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Monitoring Project Summary

Water Utility: North Shore Water Commission

Project Title: Navigating Major Water System Chemical Treatment Changes

Description: The North Shore Water Commission (NSWC) planned to switch the disinfectant used in the water distribution systems from free chlorine to chloramine. Experience from Washington, D.C.'s water system showed that such a switch could increase the lead concentration in the water. NSWC wanted to avoid or, at least, be alerted to such problems by using PRS Monitoring Stations. With these stations, lead concentrations as well as other water quality parameters can be tracked routinely; action can be taken and operational decisions made based on quantitative information in a timely manner.

Based on Washington's experience, the addition of a corrosion control chemical was helpful in creating a new protective barrier on the pipe walls after the production of the original protective layer of lead dioxide was prevented by using chloramine. To this end, NSWC wanted to re-evaluate their current corrosion control chemical against others and determine which chemical would perform best at such a critical time. The chemical comparison test is described in a separate report. Based on the test results, NSWC switched from a 50/50 polyphosphate/orthophosphate blend to 100% orthophosphate for corrosion control.

Goals: The goal of monitoring was to track and respond to changes in key water quality parameters in the distribution system, especially the release of lead into the water with a secondary focus on the biostability of the water.

Date Range: The monitoring was divided into three time periods –

Stage 1 (S1): Existing system – free chlorine and 50/50 polyphosphate/orthophosphate blend corrosion control chemical (April 2008 to September 2008)

Stage 2 (S2): Change of corrosion control chemical – continue with free chlorine and change to corrosion control chemical selected from chemical comparison tests (September 2008 to November 2008)

Stage 3 (S3): Change of disinfectant to chloramine – change to chloramine disinfection and continue with the new corrosion control chemical (November 2008 to April 2009)

Sampling Sites: Two PRS Monitoring Stations were installed. Monitoring Station #1 was installed at the entry point to the water distribution systems. Monitoring Station #2 was initially used to run corrosion control chemical comparison tests, but was then moved to an area of high water age in one of the distribution systems to perform routine monitoring in parallel to the station at the entry point. The stations include the following modules:

Monitoring Station	Sampling Point and Module ID	Metal Plates	Installation History
Entry Point	Inf 1or Entry		
	1-Cu-1	copper	April 2008 (new)
	1-Pb-1	lead	April 2008 (new)
	1-Pb-2	lead	April 2008 (new) September 2008 (new)
High Water Age Area	Inf 2 or HWA		
	2-Cu-1	copper	September 2008 (new) Module opened on 3/7/09 to check integrity of pipe insertion rack; all ok.
	2-Pb-1	lead	September 2008 (new)
	2-Pb-2	lead	This was formerly Pb 1-2 installed 4/08 and exposed to chlorine and 50/50 product; moved to new location in September 2008
	2-Pb-3	lead	This was formerly Pb 2-2 installed 4/08 and exposed to chloramine and 100% ortho; moved to new location in September 2008

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

Original Water System

System Entry Point

A panel of water quality parameters was initially taken to determine what naturally-occurring and water treatment chemicals may be of interest to track into the distribution system. The treated water, which is originally drawn from Lake Michigan, has a moderate hardness and alkalinity of 140 and 100 mg/L as CaCO3, respectively. Possible treatment chemical residuals of aluminum, chloride, and sulfate were in low concentration. Also, of concern are potential nutrients for microorganisms in the water. Of interest at this sampling period was a high nutrient level of assimilable organic carbon at 150 µg/L as acetate-carbon. Metals – copper, iron, manganese, and lead, both in dissolved and particulate form – were found in insignificant concentration.

The presence of microorganisms (as indicated by the Heterotrophic Plate Count, or HPC, test) varied. The high and variable HPC may be the result of a treatment plant or entry point disturbance.

Area of High Water Age

During this time period, the second monitoring station was being used for corrosion control chemical tests, so no data are available on the water quality at the high water age area.

After Corrosion Control Chemical Change

System Entry Point

At the conclusion of the corrosion control chemical comparison tests in August 2008, NSWC changed the chemical used in the distribution system from a 50/50 polyphosphate/orthophosphate blend to 100% orthophosphate. The new corrosion control chemical was used for two and a half months before the disinfection chemicals were changed. The second monitoring station was moved to an area of high water age to begin service for routine monitoring in parallel to the entry point monitoring station.

The entry point water quality monitoring showed a jump in lead briefly in September, probably brought about by disturbances as construction concluded on the new disinfection system.

Area of High Water Age

There was a brief jump in both lead and copper in the influent water at the area of high water age in November. It was not known if the metals were in dissolved or particulate form as only total lead and copper was measured. It also was not known if this was accompanied by an increase in iron particulates or not. However based on past Process Research Solutions water quality investigations, these patterns are typical in a distribution

system when there is a disturbance to existing pipe scales. Disturbances can be physical, such as from vibrations of nearby construction or a water main break, hydraulic, or chemical.

After Disinfection Change

System Entry Point

The change to chloramine began on November 18, 2008. The water system now included the 100% orthophosphate corrosion control chemical and chloramine for disinfection. Another panel of water quality parameters was analyzed to compare with values from the original water chemistry. Aluminum had increased temporarily because of operational issues of dosing the coagulant in the water treatment process.

The microbiological nutrient, assimilable organic carbon, was greatly lower. This may be because of the cold season in which the sample was taken. The test should be performed again in the warmest part of the year to determine if the fluctuation in concentration is dependent on seasonal temperature.

There was an increase in particulate iron in the influent water from when measured in the original water system. As explained previously, this could be for physical, hydraulic, or chemical reasons. A large jump in particulate iron was occurring in the influent around April 17, 2009. This was mirrored in a large jump in turbidity. Taking turbidity measurements had been initiated at this point. It represents microbiological and chemical debris in the piping system.

Copper and lead remained at insignificant levels and in dissolved form. Manganese was not studied as it appeared to be an insignificant factor in the previous sampling.

The presence of microorganisms appeared to be similar in density and in variability as in the original water chemistry.

Area of High Water Age

Copper, lead, and iron were at slightly higher concentrations at the area of high water age than at the entry point until the disturbance captured on April 17 when the entry point levels also increased. Copper and lead, when significantly present, were mostly in particulate form. As is typically observed in previous Process Research Solutions investigations, the particulate form of copper and lead has more variability in concentration than does the dissolved metals.

Iron particulates in the high water age area had less variability in concentration than the iron particulates at the entry point. This indicates that the entry point iron particulate release came from a discrete disturbance while there appears to be more frequent releases of iron particulates in the area of high water age. This is inferred from the data, but there are only three data points in this time period.

The presence of microorganisms in the influent at the high water age monitoring station appeared to be similar to that found at the entry point. Perhaps, this represents a constant background presence in the water system. The March/April disturbance appears to translate tot eh HPC data at the influents of both monitoring stations.

Turbidity, representing the “cleanliness” of the water system, averaged about the same as it did at the entry point. However, there was less variance of turbidity in the area of high water age. This corresponds to the observation on a constant high release of scale (as in iron particulates) in the distribution system versus a discrete disturbance of scale at the entry point. A slight increase in turbidity at the high water age station influent occurred on April 17 when a large increase was measured at the entry point. Could this high water age turbidity be a repercussion of the entry point disturbance?

Operating Parameters

Original Water System

System Entry Point

In the original water system, chlorine was fed at about 0.8 mg/L, where 0.6 mg/L was found as free chlorine and available for disinfection. The corrosion control chemical added 0.4 mg/L of phosphorus to the water, where 0.2 mg/L was orthophosphate and 0.2 mg/L was polyphosphate. The pH of the water was around 7.8.

Area of High Water Age

No data were obtained from the area of high water age as the monitoring station was being used for corrosion control chemical comparison tests.

After Corrosion Control Chemical Change

System Entry Point

After the corrosion control chemical was changed in the distribution system, the total and free chlorine dosage and variation remained the same.

pH was about the same, but with less variance because the data were taken over a shorter time period than the initial data.

With the change of corrosion control chemical, the total phosphorus dosage was increased to 0.9 mg/L. The percent orthophosphate was about 90%. It was intended that 100% orthophosphate would be used, but a product was not convenient at the time. It is expected that the small percentage of polyphosphate will have little influence, especially as the polyphosphate is known to revert to orthophosphate over time.

Area of High Water Age

Very little remains of the disinfection dosage by the time the water reaches the area of high water age. There is plenty of opportunity for the disinfection chemicals to react with debris in the pipeline by that point. The less disinfection remains, the “dirtier” the piping system probably is.

The pH is similar to the entry point with similar variation.

The phosphate concentration appears slightly lower than the entry point dosage.

After Disinfection Change

System Entry Point

After the final change to the water chemistry of the system, the total chlorine dosage was about 2 mg/L with about 90% of that in the form of monochloramine, the effective disinfectant. There was insignificant presence of excess ammonia which indicates that the chlorine and ammonia were being fed at a good proportion to produce chloramine. Background sources of nitrogen, nitrite and nitrate were also insignificant.

The pH was lower than in the original water system. It appears to drop from 7.8 to closer to 7.5 after the disinfection change.

Area of High Water Age

At the area of high water age, the total chlorine and monochloramine levels were lower than at the entry point.

The excess ammonia and background nitrite and nitrate levels were insignificant.

The total phosphorus levels dropped slightly from the entry point.

The pH is similar to that of the entry point.

Reactions

Original Water System

System Entry Point

Copper levels in the module with newly installed copper plates started off at around 400 µg/L and fell over three months to hold steady at around 60 µg/L. It is expected that new plates with no build-up of scales and films will start with higher transfer of metal into the water and then drop over time as compounds build up on the metal's surface. This is why it is important to know how long the metal plates in the module have been exposed to water before making conclusions about monitoring results. The copper was found to be mostly in dissolved form

Lead from the two lead modules also started at a higher concentration (150 µg/L) and dropped over time to around 50 µg/L. The two modules closely parallel each other in response. Module 1-Pb-1 appears to have a spike of lead at one point. The lead in both modules appears to be in particulate form, so it is not uncommon to observe spikes in lead levels when particulate lead is involved – either from a lead release standpoint or from a monitoring and analysis standpoint where it is difficult to capture and measure particulates in the heterogeneous water samples.

The presence of microorganisms varies greatly in the three modules. The trend appears to be that the microbiological activity increases over time. It is not known if an operational problem with the monitoring station caused this microbiological response.

Area of High Water Age

No data were obtained from the area of high water age as the monitoring station was being used for corrosion control chemical comparison tests.

After Corrosion Control Chemical Change

System Entry Point

The existing copper plates at the entry point continued to be used when the corrosion control chemical was changed and a concentration of about 60 µg/L soluble copper continued to be released. New copper plates were installed in the high water age monitoring station.

The lead plates in Module 1-Pb-2 were changed, but Module 1-Pb-1 remained the same. Both modules showed a jump in lead concentration. It is possible that one or both of these modules experienced a lead particulate spike, but it is not known because only total lead was studied at that time. Both lead levels fall over the next ten days with Module 1-Pb-1 returning to around 50 µg/L and the newer lead plates in Module 1-Pb-2 falling to a higher but uniform level of around 90 µg/L. Both modules experienced another spike towards the end of that monitoring period during construction activities at the treatment plant.

Area of High Water Age

At the same time, the copper from Module 2-Cu-1 with new copper plates started at around 500 µg/L and experienced great variability over the monitoring period.

The lead modules at the area of high water age, with various water exposure histories, started with a lead spike. The results from the three modules appear to parallel each other, following the same variable patterns. Could this behavior be influenced by iron particulates in the influent water as was seen in the monitoring station in Waukesha Water Utility? Such data were not captured, but it is something to think about in future monitoring. Perhaps turbidity measurements can fill in as a less expensive surrogate parameter for iron particulates.

After Disinfection Change

System Entry Point

Now that chloramine is used as disinfection in the distribution system, it is very important to check for signs of nitrification. Nitrite and nitrate concentrations were studied after water stagnation in all modules and no signs of nitrification were found. The feeding of chlorine and ammonia appeared to be in very good control.

The presence of microorganisms is quite variable in all modules. It is difficult to understand what this means. The NSWC manager has come up with a very good plan to prevent microorganisms from entering the monitoring stations through the air vents in the effluent piping so as to eliminate this possible extraneous influence on the test results. In the next stage of monitoring, modifications will be made to the monitoring station configuration and operation to eliminate possible sources of microbiological contamination.

The copper from Module 1-Cu-1 continues to stay around 60 µg/L with little variance. The copper is mostly in dissolved form.

The lead from the two lead modules stayed within a range of 50 to 100 µg/L. There did not appear to be large spikes in concentration and there appeared to be a lower percentage of particulate lead involved. That is, the lead release seemed "calmer" than observed in previous monitoring periods. However, a large spike of particulate lead occurred around March 11, 2009. This was two weeks before the highest turbidity and particulate iron measurements.

Area of High Water Age

The comments on nitrogen compounds and on heterotrophic plate count from the entry point apply also to the area of high water age.

The copper from Module 2-Cu-1 dropped over time. But, it remained higher than the copper release at the entry point. In addition, some particulate copper was involved, whereas the copper was mostly soluble at the entry point. This contrast in concentration between the entry point and the area of high water age needs to be watched closely and defined. It may be because of the metal plates were newer; it may be because increased microbiological activity from operational contamination; it may be from an actual water quality issue.

The lead from the three lead modules appear to vary between about 25 and 120 µg/L. Even with this variability, there are no major lead spikes above 120 µg/L.

Conclusions

Goals Addressed

The monitoring stations allowed for sampling water routinely in a standardized manner throughout several chemical transitions. There were some captured discrete spikes in particulate levels in 2009, long after the chemical transitions. These spikes initiated at the entry point and not from disrupted distribution system scales. At no time were there signs during and after the two chemical transitions that lead release was increasing or spiking more than the original system.

Debris

There is a curious steady release of iron particulates seen in the area of high water age. There is also an indication both in this monitoring data as well as in the Waukesha Water Utility monitoring data that influent iron particulates encourage the release of lead particulates from the lead plates – or the iron particulates adsorb lead from the lead plates and the lead is measured as particulate lead. This needs more study to determine any correlation between iron particulates and lead release.

A disturbance originating at the water treatment plant or entry point was captured, occurring between mid-March through mid-April.

Also, the use of the less expensive turbidity measurement should be studied as a surrogate parameter for iron particulate concentration.

Biostability

As previously mentioned, it is difficult to interpret the greatly variable heterotrophic plate count results. Efforts will be made to eliminate the possibility that microorganisms enter the monitoring stations through the effluent piping air vents. One possibility is to modify the configuration of the monitoring station back to the original design installed at Waukesha Water Utility where samples were obtained under water system pressure instead of pulling air into the station through an effluent air vent. The possibility of excessive microbiological growth on the sample tap can be eliminated by routinely allowing chlorinated water flow through the open taps to waste. The assembly of the modules will also include a brief shock chlorination with the metal plates installed. Previously, the monitoring station was shock chlorinated without the plates. Then, the plates were rinsed with alcohol and the station was opened back up to remove and reinstall the modules. This, most likely, introduced microorganisms back into the station.

It was determined that nitrification is not occurring at the two monitoring sites. Also, the disinfection concentration, even at the area of high water age, was at about 1.5 mg/L total chlorine. Therefore, the operating parameters for dosing the chlorine and the ammonia were considered adequate at this time, but will be refined in the future as the HPC data are made relevant with the elimination of possible sources of contamination.

Lead Suppression

By the end of the two chemical transitions, the lead release from the metal plates appeared to be lower. There was also less variability of total lead with less particulate lead involved. It is possible that the time of exposure of the lead plates to water was an influence on results. However, with the various times of exposures in the different modules and with the two extreme monitoring locations, the results do seem to be consistent from module to module, giving some confidence that lead release in the water system is certainly no worse than in the original water chemistry.

Copper Suppression

Copper release appears to be very low and steady at the entry point. It is higher and more in particulate form at the high water age station. There needs to be more study on the higher copper levels in the area of high water age.

Recommendations

North Shore Water Commission plans to continue routine monitoring for water quality control. A Water Research Foundation grant has been awarded to continue monitoring with an emphasis on creating statistical control charts from the water quality time-series data. In doing so, there will be a more quantitative measure of when conditions in the distribution system are changing.

Additional goals during the new monitoring period are:

- Shock chlorinate the monitoring stations; install new plates at both monitoring stations and disinfect the stations again. Modify the stations' configuration and operation to prevent microbiological contamination. Begin anew with a study of biostability in the water system.

- Determine if there is significance to the higher copper levels at the area of high water age.

- Determine if influent iron particulates influence the release of lead.

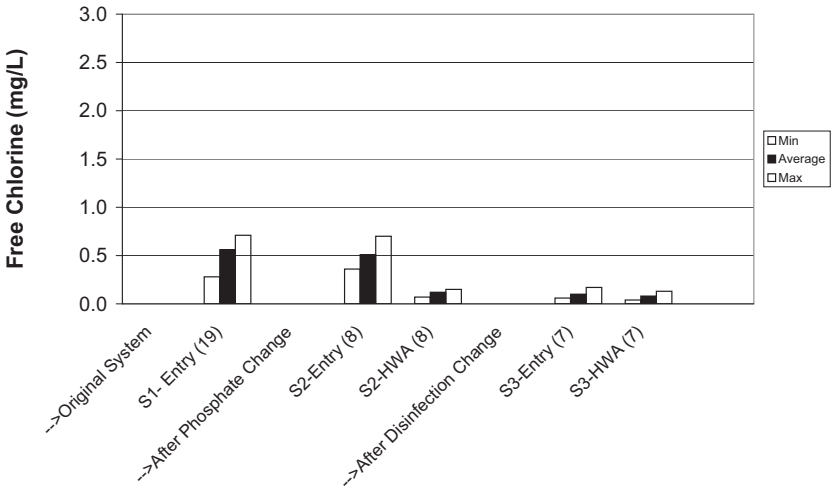
- Uni-directional flushing of the water mains will be carried out in the distribution systems this summer. Determine the effect of uni-directional flushing on water quality.

- With the major chemical transitions and uni-directional flushing in the past, determine if the phosphate levels for the corrosion control chemical can be brought down to a lower maintenance level. Determine if the phosphate chemical is needed at all.

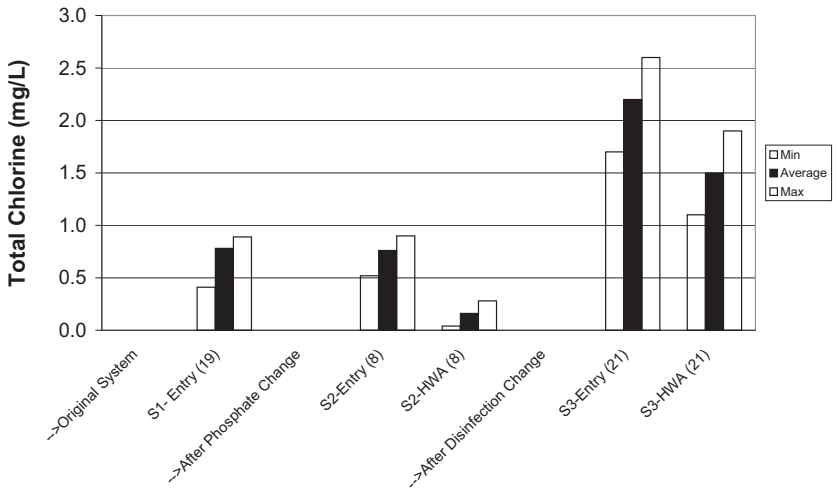
- Establish a protocol for routine monitoring and data analysis using the data management software, My Monitoring Data™, and the control charts as an on-going operational tool for North Shore.

Appendix A: Average and Range Graphs

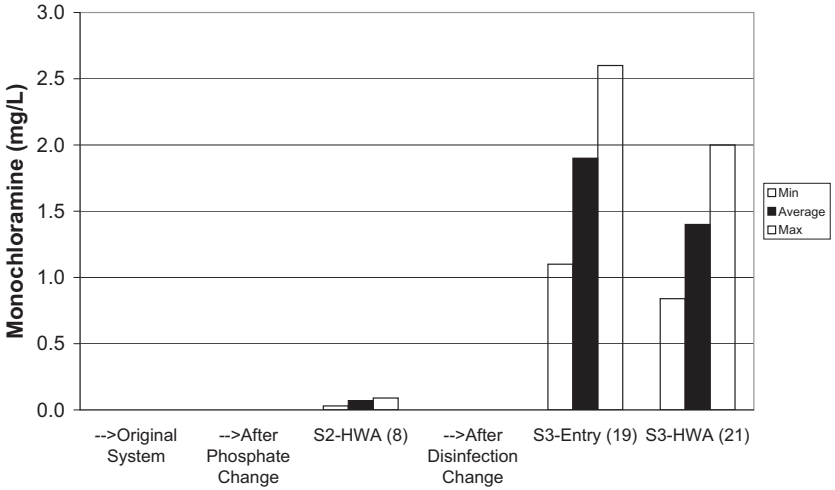
North Shore Water Commission: Comparison of Disinfection



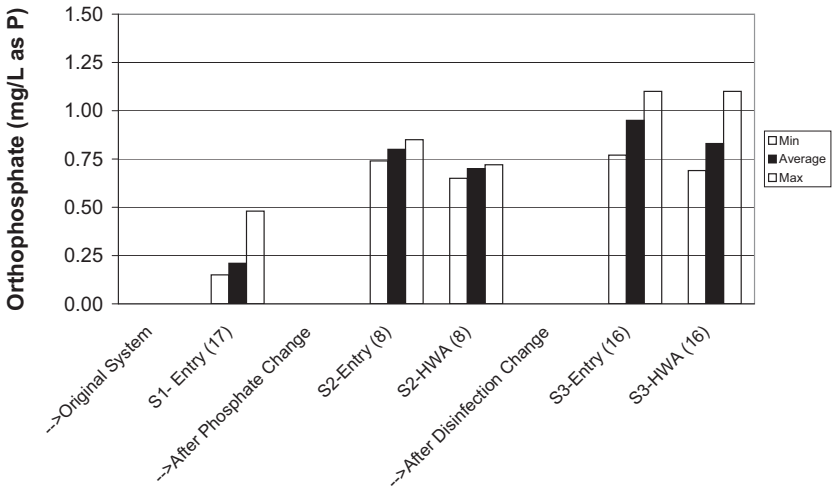
North Shore Water Commission: Comparison of Disinfection



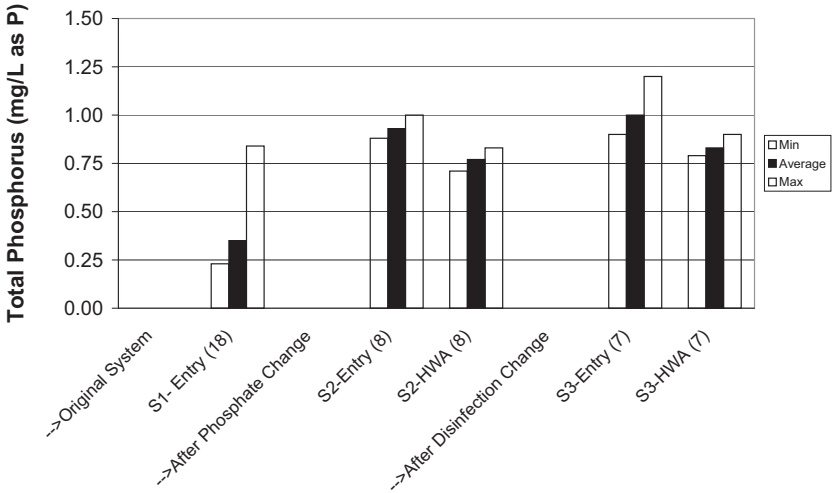
North Shore Water Commission: Comparison of Disinfection



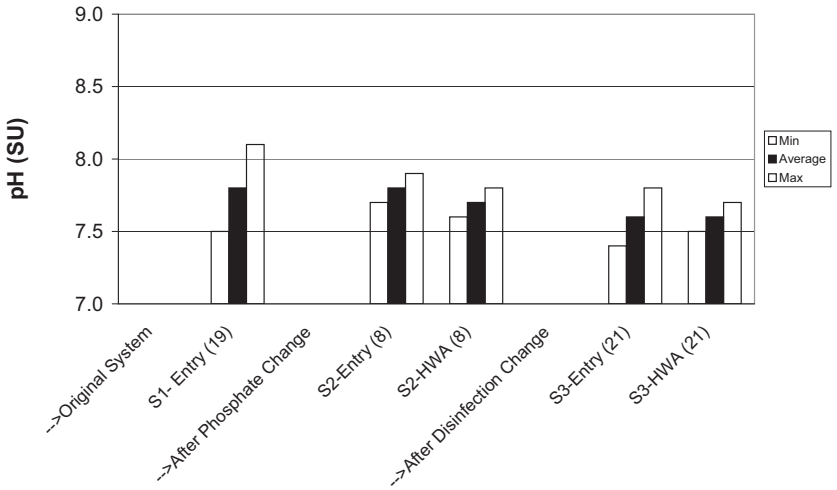
North Shore Water Commission: Comparison of Phosphorus



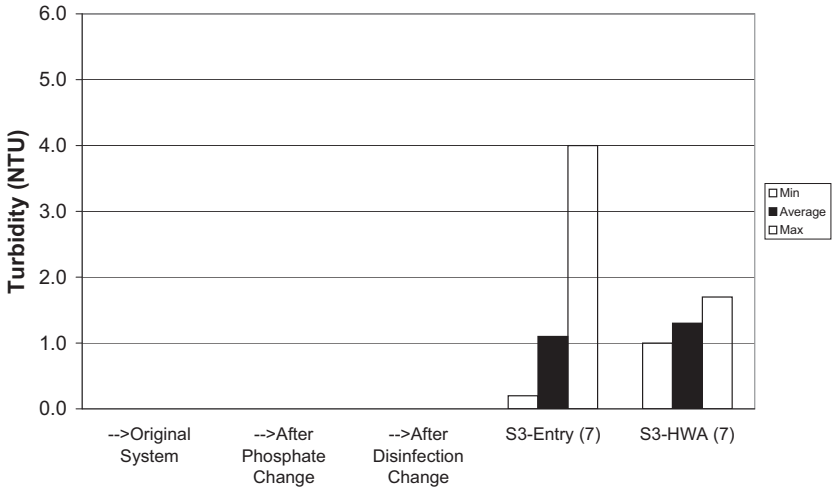
North Shore Water Commission: Comparison of Phosphorus



