Appendix A - Historical Total Trihalomethanes

Appendix A

Historical Total Trihalomethanes - Rutland City Water Filtration Facility

Sample Location	Date	Total Trihalomethanes	Chloroform	Bromoform	Bromodi-chloromethane	Dibromono-chloromethane	Chlorine Resuidual	Avg Chlorine Residual	Average of all Sample Sites for Sample Day	Running 4 Quarter Avg. Of All Samples	Running 4 Quarter Avg. Avg. Per Sample Site
Sheldon Towers	1/24/1995	0.030	0.028	<0.0005	0.002	<0.0005	1.3				
City Hall	1/24/1995	0.034	0.032	<0.0005	0.002	<0.0005	1.0				
Hospital	1/24/1995	0.035	0.033	<0.0005	0.002	<0.0005	1.0				
Days Inn	1/24/1995	0.038	0.036	<0.0005	0.002	<0.0005	0.9	1.1	0.034		
Sheldon Towers	4/24/1995	0.027	0.025	<0.0005	0.002	<0.0005	0.9				
City Hall	4/24/1995	0.025	0.024	<0.0005	0.002	<0.0005	0.9				
Hospital	4/24/1995	0.027	0.025	<0.0005	0.002	<0.0005	0.8				
Days Inn	4/24/1995	0.031	0.029	<0.0005	0.002	<0.0005	0.9	0.9	0.028		
Sheldon Towers	8/1/1995	0.017	0.016	<0.0005	0.001	<0.0005	0.8				
City Hall	8/1/1995	0.064	0.060	<0.0005	0.004	<0.0005	0.7				
Hospital	8/1/1995	0.066	0.062	<0.0005	0.004	<0.0005	0.7				
Days Inn	8/1/1995	0.080	0.075	<0.0005	0.005	<0.0005	0.7	0.7	0.057		
Sheldon Towers	11/7/1995	0.049	0.046	<0.0005	0.003	<0.0005	0.6				0.031
City Hall	11/7/1995	0.050	0.047	<0.0005	0.003	<0.0005	0.8				0.043
Hospital	11/7/1995	0.051	0.048	<0.0005	0.003	<0.0005	0.7				0.045
Days Inn	11/7/1995	0.052	0.049	<0.0005	0.003	<0.0005	0.5	0.7	0.051	0.042	0.050
Sheldon Towers	2/6/1996	0.027	0.025	<0.0005	0.002	<0.0005	0.6				0.030
City Hall	2/6/1996	0.019	0.018	<0.0005	0.001	<0.0005	0.6				0.040
Hospital	2/6/1996	0.030	0.028	<0.0005	0.002	<0.0005	0.6				0.044
Days Inn	2/6/1996	0.032	0.030	<0.0005	0.002	<0.0005	0.5	0.6	0.027	0.040	0.049
Sheldon Towers	4/23/1996	0.040	0.037	<0.0005	0.003	<0.0005	0.5				0.033
City Hall	4/23/1996	0.041	0.038	<0.0005	0.003	<0.0005	0.5				0.044
Hospital	4/23/1996	0.042	0.039	<0.0005	0.003	<0.0005	0.6				0.047
Days Inn	4/23/1996	0.045	0.042	<0.0005	0.003	<0.0005	0.5	0.5	0.042	0.044	0.052
Sheldon Towers	7/16/1996	0.071	0.067	<0.0005	0.004	<0.0005	1.0				0.047
City Hall	7/16/1996	0.072	0.068	<0.0005	0.004	<0.0005	1.1				0.046
Hospital	7/16/1996	0.075	0.071	<0.0005	0.004	<0.0005	0.7				0.050
Days Inn	7/16/1996	0.081	0.077	<0.0005	0.004	<0.0005	0.5	0.8	0.075	0.049	0.053
Sheldon Towers	12/2/1996	0.036	0.034	<0.0005	0.002	<0.0005	0.9				0.044
City Hall	12/2/1996	0.033	0.031	<0.0005	0.002	<0.0005	0.9				0.041
Hospital	12/2/1996	0.040	0.037	<0.0005	0.003	<0.0005	0.8				0.047
Days Inn	12/2/1996	0.045	0.042	<0.0005	0.003	<0.0005	0.5	0.8	0.039	0.046	0.051
Fire Station	1/21/1997	0.020	0.019	<0.0005	0.001	<0.0005	0.9				
City Hall	1/21/1997	0.025	0.024	<0.0005	0.001	<0.0005	0.8				0.043
Hospital	1/21/1997	0.028	0.026	<0.0005	0.002	<0.0005	0.8				0.046
Days Inn	1/21/1997	0.029	0.027	<0.0005	0.002	<0.0005	0.8	0.8	0.026	0.045	0.050
Fire Station	4/7/1997	0.028	0.026	<0.0005	0.002	<0.0005	1.0				
City Hall	4/7/1997	0.029	0.027	<0.0005	0.002	<0.0005	1.0				0.040
Hospital	4/7/1997	0.035	0.032	<0.0005	0.003	<0.0005	1.0				0.045
Days Inn	4/7/1997	0.032	0.030	<0.0005	0.002	<0.0005	1.0	1.0	0.031	0.042	0.047
Fire Station	9/2/1997	0.069	0.063	<0.0005	0.006	<0.0005	0.8				
City Hall	9/2/1997	0.064	0.059	<0.0005	0.005	<0.0005	0.7				0.038
Hospital	9/2/1997	0.058	0.053	<0.0005	0.005	<0.0005	0.7				0.040
Days Inn	9/2/1997	0.064	0.059	<0.0005	0.005	<0.0005	0.4	0.7	0.064	0.040	0.043
Fire Station	11/4/1997	0.033	0.030	<0.0005	0.003	<0.0005	0.8				0.038
City Hall	11/4/1997	0.038	0.035	<0.0005	0.003	<0.0005	0.8				0.039
Hospital	11/4/1997	0.038	0.035	<0.0005	0.003	<0.0005	0.8				0.040
Days Inn	11/4/1997	0.038	0.035	<0.0005	0.003	<0.0005	0.6	0.8	0.037	0.039	0.041

Sample Location	Date	Total Trihalomethanes	Chloroform	Bromoform	Bromodi-chloromethane	Dibromono-chloromethane	Chlorine Resuidual	Avg Chlorine Residual	Average of all Sample Sites for Sample Day	Running 4 Quarter Avg. Of All Samples	Running 4 Quarter Avg. Avg. Per Sample Site
Fire Station	1/13/1998	0.023	0.021	<0.0005	0.002	<0.0005	0.8				0.038
City Hall	1/13/1998	0.025	0.023	<0.0005	0.002	<0.0005	0.8				0.039
Hospital	1/13/1998	0.030	0.028	<0.0005	0.002	<0.0005	0.8				0.040
Ramada Inn	1/13/1998	0.029	0.027	<0.0005	0.002	<0.0005	0.6	0.8	0.027	0.040	0.041
Fire Station	4/8/1998	0.030	0.028	<0.0005	0.002	<0.0005	0.5				0.039
City Hall	4/8/1998	0.028	0.026	<0.0005	0.002	<0.0005	0.5				0.039
Hospital	4/8/1998	0.031	0.029	<0.0005	0.002	<0.0005	0.5				0.039
Ramada Inn	4/8/1998	0.036	0.034	<0.0005	0.002	<0.0005	0.4	0.5	0.031	0.040	0.042
Fire Station	7/21/1998	0.046	0.043	<0.0005	0.003	<0.0005	0.6				0.033
City Hall	7/21/1998	0.046	0.043	<0.0005	0.003	<0.0005	0.6				0.034
Hospital	7/21/1998	0.042	0.039	<0.0005	0.003	<0.0005	0.5				0.035
Ramada Inn	7/21/1998	0.053	0.049	<0.0005	0.004	<0.0005	0.4	0.5	0.047	0.035	0.039
Fire Station	11/9/1998	0.031	0.028	<0.0005	0.003	<0.0005	0.7				0.033
City Hall	11/9/1998	0.034	0.031	<0.0005	0.003	<0.0005	0.7				0.033
Hospital	11/9/1998	0.030	0.027	<0.0005	0.003	<0.0005	0.6				0.033
Ramada Inn	11/9/1998	0.039	0.036	<0.0005	0.003	<0.0005	0.4	0.6	0.034	0.035	0.039
Fire Station	2/3/1999	0.026	0.024	<0.0005	0.002	<0.0005	0.8				0.033
City Hall	2/3/1999	0.028	0.026	<0.0005	0.002	<0.0005	0.9				0.034
Hospital	2/3/1999	0.026	0.024	<0.0005	0.002	<0.0005	0.8				0.032
Ramada Inn	2/3/1999	0.033	0.031	<0.0005	0.002	<0.0005	0.6	0.8	0.028	0.035	0.040
Fire Station	5/18/1999	0.051	0.048	<0.0005	0.003	<0.0005	0.6				0.039
City Hall	5/18/1999	0.049	0.046	<0.0005	0.003	<0.0005	0.7				0.039
Hospital	5/18/1999	0.047	0.044	<0.0005	0.003	<0.0005	0.7				0.036
Ramada Inn	5/18/1999	0.048	0.045	<0.0005	0.003	<0.0005	0.4	0.6	0.049	0.039	0.043
Fire Station	8/18/1999	0.057	0.052	<0.0005	0.005	<0.0005	0.8				0.041
City Hall	8/18/1999	0.053	0.048	<0.0005	0.005	<0.0005	0.9				0.041
Hospital	8/18/1999	0.056	0.051	<0.0005	0.005	<0.0005	0.7				0.040
Ramada Inn	8/18/1999	0.065	0.059	<0.0005	0.005	<0.0005	0.4		0.058	0.042	0.046
Fire Station	11/3/1999	0.050	0.047	<0.0005	0.003	<0.0005	0.5				0.046
City Hall	11/3/1999	0.050	0.047	<0.0005	0.003	<0.0005	0.5				0.045
Hospital	11/3/1999	0.054	0.051	<0.0005	0.003	<0.0005	0.5	0.6			0.046
Ramada Inn	11/3/1999	0.051	0.047	<0.0005	0.004	<0.0005	0.3		0.051	0.047	0.049
Fire Station	2/2/2000	0.024	0.022	<0.0005	0.002	<0.0005	0.6				0.046
City Hall	2/2/2000	0.025	0.023	<0.0005	0.022	<0.0005	0.6				0.044
Hospital	2/2/2000	0.028	0.026	<0.0005	0.002	<0.0005	0.5				0.046
Ramada Inn	2/2/2000	0.031	0.029	<0.0005	0.002	<0.0005	0.4		0.027	0.046	0.049
Fire Station	4/18/2000	0.016	0.015	<0.0005	0.001	<0.0005	0.6				0.037
City Hall	4/18/2000	0.043	0.041	<0.0005	0.002	<0.0005	0.6	0.5			0.043
Hospital	4/18/2000	0.012	0.011	<0.0005	0.001	<0.0005	0.5				0.038
Ramada Inn	4/18/2000	0.048	0.046	<0.0005	0.002	<0.0005	0.3		0.030	0.041	0.049
Fire Station	8/1/2000	0.046	0.042	<0.0005	0.004	<0.0005	0.7				0.034
City Hall	8/1/2000	0.047	0.043	<0.0005	0.004	<0.0005	0.5				0.041
Hospital	8/1/2000	0.049	0.045	<0.0005	0.004	<0.0005	0.5				0.036
Ramada Inn	8/1/2000	0.051	0.046	<0.0005	0.005	<0.0005	0.3		0.048	0.039	0.045
Fire Station	11/1/2000	0.035	0.032	<0.0005	0.003	<0.0005	0.7	0.5			0.030
City Hall	11/1/2000	0.036	0.033	<0.0005	0.003	<0.0005	0.5				0.038
Hospital	11/1/2000	0.037	0.034	<0.0005	0.003	<0.0005	0.6				0.032
Ramada Inn	11/1/2000	0.037	0.034	<0.0005	0.003	<0.0005	0.4		0.036	0.035	0.042
Fire Station	2/7/2001	0.021	0.019	<0.0005	0.002	<0.0005	0.8				0.030
City Hall	2/7/2001	0.022	0.020	<0.0005	0.002	<0.0005	0.7				0.037
Hospital	2/7/2001	0.024	0.022	<0.0005	0.002	<0.0005	0.7				0.031
Ramada Inn	2/7/2001	0.023	0.021	<0.0005	0.002	<0.0005	0.6	0.6	0.023	0.034	0.040

