
Monitoring Project Summary

Water Utility: North Shore Water Commission

Project Title: Repeated Sampling at Residential Sites

Description: As a check against the PRS Monitoring Station data, four residences with historically high lead concentrations in the water were sampled every three or four months as the water system went through major chemical changes. Homes were sampled in a similar manner as for Lead and Copper Rule compliance sampling using a six hour water stagnation period. In contrast to the regulatory sampling, a water utility representative visited the site, allowed water from the water mains to fill the premise piping, took flowing water samples for background water quality, and then initiated the stagnation period. He returned six hours later for stagnation samples that were analyzed for a number of parameters representing possible chemical and microbiological reactions.

Goals: The goal of this study was to track water quality effects in residences as the water system went through major chemical changes. The data were also used to compare to PRS Monitoring Station data, determining if the monitoring station data were representative of water system responses.

Date Range: The residences have been sampled five times since the beginning of the monitoring efforts in April 2008.

- April 2008: Original water chemistry
- July 2008: Original water chemistry
- October 2008: After corrosion control chemical change
- December 2008: After disinfection change
- April 2009: After disinfection change

Sampling Sites: Four residences in the water distribution system were chosen based on the fact that they have historically had high lead concentrations as determined during Lead and Copper Rule sampling.

Water System Description

Water Source: Lake Michigan

Water Treatment: Water treatment includes:

- Addition of potassium permanganate to control zebra mussels
- Addition of alum for coagulation
- Addition of activated carbon for adsorption of compounds causing taste and odor
- Sedimentation
- Rapid sand filtration using carbon, sand, and gravel
- Addition of chlorine for disinfection
- UV disinfection
- Addition of 50/50 polyphosphate/orthophosphate blend for corrosion control
- Fluoridation

Water System Configuration: North Shore Water Commission treats water for three water systems serving three suburban Milwaukee entities – Whitefish Bay, Glendale, and Fox Point. The population served is around 34,000.

Summary of Results

Influent Water Quality

Total and dissolved iron and manganese were analyzed in the water samples taken after six hours stagnation. The results represent the metals brought into the residence from the distribution system and the metals contributed from the residential plumbing during the stagnation time. Iron typically was found in particulate form but remained low except for a spike at one house in the final April 2009 sampling.

Manganese stayed near detection limit except that there was a slight increase at all residences in December 2008. A decision was made to stop measuring manganese because it did not appear to be a major influencing factor in water quality. Because of the final increase, manganese should be checked at a later date.

During the last sampling, turbidity was measured. House #2 was experiencing a higher turbidity than the other residences. This mirrors the fact that House #2 also was experiencing high particulate iron at the same time.

Operating Parameters

The pH of the water stayed within a range of 7.6 to 7.8 over the sampling periods with the exception of a dip down to 7.4 for House #3.

With both free chlorine and, then, chloramine as disinfection, House #2 appears to experience lower disinfection levels than the other sites.

The total phosphorus levels at all sites have been consistent with each other and slightly below the dosage at the entry point to the distribution system. After the corrosion control chemical change to close to 100% orthophosphate, only orthophosphate concentration was measured. The phosphorus level is again consistent all sites, except for the April sampling of House #4. This data point has been explained as being taken on a day that the phosphate feed had to be lowered because of a low inventory of chemical product.

Reactions

The presence of microorganisms is consistently low in all residences except for House #2. This is the same site where disinfection levels are historically low. Nitrogen compounds were studied to look for indications of nitrification. There was no indication of nitrification. Increases in nitrogen compounds shown on the graphs are actually due to a change in analytical method that had a higher limit of detection.

There are some higher lead levels at the houses at all sampling times. It is very important to note that these higher peaks are caused by particulate lead and not by dissolved lead which would better represent uniform corrosion of metal. The particulate lead possibly indicates that debris in the pipelines is responsible for holding and throwing random lead particulates that are sometimes captured in water samples. The randomness of lead particulates can be seen in House #2 where a concentration of 18 µg/L total lead and 2.4 µg/L dissolved lead is captured in the first sampling event of the original water system.

Three months later, also in the original water system, the site had 7.7 µg/L total lead and 1.0 µg/L dissolved lead. This indicates that the lead is mostly in particulate form and that the same water chemistry can produce either high or low total lead at the same site.

House #1 has consistently higher particulate lead levels. The lead levels peak in October 2008, most likely because the kitchen where the sample was taken had recently been remodeled. Construction activities near or on plumbing can knock debris loose and cause such peaks. This is also an example of how residential sampling can skew the understanding of the “corrosivity of water” in a water system. It would be incorrect to assume that the debris release from construction activity at one site is representative of the water’s ability to leach lead from the piping system.

Copper levels at all sites and under all conditions are considered very low in comparison to the regulatory action level of 1300 µg/L. However, the relative concentrations of copper and the trends in copper levels should always be taken into consideration as these could reveal signs of mechanisms of metal release occurring in the water system. Houses # 1 and #3 have higher copper levels than the other sites. For these houses, the copper is mostly in particulate form during the March 2009 sampling.

Conclusions

Goals Addressed

The same four residences have been studied in a consistent manner before and after the major water chemistry changes and in parallel to the collection of monitoring station data.

The major concern during the water chemistry changes was to determine if lead and copper increased because of the transition. Based on the data in this study, there is no reason to believe that the water chemistry changes have influenced the release of lead and copper in the water system.

The comparison of the residential data to the monitoring station data is described in a separate report.

Debris

Based on data for particulate metals, pipeline debris appears to play a major role in lead, copper, and iron concentrations seen in the distribution system water.

Biostability

There appear to be isolated situations in the distribution system with greater microbiological activity. This was the case both before and after the disinfection change where some locations experienced lower disinfection levels. The chemical changes did not appear to influence the presence of microorganisms at the residences.

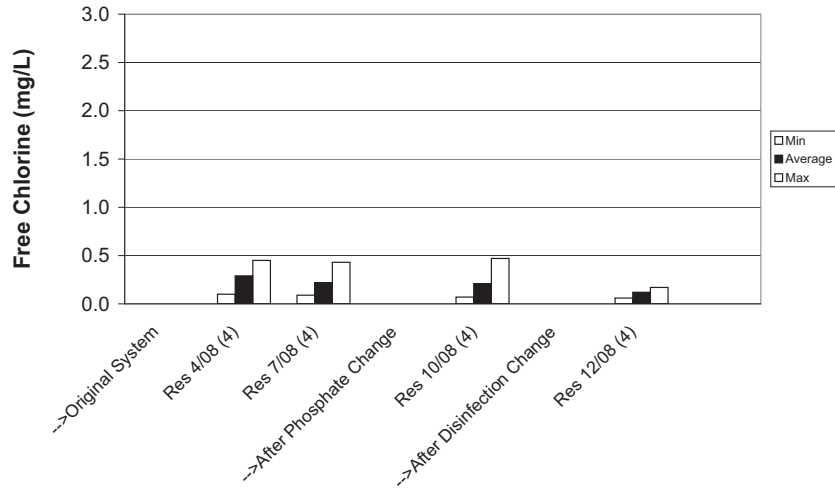
Recommendations

Because of the prominent role of debris in the contribution to metals in the water, uni-directional flushing of the water mains and possibly water service lines at critical locations should be pursued. North Shore Water Commission is already working with its three subscriber distribution systems on this effort. The monitoring station data will be used to capture the effectiveness of this effort.

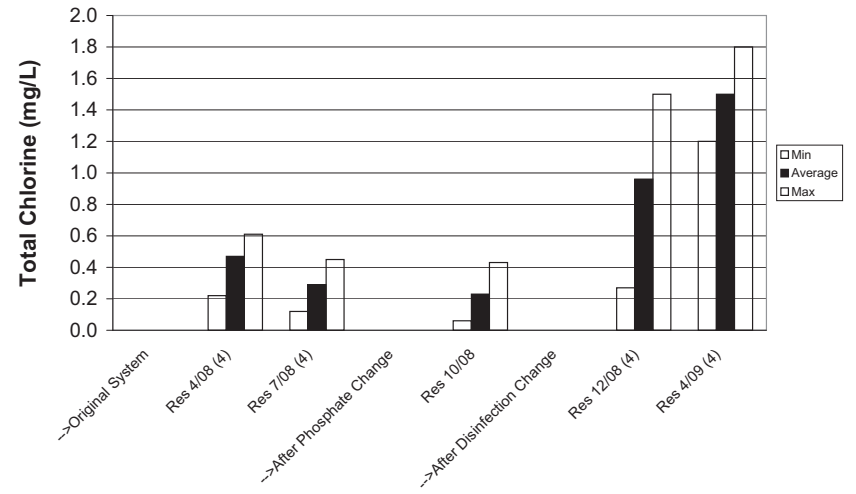
The efficient cleaning of the water mains and the maintenance of a high disinfection level will be used for control of localized biostability problems. The effectiveness of these efforts must be tracked using the monitoring stations and other regulatory data.

Appendix A: Average and Range Graphs

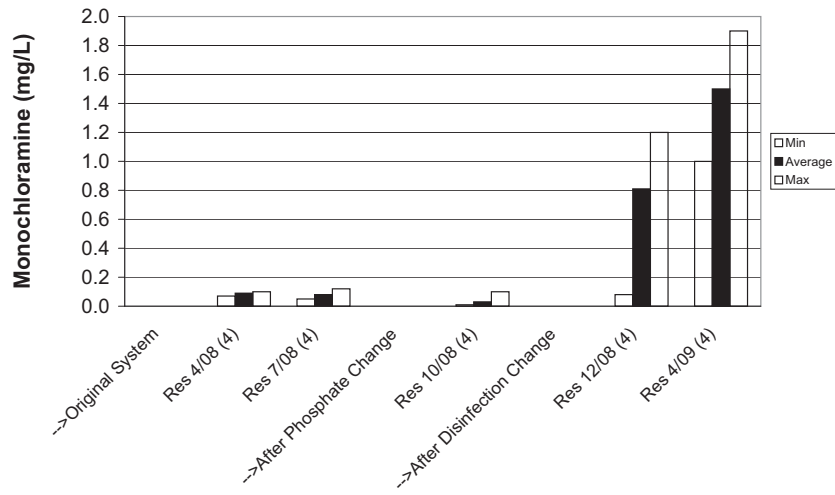
North Shore Water Commission: Comparison of Disinfection



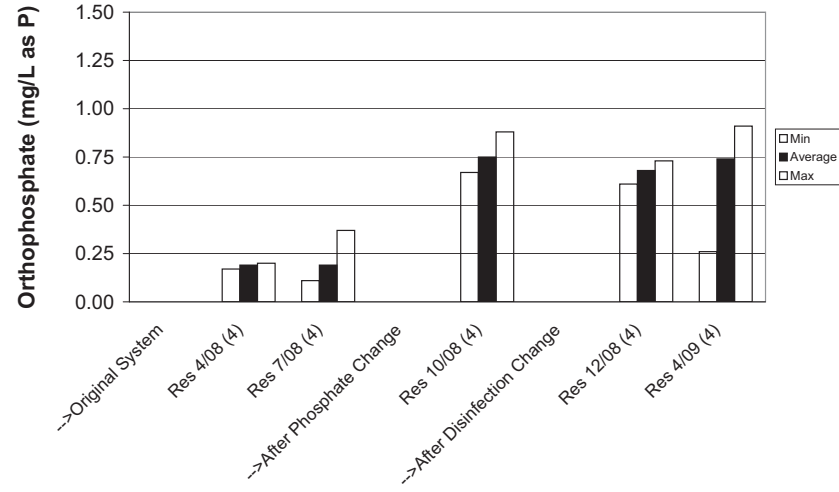
North Shore Water Commission: Comparison of Disinfection