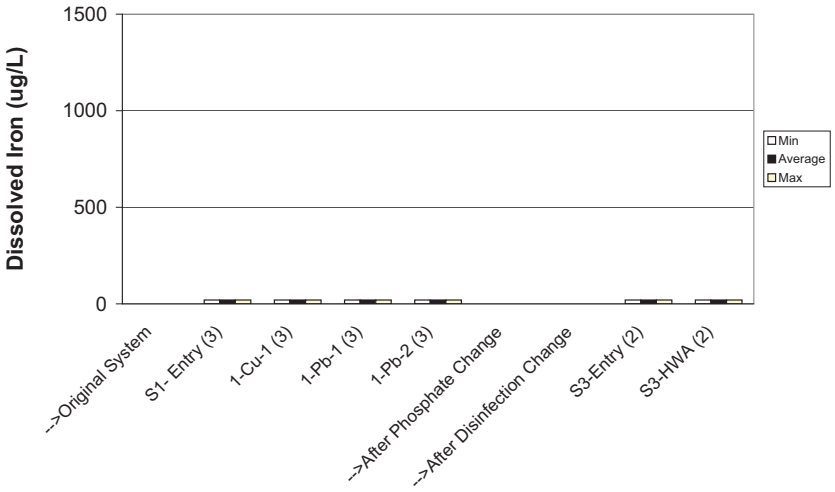
North Shore Water Commission: Comparison of pH



North Shore Water Commission: Comparison of Turbidity



North Shore Water Commission: Comparison of Metal Levels



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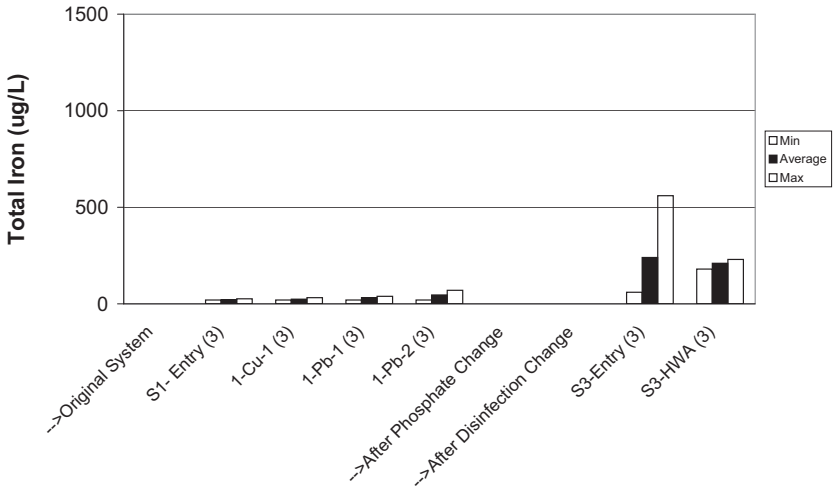

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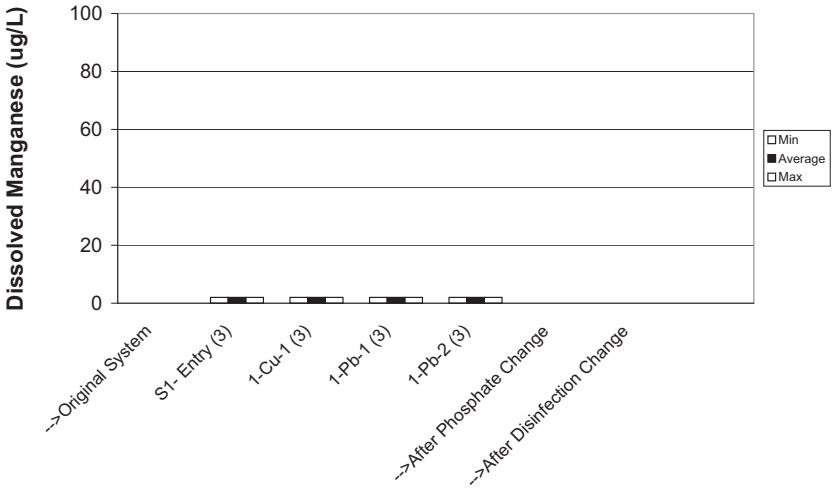
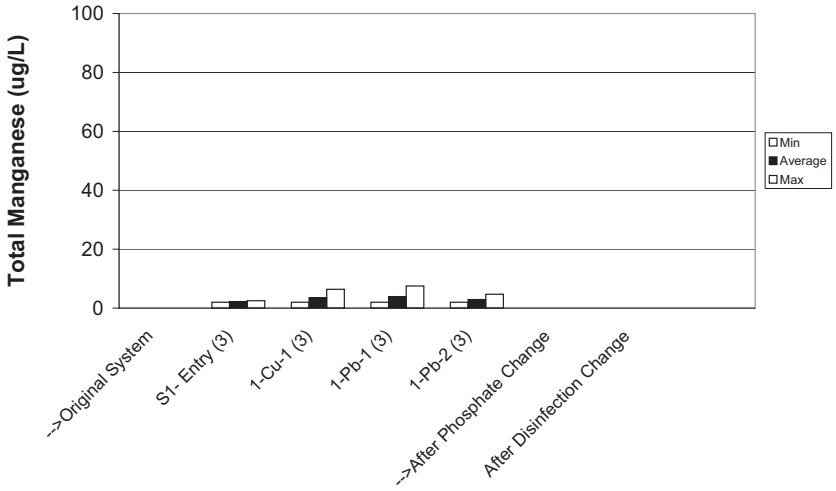
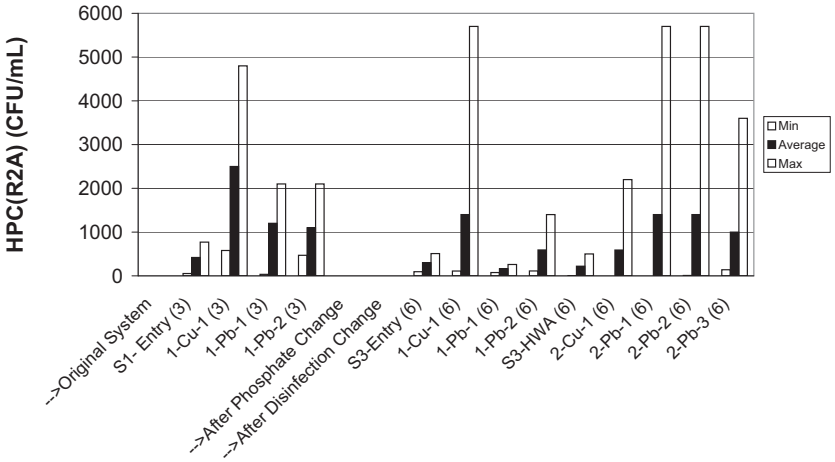


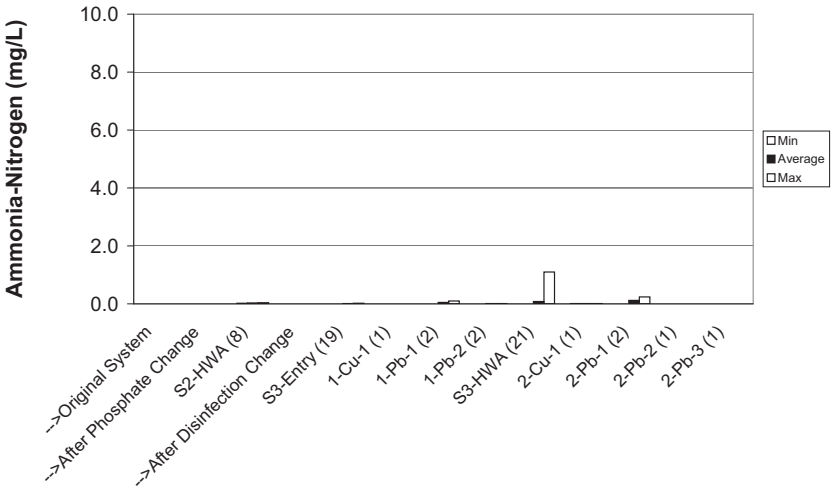
North Shore Water Commission: Comparison of Metal Levels



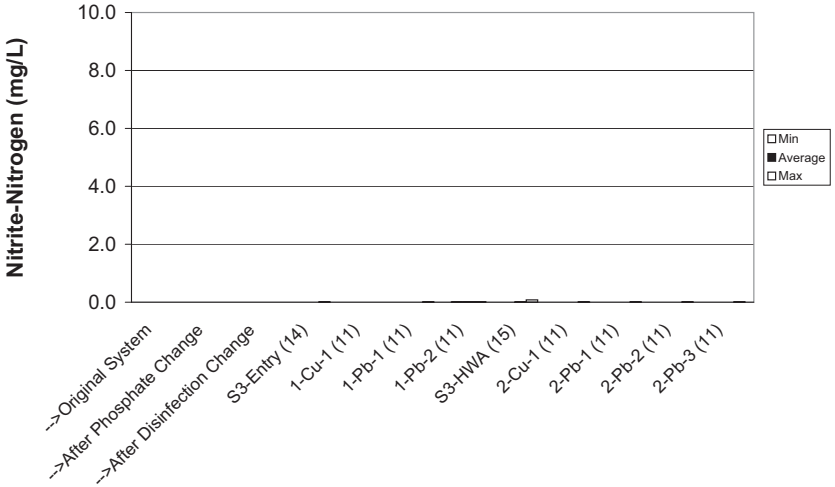
North Shore Water Commission: Comparison of Microbiological Activity



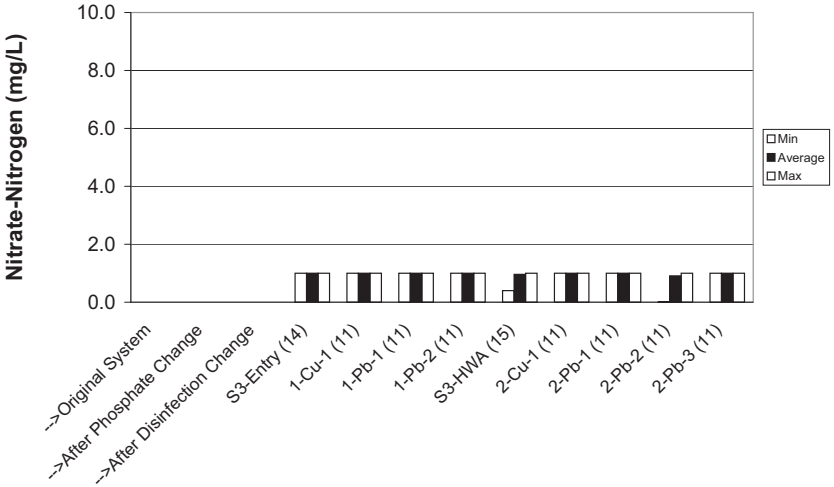
North Shore Water Commission: Comparison of Nitrogen

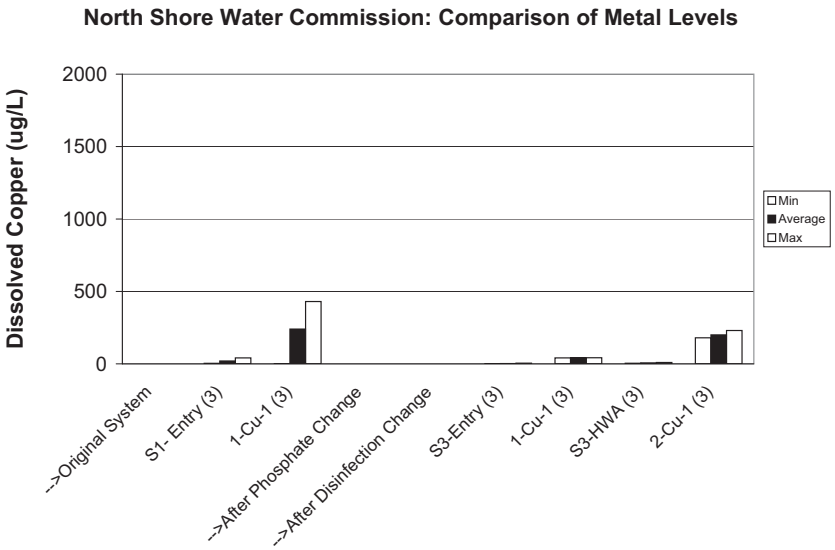


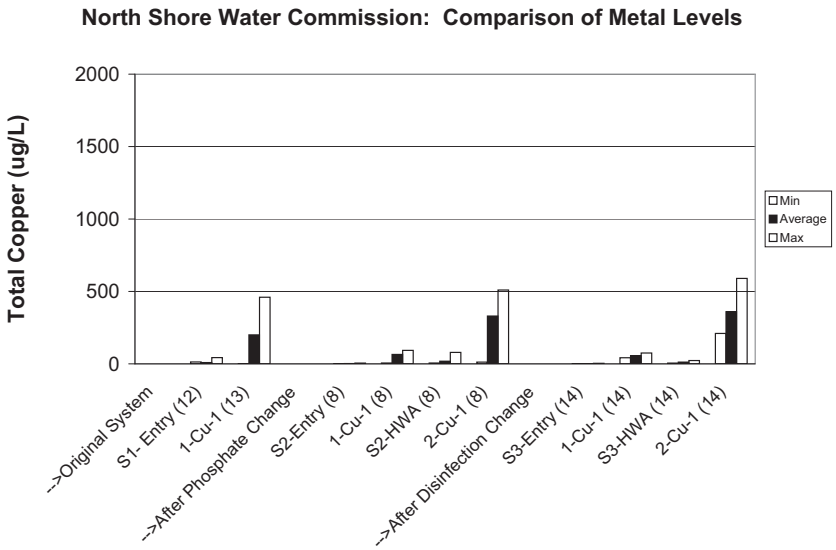
North Shore Water Commission: Comparison of Nitrogen

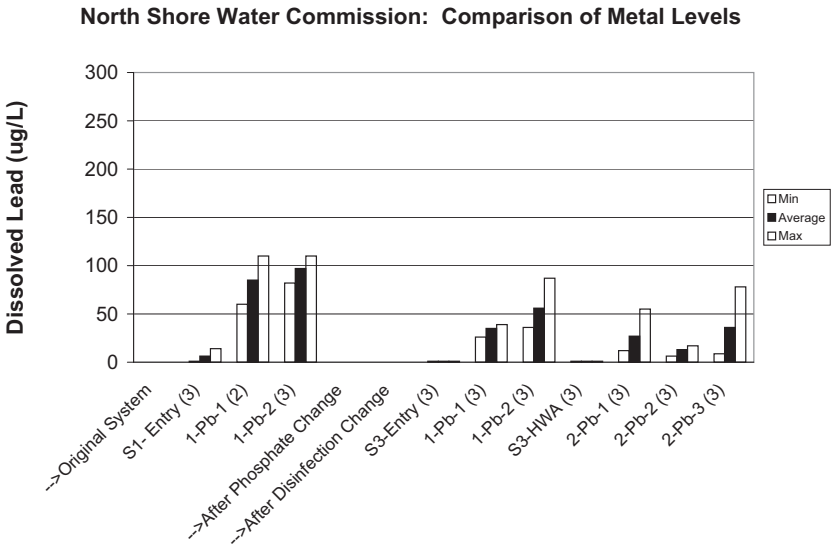


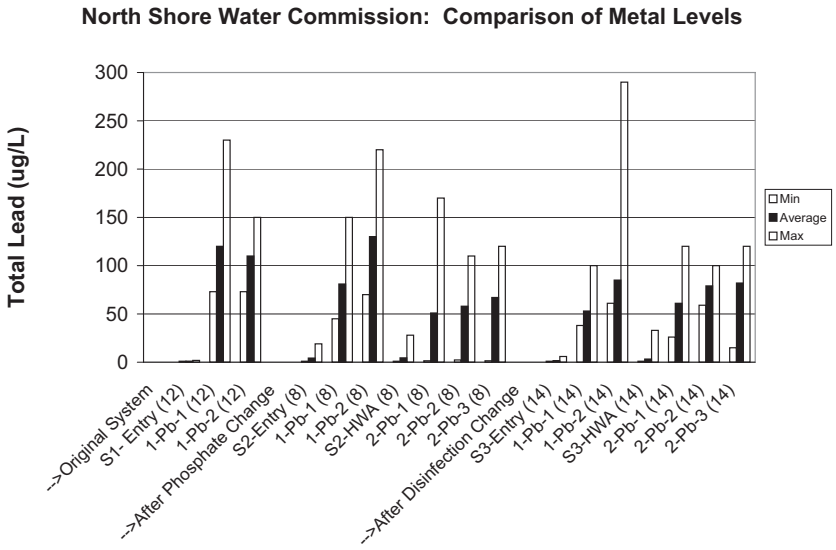
North Shore Water Commission: Comparison of Nitrogen



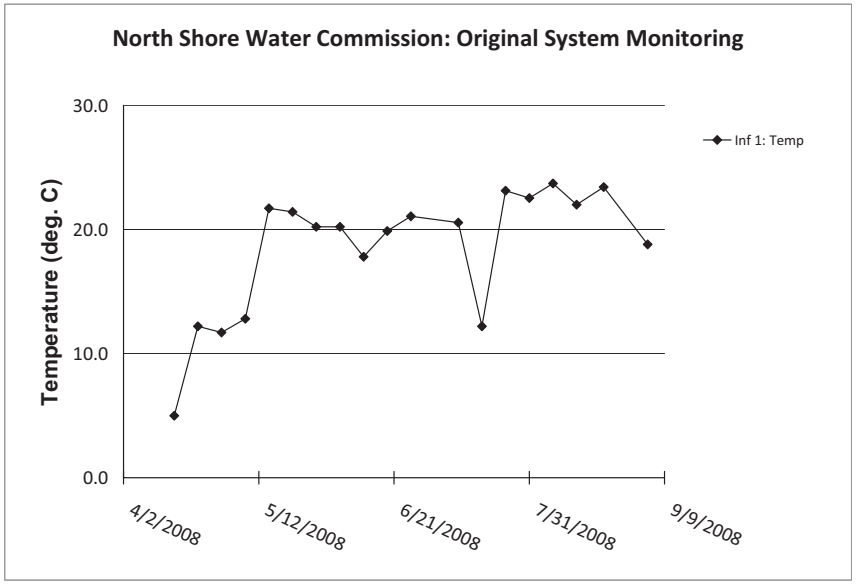

North Shore Water Commission: Comparison of Metal Levels
Dissolved Copper (ug/L)
2000
1500
1000
500
0
Min
Average
Max
-->Original System
S1- Entry (3)
1-Cu-1 (3)
-->After Phosphate Change
-->After Disinfection Change
S3-Entry (3)
1-Cu-1 (3)
S3-HWA (3)
2-Cu-1 (3)

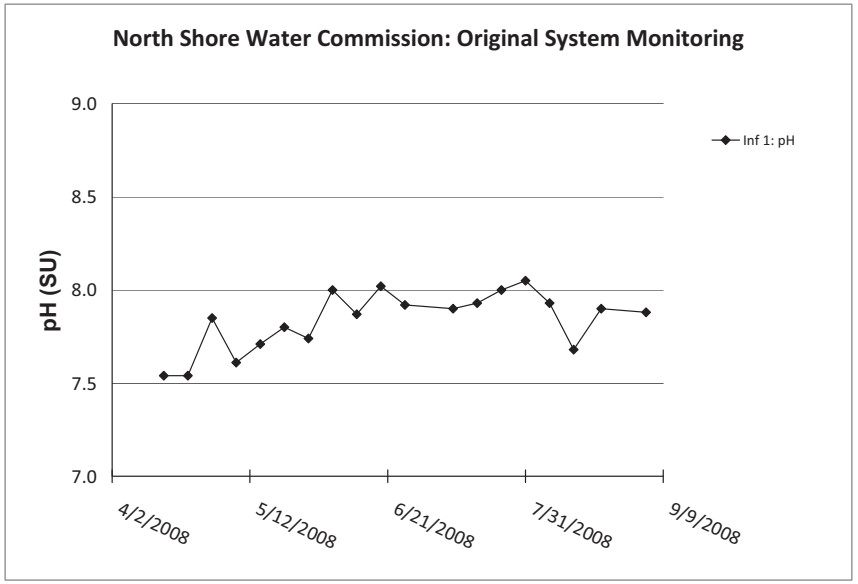

North Shore Water Commission: Comparison of Metal Levels
Total Copper (ug/L)
2000
1500
1000
500
0
Min
Average
Max
-->Original System
S1- Entry (12)
1-Cu-1 (13)
-->After Phosphate Change
S2-Entry (8)
1-Cu-1 (8)
S2-HWA (8)
2-Cu-1 (8)
-->After Disinfection Change
S3-Entry (14)
1-Cu-1 (14)
S3-HWA (14)
2-Cu-1 (14)

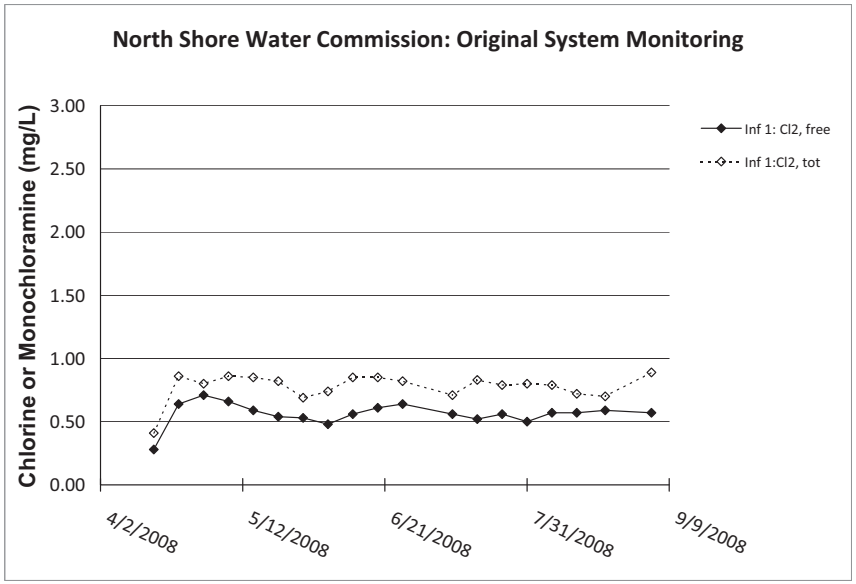

North Shore Water Commission: Comparison of Metal Levels
Dissolved Lead (ug/L)
300
250
200
150
100
50
0
Min
Average
Max
-->Original System
S1- Entry (3)
1-Pb-1 (2)
1-Pb-2 (3)
-->After Phosphate Change
-->After Disinfection Change
S3-Entry (3)
1-Pb-1 (3)
1-Pb-2 (3)
S3-HWA (3)
2-Pb-1 (3)
2-Pb-2 (3)
2-Pb-3 (3)

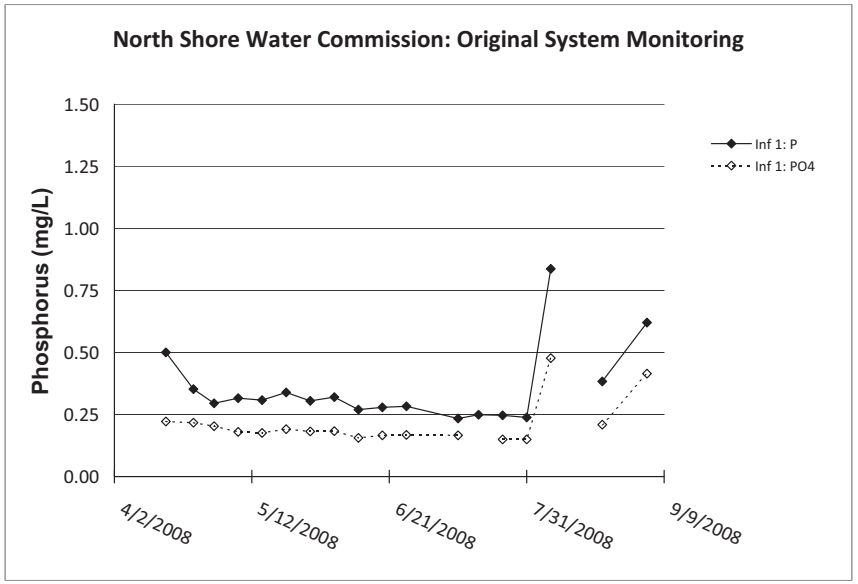

North Shore Water Commission: Comparison of Metal Levels
Total Lead (ug/L)
300
250
200
150
100
50
0
Min
Average
Max
-->Original System
S1- Entry (12)
1-Pb-1 (12)
1-Pb-2 (12)
-->After Phosphate Change
S2-Entry (8)
1-Pb-1 (8)
1-Pb-2 (8)
S2-HWA (8)
2-Pb-1 (8)
2-Pb-2 (8)
2-Pb-3 (8)
-->After Disinfection Change
S3-Entry (14)
1-Pb-1 (14)
1-Pb-2 (14)
S3-HWA (14)
2-Pb-1 (14)
2-Pb-2 (14)
2-Pb-3 (14)

