

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 411-6-297	Wellbore No.	
Well Name	FEDERAL RGU 411-6-297	Common Name	RGU 411-6-297
Project	RG 01-02S-098W	Site	RGU 41-1-298 PAD
Vertical Section Azimuth	98.29 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	11/11/2011	UWI	RGU 411-6-297
Active Datum	KB @6,594.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	Scientific
Date Started	11/11/2011	Ended	
Tool Name	MWD	Engineer	Trevor

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 (°)
11/11/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/11/2011	NORMAL	156.0	0.90	84.80	155.99	0.11	1.22	1.19	0.58	0.58	0.00	84.80
	NORMAL	248.0	2.30	105.80	247.96	-0.33	3.72	3.72	1.62	1.52	22.83	33.45
	NORMAL	340.0	3.80	98.10	339.82	-1.26	8.51	8.60	1.69	1.63	-8.37	340.86
	NORMAL	432.0	5.00	107.00	431.55	-2.86	15.36	15.62	1.50	1.30	9.67	34.13
	NORMAL	525.0	6.70	101.50	524.06	-5.13	24.56	25.04	1.92	1.83	-5.91	339.00
	NORMAL	617.0	8.30	101.20	615.27	-7.49	36.33	37.03	1.74	1.74	-0.33	358.45
	NORMAL	709.0	10.70	99.80	706.01	-10.23	51.26	52.20	2.62	2.61	-1.52	353.81
11/12/2011	NORMAL	801.0	11.30	99.80	796.32	-13.22	68.56	69.75	0.65	0.65	0.00	0.00
	NORMAL	894.0	11.60	98.60	887.46	-16.17	86.78	88.21	0.41	0.32	-1.29	320.96
	NORMAL	986.0	11.50	98.10	977.60	-18.84	105.01	106.63	0.15	-0.11	-0.54	224.79
	NORMAL	1,080.0	11.20	97.20	1,069.76	-21.31	123.34	125.13	0.37	-0.32	-0.96	210.12
	NORMAL	1,175.0	10.20	95.10	1,163.11	-23.21	140.87	142.75	1.13	-1.05	-2.21	200.27
	NORMAL	1,269.0	10.80	93.70	1,255.54	-24.52	157.95	159.84	0.69	0.64	-1.49	336.27
	NORMAL	1,364.0	10.80	91.90	1,348.85	-25.39	175.73	177.56	0.36	0.00	-1.89	269.12
	NORMAL	1,458.0	10.70	96.00	1,441.21	-26.59	193.21	195.03	0.82	-0.11	4.36	99.46
	NORMAL	1,553.0	10.50	102.40	1,534.59	-29.37	210.44	212.47	1.26	-0.21	6.74	102.78
	NORMAL	1,648.0	10.90	102.80	1,627.94	-33.22	227.65	230.06	0.43	0.42	0.42	10.71
	NORMAL	1,742.0	11.30	103.90	1,720.18	-37.40	245.26	248.09	0.48	0.43	1.17	28.44