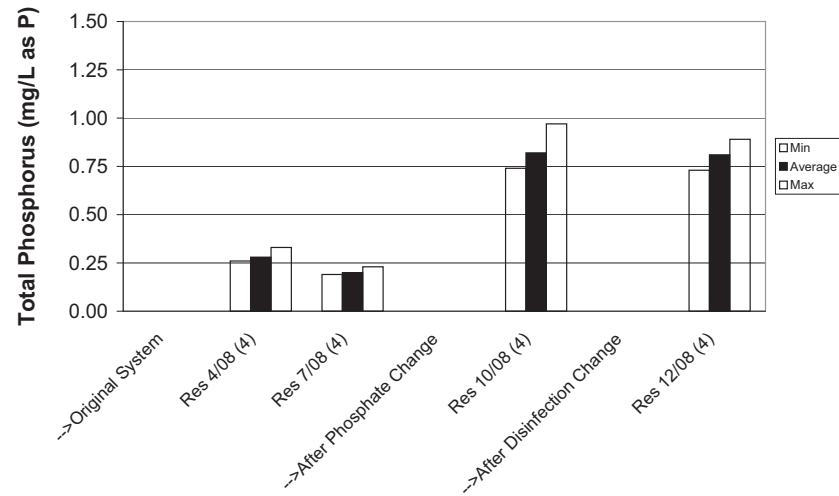
North Shore Water Commission: Comparison of Disinfection



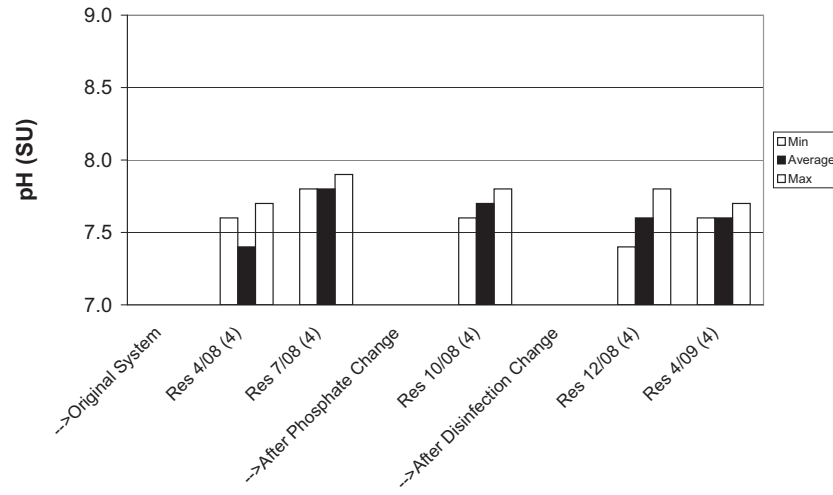
North Shore Water Commission: Comparison of Phosphorus



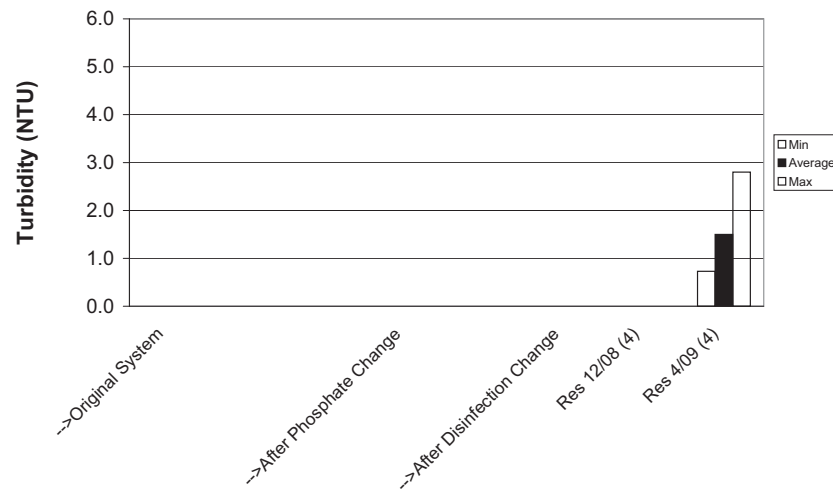
North Shore Water Commission: Comparison of Phosphorus



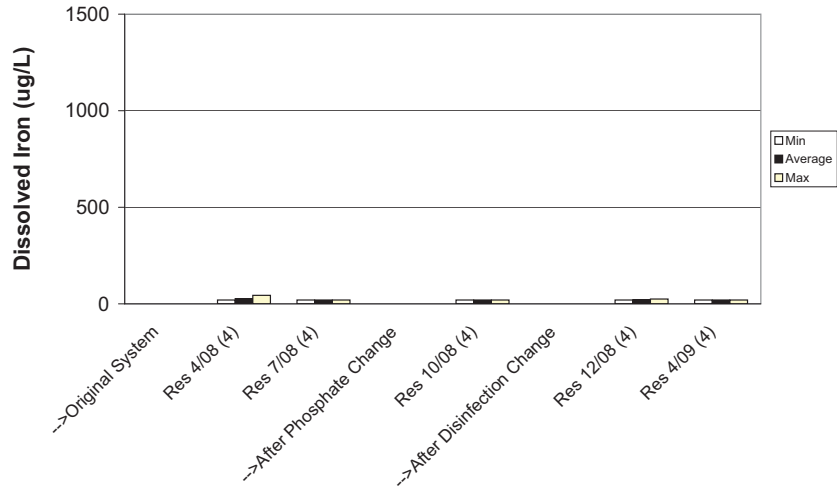
North Shore Water Commission: Comparison of pH



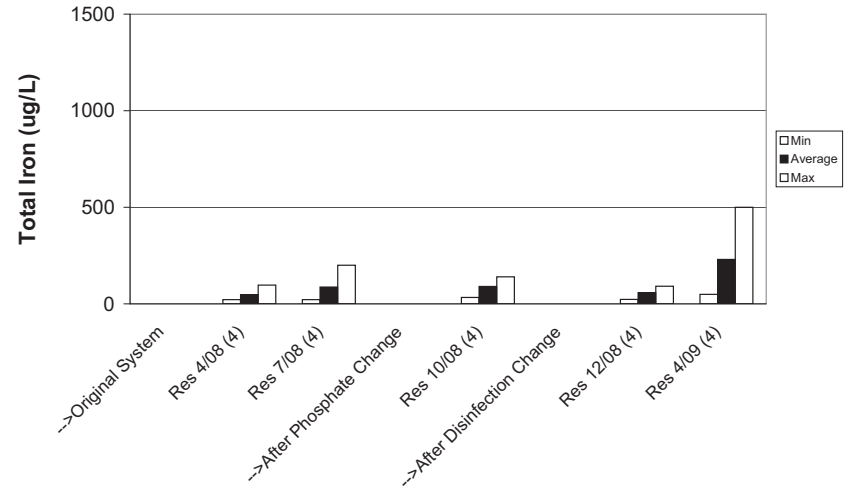
North Shore Water Commission: Comparison of Turbidity



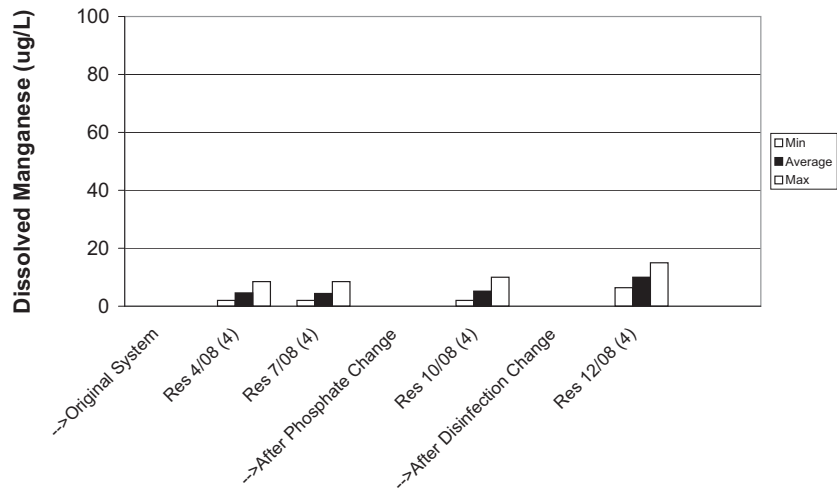
North Shore Water Commission: Comparison of Metal Levels



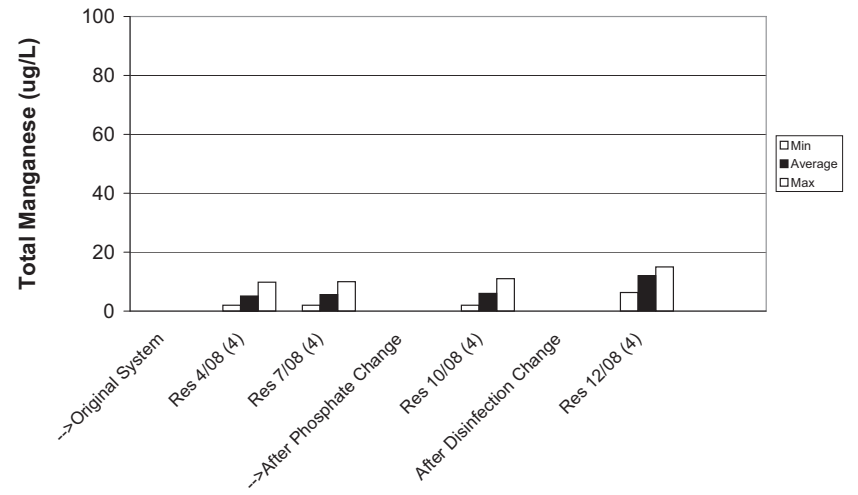
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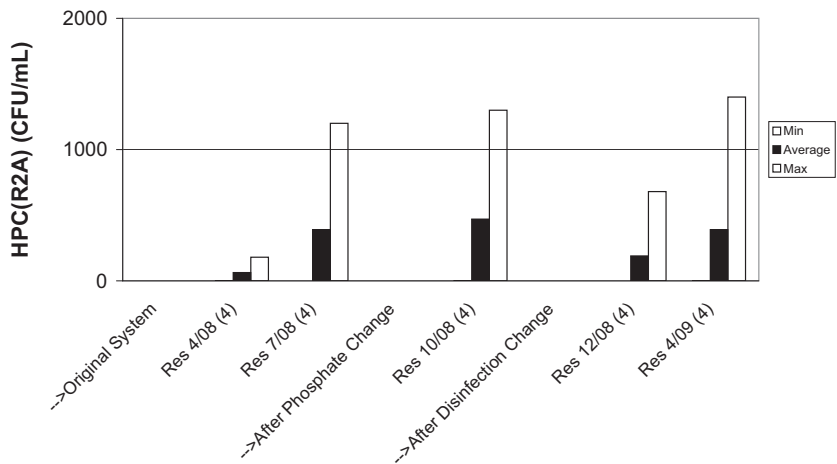
North Shore Water Commission: Comparison of Metal Levels