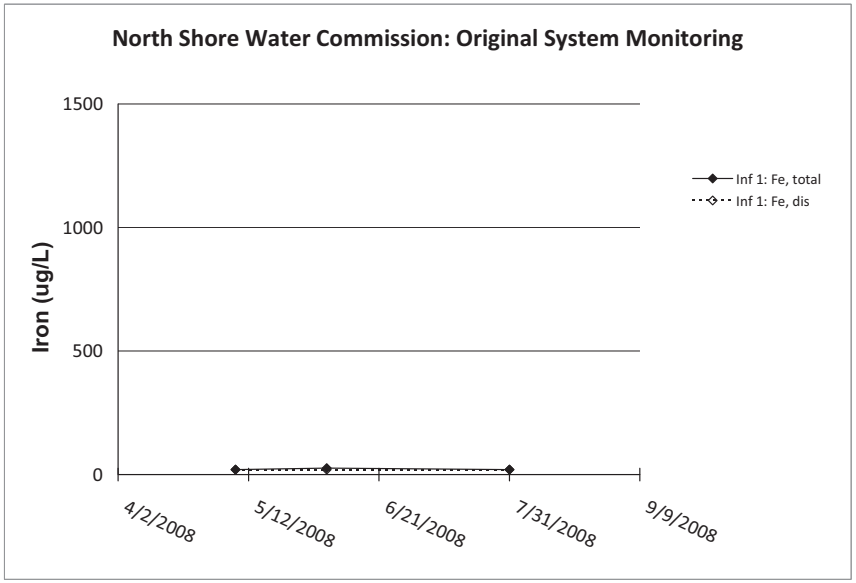
Appendix B: Time-series Graphs

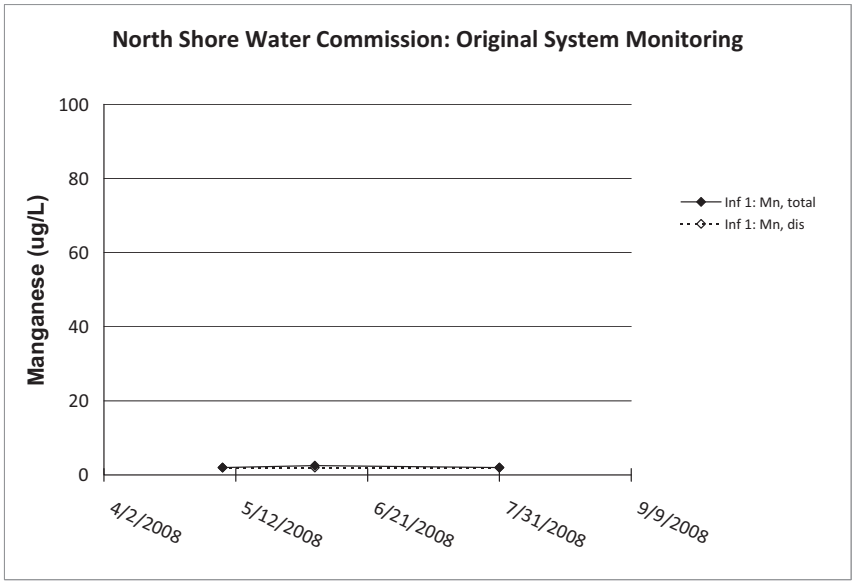

North Shore Water Commission: Original System Monitoring
Temperature (deg. C)
30.0
20.0
10.0
0.0
4/2/2008
5/12/2008
6/21/2008
7/31/2008
9/9/2008
Inf 1: Temp

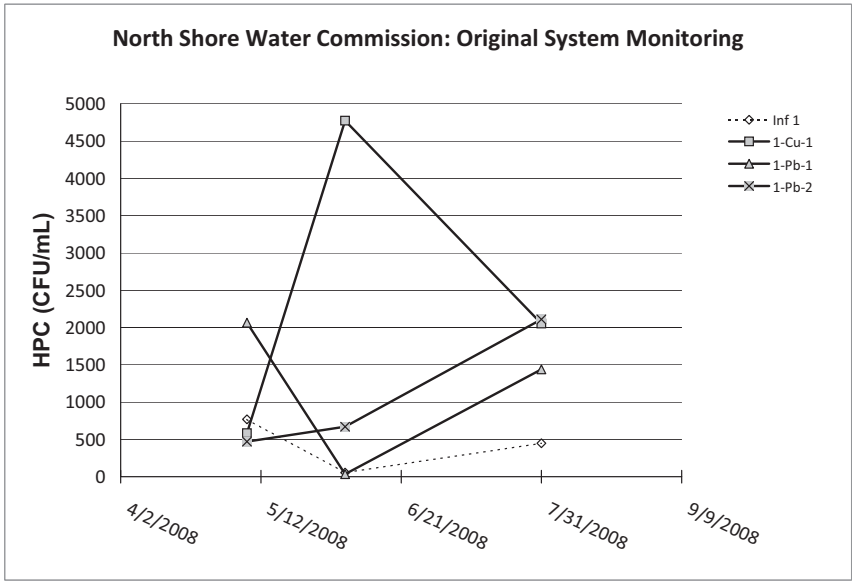

North Shore Water Commission: Original System Monitoring
pH (SU)
9.0
8.5
8.0
7.5
7.0
4/2/2008
5/12/2008
6/21/2008
7/31/2008
9/9/2008
Inf 1: pH

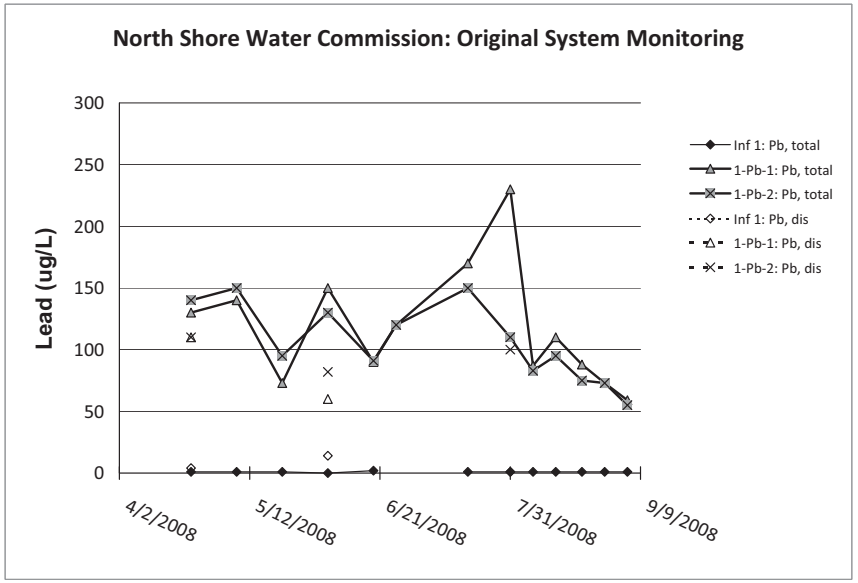

North Shore Water Commission: Original System Monitoring
Chlorine or Monochloramine (mg/L)
3.00
2.50
2.00
1.50
1.00
0.50
0.00
4/2/2008
5/12/2008
6/21/2008
7/31/2008
9/9/2008
Inf 1: Cl2, free
Inf 1:Cl2, tot

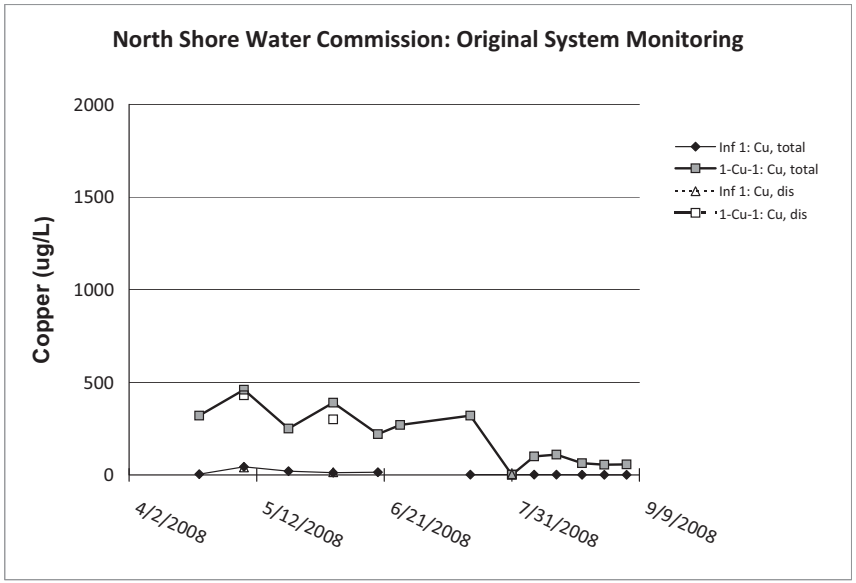

North Shore Water Commission: Original System Monitoring
Phosphorus (mg/L)
1.50
1.25
1.00
0.75
0.50
0.25
0.00
4/2/2008
5/12/2008
6/21/2008
7/31/2008
9/9/2008
Inf 1: P
Inf 1: PO4

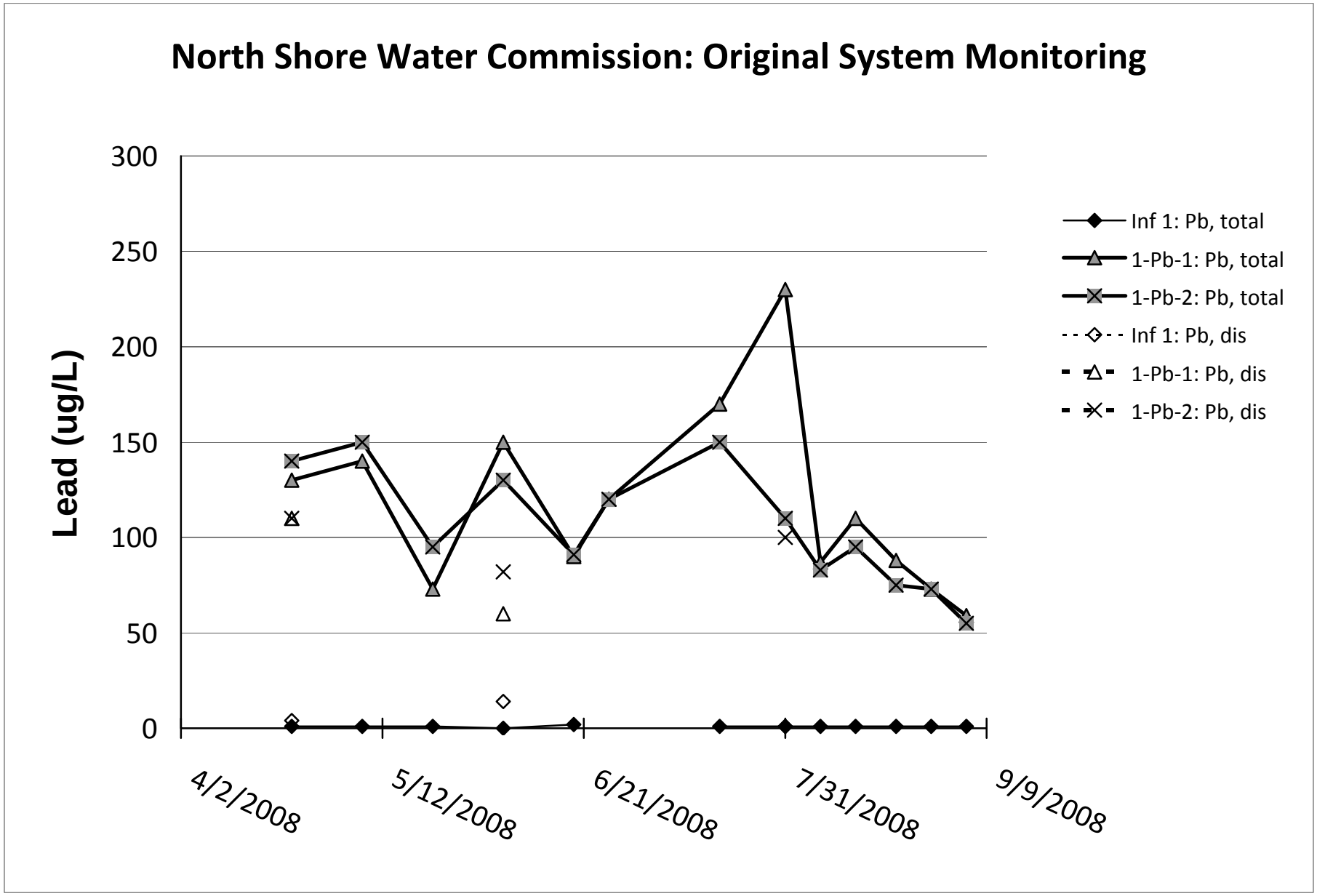

North Shore Water Commission: Original System Monitoring
1500
1000
500
0
Iron (ug/L)
4/2/2008
5/12/2008
6/21/2008
7/31/2008
9/9/2008
Inf 1: Fe, total
Inf 1: Fe, dis

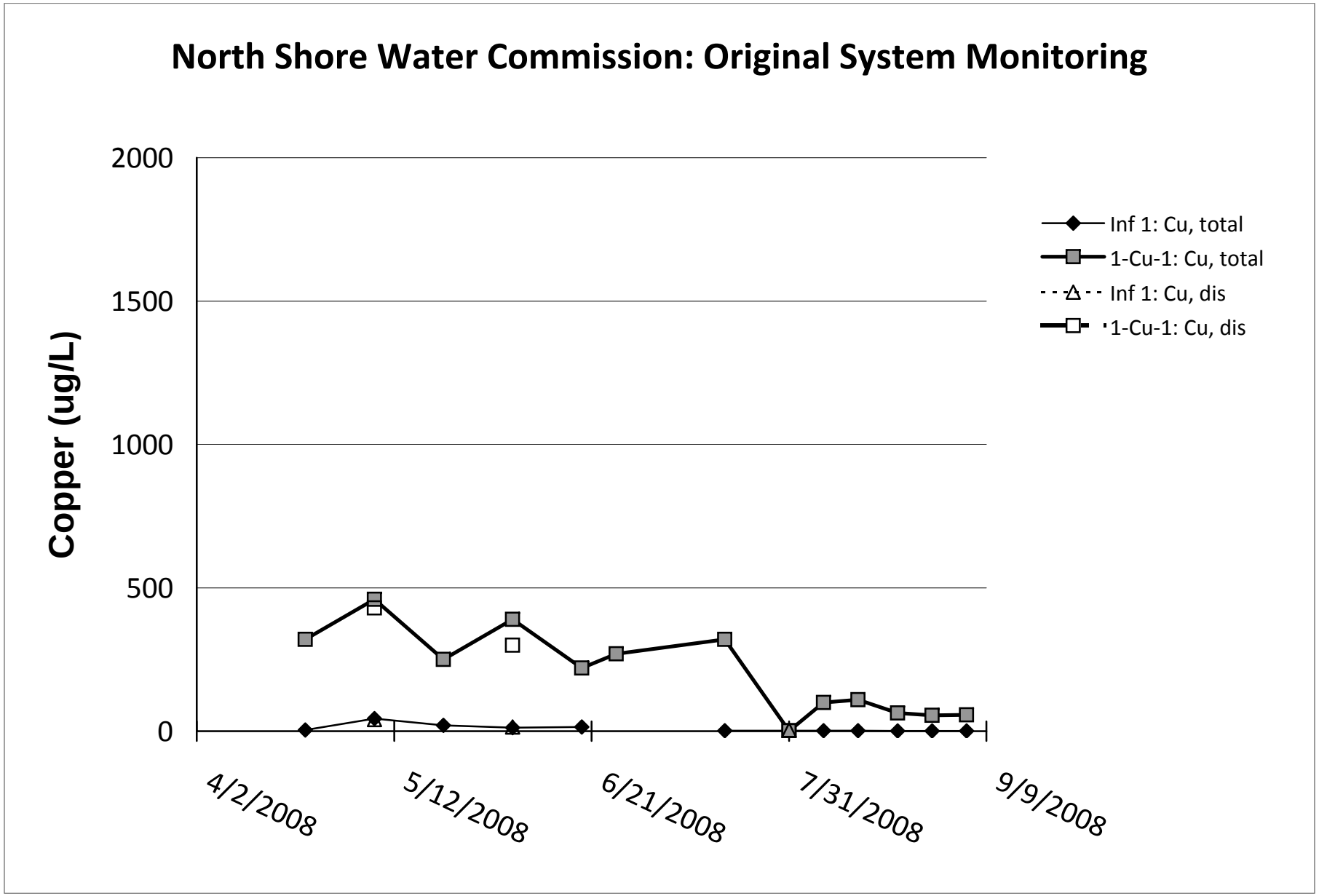

North Shore Water Commission: Original System Monitoring
100
80
60
40
20
0
Manganese (ug/L)
4/2/2008
5/12/2008
6/21/2008
7/31/2008
9/9/2008
Inf 1: Mn, total
Inf 1: Mn, dis

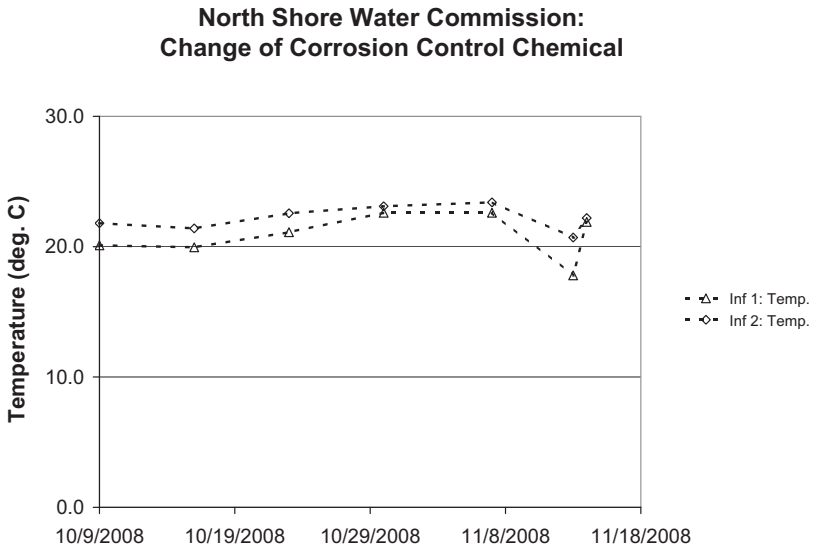

North Shore Water Commission: Original System Monitoring
HPC (CFU/mL)
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
4/2/2008
5/12/2008
6/21/2008
7/31/2008
9/9/2008
Inf 1
1-Cu-1
1-Pb-1
1-Pb-2

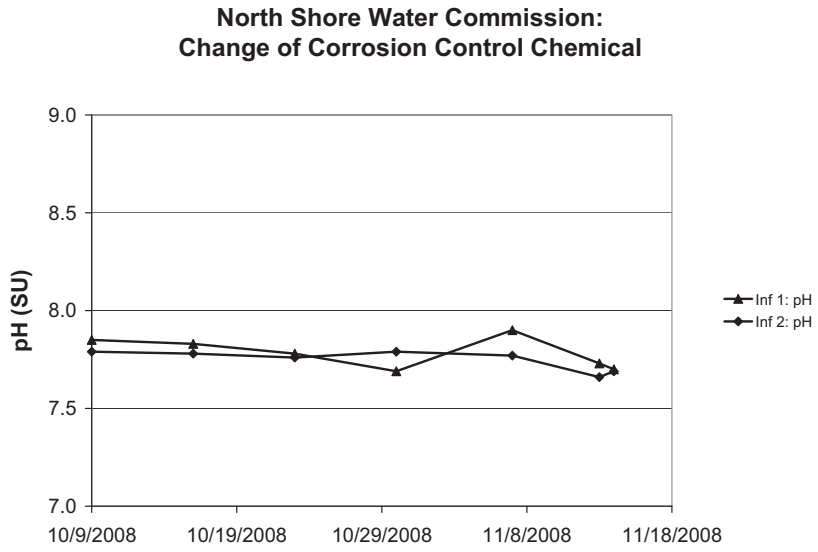

North Shore Water Commission: Original System Monitoring
Lead (ug/L)
300
250
200
150
100
50
0
4/2/2008
5/12/2008
6/21/2008
7/31/2008
9/9/2008
Inf 1: Pb, total
1-Pb-1: Pb, total
1-Pb-2: Pb, total
Inf 1: Pb, dis
1-Pb-1: Pb, dis
1-Pb-2: Pb, dis

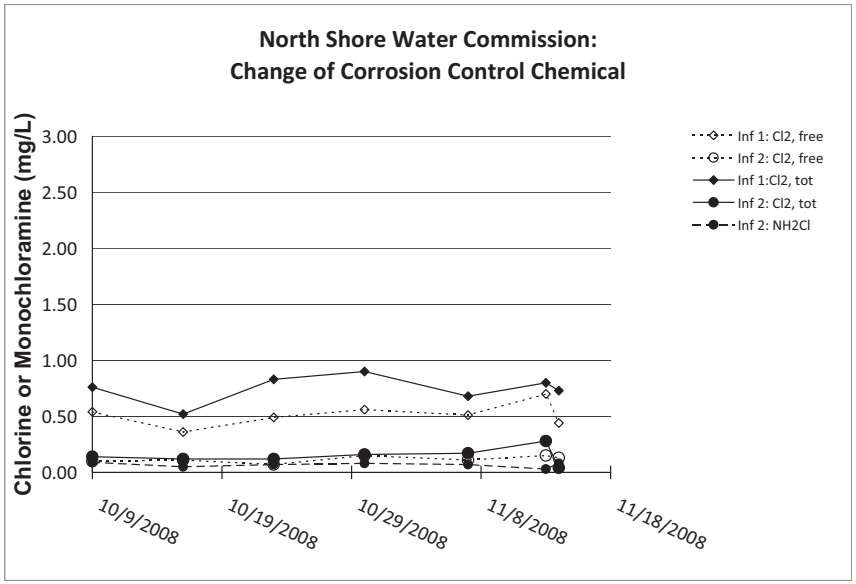

North Shore Water Commission: Original System Monitoring
Copper (ug/L)
2000
1500
1000
500
0
4/2/2008
5/12/2008
6/21/2008
7/31/2008
9/9/2008
Inf 1: Cu, total
1-Cu-1: Cu, total
Inf 1: Cu, dis
1-Cu-1: Cu, dis

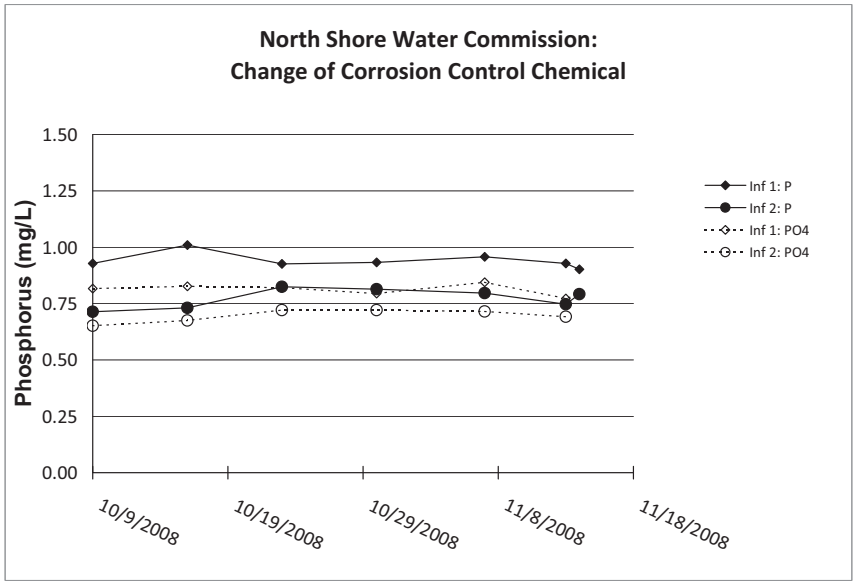

North Shore Water Commission: Original System Monitoring
Lead (ug/L)
300
250
200
150
100
50
0
4/2/2008
5/12/2008
6/21/2008
7/31/2008
9/9/2008
Inf 1: Pb, total
1-Pb-1: Pb, total
1-Pb-2: Pb, total
Inf 1: Pb, dis
1-Pb-1: Pb, dis
1-Pb-2: Pb, dis

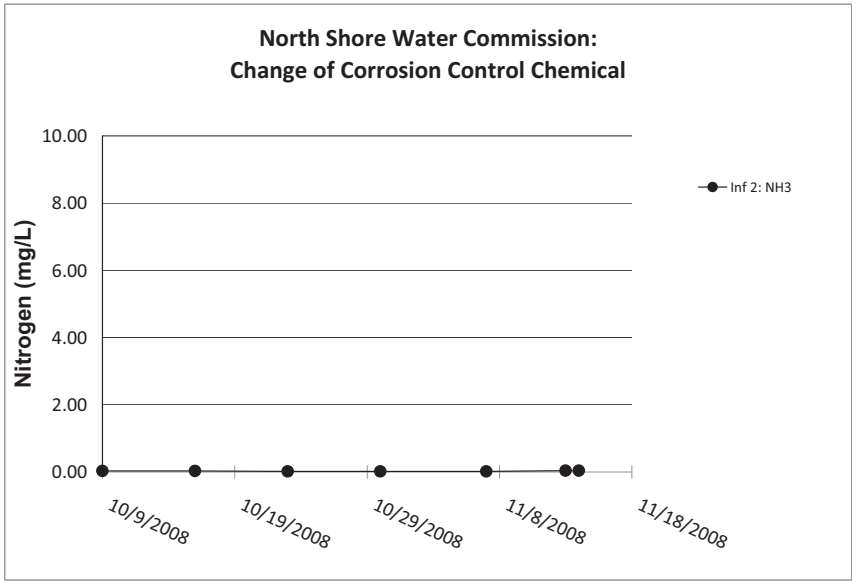

North Shore Water Commission: Original System Monitoring
Copper (ug/L)
2000
1500
1000
500
0
4/2/2008
5/12/2008
6/21/2008
7/31/2008
9/9/2008
Inf 1: Cu, total
1-Cu-1: Cu, total
Inf 1: Cu, dis
1-Cu-1: Cu, dis

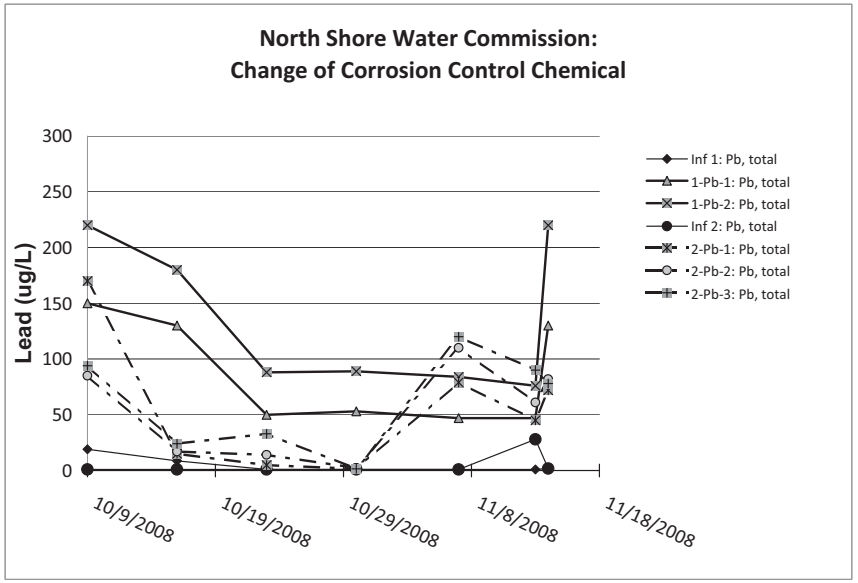

North Shore Water Commission:
Change of Corrosion Control Chemical
Temperature (deg. C)
30.0
20.0
10.0
0.0
10/9/2008
10/19/2008
10/29/2008
11/8/2008
11/18/2008
Inf 1: Temp.
Inf 2: Temp.

