

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 423-25-198	Wellbore No.	
Well Name	FEDERAL RGU 423-25-198	Common Name	RGU 423-25-198
Project	RG 25-01S-098W	Site	RGU 24-25-198 Pad
Vertical Section Azimuth	17.23 (°)	North Reference	
Origin N/S		Origin E/W	
Spud Date	7/23/2012	UWI	RGU 423-25-198
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	7/23/2012	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 (°)
7/23/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/23/2012	NORMAL	256.0	3.96	22.99	255.80	8.14	3.45	8.80	1.55	1.55	0.00	22.99
	NORMAL	348.0	5.53	22.50	347.48	15.16	6.39	16.37	1.71	1.71	-0.53	358.28
	NORMAL	440.0	7.81	19.53	438.85	25.15	10.18	27.04	2.51	2.48	-3.23	349.92
	NORMAL	532.0	10.11	19.36	529.72	38.66	14.94	41.35	2.50	2.50	-0.18	359.26
	NORMAL	624.0	11.49	14.14	620.09	55.17	19.86	58.57	1.84	1.50	-5.67	322.09
	NORMAL	716.0	12.84	15.69	710.02	73.89	24.86	77.94	1.51	1.47	1.68	14.36
	NORMAL	810.0	13.45	15.96	801.56	94.46	30.69	99.31	0.65	0.65	0.29	5.88
	NORMAL	905.0	13.63	15.61	893.92	115.86	36.74	121.55	0.21	0.19	-0.37	335.35
	NORMAL	998.0	13.45	19.21	984.34	136.63	43.25	143.31	0.93	-0.19	3.87	103.80
	NORMAL	1,092.0	13.98	19.56	1,075.66	157.65	50.65	165.58	0.57	0.56	0.37	9.07
	NORMAL	1,186.0	14.60	16.66	1,166.75	179.70	57.85	188.77	1.01	0.66	-3.09	309.49
	NORMAL	1,282.0	13.63	15.61	1,259.85	202.19	64.36	212.18	1.04	-1.01	-1.09	194.28
	NORMAL	1,375.0	13.63	15.17	1,350.23	223.32	70.18	234.08	0.11	0.00	-0.47	269.79
	NORMAL	1,469.0	13.13	17.27	1,441.68	244.20	76.24	255.83	0.74	-0.53	2.23	136.83
	NORMAL	1,564.0	12.84	15.03	1,534.25	264.70	82.19	277.17	0.61	-0.31	-2.36	238.96
	NORMAL	1,659.0	13.01	15.87	1,626.84	285.18	87.85	298.41	0.27	0.18	0.88	48.27
	NORMAL	1,745.0	13.37	16.92	1,710.57	304.01	93.39	318.03	0.50	0.42	1.22	34.16
	NORMAL	1,840.0	13.42	18.32	1,802.99	324.98	100.05	340.03	0.35	0.05	1.47	81.92
7/26/2012	NORMAL	1,913.0	13.63	17.89	1,873.97	341.21	105.36	357.10	0.32	0.29	-0.59	334.20

2.1.2 Survey Stations (Continued)

