

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 523-35-198	Wellbore No.	
Well Name	FEDERAL RGU 523-35-198	Common Name	RGU 523-35-198
Project	RG 35-01S-098W	Site	RGU 23-35-198 Pad
Vertical Section Azimuth	181.80 (°)	North Reference	
Origin N/S		Origin E/W	
Spud Date	8/10/2011	UWI	RGU 523-35-198
Active Datum	KB @6,799.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	Cathedral
Date Started	8/10/2011	Ended	
Tool Name	MWD	Engineer	Bill Odell

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 (°)
8/10/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/10/2011	NORMAL	155.0	1.20	163.10	154.99	-1.55	0.47	1.54	0.77	0.77	0.00	163.10
	NORMAL	247.0	2.50	173.50	246.94	-4.47	0.98	4.44	1.45	1.41	11.30	19.72
	NORMAL	339.0	4.40	179.80	338.77	-9.99	1.22	9.95	2.10	2.07	6.85	14.44
	NORMAL	432.0	6.00	182.80	431.38	-18.41	0.99	18.37	1.74	1.72	3.23	11.14
	NORMAL	524.0	6.90	179.80	522.80	-28.74	0.78	28.70	1.04	0.98	-3.26	337.98
	NORMAL	616.0	7.50	179.10	614.07	-40.27	0.89	40.23	0.66	0.65	-0.76	351.33
	NORMAL	708.0	7.50	178.20	705.29	-52.28	1.17	52.22	0.13	0.00	-0.98	269.55
	NORMAL	800.0	8.10	178.50	796.44	-64.76	1.53	64.68	0.65	0.65	0.33	4.03
	NORMAL	892.0	8.90	179.20	887.42	-78.35	1.80	78.26	0.88	0.87	0.76	7.72
	NORMAL	986.0	8.00	177.80	980.40	-92.16	2.15	92.05	0.98	-0.96	-1.49	192.18
	NORMAL	1,080.0	8.00	186.20	1,073.49	-105.20	1.70	105.10	1.24	0.00	8.94	94.16
	NORMAL	1,174.0	8.40	184.40	1,166.53	-118.55	0.47	118.48	0.51	0.43	-1.91	326.41
	NORMAL	1,268.0	8.90	183.30	1,259.46	-132.65	-0.48	132.60	0.56	0.53	-1.17	341.15
	NORMAL	1,362.0	8.10	187.30	1,352.43	-146.48	-1.74	146.47	1.06	-0.85	4.26	145.50
	NORMAL	1,457.0	7.20	187.70	1,446.58	-159.02	-3.39	159.05	0.95	-0.95	0.42	176.81
	NORMAL	1,551.0	7.30	186.90	1,539.83	-170.79	-4.89	170.86	0.15	0.11	-0.85	314.33
	NORMAL	1,646.0	7.30	187.90	1,634.06	-182.76	-6.45	182.87	0.13	0.00	1.05	90.50
8/11/2011	NORMAL	1,740.0	7.40	178.30	1,727.29	-194.72	-7.09	194.85	1.31	0.11	-10.21	269.88
