.35	246.93	11,235.51	889.96	-778.75	1,182.55	0.88	-0.66	-59.66	200.55
	NORMAL	11,436.0	0.97	227.51	11,329.51	889.31	-779.60	1,182.63	0.69	0.66	-20.66	330.27
	NORMAL	11,531.0	1.06	203.87	11,424.49	887.96	-780.55	1,182.25	0.45	0.09	-24.88	270.14
	NORMAL	11,625.0	0.35	109.91	11,518.49	887.07	-780.63	1,181.63	1.21	-0.76	-99.96	197.85
8/20/2012	NORMAL	11,719.0	0.26	95.85	11,612.49	886.95	-780.15	1,181.22	0.12	-0.10	-14.96	212.86
	NORMAL	11,813.0	0.44	258.45	11,706.48	886.85	-780.29	1,181.25	0.74	0.19	172.98	169.05
	NORMAL	11,907.0	0.88	280.33	11,800.48	886.91	-781.35	1,182.00	0.53	0.47	23.28	41.05
	NORMAL	12,002.0	1.14	259.24	11,895.46	886.87	-783.00	1,183.05	0.47	0.27	-22.20	294.12
	NORMAL	12,096.0	0.88	252.38	11,989.45	886.47	-784.61	1,183.82	0.30	-0.28	-7.30	201.54
	NORMAL	12,190.0	0.97	251.33	12,083.44	886.00	-786.05	1,184.43	0.10	0.10	-1.12	348.81
	NORMAL	12,284.0	1.14	253.79	12,177.42	885.48	-787.70	1,185.13	0.19	0.18	2.62	16.15
	NORMAL	12,378.0	1.58	239.11	12,271.39	884.56	-789.71	1,185.77	0.59	0.47	-15.62	314.13
	NORMAL	12,472.0	2.11	242.98	12,365.35	883.11	-792.36	1,186.45	0.58	0.56	4.12	15.17
	NORMAL	12,567.0	3.08	248.08	12,460.25	881.36	-796.29	1,187.74	1.05	1.02	5.37	15.95
	NORMAL	12,681.0	3.08	248.08	12,574.08	879.07	-801.97	1,189.79	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