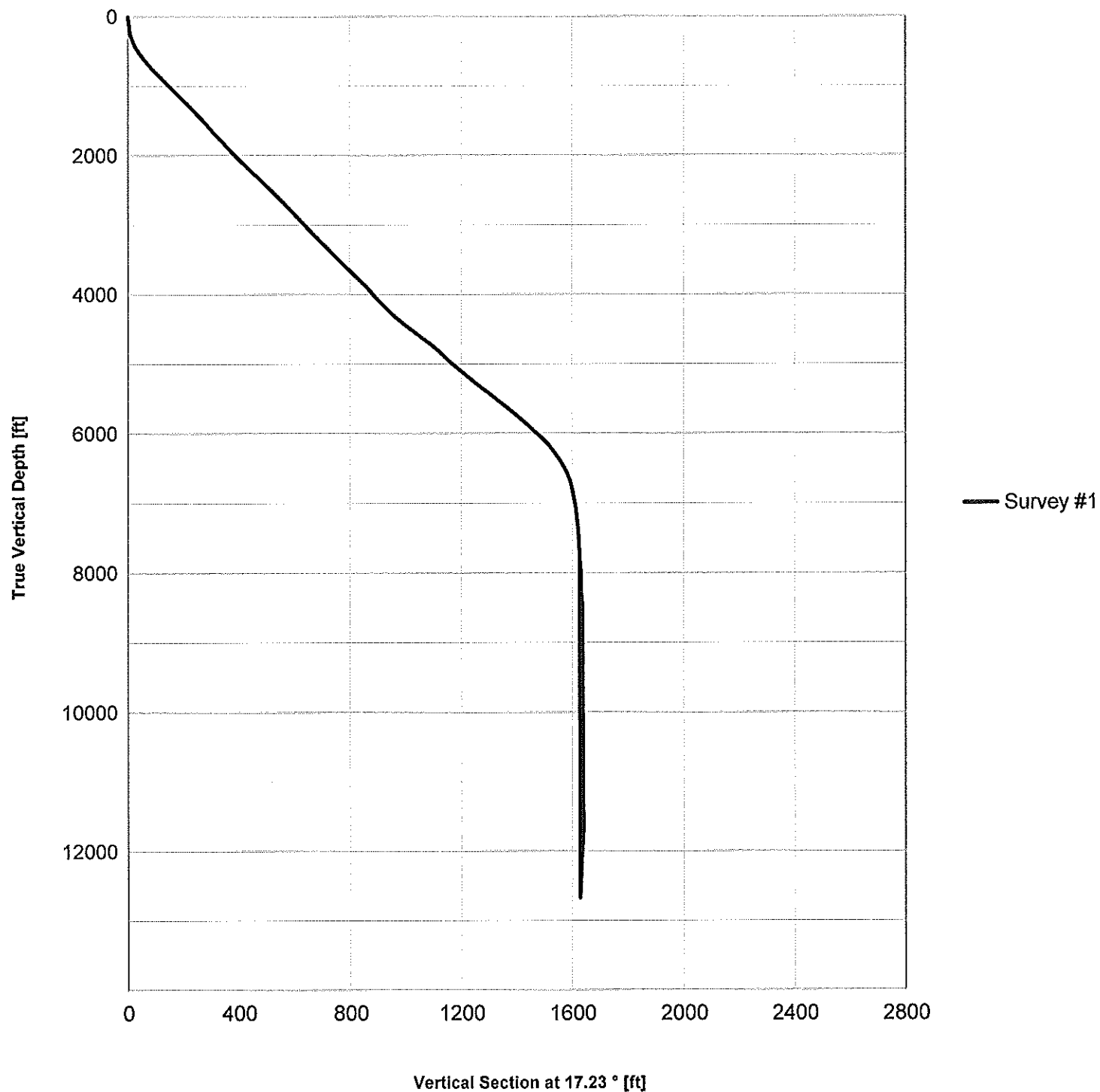
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (%/100ft)	Build Rate (%/100ft)	Turn (%/100ft)	TFace (°)
7/26/2012	NORMAL	2,007.0	13.72	18.77	1,965.30	362.30	112.34	379.32	0.24	0.10	0.94	67.03
	NORMAL	2,100.0	13.63	19.74	2,055.66	383.06	119.59	401.29	0.26	-0.10	1.04	111.90
	NORMAL	2,384.0	14.98	21.70	2,330.85	448.66	144.47	471.32	0.50	0.48	0.69	20.69
7/27/2012	NORMAL	2,573.0	14.38	14.12	2,513.70	494.12	159.23	519.11	1.06	-0.32	-4.01	249.01
7/27/2012	NORMAL	2,667.0	14.35	15.79	2,604.76	516.65	165.24	542.41	0.44	-0.03	1.78	94.95
	NORMAL	2,761.0	13.28	9.54	2,696.05	538.51	170.20	564.76	1.95	-1.14	-6.65	231.35
	NORMAL	2,950.0	13.67	9.01	2,879.84	581.97	177.30	608.37	0.22	0.21	-0.28	342.17
	NORMAL	3,044.0	13.10	16.98	2,971.30	603.13	182.15	630.02	2.05	-0.61	8.48	111.02
	NORMAL	3,138.0	12.72	16.25	3,062.92	623.26	188.16	651.02	0.44	-0.40	-0.78	202.87
	NORMAL	3,230.0	13.15	17.70	3,152.59	642.95	194.17	671.61	0.59	0.47	1.58	37.75
	NORMAL	3,325.0	14.25	19.21	3,244.88	664.29	201.31	694.11	1.22	1.16	1.59	18.74
	NORMAL	3,419.0	13.87	18.82	3,336.07	685.88	208.75	716.93	0.42	-0.40	-0.41	193.81
	NORMAL	3,514.0	13.97	19.26	3,428.28	707.48	216.20	739.77	0.15	0.11	0.46	46.84
	NORMAL	3,608.0	14.33	18.59	3,519.43	729.22	223.65	762.74	0.42	0.38	-0.71	335.21
	NORMAL	3,703.0	14.20	18.53	3,611.50	751.41	231.11	786.14	0.14	-0.14	-0.06	186.46
	NORMAL	3,797.0	14.75	17.99	3,702.51	773.72	238.47	809.64	0.60	0.59	-0.57	345.95
	NORMAL	3,880.0	15.04	17.45	3,782.72	794.05	244.96	830.97	0.39	0.35	-0.65	334.16
8/22/2012	NORMAL	3,997.0	13.28	13.94	3,896.17	821.57	252.75	859.57	1.67	-1.50	-3.00	204.31
	NORMAL	4,091.0	11.06	15.11	3,988.05	840.76	257.70	879.36	2.38	-2.36	1.24	174.23
	NORMAL	4,185.0	13.19	21.85	4,079.95	859.42	264.04	899.06	2.72	2.27	7.17	36.94
	NORMAL	4,280.0	14.33	17.54	4,172.22	880.69	271.62	921.62	1.61	1.20	-4.54	315.93
	NORMAL	4,374.0	14.77	26.15	4,263.22	902.54	280.41	945.10	2.35	0.47	9.16	82.69