	NORMAL	1,835.0	8.10	179.00	1,821.42	-207.53	-6.79	207.64	0.74	0.74	0.74	8.03

2.1.2 Survey Stations (Continued)

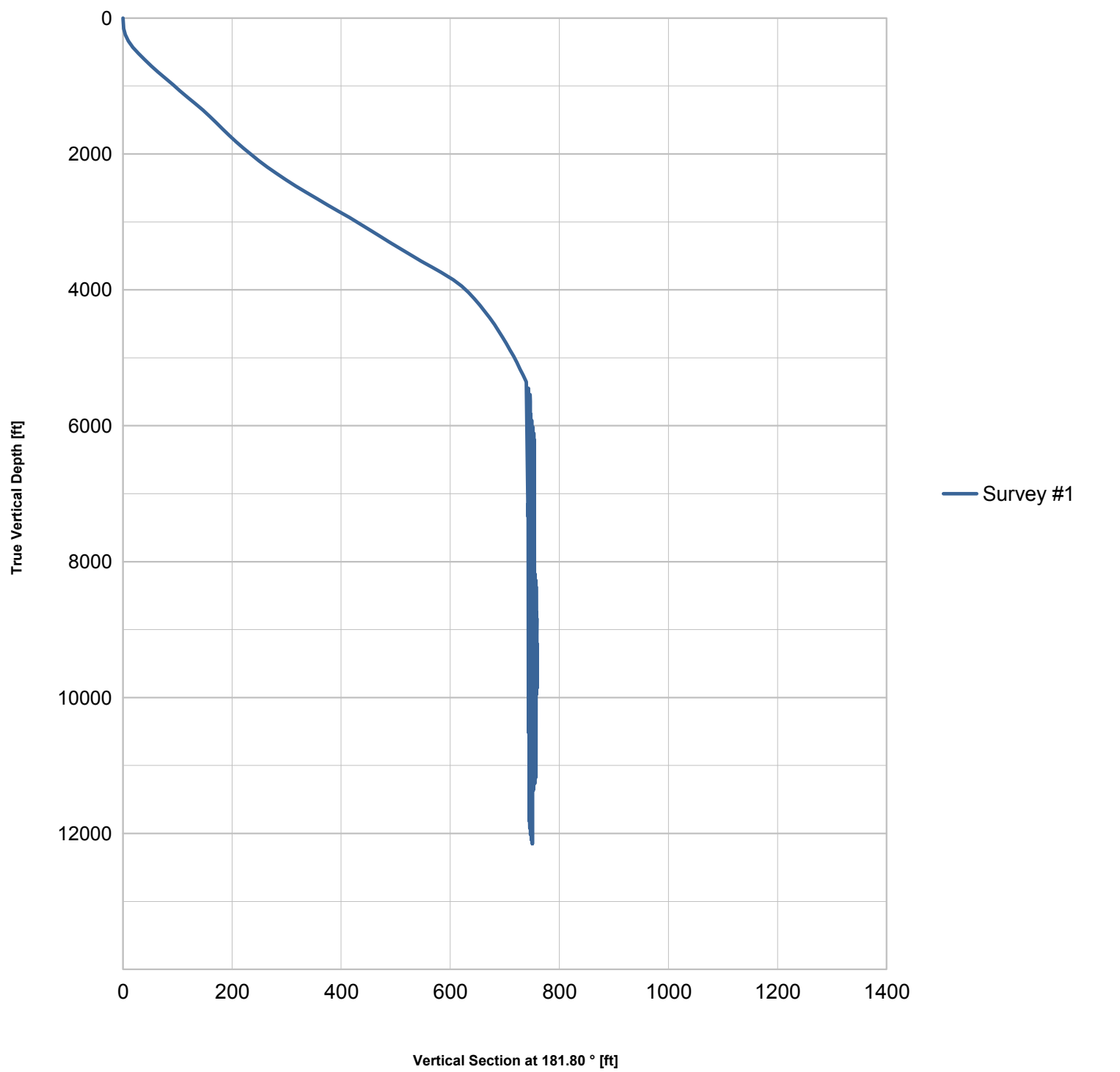
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
8/11/2011	NORMAL	1,929.0	8.20	183.40	1,914.47	-220.84	-7.07	220.96	0.67	0.11	4.68	83.07
	NORMAL	2,023.0	8.70	185.20	2,007.45	-234.62	-8.12	234.76	0.60	0.53	1.91	28.77
	NORMAL	2,117.0	9.10	184.60	2,100.32	-249.11	-9.36	249.28	0.44	0.43	-0.64	346.64
	NORMAL	2,211.0	9.70	181.90	2,193.06	-264.43	-10.22	264.62	0.79	0.64	-2.87	322.35
	NORMAL	2,306.0	10.40	182.30	2,286.60	-281.00	-10.82	281.20	0.74	0.74	0.42	5.89
	NORMAL	2,400.0	10.80	185.10	2,379.00	-298.25	-11.95	298.48	0.69	0.43	2.98	53.55
	NORMAL	2,495.0	11.40	182.00	2,472.22	-316.50	-13.07	316.75	0.89	0.63	-3.26	313.62
	NORMAL	2,590.0	11.90	182.30	2,565.26	-335.67	-13.79	335.93	0.53	0.53	0.32	7.06
	NORMAL	2,685.0	12.00	183.80	2,658.21	-355.31	-14.84	355.60	0.34	0.11	1.58	72.89
	NORMAL	2,778.0	11.80	180.40	2,749.21	-374.46	-15.54	374.77	0.78	-0.22	-3.66	252.42
	NORMAL	2,872.0	12.40	180.80	2,841.12	-394.17	-15.75	394.47	0.64	0.64	0.43	8.15
	NORMAL	2,967.0	12.20	181.40	2,933.94	-414.40	-16.14	414.70	0.25	-0.21	0.63	147.71
	NORMAL	3,061.0	11.50	179.80	3,025.93	-433.70	-16.35	434.00	0.82	-0.74	-1.70	204.36
	NORMAL	3,156.0	11.20	179.60	3,119.08	-452.40	-16.25	452.68	0.32	-0.32	-0.21	187.38
	NORMAL	3,248.0	11.30	180.90	3,209.31	-470.34	-16.33	470.62	0.30	0.11	1.41	69.12
	NORMAL	3,343.0	11.40	181.00	3,302.45	-489.04	-16.64	489.32	0.11	0.11	0.11	11.18
	NORMAL	3,437.0	11.90	181.80	3,394.51	-508.01	-17.11	508.30	0.56	0.53	0.85	18.30
	NORMAL	3,532.0	11.80	179.70	3,487.49	-527.51	-17.36	527.80	0.47	-0.11	-2.21	255.92
	NORMAL	3,625.0	12.40	180.00	3,578.42	-547.01	-17.31	547.28	0.65	0.65	0.32	6.13
	NORMAL	3,719.0	12.40	178.80	3,670.23	-567.19	-17.10	567.45	0.27	0.00	-1.28	269.41