Sample Location	Date	Total Trihalomethanes	Chloroform	Bromoform	Bromodi-chloromethane	Dibromono-chloromethane	Chlorine Resuidual	Avg Chlorine Residual	Average of all Sample Sites for Sample Day	Running 4 Quarter Avg. Of All Samples	Running 4 Quarter Avg. Avg. Per Sample Site
Fire Station	5/2/2001	0.046	0.043	<0.0005	0.003	<0.0005	1.0				0.037
City Hall	5/2/2001	0.045	0.042	<0.0005	0.003	<0.0005	1.0				0.038
Hospital	5/2/2001	0.048	0.045	<0.0005	0.003	<0.0005	0.9				0.040
Ramada Inn	5/2/2001	0.050	0.047	<0.0005	0.003	<0.0005	0.8	0.9	0.047	0.039	0.040
Fire Station	8/1/2001	0.050	0.046	<0.0005	0.004	<0.0005	0.9				0.038
City Hall	8/1/2001	0.051	0.047	<0.0005	0.004	<0.0005	0.9				0.039
Hospital	8/1/2001	0.054	0.050	<0.0005	0.004	<0.0005	0.6				0.041
Ramada Inn	8/1/2001	0.056	0.051	<0.0005	0.004	<0.0005	0.4	0.7	0.053	0.040	0.042
Fire Station	11/7/2001	0.030	0.027	<0.0005	0.003	<0.0005	0.7				0.037
City Hall	11/7/2001	0.031	0.028	<0.0005	0.003	<0.0005	0.7				0.037
Hospital	11/7/2001	0.034	0.030	<0.0005	0.004	<0.0005	0.7				0.040
Ramada Inn	11/7/2001	0.035	0.031	<0.0005	0.004	<0.0005	0.5	0.7	0.033	0.039	0.041
Fire Station	3/6/2002	0.025	0.023	<0.0005	0.002	<0.0005	0.8				0.038
City Hall	3/6/2002	0.026	0.024	<0.0005	0.002	<0.0005	0.8				0.038
Hospital	3/6/2002	0.028	0.026	<0.0005	0.002	<0.0005	0.6				0.041
Ramada Inn	3/6/2002	0.031	0.028	<0.0005	0.003	<0.0005	0.5	0.7	0.028	0.040	0.043
Fire Station	5/15/2002	0.035	0.033	<0.0005	0.002	<0.0005	0.6				0.035
City Hall	5/15/2002	0.037	0.035	<0.0005	0.002	<0.0005	0.6				0.036
Hospital	5/15/2002	0.038	0.036	<0.0005	0.002	<0.0005	0.6				0.039
Ramada Inn	5/15/2002	0.040	0.038	<0.0005	0.002	<0.0005	0.4	0.6	0.038	0.038	0.041
Fire Station	8/13/2002	0.078	0.072	<0.0005	0.006	<0.0005	0.5				0.042
City Hall	8/13/2002	0.066	0.060	<0.0005	0.006	<0.0005	0.5				0.040
Hospital	8/13/2002	0.039	0.034	<0.0005	0.005	<0.0005	0.6				0.035
Ramada Inn	8/13/2002	0.043	0.038	<0.0005	0.005	<0.0005	0.4	0.5	0.057	0.039	0.037
Fire Station	11/13/2002	0.043	0.040	<0.0005	0.003	<0.0005	0.9				0.045
City Hall	11/13/2002	0.043	0.040	<0.0005	0.003	<0.0005	0.9				0.043
Hospital	11/13/2002	0.049	0.045	<0.0005	0.004	<0.0005	0.7				0.039
Ramada Inn	11/13/2002	0.052	0.048	<0.0005	0.004	<0.0005	0.5	0.8	0.047	0.042	0.042
Fire Station	2/19/2003	0.021	0.019	<0.0005	0.002	<0.0005	1.0				0.044
City Hall	2/19/2003	0.022	0.020	<0.0005	0.002	<0.0005	1.0				0.042
Hospital	2/19/2003	0.024	0.022	<0.0005	0.002	<0.0005	0.9				0.038
Ramada Inn	2/19/2003	0.025	0.023	<0.0005	0.002	<0.0005	0.7	0.9	0.023	0.041	0.040
Fire Station	5/14/2003	0.054	0.051	<0.0005	0.003	<0.0005	0.9				0.049
City Hall	5/14/2003	0.054	0.051	<0.0005	0.003	<0.0005	0.8				0.046
Hospital	5/14/2003	0.057	0.054	<0.0005	0.003	<0.0005	0.6				0.042
Ramada Inn	5/14/2003	0.050	0.047	<0.0005	0.003	<0.0005	0.5	0.7	0.054	0.045	0.043
Fire Station	8/20/2003	0.076	0.071	<0.0005	0.005	<0.0005	0.7				0.049
City Hall	8/20/2003	0.077	0.072	<0.0005	0.005	<0.0005	0.5				0.049
Hospital	8/20/2003	0.074	0.069	<0.0005	0.005	<0.0005	0.4				0.051
Ramada Inn	8/20/2003	0.084	0.079	<0.0005	0.005	<0.0005	0.2	0.5	0.078	0.050	0.053
Fire Station	11/12/2003	0.050	0.048	<0.0005	0.002	<0.0005	0.8				0.050
City Hall	11/12/2003	0.052	0.049	<0.0005	0.003	<0.0005	0.6				0.051
Hospital	11/12/2003	0.056	0.053	<0.0005	0.003	<0.0005	0.5				0.053
Ramada Inn	11/12/2003	0.061	0.058	<0.0005	0.003	<0.0005	0.4	0.6	0.055	0.052	0.055
Fire Station	2/3/2004	0.022	0.021	<0.0005	0.001	<0.0005	0.9				0.051
City Hall	2/3/2004	0.021	0.020	<0.0005	0.001	<0.0005	0.8				0.051
Hospital	2/3/2004	0.025	0.023	<0.0005	0.002	<0.0005	0.6				0.053
Ramada Inn	2/3/2004	0.025	0.023	<0.0005	0.002	<0.0005	0.6	0.7	0.023	0.052	0.055
Fire Station	5/11/2004	0.048	0.045	<0.0005	0.003	<0.0005	0.6				0.049
City Hall	5/11/2004	0.050	0.047	<0.0005	0.003	<0.0005	0.5				0.050
Hospital	5/11/2004	0.049	0.046	<0.0005	0.003	<0.0005	0.5				0.051
Ramada Inn	5/11/2004	0.052	0.049	<0.0005	0.003	<0.0005	0.4	0.5	0.050	0.051	0.056

Sample Location	Date	Total Trihalomethanes	Chloroform	Bromoform	Bromodi-chloromethane	Dibromono-chloromethane	Chlorine Resuidual	Avg Chlorine Residual	Average of all Sample Sites for Sample Day	Running 4 Quarter Avg. Of All Samples	Running 4 Quarter Avg. Avg. Per Sample Site
Fire Station	8/3/2004	0.059	0.055	<0.0005	0.004	<0.0005	0.8				0.045
City Hall	8/3/2004	0.059	0.055	<0.0005	0.004	<0.0005	0.7				0.046
Hospital	8/3/2004	0.061	0.056	<0.0005	0.005	<0.0005	0.5				0.048
Ramada Inn	8/3/2004	0.060	0.055	<0.0005	0.005	<0.0005	0.4				0.050
High School	8/3/2004	0.068	0.063	<0.0005	0.005	<0.0005	0.3				
93 Temple St.	8/3/2004	0.059	0.054	<0.0005	0.005	<0.0005	0.3				
WWTF Lab	8/3/2004	0.056	0.051	<0.0005	0.005	<0.0005	0.6	0.5	0.060	0.047	
Fire Station	11/16/2004	0.034	0.031	<0.0005	0.003	<0.0005	1.0				0.041
City Hall	11/16/2004	0.036	0.033	<0.0005	0.003	<0.0005	0.8				0.042
Hospital	11/16/2004	0.037	0.034	<0.0005	0.003	<0.0005	0.7				0.043
Ramada Inn	11/16/2004	0.039	0.036	<0.0005	0.003	<0.0005	0.6				0.044
High School	11/16/2004	0.044	0.040	<0.0005	0.004	<0.0005	0.6				
93 Temple St.	11/16/2004	0.037	0.034	<0.0005	0.003	<0.0005	0.6				
WWTF Lab	11/16/2004	0.036	0.033	<0.0005	0.003	<0.0005	0.6	0.7	0.038	0.043	
Fire Station	2/8/2005	0.026	0.024	<0.0005	0.002	<0.0005	1.0				0.043
City Hall	2/8/2005	0.025	0.023	<0.0005	0.002	<0.0005	1.0				0.047
Hospital	2/8/2005	0.026	0.024	<0.0005	0.002	<0.0005	0.8				0.045
Ramada Inn	2/8/2005	0.028	0.026	<0.0005	0.002	<0.0005	0.8				0.046
High School	2/8/2005	0.028	0.026	<0.0005	0.002	<0.0005	0.7				
93 Temple St.	2/8/2005	0.026	0.024	<0.0005	0.002	<0.0005	0.8				
WWTF Lab	2/8/2005	0.025	0.023	<0.0005	0.002	<0.0005	0.9				
Filtration Facility	2/8/2005	0.024	0.022	<0.0005	0.002	<0.0005	1.1	0.9	0.026	0.043	
Fire Station	5/3/2005	0.045	0.043	<0.0005	0.002	<0.0005	0.9				0.037
City Hall	5/3/2005	0.046	0.044	<0.0005	0.002	<0.0005	0.8				0.036
Hospital	5/3/2005	0.048	0.046	<0.0005	0.002	<0.0005	0.7				0.037
Ramada Inn	5/3/2005	0.049	0.047	<0.0005	0.002	<0.0005	0.5				0.036
High School	5/3/2005	0.048	0.046	<0.0005	0.002	<0.0005	0.8				0.047
93 Temple St.	5/3/2005	0.046	0.044	<0.0005	0.002	<0.0005	0.6				0.042
WWTF Lab	5/3/2005	0.048	0.046	<0.0005	0.002	<0.0005	0.6				0.041
Filtration Facility	5/3/2005	0.044	0.042	<0.0005	0.002	<0.0005	0.9	0.7	0.047	0.043	
Fire Station	8/2/2005	0.052	0.048	<0.0005	0.004	<0.0005	0.9				0.039
City Hall	8/2/2005	0.050	0.046	<0.0005	0.004	<0.0005	0.9				0.039
Hospital	8/2/2005	0.055	0.051	<0.0005	0.004	<0.0005	0.6				0.042
Ramada Inn	8/2/2005	0.061	0.056	<0.0005	0.005	<0.0005	0.6	0.8	0.055	0.041	0.044
Fire Station	11/8/2005	0.056	0.054	<0.0005	0.002	<0.0005	0.9				0.045
City Hall	11/8/2005	0.063	0.060	<0.0005	0.003	<0.0005	0.9	0.8			0.046
Hospital	11/8/2005	0.059	0.056	<0.0005	0.003	<0.0005	0.7				0.047
Ramada Inn	11/8/2005	0.064	0.061	<0.0005	0.003	<0.0005	0.6	0.8	0.061	0.047	0.051
Fire Station	2/7/2006	0.042	0.040	<0.0005	0.002	<0.0005	0.9				0.049
City Hall	2/7/2006	0.043	0.041	<0.0005	0.002	<0.0005	0.9	0.8			0.051
Hospital	2/7/2006	0.045	0.043	<0.0005	0.002	<0.0005	0.8				0.052
Ramada Inn	2/7/2006	0.042	0.040	<0.0005	0.002	<0.0005	0.8	0.9	0.043	0.044	0.054
Fire Station	5/2/2006	0.038	0.036	<0.0005	0.002	<0.0005	0.8				0.047
City Hall	5/2/2006	0.038	0.036	<0.0005	0.002	<0.0005	0.8	0.8			0.049
Hospital	5/2/2006	0.040	0.038	<0.0005	0.002	<0.0005	0.7				0.050
Ramada Inn	5/2/2006	0.041	0.039	<0.0005	0.002	<0.0005	0.6	0.7	0.039	0.047	0.052
Fire Station	8/8/2006	0.071	0.067	<0.0005	0.004	<0.0005	0.9				0.052
City Hall	8/8/2006	0.071	0.067	<0.0005	0.004	<0.0005	0.7	0.7			0.054
Hospital	8/8/2006	0.077	0.073	<0.0005	0.004	<0.0005	0.7				0.055
Ramada Inn	8/8/2006	0.077	0.073	<0.0005	0.004	<0.0005	0.7	0.8	0.074	0.053	0.056

