

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 21-25-198	Wellbore No.	OH
Well Name	FEDERAL RGU 21-25-198	Common Name	RGU 21-25-198
Project	RG 25-01S-098W	Site	RGU 31-25-198 Pad
Vertical Section Azimuth	268.21 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	5/25/2011	UWI	RGU 21-25-198
Active Datum	KELLY BUSHING @6,661.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	5/25/2011	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 (°)
5/25/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/25/2011	NORMAL	104.0	1.00	246.80	103.99	-0.36	-0.83	0.84	0.96	0.96	0.00	246.80
	NORMAL	206.0	2.20	302.20	205.96	0.34	-3.31	3.30	1.79	1.18	54.31	82.15
	NORMAL	337.0	3.30	282.20	336.81	2.47	-9.12	9.04	1.10	0.84	-15.27	308.62
	NORMAL	429.0	4.40	287.10	428.60	4.07	-15.08	14.95	1.25	1.20	5.33	19.11
	NORMAL	521.0	5.80	279.20	520.23	5.85	-23.05	22.85	1.70	1.52	-8.59	329.39
	NORMAL	613.0	6.50	272.70	611.70	6.84	-32.84	32.61	1.07	0.76	-7.07	311.89
	NORMAL	706.0	8.00	269.30	703.96	7.01	-44.57	44.33	1.68	1.61	-3.66	342.35
	NORMAL	798.0	9.90	270.70	794.84	7.03	-58.88	58.63	2.08	2.07	1.52	7.23
	NORMAL	890.0	11.20	268.20	885.28	6.84	-75.72	75.47	1.50	1.41	-2.72	339.37
	NORMAL	984.0	12.00	263.50	977.36	5.45	-94.55	94.33	1.32	0.85	-5.00	307.93
	NORMAL	1,079.0	13.20	261.90	1,070.07	2.80	-115.10	114.96	1.32	1.26	-1.68	343.00
	NORMAL	1,173.0	14.30	260.40	1,161.38	-0.65	-137.18	137.13	1.23	1.17	-1.60	341.31
	NORMAL	1,268.0	14.60	259.50	1,253.37	-4.78	-160.52	160.59	0.39	0.32	-0.95	322.74
	NORMAL	1,362.0	14.00	259.10	1,344.46	-9.09	-183.33	183.53	0.65	-0.64	-0.43	189.16
	NORMAL	1,456.0	12.60	258.90	1,435.93	-13.22	-204.56	204.87	1.49	-1.49	-0.21	181.79
	NORMAL	1,551.0	12.40	265.50	1,528.69	-16.01	-224.90	225.29	1.52	-0.21	6.95	101.18
	NORMAL	1,646.0	11.40	272.10	1,621.65	-16.47	-244.45	244.84	1.78	-1.05	6.95	129.51
	NORMAL	1,740.0	11.30	269.00	1,713.81	-16.29	-262.94	263.32	0.66	-0.11	-3.30	259.17
5/26/2011	NORMAL	1,832.0	10.80	267.20	1,804.11	-16.87	-280.56	280.95	0.66	-0.54	-1.96	213.72