	NORMAL	3,793.0	12.40	178.80	3,742.50	-583.08	-16.77	583.32	0.00	0.00	0.00	0.00
8/13/2011	NORMAL	3,904.0	10.80	182.30	3,851.24	-605.39	-16.94	605.62	1.57	-1.44	3.15	157.96
	NORMAL	3,998.0	8.10	180.90	3,943.95	-620.81	-17.39	621.05	2.88	-2.87	-1.49	184.18
	NORMAL	4,092.0	7.10	191.60	4,037.13	-633.12	-18.67	633.40	1.84	-1.06	11.38	130.47
	NORMAL	4,187.0	6.20	186.40	4,131.49	-643.97	-20.42	644.30	1.14	-0.95	-5.47	211.22
	NORMAL	4,282.0	6.10	186.00	4,225.94	-654.09	-21.52	654.44	0.11	-0.11	-0.42	203.00
	NORMAL	4,376.0	5.10	185.40	4,319.49	-663.22	-22.43	663.60	1.07	-1.06	-0.64	183.05
	NORMAL	4,470.0	5.80	180.90	4,413.07	-672.13	-22.90	672.51	0.87	0.74	-4.79	326.34
	NORMAL	4,565.0	4.60	183.70	4,507.68	-680.73	-23.22	681.12	1.29	-1.26	2.95	169.45
	NORMAL	4,659.0	4.20	178.60	4,601.40	-687.93	-23.38	688.33	0.59	-0.43	-5.43	221.84
	NORMAL	4,753.0	4.80	175.00	4,695.11	-695.29	-22.96	695.67	0.71	0.64	-3.83	332.99
	NORMAL	4,848.0	4.00	177.50	4,789.83	-702.56	-22.46	702.92	0.87	-0.84	2.63	167.76
	NORMAL	4,942.0	4.20	179.20	4,883.59	-709.28	-22.27	709.63	0.25	0.21	1.81	32.14
	NORMAL	5,036.0	3.90	186.20	4,977.35	-715.90	-22.57	716.25	0.61	-0.32	7.45	124.71
	NORMAL	5,130.0	3.90	202.80	5,071.14	-722.02	-24.15	722.43	1.20	0.00	17.66	98.28
	NORMAL	5,225.0	3.70	211.00	5,165.93	-727.63	-26.99	728.12	0.61	-0.21	8.63	114.26
	NORMAL	5,319.0	3.90	192.80	5,259.73	-733.35	-29.26	733.90	1.29	0.21	-19.36	270.26
8/14/2011	NORMAL	5,414.0	2.90	174.40	5,354.56	-738.89	-29.74	739.46	1.55	-1.05	-19.37	218.56
	NORMAL	5,507.0	2.20	190.60	5,447.47	-742.98	-29.84	743.55	1.07	-0.75	17.42	142.06
	NORMAL	5,602.0	1.30	139.70	5,542.43	-745.60	-29.47	746.16	1.80	-0.95	-53.58	216.17
	NORMAL	5,697.0	0.40	28.30	5,637.42	-746.13	-28.62	746.66	1.57	-0.95	-117.26	194.44
	NORMAL	5,791.0	0.50	224.70	5,731.42	-746.13	-28.75	746.67	0.95	0.11	-174.04	189.12
	NORMAL	5,886.0	1.30	225.10	5,826.41	-747.19	-29.81	747.75	0.84	0.84	0.42	0.65