Sample Location	Date	Total Trihalomethanes	Chloroform	Bromoform	Bromodi-chloromethane	Dibromono-chloromethane	Chlorine Resuidual	Avg Chlorine Residual	Average of all Sample Sites for Sample Day	Running 4 Quarter Avg. Of All Samples	Running 4 Quarter Avg. Avg. Per Sample Site
Fire Station	11/7/2006	0.051	0.049	<0.0005	0.002	<0.0005	1.0				0.051
City Hall	11/7/2006	0.056	0.053	<0.0005	0.003	<0.0005	1.0	0.9			0.052
Hospital	11/7/2006	0.058	0.055	<0.0005	0.003	<0.0005	1.0				0.055
Ramada Inn	11/7/2006	0.054	0.051	<0.0005	0.003	<0.0005	0.9	1.0	0.055	0.057	0.054
Fire Station	2/6/2007	0.023	0.022	<0.0005	0.001	<0.0005	1.3				0.046
City Hall	2/6/2007	0.023	0.021	<0.0005	0.002	<0.0005	1.3	1.1			0.047
Hospital	2/6/2007	0.025	0.023	<0.0005	0.002	<0.0005	1.0				0.050
Ramada Inn	2/6/2007	0.027	0.025	<0.0005	0.002	<0.0005	1.0	1.2	0.025	0.049	0.050
Fire Station	5/8/2007	0.051	0.049	<0.0005	0.002	<0.0005	1.0				0.049
City Hall	5/8/2007	0.051	0.049	<0.0005	0.002	<0.0005	1.0				0.050
Hospital	5/8/2007	0.054	0.052	<0.0005	0.002	<0.0005	0.8				0.054
Ramada Inn	5/8/2007	0.057	0.055	<0.0005	0.002	<0.0005	0.8	0.9	0.053	0.043	0.054
Fire Station	8/9/2007	0.060	0.056	<0.0005	0.004	<0.0005	1.1				0.046
City Hall	8/9/2007	0.062	0.058	<0.0005	0.004	<0.0005	1.1				0.048
Hospital	8/9/2007	0.055	0.050	<0.0005	0.005	<0.0005	0.9				0.048
Ramada Inn	8/9/2007	0.063	0.058	<0.0005	0.005	<0.0005	0.8	1.0	0.060	0.053	0.050
Fire Station	11/6/2007	0.057	0.053	<0.0005	0.004	<0.0005	0.8				0.048
City Hall	11/6/2007	0.051	0.047	<0.0005	0.004	<0.0005	0.8				0.047
Hospital	11/6/2007	0.061	0.057	<0.0005	0.004	<0.0005	0.7				0.049
Ramada Inn	11/6/2007	0.064	0.059	<0.0005	0.005	<0.0005	0.5	0.7	0.058	0.057	0.053
Fire Station	2/5/2008	0.025	0.024	<0.001	0.001	<0.001	1.1				0.048
City Hall	2/5/2008	0.029	0.027	<0.001	0.002	<0.001	1.1				0.048
Hospital	2/5/2008	0.030	0.028	<0.001	0.002	<0.001	1.0				0.050
Ramada Inn	2/5/2008	0.031	0.029	<0.001	0.002	<0.001	1.0	1.1	0.029	0.043	0.054
Fire Station	5/6/2008	0.049	0.047	<0.001	0.002	<0.001	0.9				0.048
City Hall	5/6/2008	0.047	0.045	<0.001	0.002	<0.001	0.7				0.047
Hospital	5/6/2008	0.047	0.045	<0.001	0.002	<0.001	0.8				0.048
Ramada Inn	5/6/2008	0.056	0.054	<0.001	0.002	<0.001	0.9	0.8	0.050	0.048	0.054
Fire Station	8/5/2008	0.085	0.081	<0.001	0.004	<0.001	0.9				0.054
City Hall	8/5/2008	0.088	0.084	<0.001	0.004	<0.001	0.8				0.054
Hospital	8/5/2008	0.090	0.086	<0.001	0.004	<0.001	0.6				0.057
Ramada Inn	8/5/2008	0.099	0.095	<0.001	0.004	<0.001	0.5	0.7	0.091	0.057	0.063
Fire Station	11/12/2008	0.054	0.051	<0.001	0.003	<0.001	1.0				0.053
City Hall	11/12/2008	0.051	0.049	<0.001	0.002	<0.001	1.0				0.054
Hospital	11/12/2008	0.054	0.051	<0.001	0.003	<0.001	1.0				0.055
Ramada Inn	11/12/2008	0.058	0.055	<0.001	0.003	<0.001	0.8	1.0	0.054	0.063	0.061
Fire Station	2/10/2009	0.016	0.015	<0.0005	0.001	<0.0005	1.0				0.051
City Hall	2/10/2009	0.015	0.014	<0.0005	0.001	<0.0005	1.0				0.050
Hospital	2/10/2009	0.016	0.015	<0.0005	0.001	<0.0005	1.0				0.052
Ramada Inn	2/10/2009	0.018	0.017	<0.0005	0.001	<0.0005	1.0	1.0	0.016	0.047	0.058
Fire Station	5/12/2009	0.037	0.036	<0.0005	0.001	<0.0005	1.0				0.048
City Hall	5/12/2009	0.039	0.037	<0.0005	0.002	<0.0005	1.0				0.048
Hospital	5/12/2009	0.043	0.041	<0.0005	0.002	<0.0005	1.0				0.051
Ramada Inn	5/12/2009	0.044	0.042	<0.0005	0.002	<0.0005	0.8	1.0	0.041	0.040	0.055
Fire Station	8/11/2009	0.070	0.067	<0.0005	0.003	<0.0005	0.9				0.044
City Hall	8/11/2009	0.075	0.072	<0.0005	0.003	<0.0005	0.8				0.045
Hospital	8/11/2009	0.074	0.071	<0.0005	0.003	<0.0005	0.8				0.047
Ramada Inn	8/11/2009	0.083	0.079	<0.0005	0.004	<0.0005	0.6	0.8	0.076	0.056	0.051
Fire Station	11/3/2009	0.043	0.040	<0.0005	0.003	<0.0005	1.0				0.042
City Hall	11/3/2009	0.043	0.040	<0.0005	0.003	<0.0005	0.9				0.043
Hospital	11/3/2009	0.046	0.043	<0.0005	0.003	<0.0005	0.8				0.045
Ramada Inn	11/3/2009	0.050	0.047	<0.0005	0.003	<0.0005	0.7	0.9	0.046	0.054	0.049
Fire Station	2/3/2010	0.019	0.017	<0.0005	0.002	<0.0005	1.0				0.042
City Hall	2/3/2010	0.019	0.017	<0.0005	0.002	<0.0005	1.0				0.044
Hospital	2/3/2010	0.021	0.019	<0.0005	0.002	<0.0005	1.1				0.046
Ramada Inn	2/3/2010	0.021	0.019	<0.0005	0.002	<0.0005	1.0	1.0	0.020	0.039	0.050

Sample Location	Date	Total Trihalomethanes	Chloroform	Bromoform	Bromodi-chloromethane	Dibromono-chloromethane	Chlorine Resuidual	Avg Chlorine Residual	Average of all Sample Sites for Sample Day	Running 4 Quarter Avg. Of All Samples	Running 4 Quarter Avg. Avg. Per Sample Site
Fire Station	5/4/2010	0.033	0.031	<0.0005	0.002	<0.0005	1.0				0.041
City Hall	5/4/2010	0.037	0.035	<0.0005	0.002	<0.0005	0.9				0.044
Hospital	5/4/2010	0.036	0.034	<0.0005	0.002	<0.0005	0.8				0.044
Ramada Inn	5/4/2010	0.042	0.040	<0.0005	0.002	<0.0005	0.6	0.8	0.037	0.036	0.049
Fire Station	8/3/2010	0.069	0.065	<0.0005	0.004	<0.0005	0.9				0.041
City Hall	8/3/2010	0.067	0.063	<0.0005	0.004	<0.0005	0.9				0.042
Hospital	8/3/2010	0.061	0.057	<0.0005	0.004	<0.0005	0.6				0.041
Ramada Inn	8/3/2010	0.075	0.071	<0.0005	0.004	<0.0005	0.4	0.7	0.068	0.050	0.047
Fire Station	11/2/2010	0.042	0.040	<0.0005	0.002	<0.0005	0.9				0.041
City Hall	11/2/2010	0.049	0.046	<0.0005	0.003	<0.0005	0.9				0.043
Hospital	11/2/2010	0.052	0.049	<0.0005	0.003	<0.0005	0.8				0.043
Ramada Inn	11/2/2010	0.057	0.054	<0.0005	0.003	<0.0005	0.5	0.8	0.050	0.050	0.049
Fire Station	2/8/2011	0.016	0.014	<0.0005	0.002	<0.0005	1.1				0.040
City Hall	2/8/2011	0.014	0.013	<0.0005	0.001	<0.0005	1.0				0.042
Hospital	2/8/2011	0.015	0.014	<0.0005	0.001	<0.0005	1.1				0.041
Ramada Inn	2/8/2011	0.019	0.017	<0.0005	0.002	<0.0005	1.0	1.1	0.016	0.039	0.048
Fire Station	5/3/2011	0.043	0.041	<0.0005	0.002	<0.0005	0.8				0.043
City Hall	5/3/2011	0.042	0.040	<0.0005	0.002	<0.0005	0.8				0.043
Hospital	5/3/2011	0.043	0.041	<0.0005	0.002	<0.0005	0.7				0.043
Ramada Inn	5/3/2011	0.049	0.047	<0.0005	0.002	<0.0005	0.5	0.7	0.044	0.037	0.050
Fire Station	8/2/2011	0.063	0.058	<0.0005	0.005	<0.0005	1.0				0.041
City Hall	8/2/2011	0.064	0.059	<0.0005	0.005	<0.0005	0.9				0.042
Hospital	8/2/2011	0.070	0.064	<0.0005	0.006	<0.0005	0.8				0.045
Ramada Inn	8/2/2011	0.073	0.067	<0.0005	0.006	<0.0005	0.5	0.8	0.068	0.049	0.050
Fire Station	11/1/2011	0.045	0.042	<0.0005	0.003	<0.0005	1.1				0.042
City Hall	11/1/2011	0.045	0.042	<0.0005	0.003	<0.0005	1.0				0.041
Hospital	11/1/2011	0.049	0.046	<0.0005	0.003	<0.0005	0.9				0.044
Ramada Inn	11/1/2011	0.055	0.051	<0.0005	0.004	<0.0005	0.4	0.8	0.049	0.053	0.049
Fire Station	2/7/2012	0.018	0.016	<0.0005	0.002	<0.0005	1.1				0.042
City Hall	2/7/2012	0.019	0.017	<0.0005	0.002	<0.0005	1.1				0.043
Hospital	2/7/2012	0.019	0.017	<0.0005	0.002	<0.0005	1.0				0.045
Ramada Inn	2/7/2012	0.021	0.019	<0.0005	0.002	<0.0005	1.0	1.1	0.019	0.038	0.050

AVERAGE	**ALL DATA**	**0.044**	**0.044**	**0.044**	**0.044**
MAXIMUM	**ALL DATA**	**0.099**	**0.091**	**0.063**	**0.063**
MINIMUM	**ALL DATA**	**0.012**	**0.016**	**0.034**	**0.030**

AVERAGE	**MAY- OCT**	**0.054**
MAXIMUM	**MAY- OCT**	**0.099**
MINIMUM	**MAY- OCT**	**0.012**

AVERAGE	**NOV-APR**	**0.035**
MAXIMUM	**NOV-APR**	**0.064**
MINIMUM	**NOV-APR**	**0.014**

Light Green indicates warmer season" samples. No color indicated "cold season"

Appendix B - Historical Total Haleoacetic Acids

Appendix B
Historical Total Haleoacetic Acids - Rutland City Water Filtration Facility

Sample Location	Date	Total Haloacetic Acid	Chloroacetic Acid	Bromoacetic Acid	Dichloroacetic Acid	Trichloroacetic Acid	Dibromoacetic Acid	Chlorine Residual	Avg Chlorine Residual	Average of all Sample Sites for Sample Day	Running 4 Quarter Avg. Of All Samples	Running 4 Quarter Avg. Per Sample Site	Comments
Fire Station	5/18/1999	0.0478	0.0017	<0.0010	0.0207	0.0254	<0.0010	0.6					
City Hall	5/18/1999	0.0442	0.0014	<0.0010	0.0184	0.0244	<0.0010	0.7					
Hospital	5/18/1999	0.0512	0.0015	<0.0010	0.0206	0.0291	<0.0010	0.7					
Ramada Inn	5/18/1999	0.0550	0.0016	<0.0010	0.0220	0.0314	<0.0010	0.4	0.6	0.050			
Fire Station	8/18/1999	0.0430	0.0020	0.0010	0.0200	0.0200	<0.0010	0.8					
City Hall	8/18/1999	0.0440	0.0020	<0.0010	0.0200	0.0220	<0.0010	0.9					
Hospital	8/18/1999	0.0370	0.0010	<0.0010	0.0160	0.0200	<0.0010	0.7					
Ramada Inn	8/18/1999	0.0260	<0.0010	<0.0010	0.0080	0.0180	<0.0010	0.4	0.7	0.038			
Fire Station	11/3/1999	0.0410	<0.0010	<0.0010	0.0180	0.0240	<0.0010	0.5					
City Hall	11/3/1999	0.0410	<0.0010	<0.0010	0.0180	0.0230	<0.0010	0.5					
Hospital	11/3/1999	0.0450	<0.0010	<0.0010	0.0190	0.0260	<0.0010	0.5					
Ramada Inn	11/3/1999	0.0370	<0.0010	<0.0010	0.0120	0.0250	<0.0010	0.3	0.5	0.041			
Fire Station	2/2/2000	0.0280	<0.0010	0.0010	0.0120	0.0150	<0.0010	0.6				0.040	
City Hall	2/2/2000	0.0270	<0.0010	<0.0010	0.0110	0.0160	<0.0010	0.6				0.039	
Hospital	2/2/2000	0.0290	<0.0010	<0.0010	0.0120	0.0170	<0.0010	0.5				0.041	
Ramada Inn	2/2/2000	0.0350	<0.0010	0.0010	0.0130	0.0200	<0.0010	0.4	0.5	0.030	0.039	0.038	
Fire Station	2/7/2001	0.0280	<0.0010	0.0010	0.0110	0.0160	<0.0010	0.8				0.035	
City Hall	2/7/2001	0.0230	<0.0010	<0.0010	0.0100	0.0130	<0.0010	0.7				0.034	
Hospital	2/7/2001	0.0230	<0.0010	<0.0010	0.0100	0.0130	<0.0010	0.7				0.034	
Ramada Inn	2/7/2001	0.0240	<0.0010	<0.0010	0.0100	0.0140	<0.0010	0.6	0.7	0.025	0.033	0.031	
Fire Station	5/2/2001	0.0500	0.0010	0.0010	0.0200	0.0280	<0.0010	1.0				0.037	
City Hall	5/2/2001	0.0510	0.0010	0.0010	0.0210	0.0280	<0.0010	1.0				0.036	
Hospital	5/2/2001	0.0490	0.0010	<0.0010	0.0200	0.0280	<0.0010	0.9				0.037	
Ramada Inn	5/2/2001	0.0530	0.0010	0.0010	0.0220	0.0290	<0.0010	0.8	0.9	0.051	0.037	0.037	
Fire Station	8/1/2001	0.0450	0.0020	<0.0010	0.0200	0.0230	<0.0010	0.9				0.038	
City Hall	8/1/2001	0.0420	0.0010	<0.0010	0.0190	0.0220	<0.0010	0.9				0.036	
Hospital	8/1/2001	0.0410	0.0010	<0.0010	0.0180	0.0220	<0.0010	0.6				0.036	
Ramada Inn	8/1/2001	0.0310	<0.0010	<0.0010	0.0060	0.0250	<0.0010	0.4	0.7	0.040	0.036	0.036	
Fire Station	11/7/2001	0.0290	<0.0010	0.0010	0.0130	0.0150	<0.0010	0.7				0.038	
City Hall	11/7/2001	0.0290	<0.0010	0.0010	0.0120	0.0160	<0.0010	0.7				0.036	
Hospital	11/7/2001	0.0300	<0.0010	0.0010	0.0130	0.0160	<0.0010	0.7				0.036	
Ramada Inn	11/7/2001	0.0310	<0.0010	0.0010	0.0130	0.0170	<0.0010	0.5	0.7	0.030	0.036	0.035	
Fire Station	3/6/2002	0.0300	0.0020	0.0010	0.0120	0.0150	<0.0010	0.8				0.039	
City Hall	3/6/2002	0.0270	0.0010	<0.0010	0.0120	0.0140	<0.0010	0.8				0.037	
Hospital	3/6/2002	0.0310	0.0010	0.0010	0.0130	0.0160	<0.0010	0.6				0.038	
Ramada Inn	3/6/2002	0.0310	<0.0010	<0.0010	0.0130	0.0170	<0.0010	0.5	0.7	0.030	0.038	0.037	
Fire Station	5/15/2002	0.0480	0.0010	<0.0010	0.0190	0.0280	<0.0010	0.6				0.038	
City Hall	5/15/2002	0.0470	0.0010	<0.0010	0.0190	0.0270	<0.0010	0.6				0.036	
Hospital	5/15/2002	0.0490	0.0010	<0.0010	0.0200	0.0280	<0.0010	0.6				0.038	
Ramada Inn	5/15/2002	0.0500	0.0010	<0.0010	0.0200	0.0290	<0.0010	0.4	0.6	0.049	0.037	0.036	
Fire Station	8/13/2002	0.0690	0.0030	0.0010	0.0310	0.0340	<0.0010	0.5				0.044	Second 2.5 MG water
City Hall	8/13/2002	0.0520	0.0020	0.0010	0.0240	0.0250	<0.0010	0.5				0.039	storage tank added
Hospital	8/13/2002	0.0360	0.0010	<0.0010	0.0160	0.0190	<0.0010	0.6				0.037	
Ramada Inn	8/13/2002	0.0320	0.0010	<0.0010	0.0120	0.0190	<0.0010	0.4	0.5	0.047	0.039	0.036	
Fire Station	11/13/2002	0.0490	0.0020	0.0010	0.0180	0.0280	<0.0010	0.9				0.049	
City Hall	11/13/2002	0.0460	0.0020	0.0010	0.0170	0.0260	<0.0010	0.9				0.043	
Hospital	11/13/2002	0.0560	0.0020	0.0010	0.0200	0.0330	<0.0010	0.7				0.043	
Ramada Inn	11/13/2002	0.0520	0.0010	<0.0010	0.0190	0.0320	<0.0010	0.5	0.8	0.051	0.044	0.041	
Fire Station	2/19/2003	0.0310	0.0010	0.0010	0.0110	0.0180	<0.0010	1.0				0.049	
City Hall	2/19/2003	0.0330	0.0010	0.0010	0.0120	0.0190	<0.0010	1.0				0.045	
Hospital	2/19/2003	0.0360	0.0010	0.0010	0.0130	0.0210	<0.0010	0.9				0.044	
Ramada Inn	2/19/2003	0.0370	0.0010	0.0010	0.0130	0.0220	<0.0010	0.7	0.9	0.034	0.045	0.043	
Fire Station	5/14/2003	0.0780	<0.0020	<0.0020	0.0280	0.0500	<0.0020	0.9				0.057	
City Hall	5/14/2003	0.0750	<0.0020	<0.0020	0.0280	0.0470	<0.0020	0.8				0.052	
Hospital	5/14/2003	0.0820	<0.0020	<0.0020	0.0310	0.0510	<0.0020	0.6				0.053	
Ramada Inn	5/14/2003	0.0860	<0.0020	<0.0020	0.0320	0.0540	<0.0020	0.5	0.7	0.080	0.053	0.052	
Fire Station	8/20/2003	0.0730	<0.0010	<0.0010	0.0310	0.0420	<0.0010	0.7				0.058	
City Hall	8/20/2003	0.0670	<0.0010	<0.0010	0.0280	0.0390	<0.0010	0.5				0.055	
Hospital	8/20/2003	0.0630	<0.0010	<0.0010	0.0240	0.0390	<0.0010	0.4				0.059	
Ramada Inn	8/20/2003	0.0500	<0.0010	<0.0010	0.0080	0.0420	<0.0010	0.2	0.5	0.063	0.057	0.056	

