

## **YEAR 2008-2009 REPORT**

### **Beaufort County Storm Water Monitoring**

### **Beaufort County, South Carolina**

Beaufort County Public Works  
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Beaufort, South Carolina 29906

September 23, 2009

# YEAR 2008-2009 REPORT

## Beaufort County Storm Water Monitoring

### Beaufort County, South Carolina

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# **YEAR 2008-2009 REPORT**

## **Beaufort County Storm Water Monitoring**

### **Beaufort County, South Carolina**

#### **EXECUTIVE SUMMARY**

The Beaufort County Water Quality Monitoring Program was developed to achieve the four primary goals identified in the Storm Water Management Plan (SWMP) and support the county's future implementation of this plan. GEL Engineering, LLC (GEL) was selected by Beaufort County to implement the water quality monitoring program.

With regard to the Year 2 (2008-2009) sampling and analysis activities, adjustments were made to allow Beaufort County to more closely monitor fecal coliform levels in particularly sensitive areas. Additionally, bacterial source tracking (BST), also referred to as Microbial Source Tracking, or MST, took place beginning in February 2009, and continued through March 2009. Due to the inconclusive nature of the data derived during the additional BST, it was determined that remaining funds that were to be utilized for the tracking of potential bacterial sources were best spent determining existing baseline water quality for future evaluation of BMP effectiveness. Based on the Eagles Point monitoring results and Beaufort County's desire to evaluate the performance/efficiency on an existing structural BMP (ex., a detention pond), the County intends to locate another BMP site to evaluate.

While a data analysis tool has been developed, there are limited conclusions that can be drawn from the data collected thus far.

- A few of the sample collection sites remain under the influence of salt water due to tidal intrusion and should be relocated.
- Considering Beaufort County's desire to address the need for BMP's, it is now necessary to identify a new BMP sample collection location.
- Due to minor variability between grab sample data and timed/composited sample data, it may no longer be necessary to collect both sets of samples at the same locations.
- Some sample collection sites have demonstrated good water quality and Beaufort County may find it no longer necessary to collect data at these sites or to reduce the frequency of data collection allowing for long term tracking of water quality trends.

- Data collected since the onset of the County's monitoring program suggests that there may be excessive differences between data initially used by CDM to calibrate their storm water model and data collected from the present storm water monitoring program.

# **YEAR 2008-2009 REPORT**

## **Beaufort County Storm Water Monitoring**

### **Beaufort County, South Carolina**

#### **1.0 Year 2 Storm Water Monitoring**

GEL was retained to continue the storm water monitoring program that was initiated in June 2007. During Year 2, GEL:

- Continued monitoring all established stations in response to a qualified storm event rather than on a set schedule;
- Reported sample values exceeding “action levels” to Beaufort County for those parameters with “critical exceedance concentrations;”
- Routinely met with Beaufort County to review the latest data, and;
- Made adjustments to sample locations, parameters measured, etc. based on the monitoring results, data review, and monitoring program directives supplied by Beaufort County.

Table 2 summarizes the stations monitored during Year 2 including their name, watershed, receiving water body and classification, etc., and most importantly their purpose.

#### **1.1 Sample Locations and Purpose**

Since initiation of the storm water monitoring program, the identification of appropriate sampling sites for grab sampling and automatic storm event sampling has been based on the water quality sensitivity analysis (modeling), the current level of service for water quality segments, and the existing and future land use classifications. During Year 2, six trending sites were maintained, ten existing water quality stations were monitored, twelve additional months of data was collected to characterize the high and medium density residential runoff stations, and the evaluation of the Eagles Point BMP was continued through Year 2. Note that two additional existing water quality sites were initiated in Year 2 (refer to Table 2), and their purpose will be further discussed in Section 2 of this report. All sites monitored during Year 2 are displayed on Figure 1.

#### **1.2 Qualifying Storm Events**

During Year 2, GEL collected grab samples and conducted field measurements at all stations following a storm event that was greater than 0.1 inches in magnitude per hour and that occurred at least 72 hours from the previously measurable (greater than 0.1

inch rainfall) storm event. Twelve non-scheduled wet weather grab samples were collected during Year 2.