	NORMAL	4,469.0	15.74	24.92	4,354.87	925.10	291.17	969.83	1.08	1.02	-1.29	340.95
	NORMAL	4,563.0	18.38	20.09	4,444.73	950.58	301.64	997.27	3.19	2.81	-5.14	329.45
	NORMAL	4,658.0	18.11	18.42	4,534.96	978.66	311.45	1,026.99	0.62	-0.28	-1.76	241.90
	NORMAL	4,753.0	19.35	21.58	4,624.93	1,007.31	321.90	1,057.45	1.69	1.31	3.33	40.80
	NORMAL	4,847.0	17.32	18.42	4,714.15	1,035.07	332.05	1,086.97	2.40	-2.16	-3.36	204.60
	NORMAL	4,941.0	16.09	19.91	4,804.18	1,060.59	340.91	1,113.97	1.39	-1.31	1.59	161.51
	NORMAL	5,035.0	14.11	19.49	4,894.93	1,083.64	349.17	1,138.44	2.11	-2.11	-0.45	182.96
	NORMAL	5,130.0	16.27	21.93	4,986.61	1,106.90	358.01	1,163.27	2.37	2.27	2.57	17.67
	NORMAL	5,224.0	17.06	19.91	5,076.66	1,132.08	367.62	1,190.17	1.04	0.84	-2.15	322.78
	NORMAL	5,318.0	16.62	15.78	5,166.63	1,157.99	375.97	1,217.39	1.36	-0.47	-4.39	247.84
	NORMAL	5,413.0	17.76	17.89	5,257.39	1,184.85	384.12	1,245.46	1.37	1.20	2.22	29.69
	NORMAL	5,507.0	18.38	19.56	5,346.75	1,212.46	393.48	1,274.60	0.86	0.66	1.78	40.67
	NORMAL	5,601.0	18.20	19.74	5,436.00	1,240.24	403.40	1,304.07	0.20	-0.19	0.19	162.66
	NORMAL	5,696.0	17.59	17.80	5,526.41	1,267.87	412.80	1,333.25	0.90	-0.64	-2.04	223.42
	NORMAL	5,790.0	17.67	17.10	5,615.99	1,295.03	421.34	1,361.72	0.24	0.09	-0.74	290.34
	NORMAL	5,883.0	17.06	16.31	5,704.76	1,321.61	429.32	1,389.47	0.70	-0.66	-0.85	200.76
	NORMAL	5,978.0	15.74	15.96	5,795.89	1,347.38	436.78	1,416.29	1.39	-1.39	-0.37	184.11
	NORMAL	6,072.0	16.09	15.96	5,886.29	1,372.16	443.87	1,442.06	0.37	0.37	0.00	0.00
	NORMAL	6,166.0	15.04	14.81	5,976.84	1,396.48	450.56	1,467.27	1.16	-1.12	-1.22	195.82
	NORMAL	6,261.0	14.60	15.61	6,068.68	1,419.93	456.94	1,491.55	0.51	-0.46	0.84	155.45
8/23/2012	NORMAL	6,356.0	12.75	15.08	6,160.98	1,441.58	462.89	1,514.00	1.95	-1.95	-0.56	183.62
	NORMAL	6,450.0	10.64	20.53	6,253.03	1,459.73	468.63	1,533.03	2.53	-2.24	5.80	155.01
	NORMAL	6,544.0	9.85	22.11	6,345.53	1,475.30	474.70	1,549.71	0.89	-0.84	1.68	161.19