Sample Location	Date	Total Haloacetic Acid	Chloroacetic Acid	Bromoacetic Acid	Dichloroacetic Acid	Trichloroacetic Acid	Dibromoacetic Acid	Chlorine Residual	Avg Chlorine Residual	Average of all Sample Sites for Sample Day	Running 4 Quarter Avg. Of All Samples	Running 4 Quarter Avg. Per Sample Site
Fire Station	11/12/2003	0.0650	0.0010	<0.005	0.0260	0.0380	<0.0010	0.8				0.062
City Hall	11/12/2003	0.0650	0.0010	<0.005	0.0270	0.0370	<0.0010	0.6				0.060
Hospital	11/12/2003	0.0700	0.0020	<0.005	0.0270	0.0410	<0.0010	0.5				0.063
Ramada Inn	11/12/2003	0.0710	0.0010	<0.005	0.0270	0.0430	<0.0010	0.4	0.6	0.068	0.061	0.061
Fire Station	2/3/2004	0.0310	<0.0020	<0.005	0.0130	0.0180	<0.0010	0.9				0.062
City Hall	2/3/2004	0.0310	<0.0020	<0.005	0.0130	0.0180	<0.0010	0.8				0.060
Hospital	2/3/2004	0.0340	<0.0020	<0.005	0.0140	0.0200	<0.0010	0.6				0.062
Ramada Inn	2/3/2004	0.0340	<0.0020	<0.005	0.0140	0.0200	<0.0010	0.6	0.7	0.033	0.061	0.060
Fire Station	5/11/2004	0.0570	<0.001	<0.001	0.0220	0.0350	<0.0010	0.6				0.057
City Hall	5/11/2004	0.0490	0.0010	<0.001	0.0210	0.0270	<0.0010	0.5				0.053
Hospital	5/11/2004	0.0510	0.0020	<0.001	0.0220	0.0220	<0.0010	0.5				0.055
Ramada Inn	5/11/2004	0.0590	<0.001	<0.001	0.0240	0.0240	<0.0010	0.4	0.5	0.054	0.054	0.054
Fire Station	8/3/2004	0.0410	<0.0010	<0.0010	0.0190	0.0220	<0.0010	0.8				0.049
City Hall	8/3/2004	0.0390	<0.0010	<0.0010	0.0190	0.0200	<0.0010	0.7				0.046
Hospital	8/3/2004	0.0440	0.0010	<0.0010	0.0190	0.0240	<0.0010	0.5				0.050
Ramada Inn	8/3/2004	0.0380	<0.0010	<0.0010	0.0170	0.0210	<0.0010	0.4				0.051
High School	8/3/2004	0.0280	<0.0010	<0.0010	0.0090	0.0190	<0.0010	0.3				
93 Temple St.	8/3/2004	0.0310	<0.0010	<0.0010	0.0080	0.0230	<0.0010	0.3				
WWTF Lab	8/3/2004	0.0420	<0.0010	<0.0010	0.0190	0.0230	<0.0010	0.6	0.5	0.038	0.048	
Fire Station	11/16/2004	0.0310	<0.0010	<0.0010	0.0120	0.0190	<0.0010	1.0				0.040
City Hall	11/16/2004	0.0350	<0.0010	<0.0010	0.0130	0.0220	<0.0010	0.8				0.039
Hospital	11/16/2004	0.0340	<0.0010	<0.0010	0.0130	0.0210	<0.0010	0.7				0.041
Ramada Inn	11/16/2004	0.0360	<0.0010	<0.0010	0.0140	0.0220	<0.0010	0.6				0.042
High School	11/16/2004	0.0420	<0.0010	<0.0010	0.0150	0.0270	<0.0010	0.6				
93 Temple St.	11/16/2004	0.0330	<0.0010	<0.0010	0.0130	0.0200	<0.0010	0.6				
WWTF Lab	11/16/2004	0.0340	<0.0010	<0.0010	0.0120	0.0220	<0.0010	0.6	0.7	0.035	0.040	
Fire Station	2/8/2005	0.0290	<0.0010	<0.0010	0.0120	0.0170	<0.0010	1.0				0.040
City Hall	2/8/2005	0.0290	<0.0010	<0.0010	0.0120	0.0170	<0.0010	1.0				0.038
Hospital	2/8/2005	0.0320	<0.0010	<0.0010	0.0130	0.0190	<0.0010	0.8				0.040
Ramada Inn	2/8/2005	0.0310	<0.0010	<0.0010	0.0130	0.0180	<0.0010	0.8				0.041
High School	2/8/2005	0.0320	<0.0010	<0.0010	0.0130	0.0190	<0.0010	0.7				
93 Temple St.	2/8/2005	0.0310	<0.0010	<0.0010	0.0120	0.0190	<0.0010	0.8				
WWTF Lab	2/8/2005	0.0290	<0.0010	<0.0010	0.0120	0.0170	<0.0010	0.9	0.9	0.030	0.039	
Fire Station	5/6/2005	0.0470	0.0040	<0.0010	0.0190	0.0240	<0.0010	0.9				0.037
City Hall	5/6/2005	0.0600	0.0030	<0.0010	0.0230	0.0340	<0.0010	0.8				0.041
Hospital	5/6/2005	0.0640	0.0030	<0.0010	0.0240	0.0370	<0.0010	0.7				0.044
Ramada Inn	5/6/2005	0.0460	0.0040	<0.0010	0.0190	0.0230	<0.0010	0.5				0.038
High School	5/6/2005	0.0520	0.0040	<0.0010	0.0210	0.0270	<0.0010	0.8				0.039
93 Temple St.	5/6/2005	0.0580	0.0030	<0.0010	0.0210	0.0340	<0.0010	0.6				0.038
WWTF Lab	5/6/2005	0.0670	0.0040	<0.0010	0.0240	0.0390	<0.0010	0.6	0.7	0.056	0.040	0.043
Fire Station	8/12/2005	0.0630	<0.0010	<0.0010	0.0260	0.0370	<0.0020	0.9				0.043
City Hall	8/12/2005	0.0590	<0.0010	<0.0010	0.0250	0.0340	<0.0020	0.9				0.046
Hospital	8/12/2005	0.0750	0.0010	<0.0010	0.0290	0.0450	<0.0020	0.6				0.051
Ramada Inn	8/12/2005	0.0710	<0.0010	<0.0010	0.0280	0.0430	<0.0020	0.6	0.8	0.067	0.047	0.046
Fire Station	11/8/2005	0.0830	0.0020	<0.0010	0.0290	0.0520	<0.0010	0.9				0.052
City Hall	11/8/2005	0.0880	0.0020	<0.0010	0.0310	0.0550	<0.0010	0.9				0.053
Hospital	11/8/2005	0.0850	0.0020	<0.0010	0.0310	0.0520	<0.0010	0.7				0.054
Ramada Inn	11/8/2005	0.0900	0.0020	<0.0010	0.0310	0.0580	<0.0010	0.6	0.8	0.087	0.060	0.057
Fire Station	2/7/2006	0.0440	0.0020	<0.0010	0.0170	0.0250	<0.0010	0.9				0.059
City Hall	2/7/2006	0.0430	0.0010	<0.0010	0.0170	0.0250	<0.0010	0.9				0.063
Hospital	2/7/2006	0.0450	0.0010	<0.0010	0.0180	0.0260	<0.0010	0.8				0.067
Ramada Inn	2/7/2006	0.0480	0.0010	<0.0010	0.0190	0.0280	<0.0010	0.8	0.9	0.045	0.064	0.064
Fire Station	5/2/2006	0.0520	0.0020	<0.0010	0.0190	0.0300	<0.0010	0.8				0.061
City Hall	5/2/2006	0.0560	0.0020	<0.0010	0.0210	0.0320	<0.0010	0.8				0.062
Hospital	5/2/2006	0.0580	0.0020	<0.0010	0.0210	0.0340	<0.0010	0.7				0.066
Ramada Inn	5/2/2006	0.0590	0.0020	<0.0010	0.0220	0.0340	<0.0010	0.6	0.7	0.056	0.064	0.067
Fire Station	8/8/2006	0.0640	0.0030	<0.0010	0.0260	0.0340	0.0010	0.9				0.061
City Hall	8/8/2006	0.0710	0.0020	<0.0010	0.0280	0.0400	0.0010	0.7				0.065
Hospital	8/8/2006	0.0730	0.0030	<0.0010	0.0290	0.0400	0.0010	0.7				0.065
Ramada Inn	8/8/2006	0.0760	0.0030	<0.0010	0.0290	0.0430	0.0010	0.7	0.8	0.071	0.065	0.068