GEL also conducted twelve monthly composite sampling events at seven discrete auto sampler locations, provided that a storm event greater than 0.1 inches in magnitude per hour and that occurred at least 72 hours from a previously measurable (greater than 0.1 inch rainfall) storm event occurred during each month. Samples were collected with an automatic sampler that was established and secured in each of the four locations. The automatic sampler collected an aliquot every two minutes for the first 30 minutes following a qualifying storm event and then collected a 15 minute aliquot for the next two and a half hours for a composite sample.

**1.3 Sampling/Analytical/QA-OC Procedures**

All sampling events were conducted following GEL’s Standard Operating Procedures, United States Environmental Protection Agency (EPA) and SCDHEC approved sampling and analytical protocols, and appropriate safety measures. The table below identifies each parameter analyzed, the method allowable maximum holding time, sample preservative and the analytical method:

<b>Parameter</b>	<b>Holding Time</b>	<b>Sample Preservative</b>	<b>Analytical Method</b>
Fecal Coliform bacteria (FCB)*	24 Hours	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	EPA 200.8
Total suspended solids (TSS)	7 Days	4°C	EPA 160.2
Salinity	28 Days	4°C	EPA 120.1
Biochemical oxygen demand (BOD)	48 Hours	4°C	EPA 405.1
Ammonia nitrogen (NH <sub>3</sub> -N)	28 Days	4°C, H <sub>2</sub> SO <sub>4</sub> (pH<2)	EPA 350.1
Nitrite and nitrate nitrogen (NO <sub>3</sub> + NO <sub>2</sub> )	28 Days	4°C, H <sub>2</sub> SO <sub>4</sub> (pH<2)	EPA 353.1
Total Kjeldahl nitrogen (TKN)	28 Days	4°C, H <sub>2</sub> SO <sub>4</sub> (pH<2)	EPA 351.2
Total phosphorus (TP)	28 Days	4°C, H <sub>2</sub> SO <sub>4</sub> (pH<2)	EPA 365.4
Chlorophyll-a (chl-a)	48 Hours	4°C	SM10200H

Total organic carbon (TOC) - quarterly	28 Days	4°C, H <sub>2</sub> SO <sub>4</sub> (pH<2), zero headspace	EPA 415.1
Metals (cadmium, chromium, copper, iron, lead, manganese, mercury, nickel and zinc) — quarterly)	6 Months	4°C, HNO <sub>3</sub> (pH<2)	6010B

*\* GEL recommended that fecal coliform levels be analyzed using the five-tube dilution method (also known as MPN) since it provides more accurate results for samples containing turbidity and saltwater and is consistent with methods used during the previous monitoring events. Additionally, the standard holding time for fecal coliform is six hours; however, this method allows for a holding time of 24 hours if the sample data is not for potable water and will not be used for compliance purposes.*

Analysis of pH, temperature, dissolved oxygen, turbidity and salinity was performed in the field using a calibrated Series 4a DataSonde, manufactured by Hydrolab. This allowed parameters with a short holding time to be analyzed in-situ at the time of sampling at each sample location, thus providing more accurate results. The results of the field analyses were stored in the Hydrolab and documented on Field Data Information Sheets. Ambient weather conditions noted during each monitoring event included precipitation over the previous 24 hours. In addition, tide levels were noted during the time of sampling at each location. Each of these field parameters was recorded on a Field Data Information Sheets.

While grab and composite samples collected using the auto samplers was described in Section 1.2 of this report, discrete grab samples were collected by lowering a new sampling container directly into the surface water and next transferred to the appropriate laboratory sample containers that have been pre-labeled and containing the appropriate sample preservative. Sampling personnel wore new laboratory-quality, PVC gloves during all sample collection activities, and changed gloves, at a minimum, between each monitoring location. Each sample container was identified with a laboratory label that was completed during collection, and each label included the following information:

- The address and telephone number of GEL;
- A specific client code for the County;
- The parameter to be analyzed from that container;
- The sample identification number/name, and;
- The date and time of sample collection.