	NORMAL	1,836.0	11.80	99.50	1,812.28	-41.20	263.68	266.86	1.08	0.53	-4.68	297.41

2.1.2 Survey Stations (Continued)

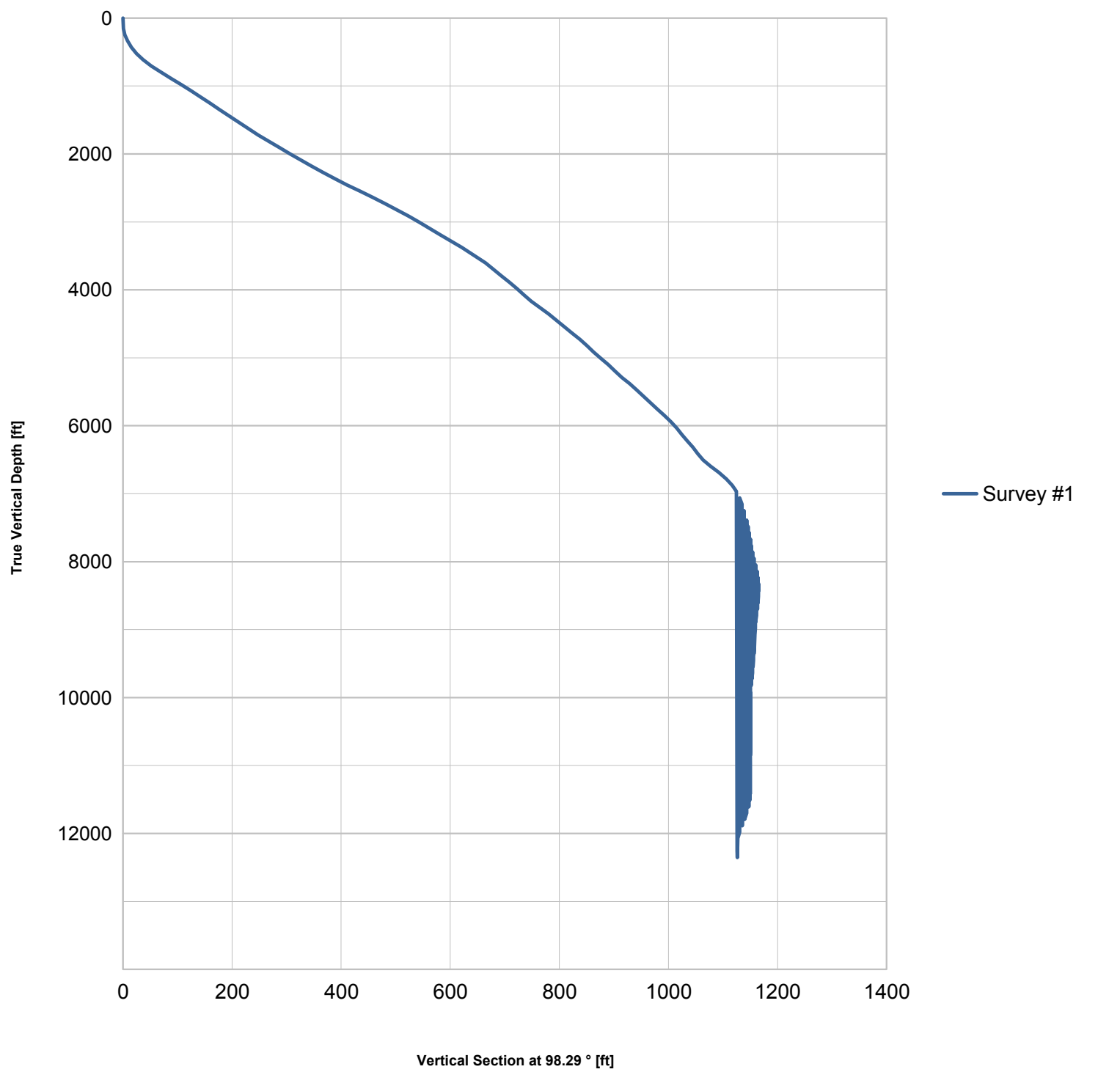
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
11/12/2011	NORMAL	1,931.0	12.00	99.30	1,905.23	-44.40	283.00	286.45	0.21	0.21	-0.21	348.25
	NORMAL	2,024.0	11.90	102.20	1,996.22	-47.99	301.92	305.68	0.65	-0.11	3.12	100.87
	NORMAL	2,213.0	12.60	97.80	2,180.92	-54.91	341.39	345.74	0.62	0.37	-2.33	304.70
	NORMAL	2,308.0	13.20	98.10	2,273.52	-57.84	362.39	366.95	0.64	0.63	0.32	6.52
	NORMAL	2,403.0	13.50	100.20	2,365.95	-61.33	384.04	388.88	0.60	0.32	2.21	59.28
	NORMAL	2,497.0	14.00	97.70	2,457.26	-64.80	406.11	411.21	0.83	0.53	-2.66	308.86
	NORMAL	2,591.0	14.70	97.00	2,548.33	-67.78	429.22	434.50	0.77	0.74	-0.74	345.74
	NORMAL	2,685.0	14.50	93.60	2,639.29	-69.97	452.80	458.16	0.94	-0.21	-3.62	255.22
	NORMAL	2,780.0	13.40	93.30	2,731.49	-71.35	475.66	480.98	1.16	-1.16	-0.32	183.62
	NORMAL	2,873.0	13.10	91.40	2,822.02	-72.23	496.95	502.18	0.57	-0.32	-2.04	234.52
	NORMAL	2,967.0	12.70	95.90	2,913.64	-73.55	517.88	523.08	1.15	-0.43	4.79	113.89
11/13/2011	NORMAL	3,062.0	11.80	98.20	3,006.48	-76.01	537.89	543.22	1.08	-0.95	2.42	152.65
	NORMAL	3,157.0	11.90	98.90	3,099.46	-78.91	557.18	562.73	0.18	0.11	0.74	55.52
	NORMAL	3,251.0	11.80	100.30	3,191.45	-82.13	576.21	582.03	0.32	-0.11	1.49	109.86
	NORMAL	3,346.0	12.10	100.10	3,284.39	-85.61	595.57	601.69	0.32	0.32	-0.21	352.04
	NORMAL	3,440.0	12.30	100.00	3,376.27	-89.08	615.13	621.54	0.21	0.21	-0.11	353.92
11/15/2011	NORMAL	3,673.0	9.10	106.90	3,605.20	-98.75	657.21	664.58	1.48	-1.37	2.96	161.55
	NORMAL	3,767.0	8.60	101.10	3,698.08	-102.26	671.22	678.95	1.09	-0.53	-6.17	237.89
	NORMAL	3,862.0	9.20	96.50	3,791.94	-104.49	685.74	693.64	0.98	0.63	-4.84	307.85
	NORMAL	3,957.0	8.10	95.90	3,885.86	-106.03	699.94	707.91	1.16	-1.16	-0.63	184.39
	NORMAL	4,052.0	8.70	105.20	3,979.84	-108.61	713.53	721.73	1.56	0.63	9.79	70.82