	NORMAL	6,639.0	8.44	17.01	6,439.32	1,489.50	479.80	1,564.77	1.71	-1.48	-5.37	207.39
	NORMAL	6,731.0	7.12	16.48	6,530.47	1,501.42	483.39	1,577.23	1.44	-1.43	-0.58	182.85
	NORMAL	6,825.0	5.80	9.98	6,623.87	1,511.69	485.87	1,587.76	1.60	-1.40	-6.91	205.78
	NORMAL	6,920.0	3.78	8.05	6,718.53	1,519.52	487.14	1,595.62	2.13	-2.13	-2.03	183.60
	NORMAL	7,014.0	3.17	22.02	6,812.36	1,524.99	488.55	1,601.27	1.11	-0.65	14.86	132.61
	NORMAL	7,109.0	2.64	24.57	6,907.24	1,529.42	490.44	1,606.06	0.57	-0.56	2.68	167.57
	NORMAL	7,204.0	2.29	36.52	7,002.15	1,532.93	492.48	1,610.02	0.65	-0.37	12.58	130.13
	NORMAL	7,298.0	2.11	26.15	7,096.08	1,536.00	494.36	1,613.50	0.46	-0.19	-11.03	240.55
	NORMAL	7,393.0	1.67	25.99	7,191.03	1,538.81	495.74	1,616.59	0.46	-0.46	-0.17	180.61
	NORMAL	7,487.0	1.23	30.72	7,285.00	1,540.91	496.85	1,618.93	0.48	-0.47	5.03	167.14
	NORMAL	7,581.0	1.58	350.38	7,378.98	1,543.05	497.15	1,621.07	1.09	0.37	-42.91	268.57
	NORMAL	7,676.0	1.14	340.27	7,473.95	1,545.23	496.61	1,622.99	0.53	-0.46	-10.64	203.61

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 (°)
8/23/2012	NORMAL	7,770.0	0.97	352.93	7,567.93	1,546.90	496.20	1,624.46	0.31	-0.18	13.47	132.32
	NORMAL	7,864.0	1.22	354.54	7,661.92	1,548.69	496.01	1,626.11	0.27	0.27	1.71	7.82
	NORMAL	7,958.0	1.14	356.71	7,755.90	1,550.62	495.86	1,627.91	0.10	-0.09	2.31	151.89
8/24/2012	NORMAL	8,053.0	0.97	9.10	7,850.88	1,552.36	495.93	1,629.59	0.30	-0.18	13.04	132.78
	NORMAL	8,147.0	0.62	18.15	7,944.87	1,553.63	496.21	1,630.89	0.39	-0.37	9.63	164.75
	NORMAL	8,242.0	0.26	26.94	8,039.87	1,554.31	496.47	1,631.61	0.38	-0.38	9.25	173.75
	NORMAL	8,336.0	0.26	67.02	8,133.87	1,554.58	496.77	1,631.96	0.19	0.00	42.64	110.04
	NORMAL	8,431.0	0.74	6.62	8,228.86	1,555.27	497.03	1,632.70	0.69	0.51	-63.58	279.31
	NORMAL	8,525.0	1.14	358.29	8,322.85	1,556.81	497.08	1,634.19	0.45	0.43	-8.86	336.94
	NORMAL	8,619.0	1.06	1.81	8,416.83	1,558.61	497.08	1,635.91	0.11	-0.09	3.74	141.56
	NORMAL	8,714.0	0.88	330.96	8,511.82	1,560.13	496.75	1,637.26	0.57	-0.19	-32.47	235.99