Comments

Sample Location	Date	Total Haloacetic Acid	Chloroacetic Acid	Bromoacetic Acid	Dichloroacetic Acid	Trichloroacetic Acid	Dibromoacetic Acid	Chlorine Residual	Avg Chlorine Residual	Average of all Sample Sites for Sample Day	Running 4 Quarter Avg. Of All Samples	Running 4 Quarter Avg. Per Sample Site
Fire Station	11/7/2006	0.0630	<0.002	<0.001	0.0250	0.0380	<0.001	1.0				0.056
City Hall	11/7/2006	0.0660	<0.002	<0.001	0.0260	0.0400	<0.001	1.0				0.059
Hospital	11/7/2006	0.0700	<0.002	<0.001	0.0280	0.0420	<0.001	1.0				0.062
Ramada Inn	11/7/2006	0.0760	<0.002	<0.001	0.0310	0.0450	<0.001	0.9	1.0	0.069	0.060	0.065
Fire Station	2/6/2007	0.0250	<0.002	<0.001	0.0110	0.0140	<0.001	1.3				0.051
City Hall	2/6/2007	0.0270	<0.002	<0.001	0.0120	0.0150	<0.001	1.3				0.055
Hospital	2/6/2007	0.0260	<0.002	<0.001	0.0110	0.0150	<0.001	1.0				0.057
Ramada Inn	2/6/2007	0.0330	<0.002	<0.001	0.0130	0.0200	<0.001	1.0	1.2	0.028	0.056	0.061
Fire Station	5/8/2007	0.0680	0.0020	<0.001	0.0280	0.0370	0.0010	1.0				0.055
City Hall	5/8/2007	0.0650	<0.002	<0.001	0.0270	0.0370	0.0010	1.0				0.057
Hospital	5/8/2007	0.0730	0.0020	<0.001	0.0290	0.0410	0.0010	0.8				0.061
Ramada Inn	5/8/2007	0.0780	0.0030	<0.001	0.0300	0.0440	0.0010	0.8	0.9	0.071	0.060	0.066
Fire Station	8/7/2007	0.0650	<0.001	<0.001	0.0270	0.0380	<0.001	1.1				0.055
City Hall	8/7/2007	0.0620	<0.001	<0.001	0.0260	0.0360	<0.001	1.1				0.055
Hospital	8/7/2007	0.0740	<0.001	<0.001	0.0290	0.0450	<0.001	0.9				0.061
Ramada Inn	8/7/2007	0.0710	<0.001	<0.001	0.0290	0.0420	<0.001	0.8	1.0	0.068	0.059	0.065
Fire Station	11/6/2007	0.1000	0.0020	<0.001	0.0330	0.0630	0.0020	0.8				0.065
City Hall	11/6/2007	0.0970	0.0020	<0.001	0.0310	0.0620	0.0020	0.8				0.063
Hospital	11/6/2007	0.1090	0.0020	<0.001	0.0350	0.0700	0.0020	0.7				0.071
Ramada Inn	11/6/2007	0.1090	0.0030	<0.001	0.0340	0.0700	0.0020	0.5	0.7	0.104	0.068	0.073
Fire Station	2/5/2008	0.0350	<0.0010	<0.001	0.0150	0.0200	<0.001	1.1				0.067
City Hall	2/5/2008	0.0380	<0.0010	<0.001	0.0170	0.0210	<0.001	1.1				0.066
Hospital	2/5/2008	0.0430	0.0010	<0.001	0.0180	0.0240	<0.001	1.0				0.075
Ramada Inn	2/5/2008	0.0420	<0.0010	<0.001	0.0180	0.0240	<0.001	1.0	1.1	0.040	0.071	0.075
Fire Station	5/6/2008	0.0800	0.0030	<0.001	0.0270	0.0500	<0.001	0.9				0.070
City Hall	5/6/2008	0.0680	<0.0010	<0.001	0.0240	0.0440	<0.001	0.9				0.066
Hospital	5/6/2008	0.0760	0.0020	<0.001	0.0260	0.0480	<0.001	0.8				0.076
Ramada Inn	5/6/2008	0.0790	0.0040	<0.001	0.0270	0.0480	<0.001	0.7	0.8	0.076	0.072	0.075
Fire Station	8/5/2008	0.0440	<0.0020	<0.001	0.0200	0.0240	<0.001	0.9				0.065
City Hall	8/5/2008	0.0660	<0.0020	<0.001	0.0280	0.0380	<0.001	0.8				0.067
Hospital	8/5/2008	0.0830	0.0030	<0.001	0.0330	0.0470	<0.001	0.6				0.078
Ramada Inn	8/5/2008	0.0960	0.0040	<0.001	0.0320	0.0600	<0.001	0.5	0.7	0.072	0.073	0.082
Fire Station	11/12/2008	0.0720	0.0020	<0.001	0.0240	0.0460	<0.001	1.0				0.058
City Hall	11/12/2008	0.0730	0.0010	<0.001	0.0230	0.0490	<0.001	1.0				0.061
Hospital	11/12/2008	0.0740	0.0010	<0.001	0.0250	0.0480	<0.001	1.0				0.069
Ramada Inn	11/12/2008	0.0760	0.0020	<0.001	0.0250	0.0490	<0.001	0.8	1.0	0.074	0.065	0.073
Fire Station	2/10/2009	0.0250	<0.002	<0.001	0.0090	0.0160	<0.001	1.0				0.055
City Hall	2/10/2009	0.0250	<0.002	<0.001	0.0090	0.0160	<0.001	1.0				0.058
Hospital	2/10/2009	0.0290	<0.002	<0.001	0.0110	0.0180	<0.001	1.0				0.066
Ramada Inn	2/10/2009	0.0310	<0.002	<0.001	0.0110	0.0200	<0.001	1.0	1.0	0.028	0.062	0.071
Fire Station	5/12/2009	0.0770	0.0020	<0.001	0.0320	0.0430	<0.001	1.0				0.055
City Hall	5/12/2009	0.0790	0.0020	<0.001	0.0320	0.0450	<0.001	1.0				0.061
Hospital	5/12/2009	0.0790	0.0020	<0.001	0.0330	0.0440	<0.001	1.0				0.066
Ramada Inn	5/12/2009	0.0840	0.0030	<0.001	0.0350	0.0460	<0.001	0.8	1.0	0.080	0.063	0.072
Fire Station	8/11/2009	0.1270	0.0020	<0.001	0.0480	0.0770	<0.001	0.9				0.075
City Hall	8/11/2009	0.1190	0.0030	<0.001	0.0480	0.0680	<0.001	0.8				0.074
Hospital	8/11/2009	0.1430	0.0030	<0.001	0.0530	0.0870	<0.001	0.8				0.081
Ramada Inn	8/11/2009	0.1280	0.0030	<0.001	0.0450	0.0800	<0.001	0.6	0.8	0.129	0.078	0.054
Fire Station	11/3/2009	0.0750	<0.002	<0.001	0.0340	0.0410	<0.001	1.0				0.076
City Hall	11/3/2009	0.0720	0.0020	<0.001	0.0310	0.0390	<0.001	0.9				0.074
Hospital	11/3/2009	0.0750	<0.002	<0.001	0.0330	0.0420	<0.001	0.8				0.082
Ramada Inn	11/3/2009	0.0800	<0.002	<0.001	0.0360	0.0440	<0.001	0.7	0.9	0.076	0.078	0.081
Fire Station	2/3/2010	0.0350	0.0010	<0.001	0.0150	0.0190	<0.001	1.0				0.079
City Hall	2/3/2010	0.0360	0.0010	<0.001	0.0160	0.0190	<0.001	1.0				0.077
Hospital	2/3/2010	0.0360	<0.001	<0.001	0.0180	0.0180	<0.001	1.1				0.083
Ramada Inn	2/3/2010	0.0360	0.0010	<0.001	0.0160	0.0190	<0.001	1.0	1.0	0.036	0.080	0.082
Fire Station	5/4/2010	0.0710	0.0020	<0.001	0.0320	0.0370	<0.001	1.0				0.077
City Hall	5/4/2010	0.0800	0.0020	<0.001	0.0330	0.0450	<0.001	0.9				0.077
Hospital	5/4/2010	0.0880	0.0030	<0.001	0.0370	0.0480	<0.001	0.8				0.086
Ramada Inn	5/4/2010	0.0880	0.0020	<0.001	0.0370	0.0490	<0.001	0.6	0.8	0.082	0.081	0.083
Fire Station	8/3/2010	0.0930	0.0020	<0.001	0.0430	0.0480	<0.001	0.9				0.069
City Hall	8/3/2010	0.0860	0.0020	<0.001	0.0390	0.0440	0.0010	0.9				0.069
Hospital	8/3/2010	0.0780	0.0020	<0.001	0.0350	0.0410	<0.001	0.6				0.069
Ramada Inn	8/3/2010	0.0840	0.0010	<0.001	0.0310	0.0500	0.0020	0.4	0.7	0.085	0.070	0.072

Comments

Sample Location	Date	Total Haloacetic Acid	Chloroacetic Acid	Bromoacetic Acid	Dichloroacetic Acid	Trichloroacetic Acid	Dibromoacetic Acid	Chlorine Residual	Avg Chlorine Residual	Average of all Sample Sites for Sample Day	Running 4 Quarter Avg. Of All Samples	Running 4 Quarter Avg. Per Sample Site	Comments
Fire Station	11/2/2010	0.0690	<0.001	<0.001	0.0310	0.0380	<0.001	0.9				0.067	
City Hall	11/2/2010	0.0730	<0.001	<0.001	0.0320	0.0410	<0.001	0.9				0.069	
Hospital	11/2/2010	0.0790	0.0010	<0.001	0.0340	0.0440	<0.001	0.8				0.070	
Ramada Inn	11/2/2010	0.0790	0.0010	<0.001	0.0320	0.0460	<0.001	0.5	0.8	0.075	0.069	0.072	
Fire Station	2/8/2011	0.0290	<0.001	<0.001	0.0130	0.0160	<0.001	1.1				0.066	
City Hall	2/8/2011	0.0290	<0.001	<0.001	0.0130	0.0160	<0.001	1.0				0.067	
Hospital	2/8/2011	0.0310	<0.001	<0.001	0.0130	0.0180	<0.001	1.1				0.069	
Ramada Inn	2/8/2011	0.0350	<0.001	<0.001	0.0150	0.0200	<0.001	1.0	1.1	0.031	0.068	0.072	
Fire Station	5/3/2011	0.0900	0.0010	<0.001	0.0380	0.0510	<0.001	0.8				0.070	
City Hall	5/3/2011	0.0910	0.0010	<0.001	0.0380	0.0520	<0.001	0.8				0.070	
Hospital	5/3/2011	0.0830	<0.001	<0.001	0.0380	0.0450	<0.001	0.7				0.068	
Ramada Inn	5/3/2011	0.1010	0.0010	<0.001	0.0440	0.0560	<0.001	0.5	0.7	0.091	0.071	0.075	
Fire Station	8/2/2011	0.0550	0.0010	<0.001	0.0290	0.0250	<0.001	1.0				0.061	
City Hall	8/2/2011	0.0670	0.0010	<0.001	0.0310	0.0350	<0.001	0.9				0.065	
Hospital	8/2/2011	0.0690	0.0020	<0.001	0.0320	0.0350	<0.001	0.8				0.066	
Ramada Inn	8/2/2011	0.0620	0.0010	<0.001	0.0240	0.0370	<0.001	0.5	0.8	0.063	0.065	0.069	
Fire Station	11/1/2011	0.0670	<0.001	<0.001	0.0320	0.0350	<0.001	1.1				0.060	
City Hall	11/1/2011	0.0670	<0.001	<0.001	0.0330	0.0340	<0.001	1.0				0.064	
Hospital	11/1/2011	0.0720	<0.001	<0.001	0.0340	0.0380	<0.001	0.9				0.064	
Ramada Inn	11/1/2011	0.0810	0.0010	<0.001	0.0350	0.0450	<0.001	0.4	0.9	0.072	0.064	0.070	
Fire Station	2/7/2012	0.0370	<0.001	<0.001	0.0170	0.0200	<0.001	1.1				0.062	
City Hall	2/7/2012	0.0320	<0.001	<0.001	0.0150	0.0170	<0.001	1.1				0.064	
Hospital	2/7/2012	0.0400	<0.001	<0.001	0.0170	0.0230	<0.001	1.0				0.066	
Ramada Inn	2/7/2012	0.0430	<0.001	<0.001	0.0190	0.0240	<0.001	1.0	1.1	0.038	0.066	0.072	

AVERAGE	**ALL DATA**	**0.0558**	**0.057**	**0.057**	**0.057**
MAXIMUM	**ALL DATA**	**0.1430**	**0.129**	**0.081**	**0.086**
MINIMUM	**ALL DATA**	**0.0230**	**0.025**	**0.033**	**0.031**
AVERAGE	**MAY- OCT**	**0.0674**			
MAXIMUM	**MAY- OCT**	**0.1430**			
MINIMUM	**MAY- OCT**	**0.0260**			
AVERAGE	**NOV-APR**	**0.0358**			
MAXIMUM	**NOV-APR**	**0.0710**			
MINIMUM	**NOV-APR**	**0.0230**			

Yellow indicates HAA5 concentration greater tha 0.060
Light Green indicates warmer season" samples. No color indicated "cold season"