	NORMAL	4,147.0	7.50	101.60	4,073.89	-111.74	726.54	735.06	1.37	-1.26	-3.79	201.14
	NORMAL	4,242.0	9.00	98.60	4,167.91	-114.10	739.96	748.68	1.64	1.58	-3.16	342.50
	NORMAL	4,337.0	10.10	101.00	4,261.59	-116.80	755.48	764.43	1.23	1.16	2.53	21.09
	NORMAL	4,431.0	9.40	84.20	4,354.25	-117.59	771.22	780.11	3.10	-0.74	-17.87	247.99
	NORMAL	4,525.0	8.50	91.40	4,447.11	-116.99	785.80	794.45	1.53	-0.96	7.66	132.30
	NORMAL	4,620.0	8.90	86.40	4,541.02	-116.70	800.15	808.62	0.90	0.42	-5.26	295.39
	NORMAL	4,715.0	8.90	95.80	4,634.88	-116.98	814.80	823.15	1.53	0.00	9.89	94.64
	NORMAL	4,809.0	8.90	100.40	4,727.75	-119.03	829.18	837.68	0.76	0.00	4.89	92.27
	NORMAL	4,904.0	7.00	104.50	4,821.83	-121.80	842.02	850.78	2.09	-2.00	4.32	165.41
	NORMAL	4,997.0	7.90	108.00	4,914.05	-125.20	853.58	862.71	1.08	0.97	3.76	28.50
11/16/2011	NORMAL	5,092.0	8.40	98.70	5,008.09	-128.26	866.65	876.09	1.48	0.53	-9.79	286.12
	NORMAL	5,186.0	8.40	94.10	5,101.08	-129.79	880.29	889.80	0.71	0.00	-4.89	267.72
	NORMAL	5,281.0	6.80	103.50	5,195.25	-131.60	892.68	902.33	2.13	-1.68	9.89	146.75
	NORMAL	5,375.0	8.50	99.50	5,288.41	-134.05	904.94	914.81	1.89	1.81	-4.26	340.62
	NORMAL	5,468.0	9.00	106.10	5,380.33	-137.20	918.71	928.89	1.21	0.54	7.10	66.81
	NORMAL	5,563.0	7.20	98.70	5,474.38	-140.16	931.74	942.21	2.19	-1.89	-7.79	206.45
	NORMAL	5,658.0	7.60	101.50	5,568.59	-142.31	943.78	954.43	0.57	0.42	2.95	43.43
	NORMAL	5,752.0	7.60	97.80	5,661.76	-144.40	956.03	966.86	0.52	0.00	-3.94	268.17
	NORMAL	5,846.0	8.00	102.40	5,754.89	-146.65	968.57	979.60	0.79	0.43	4.89	59.64
	NORMAL	5,940.0	7.50	101.30	5,848.04	-149.25	980.98	992.25	0.55	-0.53	-1.17	195.98
	NORMAL	6,034.0	7.20	99.70	5,941.26	-151.45	992.80	1,004.26	0.39	-0.32	-1.70	213.51
	NORMAL	6,128.0	5.90	103.00	6,034.65	-153.53	1,003.31	1,014.97	1.44	-1.38	3.51	165.49
	NORMAL	6,223.0	5.80	100.90	6,129.15	-155.53	1,012.79	1,024.63	0.25	-0.11	-2.21	243.92
	NORMAL	6,317.0	6.50	106.10	6,222.61	-157.91	1,022.56	1,034.64	0.95	0.74	5.53	41.12