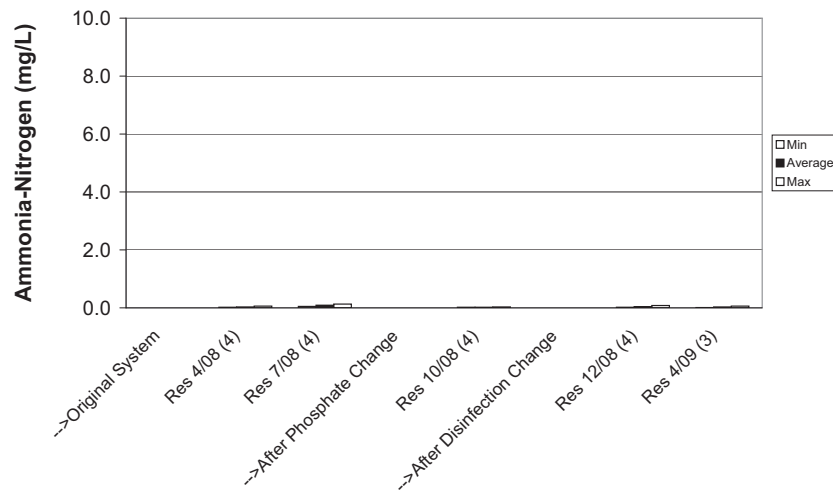
North Shore Water Commission: Comparison of Metal Levels



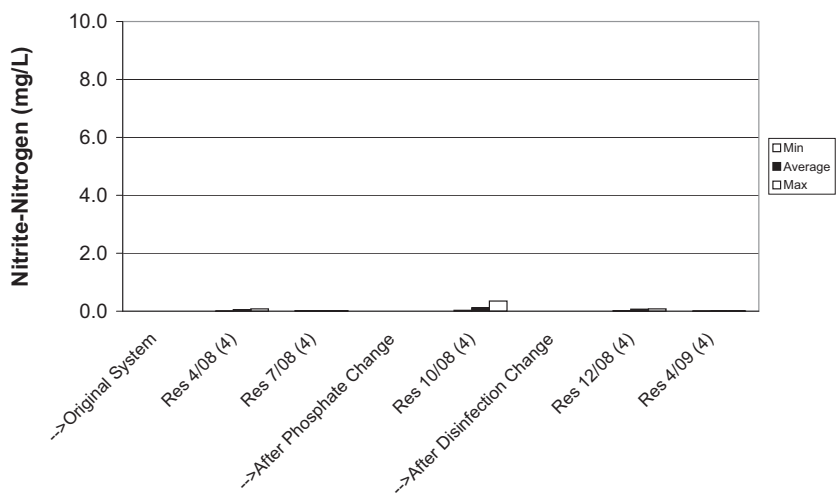
North Shore Water Commission: Comparison of Microbiological Activity



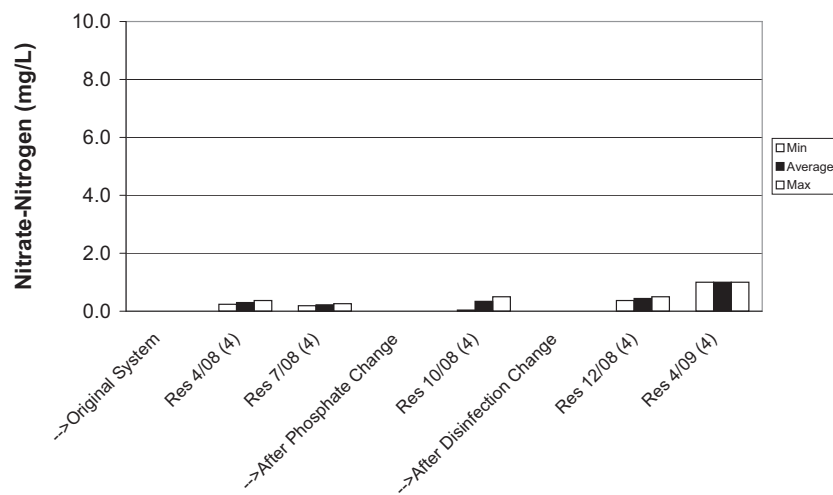
North Shore Water Commission: Comparison of Nitrogen



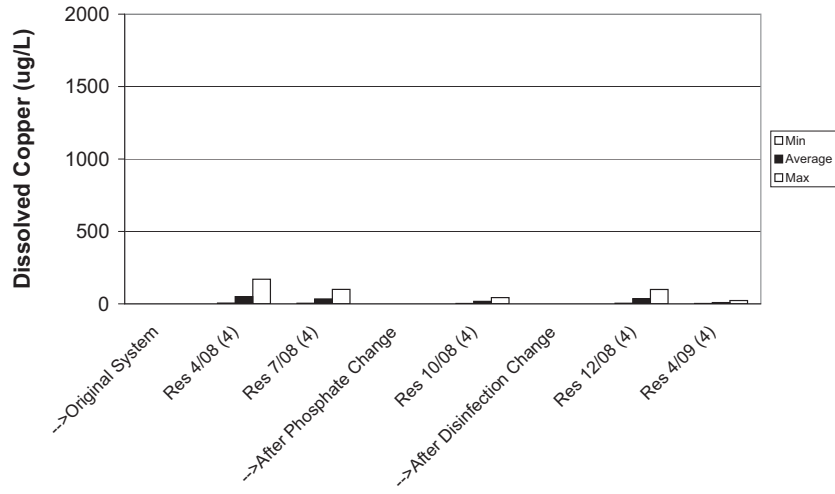
North Shore Water Commission: Comparison of Nitrogen



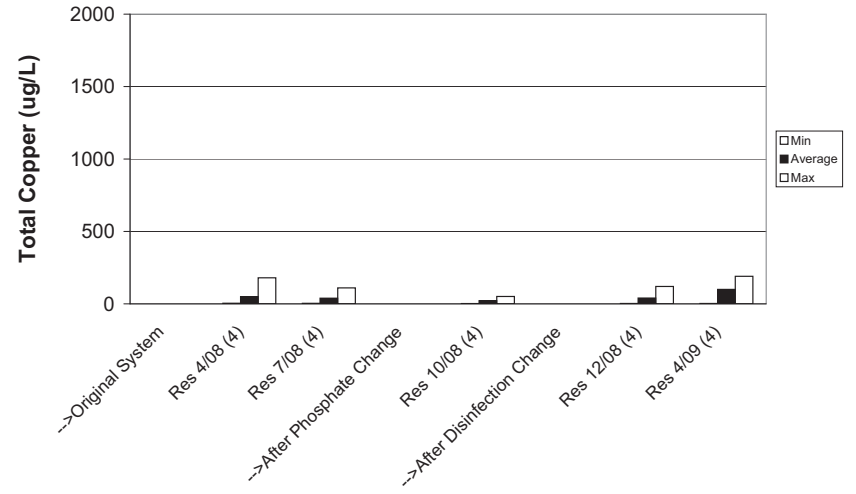
North Shore Water Commission: Comparison of Nitrogen



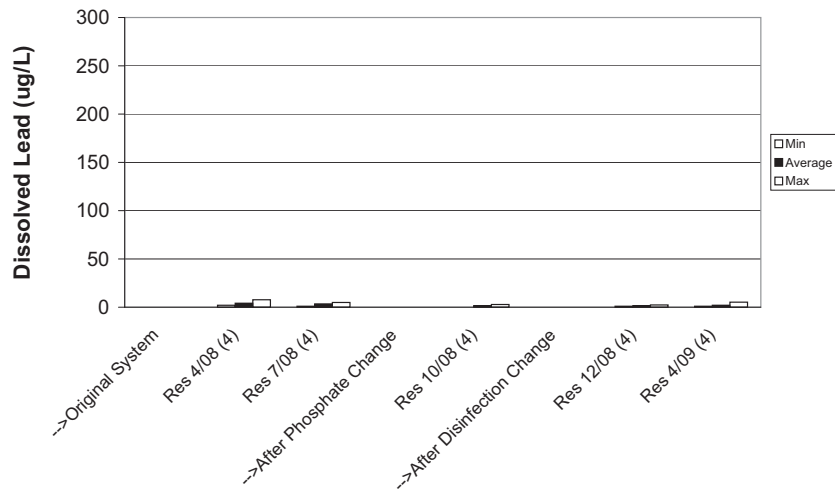
North Shore Water Commission: Comparison of Metal Levels



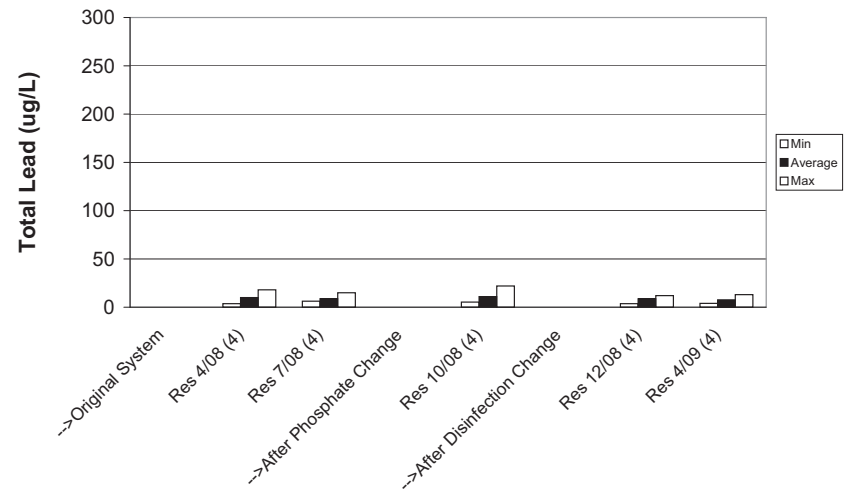
North Shore Water Commission: Comparison of Metal Levels