A chain of custody (COC) was documented and maintained throughout sampling and transportation to the laboratory. Samples were transported to GEL Laboratories, LLC, or the designated subcontracted laboratory for analysis. A sufficient amount of



freezer packs and/or ice was maintained in the cooler to ensure that the samples remain at the recommended temperature (4° C). The analytical results were submitted to the County no more than 30 days from the date of sample collection. (The COC and analytical certificates were not submitted to the County and are not included within this report, but may be supplied upon request.)

#### **1.4 Bacterial Source Tracking**

The EPA recommends *E. coli* as the best indicator of health risk from water contact in recreational waters. They also recommend enterococci as the best indicator of health risk in salt water and a useful indicator in fresh water. Some states have changed their water quality standards to *E. coli* and fecal streptococci, and South Carolina has both fecal coliform and enterococci standards, but based on South Carolina's historical data set, most monitoring is done utilizing the fecal coliform test.

One of the initial purposes for storm water quality monitoring was to evaluate sources of bacteria (human, bird, pets, wildlife, etc.) in locations where measured bacteria levels are substantially higher than expected based on the watershed's land use and receiving water quality modeling. The United States Food and Drug Administration has established the minimum requirements necessary to regulate the interstate commerce of molluscan shellfish, as well as a program to protect the public health of consumers by assuring the sale or distribution of shellfish from safe sources, and assuring shellfish have not been adulterated during cultivating, harvesting, processing, shipping, or handling. To that end, it was determined to be appropriate to make an effort to identify and manage sources of bacterial contamination in shellfish harvesting waters. As a result, bacterial source tracking (BST), also referred to as Microbial Source Tracking or MST, was pursued to assist the County in taking appropriate actions to implement reliable management practices to reduce potential impairments.

Most BST studies have relied on matching "fingerprints" from bacterial strains isolated from a water sample to those isolated from various sources like humans, cows, dogs, horses and wildlife. The more recent BST approaches can be grouped into two methods. They are library dependent methods (LDM) and library independent methods (LIM). The LDMs require development of databases of fingerprints from suspected fecal sources. Samples are then compared to this library for classification. Generally, bacteria indicators of fecal contamination (i.e., *E. coli* and enterococci) are used in this method.

The non-library methods (LIM) do not depend on the development of databases from suspected fecal sources. Detection is performed via the amplification of a genetic marker by a Polymerase Chain Reaction (PCR) step. EPA's BST guide states that no single method is clearly superior and the decision to use library dependent or library independent methods depend on the unique set of circumstances associated with the study area. Beaufort County chose to use the LIM method to provide the most accurate results in the most cost effective manner. GEL recommended that two trade-marked tests on human enterococcus and human bacteroidetes be performed. These tests were subcontracted to Source Molecular Corporation located in Miami, Florida.

During Year 1, the BST efforts were tied to existing grab sample locations and priority was given to grab sample sites with highest fecal coliform readings. The first test was the Human enterococcus ID test which uses PCR analytical technology to determine the presence of human fecal contamination by targeting the Enterococcus faecium human gene biomarker. The second test was a Human Bacteroidetes ID test which also uses PCR technology. The second test is excellent for determining recent forms of fecal pollution, because these organisms are strict anaerobes (i.e., they do not survive long outside the host organism). It was felt that these two tests, used together, would provide critical information for modeling and differentiating fecal coliform contamination in Beaufort County's waters.

During Year 2, the BST efforts were again focused on evaluating sources of bacteria (human, bird, pets, wildlife, etc.) in the May River where measured bacteria levels are substantially higher than expected (based on the watershed and receiving water quality modeling). In addition, the May River is a significant shellfish harvesting water, and SCDHEC has recently restricted oyster harvesting based on elevated fecal coliform levels. Based on the significance of these closures and the effect on local business and recreation, Beaufort County focused the Year 2 BST efforts at four nearby stations (BECY-1, BECY-1.5, BECY-2, and Rose Dhu) in an attempt to track potential bacteriological sources that could eventually be controlled through BMPs.

## **2.0 Adjustments During Year 2 Monitoring**

The adjustments made during Year 2 of the storm water monitoring program were few, especially when compared to Year 1. During Year 2, two new existing water quality stations were added, evaluation of the Eagles Point BMP efficiency was discontinued, and the May River BST efforts were evaluated and later discontinued.