	NORMAL	8,804.0	1.23	283.06	8,601.81	1,560.95	495.47	1,637.67	1.02	0.39	-53.22	266.53
8/25/2012	NORMAL	8,899.0	1.14	275.41	8,696.79	1,561.27	493.54	1,637.40	0.19	-0.09	-8.05	236.58
	NORMAL	8,993.0	0.26	212.74	8,790.78	1,561.18	492.49	1,637.00	1.11	-0.94	-66.67	192.75
	NORMAL	9,087.0	0.35	209.32	8,884.78	1,560.75	492.24	1,636.52	0.10	0.10	-3.64	346.85
	NORMAL	9,181.0	0.88	215.21	8,978.77	1,559.91	491.68	1,635.55	0.57	0.56	6.27	9.75
	NORMAL	9,275.0	1.41	323.93	9,072.76	1,560.26	490.58	1,635.55	2.01	0.56	115.66	134.93
	NORMAL	9,369.0	0.26	322.17	9,166.75	1,561.36	489.77	1,636.37	1.22	-1.22	-1.87	180.40
	NORMAL	9,464.0	0.62	160.98	9,261.75	1,561.04	489.81	1,636.08	0.92	0.38	-169.67	193.28
	NORMAL	9,559.0	0.97	180.49	9,356.74	1,559.75	489.97	1,634.89	0.46	0.37	20.54	47.74
	NORMAL	9,653.0	0.44	161.50	9,450.73	1,558.62	490.08	1,633.84	0.61	-0.56	-20.20	194.49
	NORMAL	9,748.0	0.35	113.34	9,545.73	1,558.16	490.46	1,633.51	0.35	-0.09	-50.69	231.62
	NORMAL	9,843.0	0.26	165.28	9,640.73	1,557.83	490.78	1,633.29	0.29	-0.09	54.67	132.82
	NORMAL	9,937.0	0.44	189.28	9,734.73	1,557.27	490.77	1,632.76	0.24	0.19	25.53	51.58
	NORMAL	10,032.0	0.79	180.14	9,829.72	1,556.25	490.71	1,631.77	0.38	0.37	-9.62	339.74
	NORMAL	10,126.0	0.09	268.20	9,923.72	1,555.60	490.64	1,631.13	0.84	-0.74	93.68	173.48
	NORMAL	10,220.0	0.18	26.77	10,017.72	1,555.73	490.63	1,631.25	0.25	0.10	126.14	138.08
	NORMAL	10,315.0	0.53	216.26	10,112.72	1,555.51	490.44	1,630.98	0.75	0.37	-179.48	187.09
	NORMAL	10,409.0	0.88	205.89	10,206.71	1,554.51	489.87	1,629.85	0.39	0.37	-11.03	334.74
	NORMAL	10,503.0	0.44	182.77	10,300.70	1,553.50	489.53	1,628.79	0.54	-0.47	-24.60	199.97
	NORMAL	10,597.0	0.62	91.89	10,394.70	1,553.13	490.02	1,628.58	0.81	0.19	-96.68	234.05
	NORMAL	10,692.0	1.06	45.14	10,489.69	1,553.73	491.16	1,629.49	0.82	0.46	-49.21	277.84
	NORMAL	10,786.0	1.14	36.35	10,583.67	1,555.10	492.33	1,631.14	0.20	0.09	-9.35	290.93
8/26/2012	NORMAL	10,880.0	0.79	36.96	10,677.66	1,556.37	493.28	1,632.63	0.37	-0.37	0.65	178.62