North Shore Water Commission: Comparison of Metal Levels

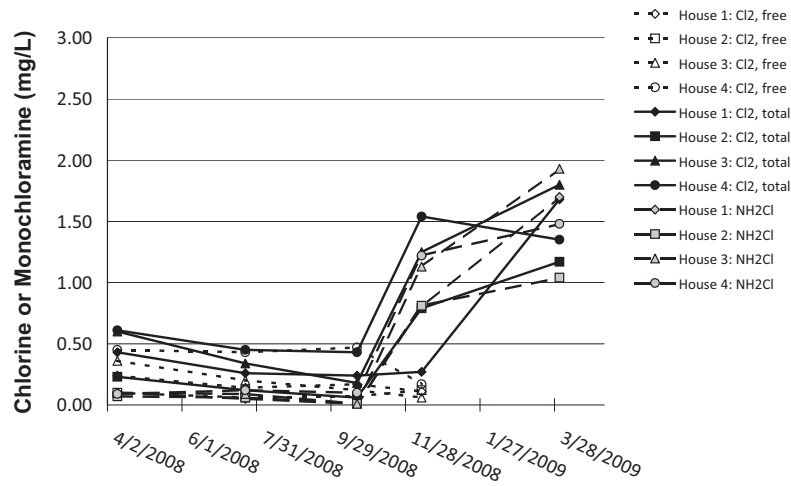


North Shore Water Commission: Comparison of Metal Levels

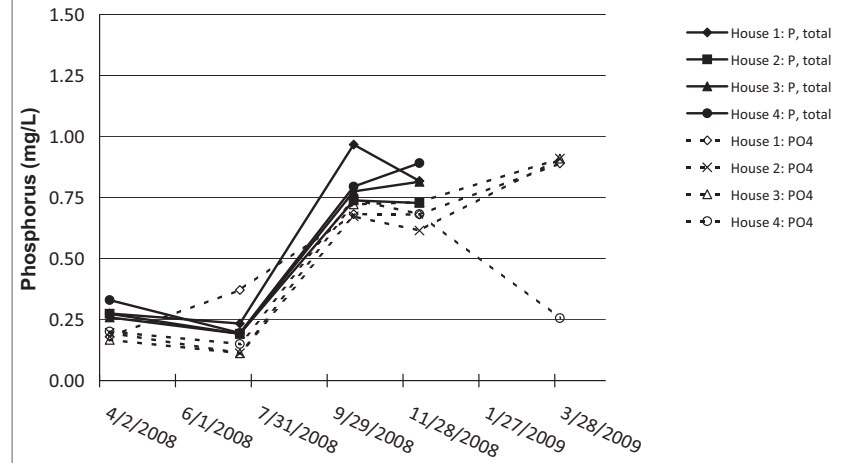


Appendix B: Time-series Graphs

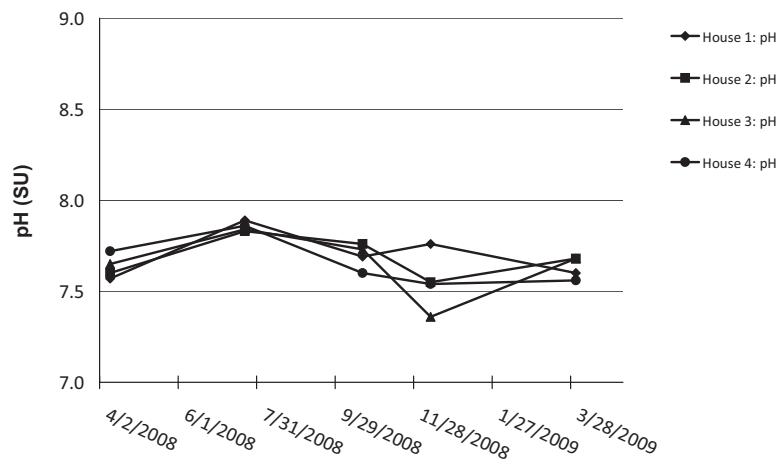
North Shore Water Commission: Residential Data



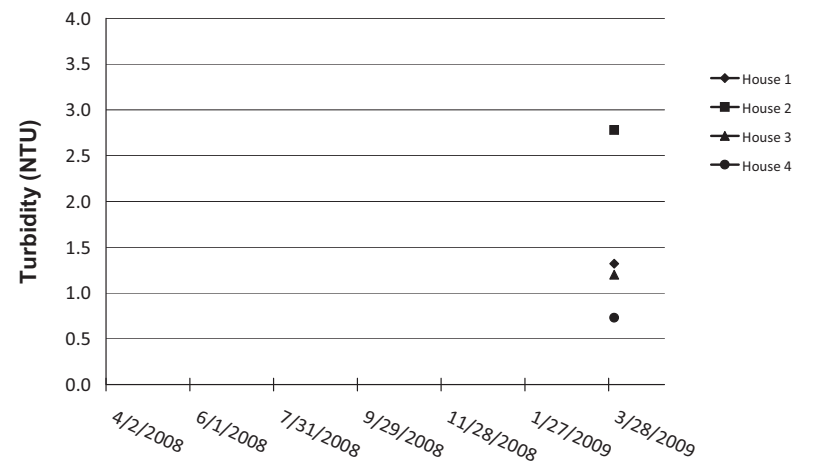
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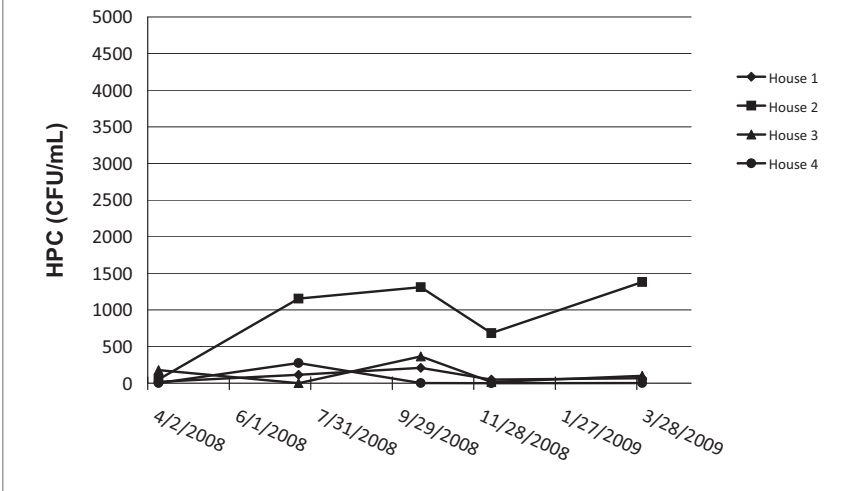
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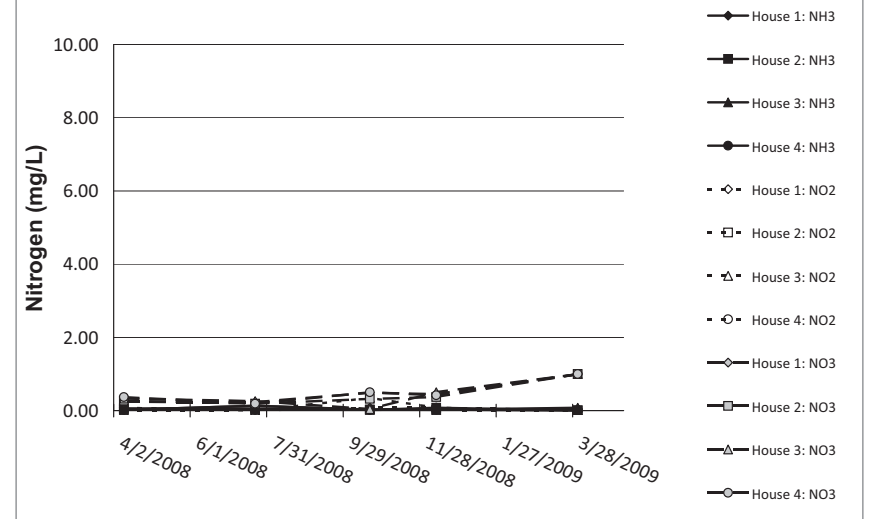
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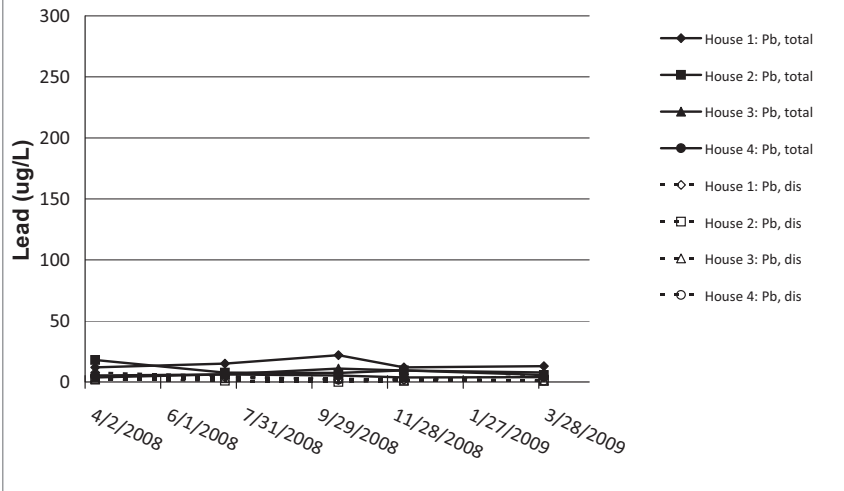
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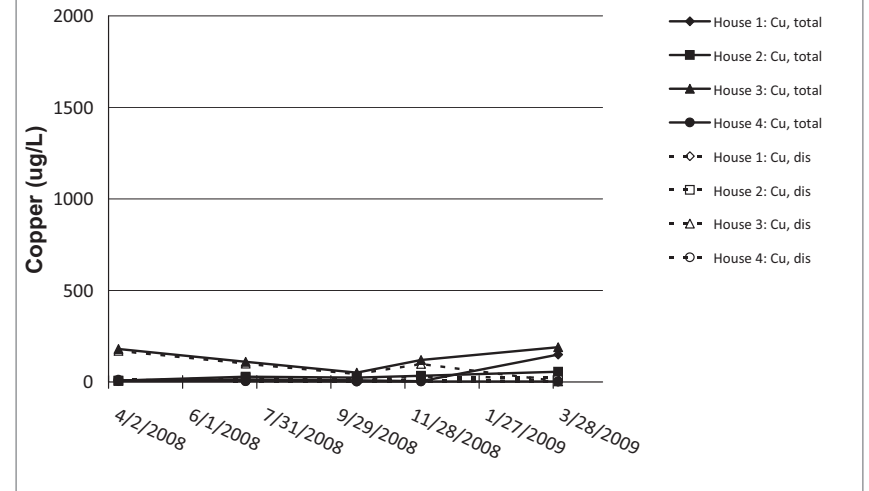
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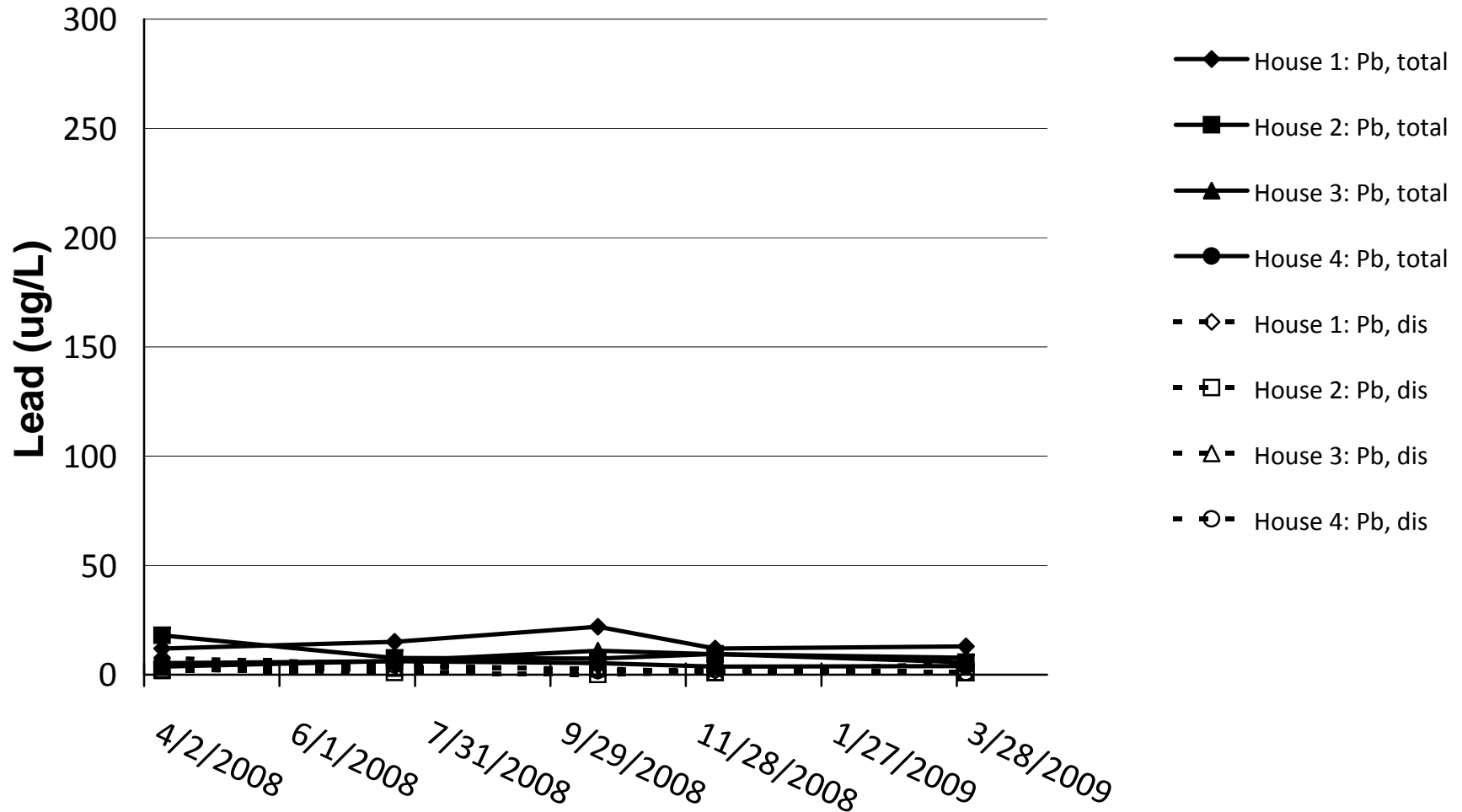
North Shore Water Commission: Residential Data