## **2.1 Monitoring Station Changes**

During Year 2, no station locations in place at the end of Year 1 were modified, and all sampling was performed in response to a storm event. As a result, consistent circumstances for the acquisition of “storm event” samples from these stations was established during Year 2.

In addition, two existing water quality stations were added during Year 2. Sampling at BECY-1.5 was initiated in March of 2009 to monitor fecal coliform (only parameter) in response to SCDHEC’s closure of oyster beds on the May River. Beaufort County determined that this additional fecal coliform data could be used to identify a potential “hotspot” of fecal coliform entering the May River. The second existing water quality station that was added was Southside, and its purpose is to establish a baseline of existing water quality before the forthcoming construction of a water quality control structure. The data from this station before and after construction will be used to determine the effectiveness of this control structure for possible application at other sites.

## **2.2 Eagles Point BMP Efficiency**

One of the monitoring programs implemented by Beaufort County during Year 1 was evaluation of the efficiency of an existing BMP. The goal of this evaluation was to compare the calculated efficiency of the existing BMP to values used in the CDM model for various parameters. The challenge in evaluating an existing BMP is that all inputs and outputs must be monitored in order to calculate the removal efficiency. After searching for a candidate site, Beaufort County selected the Eagles Point Pond, and automatic grab and composite sampling began at the associated influent and discharge structures in April 2008.

During the Year 2 sampling at Eagles Point, three initial observations were made with regard to the resulting data – 1) the concentrations exiting the pond were very low, 2) the fecal coliform concentrations were decreasing across the pond, and 3) other parameter concentrations were increasing across the pond. As a result of the increasing concentrations, further investigation revealed that the BMP did not consist of only one input and one output. Additional inputs and sheet flow were determined to exist under wet, though not typically during dry, weather conditions. As a result, the auto sampler used at the Eagles Point inlet was moved at the end of Year 2 (May 2009) to Christine

Place (described in Section 2.1) and the evaluation of the BMP efficiency was discontinued. The auto sampler at the Eagles Point discharge was maintained and a flow meter was installed in the discharge pipe. Beaufort County is using the resulting concentration and flow data to calculate pollutant loadings at the pond discharge.

### **2.3 Bacterial Source Tracking**

As indicated, during Year 2, the BST efforts were focused on determining and ultimately controlling potential sources of bacteria (human, bird, pets, wildlife, etc.) that discharge to the May River. BST was performed in February and March 2009 at four nearby stations: 1) BECY-1, an existing trending station, 2) BECY-1.5, the new fecal coliform-only station, and 3) BECY-2, an existing trending station, and 4) Rose Dhu, a nearby station that also leads to the May River. Unfortunately, while there were confirmed results for human and bird species contamination, the total data set was determined to be inconclusive. If future data is deemed to be conclusive with regard to these two species, the actual sources must be located. Once found, Beaufort County can likely mitigate for human contamination, but there is very little that can be done about bird contamination. As a result, Beaufort County continues to consider additional analytical methods to more clearly determine the bacteriological sources contributing to the May River impairments for fecal coliform.

### **2.4 Test Procedures**

One significant analytical adjustment that was made during Year 2 was the development of station-specific sample dilutions for fecal coliform. As the initial fecal coliform data was being collected, a wide range of fecal coliform results were being reported across the stations, and it was realized that a significant number of sample results were not able to be quantified and were reported as greater than the upper limit of detection (ex., >2000 col/100 ml). Based on the historic values being reported at the stations, each station was designated a standard dilution for all future samples (0x/10x/100x dilutions). This maintains the maximum result accuracy while quantifying the majority of sample results to account for the wide range of fecal coliform concentrations. Making these changes allows for more accurate analysis of the data ranges, averages, standard deviations, etc. at each station.

### **3.0 Year 2 Data Analysis**

As indicated, GEL's monitoring is being performed to achieve four primary goals identified in the SWMP and support the county's future implementation of this plan. The primary goals are:

1. Perform long-term trend analysis to track BMP effectiveness
2. Evaluate baseline existing water quality
3. Confirm model inputs for select structural BMPs
4. Confirm model inputs for runoff quality from land use areas

GEL reviewed the monitoring data as it was collected and also utilized an Excel spreadsheet data analysis tool to evaluate the total data set with regard to these goals.