2.1.2 Survey Stations (Continued)

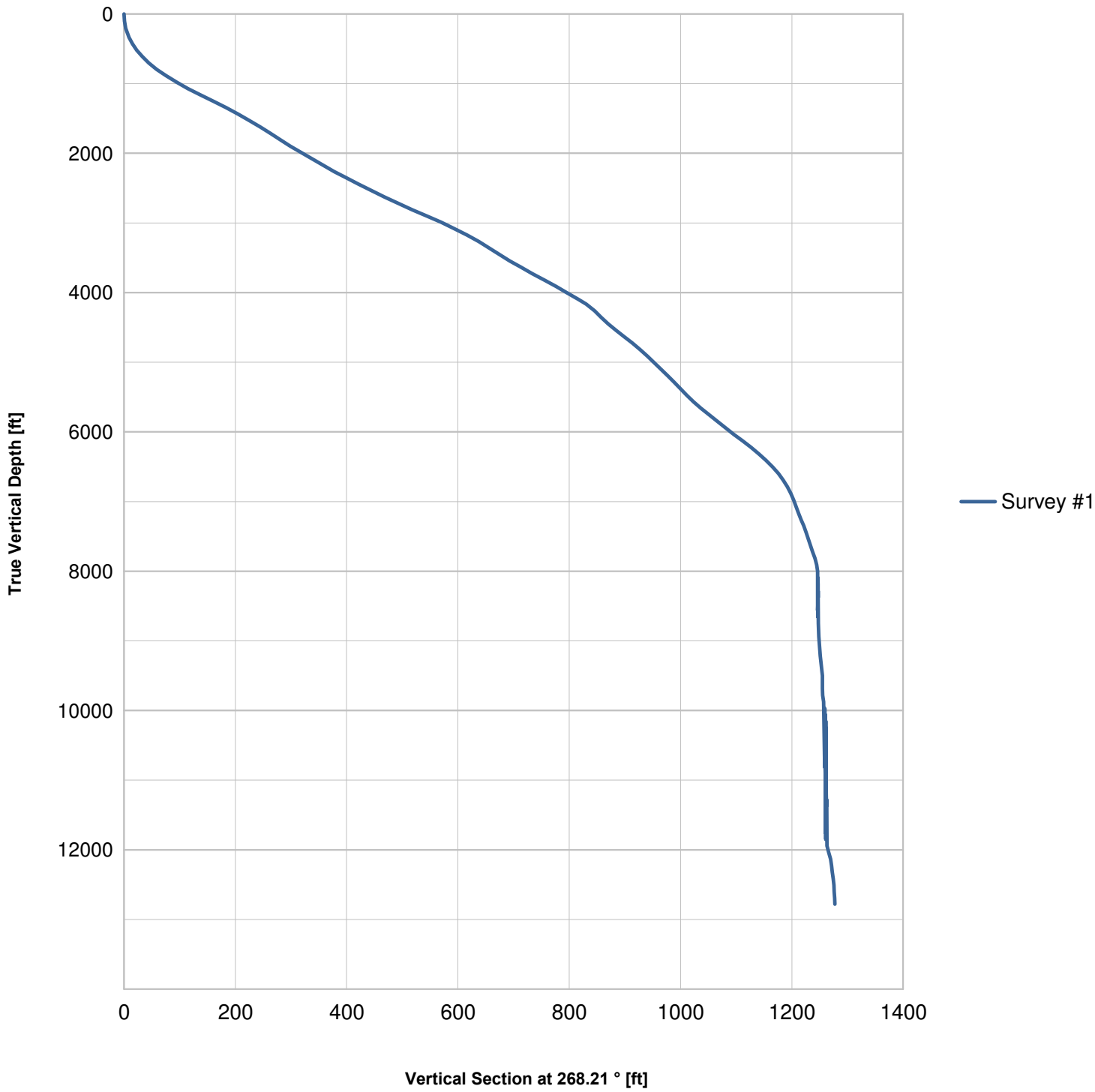
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
5/26/2011	NORMAL	1,927.0	10.90	269.50	1,897.41	-17.38	-298.43	298.83	0.47	0.11	2.42	78.13
	NORMAL	2,302.0	13.40	273.40	2,263.98	-15.11	-377.28	377.57	0.70	0.67	1.04	20.09
	NORMAL	2,397.0	13.60	272.70	2,356.36	-13.93	-399.42	399.66	0.27	0.21	-0.74	320.41
	NORMAL	2,489.0	13.90	274.80	2,445.72	-12.50	-421.24	421.42	0.63	0.33	2.28	60.02
	NORMAL	2,678.0	14.90	275.00	2,628.78	-8.48	-468.07	468.11	0.53	0.53	0.11	2.94
	NORMAL	2,867.0	15.90	274.30	2,811.00	-4.42	-518.09	517.98	0.54	0.53	-0.37	349.13
	NORMAL	2,962.0	16.10	272.80	2,902.32	-2.80	-544.23	544.05	0.48	0.21	-1.58	295.09
	NORMAL	3,056.0	15.90	272.70	2,992.67	-1.56	-570.11	569.88	0.21	-0.21	-0.11	187.80
	NORMAL	3,150.0	14.00	271.20	3,083.49	-0.72	-594.34	594.07	2.06	-2.02	-1.60	190.79
	NORMAL	3,244.0	13.30	267.60	3,174.83	-0.93	-616.51	616.24	1.17	-0.74	-3.83	228.77
	NORMAL	3,339.0	12.10	265.70	3,267.51	-2.13	-637.36	637.11	1.34	-1.26	-2.00	198.27
	NORMAL	3,433.0	11.00	264.30	3,359.60	-3.76	-656.11	655.90	1.21	-1.17	-1.49	193.61
	NORMAL	3,527.0	11.40	262.60	3,451.81	-5.85	-674.24	674.10	0.55	0.43	-1.81	319.62
	NORMAL	3,621.0	11.90	262.30	3,543.88	-8.35	-693.06	692.98	0.54	0.53	-0.32	352.94
	NORMAL	3,716.0	12.60	263.90	3,636.71	-10.76	-713.07	713.06	0.82	0.74	1.68	26.66
	NORMAL	3,809.0	13.10	264.40	3,727.38	-12.87	-733.64	733.69	0.55	0.54	0.54	12.78
5/27/2011	NORMAL	3,903.0	13.40	263.90	3,818.88	-15.06	-755.08	755.18	0.34	0.32	-0.53	338.85
	NORMAL	3,997.0	12.40	262.60	3,910.51	-17.52	-775.92	776.08	1.11	-1.06	-1.38	195.55
	NORMAL	4,091.0	12.50	263.10	4,002.30	-20.04	-796.02	796.26	0.16	0.11	0.53	47.39
	NORMAL	4,186.0	12.30	257.20	4,095.09	-23.52	-816.10	816.43	1.35	-0.21	-6.21	258.16
5/29/2011	NORMAL	4,258.0	10.60	255.50	4,165.65	-26.88	-829.99	830.42	2.41	-2.36	-2.36	190.40
	NORMAL	4,353.0	8.00	255.10	4,259.39	-30.77	-844.84	845.39	2.74	-2.74	-0.42	181.23