APPENDIX C - EXISTING FILTRATION PERFORMANCE

Appendix C
Existing Filtration Performance
UVA - DOC - SUVA

Date	Prior to Reservoir				After the Reservoir				Filtered Water Clearwell				Overall % Reduction			
	UVA	DOC	TURBIDITY	SUVA	UVA	DOC	TURBIDITY	SUVA	UVA	DOC	TURBIDITY	SUVA	UVA	DOC	TURBIDITY	SUVA
2/3/2010	0.044	1.4		0.031	0.052	1.5		0.035	0.044	1.4		0.031	0.0	0.0		0.0
2/10/2010	0.034	1.0		0.034	0.043	1.3		0.033	0.037	1.2		0.031	-8.8	-20.0		9.3
2/17/2010	0.031	0.8		0.039	0.035	1.0		0.035	0.030	0.9		0.033	3.2	-12.5		14.0
2/24/2010	0.033	0.9		0.037	0.031	1.0		0.031	0.030	0.9		0.033	9.1	0.0		9.1
3/3/2010	0.050	1.3		0.038	0.043	1.2		0.036	0.035	1.0		0.035	30.0	23.1		9.0
3/10/2010	0.051	1.4		0.036	0.047	1.2		0.039	0.037	1.1		0.034	27.5	21.4		7.7
3/17/2010	0.118	2.7		0.044	0.049	1.2		0.041	0.038	1.1		0.035	67.8	59.3		21.0
3/24/2010					0.060	1.7		0.035	0.046	1.5		0.031				
3/31/2010					0.065	1.9		0.034	0.050	1.7		0.029				
4/21/2010	0.074	2.1		0.035	0.072	2.5		0.029	0.055	1.7		0.032	25.7	19.0		8.2
4/28/2010	0.089	2.6		0.034	0.066	1.9		0.035	0.053	1.6		0.033	40.4	38.5		3.2
5/5/2010	0.085	2.4		0.035	0.075	2.1		0.036	0.056	1.9		0.029	34.1	20.8		16.8
5/12/2010	0.069	2.0		0.035	0.075	2.1		0.036	0.042	1.6		0.026	39.1	20.0		23.9
5/19/2010	0.055	1.7		0.032	0.068	1.9		0.036	0.055	1.6		0.034	0.0	5.9		-6.2
5/26/2010	0.053	1.7		0.031	0.090	1.8		0.050	0.050	1.6		0.031	5.7	5.9		-0.2
6/2/2010	0.093	2.4		0.039	0.058	1.7		0.034	0.046	1.6		0.029	50.5	33.3		25.8
6/9/2010	0.069	2.0		0.035	0.066	2.1		0.031	0.047	1.5		0.031	31.9	25.0		9.2
6/16/2010	0.064	1.8		0.036	0.068	1.9		0.036	0.050	1.6		0.031	21.9	11.1		12.1
6/23/2010	0.064	1.8		0.036	0.067	1.9		0.035	0.050	1.6		0.031	21.9	11.1		12.1
6/30/2010	0.112	2.9		0.039	0.077	2.2		0.035	0.051	1.6		0.032	54.5	44.8		17.5
7/7/2010	0.054	1.6		0.034	0.072	2.1		0.034	0.052	1.6		0.033	3.7	0.0		3.7
7/14/2010					0.067	1.9		0.035	0.045	1.5		0.030				
7/21/2010	0.076	2.3		0.033	0.078	2.2		0.035	0.055	1.8		0.031	27.6	21.7		7.5
7/28/2010	0.071	2.2		0.032	0.080	2.3		0.035	0.056	1.8		0.031	21.1	18.2		3.6
8/4/2010	0.062	1.9		0.033	0.072	2.2		0.033	0.052	1.8		0.029	16.1	5.3		11.5
8/11/2010	0.087	2.3		0.038	0.066	1.9		0.035	0.049	1.5		0.033	43.7	34.8		13.6
8/18/2010	0.060	1.9		0.032	0.062	1.9		0.033	0.043	1.5		0.029	28.3	21.1		9.2
8/25/2010	0.096	2.9		0.033	0.063	2.0		0.032	0.041	1.5		0.027	57.3	48.3		17.4
9/1/2010	0.048	1.7		0.028	0.060	2.3		0.026	0.043	1.6		0.027	10.4	5.9		4.8
9/8/2010	0.041	1.5		0.027	0.053	1.6		0.033	0.039	1.3		0.030	4.9	13.3		-9.8
9/15/2010	0.052				0.051				0.038				26.9			
9/22/2010	0.041				0.048				0.033				19.5			
9/29/2010	0.076	2.0		0.038	0.051	1.6		0.032	0.039	1.3		0.030	48.7	35.0		21.1
10/6/2010	0.085				0.062				0.043				49.4			
10/13/2010	0.062				0.066				0.047				24.2			
10/20/2010	0.082	2.4		0.034	0.073	2.1		0.035	0.056	1.7		0.033	31.7	29.2		3.6
10/27/2010					0.115				0.117							
11/3/2010	0.061	1.8		0.034	0.078	2.2		0.035	0.061	1.8		0.034	0.0	0.0		0.0
11/10/2010	0.115	3.2		0.036	0.076	2.3		0.033	0.057	1.9		0.030	50.4	40.6		16.5
11/17/2010					0.073	2.0		0.037	0.056	1.8		0.031				
11/24/2010	0.088	2.3		0.038	0.068	2.0		0.034	0.053	1.7		0.031	39.8	26.1		18.5
12/1/2010	0.070	1.8		0.039	0.064	1.8		0.036	0.053	1.7		0.031	24.3	5.6		19.8
12/8/2010	0.048	1.5		0.032	0.063	1.8		0.035	0.052	1.7		0.031	-8.3	-13.3		4.4
12/15/2010	0.081	2.3		0.035	0.060	1.5		0.040	0.049	1.5		0.033	39.5	34.8		7.2
12/22/2010	0.045	1.2		0.038	0.055	1.4		0.039	0.036	1.3		0.028	20.0	-8.3		26.2
12/29/2010	0.038	1.0		0.038	0.049	1.2		0.041	0.041	1.2		0.034	-7.9	-20.0		10.1
1/5/2011	0.050	1.2		0.042	0.051	1.3		0.039	0.040	1.3		0.031	20.0	-8.3		26.2
Average	0.066	1.89		0.035	0.063	1.80		0.035	0.048	1.51		0.032	27.7	20.1		10.2

Appendix C
Existing Filtration Performance
UVA - DOC - SUVA

Date	Prior to Reservoir				After the Reservoir				Filtered Water Clearwell				Overall % Reduction			
	UVA	DOC	TURBIDITY	SUVA	UVA	DOC	TURBIDITY	SUVA	UVA	DOC	TURBIDITY	SUVA	UVA	DOC	TURBIDITY	SUVA
1/12/2011	0.035		0.34		0.046		0.28		0.040		0.05		-14.3		85.3	
1/19/2011	0.036		0.63		0.043		0.27		0.037		0.05		-2.8		92.1	
1/26/2011	0.032		0.27		0.040		0.37		0.035		0.05		-9.4		81.5	
2/2/2011	0.030		0.22		0.036		0.24		0.031		0.05		-3.3		77.3	
2/9/2011	0.037		0.23		0.039		0.24		0.034		0.05		8.1		78.3	
2/16/2011	0.033		0.20		0.034		0.27		0.030		0.06		9.1		70.0	
2/23/2011	0.036		0.20		0.038		0.30		0.033		0.06		8.3		70.0	
3/2/2011	0.036		0.19		0.037		0.27		0.032		0.07		11.1		63.2	
3/9/2011	0.072		0.39		0.043		0.38		0.033		0.08		54.2		79.5	
3/16/2011	0.055		0.31		0.037		0.37		0.042		0.07		23.6		77.4	
3/22/2011	0.054		0.35		0.050		0.45		0.041		0.07		24.1		80.0	
4/15/2011					0.049		0.39		0.042		0.11					
4/20/2011					0.068		0.40		0.055		0.08					
5/11/2011	0.059		0.37		0.072		0.43		0.060		0.08		-1.7		78.4	
5/18/2011	0.092		0.58		0.063		0.40		0.053		0.08		42.4		86.2	
5/25/2011	0.065		0.30		0.070		0.49		0.055		0.14		15.4		53.3	
6/1/2011	0.082		0.348		0.076		0.543		0.118		0.100		-43.9		71.3	
6/9/2011					0.093		0.400		0.076		0.100					
6/16/2011	0.054		0.260		0.059		0.379		0.044		0.110		18.5		57.7	
6/23/2011					0.059		0.442		0.041		0.130					
6/29/2011	0.129		1.040		0.076		0.461		0.051		0.080		60.5		92.3	
7/6/2001	0.055		0.195		0.075		0.534		0.055		0.080		0.0		59.0	
7/13/2011	0.053		0.251		0.070		0.439		0.052		0.080		1.9		68.1	
7/21/2011	0.054		0.180		0.057		0.471		0.040		0.090		25.9		50.0	
7/28/2011	0.068		0.206		0.059		0.422		0.044		0.120		35.3		41.7	
10/6/2011					0.078		2.08		0.053		0.091					
10/7/2011					0.076		2.07		0.054		0.134					
10/10/2011					0.073		2.21		0.059		0.141					
10/11/2011					0.076		2.36		0.069		0.121					
10/12/2011					0.077		1.400		0.052		0.067					
10/13/2011					0.060		1.260		0.061		0.072					
10/14/2011					0.072		1.180		0.054		0.070					
10/17/2011					0.073		1.050		0.060		0.050					
10/18/2011					0.072		0.846		0.051		0.062					
10/20/2011					0.076		0.907		0.059		0.080					
10/21/2011					0.069		0.890		0.050		0.067					
10/24/2011					0.069		0.896		0.053		0.076					
10/25/2011					0.073		0.880		0.056		0.078					
10/26/2011	0.086		1.060		0.073		0.731		0.056		0.087		34.9		91.8	
10/27/2011	0.076		3.440		0.072		0.827		0.064		0.115		15.8		96.7	
10/28/2011	0.097		3.100		0.072		0.676		0.055		0.064		43.3		97.9	
10/31/2011	0.072		1.320		0.069		0.871		0.036		0.075		50.0		94.3	
11/1/2011	0.078		1.650		0.071		0.882		0.054		0.091		30.8		94.5	
11/2/2011	0.076		1.660		0.073		0.864		0.057		0.084		25.0		94.9	
11/3/2011	0.088		1.820		0.072		0.914		0.055		0.082		37.5		95.5	
11/4/2011	0.089		1.740		0.071		0.951		0.058		0.051		34.8		97.1	
11/7/2011	0.055		0.892		0.069		0.869		0.053		0.089		3.6		90.0	
11/8/2011	0.052		0.988		0.071		0.818		0.065		0.058		-25.0		94.1	
11/9/2011	0.058		0.893		0.070		0.876		0.055		0.059		5.2		93.4	
11/10/2011	0.061		0.805		0.069		0.790		0.055		0.081		9.8		89.9	
11/11/2011	0.058		0.856		0.067		0.799		0.052		0.061		10.3		92.9	
11/14/2011	0.049		0.600		0.063		0.791		0.051		0.080		-4.1		86.7	

Appendix C
Existing Filtration Performance
UVA - DOC - SUVA

Date	Prior to Reservoir				After the Reservoir				Filtered Water Clearwell				Overall % Reduction			
	UVA	DOC	TURBIDITY	SUVA	UVA	DOC	TURBIDITY	SUVA	UVA	DOC	TURBIDITY	SUVA	UVA	DOC	TURBIDITY	SUVA
11/15/2011	0.096		6.780		0.077		0.652		0.036		0.088		62.5		98.7	
11/16/2011	0.067		0.990		0.062		6.740		0.049		0.071		26.9		92.8	
11/17/2011	0.082		3.940		0.061		0.628		0.052		0.092		36.6		97.7	
11/21/2011	0.051		0.855		0.062		0.956		0.052		0.087		-2.0		89.8	
11/22/2011	0.046		0.931		0.060		0.651		0.051		0.079		-10.9		91.5	
11/23/2011	0.044		2.390		0.061		0.703		0.049		0.083		-11.4		96.5	
11/28/2011					0.075		0.751		0.047		0.091					
11/29/2011	0.165		4.330		0.058		0.709		0.047		0.084		71.5		98.1	
11/30/2011					0.056		0.711		0.059		0.085					
12/1/2011	0.114		2.460		0.057		0.660		0.047		0.096		58.8		96.1	
12/2/2011	0.100		1.500		0.058		0.675		0.045		0.082		55.0		94.5	
12/5/2011	0.093		1.040		0.061		0.931		0.052		0.079		44.1		92.4	
12/6/2011					0.089		0.816		0.051		0.081					
12/7/2011					0.064		0.823		0.052		0.083					
12/8/2011	0.165		3.150		0.065		0.771		0.050		0.080		69.7		97.5	
12/9/2011	0.134		2.180		0.059		0.835		0.049		0.076		63.4		96.5	
12/12/2011	0.063		2.470		0.065		0.876		0.049		0.060		22.2		97.6	
12/13/2011	0.107		1.200		0.059		0.891		0.051		0.070		52.3		94.2	
12/14/2011	0.070		2.480		0.058		1.010		0.049		0.060		30.0		97.6	
12/15/2011	0.083		9.290		0.062		1.210		0.046		0.077		44.6		99.2	
12/19/2011	0.056		1.430		0.063		1.100		0.050		0.074		10.7		94.8	
12/20/2011	0.056		4.070		0.062		0.898		0.051		0.059		8.9		98.6	
12/21/2011	0.067		3.100		0.055		0.904		0.047		0.058		29.9		98.1	
12/22/2011					0.078		0.913		0.069		0.071					
12/23/2011					0.055		0.915		0.047		0.071					
12/27/2011	0.096		1.600		0.081		1.030		0.046		0.064		52.1		96.0	
12/28/2011					0.063		1.060		0.051		0.067					
12/29/2011	0.109		1.600		0.075		1.070		0.054		0.073		50.5		95.4	
1/2/2012					0.054				0.049		0.079					
1/3/2012	0.074		2.340		0.079		1.020		0.044		0.052		40.5		97.8	
1/4/2012	0.068		2.510		0.054		1.050		0.045		0.058		33.8		97.7	
1/5/2012	0.069		4.110		0.064		0.970		0.047		0.053		31.9		98.7	
1/10/2012	0.066		14.100		0.057		1.260		0.044		0.057		33.3		99.6	
1/11/2012	0.043		2.300		0.064		1.100		0.041		0.059		4.7		97.4	
1/12/2012	0.064		3.940		0.048		1.860		0.039		0.086		39.1		97.8	
1/13/2012	0.073		1.740		0.080		1.110		0.044		0.068		39.7		96.1	
1/17/2012					0.064		1.140		0.046		0.070					
1/19/2012					0.046		1.180		0.040		0.086					
1/23/2012					0.044		1.610		0.041		0.068					
1/24/2012					0.068		1.310		0.039		0.073					
1/26/2012					0.046		1.140		0.039		0.086					
1/27/2012					0.050		2.710		0.050		0.075					
1/30/2012	0.077		2.660		0.061		2.310		0.047		0.077		39.0		97.1	
2/1/2012	0.045		4.010		0.051		2.580		0.041		0.108		8.9		97.3	
2/2/2012	0.057		3.720		0.044		2.760		0.038		0.114		33.3		96.9	
2/3/2012	0.107		2.250		0.061		1.670		0.042		0.067		60.7		97.0	
2/6/2012	0.038		1.480		0.066		1.700		0.070		0.084		-84.2		94.3	
2/8/2012	0.029		2.340		0.042		1.340		0.035		0.079		-20.7		96.6	
2/9/2012	0.032		1.340		0.048		1.250		0.039		0.071		-21.9		94.7	
2/10/2012	0.031		1.320		0.048		1.190		0.040		0.091		-29.0		93.1	
2/14/2012	0.041		2.470		0.040		1.110		0.035		0.065		14.6		97.4	
2/15/2012	0.027		3.490		0.042		1.080		0.037		0.066		-37.0		98.1	
2/16/2012					0.041		1.060		0.059		0.065					
2/17/2012					0.039		1.030		0.035		0.065					
2/21/2012					0.038		1.040		0.032		0.064					
2/22/2012	0.029		3.340		0.039		1.050		0.033		0.078		-13.8		97.7	
2/23/2012					0.041		1.020		0.030		0.073					
2/24/2012	0.076		1.970		0.041		0.959		0.030		0.067		60.5		96.6	
2/27/2012	0.034		2.660		0.033		1.050		0.028		0.069		17.6		97.4	
2/28/2012	0.042		2.470		0.034		1.020		0.031		0.063		26.2		97.4	