Note that while the purpose of the trending stations and existing water quality stations is different, the spreadsheet calculations performed are the same (ex., the number of water quality violations is calculated for the trend station data). Similarly, the average variability of the combined data was calculated for comparison to the variability of each individual station and the variability by parameter. This information was used to conclude that the difference between the data variability of the scheduled and wet-weather sampling events was relatively small, allowing for use of the full, combined Year 1 – Year 2 data set when evaluating the progress towards achieving the four primary goals.

#### **3.1 Track Long-term Trends for BMP Effectiveness**

As indicated, the primary goal of the trending stations is to generate a long-term (i.e., 10 years or more) data set to evaluate BMP effectiveness and for comparison to the initial best and worst-case model predictions. The spreadsheet also includes a mathematical calculation that summarizes the trends of the monitored parameters at each station so they may be compared relative to each other. Regardless, based on only two years of data, no statistically significant trends can be obtained. At a minimum, three to five years of data should be collected from the trending stations before initial trends can be observed, stations compared, and the initial model results reviewed. In addition, based on the importance of fecal coliform concentrations and impairments, the data was evaluated for correlations between fecal coliform and other parameters, though none were found. Another very initial observation was an overall dissolved oxygen increase across all stations, though slight increases at stations may be the result of wet-weather sampling.

### **3.2 Baseline Existing Water Quality**

The primary functions of the data analysis spreadsheet with regard to the existing water quality stations are to calculate the number of results above the water quality criteria, calculate the average salinity at each station, and calculate the variability of the data at each station. As indicated, the relative standard deviation (variability) of the combined Year 1&2 data set was compared to solely Year 2 data, and the overall variability was only slightly different based on wet-weather sampling events versus scheduled sampling events. In addition, the percent of samples above the associated water quality standard were also compared (Year 1&2 vs. Year 2), and the results were similar. This further supports evaluating the combined data set.

Stations with higher salinity values indicate the collection of tidally influenced samples rather than those of storm water resulting from a wet weather event. Stations BECY-4 (existing WQ), BECY-5 (existing WQ), and BECY-14 (trending) all indicate significant salinity. In addition, BECY-2 and BECY-3 indicate elevated salinity values, though the concentrations appear lower in Year 2 (wet-weather sampling).

As indicated, stations with more results above the applicable water quality standards should receive a higher priority for implementing future BMPs. Note that all stations have average fecal coliform concentrations greater than the state standard of 14 CFU/100 ml; therefore, the determination of stations with a higher than average number of results greater than the water quality standards is based on all results except fecal coliform. Fecal coliform impairment at the monitoring stations appears to be consistent across all stations. The stations with an elevated percentage of sample results above the water quality standards for parameters other than fecal coliform are BECY-4, BECY-5, and BECY-14. As indicated, all of these stations also have elevated salinity. Existing WQ stations BECY-12 and BECY-7ra are also above the average with regard to water quality exceedances, though BECY-7ra is based on a smaller data set since it was moved after Year 1.

With regard to data variability at each station, those stations with higher overall data variability may indicate less confidence in the data set and necessitate further monitoring, while those with good water quality and low data variability may potentially be discontinued (based on 1+ years per CDM). BECY-13 and BECY-4 have the highest average relative standard deviation, and while BECY-13 should remain to further evaluate the data fluctuations, BECY-4 should be relocated based on high salinity as mentioned. The combination of good water quality and low data variability at stations

BECY-6r, BECY-8r, and BECY-10 make them potential candidates for “locking down” the data at those locations and moving them to new sites to collect additional water quality data for prioritizing BMPs.

The spreadsheet was also used to evaluate specific analytical parameters for potential elimination from future sampling. Several metals including cadmium, chromium, nickel, and zinc all had less than 4% of their results above the state water quality standards. These metals, as well as a few parameters that have no state water quality standard (iron, temperature, and total organic carbon), had lower average relative standard deviations than the other monitored parameters. Elimination of these parameters from future monitoring of existing water quality sites should be considered unless the resulting data would be necessary for future modeling efforts or a specific concern is known (i.e., a known upstream source or downstream impairment).