	NORMAL	4,447.0	6.70	265.80	4,352.62	-32.85	-856.63	857.24	2.00	-1.38	11.38	138.74
	NORMAL	4,542.0	8.20	273.40	4,446.82	-32.85	-868.92	869.52	1.89	1.58	8.00	37.11
	NORMAL	4,637.0	8.90	270.50	4,540.77	-32.39	-883.03	883.61	0.87	0.74	-3.05	326.93
	NORMAL	4,731.0	9.20	268.50	4,633.60	-32.52	-897.82	898.39	0.46	0.32	-2.13	312.65
	NORMAL	4,825.0	9.10	271.80	4,726.40	-32.48	-912.76	913.33	0.57	-0.11	3.51	102.42
	NORMAL	4,920.0	8.20	269.40	4,820.32	-32.32	-927.04	927.60	1.02	-0.95	-2.53	200.67
	NORMAL	5,014.0	7.40	266.50	4,913.45	-32.76	-939.79	940.35	0.95	-0.85	-3.09	204.76
	NORMAL	5,108.0	7.40	266.80	5,006.67	-33.47	-951.87	952.45	0.04	0.00	0.32	90.15
	NORMAL	5,202.0	7.30	268.60	5,099.89	-33.95	-963.89	964.48	0.27	-0.11	1.91	114.36
	NORMAL	5,297.0	7.40	271.60	5,194.11	-33.93	-976.04	976.62	0.42	0.11	3.16	76.89
	NORMAL	5,391.0	7.10	273.00	5,287.36	-33.45	-987.89	988.45	0.37	-0.32	1.49	150.20
	NORMAL	5,486.0	6.90	270.70	5,381.65	-33.08	-999.46	1,000.00	0.36	-0.21	-2.42	233.35
	NORMAL	5,581.0	6.80	269.50	5,475.98	-33.06	-1,010.79	1,011.33	0.18	-0.11	-1.26	234.46
	NORMAL	5,675.0	7.60	266.90	5,569.23	-33.44	-1,022.56	1,023.11	0.92	0.85	-2.77	336.54
	NORMAL	5,770.0	8.90	269.40	5,663.25	-33.86	-1,036.18	1,036.73	1.42	1.37	2.63	16.67
	NORMAL	5,864.0	8.90	269.10	5,756.12	-34.05	-1,050.72	1,051.27	0.05	0.00	-0.32	269.85
	NORMAL	5,959.0	9.10	268.90	5,849.95	-34.31	-1,065.58	1,066.13	0.21	0.21	-0.21	351.01
	NORMAL	6,053.0	9.10	274.50	5,942.77	-33.87	-1,080.43	1,080.96	0.94	0.00	5.96	92.76
	NORMAL	6,147.0	9.40	273.00	6,035.54	-32.88	-1,095.50	1,095.99	0.41	0.32	-1.60	320.47
	NORMAL	6,242.0	9.70	272.30	6,129.23	-32.15	-1,111.25	1,111.71	0.34	0.32	-0.74	338.49
	NORMAL	6,336.0	8.70	265.50	6,222.02	-32.39	-1,126.25	1,126.71	1.57	-1.06	-7.23	224.07
5/30/2011	NORMAL	6,430.0	8.20	269.20	6,315.00	-33.05	-1,140.04	1,140.51	0.79	-0.53	3.94	134.42
	NORMAL	6,525.0	7.40	268.00	6,409.12	-33.35	-1,152.93	1,153.40	0.86	-0.84	-1.26	190.91
	NORMAL	6,620.0	6.90	264.90	6,503.38	-34.07	-1,164.72	1,165.22	0.66	-0.53	-3.26	216.13