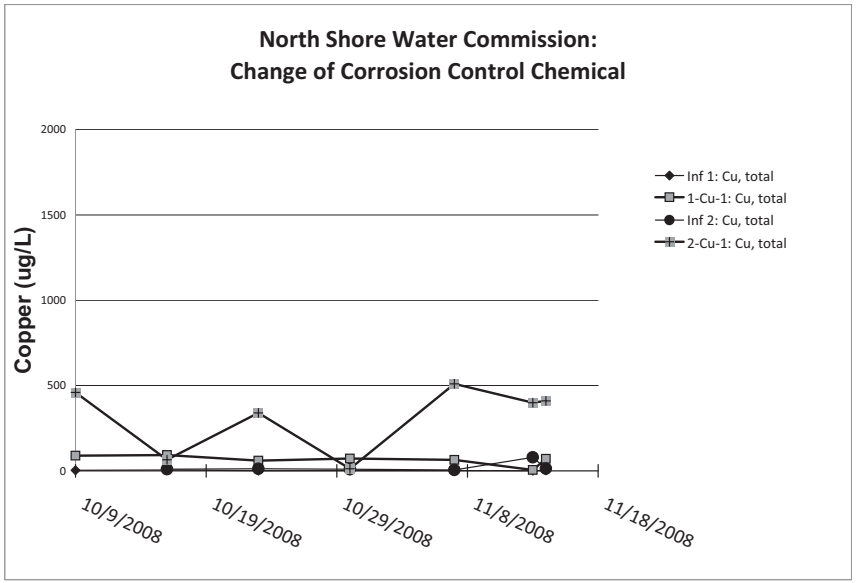

North Shore Water Commission:
Change of Corrosion Control Chemical
pH (SU)
9.0
8.5
8.0
7.5
7.0
10/9/2008
10/19/2008
10/29/2008
11/8/2008
11/18/2008
Inf 1: pH
Inf 2: pH


North Shore Water Commission:
Change of Corrosion Control Chemical
Chlorine or Monochloramine (mg/L)
3.00
2.50
2.00
1.50
1.00
0.50
0.00
10/9/2008
10/19/2008
10/29/2008
11/8/2008
11/18/2008
Inf 1: Cl2, free
Inf 2: Cl2, free
Inf 1:Cl2, tot
Inf 2: Cl2, tot
Inf 2: NH2Cl

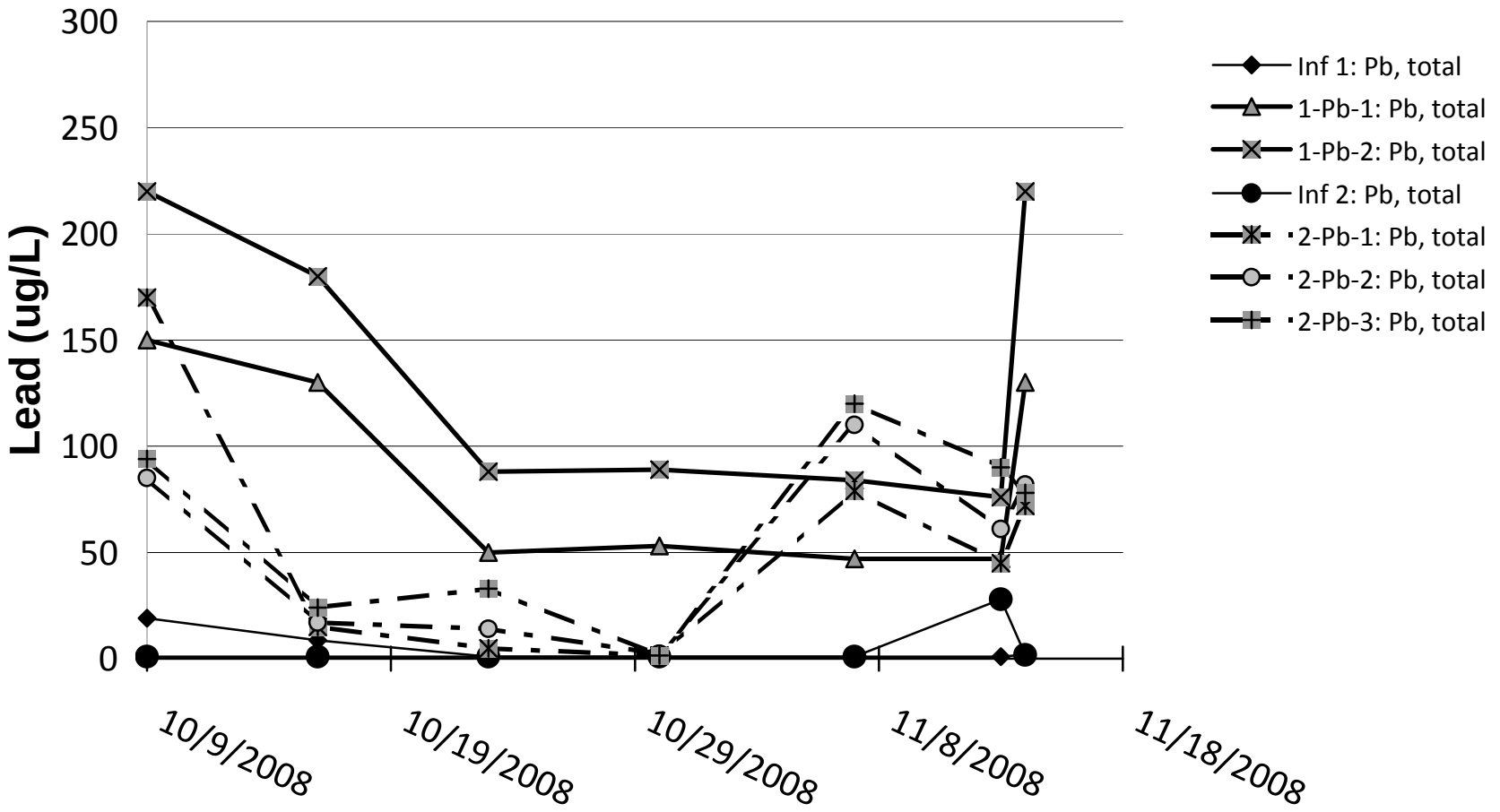

North Shore Water Commission:
Change of Corrosion Control Chemical
Phosphorus (mg/L)
1.50
1.25
1.00
0.75
0.50
0.25
0.00
10/9/2008
10/19/2008
10/29/2008
11/8/2008
11/18/2008
Inf 1: P
Inf 2: P
Inf 1: PO4
Inf 2: PO4


North Shore Water Commission:
Change of Corrosion Control Chemical
Nitrogen (mg/L)
10.00
8.00
6.00
4.00
2.00
0.00
10/9/2008
10/19/2008
10/29/2008
11/8/2008
11/18/2008
Inf 2: NH3

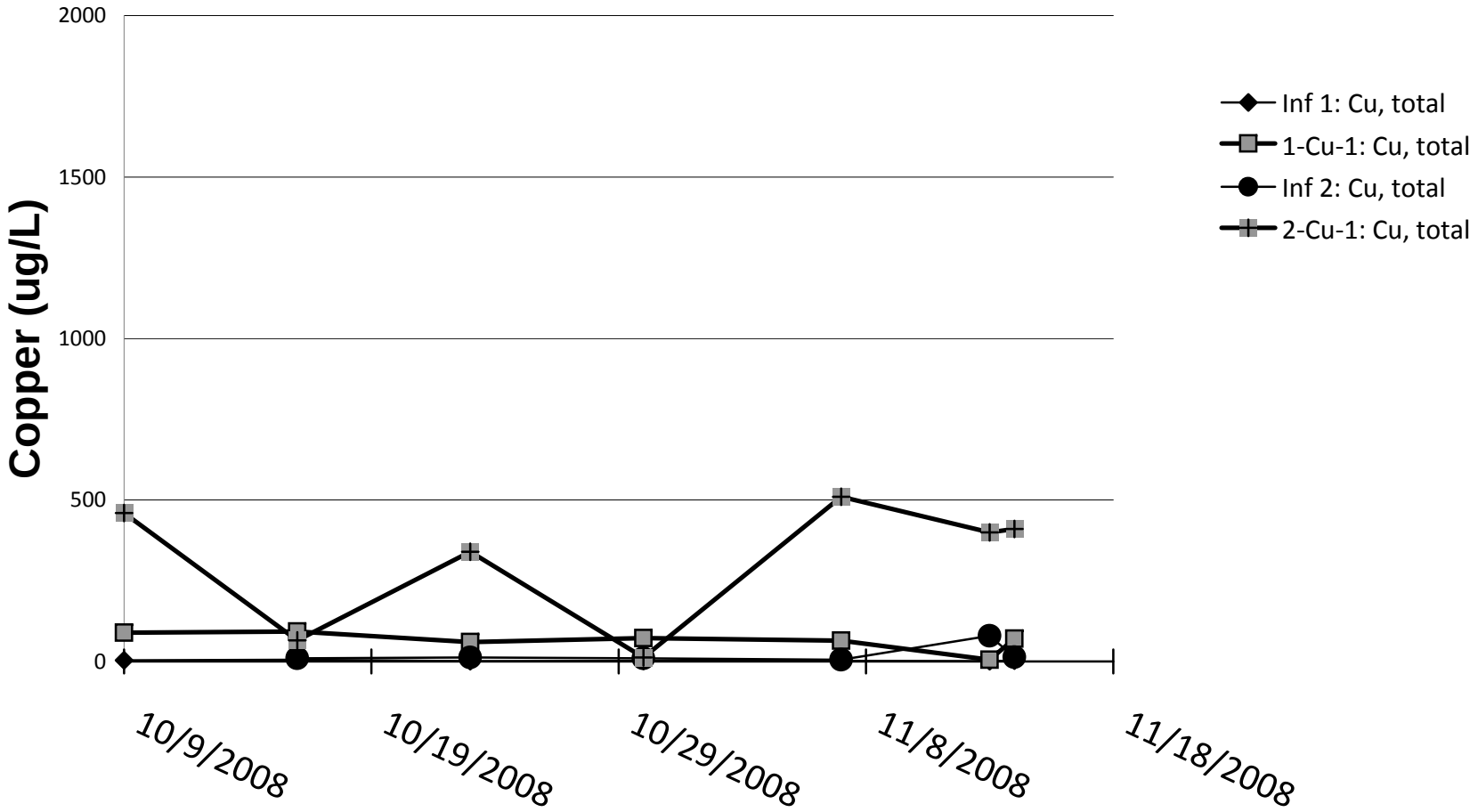

North Shore Water Commission:
Change of Corrosion Control Chemical
Lead (ug/L)
300
250
200
150
100
50
0
10/9/2008
10/19/2008
10/29/2008
11/8/2008
11/18/2008
Inf 1: Pb, total
1-Pb-1: Pb, total
1-Pb-2: Pb, total
Inf 2: Pb, total
2-Pb-1: Pb, total
2-Pb-2: Pb, total
2-Pb-3: Pb, total

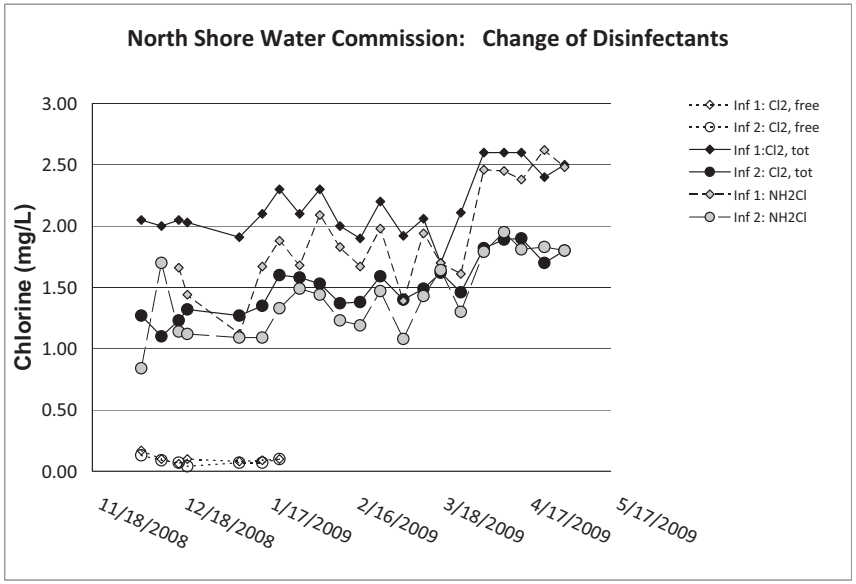

North Shore Water Commission:
Change of Corrosion Control Chemical
Copper (ug/L)
2000
1500
1000
500
0
10/9/2008
10/19/2008
10/29/2008
11/8/2008
11/18/2008
Inf 1: Cu, total
1-Cu-1: Cu, total
Inf 2: Cu, total
2-Cu-1: Cu, total

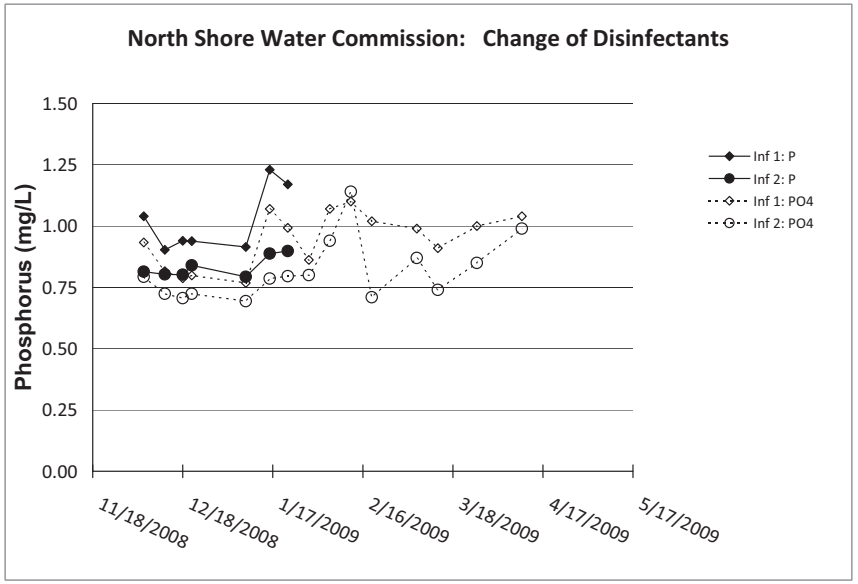
North Shore Water Commission:
Change of Corrosion Control Chemical

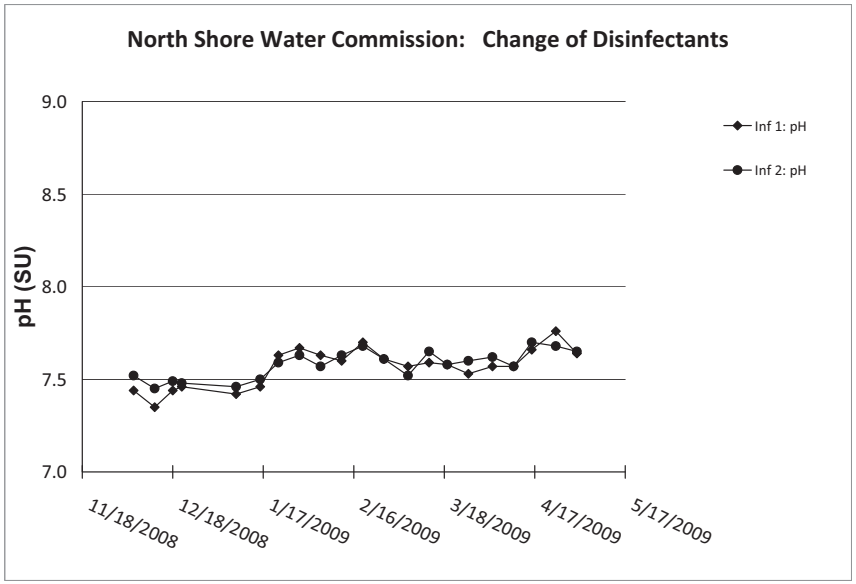


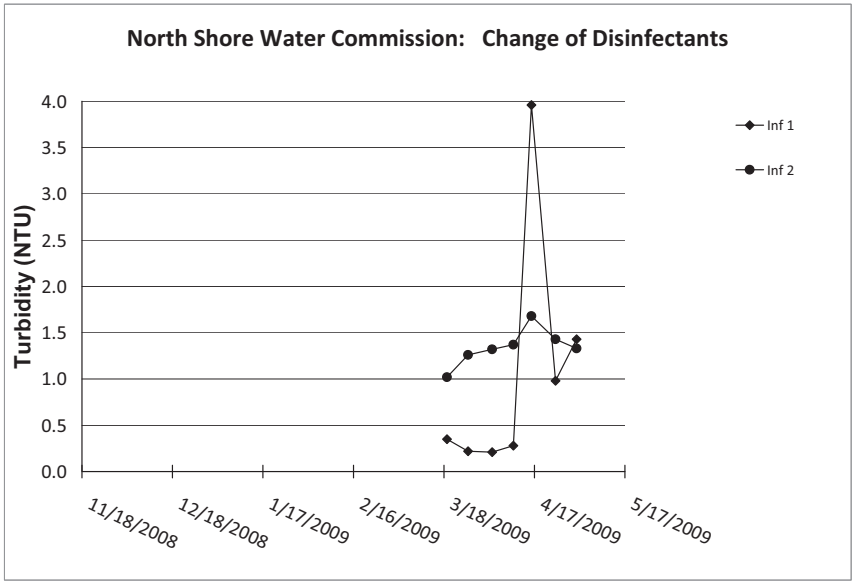
North Shore Water Commission:
Change of Corrosion Control Chemical

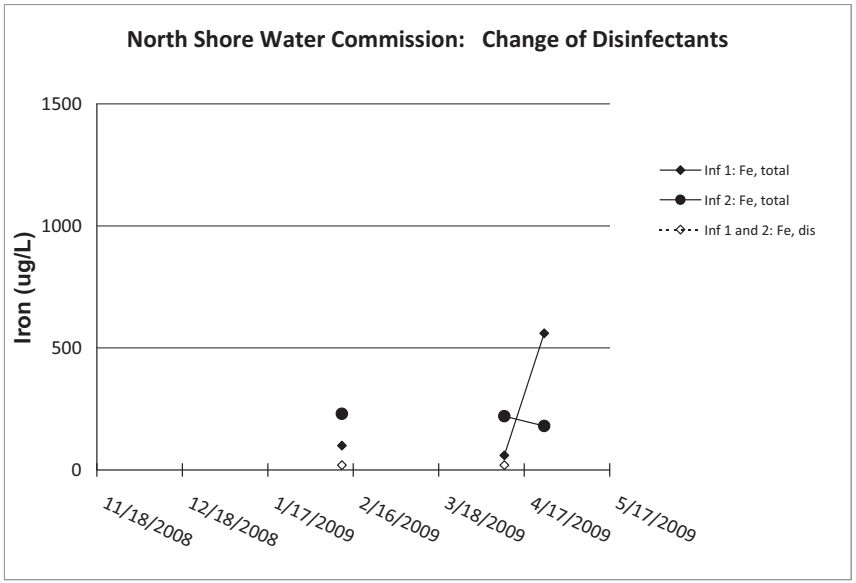


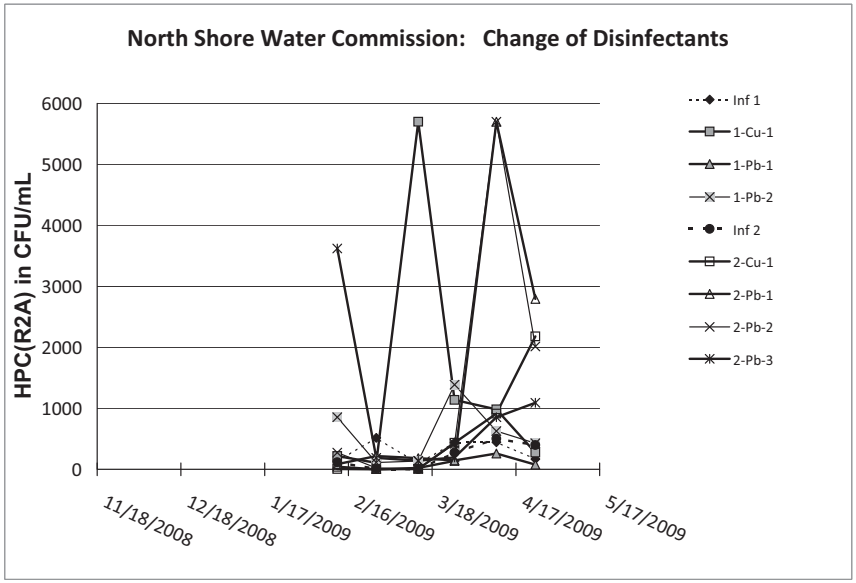

North Shore Water Commission: Change of Disinfectants
Chlorine (mg/L)
3.00
2.50
2.00
1.50
1.00
0.50
0.00
11/18/2008
12/18/2008
1/17/2009
2/16/2009
3/18/2009
4/17/2009
5/17/2009
Inf 1: Cl2, free
Inf 2: Cl2, free
Inf 1:Cl2, tot
Inf 2: Cl2, tot
Inf 1: NH2Cl
Inf 2: NH2Cl

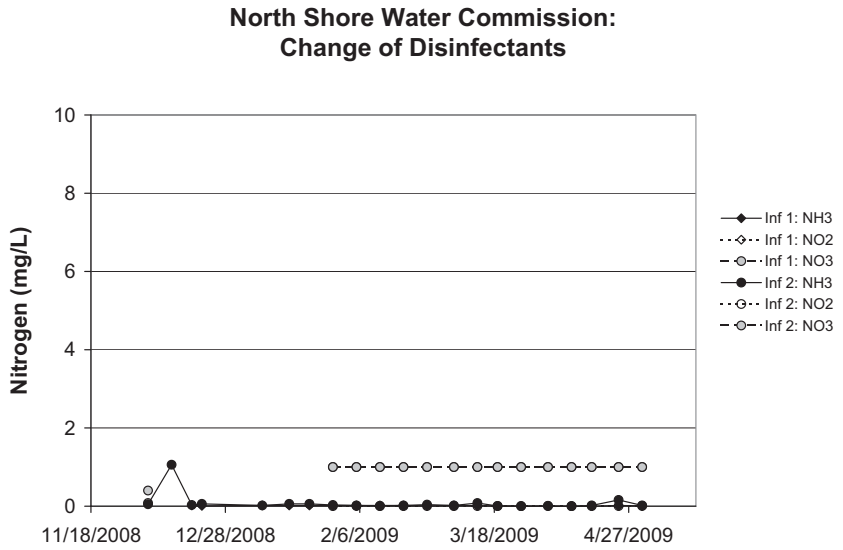

North Shore Water Commission: Change of Disinfectants
Phosphorus (mg/L)
1.50
1.25
1.00
0.75
0.50
0.25
0.00
11/18/2008
12/18/2008
1/17/2009
2/16/2009
3/18/2009
4/17/2009
5/17/2009
Inf 1: P
Inf 2: P
Inf 1: PO4
Inf 2: PO4

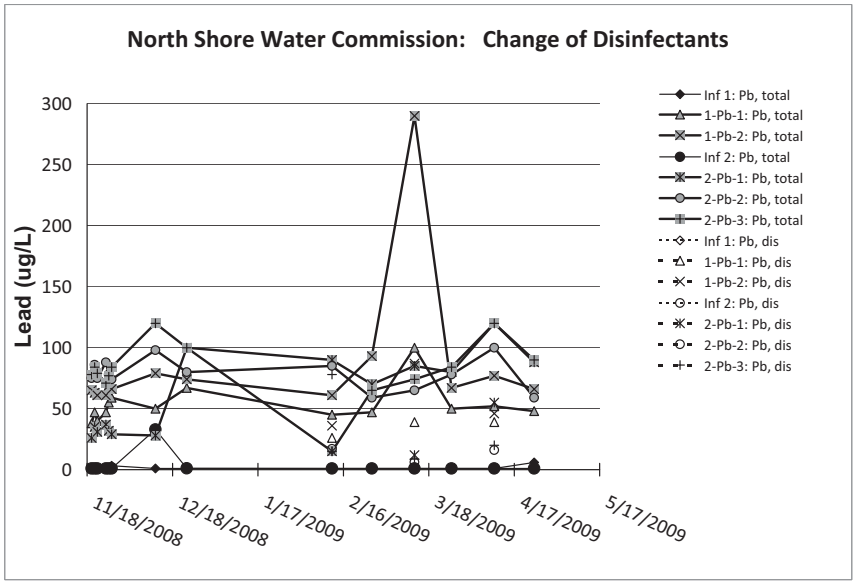

North Shore Water Commission: Change of Disinfectants
pH (SU)
9.0
8.5
8.0
7.5
7.0
11/18/2008
12/18/2008
1/17/2009
2/16/2009
3/18/2009
4/17/2009
5/17/2009
Inf 1: pH
Inf 2: pH