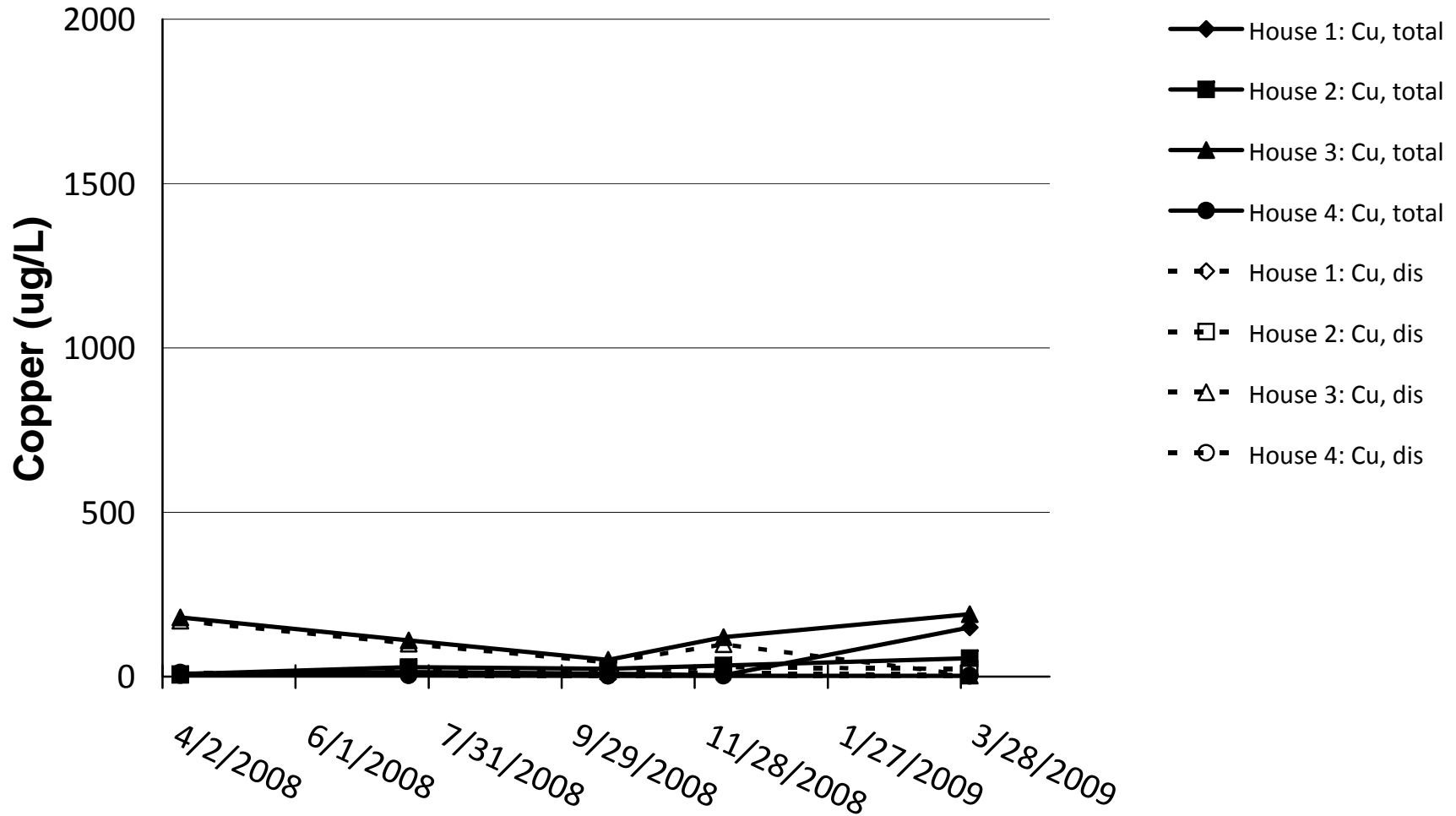
North Shore Water Commission: Residential Data



North Shore Water Commission: Residential Data



North Shore Water Commission: Residential Data



Appendix C: Raw Data

North Shore Water Commission
Monitoring Data for Four Residences
April 2008 to May 2009

Sample Date	Comment for Sampling	Site	site2	Item Measured	Units	Result
4/10/2008		1	1628 E Cumberland, Whitefish Bay, WI	Cl2, free	mg/L	0.2400
4/10/2008	Bathroom Tap	2	4604 N Murray Ave, Whitefish Bay, WI	Cl2, free	mg/L	0.1000
4/10/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Cl2, free	mg/L	0.3600
4/10/2008		4	704 E Dean Rd, Fox Point, WI	Cl2, free	mg/L	0.4500
7/22/2008	lab 0.15	1	1628 E Cumberland, Whitefish Bay, WI	Cl2, free	mg/L	0.1400
7/22/2008	lab 0.20	2	4604 N Murray Ave, Whitefish Bay, WI	Cl2, free	mg/L	0.0900
7/22/2008	lab 0.20	3	4925 N Bartlett Ave, Whitefish Bay, WI	Cl2, free	mg/L	0.2000
7/22/2008	lab 0.05	4	704 E Dean Rd, Fox Point, WI	Cl2, free	mg/L	0.4300
10/20/2008	Recently remodeled kitchen	1	1628 E Cumberland, Whitefish Bay, WI	Cl2, free	mg/L	0.1700
10/20/2008	.07	2	4604 N Murray Ave, Whitefish Bay, WI	Cl2, free	mg/L	0.0700
10/20/2008	.12	3	4925 N Bartlett Ave, Whitefish Bay, WI	Cl2, free	mg/L	0.1200
10/20/2008		4	704 E Dean Rd, Fox Point, WI	Cl2, free	mg/L	0.4700
12/11/2008		1	1628 E Cumberland, Whitefish Bay, WI	Cl2, free	mg/L	0.1100
12/11/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Cl2, free	mg/L	0.1200
12/11/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Cl2, free	mg/L	0.0600
12/11/2008		4	704 E Dean Rd, Fox Point, WI	Cl2, free	mg/L	0.1700
4/10/2008		1	1628 E Cumberland, Whitefish Bay, WI	Cl2, tot	mg/L	0.4300
4/10/2008	Bathroom Tap	2	4604 N Murray Ave, Whitefish Bay, WI	Cl2, tot	mg/L	0.2200
4/10/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Cl2, tot	mg/L	0.6000
4/10/2008		4	704 E Dean Rd, Fox Point, WI	Cl2, tot	mg/L	0.6100
7/22/2008		1	1628 E Cumberland, Whitefish Bay, WI	Cl2, tot	mg/L	0.2600
7/22/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Cl2, tot	mg/L	0.1200
7/22/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Cl2, tot	mg/L	0.3400
7/22/2008		4	704 E Dean Rd, Fox Point, WI	Cl2, tot	mg/L	0.4500
10/20/2008	Recently remodeled kitchen	1	1628 E Cumberland, Whitefish Bay, WI	Cl2, tot	mg/L	0.2400
10/20/2008	.06	2	4604 N Murray Ave, Whitefish Bay, WI	Cl2, tot	mg/L	0.0600
10/20/2008	.18	3	4925 N Bartlett Ave, Whitefish Bay, WI	Cl2, tot	mg/L	0.1800
10/20/2008		4	704 E Dean Rd, Fox Point, WI	Cl2, tot	mg/L	0.4300
12/11/2008		1	1628 E Cumberland, Whitefish Bay, WI	Cl2, tot	mg/L	0.2700
12/11/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Cl2, tot	mg/L	0.7900
12/11/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Cl2, tot	mg/L	1.2500
12/11/2008		4	704 E Dean Rd, Fox Point, WI	Cl2, tot	mg/L	1.5400
4/1/2009		1	1628 E Cumberland, Whitefish Bay, WI	Cl2, tot (flowing)	mg/L	1.6800
4/1/2009		2	4604 N Murray Ave, Whitefish Bay, WI	Cl2, tot (flowing)	mg/L	1.1700
4/1/2009		3	4925 N Bartlett Ave, Whitefish Bay, WI	Cl2, tot (flowing)	mg/L	1.8000
4/1/2009		4	704 E Dean Rd, Fox Point, WI	Cl2, tot (flowing)	mg/L	1.3500
4/10/2008		1	1628 E Cumberland, Whitefish Bay, WI	Cu, dis	ug/L	11.0000
4/10/2008	Bathroom Tap	2	4604 N Murray Ave, Whitefish Bay, WI	Cu, dis	ug/L	5.1000
4/10/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Cu, dis	ug/L	170.0000
4/10/2008		4	704 E Dean Rd, Fox Point, WI	Cu, dis	ug/L	12.0000
7/22/2008		1	1628 E Cumberland, Whitefish Bay, WI	Cu, dis	ug/L	7.3000
7/22/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Cu, dis	ug/L	24.0000
7/22/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Cu, dis	ug/L	100.0000
7/22/2008		4	704 E Dean Rd, Fox Point, WI	Cu, dis	ug/L	4.2000
10/20/2008	Recently remodeled kitchen	1	1628 E Cumberland, Whitefish Bay, WI	Cu, dis	ug/L	6.7000
10/20/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Cu, dis	ug/L	16.0000
10/20/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Cu, dis	ug/L	43.0000
10/20/2008		4	704 E Dean Rd, Fox Point, WI	Cu, dis	ug/L	2.8000
12/11/2008		1	1628 E Cumberland, Whitefish Bay, WI	Cu, dis	ug/L	9.9000
12/11/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Cu, dis	ug/L	29.0000
12/11/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Cu, dis	ug/L	99.0000
12/11/2008		4	704 E Dean Rd, Fox Point, WI	Cu, dis	ug/L	4.1000
4/1/2009		1	1628 E Cumberland, Whitefish Bay, WI	Cu, dis	ug/L	5.2000
4/1/2009		2	4604 N Murray Ave, Whitefish Bay, WI	Cu, dis	ug/L	23.0000
4/1/2009		3	4925 N Bartlett Ave, Whitefish Bay, WI	Cu, dis	ug/L	3.6000
4/1/2009		4	704 E Dean Rd, Fox Point, WI	Cu, dis	ug/L	2.4000
4/10/2008		1	1628 E Cumberland, Whitefish Bay, WI	Cu, tot	ug/L	9.0000
4/10/2008	Bathroom Tap	2	4604 N Murray Ave, Whitefish Bay, WI	Cu, tot	ug/L	7.8000
4/10/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Cu, tot	ug/L	180.0000
4/10/2008		4	704 E Dean Rd, Fox Point, WI	Cu, tot	ug/L	4.1000
7/22/2008		1	1628 E Cumberland, Whitefish Bay, WI	Cu, tot	ug/L	14.0000