	NORMAL	6,715.0	5.70	269.50	6,597.81	-34.62	-1,175.13	1,175.63	1.37	-1.26	4.84	159.46
	NORMAL	6,810.0	5.00	280.10	6,692.39	-33.94	-1,183.92	1,184.40	1.27	-0.74	11.16	130.51
	NORMAL	6,904.0	4.40	286.10	6,786.08	-32.22	-1,191.42	1,191.84	0.82	-0.64	6.38	143.63
	NORMAL	6,998.0	3.60	285.10	6,879.85	-30.45	-1,197.73	1,198.10	0.85	-0.85	-1.06	184.48
	NORMAL	7,093.0	2.60	270.50	6,974.71	-29.66	-1,202.76	1,203.10	1.33	-1.05	-15.37	211.15
	NORMAL	7,187.0	2.60	270.20	7,068.61	-29.63	-1,207.03	1,207.37	0.01	0.00	-0.32	269.85
	NORMAL	7,282.0	2.90	270.30	7,163.50	-29.61	-1,211.59	1,211.92	0.32	0.32	0.11	0.97
	NORMAL	7,375.0	2.90	261.40	7,256.39	-29.95	-1,216.27	1,216.61	0.48	0.00	-9.57	265.56
	NORMAL	7,468.0	2.90	260.30	7,349.27	-30.70	-1,220.91	1,221.27	0.06	0.00	-1.18	269.45
	NORMAL	7,562.0	2.30	274.40	7,443.17	-30.95	-1,225.13	1,225.50	0.93	-0.64	15.00	140.07
	NORMAL	7,655.0	2.50	288.00	7,536.09	-30.18	-1,228.92	1,229.27	0.65	0.22	14.62	77.53

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 (°)
5/30/2011	NORMAL	7,749.0	2.50	288.00	7,630.00	-28.92	-1,232.82	1,233.13	0.00	0.00	0.00	0.00
	NORMAL	7,842.0	2.70	262.20	7,722.91	-28.59	-1,236.92	1,237.21	1.27	0.22	-27.74	266.65
	NORMAL	7,935.0	2.50	281.90	7,815.81	-28.47	-1,241.08	1,241.36	0.98	-0.22	21.18	112.33
	NORMAL	8,028.0	1.50	249.20	7,908.76	-28.48	-1,244.20	1,244.48	1.59	-1.08	-35.16	213.22
	NORMAL	8,121.0	0.48	268.20	8,001.74	-28.92	-1,245.73	1,246.02	1.14	-1.10	20.43	171.50
	NORMAL	8,215.0	0.26	243.60	8,095.74	-29.03	-1,246.31	1,246.61	0.28	-0.23	-26.17	203.96
5/31/2011	NORMAL	8,308.0	0.30	188.20	8,188.74	-29.37	-1,246.54	1,246.85	0.28	0.04	-59.57	250.05
	NORMAL	8,402.0	0.40	188.20	8,282.74	-29.93	-1,246.62	1,246.95	0.11	0.11	0.00	0.00
	NORMAL	8,496.0	0.50	156.80	8,376.74	-30.64	-1,246.50	1,246.85	0.28	0.11	-33.40	275.87
	NORMAL	8,589.0	0.80	157.90	8,469.73	-31.61	-1,246.10	1,246.48	0.32	0.32	1.18	2.93
	NORMAL	8,682.0	1.00	174.40	8,562.72	-33.02	-1,245.78	1,246.20	0.35	0.22	17.74	60.78