### **3.3 Selective BMP Efficiency Comparison**

The data analysis spreadsheet calculates the percent removal for each monitored parameter (BOD<sub>5</sub>, fecal coliform, lead, TKN, phosphorus, TSS, and zinc) across a standard structural BMP, such as a wet detention pond, with one input and one output. The actual measured and calculated percent removal across the BMP is compared to the standard BMP removal efficiencies included within the SWMP and associated water quality model for each parameter.

As indicated, during the Year 2 sampling at Eagles Point, three initial observations were made with regard to the resulting data – 1) the concentrations exiting the pond were very low, 2) the fecal coliform concentrations were decreasing across the pond, and 3) other parameter concentrations were increasing across the pond. As a result of the increasing concentrations, further investigation revealed that the Eagles Point BMP did not consist of only one input and one output, and evaluation of the BMP efficiency was discontinued.

### **3.4 Selective Model Input Comparison**

As detailed earlier in this report, Event Mean Concentrations (EMCs) were used in the initial water quality model for the average runoff concentrations for each land use. The spreadsheet compares the monitoring data to the EMC’s used for each land use category – high, medium, and low density residential runoff as well as industrial runoff.

As indicated initially in the Year 1 report and during the last board meeting held on

August 5, 2009, the data collected to date indicates that the actual runoff concentrations from BECY-1a (high density) and 4a (medium density) are significantly lower than values used in the initial model – by several hundred percent on average. Based on the significant difference in the model/monitored values, CDM should be consulted with regard to these model inputs and the selected monitoring sites. If the initial site selections are not appropriate, new high and medium-density runoff sites should be selected and monitored. If the appropriateness of the site locations is confirmed, the data should be used for future model predictions and future monitoring/BMP decisions, and the auto samplers should be moved to appropriate low-density and industrial runoff locations.

### **3.5 Composite Versus Grab Sample Comparison**

Auto samplers were recommended in the SWMP, and the samplers were set up to collect both grab and composite samples. Data collected at the runoff quality sites (BECY-1a and 4a), an existing quality station (BECY-7ra) and a trend station (BECY-9ra) indicate that the average concentration, percent of samples above the water quality standards, variability of the grab and composite sample results are similar. Therefore, based on the fact that all manual grab samples are wet-weather samples, unless additional first flush data is desired, there appears to be no relatively significant reason for continuing both grab and composite sampling at the same monitoring location for the purposes of monitoring. Beaufort County should consider eliminating the composite samples and/or move the auto samplers to collect grabs at additional sites.

### **4.0 Year 2 Conclusions**

As noted in Section 6.0 of the "Year 2007-2008 Report," GEL was retained to continue the storm water quality monitoring during year 2008-2009 while integrating improvements over the existing sampling and analysis program. With GEL and Beaufort County's coordinated efforts, the Year 2008-2009 storm water sampling and analysis was revised to incorporate lessons learned during the previous year. During year 2008-2009, GEL and Beaufort County refined analytical ranges for fecal coliform analysis to include data outside the previously monitored ranges. These adjustments allowed Beaufort



County to more accurately quantify the results across a wide range of fecal coliform concentrations. Additionally, bacterial source tracking efforts were continued with regard to fecal coliform contamination on the May River. In addition to summarizing the Year 2008-2009 storm water monitoring program within this annual report, and, as requested by the Beaufort County Storm Water Utility Board, GEL has listed observations made during year 2008-2009 which we believe are worthy of further consideration with regard to changes in future storm water quality monitoring in Beaufort County:

- Moving BECY-4, BECY-5, and BECY-14. CDM recommended that Beaufort County relocate these three sampling locations due to possible influence/interference from salt water intrusion. Furthermore, data collected during year 2 supports this conclusion.
- BECY-7ra and BECY-12 may be good water quality monitoring sites for implementing future upstream BMPs. As noted above, these sites should not be influenced by salinity and should be true storm water derived samples. However, they have more results above the state water quality standards than other stations.
- Moving some of the existing water quality sites (BECY-6r, BECY-8r, and BECY-10) based on low data variability and good water quality. These sites have consistently demonstrated good water quality and may no longer require monitoring.
- Removing select parameters from existing water quality site analyses. As discussed in Section 3.2, some parameters have demonstrated low data variability with few or no water quality exceedence's and may require no further monitoring.
- Locating a new BMP efficiency site. Presently there is no BMP site identified for the Beaufort County water quality monitoring program.
- Moving runoff sites to new high/medium density residential or industrial/low density residential sites. Due to the data collected from the existing sites being considerably lower than the data originally used by CDM to calibrate the water quality model, it may be advisable to collect data from other sites to see how it agrees with the model data.