	NORMAL	5,980.0	1.70	227.40	5,920.38	-748.88	-31.59	749.51	0.43	0.43	2.45	9.71
	NORMAL	6,075.0	1.70	235.00	6,015.33	-750.65	-33.78	751.34	0.24	0.00	8.00	93.80
	NORMAL	6,170.0	1.20	207.50	6,110.30	-752.34	-35.39	753.08	0.89	-0.53	-28.95	221.08
	NORMAL	6,264.0	0.50	144.70	6,204.30	-753.54	-35.61	754.29	1.14	-0.74	-66.81	204.60
	NORMAL	6,358.0	0.60	45.40	6,298.29	-753.53	-35.02	754.26	0.89	0.11	-105.64	224.77
	NORMAL	6,453.0	1.70	53.80	6,393.27	-752.35	-33.53	753.03	1.17	1.16	8.84	12.93
	NORMAL	6,545.0	1.00	52.70	6,485.25	-751.06	-31.79	751.69	0.76	-0.76	-1.20	181.57
	NORMAL	6,640.0	1.30	66.00	6,580.23	-750.12	-30.15	750.69	0.42	0.32	14.00	48.44
8/15/2011	NORMAL	6,734.0	2.10	57.80	6,674.19	-748.77	-27.72	749.27	0.89	0.85	-8.72	338.96
	NORMAL	6,829.0	1.20	68.90	6,769.14	-747.48	-25.32	747.91	1.00	-0.95	11.68	165.94
	NORMAL	6,924.0	1.50	61.90	6,864.12	-746.54	-23.29	746.90	0.36	0.32	-7.37	327.67
	NORMAL	7,018.0	2.60	65.90	6,958.06	-745.09	-20.26	745.36	1.18	1.17	4.26	9.41
	NORMAL	7,112.0	2.40	71.40	7,051.97	-743.59	-16.45	743.74	0.33	-0.21	5.85	132.54
	NORMAL	7,206.0	1.50	79.20	7,145.91	-742.73	-13.37	742.78	1.00	-0.96	8.30	167.44

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 (°)
8/15/2011	NORMAL	7,300.0	1.10	89.80	7,239.89	-742.50	-11.26	742.48	0.49	-0.43	11.28	154.21
	NORMAL	7,394.0	0.70	102.90	7,333.88	-742.62	-9.80	742.56	0.48	-0.43	13.94	159.23
	NORMAL	7,489.0	0.50	133.90	7,428.87	-743.04	-8.94	742.95	0.39	-0.21	32.63	136.50
	NORMAL	7,583.0	0.90	184.20	7,522.86	-744.06	-8.70	743.97	0.74	0.43	53.51	83.83
	NORMAL	7,677.0	1.10	199.70	7,616.85	-745.65	-9.05	745.56	0.36	0.21	16.49	61.44
	NORMAL	7,771.0	0.90	178.30	7,710.84	-747.23	-9.34	747.16	0.45	-0.21	-22.77	231.41
	NORMAL	7,865.0	1.10	174.30	7,804.82	-748.87	-9.23	748.79	0.23	0.21	-4.26	338.75
8/16/2011	NORMAL	7,959.0	1.00	192.90	7,898.81	-750.57	-9.32	750.49	0.38	-0.11	19.79	115.51
	NORMAL	8,053.0	1.30	216.10	7,992.79	-752.23	-10.13	752.17	0.58	0.32	24.68	69.16