North Shore Water Commission
Monitoring Data for Four Residences
April 2008 to May 2009

7/22/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Cu, tot	ug/L	29.0000
7/22/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Cu, tot	ug/L	110.0000
7/22/2008		4	704 E Dean Rd, Fox Point, WI	Cu, tot	ug/L	3.8000
10/20/2008	Recently remodeled kitchen	1	1628 E Cumberland, Whitefish Bay, WI	Cu, tot	ug/L	9.3000
10/20/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Cu, tot	ug/L	24.0000
10/20/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Cu, tot	ug/L	51.0000
10/20/2008		4	704 E Dean Rd, Fox Point, WI	Cu, tot	ug/L	2.3000
12/11/2008		1	1628 E Cumberland, Whitefish Bay, WI	Cu, tot	ug/L	4.5000
12/11/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Cu, tot	ug/L	34.0000
12/11/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Cu, tot	ug/L	120.0000
12/11/2008		4	704 E Dean Rd, Fox Point, WI	Cu, tot	ug/L	2.7000
4/1/2009		1	1628 E Cumberland, Whitefish Bay, WI	Cu, tot	ug/L	150.0000
4/1/2009		2	4604 N Murray Ave, Whitefish Bay, WI	Cu, tot	ug/L	56.0000
4/1/2009		3	4925 N Bartlett Ave, Whitefish Bay, WI	Cu, tot	ug/L	190.0000
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4/10/2008		1	1628 E Cumberland, Whitefish Bay, WI	Fe, dis	ug/L	44.0000
4/10/2008	Bathroom Tap	2	4604 N Murray Ave, Whitefish Bay, WI	Fe, dis	ug/L	20.0000
4/10/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Fe, dis	ug/L	20.0000
4/10/2008		4	704 E Dean Rd, Fox Point, WI	Fe, dis	ug/L	24.0000
7/22/2008		1	1628 E Cumberland, Whitefish Bay, WI	Fe, dis	ug/L	20.0000
7/22/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Fe, dis	ug/L	20.0000
7/22/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Fe, dis	ug/L	20.0000
7/22/2008		4	704 E Dean Rd, Fox Point, WI	Fe, dis	ug/L	20.0000
10/20/2008	Recently remodeled kitchen	1	1628 E Cumberland, Whitefish Bay, WI	Fe, dis	ug/L	20.0000
10/20/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Fe, dis	ug/L	20.0000
10/20/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Fe, dis	ug/L	20.0000
10/20/2008		4	704 E Dean Rd, Fox Point, WI	Fe, dis	ug/L	20.0000
12/11/2008		1	1628 E Cumberland, Whitefish Bay, WI	Fe, dis	ug/L	25.0000
12/11/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Fe, dis	ug/L	20.0000
12/11/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Fe, dis	ug/L	20.0000
12/11/2008		4	704 E Dean Rd, Fox Point, WI	Fe, dis	ug/L	20.0000
4/1/2009		1	1628 E Cumberland, Whitefish Bay, WI	Fe, dis	ug/L	20.0000
4/1/2009		2	4604 N Murray Ave, Whitefish Bay, WI	Fe, dis	ug/L	20.0000
4/1/2009		3	4925 N Bartlett Ave, Whitefish Bay, WI	Fe, dis	ug/L	20.0000
4/1/2009		4	704 E Dean Rd, Fox Point, WI	Fe, dis	ug/L	20.0000
4/10/2008		1	1628 E Cumberland, Whitefish Bay, WI	Fe, tot	ug/L	97.0000
4/10/2008	Bathroom Tap	2	4604 N Murray Ave, Whitefish Bay, WI	Fe, tot	ug/L	22.0000
4/10/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Fe, tot	ug/L	43.0000
4/10/2008		4	704 E Dean Rd, Fox Point, WI	Fe, tot	ug/L	31.0000
7/22/2008		1	1628 E Cumberland, Whitefish Bay, WI	Fe, tot	ug/L	89.0000
7/22/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Fe, tot	ug/L	200.0000
7/22/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Fe, tot	ug/L	39.0000
7/22/2008		4	704 E Dean Rd, Fox Point, WI	Fe, tot	ug/L	22.0000
10/20/2008	Recently remodeled kitchen	1	1628 E Cumberland, Whitefish Bay, WI	Fe, tot	ug/L	140.0000
10/20/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Fe, tot	ug/L	130.0000
10/20/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Fe, tot	ug/L	57.0000
10/20/2008		4	704 E Dean Rd, Fox Point, WI	Fe, tot	ug/L	33.0000
12/11/2008		1	1628 E Cumberland, Whitefish Bay, WI	Fe, tot	ug/L	91.0000
12/11/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Fe, tot	ug/L	27.0000
12/11/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Fe, tot	ug/L	90.0000
12/11/2008		4	704 E Dean Rd, Fox Point, WI	Fe, tot	ug/L	23.0000
4/1/2009		1	1628 E Cumberland, Whitefish Bay, WI	Fe, tot	ug/L	190.0000
4/1/2009		2	4604 N Murray Ave, Whitefish Bay, WI	Fe, tot	ug/L	500.0000
4/1/2009		3	4925 N Bartlett Ave, Whitefish Bay, WI	Fe, tot	ug/L	170.0000
4/1/2009		4	704 E Dean Rd, Fox Point, WI	Fe, tot	ug/L	49.0000
4/10/2008		1	1628 E Cumberland, Whitefish Bay, WI	HPC(R2A)	CFU/mL	19.0000
4/10/2008	Bathroom Tap	2	4604 N Murray Ave, Whitefish Bay, WI	HPC(R2A)	CFU/mL	51.0000
4/10/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	HPC(R2A)	CFU/mL	179.0000
4/10/2008		4	704 E Dean Rd, Fox Point, WI	HPC(R2A)	CFU/mL	2.0000
7/22/2008		1	1628 E Cumberland, Whitefish Bay, WI	HPC(R2A)	CFU/mL	115.0000
7/22/2008		2	4604 N Murray Ave, Whitefish Bay, WI	HPC(R2A)	CFU/mL	1154.0000
7/22/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	HPC(R2A)	CFU/mL	0.0000

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7/22/2008		4	704 E Dean Rd, Fox Point, WI	HPC(R2A)	CFU/mL	275.0000
10/20/2008	Recently remodeled kitchen	1	1628 E Cumberland, Whitefish Bay, WI	HPC(R2A)	CFU/mL	210.0000
10/20/2008		2	4604 N Murray Ave, Whitefish Bay, WI	HPC(R2A)	CFU/mL	1311.0000
10/20/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	HPC(R2A)	CFU/mL	365.0000
10/20/2008		4	704 E Dean Rd, Fox Point, WI	HPC(R2A)	CFU/mL	2.0000
12/11/2008		1	1628 E Cumberland, Whitefish Bay, WI	HPC(R2A)	CFU/mL	50.0000
12/11/2008		2	4604 N Murray Ave, Whitefish Bay, WI	HPC(R2A)	CFU/mL	684.0000
12/11/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	HPC(R2A)	CFU/mL	16.0000
12/11/2008		4	704 E Dean Rd, Fox Point, WI	HPC(R2A)	CFU/mL	0.0000
4/1/2009		1	1628 E Cumberland, Whitefish Bay, WI	HPC(R2A)	CFU/mL	68.0000
4/1/2009		2	4604 N Murray Ave, Whitefish Bay, WI	HPC(R2A)	CFU/mL	1382.0000
4/1/2009		3	4925 N Bartlett Ave, Whitefish Bay, WI	HPC(R2A)	CFU/mL	101.0000
4/1/2009		4	704 E Dean Rd, Fox Point, WI	HPC(R2A)	CFU/mL	2.0000
4/10/2008		1	1628 E Cumberland, Whitefish Bay, WI	Mn, dis	ug/L	6.1000
4/10/2008	Bathroom Tap	2	4604 N Murray Ave, Whitefish Bay, WI	Mn, dis	ug/L	8.5000
4/10/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Mn, dis	ug/L	2.0000
4/10/2008		4	704 E Dean Rd, Fox Point, WI	Mn, dis	ug/L	2.0000
7/22/2008		1	1628 E Cumberland, Whitefish Bay, WI	Mn, dis	ug/L	5.2000
7/22/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Mn, dis	ug/L	8.5000
7/22/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Mn, dis	ug/L	2.0000
7/22/2008		4	704 E Dean Rd, Fox Point, WI	Mn, dis	ug/L	2.0000
10/20/2008	Recently remodeled kitchen	1	1628 E Cumberland, Whitefish Bay, WI	Mn, dis	ug/L	6.2000
10/20/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Mn, dis	ug/L	10.0000
10/20/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Mn, dis	ug/L	2.7000
10/20/2008		4	704 E Dean Rd, Fox Point, WI	Mn, dis	ug/L	2.0000
12/11/2008		1	1628 E Cumberland, Whitefish Bay, WI	Mn, dis	ug/L	10.0000
12/11/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Mn, dis	ug/L	15.0000
12/11/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Mn, dis	ug/L	8.4000
12/11/2008		4	704 E Dean Rd, Fox Point, WI	Mn, dis	ug/L	6.4000
4/10/2008		1	1628 E Cumberland, Whitefish Bay, WI	Mn, tot	ug/L	6.4000
4/10/2008	Bathroom Tap	2	4604 N Murray Ave, Whitefish Bay, WI	Mn, tot	ug/L	9.8000
4/10/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Mn, tot	ug/L	2.1000
4/10/2008		4	704 E Dean Rd, Fox Point, WI	Mn, tot	ug/L	2.0000
7/22/2008		1	1628 E Cumberland, Whitefish Bay, WI	Mn, tot	ug/L	6.9000
7/22/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Mn, tot	ug/L	10.0000
7/22/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Mn, tot	ug/L	3.3000
7/22/2008		4	704 E Dean Rd, Fox Point, WI	Mn, tot	ug/L	2.0000
10/20/2008	Recently remodeled kitchen	1	1628 E Cumberland, Whitefish Bay, WI	Mn, tot	ug/L	8.2000
10/20/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Mn, tot	ug/L	11.0000
10/20/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Mn, tot	ug/L	2.8000
10/20/2008		4	704 E Dean Rd, Fox Point, WI	Mn, tot	ug/L	2.0000
12/11/2008		1	1628 E Cumberland, Whitefish Bay, WI	Mn, tot	ug/L	14.0000
12/11/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Mn, tot	ug/L	15.0000
12/11/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Mn, tot	ug/L	13.0000
12/11/2008		4	704 E Dean Rd, Fox Point, WI	Mn, tot	ug/L	6.3000
4/10/2008		1	1628 E Cumberland, Whitefish Bay, WI	Monochloramine	mg/L	0.1000
4/10/2008	Bathroom Tap	2	4604 N Murray Ave, Whitefish Bay, WI	Monochloramine	mg/L	0.0700
4/10/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Monochloramine	mg/L	0.1000
4/10/2008		4	704 E Dean Rd, Fox Point, WI	Monochloramine	mg/L	0.0900
7/22/2008	lab 0.04	1	1628 E Cumberland, Whitefish Bay, WI	Monochloramine	mg/L	0.0500
7/22/2008	lab 0.12	2	4604 N Murray Ave, Whitefish Bay, WI	Monochloramine	mg/L	0.0600
7/22/2008	lab 0.12	3	4925 N Bartlett Ave, Whitefish Bay, WI	Monochloramine	mg/L	0.0900
7/22/2008	lab 0.04	4	704 E Dean Rd, Fox Point, WI	Monochloramine	mg/L	0.1200
10/20/2008	Recently remodeled kitchen	1	1628 E Cumberland, Whitefish Bay, WI	Monochloramine	mg/L	0.0100
10/20/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Monochloramine	mg/L	0.0100
10/20/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Monochloramine	mg/L	0.0100
10/20/2008		4	704 E Dean Rd, Fox Point, WI	Monochloramine	mg/L	0.1000
12/11/2008		1	1628 E Cumberland, Whitefish Bay, WI	Monochloramine	mg/L	0.0800
12/11/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Monochloramine	mg/L	0.8100
12/11/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Monochloramine	mg/L	1.1300
12/11/2008		4	704 E Dean Rd, Fox Point, WI	Monochloramine	mg/L	1.2200