- Eliminate collecting both grab and composite samples from the same site. Considering the relatively minor differences between the grab and composite data, it may be cost effective to eliminate collecting grab and composite samples from the same locations.

## 5.0 References

South Carolina Department of Health and Environmental Control, April 25, 2008, Water Classifications and Standards Regulation 61-68: Bureau of Water.

South Carolina Department of Health and Environmental Control, Shellfish Sanitation Program Water Monitoring, Assessment and Protection Division, Environmental Quality Control-Bureau of Water, Annual Update, July 2006 Update.

Beaufort County Storm Water Management Plan, February 20, 2006, Thomas & Hutton Engineering Co. and Camp Dresser McKee Inc.

Beaufort County Monitoring Program Review, March 24, 2008, Camp Dresser and McKee Inc.

USEPA, 2005. Microbial Source Tracking Guide Document. Office of Research and Development, Washington, DC, EPA/600/R-05/064.

USEPA, 2006, Water Quality Standards Database.

## FIGURES

Station	Sample Meth	Watershed	Hydrologic Basin	RWB	Classification	Purpose
BECY-1a	Auto	Beaufort River	Southside	Beaufort River	SFH	High Density Res. Runoff
BECY-1.5	Grab	May River	May River	May River	ORW	Existing Water Quality
BECY-1	Grab	May River	May River	May River	ORW	Trend Analysis
BECY-2	Grab	May River	May River	May River	ORW	Trend Analysis
BECY-3	Grab	Collection River	Okatie West	Okatie River	ORW	Existing Water Quality
BECY-4	Grab	Collection River	Barkley Creek	Morgan River	ORW	Existing Water Quality
BECY-4a	Auto	Collection River	Rock Springs Creek	Morgan River	SFH	Med. Density Res. Runoff
BECY-5	Grab	Collection River	Camp St. Marys	Battery Creek	ORW	Existing Water Quality
BECY-6r	Grab	Beaufort River	Graber Hill	Battery Creek	SFH	Existing Water Quality
BECY-7a	Auto	Beaufort River	Burton Hill	Battery Creek	SFH	Trend Analysis
BECY-8a	Auto	Beaufort River	Battery Creek North	Battery Creek	SFH	Trend Analysis
BECY-9	Auto	Beaufort River	Battery Creek West	Battery Creek	SFH	Trend Analysis
BECY-10	Grab	Broad River	Hubertam Creek North	Broad River	SFH	Existing Water Quality
BECY-11	Grab	Beaufort River	Sat Creek South	Beaufort River	SA	Existing Water Quality
BECY-12	Grab	Beaufort River	Beaufort River	Beaufort River	SA	Existing Water Quality
BECY-13	Grab	Morgan River	Rock Sp. Creek	Morgan River	SFH	Existing Water Quality
BECY-14	Grab	Morgan River	Wilder Creek	Morgan River	SFH	Trend Analysis
BUP1a - In	Auto	N/A	N/A	N/A	N/A	BMP Efficacy
BUP1a - Out	Auto	N/A	N/A	N/A	N/A	BMP Efficacy
Southside	Auto	--	--	--	--	Existing Water Quality