	NORMAL	8,147.0	0.80	196.20	8,086.77	-753.72	-10.94	753.69	0.65	-0.53	-21.17	206.43
	NORMAL	8,241.0	1.30	212.70	8,180.76	-755.25	-11.70	755.24	0.62	0.53	17.55	39.59
	NORMAL	8,334.0	1.60	233.60	8,273.73	-756.90	-13.32	756.95	0.65	0.32	22.47	71.16
	NORMAL	8,428.0	1.70	282.40	8,367.69	-757.38	-15.73	757.50	1.45	0.11	51.91	110.57
	NORMAL	8,521.0	0.90	294.20	8,460.67	-756.79	-17.75	756.97	0.90	-0.86	12.69	167.34
8/17/2011	NORMAL	8,613.0	0.40	257.30	8,552.66	-756.56	-18.72	756.78	0.68	-0.54	-40.11	202.49
	NORMAL	8,707.0	1.30	235.20	8,646.65	-757.24	-19.92	757.49	1.00	0.96	-23.51	328.70
8/18/2011	NORMAL	8,801.0	1.10	259.40	8,740.63	-758.02	-21.68	758.32	0.57	-0.21	25.74	123.34
	NORMAL	8,894.0	0.70	265.30	8,833.62	-758.23	-23.12	758.58	0.44	-0.43	6.34	169.89
	NORMAL	8,956.0	0.70	298.50	8,895.62	-758.08	-23.83	758.45	0.65	0.00	53.55	106.60
	NORMAL	9,049.0	0.30	293.50	8,988.61	-757.71	-24.55	758.11	0.43	-0.43	-5.38	183.73
	NORMAL	9,143.0	1.00	239.50	9,082.61	-758.03	-25.49	758.46	0.91	0.74	-57.45	289.58
	NORMAL	9,268.0	1.10	264.00	9,207.59	-758.71	-27.62	759.20	0.36	0.08	19.60	89.88
8/19/2011	NORMAL	9,361.0	0.60	280.60	9,300.57	-758.71	-28.99	759.25	0.59	-0.54	17.85	161.92
	NORMAL	9,454.0	0.80	260.00	9,393.57	-758.73	-30.10	759.31	0.34	0.22	-22.15	297.87
	NORMAL	9,548.0	0.40	328.50	9,487.56	-758.57	-30.92	759.17	0.80	-0.43	72.87	150.33
	NORMAL	9,642.0	0.80	273.90	9,581.56	-758.24	-31.75	758.87	0.70	0.43	-58.09	275.56
	NORMAL	9,735.0	1.20	246.10	9,674.54	-758.59	-33.29	759.27	0.66	0.43	-29.89	295.05
	NORMAL	9,829.0	1.00	270.10	9,768.53	-758.99	-35.01	759.72	0.53	-0.21	25.53	125.16
	NORMAL	9,923.0	0.80	10.90	9,862.52	-758.35	-35.70	759.09	1.48	-0.21	107.23	145.65
	NORMAL	10,017.0	1.00	320.10	9,956.51	-757.07	-36.10	757.83	0.84	0.21	-54.04	257.77
	NORMAL	10,110.0	2.40	331.20	10,049.47	-754.74	-37.56	755.55	1.54	1.51	11.94	18.82
	NORMAL	10,204.0	2.90	341.00	10,143.37	-750.77	-39.29	751.63	0.72	0.53	10.43	47.15