	NORMAL	8,776.0	0.90	213.10	8,656.71	-34.45	-1,246.10	1,246.57	0.68	-0.11	41.17	117.87
	NORMAL	8,869.0	0.30	261.30	8,749.70	-35.10	-1,246.74	1,247.23	0.79	-0.65	51.83	162.28
	NORMAL	8,963.0	0.40	226.70	8,843.70	-35.37	-1,247.22	1,247.72	0.24	0.11	-36.81	277.34
	NORMAL	9,056.0	0.60	216.70	8,936.70	-35.98	-1,247.75	1,248.26	0.23	0.22	-10.75	331.37
	NORMAL	9,150.0	0.70	223.40	9,030.69	-36.79	-1,248.44	1,248.98	0.13	0.11	7.13	40.62
	NORMAL	9,243.0	0.60	227.00	9,123.68	-37.54	-1,249.18	1,249.75	0.12	-0.11	3.87	159.58
	NORMAL	9,336.0	0.80	239.50	9,216.68	-38.20	-1,250.10	1,250.68	0.27	0.22	13.44	43.72
	NORMAL	9,430.0	1.30	230.90	9,310.66	-39.20	-1,251.49	1,252.11	0.56	0.53	-9.15	338.18
	NORMAL	9,524.0	1.30	215.40	9,404.64	-40.74	-1,252.94	1,253.60	0.37	0.00	-16.49	262.25
6/1/2011	NORMAL	9,618.0	0.40	234.40	9,498.63	-41.80	-1,253.82	1,254.52	0.99	-0.96	20.21	171.96
	NORMAL	9,712.0	0.50	145.20	9,592.62	-42.33	-1,253.85	1,254.56	0.68	0.11	-94.89	231.83
	NORMAL	9,805.0	0.50	218.90	9,685.62	-42.98	-1,253.88	1,254.61	0.64	0.00	79.25	126.85
	NORMAL	9,899.0	1.30	203.20	9,779.61	-44.28	-1,254.56	1,255.33	0.88	0.85	-16.70	334.92
	NORMAL	9,993.0	1.50	247.70	9,873.58	-45.73	-1,256.11	1,256.93	1.14	0.21	47.34	102.34
	NORMAL	10,088.0	1.00	297.00	9,968.56	-45.82	-1,258.00	1,258.82	1.20	-0.53	51.89	138.20
	NORMAL	10,182.0	0.60	302.00	10,062.55	-45.19	-1,259.15	1,259.95	0.43	-0.43	5.32	172.59
	NORMAL	10,275.0	1.80	344.60	10,155.53	-43.52	-1,259.95	1,260.70	1.52	1.29	45.81	59.24
6/2/2011	NORMAL	10,369.0	1.20	343.90	10,249.50	-41.15	-1,260.62	1,261.29	0.64	-0.64	-0.74	181.40
	NORMAL	10,463.0	0.40	122.70	10,343.49	-40.39	-1,260.61	1,261.26	1.62	-0.85	147.66	170.04
	NORMAL	10,556.0	0.40	145.60	10,436.49	-40.83	-1,260.16	1,260.82	0.17	0.00	24.62	101.45
	NORMAL	10,650.0	0.70	71.20	10,530.49	-40.91	-1,259.43	1,260.09	0.75	0.32	-79.15	252.57
	NORMAL	10,744.0	0.40	87.50	10,624.48	-40.72	-1,258.56	1,259.21	0.36	-0.32	17.34	160.45
	NORMAL	10,837.0	0.70	133.60	10,717.48	-41.09	-1,257.82	1,258.49	0.55	0.32	49.57	80.39