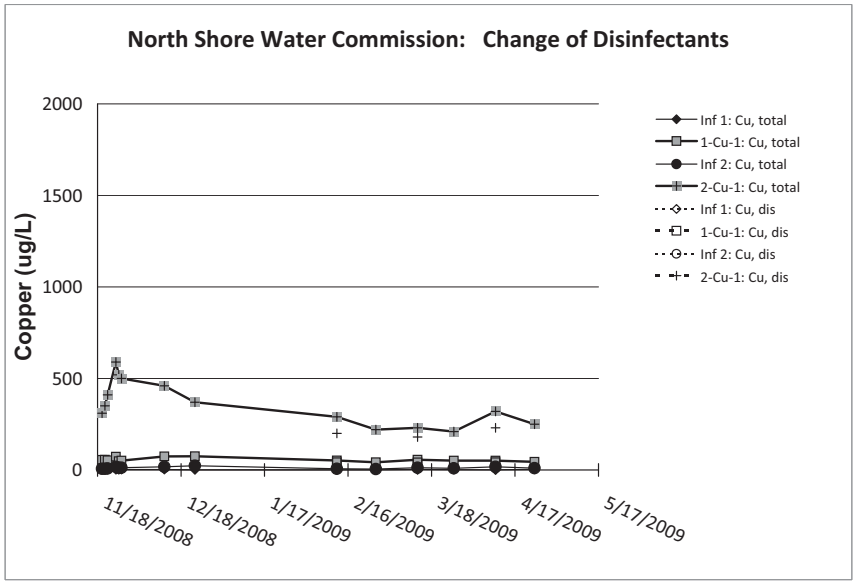

North Shore Water Commission: Change of Disinfectants
Turbidity (NTU)
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
11/18/2008
12/18/2008
1/17/2009
2/16/2009
3/18/2009
4/17/2009
5/17/2009
Inf 1
Inf 2


North Shore Water Commission: Change of Disinfectants
Iron (ug/L)
1500
1000
500
0
11/18/2008
12/18/2008
1/17/2009
2/16/2009
3/18/2009
4/17/2009
5/17/2009
Inf 1: Fe, total
Inf 2: Fe, total
Inf 1 and 2: Fe, dis

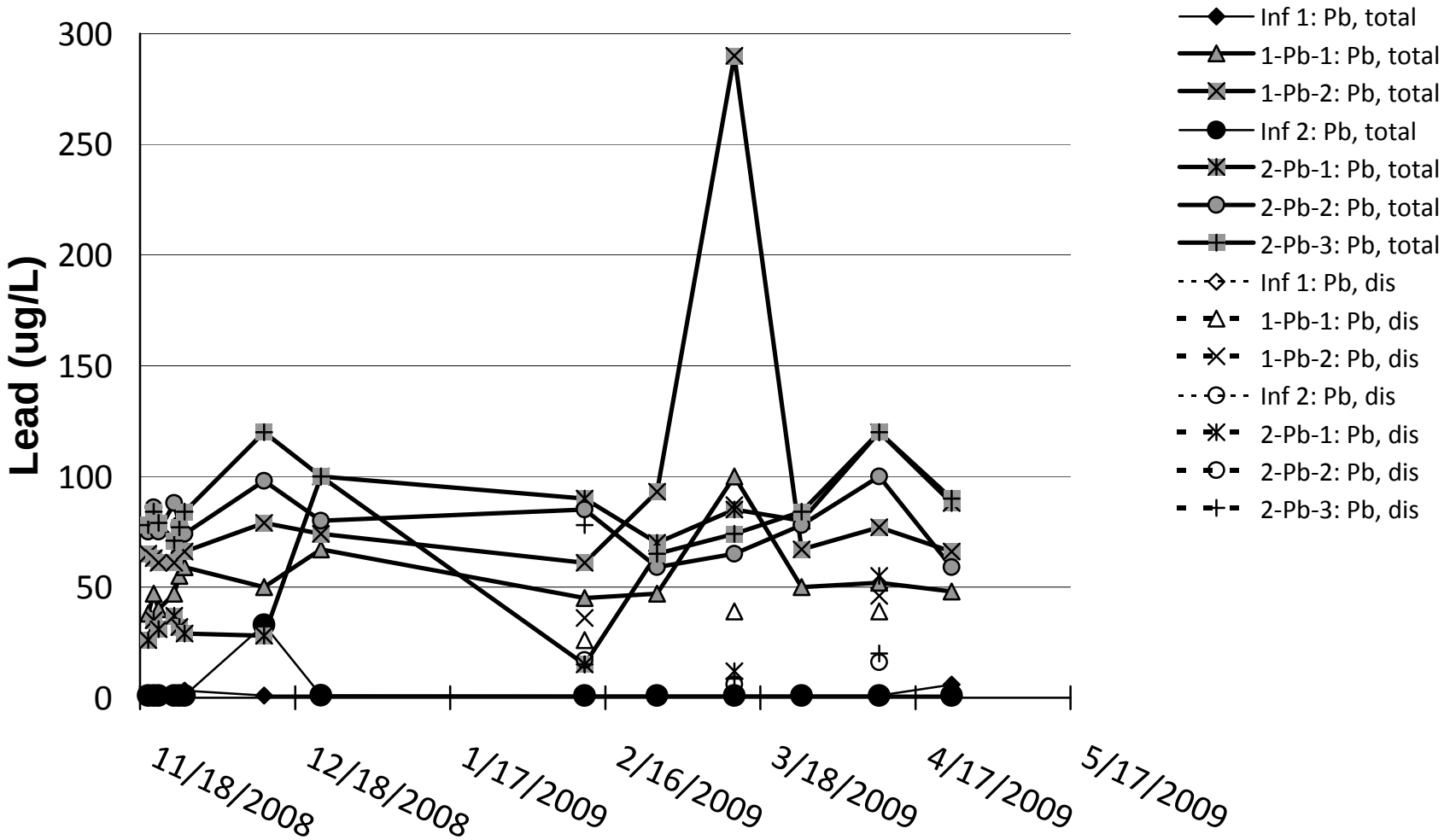

North Shore Water Commission: Change of Disinfectants
HPC(R2A) in CFU/mL
6000
5000
4000
3000
2000
1000
0
11/18/2008
12/18/2008
1/17/2009
2/16/2009
3/18/2009
4/17/2009
5/17/2009
Inf 1
1-Cu-1
1-Pb-1
1-Pb-2
Inf 2
2-Cu-1
2-Pb-1
2-Pb-2
2-Pb-3

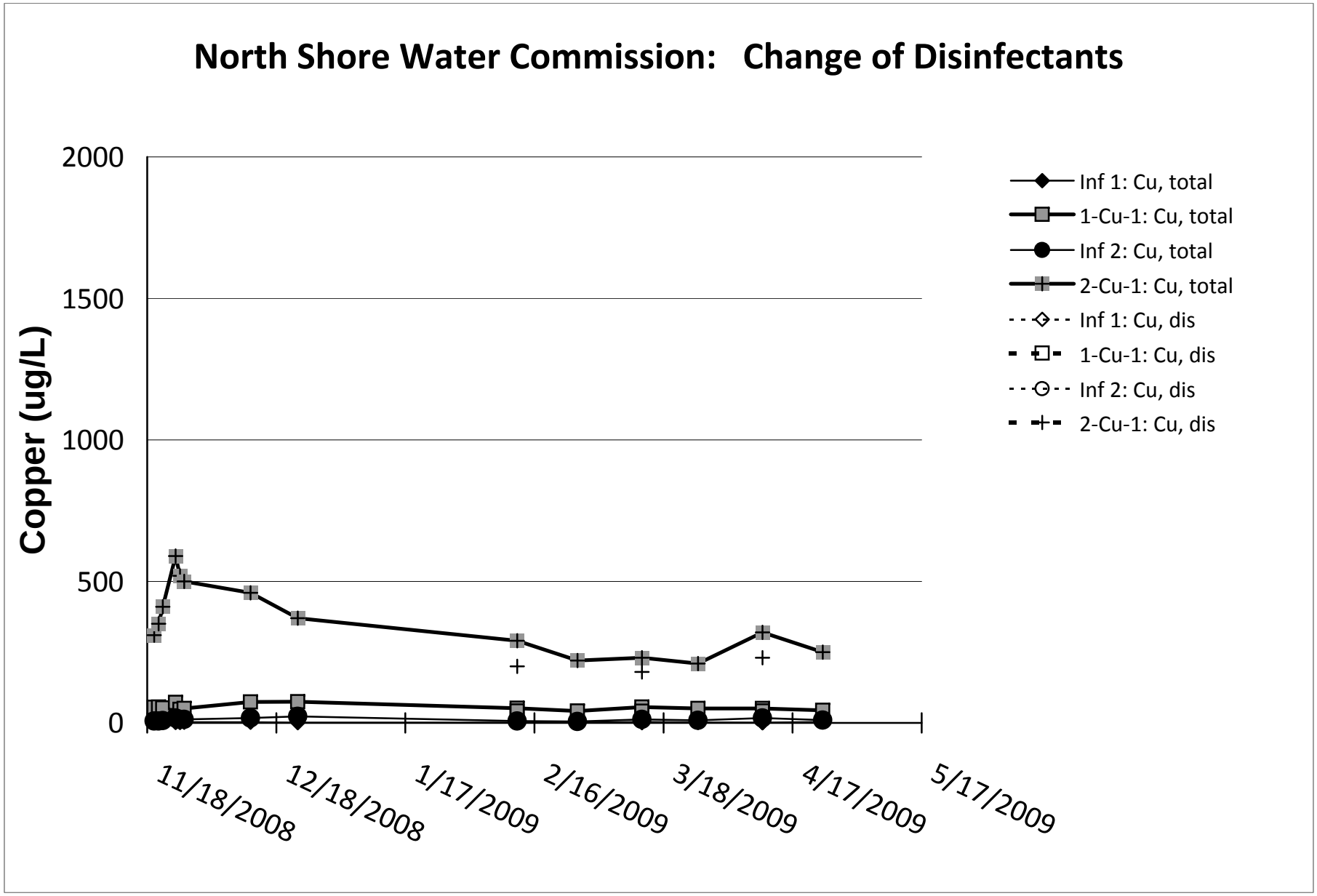

North Shore Water Commission:
Change of Disinfectants
Nitrogen (mg/L)
10
8
6
4
2
0
11/18/2008
12/28/2008
2/6/2009
3/18/2009
4/27/2009
Inf 1: NH3
Inf 1: NO2
Inf 1: NO3
Inf 2: NH3
Inf 2: NO2
Inf 2: NO3


North Shore Water Commission: Change of Disinfectants
Lead (ug/L)
300
250
200
150
100
50
0
11/18/2008
12/18/2008
1/17/2009
2/16/2009
3/18/2009
4/17/2009
5/17/2009
Inf 1: Pb, total
1-Pb-1: Pb, total
1-Pb-2: Pb, total
Inf 2: Pb, total
2-Pb-1: Pb, total
2-Pb-2: Pb, total
2-Pb-3: Pb, total
Inf 1: Pb, dis
1-Pb-1: Pb, dis
1-Pb-2: Pb, dis
Inf 2: Pb, dis
2-Pb-1: Pb, dis
2-Pb-2: Pb, dis
2-Pb-3: Pb, dis


North Shore Water Commission: Change of Disinfectants
Copper (ug/L)
2000
1500
1000
500
0
11/18/2008
12/18/2008
1/17/2009
2/16/2009
3/18/2009
4/17/2009
5/17/2009
Inf 1: Cu, total
1-Cu-1: Cu, total
Inf 2: Cu, total
2-Cu-1: Cu, total
Inf 1: Cu, dis
1-Cu-1: Cu, dis
Inf 2: Cu, dis
2-Cu-1: Cu, dis

North Shore Water Commission: Change of Disinfectants




North Shore Water Commission: Change of Disinfectants
Copper (ug/L)
2000
1500
1000
500
0
11/18/2008
12/18/2008
1/17/2009
2/16/2009
3/18/2009
4/17/2009
5/17/2009
Inf 1: Cu, total
1-Cu-1: Cu, total
Inf 2: Cu, total
2-Cu-1: Cu, total
Inf 1: Cu, dis
1-Cu-1: Cu, dis
Inf 2: Cu, dis
2-Cu-1: Cu, dis

Appendix C: Raw Data

North Shore Water Commission
Monitoring Data for Original System
April 2008 to September 2008

Sample Date	Site	Item Measured	Units	Result	Sample Date	Site	Item Measured	Units	Result	Sample Date	Site	Item Measured	Units	Result	Sample Date	Site	Item Measured	Units	Result
4/17/2008	Inf 1	Al	mg/L	0.0380															
4/17/2008	Inf 1	Alk, tot	mg/L as CaCO3	100.0000															
4/17/2008	Inf 1	AOC	mg/L as Acetate	150.0000															
4/17/2008	Inf 1	Ca	mg/L	35.0000															
4/17/2008	Inf 1	Cl	mg/L	13.0000															
4/17/2008	Inf 1	Hard, tot	mg/L as CaCO3	140.0000															
4/17/2008	Inf 1	SO4	mg/L	28.0000															
4/17/2008	Inf 1	TDS	mg/L	160.0000															
4/17/2008	Inf 1	TOC	mg/L	1.5100															
4/17/2008	Inf 1	Cl2, free	mg/L	0.2800	4/17/2008	Inf 1	Cl2, tot	mg/L	0.4100										
4/24/2008	Inf 1	Cl2, free	mg/L	0.6400	4/24/2008	Inf 1	Cl2, tot	mg/L	0.8600										
5/1/2008	Inf 1	Cl2, free	mg/L	0.7100	5/1/2008	Inf 1	Cl2, tot	mg/L	0.8000										
5/8/2008	Inf 1	Cl2, free	mg/L	0.6600	5/8/2008	Inf 1	Cl2, tot	mg/L	0.8600										
5/15/2008	Inf 1	Cl2, free	mg/L	0.5900	5/15/2008	Inf 1	Cl2, tot	mg/L	0.8500										
5/22/2008	Inf 1	Cl2, free	mg/L	0.5400	5/22/2008	Inf 1	Cl2, tot	mg/L	0.8200										
5/29/2008	Inf 1	Cl2, free	mg/L	0.5300	5/29/2008	Inf 1	Cl2, tot	mg/L	0.6900										
6/5/2008	Inf 1	Cl2, free	mg/L	0.4800	6/5/2008	Inf 1	Cl2, tot	mg/L	0.7400										
6/12/2008	Inf 1	Cl2, free	mg/L	0.5600	6/12/2008	Inf 1	Cl2, tot	mg/L	0.8500										
6/19/2008	Inf 1	Cl2, free	mg/L	0.6100	6/19/2008	Inf 1	Cl2, tot	mg/L	0.8500										
6/26/2008	Inf 1	Cl2, free	mg/L	0.6400	6/26/2008	Inf 1	Cl2, tot	mg/L	0.8200										
7/10/2008	Inf 1	Cl2, free	mg/L	0.5600	7/10/2008	Inf 1	Cl2, tot	mg/L	0.7100										
7/17/2008	Inf 1	Cl2, free	mg/L	0.5200	7/17/2008	Inf 1	Cl2, tot	mg/L	0.8300										
7/24/2008	Inf 1	Cl2, free	mg/L	0.5600	7/24/2008	Inf 1	Cl2, tot	mg/L	0.7900										
7/31/2008	Inf 1	Cl2, free	mg/L	0.5000	7/31/2008	Inf 1	Cl2, tot	mg/L	0.8000										
8/7/2008	Inf 1	Cl2, free	mg/L	0.5700	8/7/2008	Inf 1	Cl2, tot	mg/L	0.7900										
8/14/2008	Inf 1	Cl2, free	mg/L	0.5700	8/14/2008	Inf 1	Cl2, tot	mg/L	0.7200										
8/22/2008	Inf 1	Cl2, free	mg/L	0.5900	8/22/2008	Inf 1	Cl2, tot	mg/L	0.7000										
9/4/2008	Inf 1	Cl2, free	mg/L	0.5700	9/4/2008	Inf 1	Cl2, tot	mg/L	0.8900										
5/8/2008	Inf 1	Cu, dis	ug/L	41.0000	5/8/2008	1-Cu-1	Cu, dis	ug/L	430.0000										
6/5/2008	Inf 1	Cu, dis	ug/L	15.0000	6/5/2008	1-Cu-1	Cu, dis	ug/L	300.0000										
7/31/2008	Inf 1	Cu, dis	ug/L	3.8000	7/31/2008	1-Cu-1	Cu, dis	ug/L	1.7000										
4/24/2008	Inf 1	Cu, tot	ug/L	3.8000	4/24/2008	1-Cu-1	Cu, tot	ug/L	320.0000										
5/8/2008	Inf 1	Cu, tot	ug/L	44.0000	5/8/2008	1-Cu-1	Cu, tot	ug/L	460.0000										
5/22/2008	Inf 1	Cu, tot	ug/L	20.0000	5/22/2008	1-Cu-1	Cu, tot	ug/L	250.0000										
6/5/2008	Inf 1	Cu, tot	ug/L	12.0000	6/5/2008	1-Cu-1	Cu, tot	ug/L	390.0000										
6/19/2008	Inf 1	Cu, tot	ug/L	15.0000	6/19/2008	1-Cu-1	Cu, tot	ug/L	220.0000										
					6/26/2008	1-Cu-1	Cu, tot	ug/L	270.0000										
7/18/2008	Inf 1	Cu, tot	ug/L	1.3000	7/18/2008	1-Cu-1	Cu, tot	ug/L	320.0000										
7/31/2008	Inf 1	Cu, tot	ug/L	1.5000	7/31/2008	1-Cu-1	Cu, tot	ug/L	1.2000										
8/7/2008	Inf 1	Cu, tot	ug/L	1.8000	8/7/2008	1-Cu-1	Cu, tot	ug/L	100.0000										
8/14/2008	Inf 1	Cu, tot	ug/L	1.4000	8/14/2008	1-Cu-1	Cu, tot	ug/L	110.0000										
8/22/2008	Inf 1	Cu, tot	ug/L	1.1000	8/22/2008	1-Cu-1	Cu, tot	ug/L	63.0000										
8/29/2008	Inf 1	Cu, tot	ug/L	**1.0000**	8/29/2008	1-Cu-1	Cu, tot	ug/L	55.0000										
9/5/2008	Inf 1	Cu, tot	ug/L	**1.0000**	9/5/2008	1-Cu-1	Cu, tot	ug/L	57.0000										
5/8/2008	Inf 1	Fe, dis	ug/L	**20.0000**	5/8/2008	1-Cu-1	Fe, dis	ug/L	**20.0000**	5/8/2008	1-Pb-1	Fe, dis	ug/L	**20.0000**	5/8/2008	1-Pb-2	Fe, dis	ug/L	**20.0000**
6/5/2008	Inf 1	Fe, dis	ug/L	**20.0000**	6/5/2008	1-Cu-1	Fe, dis	ug/L	**20.0000**	6/5/2008	1-Pb-1	Fe, dis	ug/L	**20.0000**	6/5/2008	1-Pb-2	Fe, dis	ug/L	**20.0000**
7/31/2008	Inf 1	Fe, dis	ug/L	**20.0000**	7/31/2008	1-Cu-1	Fe, dis	ug/L	**20.0000**	7/31/2008	1-Pb-1	Fe, dis	ug/L	**20.0000**	7/31/2008	1-Pb-2	Fe, dis	ug/L	**20.0000**
5/8/2008	Inf 1	Fe, tot	ug/L	**20.0000**	5/8/2008	1-Cu-1	Fe, tot	ug/L	**20.0000**	5/8/2008	1-Pb-1	Fe, tot	ug/L	39.0000	5/8/2008	1-Pb-2	Fe, tot	ug/L	70.0000
6/5/2008	Inf 1	Fe, tot	ug/L	26.0000	6/5/2008	1-Cu-1	Fe, tot	ug/L	0.0320	6/5/2008	1-Pb-1	Fe, tot	ug/L	0.0350	6/5/2008	1-Pb-2	Fe, tot	ug/L	0.0470
7/31/2008	Inf 1	Fe, tot	ug/L	**20.0000**	7/31/2008	1-Cu-1	Fe, tot	ug/L	**20.0000**	7/31/2008	1-Pb-1	Fe, tot	ug/L	**20.0000**	7/31/2008	1-Pb-2	Fe, tot	ug/L	**20.0000**
5/8/2008	Inf 1	HPC(R2A)	CFU/mL	770.0000	5/8/2008	1-Cu-1	HPC(R2A)	CFU/mL	584.0000	5/8/2008	1-Pb-1	HPC(R2A)	CFU/mL	2066.0000	5/8/2008	1-Pb-2	HPC(R2A)	CFU/mL	471.0000
6/5/2008	Inf 1	HPC(R2A)	CFU/mL	54.0000	6/5/2008	1-Cu-1	HPC(R2A)	CFU/mL	4773.8000	6/5/2008	1-Pb-1	HPC(R2A)	CFU/mL	35.0000	6/5/2008	1-Pb-2	HPC(R2A)	CFU/mL	670.0000
7/31/2008	Inf 1	HPC(R2A)	CFU/mL	449.0000	7/31/2008	1-Cu-1	HPC(R2A)	CFU/mL	2052.0000	7/31/2008	1-Pb-1	HPC(R2A)	CFU/mL	1440.0000	7/31/2008	1-Pb-2	HPC(R2A)	CFU/mL	2109.0000
5/8/2008	Inf 1	Mn, dis	ug/L	**2.0000**	5/8/2008	1-Cu-1	Mn, dis	ug/L	**2.0000**	5/8/2008	1-Pb-1	Mn, dis	ug/L	**2.0000**	5/8/2008	1-Pb-2	Mn, dis	ug/L	**2.0000**
6/5/2008	Inf 1	Mn, dis	ug/L	**2.0000**	6/5/2008	1-Cu-1	Mn, dis	ug/L	**2.0000**	6/5/2008	1-Pb-1	Mn, dis	ug/L	**2.0000**	6/5/2008	1-Pb-2	Mn, dis	ug/L	**2.0000**
7/31/2008	Inf 1	Mn, dis	ug/L	**2.0000**	7/31/2008	1-Cu-1	Mn, dis	ug/L	**2.0000**	7/31/2008	1-Pb-1	Mn, dis	ug/L	**2.0000**	7/31/2008	1-Pb-2	Mn, dis	ug/L	**2.0000**
5/8/2008	Inf 1	Mn, tot	ug/L	**2.0000**	5/8/2008	1-Cu-1	Mn, tot	ug/L	**2.0000**	5/8/2008	1-Pb-1	Mn, tot	ug/L	**2.0000**	5/8/2008	1-Pb-2	Mn, tot	ug/L	**2.0000**
6/5/2008	Inf 1	Mn, tot	ug/L	2.5000	6/5/2008	1-Cu-1	Mn, tot	ug/L	6.4000	6/5/2008	1-Pb-1	Mn, tot	ug/L	7.5000	6/5/2008	1-Pb-2	Mn, tot	ug/L	4.7000
7/31/2008	Inf 1	Mn, tot	ug/L	**2.0000**	7/31/2008	1-Cu-1	Mn, tot	ug/L	**2.0000**	7/31/2008	1-Pb-1	Mn, tot	ug/L	**2.0000**	7/31/2008	1-Pb-2	Mn, tot	ug/L	**2.0000**