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4/1/2009		1	1628 E Cumberland, Whitefish Bay, WI	Monochloramine (flowing)	mg/L	1.7000
4/1/2009		2	4604 N Murray Ave, Whitefish Bay, WI	Monochloramine (flowing)	mg/L	1.0400
4/1/2009		3	4925 N Bartlett Ave, Whitefish Bay, WI	Monochloramine (flowing)	mg/L	1.9300
4/1/2009		4	704 E Dean Rd, Fox Point, WI	Monochloramine (flowing)	mg/L	1.4800
4/10/2008		1	1628 E Cumberland, Whitefish Bay, WI	NH3-N	mg/L	0.0200
4/10/2008	Bathroom Tap	2	4604 N Murray Ave, Whitefish Bay, WI	NH3-N	mg/L	0.0600
4/10/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	NH3-N	mg/L	0.0200
4/10/2008		4	704 E Dean Rd, Fox Point, WI	NH3-N	mg/L	0.0300
7/22/2008	lab 0.04	1	1628 E Cumberland, Whitefish Bay, WI	NH3-N	mg/L	0.1300
7/22/2008	lab 0.02	2	4604 N Murray Ave, Whitefish Bay, WI	NH3-N	mg/L	0.0500
7/22/2008	lab 0.02	3	4925 N Bartlett Ave, Whitefish Bay, WI	NH3-N	mg/L	0.1300
7/22/2008	lab 0.02	4	704 E Dean Rd, Fox Point, WI	NH3-N	mg/L	0.0500
10/20/2008	Recently remodeld kitchen	1	1628 E Cumberland, Whitefish Bay, WI	NH3-N	mg/L	0.0200
10/20/2008		2	4604 N Murray Ave, Whitefish Bay, WI	NH3-N	mg/L	0.0200
10/20/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	NH3-N	mg/L	0.0300
10/20/2008		4	704 E Dean Rd, Fox Point, WI	NH3-N	mg/L	0.0200
12/11/2008		1	1628 E Cumberland, Whitefish Bay, WI	NH3-N	mg/L	0.0300
12/11/2008		2	4604 N Murray Ave, Whitefish Bay, WI	NH3-N	mg/L	0.0800
12/11/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	NH3-N	mg/L	0.0200
12/11/2008		4	704 E Dean Rd, Fox Point, WI	NH3-N	mg/L	0.0300
4/1/2009		1	1628 E Cumberland, Whitefish Bay, WI	NH3-N (flowing)	mg/L	0.0500
4/1/2009		2	4604 N Murray Ave, Whitefish Bay, WI	NH3-N (flowing)	mg/L	0.0100
4/1/2009		3	4925 N Bartlett Ave, Whitefish Bay, WI	NH3-N (flowing)	mg/L	0.0800
4/1/2009		4	704 E Dean Rd, Fox Point, WI	NH3-N (flowing)	mg/L	0.0000
4/10/2008		1	1628 E Cumberland, Whitefish Bay, WI	NO2-N	mg/L	0.0020
4/10/2008	Bathroom Tap	2	4604 N Murray Ave, Whitefish Bay, WI	NO2-N	mg/L	0.0200
4/10/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	NO2-N	mg/L	0.0800
4/10/2008		4	704 E Dean Rd, Fox Point, WI	NO2-N	mg/L	0.0800
7/22/2008		1	1628 E Cumberland, Whitefish Bay, WI	NO2-N	mg/L	0.0200
7/22/2008		2	4604 N Murray Ave, Whitefish Bay, WI	NO2-N	mg/L	0.0200
7/22/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	NO2-N	mg/L	0.0200
7/22/2008		4	704 E Dean Rd, Fox Point, WI	NO2-N	mg/L	0.0200
10/20/2008	Recently remodeld kitchen	1	1628 E Cumberland, Whitefish Bay, WI	NO2-N	mg/L	0.0800
10/20/2008		2	4604 N Murray Ave, Whitefish Bay, WI	NO2-N	mg/L	0.0300
10/20/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	NO2-N	mg/L	0.3500
10/20/2008		4	704 E Dean Rd, Fox Point, WI	NO2-N	mg/L	0.0300
12/11/2008		1	1628 E Cumberland, Whitefish Bay, WI	NO2-N	mg/L	0.0800
12/11/2008		2	4604 N Murray Ave, Whitefish Bay, WI	NO2-N	mg/L	0.0200
12/11/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	NO2-N	mg/L	0.0800
12/11/2008		4	704 E Dean Rd, Fox Point, WI	NO2-N	mg/L	0.0800
4/1/2009		1	1628 E Cumberland, Whitefish Bay, WI	NO2-N	mg/L	0.0090
4/1/2009		2	4604 N Murray Ave, Whitefish Bay, WI	NO2-N	mg/L	0.0060
4/1/2009		3	4925 N Bartlett Ave, Whitefish Bay, WI	NO2-N	mg/L	0.0040
4/1/2009		4	704 E Dean Rd, Fox Point, WI	NO2-N	mg/L	0.0030
4/10/2008		1	1628 E Cumberland, Whitefish Bay, WI	NO3-N	mg/L	0.2400
4/10/2008	Bathroom Tap	2	4604 N Murray Ave, Whitefish Bay, WI	NO3-N	mg/L	0.2700
4/10/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	NO3-N	mg/L	0.3300
4/10/2008		4	704 E Dean Rd, Fox Point, WI	NO3-N	mg/L	0.3700
7/22/2008		1	1628 E Cumberland, Whitefish Bay, WI	NO3-N	mg/L	0.2300
7/22/2008		2	4604 N Murray Ave, Whitefish Bay, WI	NO3-N	mg/L	0.1900
7/22/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	NO3-N	mg/L	0.2600
7/22/2008		4	704 E Dean Rd, Fox Point, WI	NO3-N	mg/L	0.1900
10/20/2008	Recently remodeld kitchen	1	1628 E Cumberland, Whitefish Bay, WI	NO3-N	mg/L	0.4900
10/20/2008		2	4604 N Murray Ave, Whitefish Bay, WI	NO3-N	mg/L	0.3200
10/20/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	NO3-N	mg/L	0.0400
10/20/2008		4	704 E Dean Rd, Fox Point, WI	NO3-N	mg/L	0.5000
12/11/2008		1	1628 E Cumberland, Whitefish Bay, WI	NO3-N	mg/L	0.4500
12/11/2008		2	4604 N Murray Ave, Whitefish Bay, WI	NO3-N	mg/L	0.3700
12/11/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	NO3-N	mg/L	0.5000
12/11/2008		4	704 E Dean Rd, Fox Point, WI	NO3-N	mg/L	0.4200
4/1/2009		1	1628 E Cumberland, Whitefish Bay, WI	NO3-N	mg/L	1.0000
4/1/2009		2	4604 N Murray Ave, Whitefish Bay, WI	NO3-N	mg/L	1.0000