	NORMAL	10,931.0	1.30	211.70	10,811.47	-42.40	-1,257.97	1,258.68	1.43	0.64	83.09	108.75
	NORMAL	11,024.0	1.00	217.70	10,904.45	-43.94	-1,259.02	1,259.77	0.35	-0.32	6.45	161.11
	NORMAL	11,119.0	0.80	207.20	10,999.44	-45.18	-1,259.83	1,260.62	0.27	-0.21	-11.05	214.34
	NORMAL	11,212.0	0.70	207.30	11,092.43	-46.26	-1,260.38	1,261.21	0.11	-0.11	0.11	179.30
	NORMAL	11,307.0	0.90	198.50	11,187.42	-47.49	-1,260.89	1,261.75	0.25	0.21	-9.26	323.99
6/3/2011	NORMAL	11,401.0	0.70	215.70	11,281.41	-48.65	-1,261.46	1,262.36	0.33	-0.21	18.30	138.17
	NORMAL	11,495.0	0.80	91.60	11,375.41	-49.14	-1,261.13	1,262.05	1.41	0.11	-132.02	209.98
	NORMAL	11,589.0	0.40	71.50	11,469.40	-49.05	-1,260.17	1,261.09	0.47	-0.43	-21.38	197.95
	NORMAL	11,684.0	0.30	76.60	11,564.40	-48.89	-1,259.61	1,260.52	0.11	-0.11	5.37	165.24
	NORMAL	11,778.0	0.10	112.30	11,658.40	-48.86	-1,259.30	1,260.21	0.24	-0.21	37.98	165.07
6/4/2011	NORMAL	11,871.0	0.60	27.80	11,751.40	-48.46	-1,258.99	1,259.89	0.64	0.54	-90.86	265.93
	NORMAL	11,966.0	1.10	254.50	11,846.39	-48.27	-1,259.64	1,260.53	1.66	0.53	-140.32	210.59
	NORMAL	12,060.0	2.10	230.90	11,940.36	-49.59	-1,261.85	1,262.78	1.25	1.06	-25.11	314.44
	NORMAL	12,154.0	2.50	233.20	12,034.28	-51.91	-1,264.82	1,265.83	0.44	0.43	2.45	14.14
	NORMAL	12,249.0	2.30	236.40	12,129.20	-54.21	-1,268.07	1,269.15	0.25	-0.21	3.37	147.77
6/5/2011	NORMAL	12,343.0	1.00	211.20	12,223.16	-55.95	-1,270.07	1,271.20	1.55	-1.38	-26.81	196.97
	NORMAL	12,437.0	1.80	204.30	12,317.13	-58.00	-1,271.10	1,272.29	0.87	0.85	-7.34	344.64
	NORMAL	12,532.0	2.00	208.80	12,412.08	-60.81	-1,272.51	1,273.79	0.26	0.21	4.74	38.99
	NORMAL	12,625.0	0.70	251.60	12,505.05	-62.41	-1,273.83	1,275.16	1.68	-1.40	46.02	162.25
6/6/2011	NORMAL	12,719.0	0.30	307.90	12,599.05	-62.44	-1,274.57	1,275.90	0.63	-0.43	59.89	154.93
	NORMAL	12,813.0	0.50	236.10	12,693.05	-62.52	-1,275.11	1,276.44	0.53	0.21	-76.38	253.15
	NORMAL	12,901.0	0.50	236.10	12,781.04	-62.95	-1,275.74	1,277.09	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