	NORMAL	6,411.0	6.10	109.10	6,316.04	-161.02	1,032.39	1,044.82	0.55	-0.43	3.19	142.03
11/17/2011	NORMAL	6,506.0	5.20	117.20	6,410.58	-164.64	1,040.99	1,053.85	1.26	-0.95	8.53	142.44
	NORMAL	6,599.0	7.20	109.00	6,503.04	-168.46	1,050.25	1,063.57	2.35	2.15	-8.82	332.00
	NORMAL	6,692.0	9.40	105.20	6,595.06	-172.35	1,063.09	1,076.84	2.44	2.37	-4.09	344.11
	NORMAL	6,786.0	9.70	90.80	6,687.77	-174.47	1,078.42	1,092.31	2.55	0.32	-15.32	270.02
	NORMAL	6,881.0	7.70	80.30	6,781.68	-173.51	1,092.70	1,106.30	2.68	-2.11	-11.05	213.34
	NORMAL	6,975.0	5.70	83.90	6,875.03	-171.95	1,103.55	1,116.81	2.17	-2.13	3.83	169.92
	NORMAL	7,067.0	4.40	91.50	6,966.67	-171.56	1,111.62	1,124.74	1.59	-1.41	8.26	156.52
	NORMAL	7,161.0	3.00	99.20	7,060.47	-172.05	1,117.65	1,130.78	1.58	-1.49	8.19	164.27
	NORMAL	7,255.0	2.70	136.30	7,154.37	-174.04	1,121.61	1,134.99	1.95	-0.32	39.47	117.45
	NORMAL	7,348.0	2.30	93.30	7,247.29	-175.73	1,124.99	1,138.57	2.01	-0.43	-46.24	237.03
11/18/2011	NORMAL	7,490.0	2.16	132.95	7,389.19	-177.72	1,129.79	1,143.61	1.07	-0.10	27.92	114.79

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
11/18/2011	NORMAL	7,583.0	1.45	74.85	7,482.15	-178.61	1,132.21	1,146.13	2.00	-0.76	-62.47	221.46
11/19/2011	NORMAL	7,676.0	1.80	63.49	7,575.11	-177.65	1,134.65	1,148.41	0.51	0.38	-12.22	311.60
	NORMAL	7,770.0	1.83	44.27	7,669.06	-175.91	1,137.02	1,150.51	0.65	0.03	-20.45	263.19
	NORMAL	7,864.0	1.49	59.11	7,763.02	-174.21	1,139.12	1,152.34	0.58	-0.36	15.79	135.60
	NORMAL	7,957.0	2.02	45.78	7,855.98	-172.45	1,141.33	1,154.27	0.72	0.57	-14.33	315.61
	NORMAL	8,052.0	2.29	55.95	7,950.91	-170.22	1,144.10	1,156.69	0.49	0.28	10.71	59.93
	NORMAL	8,146.0	2.06	76.85	8,044.85	-168.78	1,147.31	1,159.65	0.87	-0.24	22.23	116.44
	NORMAL	8,239.0	1.32	93.11	8,137.81	-168.46	1,150.00	1,162.28	0.94	-0.80	17.48	155.01
	NORMAL	8,333.0	1.02	125.59	8,231.79	-169.01	1,151.76	1,164.10	0.76	-0.32	34.55	129.99
	NORMAL	8,427.0	0.88	137.78	8,325.77	-170.03	1,152.93	1,165.40	0.26	-0.15	12.97	130.70