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4/1/2009		3	4925 N Bartlett Ave, Whitefish Bay, WI	NO3-N	mg/L	1.0000
4/1/2009		4	704 E Dean Rd, Fox Point, WI	NO3-N	mg/L	1.0000
4/10/2008		1	1628 E Cumberland, Whitefish Bay, WI	P, tot	mg/L as P	0.2750
4/10/2008	Bathroom Tap	2	4604 N Murray Ave, Whitefish Bay, WI	P, tot	mg/L as P	0.2740
4/10/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	P, tot	mg/L as P	0.2590
4/10/2008		4	704 E Dean Rd, Fox Point, WI	P, tot	mg/L as P	0.3300
7/22/2008		1	1628 E Cumberland, Whitefish Bay, WI	P, tot	mg/L as P	0.2340
7/22/2008		2	4604 N Murray Ave, Whitefish Bay, WI	P, tot	mg/L as P	0.1920
7/22/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	P, tot	mg/L as P	0.1920
7/22/2008		4	704 E Dean Rd, Fox Point, WI	P, tot	mg/L as P	0.1950
10/20/2008	Recently remodeld kitchen	1	1628 E Cumberland, Whitefish Bay, WI	P, tot	mg/L as P	0.9670
10/20/2008		2	4604 N Murray Ave, Whitefish Bay, WI	P, tot	mg/L as P	0.7380
10/20/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	P, tot	mg/L as P	0.7750
10/20/2008		4	704 E Dean Rd, Fox Point, WI	P, tot	mg/L as P	0.7950
12/11/2008		1	1628 E Cumberland, Whitefish Bay, WI	P, tot	mg/L as P	0.8180
12/11/2008		2	4604 N Murray Ave, Whitefish Bay, WI	P, tot	mg/L as P	0.7280
12/11/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	P, tot	mg/L as P	0.8150
12/11/2008		4	704 E Dean Rd, Fox Point, WI	P, tot	mg/L as P	0.8910
4/10/2008		1	1628 E Cumberland, Whitefish Bay, WI	Pb, dis	ug/L	7.7000
4/10/2008	Bathroom Tap	2	4604 N Murray Ave, Whitefish Bay, WI	Pb, dis	ug/L	2.4000
4/10/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Pb, dis	ug/L	2.0000
4/10/2008		4	704 E Dean Rd, Fox Point, WI	Pb, dis	ug/L	4.5000
7/22/2008		1	1628 E Cumberland, Whitefish Bay, WI	Pb, dis	ug/L	4.9000
7/22/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Pb, dis	ug/L	1.0000
7/22/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Pb, dis	ug/L	3.1000
7/22/2008		4	704 E Dean Rd, Fox Point, WI	Pb, dis	ug/L	4.6000
10/20/2008	Recently remodeld kitchen	1	1628 E Cumberland, Whitefish Bay, WI	Pb, dis	ug/L	1.8000
10/20/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Pb, dis	ug/L	0.0200
10/20/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Pb, dis	ug/L	2.8000
10/20/2008		4	704 E Dean Rd, Fox Point, WI	Pb, dis	ug/L	1.9000
12/11/2008		1	1628 E Cumberland, Whitefish Bay, WI	Pb, dis	ug/L	1.7000
12/11/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Pb, dis	ug/L	1.0000
12/11/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Pb, dis	ug/L	1.1000
12/11/2008		4	704 E Dean Rd, Fox Point, WI	Pb, dis	ug/L	2.3000
4/1/2009		1	1628 E Cumberland, Whitefish Bay, WI	Pb, dis	ug/L	5.2000
4/1/2009		2	4604 N Murray Ave, Whitefish Bay, WI	Pb, dis	ug/L	1.0000
4/1/2009		3	4925 N Bartlett Ave, Whitefish Bay, WI	Pb, dis	ug/L	1.0000
4/1/2009		4	704 E Dean Rd, Fox Point, WI	Pb, dis	ug/L	1.0000
4/10/2008		1	1628 E Cumberland, Whitefish Bay, WI	Pb, tot	ug/L	12.0000
4/10/2008	Bathroom Tap	2	4604 N Murray Ave, Whitefish Bay, WI	Pb, tot	ug/L	18.0000
4/10/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Pb, tot	ug/L	3.7000
4/10/2008		4	704 E Dean Rd, Fox Point, WI	Pb, tot	ug/L	5.3000
7/22/2008		1	1628 E Cumberland, Whitefish Bay, WI	Pb, tot	ug/L	15.0000
7/22/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Pb, tot	ug/L	7.7000
7/22/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Pb, tot	ug/L	6.3000
7/22/2008		4	704 E Dean Rd, Fox Point, WI	Pb, tot	ug/L	6.2000
10/20/2008	Recently remodeld kitchen	1	1628 E Cumberland, Whitefish Bay, WI	Pb, tot	ug/L	22.0000
10/20/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Pb, tot	ug/L	7.4000
10/20/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Pb, tot	ug/L	11.0000
10/20/2008		4	704 E Dean Rd, Fox Point, WI	Pb, tot	ug/L	5.3000
12/11/2008		1	1628 E Cumberland, Whitefish Bay, WI	Pb, tot	ug/L	12.0000
12/11/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Pb, tot	ug/L	9.5000
12/11/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Pb, tot	ug/L	9.4000
12/11/2008		4	704 E Dean Rd, Fox Point, WI	Pb, tot	ug/L	3.7000
4/1/2009		1	1628 E Cumberland, Whitefish Bay, WI	Pb, tot	ug/L	13.0000
4/1/2009		2	4604 N Murray Ave, Whitefish Bay, WI	Pb, tot	ug/L	5.7000
4/1/2009		3	4925 N Bartlett Ave, Whitefish Bay, WI	Pb, tot	ug/L	7.8000
4/1/2009		4	704 E Dean Rd, Fox Point, WI	Pb, tot	ug/L	4.0000
4/10/2008		1	1628 E Cumberland, Whitefish Bay, WI	pH	SU	7.5700
4/10/2008	Bathroom Tap	2	4604 N Murray Ave, Whitefish Bay, WI	pH	SU	7.6000
4/10/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	pH	SU	7.6500
4/10/2008		4	704 E Dean Rd, Fox Point, WI	pH	SU	7.7200

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7/22/2008						
7/22/2008	lab 7.77	1	1628 E Cumberland, Whitefish Bay, WI	pH	SU	7.8900
7/22/2008	lab 7.69	2	4604 N Murray Ave, Whitefish Bay, WI	pH	SU	7.8300
7/22/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	pH	SU	7.8400
7/22/2008	lab 7.69	4	704 E Dean Rd, Fox Point, WI	pH	SU	7.8600
10/20/2008	Recently remodeld kitchen	1	1628 E Cumberland, Whitefish Bay, WI	pH	SU	7.6900
10/20/2008	7.63	2	4604 N Murray Ave, Whitefish Bay, WI	pH	SU	7.7600
10/20/2008	7.54	3	4925 N Bartlett Ave, Whitefish Bay, WI	pH	SU	7.7300
10/20/2008		4	704 E Dean Rd, Fox Point, WI	pH	SU	7.6000
12/11/2008		1	1628 E Cumberland, Whitefish Bay, WI	pH	SU	7.7600
12/11/2008		2	4604 N Murray Ave, Whitefish Bay, WI	pH	SU	7.5500
12/11/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	pH	SU	7.3600
12/11/2008		4	704 E Dean Rd, Fox Point, WI	pH	SU	7.5400
4/1/2009		1	1628 E Cumberland, Whitefish Bay, WI	pH (flowing)	SU	7.6000
4/1/2009		2	4604 N Murray Ave, Whitefish Bay, WI	pH (flowing)	SU	7.6800
4/1/2009		3	4925 N Bartlett Ave, Whitefish Bay, WI	pH (flowing)	SU	7.6800
4/1/2009		4	704 E Dean Rd, Fox Point, WI	pH (flowing)	SU	7.5600
4/10/2008		1	1628 E Cumberland, Whitefish Bay, WI	PO4-P	mg/L as P	0.1800
4/10/2008	Bathroom Tap	2	4604 N Murray Ave, Whitefish Bay, WI	PO4-P	mg/L as P	0.1960
4/10/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	PO4-P	mg/L as P	0.1670
4/10/2008		4	704 E Dean Rd, Fox Point, WI	PO4-P	mg/L as P	0.2010
7/22/2008		1	1628 E Cumberland, Whitefish Bay, WI	PO4-P	mg/L as P	0.3710
7/22/2008		2	4604 N Murray Ave, Whitefish Bay, WI	PO4-P	mg/L as P	0.1120
7/22/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	PO4-P	mg/L as P	0.1120
7/22/2008		4	704 E Dean Rd, Fox Point, WI	PO4-P	mg/L as P	0.1500
10/20/2008	Recently remodeld kitchen	1	1628 E Cumberland, Whitefish Bay, WI	PO4-P	mg/L as P	0.8820
10/20/2008		2	4604 N Murray Ave, Whitefish Bay, WI	PO4-P	mg/L as P	0.6730
10/20/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	PO4-P	mg/L as P	0.7220
10/20/2008		4	704 E Dean Rd, Fox Point, WI	PO4-P	mg/L as P	0.7420
12/11/2008		1	1628 E Cumberland, Whitefish Bay, WI	PO4-P	mg/L as P	0.6800
12/11/2008		2	4604 N Murray Ave, Whitefish Bay, WI	PO4-P	mg/L as P	0.6150
12/11/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	PO4-P	mg/L as P	0.7310
12/11/2008		4	704 E Dean Rd, Fox Point, WI	PO4-P	mg/L as P	0.6820
4/1/2009		1	1628 E Cumberland, Whitefish Bay, WI	PO4-P (flowing)	mg/L	0.8900
4/1/2009		2	4604 N Murray Ave, Whitefish Bay, WI	PO4-P (flowing)	mg/L	0.9100
4/1/2009		3	4925 N Bartlett Ave, Whitefish Bay, WI	PO4-P (flowing)	mg/L	0.9100
4/1/2009		4	704 E Dean Rd, Fox Point, WI	PO4-P (flowing)	mg/L	0.2560
4/10/2008		1	1628 E Cumberland, Whitefish Bay, WI	Temp	deg C	6.1000
4/10/2008	Bathroom Tap	2	4604 N Murray Ave, Whitefish Bay, WI	Temp	deg C	7.2000
4/10/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Temp	deg C	6.7000
4/10/2008		4	704 E Dean Rd, Fox Point, WI	Temp	deg C	6.7000
7/22/2008	lab 55deg f	1	1628 E Cumberland, Whitefish Bay, WI	Temp	deg C	18.8000
7/22/2008	lab 62 deg f	2	4604 N Murray Ave, Whitefish Bay, WI	Temp	deg C	21.9000
7/22/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Temp	deg C	20.8000
7/22/2008	lab 62 deg f	4	704 E Dean Rd, Fox Point, WI	Temp	deg C	21.6000
10/20/2008	Recently remodeld kitchen	1	1628 E Cumberland, Whitefish Bay, WI	Temp	deg C	20.8000
10/20/2008	65 f	2	4604 N Murray Ave, Whitefish Bay, WI	Temp	deg C	21.7000
10/20/2008	61 f	3	4925 N Bartlett Ave, Whitefish Bay, WI	Temp	deg C	22.0000
10/20/2008		4	704 E Dean Rd, Fox Point, WI	Temp	deg C	20.8000
12/11/2008		1	1628 E Cumberland, Whitefish Bay, WI	Temp	deg C	16.0100
12/11/2008		2	4604 N Murray Ave, Whitefish Bay, WI	Temp	deg C	12.2200
12/11/2008		3	4925 N Bartlett Ave, Whitefish Bay, WI	Temp	deg C	17.0000
12/11/2008		4	704 E Dean Rd, Fox Point, WI	Temp	deg C	7.2200
4/1/2009		1	1628 E Cumberland, Whitefish Bay, WI	Temp (flowing)	deg C	8.5000
4/1/2009		2	4604 N Murray Ave, Whitefish Bay, WI	Temp (flowing)	deg C	12.8000
4/1/2009		3	4925 N Bartlett Ave, Whitefish Bay, WI	Temp (flowing)	deg C	15.0000
4/1/2009		4	704 E Dean Rd, Fox Point, WI	Temp (flowing)	deg C	6.2000
4/1/2009		1	1628 E Cumberland, Whitefish Bay, WI	Turbidity (flowing)	NTU	1.3200
4/1/2009		2	4604 N Murray Ave, Whitefish Bay, WI	Turbidity (flowing)	NTU	2.7800
4/1/2009		3	4925 N Bartlett Ave, Whitefish Bay, WI	Turbidity (flowing)	NTU	1.2000
4/1/2009		4	704 E Dean Rd, Fox Point, WI	Turbidity (flowing)	NTU	0.7300