	NORMAL	10,974.0	0.88	22.99	10,771.65	1,557.55	493.95	1,633.96	0.24	0.10	-14.86	286.76
	NORMAL	11,068.0	0.97	2.95	10,865.64	1,559.01	494.27	1,635.45	0.36	0.10	-21.32	275.38
	NORMAL	11,163.0	0.44	300.28	10,960.63	1,559.99	494.00	1,636.31	0.91	-0.56	-65.97	206.98
	NORMAL	11,257.0	1.06	300.72	11,054.62	1,560.62	492.94	1,636.60	0.66	0.66	0.47	0.75
	NORMAL	11,351.0	0.97	64.91	11,148.62	1,561.40	492.91	1,637.34	1.91	-0.10	132.12	153.44
	NORMAL	11,446.0	1.06	55.95	11,243.60	1,562.24	494.37	1,638.56	0.19	0.09	-9.43	295.03
	NORMAL	11,540.0	0.53	65.79	11,337.59	1,562.90	495.48	1,639.53	0.58	-0.56	10.47	170.44
	NORMAL	11,634.0	0.53	20.70	11,431.59	1,563.49	496.03	1,640.25	0.43	0.00	-47.97	247.46
	NORMAL	11,728.0	0.26	116.33	11,525.59	1,563.80	496.38	1,640.65	0.65	-0.29	101.73	155.02
	NORMAL	11,822.0	0.09	249.75	11,619.59	1,563.68	496.50	1,640.57	0.35	-0.18	141.94	168.52
	NORMAL	11,917.0	0.53	200.18	11,714.59	1,563.24	496.28	1,640.09	0.50	0.46	-52.18	302.17
8/27/2012	NORMAL	12,011.0	1.14	228.14	11,808.58	1,562.21	495.43	1,638.85	0.76	0.65	29.74	48.26
	NORMAL	12,105.0	0.88	226.37	11,902.56	1,561.09	494.21	1,637.42	0.28	-0.28	-1.88	185.96
	NORMAL	12,199.0	1.06	232.61	11,996.55	1,560.06	493.00	1,636.08	0.22	0.19	6.64	33.55
	NORMAL	12,293.0	1.23	243.86	12,090.53	1,559.09	491.40	1,634.68	0.30	0.18	11.97	58.62
	NORMAL	12,387.0	1.23	266.36	12,184.51	1,558.58	489.49	1,633.63	0.51	0.00	23.94	101.25
	NORMAL	12,482.0	1.58	265.04	12,279.48	1,558.40	487.17	1,632.77	0.37	0.37	-1.39	354.06
	NORMAL	12,576.0	2.02	267.41	12,373.43	1,558.21	484.22	1,631.72	0.47	0.47	2.52	10.79
	NORMAL	12,670.0	2.20	275.06	12,467.37	1,558.30	480.77	1,630.77	0.36	0.19	8.14	61.28
	NORMAL	12,764.0	1.93	266.01	12,561.31	1,558.35	477.39	1,629.82	0.45	-0.29	-9.63	225.91
	NORMAL	12,813.0	2.11	269.52	12,610.28	1,558.28	475.67	1,629.25	0.45	0.37	7.16	36.26
	NORMAL	12,875.0	2.11	269.52	12,672.24	1,558.26	473.39	1,628.55	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