	NORMAL	8,521.0	1.45	202.38	8,419.76	-171.66	1,152.96	1,165.67	1.42	0.61	68.72	101.14
	NORMAL	8,615.0	1.85	205.83	8,513.72	-174.13	1,151.85	1,164.92	0.44	0.43	3.67	15.68
	NORMAL	8,709.0	0.77	210.17	8,607.69	-176.04	1,150.87	1,164.23	1.15	-1.15	4.62	176.92
	NORMAL	8,802.0	1.37	243.98	8,700.68	-177.07	1,149.56	1,163.07	0.91	0.65	36.35	64.21
	NORMAL	8,896.0	0.98	265.87	8,794.66	-177.62	1,147.74	1,161.36	0.63	-0.41	23.29	141.58
	NORMAL	8,989.0	0.81	314.66	8,887.65	-177.21	1,146.48	1,160.06	0.81	-0.18	52.46	126.22
	NORMAL	9,083.0	1.04	354.66	8,981.64	-175.90	1,145.93	1,159.32	0.71	0.24	42.55	91.14
11/20/2011	NORMAL	9,176.0	1.23	344.41	9,074.62	-174.10	1,145.59	1,158.72	0.30	0.20	-11.02	307.90
	NORMAL	9,270.0	0.88	352.05	9,168.60	-172.41	1,145.21	1,158.11	0.40	-0.37	8.13	161.89
	NORMAL	9,363.0	0.53	331.31	9,261.59	-171.32	1,144.91	1,157.65	0.46	-0.38	-22.30	206.03
	NORMAL	9,458.0	1.33	339.64	9,356.58	-169.90	1,144.31	1,156.85	0.85	0.84	8.77	13.77
	NORMAL	9,550.0	0.89	338.55	9,448.56	-168.24	1,143.68	1,155.99	0.48	-0.48	-1.18	182.20
	NORMAL	9,643.0	0.44	263.20	9,541.56	-167.61	1,143.06	1,155.29	0.95	-0.48	-81.02	208.66
	NORMAL	9,737.0	1.46	227.23	9,635.55	-168.46	1,141.83	1,154.18	1.21	1.09	-38.27	310.86
	NORMAL	9,831.0	1.31	219.49	9,729.52	-170.11	1,140.26	1,152.87	0.25	-0.16	-8.23	227.45
	NORMAL	9,924.0	0.93	273.14	9,822.50	-170.89	1,138.83	1,151.57	1.15	-0.41	57.69	135.37
	NORMAL	10,018.0	1.46	319.08	9,916.48	-169.94	1,137.29	1,149.91	1.12	0.56	48.87	85.35
	NORMAL	10,112.0	1.80	329.22	10,010.45	-167.77	1,135.75	1,148.07	0.47	0.36	10.79	45.45
11/21/2011	NORMAL	10,206.0	1.82	340.83	10,104.40	-165.09	1,134.50	1,146.45	0.39	0.02	12.35	92.69
	NORMAL	10,300.0	1.92	357.00	10,198.35	-162.11	1,133.93	1,145.45	0.57	0.11	17.20	87.42
	NORMAL	10,393.0	1.96	35.37	10,291.30	-159.25	1,134.77	1,145.87	1.37	0.04	41.26	107.48
11/22/2011	NORMAL	10,487.0	1.71	47.35	10,385.25	-156.99	1,136.73	1,147.49	0.49	-0.27	12.74	128.98