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4/17/2008	Inf 1	P, tot	mg/L as P	0.5000	4/17/2008	Inf 1	PO4-P	mg/L as P	0.2220											
4/24/2008	Inf 1	P, tot	mg/L as P	0.3520	4/24/2008	Inf 1	PO4-P	mg/L as P	0.2170											
5/1/2008	Inf 1	P, tot	mg/L as P	0.2950	5/1/2008	Inf 1	PO4-P	mg/L as P	0.2030											
5/8/2008	Inf 1	P, tot	mg/L as P	0.3160	5/8/2008	Inf 1	PO4-P	mg/L as P	0.1800											
5/15/2008	Inf 1	P, tot	mg/L as P	0.3080	5/15/2008	Inf 1	PO4-P	mg/L as P	0.1760											
5/22/2008	Inf 1	P, tot	mg/L as P	0.3390	5/22/2008	Inf 1	PO4-P	mg/L as P	0.1910											
5/29/2008	Inf 1	P, tot	mg/L as P	0.3050	5/29/2008	Inf 1	PO4-P	mg/L as P	0.1820											
6/5/2008	Inf 1	P, tot	mg/L as P	0.3200	6/5/2008	Inf 1	PO4-P	mg/L as P	0.1830											
6/12/2008	Inf 1	P, tot	mg/L as P	0.2700	6/12/2008	Inf 1	PO4-P	mg/L as P	0.1560											
6/19/2008	Inf 1	P, tot	mg/L as P	0.2790	6/19/2008	Inf 1	PO4-P	mg/L as P	0.1660											
6/26/2008	Inf 1	P, tot	mg/L as P	0.2830	6/26/2008	Inf 1	PO4-P	mg/L as P	0.1680											
7/11/2008	Inf 1	P, tot	mg/L as P	0.2340	7/11/2008	Inf 1	PO4-P	mg/L as P	0.1660											
7/17/2008	Inf 1	P, tot	mg/L as P	0.2490	7/17/2008	Inf 1	PO4-P	mg/L as P												
7/24/2008	Inf 1	P, tot	mg/L as P	0.2470	7/24/2008	Inf 1	PO4-P	mg/L as P	**0.1500**											
7/31/2008	Inf 1	P, tot	mg/L as P	0.2380	7/31/2008	Inf 1	PO4-P	mg/L as P	0.1500											
8/7/2008	Inf 1	P, tot	mg/L as P	0.8370	8/7/2008	Inf 1	PO4-P	mg/L as P	0.4770											
8/14/2008	Inf 1	P, tot	mg/L as P		8/14/2008	Inf 1	PO4-P	mg/L as P												
8/22/2008	Inf 1	P, tot	mg/L as P	0.3830	8/22/2008	Inf 1	PO4-P	mg/L as P	0.2090											
9/4/2008	Inf 1	P, tot	mg/L as P	0.6200	9/4/2008	Inf 1	PO4-P	mg/L as P	0.4150											
5/8/2008	Inf 1	Pb, dis	ug/L	4.0000						5/8/2008	1-Pb-1	Pb, dis	ug/L	110.0000	5/8/2008	1-Pb-2	Pb, dis	ug/L	110.0000
6/5/2008	Inf 1	Pb, dis	ug/L	14.0000						6/5/2008	1-Pb-1	Pb, dis	ug/L	60.0000	6/5/2008	1-Pb-2	Pb, dis	ug/L	82.0000
7/31/2008	Inf 1	Pb, dis	ug/L	**1.0000**											7/31/2008	1-Pb-2	Pb, dis	ug/L	100.0000
4/24/2008	Inf 1	Pb, tot	ug/L	**1.0000**						4/24/2008	1-Pb-1	Pb, tot	ug/L	130.0000	4/24/2008	1-Pb-2	Pb, tot	ug/L	140.0000
5/8/2008	Inf 1	Pb, tot	ug/L	**1.0000**						5/8/2008	1-Pb-1	Pb, tot	ug/L	140.0000	5/8/2008	1-Pb-2	Pb, tot	ug/L	150.0000
5/22/2008	Inf 1	Pb, tot	ug/L	**1.0000**						5/22/2008	1-Pb-1	Pb, tot	ug/L	73.0000	5/22/2008	1-Pb-2	Pb, tot	ug/L	95.0000
6/5/2008	Inf 1	Pb, tot	ug/L	**1.0000**						6/5/2008	1-Pb-1	Pb, tot	ug/L	150.0000	6/5/2008	1-Pb-2	Pb, tot	ug/L	130.0000
6/19/2008	Inf 1	Pb, tot	ug/L	1.9000						6/19/2008	1-Pb-1	Pb, tot	ug/L	90.0000	6/19/2008	1-Pb-2	Pb, tot	ug/L	91.0000
7/18/2008	Inf 1	Pb, tot	ug/L	**1.0000**						6/26/2008	1-Pb-1	Pb, tot	ug/L	120.0000	6/26/2008	1-Pb-2	Pb, tot	ug/L	120.0000
7/31/2008	Inf 1	Pb, tot	ug/L	**1.0000**						7/18/2008	1-Pb-1	Pb, tot	ug/L	170.0000	7/18/2008	1-Pb-2	Pb, tot	ug/L	150.0000
8/7/2008	Inf 1	Pb, tot	ug/L	**1.0000**						7/31/2008	1-Pb-1	Pb, tot	ug/L	230.0000	7/31/2008	1-Pb-2	Pb, tot	ug/L	110.0000
8/14/2008	Inf 1	Pb, tot	ug/L	**1.0000**						8/7/2008	1-Pb-1	Pb, tot	ug/L	87.0000	8/7/2008	1-Pb-2	Pb, tot	ug/L	83.0000
8/22/2008	Inf 1	Pb, tot	ug/L	**1.0000**						8/14/2008	1-Pb-1	Pb, tot	ug/L	110.0000	8/14/2008	1-Pb-2	Pb, tot	ug/L	95.0000
8/29/2008	Inf 1	Pb, tot	ug/L	**1.0000**						8/22/2008	1-Pb-1	Pb, tot	ug/L	88.0000	8/22/2008	1-Pb-2	Pb, tot	ug/L	75.0000
9/5/2008	Inf 1	Pb, tot	ug/L	**1.0000**						8/29/2008	1-Pb-1	Pb, tot	ug/L	73.0000	8/29/2008	1-Pb-2	Pb, tot	ug/L	73.0000
										9/5/2008	1-Pb-1	Pb, tot	ug/L	59.0000	9/5/2008	1-Pb-2	Pb, tot	ug/L	55.0000
4/17/2008	Inf 1	pH	SU	7.5400	4/17/2008	Inf 1	Temp	deg C	5.0000											
4/24/2008	Inf 1	pH	SU	7.5400	4/24/2008	Inf 1	Temp	deg C	12.2000											
5/1/2008	Inf 1	pH	SU	7.8500	5/1/2008	Inf 1	Temp	deg C	11.7000											
5/8/2008	Inf 1	pH	SU	7.6100	5/8/2008	Inf 1	Temp	deg C	12.8000											
5/15/2008	Inf 1	pH	SU	7.7100	5/15/2008	Inf 1	Temp	deg C	21.7000											
5/22/2008	Inf 1	pH	SU	7.8000	5/22/2008	Inf 1	Temp	deg C	21.4100											
5/29/2008	Inf 1	pH	SU	7.7400	5/29/2008	Inf 1	Temp	deg C	20.2100											
6/5/2008	Inf 1	pH	SU	8.0000	6/5/2008	Inf 1	Temp	deg C	20.2100											
6/12/2008	Inf 1	pH	SU	7.8700	6/12/2008	Inf 1	Temp	deg C	17.8000											
6/19/2008	Inf 1	pH	SU	8.0200	6/19/2008	Inf 1	Temp	deg C	19.8800											
6/26/2008	Inf 1	pH	SU	7.9200	6/26/2008	Inf 1	Temp	deg C	21.0600											
7/10/2008	Inf 1	pH	SU	7.9000	7/10/2008	Inf 1	Temp	deg C	20.5500											
7/17/2008	Inf 1	pH	SU	7.9300	7/17/2008	Inf 1	Temp	deg C	12.2000											
7/24/2008	Inf 1	pH	SU	8.0000	7/24/2008	Inf 1	Temp	deg C	23.1300											
7/31/2008	Inf 1	pH	SU	8.0500	7/31/2008	Inf 1	Temp	deg C	22.5300											
8/7/2008	Inf 1	pH	SU	7.9300	8/7/2008	Inf 1	Temp	deg C	23.7100											
8/14/2008	Inf 1	pH	SU	7.6800	8/14/2008	Inf 1	Temp	deg C	22.0000											
8/22/2008	Inf 1	pH	SU	7.9000	8/22/2008	Inf 1	Temp	deg C	23.4200											
9/4/2008	Inf 1	pH	SU	7.8800	9/4/2008	Inf 1	Temp	deg C	18.8000											

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Sample Date	Site	Item Measured	Units	Result	Sample Date	Site	Item Measured	Units	Result	Sample Date	Site	Item Measured	Units	Result	Sample Date	Site	Item Measured	Units	Result
10/9/2008	Inf 1	Cl2, free	mg/L	0.5400	10/9/2008	Inf 1	Cl2, tot	mg/L	0.7600										
10/16/2008	Inf 1	Cl2, free	mg/L	0.3600	10/16/2008	Inf 1	Cl2, tot	mg/L	0.5200										
10/23/2008	Inf 1	Cl2, free	mg/L	0.4900	10/23/2008	Inf 1	Cl2, tot	mg/L	0.8300										
10/30/2008	Inf 1	Cl2, free	mg/L	0.5600	10/30/2008	Inf 1	Cl2, tot	mg/L	0.9000										
11/7/2008	Inf 1	Cl2, free	mg/L	0.5100	11/7/2008	Inf 1	Cl2, tot	mg/L	0.6800										
11/13/2008	Inf 1	Cl2, free	mg/L	0.7000	11/13/2008	Inf 1	Cl2, tot	mg/L	0.8000										
11/14/2008	Inf 1	Cl2, free	mg/L	0.4400	11/14/2008	Inf 1	Cl2, tot	mg/L	0.7300										
11/18/2008	Inf 1	Cl2, free	mg/L	0.4900	11/18/2008	Inf 1	Cl2, tot	mg/L	0.8600										
10/9/2008	Inf 2	Cl2, free	mg/L	0.1000	10/9/2008	Inf 2	Cl2, tot	mg/L	0.1400	10/9/2008	Inf 2	Monochloramine	mg/L	0.0900					
10/16/2008	Inf 2	Cl2, free	mg/L	0.1100	10/16/2008	Inf 2	Cl2, tot	mg/L	0.1200	10/16/2008	Inf 2	Monochloramine	mg/L	0.0500					
10/23/2008	Inf 2	Cl2, free	mg/L	0.0700	10/23/2008	Inf 2	Cl2, tot	mg/L	0.1200	10/23/2008	Inf 2	Monochloramine	mg/L	0.0700					
10/30/2008	Inf 2	Cl2, free	mg/L	0.1500	10/30/2008	Inf 2	Cl2, tot	mg/L	0.1600	10/30/2008	Inf 2	Monochloramine	mg/L	0.0800					
11/7/2008	Inf 2	Cl2, free	mg/L	0.1100	11/7/2008	Inf 2	Cl2, tot	mg/L	0.1700	11/7/2008	Inf 2	Monochloramine	mg/L	0.0700					
11/13/2008	Inf 2	Cl2, free	mg/L	0.1500	11/13/2008	Inf 2	Cl2, tot	mg/L	0.2800	11/13/2008	Inf 2	Monochloramine	mg/L	0.0300					
11/14/2008	Inf 2	Cl2, free	mg/L	0.1300	11/14/2008	Inf 2	Cl2, tot	mg/L	0.0400	11/14/2008	Inf 2	Monochloramine	mg/L	0.0800					
11/18/2008	Inf 2	Cl2, free	mg/L	0.1500	11/18/2008	Inf 2	Cl2, tot	mg/L	0.2600	11/18/2008	Inf 2	Monochloramine	mg/L	0.0500					
10/9/2008	Inf 1	Cu, tot	ug/L	3.7000	10/9/2008	1-Cu-1	Cu, tot	ug/L	89.0000										
10/16/2008	Inf 1	Cu, tot	ug/L	5.2000	10/16/2008	1-Cu-1	Cu, tot	ug/L	93.0000										
10/23/2008	Inf 1	Cu, tot	ug/L	1.2000	10/23/2008	1-Cu-1	Cu, tot	ug/L	60.0000										
10/30/2008	Inf 1	Cu, tot	ug/L	1.5000	10/30/2008	1-Cu-1	Cu, tot	ug/L	72.0000										
11/7/2008	Inf 1	Cu, tot	ug/L	1.4000	11/7/2008	1-Cu-1	Cu, tot	ug/L	64.0000										
11/13/2008	Inf 1	Cu, tot	ug/L	1.2000	11/13/2008	1-Cu-1	Cu, tot	ug/L	5.7000										
11/14/2008	Inf 1	Cu, tot	ug/L	2.9000	11/14/2008	1-Cu-1	Cu, tot	ug/L	71.0000										
11/18/2008	Inf 1	Cu, tot	ug/L	1.3000	11/18/2008	1-Cu-1	Cu, tot	ug/L	61.0000										
10/9/2008	Inf 2	Cu, tot	ug/L	7.2000	10/9/2008	2-Cu-1	Cu, tot	ug/L	460.0000										
10/16/2008	Inf 2	Cu, tot	ug/L	10.0000	10/16/2008	2-Cu-1	Cu, tot	ug/L	65.0000										
10/23/2008	Inf 2	Cu, tot	ug/L	12.0000	10/23/2008	2-Cu-1	Cu, tot	ug/L	340.0000										
10/30/2008	Inf 2	Cu, tot	ug/L	10.0000	10/30/2008	2-Cu-1	Cu, tot	ug/L	12.0000										
11/7/2008	Inf 2	Cu, tot	ug/L	5.7000	11/7/2008	2-Cu-1	Cu, tot	ug/L	510.0000										
11/13/2008	Inf 2	Cu, tot	ug/L	79.0000	11/13/2008	2-Cu-1	Cu, tot	ug/L	400.0000										
11/14/2008	Inf 2	Cu, tot	ug/L	13.0000	11/14/2008	2-Cu-1	Cu, tot	ug/L	410.0000										
11/18/2008	Inf 2	Cu, tot	ug/L	8.2000	11/18/2008	2-Cu-1	Cu, tot	ug/L	430.0000										
10/9/2008	Inf 2	NH3-N	mg/L	0.0300															
10/16/2008	Inf 2	NH3-N	mg/L	0.0300															
10/23/2008	Inf 2	NH3-N	mg/L	0.0200															
10/30/2008	Inf 2	NH3-N	mg/L	0.0200															
11/7/2008	Inf 2	NH3-N	mg/L	0.0200															
11/13/2008	Inf 2	NH3-N	mg/L	0.0400															
11/14/2008	Inf 2	NH3-N	mg/L	0.0400															
11/18/2008	Inf 2	NH3-N	mg/L	0.0300															
10/9/2008	Inf 1	P, tot	mg/L as P	0.9280	10/9/2008	Inf 1	PO4-P	mg/L as P	0.8170										
10/16/2008	Inf 1	P, tot	mg/L as P	1.0100	10/16/2008	Inf 1	PO4-P	mg/L as P	0.8270										
10/23/2008	Inf 1	P, tot	mg/L as P	0.9260	10/23/2008	Inf 1	PO4-P	mg/L as P	0.8210										
10/30/2008	Inf 1	P, tot	mg/L as P	0.9330	10/30/2008	Inf 1	PO4-P	mg/L as P	0.7950										
11/7/2008	Inf 1	P, tot	mg/L as P	0.9580	11/7/2008	Inf 1	PO4-P	mg/L as P	0.8450										
11/13/2008	Inf 1	P, tot	mg/L as P	0.9280	11/13/2008	Inf 1	PO4-P	mg/L as P	0.7730										

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11/14/2008	Inf 1	P, tot	mg/L as P	0.9020		11/14/2008	Inf 1	PO4-P	mg/L as P	0.7910											
11/18/2008	Inf 1	P, tot	mg/L as P	0.8780		11/18/2008	Inf 1	PO4-P	mg/L as P	0.7440											
10/9/2008	Inf 2	P, tot	mg/L as P	0.7140		10/9/2008	Inf 2	PO4-P	mg/L as P	0.6520											
10/16/2008	Inf 2	P, tot	mg/L as P	0.7310		10/16/2008	Inf 2	PO4-P	mg/L as P	0.6750											
10/23/2008	Inf 2	P, tot	mg/L as P	0.8250		10/23/2008	Inf 2	PO4-P	mg/L as P	0.7210											
10/30/2008	Inf 2	P, tot	mg/L as P	0.8140		10/30/2008	Inf 2	PO4-P	mg/L as P	0.7210											
11/7/2008	Inf 2	P, tot	mg/L as P	0.7970		11/7/2008	Inf 2	PO4-P	mg/L as P	0.7150											
11/13/2008	Inf 2	P, tot	mg/L as P	0.7470		11/13/2008	Inf 2	PO4-P	mg/L as P	0.6920											
11/14/2008	Inf 2	P, tot	mg/L as P	0.7920		11/14/2008	Inf 2	PO4-P	mg/L as P	0.7000											
11/18/2008	Inf 2	P, tot	mg/L as P	0.7610		11/18/2008	Inf 2	PO4-P	mg/L as P	0.7010											
10/9/2008	Inf 1	Pb, tot	ug/L	19.0000		10/9/2008	1-Pb-1	Pb, tot	ug/L	150.0000	10/9/2008	1-Pb-2	Pb, tot	ug/L	220.0000						
10/16/2008	Inf 1	Pb, tot	ug/L	8.6000		10/16/2008	1-Pb-1	Pb, tot	ug/L	130.0000	10/16/2008	1-Pb-2	Pb, tot	ug/L	180.0000						
10/23/2008	Inf 1	Pb, tot	ug/L	**1.0000**		10/23/2008	1-Pb-1	Pb, tot	ug/L	50.0000	10/23/2008	1-Pb-2	Pb, tot	ug/L	88.0000						
10/30/2008	Inf 1	Pb, tot	ug/L	**1.0000**		10/30/2008	1-Pb-1	Pb, tot	ug/L	53.0000	10/30/2008	1-Pb-2	Pb, tot	ug/L	89.0000						
11/7/2008	Inf 1	Pb, tot	ug/L	**1.0000**		11/7/2008	1-Pb-1	Pb, tot	ug/L	47.0000	11/7/2008	1-Pb-2	Pb, tot	ug/L	84.0000						
11/13/2008	Inf 1	Pb, tot	ug/L	**1.0000**		11/13/2008	1-Pb-1	Pb, tot	ug/L	47.0000	11/13/2008	1-Pb-2	Pb, tot	ug/L	76.0000						
11/14/2008	Inf 1	Pb, tot	ug/L	1.9000		11/14/2008	1-Pb-1	Pb, tot	ug/L	130.0000	11/14/2008	1-Pb-2	Pb, tot	ug/L	220.0000						
11/18/2008	Inf 1	Pb, tot	ug/L	**1.0000**		11/18/2008	1-Pb-1	Pb, tot	ug/L	45.0000	11/18/2008	1-Pb-2	Pb, tot	ug/L	70.0000						
10/9/2008	Inf 2	Pb, tot	ug/L	**1.0000**		10/9/2008	2-Pb-1	Pb, tot	ug/L	170.0000	10/9/2008	2-Pb-2	Pb, tot	ug/L	85.0000		10/9/2008	2-Pb-3	Pb, tot	ug/L	94.0000
10/16/2008	Inf 2	Pb, tot	ug/L	**1.0000**		10/16/2008	2-Pb-1	Pb, tot	ug/L	15.0000	10/16/2008	2-Pb-2	Pb, tot	ug/L	17.0000		10/16/2008	2-Pb-3	Pb, tot	ug/L	24.0000
10/23/2008	Inf 2	Pb, tot	ug/L	**1.0000**		10/23/2008	2-Pb-1	Pb, tot	ug/L	4.8000	10/23/2008	2-Pb-2	Pb, tot	ug/L	14.0000		10/23/2008	2-Pb-3	Pb, tot	ug/L	33.0000
10/30/2008	Inf 2	Pb, tot	ug/L	**1.0000**		10/30/2008	2-Pb-1	Pb, tot	ug/L	1.5000	10/30/2008	2-Pb-2	Pb, tot	ug/L	2.3000		10/30/2008	2-Pb-3	Pb, tot	ug/L	1.5000
11/7/2008	Inf 2	Pb, tot	ug/L	**1.0000**		11/7/2008	2-Pb-1	Pb, tot	ug/L	79.0000	11/7/2008	2-Pb-2	Pb, tot	ug/L	110.0000		11/7/2008	2-Pb-3	Pb, tot	ug/L	120.0000
11/13/2008	Inf 2	Pb, tot	ug/L	28.0000		11/13/2008	2-Pb-1	Pb, tot	ug/L	45.0000	11/13/2008	2-Pb-2	Pb, tot	ug/L	61.0000		11/13/2008	2-Pb-3	Pb, tot	ug/L	90.0000
11/14/2008	Inf 2	Pb, tot	ug/L	1.7000		11/14/2008	2-Pb-1	Pb, tot	ug/L	72.0000	11/14/2008	2-Pb-2	Pb, tot	ug/L	82.0000		11/14/2008	2-Pb-3	Pb, tot	ug/L	78.0000
11/18/2008	Inf 2	Pb, tot	ug/L	**1.0000**		11/18/2008	2-Pb-1	Pb, tot	ug/L	23.0000	11/18/2008	2-Pb-2	Pb, tot	ug/L	90.0000		11/18/2008	2-Pb-3	Pb, tot	ug/L	98.0000
10/9/2008	Inf 1	Temp	deg C	20.1000		10/9/2008	Inf 2	Temp	deg C	21.8000											
10/16/2008	Inf 1	Temp	deg C	19.9500		10/16/2008	Inf 2	Temp	deg C	21.4000											
10/23/2008	Inf 1	Temp	deg C	21.1100		10/23/2008	Inf 2	Temp	deg C	22.5600											
10/30/2008	Inf 1	Temp	deg C	22.6000		10/30/2008	Inf 2	Temp	deg C	23.1000											
11/7/2008	Inf 1	Temp	deg C	22.6000		11/7/2008	Inf 2	Temp	deg C	23.4000											
11/13/2008	Inf 1	Temp	deg C	17.8000		11/13/2008	Inf 2	Temp	deg C	20.7000											
11/14/2008	Inf 1	Temp	deg C	21.9000		11/14/2008	Inf 2	Temp	deg C	22.2000											
11/18/2008	Inf 1	Temp	deg C	19.6000		11/18/2008	Inf 2	Temp	deg C	20.4000											
10/9/2008	Inf 1	pH	SU	7.8500		10/9/2008	Inf 2	pH	SU	7.7900											
10/16/2008	Inf 1	pH	SU	7.8300		10/16/2008	Inf 2	pH	SU	7.7800											
10/23/2008	Inf 1	pH	SU	7.7800		10/23/2008	Inf 2	pH	SU	7.7600											
10/30/2008	Inf 1	pH	SU	7.6900		10/30/2008	Inf 2	pH	SU	7.7900											
11/7/2008	Inf 1	pH	SU	7.9000		11/7/2008	Inf 2	pH	SU	7.7700											
11/13/2008	Inf 1	pH	SU	7.7300		11/13/2008	Inf 2	pH	SU	7.6600											
11/14/2008	Inf 1	pH	SU	7.7000		11/14/2008	Inf 2	pH	SU	7.6900											
11/18/2008	Inf 1	pH	SU	7.6600		11/18/2008	Inf 2	pH	SU	7.5900											

North Shore Water Commission
Monitoring Data After Disinfection Change
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Sample Date	Site	Item Measured	Units	Result
12/5/2008	Inf 1	Al	mg/L	20.0000
12/5/2008	Inf 1	Alk, tot	mg/L as CaCO3	99.4000
12/5/2008	Inf 1	AOC	mg/L as Acetate	40.0000
12/5/2008	Inf 1	Ca	mg/L	87.0000
12/5/2008	Inf 1	Cl	mg/L	13.0000
12/5/2008	Inf 1	Hard, tot	mg/L as CaCO3	140.0000
12/5/2008	Inf 1	SO4	mg/L	29.0000
12/5/2008	Inf 1	TDS	mg/L	170.0000
12/5/2008	Inf 1	TOC	mg/L	1.3900
12/5/2008	Inf 1	Cl2, free	mg/L	0.1700
12/12/2008	Inf 1	Cl2, free	mg/L	0.1000
12/18/2008	Inf 1	Cl2, free	mg/L	0.0600
12/21/2008	Inf 1	Cl2, free	mg/L	0.1000
1/8/2009	Inf 1	Cl2, free	mg/L	0.0800
1/16/2009	Inf 1	Cl2, free	mg/L	0.0900
1/22/2009	Inf 1	Cl2, free	mg/L	0.1000
12/5/2008	Inf 2	Cl2, free	mg/L	0.1300
12/12/2008	Inf 2	Cl2, free	mg/L	0.0900
12/18/2008	Inf 2	Cl2, free	mg/L	0.0700
12/21/2008	Inf 2	Cl2, free	mg/L	0.0400
1/8/2009	Inf 2	Cl2, free	mg/L	0.0700
1/16/2009	Inf 2	Cl2, free	mg/L	0.0700
1/22/2009	Inf 2	Cl2, free	mg/L	0.1000
2/12/2009	Inf 1	Cu, dis	ug/L	4.9000
3/13/2009	Inf 1	Cu, dis	ug/L	1.1000
4/10/2009	Inf 1	Cu, dis	ug/L	**1.0000**
2/12/2009	Inf 2	Cu, dis	ug/L	4.1000
3/13/2009	Inf 2	Cu, dis	ug/L	7.2000
4/10/2009	Inf 2	Cu, dis	ug/L	9.1000
11/19/2008	Inf 1	Cu, tot	ug/L	2.1000
11/20/2008	Inf 1	Cu, tot	ug/L	1.8000
11/21/2008	Inf 1	Cu, tot	ug/L	1.8000
11/24/2008	Inf 1	Cu, tot	ug/L	1.5000
11/25/2008	Inf 1	Cu, tot	ug/L	1.5000
11/26/2008	Inf 1	Cu, tot	ug/L	2.4000
12/12/2008	Inf 1	Cu, tot	ug/L	2.1000

Sample Date	Site	Item Measured	Units	Result
12/5/2008	Inf 1	Cl2, tot	mg/L	2.0500
12/12/2008	Inf 1	Cl2, tot	mg/L	2.0000
12/18/2008	Inf 1	Cl2, tot	mg/L	2.0500
12/21/2008	Inf 1	Cl2, tot	mg/L	2.0300
1/8/2009	Inf 1	Cl2, tot	mg/L	1.9100
1/16/2009	Inf 1	Cl2, tot	mg/L	2.1000
1/22/2009	Inf 1	Cl2, tot	mg/L	2.3000
1/29/2009	Inf 1	Cl2, tot	mg/L	2.1000
2/5/2009	Inf 1	Cl2, tot	mg/L	2.3000
2/12/2009	Inf 1	Cl2, tot	mg/L	2.0000
2/19/2009	Inf 1	Cl2, tot	mg/L	1.9000
2/26/2009	Inf 1	Cl2, tot	mg/L	2.2000
3/6/2009	Inf 1	Cl2, tot	mg/L	1.9200
3/13/2009	Inf 1	Cl2, tot	mg/L	2.0600
3/19/2009	Inf 1	Cl2, tot	mg/L	1.7000
3/26/2009	Inf 1	Cl2, tot	mg/L	2.1100
4/3/2009	Inf 1	Cl2, tot	mg/L	2.6000
4/10/2009	Inf 1	Cl2, tot	mg/L	2.6000
4/16/2009	Inf 1	Cl2, tot	mg/L	2.6000
4/24/2009	Inf 1	Cl2, tot	mg/L	2.4000
5/1/2009	Inf 1	Cl2, tot	mg/L	2.5000
12/5/2008	Inf 2	Cl2, tot	mg/L	1.2700
12/12/2008	Inf 2	Cl2, tot	mg/L	1.1000
12/18/2008	Inf 2	Cl2, tot	mg/L	1.2300
12/21/2008	Inf 2	Cl2, tot	mg/L	1.3200
1/8/2009	Inf 2	Cl2, tot	mg/L	1.2700
1/16/2009	Inf 2	Cl2, tot	mg/L	1.3500
1/22/2009	Inf 2	Cl2, tot	mg/L	1.6000
1/29/2009	Inf 2	Cl2, tot	mg/L	1.5800
2/5/2009	Inf 2	Cl2, tot	mg/L	1.5300
2/12/2009	Inf 2	Cl2, tot	mg/L	1.3700
2/19/2009	Inf 2	Cl2, tot	mg/L	1.3800
2/26/2009	Inf 2	Cl2, tot	mg/L	1.5900
3/6/2009	Inf 2	Cl2, tot	mg/L	1.4000
3/13/2009	Inf 2	Cl2, tot	mg/L	1.4900
3/19/2009	Inf 2	Cl2, tot	mg/L	1.6200
3/26/2009	Inf 2	Cl2, tot	mg/L	1.4600
4/3/2009	Inf 2	Cl2, tot	mg/L	1.8200
4/10/2009	Inf 2	Cl2, tot	mg/L	1.8900
4/16/2009	Inf 2	Cl2, tot	mg/L	1.9000
4/24/2009	Inf 2	Cl2, tot	mg/L	1.7000
5/1/2009	Inf 2	Cl2, tot	mg/L	1.8000
2/12/2009	1-Cu-1	Cu, dis	ug/L	42.0000
3/13/2009	1-Cu-1	Cu, dis	ug/L	41.0000
4/10/2009	1-Cu-1	Cu, dis	ug/L	42.0000
2/12/2009	2-Cu-1	Cu, dis	ug/L	200.0000
3/13/2009	2-Cu-1	Cu, dis	ug/L	180.0000
4/10/2009	2-Cu-1	Cu, dis	ug/L	230.0000
11/19/2008	1-Cu-1	Cu, tot	ug/L	55.0000
11/20/2008	1-Cu-1	Cu, tot	ug/L	56.0000
11/21/2008	1-Cu-1	Cu, tot	ug/L	53.0000
11/24/2008	1-Cu-1	Cu, tot	ug/L	72.0000
11/25/2008	1-Cu-1	Cu, tot	ug/L	48.0000
11/26/2008	1-Cu-1	Cu, tot	ug/L	51.0000
12/12/2008	1-Cu-1	Cu, tot	ug/L	74.0000