Appendix C
Existing Filtration Performance
UVA - DOC - SUVA

Date	Prior to Reservoir				After the Reservoir				Filtered Water Clearwell				Overall % Reduction			
	UVA	DOC	TURBIDITY	SUVA	UVA	DOC	TURBIDITY	SUVA	UVA	DOC	TURBIDITY	SUVA	UVA	DOC	TURBIDITY	SUVA
2/29/2012	0.030		2.900		0.034		0.978		0.030		0.058		0.0		98.0	
Average	0.066		1.989		0.060		1.008		0.048		0.078		27.9		96.1	

[1] DOC not measured. Calculated based on average SUVA calculated during previous testing

APPENDIX D - GAC PILOT FILTER SUMMARY - TURBIDITY AND UVA

Appendix D
GAC Pilot Filter Summary - Turbidity & UVA

Date	Raw Water		Filter #1		Filter #2		Filter #3		Turbidity Removal			UVA Removal		
			Sand Only		New Calgon 300		Used Calgon 300		Filter	Filter	Filter	Filter	Filter	Filter
	Turbidity	UVA	Turbidity	UVA	Turbidity	UVA	Turbidity	UVA	#1	#2	#3	#1	#2	#3
12/1/2010	0.390	0.064	0.330	0.061	0.480	0.012	0.300	0.060	15.4%	-23.1%	23.1%	4.7%	81.3%	6.3%
12/5/2010	0.520	0.064	0.360	0.063	0.370	0.016	0.320	0.057	30.8%	28.8%	38.5%	1.6%	75.0%	10.9%
12/14/2010	0.310	0.061	0.450	0.052	0.250	0.020	0.240	0.050	-45.2%	19.4%	22.6%	14.8%	67.2%	18.0%
12/18/2010	0.300	0.055	0.250	0.054	0.220	0.018	0.210	0.050	16.7%	26.7%	30.0%	1.8%	67.3%	9.1%
12/22/2010	0.360	0.050	0.360	0.051	0.220	0.019	0.250	0.052	0.0%	38.9%	30.6%	-2.0%	62.0%	-4.0%
12/27/2010	0.380	0.057	0.470	0.053	0.470	0.025	0.210	0.046	-23.7%	-23.7%	44.7%	7.0%	56.1%	19.3%
1/1/2011	0.310	0.045	0.260	0.044	0.190	0.018	0.180	0.041	16.1%	38.7%	41.9%	2.2%	60.0%	8.9%
1/5/2011	0.480	0.052	0.220	0.049	0.210	0.022	0.190	0.040	54.2%	56.3%	60.4%	5.8%	57.7%	23.1%
1/12/2011	0.300	0.047	0.190	0.049	0.220	0.022	0.180	0.041	36.7%	26.7%	40.0%	-4.3%	53.2%	12.8%
1/15/2011	0.289	0.040	0.207	0.041	0.217	0.019	0.149	0.039	28.4%	24.9%	48.4%	-2.5%	52.5%	2.5%
1/19/2011	0.258	0.043	0.211	0.042	0.229	0.021	0.182	0.040	18.2%	11.2%	29.5%	2.3%	51.2%	7.0%
1/26/2011	0.332	0.038	0.239	0.042	0.260	0.019	0.187	0.035	28.0%	21.7%	43.7%	-10.5%	50.0%	7.9%
1/30/2011	0.324	0.035	0.147	0.035	0.195	0.019	0.184	0.034	54.6%	39.8%	43.2%	0.0%	45.7%	2.9%
2/2/2011	0.404	0.033	0.165	0.034	0.173	0.018	0.126	0.033	59.2%	57.2%	68.8%	-3.0%	45.5%	0.0%
2/9/2011	0.290	0.032	0.187	0.031	0.171	0.016	0.173	0.033	35.5%	41.0%	40.3%	3.1%	50.0%	-3.1%
2/12/2011	0.242	0.033	0.116	0.033	0.136	0.017	0.117	0.031	52.1%	43.8%	51.7%	0.0%	48.5%	6.1%
2/16/2011	0.236	0.034	0.172	0.033	0.174	0.018	0.148	0.030	27.1%	26.3%	37.3%	2.9%	47.1%	11.8%
2/23/2011	0.283	0.038	0.133	0.036	0.143	0.020	0.152	0.034	53.0%	49.5%	46.3%	5.3%	47.4%	10.5%
2/26/2011	0.275	0.039	0.134	0.035	0.130	0.019	0.108	0.034	51.3%	52.7%	60.7%	10.3%	51.3%	12.8%
3/2/2011	0.251	0.037	0.147	0.036	0.126	0.019	0.101	0.032	41.4%	49.8%	59.8%	2.7%	48.6%	13.5%
3/9/2011	0.322	0.041	0.138	0.039	0.149	0.021	0.119	0.034	57.1%	53.7%	63.0%	4.9%	48.8%	17.1%
3/12/2011	0.330	0.042	0.155	0.040	0.127	0.022	0.102	0.037	53.0%	61.5%	69.1%	4.8%	47.6%	11.9%
3/16/2011	0.340	0.048	0.121	0.046	0.155	0.026	0.138	0.042	64.4%	54.4%	59.4%	4.2%	45.8%	12.5%
3/22/2011	0.404	0.055	0.135	0.048	0.144	0.026	0.152	0.043	66.6%	64.4%	62.4%	12.7%	52.7%	21.8%
4/5/2011	0.381	0.046	0.369	0.042	0.155	0.024	0.143	0.038	3.1%	59.3%	62.5%	8.7%	47.8%	17.4%
4/11/2011	0.466	0.055	0.311	0.056	0.270	0.038	0.223	0.060	33.3%	42.1%	52.1%	-1.8%	30.9%	-9.1%
4/15/2011	0.445	0.061	0.222	0.055	0.197	0.035	0.237	0.052	50.1%	55.7%	46.7%	9.8%	42.6%	14.8%
4/20/2011	0.421	0.065	0.362	0.062	0.154	0.039	0.256	0.058	14.0%	63.4%	39.2%	4.6%	40.0%	10.8%
4/23/2011	0.476	0.071	0.532	0.066	0.141	0.043	0.198	0.062	-11.8%	70.4%	58.4%	7.0%	39.4%	12.7%
5/11/2011	0.430	0.072	0.254	0.064	0.158	0.040	0.144	0.061	40.9%	63.3%	66.5%	11.1%	44.4%	15.3%
5/18/2011	0.400	0.065	0.134	0.057	0.118	0.033	0.132	0.053	66.5%	70.5%	67.0%	12.3%	49.2%	18.5%
5/21/2011	0.423	0.070	0.148	0.062	0.113	0.037	0.092	0.057	65.0%	73.3%	78.3%	11.4%	47.1%	18.6%
5/25/2011	0.414	0.067	0.141	0.064	0.151	0.035	0.135	0.057	65.9%	63.5%	67.4%	4.5%	47.8%	14.9%
6/9/2011	0.445	0.090	0.163	0.049	0.201	0.019	0.226	0.071	63.4%	54.8%	49.2%	45.6%	78.9%	21.1%
6/17/2011	0.473	0.060	0.120	0.053	0.215	0.024	0.276	0.063	74.6%	54.5%	41.6%	11.7%	60.0%	-5.0%
AVERAGE	**0.363**	**0.052**	**0.230**	**0.048**	**0.201**	**0.024**	**0.179**	**0.046**	**35.9%**	**43.2%**	**49.8%**	**5.5%**	**52.6%**	**10.6%**
6/22/2011			Cleaned		Cleaned		Cleaned							
6/23/2011	0.517	0.055	0.204	0.048	0.238	0.013	0.381	0.041	60.5%	54.0%	26.3%	12.7%	76.4%	25.5%
6/29/2011	0.540	0.076	0.164	0.068	0.257	0.018	0.459	0.053	69.6%	52.4%	15.0%	10.5%	76.3%	30.3%
7/6/2011	0.484	0.072	0.247	0.072	0.190	0.014	0.506	0.067	49.0%	60.7%	-4.5%	0.0%	80.6%	6.9%
7/13/2011	0.356	0.067	0.115	0.061	0.163	0.018	0.340	0.049	67.7%	54.2%	4.5%	9.0%	73.1%	26.9%
7/21/2011	0.347	0.056	0.105	0.046	0.253	0.012	0.110	0.032	69.7%	27.1%	68.3%	17.9%	78.6%	42.9%
7/28/2011	0.316	0.056	0.139	0.049	0.126	0.028	0.274	0.042	56.0%	60.1%	13.3%	12.5%	50.0%	25.0%
8/1/2011							Cleaned							
8/4/2011	0.325	0.056	0.127	0.048	0.092	0.014	0.108	0.037	60.9%	71.7%	66.8%	14.3%	75.0%	33.9%
8/9/2011	0.305	0.058												
8/10/2011	0.320	0.062	0.136	0.053	0.106	0.018	0.183	0.041	57.5%	66.9%	42.8%	14.5%	71.0%	33.9%
8/18/2011	0.316	0.061	0.093	0.052	0.103	0.013	0.125	0.037	70.6%	67.4%	60.4%	14.8%	78.7%	39.3%
8/25/2011	0.431	0.066	0.109	0.058	0.135	0.021	0.117	0.041	74.7%	68.7%	72.9%	12.1%	68.2%	37.9%
10/6/2011	2.080	0.078	0.130	0.038	0.183	0.013	0.192	0.051	93.8%	91.2%	90.8%	51.3%	83.3%	34.6%