	NORMAL	10,582.0	1.32	29.14	10,480.22	-155.08	1,138.31	1,148.77	0.65	-0.41	-19.17	222.13
	NORMAL	10,676.0	0.72	47.58	10,574.20	-153.73	1,139.27	1,149.53	0.72	-0.64	19.62	160.33
	NORMAL	10,770.0	0.26	20.62	10,668.20	-153.13	1,139.78	1,149.95	0.53	-0.49	-28.68	193.57
	NORMAL	10,863.0	0.18	101.65	10,761.20	-152.97	1,140.00	1,150.14	0.31	-0.09	87.13	142.53
	NORMAL	10,957.0	0.94	200.10	10,855.20	-153.72	1,139.88	1,150.13	1.05	0.81	104.73	108.89
	NORMAL	11,051.0	0.45	232.87	10,949.19	-154.67	1,139.32	1,149.71	0.65	-0.52	34.86	156.55
	NORMAL	11,145.0	1.58	222.75	11,043.17	-155.84	1,138.14	1,148.72	1.21	1.20	-10.77	345.90
	NORMAL	11,240.0	1.73	220.28	11,138.13	-157.90	1,136.33	1,147.22	0.17	0.16	-2.60	333.33
	NORMAL	11,333.0	1.39	82.33	11,231.12	-158.82	1,136.54	1,147.56	3.13	-0.37	-148.33	198.63
	NORMAL	11,427.0	0.77	89.76	11,325.10	-158.66	1,138.30	1,149.28	0.67	-0.66	7.90	170.97
11/23/2011	NORMAL	11,520.0	0.92	197.60	11,418.10	-159.37	1,138.70	1,149.78	1.47	0.16	115.96	140.22
	NORMAL	11,614.0	1.85	211.52	11,512.07	-161.38	1,137.68	1,149.06	1.04	0.99	14.81	26.94
	NORMAL	11,708.0	2.46	228.83	11,606.00	-164.01	1,135.37	1,147.15	0.94	0.65	18.41	55.73
	NORMAL	11,802.0	3.34	243.86	11,699.88	-166.54	1,131.39	1,143.58	1.23	0.94	15.99	48.50
	NORMAL	11,895.0	3.43	227.07	11,792.72	-169.63	1,126.92	1,139.60	1.07	0.10	-18.05	266.77
	NORMAL	11,989.0	3.69	243.16	11,886.54	-172.91	1,122.16	1,135.37	1.09	0.28	17.12	83.53
	NORMAL	12,082.0	3.12	249.02	11,979.38	-175.17	1,117.13	1,130.71	0.72	-0.61	6.30	151.49
	NORMAL	12,176.0	1.63	299.71	12,073.30	-175.42	1,113.58	1,127.23	2.59	-1.59	53.93	148.85
11/24/2011	NORMAL	12,270.0	1.71	9.04	12,167.27	-173.37	1,112.64	1,126.01	2.02	0.09	73.76	122.67
	NORMAL	12,363.0	0.26	21.66	12,260.26	-171.81	1,112.93	1,126.08	1.57	-1.56	13.57	177.77
	NORMAL	12,457.0	1.49	184.54	12,354.25	-172.83	1,112.91	1,126.20	1.85	1.31	173.28	165.40
	PROJECTION	12,523.0	0.42	208.96								

3 Charts

3.1 Vertical Section View



3.2 Plan View