8/20/2011	NORMAL	10,298.0	2.60	354.50	10,237.26	-746.40	-40.26	747.30	0.76	-0.32	14.36	121.49
	NORMAL	10,392.0	0.90	16.00	10,331.21	-743.57	-40.27	744.47	1.91	-1.81	22.87	169.40
	NORMAL	10,486.0	0.80	67.70	10,425.20	-742.61	-39.45	743.48	0.79	-0.11	55.00	122.77
	NORMAL	10,580.0	0.90	125.30	10,519.20	-742.79	-38.24	743.62	0.88	0.11	61.28	112.69
	NORMAL	10,674.0	0.60	156.50	10,613.19	-743.66	-37.45	744.47	0.53	-0.32	33.19	141.21
	NORMAL	10,768.0	1.70	151.10	10,707.17	-745.34	-36.58	746.12	1.17	1.17	-5.74	351.67
	NORMAL	10,862.0	1.70	147.60	10,801.13	-747.73	-35.16	748.47	0.11	0.00	-3.72	268.25
	NORMAL	10,956.0	1.90	165.10	10,895.08	-750.42	-34.01	751.12	0.62	0.21	18.62	78.90
8/21/2011	NORMAL	11,050.0	2.00	212.50	10,989.03	-753.31	-34.49	754.02	1.67	0.11	50.43	110.34
	NORMAL	11,141.0	1.60	185.50	11,079.99	-755.91	-35.46	756.65	1.02	-0.44	-29.67	231.67
	NORMAL	11,235.0	0.90	339.10	11,173.98	-756.53	-35.85	757.28	2.59	-0.74	163.40	170.55
	NORMAL	11,329.0	1.90	345.90	11,267.95	-754.33	-36.50	755.10	1.08	1.06	7.23	12.84
	NORMAL	11,423.0	1.70	23.10	11,361.91	-751.53	-36.33	752.30	1.24	-0.21	39.57	117.97
8/22/2011	NORMAL	11,516.0	2.20	54.00	11,454.85	-749.21	-34.34	749.92	1.23	0.54	33.23	80.55
	NORMAL	11,610.0	1.10	50.80	11,548.81	-747.58	-32.18	748.23	1.17	-1.17	-3.40	183.19
	NORMAL	11,703.0	1.10	28.30	11,641.80	-746.23	-31.07	746.84	0.46	0.00	-24.19	258.75
	NORMAL	11,797.0	0.50	22.70	11,735.79	-745.06	-30.48	745.65	0.64	-0.64	-5.96	184.63
	NORMAL	11,890.0	0.10	158.80	11,828.79	-744.76	-30.30	745.35	0.62	-0.43	146.34	173.09
	NORMAL	11,984.0	1.10	231.90	11,922.78	-745.40	-30.98	746.00	1.14	1.06	77.77	78.20
	NORMAL	12,080.0	2.40	246.60	12,018.73	-746.76	-33.55	747.45	1.42	1.35	15.31	26.50
	NORMAL	12,164.0	3.10	242.10	12,102.64	-748.52	-37.17	749.32	0.87	0.83	-5.36	340.60
	NORMAL	12,214.0	3.10	242.10	12,152.56	-749.79	-39.56	750.66	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