Sample Date	Site	Item Measured	Units	Result
12/18/2008	Inf 1	Monochloramine	mg/L	1.6600
12/21/2008	Inf 1	Monochloramine	mg/L	1.4400
1/8/2009	Inf 1	Monochloramine	mg/L	1.1200
1/16/2009	Inf 1	Monochloramine	mg/L	1.6700
1/22/2009	Inf 1	Monochloramine	mg/L	1.8800
1/29/2009	Inf 1	Monochloramine	mg/L	1.6800
2/5/2009	Inf 1	Monochloramine	mg/L	2.0900
2/12/2009	Inf 1	Monochloramine	mg/L	1.8300
2/19/2009	Inf 1	Monochloramine	mg/L	1.6700
2/26/2009	Inf 1	Monochloramine	mg/L	1.9800
3/6/2009	Inf 1	Monochloramine	mg/L	1.3900
3/13/2009	Inf 1	Monochloramine	mg/L	1.9400
3/19/2009	Inf 1	Monochloramine	mg/L	1.7000
3/26/2009	Inf 1	Monochloramine	mg/L	1.6100
4/3/2009	Inf 1	Monochloramine	mg/L	2.4600
4/10/2009	Inf 1	Monochloramine	mg/L	2.4500
4/16/2009	Inf 1	Monochloramine	mg/L	2.3800
4/24/2009	Inf 1	Monochloramine	mg/L	2.6200
5/1/2009	Inf 1	Monochloramine	mg/L	2.4800
12/5/2008	Inf 2	Monochloramine	mg/L	0.8400
12/12/2008	Inf 2	Monochloramine	mg/L	1.7000
12/18/2008	Inf 2	Monochloramine	mg/L	1.1400
12/21/2008	Inf 2	Monochloramine	mg/L	1.1200
1/8/2009	Inf 2	Monochloramine	mg/L	1.0900
1/16/2009	Inf 2	Monochloramine	mg/L	1.0900
1/22/2009	Inf 2	Monochloramine	mg/L	1.3300
1/29/2009	Inf 2	Monochloramine	mg/L	1.4900
2/5/2009	Inf 2	Monochloramine	mg/L	1.4400
2/12/2009	Inf 2	Monochloramine	mg/L	1.2300
2/19/2009	Inf 2	Monochloramine	mg/L	1.1900
2/26/2009	Inf 2	Monochloramine	mg/L	1.4700
3/6/2009	Inf 2	Monochloramine	mg/L	1.0800
3/13/2009	Inf 2	Monochloramine	mg/L	1.4300
3/19/2009	Inf 2	Monochloramine	mg/L	1.6400
3/26/2009	Inf 2	Monochloramine	mg/L	1.3000
4/3/2009	Inf 2	Monochloramine	mg/L	1.7900
4/10/2009	Inf 2	Monochloramine	mg/L	1.9500
4/16/2009	Inf 2	Monochloramine	mg/L	1.8100
4/24/2009	Inf 2	Monochloramine	mg/L	1.8300
5/1/2009	Inf 2	Monochloramine	mg/L	1.8000

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12/23/2008	Inf 1	Cu, tot	ug/L	1.1000	12/23/2008	1-Cu-1	Cu, tot	ug/L	75.0000																	
2/12/2009	Inf 1	Cu, tot	ug/L	1.2000	2/12/2009	1-Cu-1	Cu, tot	ug/L	52.0000																	
2/26/2009	Inf 1	Cu, tot	ug/L	1.0000	2/26/2009	1-Cu-1	Cu, tot	ug/L	42.0000																	
3/13/2009	Inf 1	Cu, tot	ug/L	3.5000	3/13/2009	1-Cu-1	Cu, tot	ug/L	56.0000																	
3/26/2009	Inf 1	Cu, tot	ug/L	1.3000	3/26/2009	1-Cu-1	Cu, tot	ug/L	51.0000																	
4/10/2009	Inf 1	Cu, tot	ug/L	**1.0000**	4/10/2009	1-Cu-1	Cu, tot	ug/L	51.0000																	
4/24/2009	Inf 1	Cu, tot	ug/L	2.9000	4/24/2009	1-Cu-1	Cu, tot	ug/L	44.0000																	
11/19/2008	Inf 2	Cu, tot	ug/L	6.3000	11/19/2008	2-Cu-1	Cu, tot	ug/L	310.0000																	
11/20/2008	Inf 2	Cu, tot	ug/L	6.6000	11/20/2008	2-Cu-1	Cu, tot	ug/L	350.0000																	
11/21/2008	Inf 2	Cu, tot	ug/L	8.5000	11/21/2008	2-Cu-1	Cu, tot	ug/L	410.0000																	
11/24/2008	Inf 2	Cu, tot	ug/L	17.0000	11/24/2008	2-Cu-1	Cu, tot	ug/L	590.0000																	
11/25/2008	Inf 2	Cu, tot	ug/L	12.0000	11/25/2008	2-Cu-1	Cu, tot	ug/L	520.0000																	
11/26/2008	Inf 2	Cu, tot	ug/L	12.0000	11/26/2008	2-Cu-1	Cu, tot	ug/L	500.0000																	
12/12/2008	Inf 2	Cu, tot	ug/L	17.0000	12/12/2008	2-Cu-1	Cu, tot	ug/L	460.0000																	
12/23/2008	Inf 2	Cu, tot	ug/L	23.0000	12/23/2008	2-Cu-1	Cu, tot	ug/L	370.0000																	
2/12/2009	Inf 2	Cu, tot	ug/L	6.6000	2/12/2009	2-Cu-1	Cu, tot	ug/L	290.0000																	
2/26/2009	Inf 2	Cu, tot	ug/L	5.2000	2/26/2009	2-Cu-1	Cu, tot	ug/L	220.0000																	
3/13/2009	Inf 2	Cu, tot	ug/L	12.0000	3/13/2009	2-Cu-1	Cu, tot	ug/L	230.0000																	
3/26/2009	Inf 2	Cu, tot	ug/L	8.9000	3/26/2009	2-Cu-1	Cu, tot	ug/L	210.0000																	
4/10/2009	Inf 2	Cu, tot	ug/L	17.0000	4/10/2009	2-Cu-1	Cu, tot	ug/L	320.0000																	
4/24/2009	Inf 2	Cu, tot	ug/L	9.9000	4/24/2009	2-Cu-1	Cu, tot	ug/L	250.0000																	
2/12/2009	Inf 1	Fe, tot	ug/L	100.0000	2/12/2009	Inf 1	Fe, dis	ug/L	**20.0000**																	
3/13/2009	Inf 1	Fe, tot	ug/L		3/13/2009	Inf 1	Fe, dis	ug/L																		
3/26/2009	Inf 1	Fe, tot	ug/L																							
4/10/2009	Inf 1	Fe, tot	ug/L	60.0000	4/10/2009	Inf 1	Fe, dis	ug/L	**20.0000**																	
4/24/2009	Inf 1	Fe, tot	ug/L	560.0000																						
2/12/2009	Inf 2	Fe, tot	ug/L	230.0000	2/12/2009	Inf 2	Fe, dis	ug/L	**20.0000**																	
3/13/2009	Inf 2	Fe, tot	ug/L		3/13/2009	Inf 2	Fe, dis	ug/L																		
3/26/2009	Inf 2	Fe, tot	ug/L																							
4/10/2009	Inf 2	Fe, tot	ug/L	220.0000	4/10/2009	Inf 2	Fe, dis	ug/L	**20.0000**																	
4/24/2009	Inf 2	Fe, tot	ug/L	180.0000																						
2/12/2009	Inf 1	HPC(R2A)	CFU/mL	132.0000	2/12/2009	1-Cu-1	HPC(R2A)	CFU/mL	218.0000	2/12/2009	1-Pb-1	HPC(R2A)	CFU/mL	85.0000	2/12/2009	1-Pb-2	HPC(R2A)	CFU/mL	855.0000							
2/26/2009	Inf 1	HPC(R2A)	CFU/mL	515.0000	2/26/2009	1-Cu-1	HPC(R2A)	CFU/mL	107.0000	2/26/2009	1-Pb-1	HPC(R2A)	CFU/mL	217.0000	2/26/2009	1-Pb-2	HPC(R2A)	CFU/mL	112.0000							
3/13/2009	Inf 1	HPC(R2A)	CFU/mL	95.0000	3/13/2009	1-Cu-1	HPC(R2A)	CFU/mL	5700.0000	3/13/2009	1-Pb-1	HPC(R2A)	CFU/mL	182.0000	3/13/2009	1-Pb-2	HPC(R2A)	CFU/mL	135.0000							
3/26/2009	Inf 1	HPC(R2A)	CFU/mL	440.0000	3/26/2009	1-Cu-1	HPC(R2A)	CFU/mL	1138.0000	3/26/2009	1-Pb-1	HPC(R2A)	CFU/mL	146.0000	3/26/2009	1-Pb-2	HPC(R2A)	CFU/mL	1386.0000							
4/10/2009	Inf 1	HPC(R2A)	CFU/mL	444.0000	4/10/2009	1-Cu-1	HPC(R2A)	CFU/mL	983.0000	4/10/2009	1-Pb-1	HPC(R2A)	CFU/mL	260.0000	4/10/2009	1-Pb-2	HPC(R2A)	CFU/mL	627.0000							
4/24/2009	Inf 1	HPC(R2A)	CFU/mL	169.0000	4/24/2009	1-Cu-1	HPC(R2A)	CFU/mL	274.0000	4/24/2009	1-Pb-1	HPC(R2A)	CFU/mL	76.0000	4/24/2009	1-Pb-2	HPC(R2A)	CFU/mL	428.0000							
2/12/2009	Inf 2	HPC(R2A)	CFU/mL	116.0000	2/12/2009	2-Cu-1	HPC(R2A)	CFU/mL	4.0000	2/12/2009	2-Pb-1	HPC(R2A)	CFU/mL	43.0000	2/12/2009	2-Pb-2	HPC(R2A)	CFU/mL	274.0000	2/12/2009	2-Pb-3	HPC(R2A)	CFU/mL	3620.0000		
2/26/2009	Inf 2	HPC(R2A)	CFU/mL	5.0000	2/26/2009	2-Cu-1	HPC(R2A)	CFU/mL	0.0000	2/26/2009	2-Pb-1	HPC(R2A)	CFU/mL	0.0000	2/26/2009	2-Pb-2	HPC(R2A)	CFU/mL	22.0000	2/26/2009	2-Pb-3	HPC(R2A)	CFU/mL	188.0000		
3/13/2009	Inf 2	HPC(R2A)	CFU/mL	1.0000	3/13/2009	2-Cu-1	HPC(R2A)	CFU/mL	4.0000	3/13/2009	2-Pb-1	HPC(R2A)	CFU/mL	23.0000	3/13/2009	2-Pb-2	HPC(R2A)	CFU/mL	8.0000	3/13/2009	2-Pb-3	HPC(R2A)	CFU/mL	140.0000		
3/26/2009	Inf 2	HPC(R2A)	CFU/mL	275.0000	3/26/2009	2-Cu-1	HPC(R2A)	CFU/mL	434.0000	3/26/2009	2-Pb-1	HPC(R2A)	CFU/mL	137.0000	3/26/2009	2-Pb-2	HPC(R2A)	CFU/mL	416.0000	3/26/2009	2-Pb-3	HPC(R2A)	CFU/mL	194.0000		
4/10/2009	Inf 2	HPC(R2A)	CFU/mL	501.0000	4/10/2009	2-Cu-1	HPC(R2A)	CFU/mL	912.0000	4/10/2009	2-Pb-1	HPC(R2A)	CFU/mL	5700.0000	4/10/2009	2-Pb-2	HPC(R2A)	CFU/mL	5700.0000	4/10/2009	2-Pb-3	HPC(R2A)	CFU/mL	855.0000		
4/24/2009	Inf 2	HPC(R2A)	CFU/mL	398.0000	4/24/2009	2-Cu-1	HPC(R2A)	CFU/mL	2180.0000	4/24/2009	2-Pb-1	HPC(R2A)	CFU/mL	2793.0000	4/24/2009	2-Pb-2	HPC(R2A)	CFU/mL	2014.0000	4/24/2009	2-Pb-3	HPC(R2A)	CFU/mL	1092.0000		
12/18/2008	Inf 1	NH3-N	mg/L	0.0200																						
12/21/2008	Inf 1	NH3-N	mg/L	0.0100																						
1/8/2009	Inf 1	NH3-N	mg/L	0.0200																						
1/16/2009	Inf 1	NH3-N	mg/L	0.0200																						
1/22/2009	Inf 1	NH3-N	mg/L	**0.0200**																						
1/29/2009	Inf 1	NH3-N	mg/L	0.0200																						
2/5/2009	Inf 1	NH3-N	mg/L	**0.0200**																						
2/12/2009	Inf 1	NH3-N	mg/L	**0.0200**																						
2/19/2009	Inf 1	NH3-N	mg/L	0.0200																						
2/26/2009	Inf 1	NH3-N	mg/L	**0.0100**	2/26/2009	1-Cu-1	NH3-N	mg/L		2/26/2009	1-Pb-1	NH3-N	mg/L		2/26/2009	1-Pb-2	NH3-N	mg/L								
3/6/2009	Inf 1	NH3-N	mg/L	0.0200																						
3/13/2009	Inf 1	NH3-N	mg/L	0.0200															0.0000							
3/19/2009	Inf 1	NH3-N	mg/L	0.0070	3/19/2009	1-Cu-1	NH3-N	mg/L		3/19/2009	1-Pb-1	NH3-N	mg/L		3/19/2009	1-Pb-2	NH3-N	mg/L	0.0100							
3/26/2009	Inf 1	NH3-N	mg/L	0.0000	3/26/2009	1-Cu-1	NH3-N	mg/L	0.0000	3/26/2009	1-Pb-1	NH3-N	mg/L	0.0000	3/26/2009	1-Pb-2	NH3-N	mg/L								
4/3/2009	Inf 1	NH3-N	mg/L	0.0000																						
4/10/2009	Inf 1	NH3-N	mg/L	0.0000	4/10/2009	1-Cu-1	NH3-N	mg/L		4/10/2009	1-Pb-1	NH3-N	mg/L		4/10/2009	1-Pb-2	NH3-N	mg/L								
4/16/2009	Inf 1	NH3-N	mg/L	0.0000																						
4/24/2009	Inf 1	NH3-N	mg/L	0.0200						4/24/2009	1-Pb-1	NH3-N	mg/L	0.1000												
5/1/2009	Inf 1	NH3-N	mg/L	**0.0100**																						
12/5/2008	Inf 2	NH3-N	mg/L	0.0500																						

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12/12/2008	Inf 2	NH3-N	mg/L	1.0600																						
12/18/2008	Inf 2	NH3-N	mg/L	0.0300																						
12/21/2008	Inf 2	NH3-N	mg/L	0.0600																						
1/8/2009	Inf 2	NH3-N	mg/L	**0.0200**																						
1/16/2009	Inf 2	NH3-N	mg/L	0.0600																						
1/22/2009	Inf 2	NH3-N	mg/L	0.0600																						
1/29/2009	Inf 2	NH3-N	mg/L	0.0300																						
2/5/2009	Inf 2	NH3-N	mg/L	0.0200																						
2/12/2009	Inf 2	NH3-N	mg/L	0.0100																						
2/19/2009	Inf 2	NH3-N	mg/L	0.0200																						
2/26/2009	Inf 2	NH3-N	mg/L	0.0400	2/26/2009	2-Cu-1	NH3-N	mg/L		2/26/2009	2-Pb-1	NH3-N	mg/L		2/26/2009	2-Pb-2	NH3-N	mg/L		2/26/2009	2-Pb-3	NH3-N	mg/L	
3/6/2009	Inf 2	NH3-N	mg/L	0.0200																						
3/13/2009	Inf 2	NH3-N	mg/L	0.0800																						
3/19/2009	Inf 2	NH3-N	mg/L	0.0060	3/19/2009	2-Cu-1	NH3-N	mg/L		3/19/2009	2-Pb-1	NH3-N	mg/L		3/19/2009	2-Pb-2	NH3-N	mg/L		3/19/2009	2-Pb-3	NH3-N	mg/L	
3/26/2009	Inf 2	NH3-N	mg/L	0.0000	3/26/2009	2-Cu-1	NH3-N	mg/L	0.0100	3/26/2009	2-Pb-1	NH3-N	mg/L	0.0000	3/26/2009	2-Pb-2	NH3-N	mg/L	0.0000	3/26/2009	2-Pb-3	NH3-N	mg/L	0.0000
4/3/2009	Inf 2	NH3-N	mg/L	0.0100																						
4/10/2009	Inf 2	NH3-N	mg/L	0.0000	4/10/2009	2-Cu-1	NH3-N	mg/L		4/10/2009	2-Pb-1	NH3-N	mg/L		4/10/2009	2-Pb-2	NH3-N	mg/L		4/10/2009	2-Pb-3	NH3-N	mg/L	
4/16/2009	Inf 2	NH3-N	mg/L	0.0200																						
4/24/2009	Inf 2	NH3-N	mg/L	0.1600						4/24/2009	2-Pb-1	NH3-N	mg/L	0.2400												
5/1/2009	Inf 2	NH3-N	mg/L	0.0200																						
1/29/2009	Inf 1	NO2-N	mg/L	**0.0010**	1/29/2009	1-Cu-1	NO2-N	mg/L	0.0030	1/29/2009	1-Pb-1	NO2-N	mg/L	0.0070	1/29/2009	1-Pb-2	NO2-N	mg/L	0.0020							
2/5/2009	Inf 1	NO2-N	mg/L	0.0020	2/5/2009	1-Cu-1	NO2-N	mg/L	0.0030	2/5/2009	1-Pb-1	NO2-N	mg/L	0.0020	2/5/2009	1-Pb-2	NO2-N	mg/L	0.0060							
2/12/2009	Inf 1	NO2-N	mg/L	0.0040	2/12/2009	1-Cu-1	NO2-N	mg/L	0.0030	2/12/2009	1-Pb-1	NO2-N	mg/L	0.0020	2/12/2009	1-Pb-2	NO2-N	mg/L	0.0050							
2/19/2009	Inf 1	NO2-N	mg/L	0.0030	2/19/2009	1-Cu-1	NO2-N	mg/L	0.0030	2/19/2009	1-Pb-1	NO2-N	mg/L	0.0050	2/19/2009	1-Pb-2	NO2-N	mg/L	0.0020							
2/26/2009	Inf 1	NO2-N	mg/L	0.0040	2/26/2009	1-Cu-1	NO2-N	mg/L	0.0010	2/26/2009	1-Pb-1	NO2-N	mg/L	0.0020	2/26/2009	1-Pb-2	NO2-N	mg/L	0.0040							
3/6/2009	Inf 1	NO2-N	mg/L	0.0030	3/6/2009	1-Cu-1	NO2-N	mg/L	0.0030	3/6/2009	1-Pb-1	NO2-N	mg/L	0.0020	3/6/2009	1-Pb-2	NO2-N	mg/L	0.0200							
3/13/2009	Inf 1	NO2-N	mg/L	0.0020	3/13/2009	1-Cu-1	NO2-N	mg/L	0.0010	3/13/2009	1-Pb-1	NO2-N	mg/L	0.0010	3/13/2009	1-Pb-2	NO2-N	mg/L	0.0200							
3/19/2009	Inf 1	NO2-N	mg/L	0.0050	3/19/2009	1-Cu-1	NO2-N	mg/L	0.0030	3/19/2009	1-Pb-1	NO2-N	mg/L	0.0040	3/19/2009	1-Pb-2	NO2-N	mg/L	0.0030							
3/26/2009	Inf 1	NO2-N	mg/L	0.0030	3/26/2009	1-Cu-1	NO2-N	mg/L	0.0030	3/26/2009	1-Pb-1	NO2-N	mg/L	0.0020	3/26/2009	1-Pb-2	NO2-N	mg/L	0.0020							
4/3/2009	Inf 1	NO2-N	mg/L	0.0030	4/10/2009	1-Cu-1	NO2-N	mg/L	0.0030	4/10/2009	1-Pb-1	NO2-N	mg/L	0.0020	4/10/2009	1-Pb-2	NO2-N	mg/L	0.0040							
4/10/2009	Inf 1	NO2-N	mg/L	0.0040																						
4/16/2009	Inf 1	NO2-N	mg/L	0.0010																						
4/24/2009	Inf 1	NO2-N	mg/L	**0.0010**	4/24/2009	1-Cu-1	NO2-N	mg/L	**0.0010**	4/24/2009	1-Pb-1	NO2-N	mg/L	**0.0010**	4/24/2009	1-Pb-2	NO2-N	mg/L	**0.0010**							
5/1/2009	Inf 1	NO2-N	mg/L	0.0020																						
12/5/2008	Inf 2	NO2-N	mg/L	**0.0800**																						
1/29/2009	Inf 2	NO2-N	mg/L	**0.0010**	1/29/2009	2-Cu-1	NO2-N	mg/L	0.0020	1/29/2009	2-Pb-1	NO2-N	mg/L	0.0100	1/29/2009	2-Pb-2	NO2-N	mg/L	0.0020	1/29/2009	2-Pb-3	NO2-N	mg/L	0.0010
2/5/2009	Inf 2	NO2-N	mg/L	0.0060	2/5/2009	2-Cu-1	NO2-N	mg/L	0.0030	2/5/2009	2-Pb-1	NO2-N	mg/L	0.0020	2/5/2009	2-Pb-2	NO2-N	mg/L	0.0060	2/5/2009	2-Pb-3	NO2-N	mg/L	0.0020
2/12/2009	Inf 2	NO2-N	mg/L	0.0020	2/12/2009	2-Cu-1	NO2-N	mg/L	0.0030	2/12/2009	2-Pb-1	NO2-N	mg/L	0.0020	2/12/2009	2-Pb-2	NO2-N	mg/L	0.0060	2/12/2009	2-Pb-3	NO2-N	mg/L	0.0020
2/19/2009	Inf 2	NO2-N	mg/L	0.0020	2/19/2009	2-Cu-1	NO2-N	mg/L	0.0040	2/19/2009	2-Pb-1	NO2-N	mg/L	0.0030	2/19/2009	2-Pb-2	NO2-N	mg/L	0.0020	2/19/2009	2-Pb-3	NO2-N	mg/L	0.0060
2/26/2009	Inf 2	NO2-N	mg/L	0.0030	2/26/2009	2-Cu-1	NO2-N	mg/L	0.0030	2/26/2009	2-Pb-1	NO2-N	mg/L	0.0050	2/26/2009	2-Pb-2	NO2-N	mg/L	0.0040	2/26/2009	2-Pb-3	NO2-N	mg/L	0.0040
3/6/2009	Inf 2	NO2-N	mg/L	0.0020	3/6/2009	2-Cu-1	NO2-N	mg/L	0.0040	3/6/2009	2-Pb-1	NO2-N	mg/L	0.0040	3/6/2009	2-Pb-2	NO2-N	mg/L	0.0010	3/6/2009	2-Pb-3	NO2-N	mg/L	0.0030
3/13/2009	Inf 2	NO2-N	mg/L	0.0040	3/13/2009	2-Cu-1	NO2-N	mg/L	0.0060	3/13/2009	2-Pb-1	NO2-N	mg/L	0.0030	3/13/2009	2-Pb-2	NO2-N	mg/L	0.0040	3/13/2009	2-Pb-3	NO2-N	mg/L	0.0050
3/19/2009	Inf 2	NO2-N	mg/L	0.0030	3/19/2009	2-Cu-1	NO2-N	mg/L	0.0040	3/19/2009	2-Pb-1	NO2-N	mg/L	0.0030	3/19/2009	2-Pb-2	NO2-N	mg/L	0.0040	3/19/2009	2-Pb-3	NO2-N	mg/L	0.0060
3/26/2009	Inf 2	NO2-N	mg/L	0.0030	3/26/2009	2-Cu-1	NO2-N	mg/L	0.0040	3/26/2009	2-Pb-1	NO2-N	mg/L	0.0020	3/26/2009	2-Pb-2	NO2-N	mg/L	0.0040	3/26/2009	2-Pb-3	NO2-N	mg/L	0.0030
4/3/2009	Inf 2	NO2-N	mg/L	0.0030																						
4/10/2009	Inf 2	NO2-N	mg/L	0.0030	4/10/2009	2-Cu-1	NO2-N	mg/L	0.0030	4/10/2009	2-Pb-1	NO2-N	mg/L	0.0020	4/10/2009	2-Pb-2	NO2-N	mg/L	0.0020	4/10/2009	2-Pb-3	NO2-N	mg/L	0.0020
4/16/2009	Inf 2	NO2-N	mg/L	0.0020																						
4/24/2009	Inf 2	NO2-N	mg/L	0.0030	4/24/2009	2-Cu-1	NO2-N	mg/L	0.0030	4/24/2009	2-Pb-1	NO2-N	mg/L	0.0050	4/24/2009	2-Pb-2	NO2-N	mg/L	0.0060	4/24/2009	2-Pb-3	NO2-N	mg/L	0.0040
5/1/2009	Inf 2	NO2-N	mg/L	0.0060																						
1/29/2009	Inf 1	NO3-N	mg/L	**1.0000**	1/29/2009	1-Cu-1	NO3-N	mg/L	**1.0000**	1/29/2009	1-Pb-1	NO3-N	mg/L	**1.0000**	1/29/2009	1-Pb-2	NO3-N	mg/L	**1.0000**							
2/5/2009	Inf 1	NO3-N	mg/L	**1.0000**	2/5/2009	1-Cu-1	NO3-N	mg/L	**1.0000**	2/5/2009	1-Pb-1	NO3-N	mg/L	**1.0000**	2/5/2009	1-Pb-2	NO3-N	mg/L	**1.0000**							
2/12/2009	Inf 1	NO3-N	mg/L	**1.0000**	2/12/2009	1-Cu-1	NO3-N	mg/L	**1.0000**	2/12/2009	1-Pb-1	NO3-N	mg/L	**1.0000**	2/12/2009	1-Pb-2	NO3-N	mg/L	**1.0000**							
2/19/2009	Inf 1	NO3-N	mg/L	**1.0000**	2/19/2009	1-Cu-1	NO3-N	mg/L	**1.0000**	2/19/2009	1-Pb-1	NO3-N	mg/L	**1.0000**	2/19/2009	1-Pb-2	NO3-N	mg/L	**1.0000**							
2/26/2009	Inf 1	NO3-N	mg/L	**1.0000**	2/26/2009	1-Cu-1	NO3-N	mg/L	**1.0000**	2/26/2009	1-Pb-1	NO3-N	mg/L	**1.0000**	2/26/2009	1-Pb-2	NO3-N	mg/L	**1.0000**							
3/6/2009	Inf 1	NO3-N	mg/L	**1.0000**	3/6/2009	1-Cu-1	NO3-N	mg/L	**1.0000**	3/6/2009	1-Pb-1	NO3-N	mg/L	**1.0000**	3/6/2009	1-Pb-2	NO3-N	mg/L	**1.0000**							
3/13/2009	Inf 1	NO3-N	mg/L	**1.0000**	3/13/2009	1-Cu-1	NO3-N	mg/L	**1.0000**	3/13/2009	1-Pb-1	NO3-N	mg/L	**1.0000**	3/13/2009	1-Pb-2	NO3-N	mg/L	**1.0000**							
3/19/2009	Inf 1	NO3-N	mg/L	**1.0000**	3/19/2009	1-Cu-1	NO3-N	mg/L	**1.0000**	3/19/2009	1-Pb-1	NO3-N	mg/L	**1.0000**	3/19/2009	1-Pb-2	NO3-N	mg/L	**1.0000**							
3/26/2009	Inf 1	NO3-N	mg/L	**1.0000**	3/26/2009	1-Cu-1	NO3-N	mg/L	**1.0000**	3/26/2009	1-Pb-1	NO3-N	mg/L	**1.0000**	3/26/2009	1-Pb-2	NO3-N	mg/L	**1.0000**							
4/3/2009	Inf 1	NO3-N	mg/L	**1.0000**																						
4/10/2009	Inf 1	NO3-N	mg/L	**1.0000**	4/10/2009	1-Cu-1	NO3-N	mg/L	**1.0000**	4/10/2009	1-Pb-1	NO3-N	mg/L	**1.0000**	4/10/2009	1-Pb-2	NO3-N	mg/L	**1.0000**							
4/16/2009	Inf 1	NO3-N	mg/L	**1.0000**																						
4/24/2009	Inf 1	NO3-N	mg/L	**1.0000**	4/24/2009	1-Cu-1	NO3-N	mg/L	**1.0000**	4/24/2009	1-Pb-1	NO3-N	mg/L	**1.0000**	4/24/2009	1-Pb-2	NO3-N	mg/L	**1.0000**							
5/1/2009	Inf 1	NO3-N	mg/L	**1.0000**																						
12/5/2008	Inf 2	NO3-N	mg/L	0.4000																						
1/29/2009	Inf 2	NO3-N	mg/L	**1.0000**	1/29/2009	2-Cu-1	NO3-N	mg/L	**1.0000**	1/29/2009	2-Pb-1	NO3-N	mg/L	**1.0000**	1/29/2009	2-Pb-2	NO3-N	mg/L	**1.0000**	1/29/2009	2-Pb-3	NO3-N	mg/L	**1.0000**
2/5/2009	Inf 2	NO3-N	mg/L	**1.0000**	2/5/2009	2-Cu-1	NO3-N	mg/L	**1.0000**	2/5/2009	2-Pb-1	NO3-N	mg/L	**1.0000**	2/5/2009	2-Pb-2	NO3-N	mg/L	**1.0000**	2/5/2009	2-Pb-3	NO3-N	mg/L	**1.0000**