Appendix D
GAC Pilot Filter Summary - Turbidity & UVA

Date	Raw Water		Filter #1		Filter #2		Filter #3		Turbidity Removal			UVA Removal		
			Sand Only		New Calgon 300		Used Calgon 300		Filter	Filter	Filter	Filter	Filter	Filter
	Turbidity	UVA	Turbidity	UVA	Turbidity	UVA	Turbidity	UVA	#1	#2	#3	#1	#2	#3
10/7/2011	2.070	0.076	0.108	0.050	0.217	0.013	0.161	0.043	94.8%	89.5%	92.2%	34.2%	82.9%	43.4%
10/10/2011	2.210	0.073	0.121	0.038	0.137	0.017	0.158	0.049	94.5%	93.8%	92.9%	47.9%	76.7%	32.9%
10/11/2011	2.360	0.076	0.114	0.041	0.098	0.026	0.141	0.056	95.2%	95.8%	94.0%	46.1%	65.8%	26.3%
10/12/2011	1.400	0.077	0.096	0.046	0.080	0.008	0.111	0.037	93.1%	94.3%	92.1%	40.3%	89.6%	51.9%
10/13/2011	1.260	0.060	0.129	0.052	0.130	0.025	0.108	0.033	89.8%	89.7%	91.4%	13.3%	58.3%	45.0%
10/14/2011	1.180	0.072	0.117	0.049	0.109	0.013	0.109	0.041	90.1%	90.8%	90.8%	31.9%	81.9%	43.1%
10/17/2011	1.050	0.073	0.123	0.053	0.092	0.012	0.099	0.041	88.3%	91.2%	90.6%	27.4%	83.6%	43.8%
10/18/2011	0.846	0.072	0.092	0.036	0.091	0.019	0.078	0.057	89.1%	89.2%	90.8%	50.0%	73.6%	20.8%
10/20/2011	0.907	0.076	0.078	0.054	0.087	0.006	0.090	0.037	91.4%	90.4%	90.1%	28.9%	92.1%	51.3%
10/21/2011	0.890	0.069	0.081	0.044	0.088	0.015	0.094	0.044	90.9%	90.1%	89.4%	36.2%	78.3%	36.2%
10/24/2011	0.896	0.069	0.097	0.042	0.098	0.002	0.123	0.030	89.2%	89.1%	86.3%	39.1%	97.1%	56.5%
10/25/2011	0.880	0.073	0.092	0.046	0.118	0.008	0.122	0.035	89.5%	86.6%	86.1%	37.0%	89.0%	52.1%
10/26/2011	0.731	0.073	0.110	0.047	0.219	0.008	0.198	0.035	85.0%	70.0%	72.9%	35.6%	89.0%	52.1%
10/27/2011	0.827	0.072	0.134	0.066	0.150	0.009	0.171	0.044	83.8%	81.9%	79.3%	8.3%	87.5%	38.9%
10/28/2011	0.676	0.072	0.170	0.046	0.105	0.007	0.089	0.061	74.9%	84.5%	86.8%	36.1%	90.3%	15.3%
10/31/2011	0.871	0.069	0.096	0.058	0.135	0.045	0.170	0.006	89.0%	84.5%	80.5%	15.9%	34.8%	91.3%
11/1/2011	0.882	0.071	0.112	0.062	0.110	0.011	0.127	0.047	87.3%	87.5%	85.6%	12.7%	84.5%	33.8%
11/2/2011	0.864	0.073	0.109	0.065	0.108	0.013	0.161	0.050	87.4%	87.5%	81.4%	11.0%	82.2%	31.5%
11/3/2011	0.914	0.072	0.120	0.063	0.113	0.017	0.119	0.047	86.9%	87.6%	87.0%	12.5%	76.4%	34.7%
11/4/2011	0.951	0.071	0.095	0.064	0.115	0.013	0.095	0.047	90.0%	87.9%	90.0%	9.9%	81.7%	33.8%
11/7/2011	0.869	0.069	0.940	0.059	0.113	0.005	0.177	0.045	-8.2%	87.0%	79.6%	14.5%	92.8%	34.8%
11/8/2011	0.818	0.071	0.150	0.064	0.127	0.017	0.192	0.048	81.7%	84.5%	76.5%	9.9%	76.1%	32.4%
11/9/2011	0.876	0.070	0.070	0.058	0.149	0.014	0.105	0.047	92.0%	83.0%	88.0%	17.1%	80.0%	32.9%
11/10/2011	0.790	0.069	0.164	0.045	0.168	0.059	0.113	0.045	79.2%	78.7%	85.7%	34.8%	14.5%	34.8%
11/11/2011	0.799	0.067	0.138	0.059	0.151	0.014	0.110	0.044	82.7%	81.1%	86.2%	11.9%	79.1%	34.3%
11/14/2011	0.791	0.063	0.148	0.056	0.099	0.007	0.282	0.049	81.3%	87.5%	64.3%	11.1%	88.9%	22.2%
11/15/2011	0.652	0.077	0.105	0.055	0.123	0.024	0.114	0.057	83.9%	81.1%	82.5%	28.6%	68.8%	26.0%
11/16/2011	6.740	0.062	0.108	0.054	0.104	0.014	0.107	0.034	98.4%	98.5%	98.4%	12.9%	77.4%	45.2%
11/17/2011	0.628	0.061	0.111	0.051	0.087	0.080	0.910	0.033	82.3%	86.1%	-44.9%	16.4%	-31.1%	45.9%
11/21/2011	0.956	0.062	0.136	0.052	0.138	0.012			85.8%	85.6%		16.1%	80.6%	
11/22/2011	0.651	0.060	0.093	0.054			0.382	0.038	85.7%		41.3%	10.0%		36.7%
11/23/2011	0.703	0.061	0.299	0.052	0.241	0.014	0.283	0.036	57.5%	65.7%	59.7%	14.8%	77.0%	41.0%
11/28/2011	0.751	0.075	0.084	0.051	0.201	0.031	0.231	0.031	88.8%	73.2%	69.2%	32.0%	58.7%	58.7%
11/29/2011	0.709	0.058	0.163	0.051	0.190	0.048	0.282	0.042	77.0%	73.2%	60.2%	12.1%	17.2%	27.6%
11/30/2011	0.711	0.056	0.131	0.051	0.162	0.027	0.187	0.032	81.6%	77.2%	73.7%	8.9%	51.8%	42.9%
12/1/2011	0.660	0.057	0.145	0.050	0.188	0.014	0.201	0.039	78.0%	71.5%	69.5%	12.3%	75.4%	31.6%
12/2/2011	0.675	0.058	0.180	0.050	0.200	0.013	0.184	0.039	73.3%	70.4%	72.7%	13.8%	77.6%	32.8%
12/5/2011	0.931	0.061	0.090	0.055	0.135	0.016	0.205	0.048	90.3%	85.5%	78.0%	9.8%	73.8%	21.3%
12/6/2011	0.816	0.089	0.130	0.061	0.165	0.033	0.166	0.052	84.1%	79.8%	79.7%	31.5%	62.9%	41.6%
12/7/2011	0.823	0.064	0.120	0.055	0.185	0.015	0.199	0.051	85.4%	77.5%	75.8%	14.1%	76.6%	20.3%
12/8/2011	0.771	0.065	0.143	0.054	0.187	0.019	0.159	0.051	81.5%	75.7%	79.4%	16.9%	70.8%	21.5%
12/9/2011	0.835	0.059	0.127	0.052	0.097	0.014	0.118	0.032	84.8%	88.4%	85.9%	11.9%	76.3%	45.8%
12/12/2011	0.876	0.065	0.081	0.051	0.114	0.022	0.125	0.046	90.8%	87.0%	85.7%	21.5%	66.2%	29.2%
12/13/2011	0.891	0.059	0.103	0.053	0.128	0.016	0.096	0.046	88.4%	85.6%	89.2%	10.2%	72.9%	22.0%
12/14/2011	1.010	0.058	0.077	0.051	0.145	0.016	0.118	0.045	92.4%	85.6%	88.3%	12.1%	72.4%	22.4%
12/15/2011	1.210	0.062	0.111	0.050	0.151	0.017	0.117	0.039	90.8%	87.5%	90.3%	19.4%	72.6%	37.1%
12/19/2011	1.100	0.063	0.072	0.051	0.092	0.018	0.098	0.038	93.5%	91.6%	91.1%	19.0%	71.4%	39.7%
12/20/2011	0.898	0.062	0.106	0.052	0.076	0.017	0.133	0.038	88.2%	91.5%	85.2%	16.1%	72.6%	38.7%
12/21/2011	0.904	0.055	0.068	0.050	0.127	0.015	0.187	0.037	92.5%	86.0%	79.3%	9.1%	72.7%	32.7%
12/22/2011	0.913	0.078	0.098	0.068	0.101	0.033	0.129	0.061	89.3%	88.9%	85.9%	12.8%	57.7%	21.8%
12/23/2011	0.915	0.055	0.080	0.049	0.097	0.015	0.098	0.036	91.3%	89.4%	89.3%	10.9%	72.7%	34.5%
12/27/2011	1.030	0.081	0.048	0.064	0.079	0.016	0.141	0.033	95.3%	92.3%	86.3%	21.0%	80.2%	59.3%

Appendix D
GAC Pilot Filter Summary - Turbidity & UVA

Date	Raw Water		Filter #1 Sand Only		Filter #2 New Calgon 300		Filter #3 Used Calgon 300		Turbidity Removal			UVA Removal		
	Turbidity	UVA	Turbidity	UVA	Turbidity	UVA	Turbidity	UVA	Filter #1	Filter #2	Filter #3	Filter #1	Filter #2	Filter #3
12/28/2011	1.060	0.063	0.088	0.049	0.110	0.031	0.122	0.040	91.7%	89.6%	88.5%	22.2%	50.8%	36.5%
12/29/2011	1.070	0.075	0.067	0.048	0.095	0.021	0.084	0.035	93.7%	91.1%	92.1%	36.0%	72.0%	53.3%
1/2/2012		0.054	0.071	0.047	0.207	0.017	0.094	0.037				13.0%	68.5%	31.5%
1/3/2012	1.020	0.079	0.095	0.048	0.119	0.016	0.083	0.038	90.7%	88.3%	91.9%	39.2%	79.7%	51.9%
1/4/2012	1.050	0.054	0.079	0.047	0.076	0.018	0.172	0.038	92.5%	92.8%	83.6%	13.0%	66.7%	29.6%
1/5/2012	0.970	0.064	0.080	0.047	0.091	0.019	0.099	0.040	91.8%	90.6%	89.8%	26.6%	70.3%	37.5%
1/10/2012	1.260	0.057	0.075	0.045	0.104	0.016	0.118	0.036	94.0%	91.7%	90.6%	21.1%	71.9%	36.8%
1/11/2012	1.100	0.064	0.088	0.043	0.123	0.014	0.126	0.033	92.0%	88.8%	88.5%	32.8%	78.1%	48.4%
1/12/2012	1.860	0.048	0.127	0.042	0.376	0.011	0.316	0.033	93.2%	79.8%	83.0%	12.5%	77.1%	31.3%
1/13/2012	1.110	0.080	0.274	0.048	0.131	0.017	0.104	0.034	75.3%	88.2%	90.6%	40.0%	78.8%	57.5%
1/17/2012	1.140	0.064	0.144	0.040	0.111	0.019	0.126	0.036	87.4%	90.3%	88.9%	37.5%	70.3%	43.8%
1/19/2012	1.180	0.046	0.076	0.041	0.110	0.019	0.113	0.035	93.6%	90.7%	90.4%	10.9%	58.7%	23.9%
1/23/2012	1.610	0.044	0.097	0.039	0.089	0.021	0.091	0.036	94.0%	94.5%	94.3%	11.4%	52.3%	18.2%
1/24/2012	1.310	0.068	0.077	0.051	0.119	0.043	0.102	0.060	94.1%	90.9%	92.2%	25.0%	36.8%	11.8%
1/26/2012	1.140	0.046	0.133	0.051	0.251	0.020	0.090	0.038	88.3%	78.0%	92.1%	-10.9%	56.5%	17.4%
1/27/2012	2.710	0.050	0.105	0.051	0.153	0.014	0.124	0.045	96.1%	94.4%	95.4%	-2.0%	72.0%	10.0%
1/30/2012	2.310	0.061	0.099	0.041	0.111	0.020	0.141	0.041	95.7%	95.2%	93.9%	32.8%	67.2%	32.8%
2/1/2012	2.580	0.051	0.156	0.042	0.181	0.030	0.219	0.037	94.0%	93.0%	91.5%	17.6%	41.2%	27.5%
2/2/2012	2.760	0.044	0.147	0.043	0.102	0.024	0.241	0.035	94.7%	96.3%	91.3%	2.3%	45.5%	20.5%
2/3/2012	1.670	0.061	0.136	0.047	0.160	0.032	0.162	0.045	91.9%	90.4%	90.3%	23.0%	47.5%	26.2%
2/6/2012	1.700	0.066	0.271	0.040	0.226	0.035	0.214	0.044	84.1%	86.7%	87.4%	39.4%	47.0%	33.3%
2/8/2012	1.340	0.042	0.143	0.040	0.221	0.019	0.121	0.033	89.3%	83.5%	91.0%	4.8%	54.8%	21.4%
2/9/2012	1.250	0.048	0.162	0.043	0.131	0.020	0.191	0.038	87.0%	89.5%	84.7%	10.4%	58.3%	20.8%
2/10/2012	1.190	0.048	0.141	0.046	0.189	0.032	0.106	0.041	88.2%	84.1%	91.1%	4.2%	33.3%	14.6%
2/14/2012	1.110	0.040	0.248	0.036	0.234	0.017	0.105	0.031	77.7%	78.9%	90.5%	10.0%	57.5%	22.5%
2/15/2012	1.080	0.042	0.137	0.038	0.167	0.019	0.078	0.033	87.3%	84.5%	92.8%	9.5%	54.8%	21.4%
2/16/2012	1.060	0.041	0.143	0.034	0.113	0.017	0.088	0.055	86.5%	89.3%	91.7%	17.1%	58.5%	-34.1%
2/17/2012	1.030	0.039	0.128	0.038	0.108	0.022	0.103	0.031	87.6%	89.5%	90.0%	2.6%	43.6%	20.5%
2/21/2012	1.040	0.038	0.124	0.034	0.098	0.016	0.117	0.029	88.1%	90.6%	88.8%	10.5%	57.9%	23.7%
2/22/2012	1.050	0.039	0.127	0.033	0.107	0.017	0.174	0.030	87.9%	89.8%	83.4%	15.4%	56.4%	23.1%
2/23/2012	1.020	0.041	0.110	0.032	0.098	0.016	0.103	0.030	89.2%	90.4%	89.9%	22.0%	61.0%	26.8%
2/24/2012	0.959	0.041	0.130	0.038	0.090	0.017	0.170	0.036	86.4%	90.6%	82.3%	7.3%	58.5%	12.2%
2/27/2012	1.050	0.033	0.183	0.030	0.151	0.017	0.088	0.028	82.6%	85.6%	91.6%	9.1%	48.5%	15.2%
2/28/2012	1.020	0.034	0.107	0.030	0.105	0.015	0.103	0.026	89.5%	89.7%	89.9%	11.8%	55.9%	23.5%
2/29/2012	0.978	0.034	0.117	0.029	0.096	0.017	0.101	0.027	88.0%	90.2%	89.7%	14.7%	50.0%	20.6%
AVERAGE	**1.097**	**0.061**	**0.131**	**0.049**	**0.139**	**0.019**	**0.163**	**0.040**	**0.845**	**83.8%**	**79.1%**	**18.9%**	**67.2%**	**32.5%**

Filter #1 Sand Only
Filter #2 Calgon 400 - pristine GAC
Filter #3 Calgon 300 - used GAC
Pilot units operating at higher filtration rate (0.2 gpm/sf) than design filtration rate (0.05 gpm/sf).

APPENDIX E - GAC PILOT UNITS - TTHM AND HAA5 SAMPLING

Appendix E
GAC Pilot Units - TTHM and HAA5 Sampling

HAA5 (ppb) Date	Filter #1	Filter #2	Removal #2	Filter #3	Removal #3
2/16/2011[1]	22	18	18%	21	5%
3/16/2011[1]	45	25	44%	32	29%
4/27/2011[1]	96	65	32%	85	11%
5/25/2011[1]	82	53	35%	81	1%
Average	61	40	32%	55	11%
6/22/2011	62	20	68%	56	10%
8/3/2011	67	22	67%	41	39%
9/19/2011[2]	59	16	73%	49	17%
10/6/2011[2]	57	17	70%	52	9%
10/29/2011	46	9	80%	34	26%
12/12/2011	53	13	75%	48	9%
1/18/2012	43	19	56%	39	9%
Average	55	17	70%	46	17%

TTHM (ppb) Date	Filter #1	Filter #2	Removal #2	Filter #3	Removal #3
2/16/2011[1]	29	17	41%	27	7%
3/16/2011[1]	35	20	43%	32	9%
4/27/2011[1]	74	47	36%	67	9%
5/25/2011[1]	76	44	42%	65	14%
Average	54		40%		10%
6/22/2011	75	24	68%	56	25%
8/3/2011	84	26	70%	44	48%
9/19/2011[2]	102	17	83%	43	57%
10/6/2011[2]	98	19	80%	49	50%
10/29/2011	47	10	78%	33	29%
12/12/2011	40	9	77%	35	13%
1/18/2012	31	11	65%	23	27%
Average	68	17	62%	40	36%

(1) Filters operated at approximately 4x the design rate (0.2 gpm/sf vs. 0.05 gpm/sf).
(2) Filter #1 unavailable during MIEX® pilot, chlorinated clearwell water used as control during this period.