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2/12/2009	Inf 2	NO3-N	mg/L	**1.0000**	2/12/2009	2-Cu-1	NO3-N	mg/L	**1.0000**	2/12/2009	2-Pb-1	NO3-N	mg/L	**1.0000**	2/12/2009	2-Pb-2	NO3-N	mg/L	**1.0000**	2/12/2009	2-Pb-3	NO3-N	mg/L	**1.0000**
2/19/2009	Inf 2	NO3-N	mg/L	**1.0000**	2/19/2009	2-Cu-1	NO3-N	mg/L	**1.0000**	2/19/2009	2-Pb-1	NO3-N	mg/L	**1.0000**	2/19/2009	2-Pb-2	NO3-N	mg/L	**1.0000**	2/19/2009	2-Pb-3	NO3-N	mg/L	**1.0000**
2/26/2009	Inf 2	NO3-N	mg/L	**1.0000**	2/26/2009	2-Cu-1	NO3-N	mg/L	**1.0000**	2/26/2009	2-Pb-1	NO3-N	mg/L	**1.0000**	2/26/2009	2-Pb-2	NO3-N	mg/L	**1.0000**	2/26/2009	2-Pb-3	NO3-N	mg/L	**1.0000**
3/6/2009	Inf 2	NO3-N	mg/L	**1.0000**	3/6/2009	2-Cu-1	NO3-N	mg/L	**1.0000**	3/6/2009	2-Pb-1	NO3-N	mg/L	**1.0000**	3/6/2009	2-Pb-2	NO3-N	mg/L	**1.0000**	3/6/2009	2-Pb-3	NO3-N	mg/L	**1.0000**
3/13/2009	Inf 2	NO3-N	mg/L	**1.0000**	3/13/2009	2-Cu-1	NO3-N	mg/L	**1.0000**	3/13/2009	2-Pb-1	NO3-N	mg/L	**1.0000**	3/13/2009	2-Pb-2	NO3-N	mg/L	**1.0000**	3/13/2009	2-Pb-3	NO3-N	mg/L	**1.0000**
3/19/2009	Inf 2	NO3-N	mg/L	**1.0000**	3/19/2009	2-Cu-1	NO3-N	mg/L	**1.0000**	3/19/2009	2-Pb-1	NO3-N	mg/L	**1.0000**	3/19/2009	2-Pb-2	NO3-N	mg/L	**1.0000**	3/19/2009	2-Pb-3	NO3-N	mg/L	**1.0000**
3/26/2009	Inf 2	NO3-N	mg/L	**1.0000**	3/26/2009	2-Cu-1	NO3-N	mg/L	**1.0000**	3/26/2009	2-Pb-1	NO3-N	mg/L	**1.0000**	3/26/2009	2-Pb-2	NO3-N	mg/L	**1.0000**	3/26/2009	2-Pb-3	NO3-N	mg/L	**1.0000**
4/3/2009	Inf 2	NO3-N	mg/L	**1.0000**																				
4/10/2009	Inf 2	NO3-N	mg/L	**1.0000**	4/10/2009	2-Cu-1	NO3-N	mg/L	**1.0000**	4/10/2009	2-Pb-1	NO3-N	mg/L	**1.0000**	4/10/2009	2-Pb-2	NO3-N	mg/L	**1.0000**	4/10/2009	2-Pb-3	NO3-N	mg/L	**1.0000**
4/16/2009	Inf 2	NO3-N	mg/L	**1.0000**																				
4/24/2009	Inf 2	NO3-N	mg/L	**1.0000**	4/24/2009	2-Cu-1	NO3-N	mg/L	**1.0000**	4/24/2009	2-Pb-1	NO3-N	mg/L	**1.0000**	4/24/2009	2-Pb-2	NO3-N	mg/L	0.0100	4/24/2009	2-Pb-3	NO3-N	mg/L	**1.0000**
5/1/2009	Inf 2	NO3-N	mg/L	**1.0000**																				
12/5/2008	Inf 1	P, tot	mg/L as P	1.0400	12/5/2008	Inf 1	PO4-P	mg/L as P	0.9330															
12/12/2008	Inf 1	P, tot	mg/L as P	0.9030	12/12/2008	Inf 1	PO4-P	mg/L as P	0.8160															
12/18/2008	Inf 1	P, tot	mg/L as P	0.9400	12/18/2008	Inf 1	PO4-P	mg/L as P	0.7870															
12/21/2008	Inf 1	P, tot	mg/L as P	0.9390	12/21/2008	Inf 1	PO4-P	mg/L as P	0.7990															
1/8/2009	Inf 1	P, tot	mg/L as P	0.9150	1/8/2009	Inf 1	PO4-P	mg/L as P	0.7680															
1/16/2009	Inf 1	P, tot	mg/L as P	1.2300	1/16/2009	Inf 1	PO4-P	mg/L as P	1.0700															
1/22/2009	Inf 1	P, tot	mg/L as P	1.1700	1/22/2009	Inf 1	PO4-P	mg/L as P	0.9930															
					1/29/2009	Inf 1	PO4-P	mg/L as P	0.8620															
					2/5/2009	Inf 1	PO4-P	mg/L as P	1.0700															
					2/12/2009	Inf 1	PO4-P	mg/L as P	1.1000															
					2/19/2009	Inf 1	PO4-P	mg/L as P	1.0200															
					3/6/2009	Inf 1	PO4-P	mg/L as P	0.9900															
					3/13/2009	Inf 1	PO4-P	mg/L as P	0.9100															
					3/26/2009	Inf 1	PO4-P	mg/L as P	1.0000															
					4/10/2009	Inf 1	PO4-P	mg/L as P	1.0400															
12/5/2008	Inf 2	P, tot	mg/L as P	0.8140	12/5/2008	Inf 2	PO4-P	mg/L as P	0.7930															
12/12/2008	Inf 2	P, tot	mg/L as P	0.8030	12/12/2008	Inf 2	PO4-P	mg/L as P	0.7240															
12/18/2008	Inf 2	P, tot	mg/L as P	0.8020	12/18/2008	Inf 2	PO4-P	mg/L as P	0.7060															
12/21/2008	Inf 2	P, tot	mg/L as P	0.8400	12/21/2008	Inf 2	PO4-P	mg/L as P	0.7240															
1/8/2009	Inf 2	P, tot	mg/L as P	0.7930	1/8/2009	Inf 2	PO4-P	mg/L as P	0.6940															
1/16/2009	Inf 2	P, tot	mg/L as P	0.8880	1/16/2009	Inf 2	PO4-P	mg/L as P	0.7860															
1/22/2009	Inf 2	P, tot	mg/L as P	0.8980	1/22/2009	Inf 2	PO4-P	mg/L as P	0.7960															
					1/29/2009	Inf 2	PO4-P	mg/L as P	0.8000															
					2/5/2009	Inf 2	PO4-P	mg/L as P	0.9400															
					2/12/2009	Inf 2	PO4-P	mg/L as P	1.1400															
					2/19/2009	Inf 2	PO4-P	mg/L as P	0.7100															
					3/6/2009	Inf 2	PO4-P	mg/L as P	0.8700															
					3/13/2009	Inf 2	PO4-P	mg/L as P	0.7400															
					3/26/2009	Inf 2	PO4-P	mg/L as P	0.8500															
					4/10/2009	Inf 2	PO4-P	mg/L as P	0.9900															
2/12/2009	Inf 1	Pb, dis	ug/L	**1.0000**	2/12/2009	1-Pb-1	Pb, dis	ug/L	26.0000	2/12/2009	1-Pb-2	Pb, dis	ug/L	36.0000										
3/13/2009	Inf 1	Pb, dis	ug/L	**1.0000**	3/13/2009	1-Pb-1	Pb, dis	ug/L	39.0000	3/13/2009	1-Pb-2	Pb, dis	ug/L	87.0000										
4/10/2009	Inf 1	Pb, dis	ug/L	**1.0000**	4/10/2009	1-Pb-1	Pb, dis	ug/L	39.0000	4/10/2009	1-Pb-2	Pb, dis	ug/L	46.0000										
2/12/2009	Inf 2	Pb, dis	ug/L	**1.0000**	2/12/2009	2-Pb-1	Pb, dis	ug/L	15.0000	2/12/2009	2-Pb-2	Pb, dis	ug/L	17.0000	2/12/2009	2-Pb-3	Pb, dis	ug/L	78.0000					
3/13/2009	Inf 2	Pb, dis	ug/L	**1.0000**	3/13/2009	2-Pb-1	Pb, dis	ug/L	12.0000	3/13/2009	2-Pb-2	Pb, dis	ug/L	6.3000	3/13/2009	2-Pb-3	Pb, dis	ug/L	8.7000					
4/10/2009	Inf 2	Pb, dis	ug/L	**1.0000**	4/10/2009	2-Pb-1	Pb, dis	ug/L	55.0000	4/10/2009	2-Pb-2	Pb, dis	ug/L	16.0000	4/10/2009	2-Pb-3	Pb, dis	ug/L	20.0000					
11/19/2008	Inf 1	Pb, tot	ug/L	**1.0000**	11/19/2008	1-Pb-1	Pb, tot	ug/L	38.0000	11/19/2008	1-Pb-2	Pb, tot	ug/L	65.0000										
11/20/2008	Inf 1	Pb, tot	ug/L	**1.0000**	11/20/2008	1-Pb-1	Pb, tot	ug/L	47.0000	11/20/2008	1-Pb-2	Pb, tot	ug/L	63.0000										
11/21/2008	Inf 1	Pb, tot	ug/L	**1.0000**	11/21/2008	1-Pb-1	Pb, tot	ug/L	40.0000	11/21/2008	1-Pb-2	Pb, tot	ug/L	61.0000										
11/24/2008	Inf 1	Pb, tot	ug/L	**1.0000**	11/24/2008	1-Pb-1	Pb, tot	ug/L	47.0000	11/24/2008	1-Pb-2	Pb, tot	ug/L	61.0000										
11/25/2008	Inf 1	Pb, tot	ug/L	**1.0000**	11/25/2008	1-Pb-1	Pb, tot	ug/L	55.0000	11/25/2008	1-Pb-2	Pb, tot	ug/L	69.0000										
11/26/2008	Inf 1	Pb, tot	ug/L	3.2000	11/26/2008	1-Pb-1	Pb, tot	ug/L	59.0000	11/26/2008	1-Pb-2	Pb, tot	ug/L	66.0000										
12/12/2008	Inf 1	Pb, tot	ug/L	**1.0000**	12/12/2008	1-Pb-1	Pb, tot	ug/L	50.0000	12/12/2008	1-Pb-2	Pb, tot	ug/L	79.0000										
12/23/2008	Inf 1	Pb, tot	ug/L	**1.0000**	12/23/2008	1-Pb-1	Pb, tot	ug/L	67.0000	12/23/2008	1-Pb-2	Pb, tot	ug/L	74.0000										
2/12/2009	Inf 1	Pb, tot	ug/L	**1.0000**	2/12/2009	1-Pb-1	Pb, tot	ug/L	45.0000	2/12/2009	1-Pb-2	Pb, tot	ug/L	61.0000										
2/26/2009	Inf 1	Pb, tot	ug/L	**1.0000**	2/26/2009	1-Pb-1	Pb, tot	ug/L	47.0000	2/26/2009	1-Pb-2	Pb, tot	ug/L	93.0000										
3/13/2009	Inf 1	Pb, tot	ug/L	**1.0000**	3/13/2009	1-Pb-1	Pb, tot	ug/L	100.0000	3/13/2009	1-Pb-2	Pb, tot	ug/L	290.0000										
3/26/2009	Inf 1	Pb, tot	ug/L	**1.0000**	3/26/2009	1-Pb-1	Pb, tot	ug/L	50.0000	3/26/2009	1-Pb-2	Pb, tot	ug/L	67.0000										
4/10/2009	Inf 1	Pb, tot	ug/L	**1.0000**	4/10/2009	1-Pb-1	Pb, tot	ug/L	52.0000	4/10/2009	1-Pb-2	Pb, tot	ug/L	77.0000										
4/24/2009	Inf 1	Pb, tot	ug/L	5.9000	4/24/2009	1-Pb-1	Pb, tot	ug/L	48.0000	4/24/2009	1-Pb-2	Pb, tot	ug/L	66.0000										
11/19/2008	Inf 2	Pb, tot	ug/L	**1.0000**	11/19/2008	2-Pb-1	Pb, tot	ug/L	26.0000	11/19/2008	2-Pb-2	Pb, tot	ug/L	75.0000	11/19/2008	2-Pb-3	Pb, tot	ug/L	78.0000					
11/20/2008	Inf 2	Pb, tot	ug/L	**1.0000**	11/20/2008	2-Pb-1	Pb, tot	ug/L	35.0000	11/20/2008	2-Pb-2	Pb, tot	ug/L	86.0000	11/20/2008	2-Pb-3	Pb, tot	ug/L	84.0000					

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11/21/2008	Inf 2	Pb, tot	ug/L	**1.0000**	11/21/2008	2-Pb-1	Pb, tot	ug/L	31.0000	11/21/2008	2-Pb-2	Pb, tot	ug/L	75.0000	11/21/2008	2-Pb-3	Pb, tot	ug/L	79.0000						
11/24/2008	Inf 2	Pb, tot	ug/L	**1.0000**	11/24/2008	2-Pb-1	Pb, tot	ug/L	37.0000	11/24/2008	2-Pb-2	Pb, tot	ug/L	88.0000	11/24/2008	2-Pb-3	Pb, tot	ug/L	71.0000						
11/25/2008	Inf 2	Pb, tot	ug/L	**1.0000**	11/25/2008	2-Pb-1	Pb, tot	ug/L	32.0000	11/25/2008	2-Pb-2	Pb, tot	ug/L	78.0000	11/25/2008	2-Pb-3	Pb, tot	ug/L	77.0000						
11/26/2008	Inf 2	Pb, tot	ug/L	**1.0000**	11/26/2008	2-Pb-1	Pb, tot	ug/L	29.0000	11/26/2008	2-Pb-2	Pb, tot	ug/L	74.0000	11/26/2008	2-Pb-3	Pb, tot	ug/L	84.0000						
12/12/2008	Inf 2	Pb, tot	ug/L	33.0000	12/12/2008	2-Pb-1	Pb, tot	ug/L	28.0000	12/12/2008	2-Pb-2	Pb, tot	ug/L	98.0000	12/12/2008	2-Pb-3	Pb, tot	ug/L	120.0000						
12/23/2008	Inf 2	Pb, tot	ug/L	1.1000	12/23/2008	2-Pb-1	Pb, tot	ug/L	100.0000	12/23/2008	2-Pb-2	Pb, tot	ug/L	80.0000	12/23/2008	2-Pb-3	Pb, tot	ug/L	100.0000						
2/12/2009	Inf 2	Pb, tot	ug/L	**1.0000**	2/12/2009	2-Pb-1	Pb, tot	ug/L	90.0000	2/12/2009	2-Pb-2	Pb, tot	ug/L	85.0000	2/12/2009	2-Pb-3	Pb, tot	ug/L	15.0000						
2/26/2009	Inf 2	Pb, tot	ug/L	**1.0000**	2/26/2009	2-Pb-1	Pb, tot	ug/L	70.0000	2/26/2009	2-Pb-2	Pb, tot	ug/L	59.0000	2/26/2009	2-Pb-3	Pb, tot	ug/L	65.0000						
3/13/2009	Inf 2	Pb, tot	ug/L	**1.0000**	3/13/2009	2-Pb-1	Pb, tot	ug/L	85.0000	3/13/2009	2-Pb-2	Pb, tot	ug/L	65.0000	3/13/2009	2-Pb-3	Pb, tot	ug/L	74.0000						
3/26/2009	Inf 2	Pb, tot	ug/L	**1.0000**	3/26/2009	2-Pb-1	Pb, tot	ug/L	80.0000	3/26/2009	2-Pb-2	Pb, tot	ug/L	78.0000	3/26/2009	2-Pb-3	Pb, tot	ug/L	84.0000						
4/10/2009	Inf 2	Pb, tot	ug/L	**1.0000**	4/10/2009	2-Pb-1	Pb, tot	ug/L	120.0000	4/10/2009	2-Pb-2	Pb, tot	ug/L	100.0000	4/10/2009	2-Pb-3	Pb, tot	ug/L	120.0000						
4/24/2009	Inf 2	Pb, tot	ug/L	**1.0000**	4/24/2009	2-Pb-1	Pb, tot	ug/L	88.0000	4/24/2009	2-Pb-2	Pb, tot	ug/L	59.0000	4/24/2009	2-Pb-3	Pb, tot	ug/L	90.0000						
12/5/2008	Inf 1	pH	SU	7.4400	12/5/2008	Inf 1	Temp	deg C	10.0000																
12/12/2008	Inf 1	pH	SU	7.3500	12/12/2008	Inf 1	Temp	deg C	8.8900																
12/18/2008	Inf 1	pH	SU	7.4400	12/18/2008	Inf 1	Temp	deg C	6.1100																
12/21/2008	Inf 1	pH	SU	7.4600	12/21/2008	Inf 1	Temp	deg C	7.7800																
1/8/2009	Inf 1	pH	SU	7.4200	1/8/2009	Inf 1	Temp	deg C	13.8900																
1/16/2009	Inf 1	pH	SU	7.4600	1/16/2009	Inf 1	Temp	deg C	12.2000																
1/22/2009	Inf 1	pH	SU	7.6300	1/22/2009	Inf 1	Temp	deg C	11.6700																
1/29/2009	Inf 1	pH	SU	7.6700	1/29/2009	Inf 1	Temp	deg C	3.8900																
2/5/2009	Inf 1	pH	SU	7.6300	2/5/2009	Inf 1	Temp	deg C	5.0000																
2/12/2009	Inf 1	pH	SU	7.6000	2/12/2009	Inf 1	Temp	deg C	10.5600																
2/19/2009	Inf 1	pH	SU	7.7000	2/19/2009	Inf 1	Temp	deg C	4.4000																
2/26/2009	Inf 1	pH	SU	7.6100	2/26/2009	Inf 1	Temp	deg C	9.9000																
3/6/2009	Inf 1	pH	SU	7.5700	3/6/2009	Inf 1	Temp	deg C	11.1000																
3/13/2009	Inf 1	pH	SU	7.5900	3/13/2009	Inf 1	Temp	deg C	12.7000																
3/19/2009	Inf 1	pH	SU	7.5800	3/19/2009	Inf 1	Temp	deg C	16.7000																
3/26/2009	Inf 1	pH	SU	7.5300	3/26/2009	Inf 1	Temp	deg C	6.4000																
4/3/2009	Inf 1	pH	SU	7.5700	4/3/2009	Inf 1	Temp	deg C	5.4000																
4/10/2009	Inf 1	pH	SU	7.5700	4/10/2009	Inf 1	Temp	deg C	6.6000																
4/16/2009	Inf 1	pH	SU	7.6600	4/16/2009	Inf 1	Temp	deg C	12.8000																
4/24/2009	Inf 1	pH	SU	7.7600	4/24/2009	Inf 1	Temp	deg C	7.4000																
5/1/2009	Inf 1	pH	SU	7.6400	5/1/2009	Inf 1	Temp	deg C	15.6000																
12/5/2008	Inf 2	pH	SU	7.5200	12/5/2008	Inf 2	Temp	deg C	13.3000																
12/12/2008	Inf 2	pH	SU	7.4500	12/12/2008	Inf 2	Temp	deg C	10.5600																
12/18/2008	Inf 2	pH	SU	7.4900	12/18/2008	Inf 2	Temp	deg C	14.4400																
12/21/2008	Inf 2	pH	SU	7.4800	12/21/2008	Inf 2	Temp	deg C	12.2200																
1/8/2009	Inf 2	pH	SU	7.4600	1/8/2009	Inf 2	Temp	deg C	15.5600																
1/16/2009	Inf 2	pH	SU	7.5000	1/16/2009	Inf 2	Temp	deg C	13.9000																
1/22/2009	Inf 2	pH	SU	7.5900	1/22/2009	Inf 2	Temp	deg C	13.8900																
1/29/2009	Inf 2	pH	SU	7.6300	1/29/2009	Inf 2	Temp	deg C	11.6700																
2/5/2009	Inf 2	pH	SU	7.5700	2/5/2009	Inf 2	Temp	deg C	13.8900																
2/12/2009	Inf 2	pH	SU	7.6300	2/12/2009	Inf 2	Temp	deg C	15.0000																
2/19/2009	Inf 2	pH	SU	7.6800	2/19/2009	Inf 2	Temp	deg C	11.1000																
2/26/2009	Inf 2	pH	SU	7.6100	2/26/2009	Inf 2	Temp	deg C	12.7000																
3/6/2009	Inf 2	pH	SU	7.5200	3/6/2009	Inf 2	Temp	deg C	15.5000																
3/13/2009	Inf 2	pH	SU	7.6500	3/13/2009	Inf 2	Temp	deg C	15.5000																
3/19/2009	Inf 2	pH	SU	7.5800	3/19/2009	Inf 2	Temp	deg C	14.9000																
3/26/2009	Inf 2	pH	SU	7.6000	3/26/2009	Inf 2	Temp	deg C	11.8000																
4/3/2009	Inf 2	pH	SU	7.6200	4/3/2009	Inf 2	Temp	deg C	8.6000																
4/10/2009	Inf 2	pH	SU	7.5700	4/10/2009	Inf 2	Temp	deg C	8.2000																
4/16/2009	Inf 2	pH	SU	7.7000	4/16/2009	Inf 2	Temp	deg C	20.0000																
4/24/2009	Inf 2	pH	SU	7.6800	4/24/2009	Inf 2	Temp	deg C	14.8000																
5/1/2009	Inf 2	pH	SU	7.6500	5/1/2009	Inf 2	Temp	deg C	16.7000																
3/19/2009	Inf 1	Turbidity	NTU	0.3500	3/19/2009	Inf 2	Turbidity	NTU	1.0200																
3/26/2009	Inf 1	Turbidity	NTU	0.2200	3/26/2009	Inf 2	Turbidity	NTU	1.2600																
4/3/2009	Inf 1	Turbidity	NTU	0.2100	4/3/2009	Inf 2	Turbidity	NTU	1.3200																
4/10/2009	Inf 1	Turbidity	NTU	0.2800	4/10/2009	Inf 2	Turbidity	NTU	1.3700																
4/16/2009	Inf 1	Turbidity	NTU	3.9600	4/16/2009	Inf 2	Turbidity	NTU	1.6800																
4/24/2009	Inf 1	Turbidity	NTU	0.9800	4/24/2009	Inf 2	Turbidity	NTU	1.4300																
5/1/2009	Inf 1	Turbidity	NTU	1.4300	5/1/2009	Inf 2	Turbidity	NTU	1.3300																