**Figure 1**  
**Year 2 Stormwater Sample Locations**  
**Beaufort County, South Carolina**

Legend  
 Sample Locations  
 Roads

Scale: 0, 5,000, 10,000  
 North Arrow

GEL Engineering LLC

## **TABLES**

**Table 1  
Recommended Tributary Sample Locations**

Watershed	Hydrologic Basin	% Urban - Future Land Use	% Impervious - Future Land Use	Future Increase in % Urban	Future Increase in % Impervious	Sampling Method	Purpose
Beaufort River	Southside	92%	51%	2%	1%	Automatic	High Density Residential Runoff
Beaufort River	Albergotti Creek	93%	67%	0%	0%	Automatic	Industrial Runoff
Colleton River	Camp St. Marys	48%	8%	16%	2%	Automatic	Low Density Residential Runoff
Morgan River	Rock Springs Creek	96%	22%	7%	2%	Automatic	Medium Density Residential Runoff
Beaufort River	Burton Hill	71%	43%	19%	13%	Grab	Existing Quality <sup>1</sup>
Beaufort River	Grober Hill	53%	25%	12%	3%	Grab	Existing Quality <sup>1</sup>
Beaufort River	Salt Creek	75%	27%	35%	13%	Grab	Existing Quality
Beaufort River	Salt Creek South	78%	30%	41%	11%	Grab	Existing Quality <sup>1</sup>
Beaufort River	Shanklin Road	81%	49%	31%	21%	Grab	Existing Quality <sup>1</sup>
Colleton River	Berkeley Creek	67%	18%	15%	5%	Grab	Existing Quality
Morgan River	Factory Creek	84%	25%	15%	5%	Grab	Existing Quality <sup>1</sup>
Morgan River	Lucy Point	95%	21%	6%	1%	Grab	Existing Quality
Beaufort River	Battery Creek North	90%	67%	55%	43%	Grab	Trend Analysis <sup>1</sup>
Beaufort River	Battery Creek West	82%	28%	50%	10%	Grab	Trend Analysis <sup>1</sup>
Colleton River	Okatie West	83%	25%	58%	19%	Grab	Trend Analysis
May River	Rose Dhu Creek	91%	22%	54%	13%	Grab	Trend Analysis
May River	Stoney Creek	72%	12%	51%	8%	Grab	Trend Analysis
Morgan River	Coffin Creek	87%	22%	59%	14%	Grab	Trend Analysis

<sup>1</sup> Sampling station is downstream of potential regional detention site, and therefore may provide data for prioritizing the construction of ponds and evaluating benefits (if pond is built)

<sup>2</sup> Location was inadvertently listed as "Coffin Creek" in the Beaufort County Stormwater Master Plan, Thomas & Hutton and CDM, 2006.

**Table 2**  
**Revised Tributary Sample Locations**

<b>Station</b>	<b>Sample Meth</b>	<b>Watershed</b>	<b>Hydrologic Basin</b>	<b>RWB</b>	<b>Classification</b>	<b>Purpose</b>
BECY-1a	Auto	Beaufort River	Southside	Battery Creek	SFH	High Density Res. Runoff
BECY-1.5	Grab	May River	-	-	-	Existing Water Quality
BECY-1	Grab	May River	Stoney Creek	May River	ORW	Trend Analysis
BECY-2	Grab	May River	Tose Dhu Creek	May River	ORW	Trend Analysis
BECY-3	Grab	Colleton River	Okatie West	Okatie River	ORW	Trend Analysis
BECY-4	Grab	Colleton River	Berkley Creek	Okatie River	ORW	Existing Water Quality
BECY-4a	Auto	Morgan River	Rock Springs Creek	Morgan River	SFH	Med. Density Res. Runoff
BECY-5	Grab	Colleton River	Camp St. Marys	Okatie River	ORW	Existing Water Quality
BECY-6r	Grab	Beaufort River	Grober Hill	Battery Creek	SFH	Existing Water Quality
BECY-7ra	Auto	Morgan River	Burton Hill	Battery Creek	SFH	Existing Water Quality
BECY-8r	Grab	Beaufort River	Battery Creek North	Battery Creek	SFH	Trend Analysis
BECY-9ra	Auto	Beaufort River	Battery Creek West	Battery Creek	SFH	Trend Analysis
BECY-10	Grab	Broad River	Habersham Creek North	Broad River	SFH	Existing Water Quality
BECY-11	Grab	Beaufort River	Salt Creek South	Beaufort River	SA	Existing Water Quality
BECY-12	Grab	Beaufort River	Salt Creek	Beaufort River	SA	Existing Water Quality
BECY-13	Grab	Morgan River	Rock Springs Creek	Morgan River	SFH	Existing Water Quality
BECY-14	Grab	Morgan River	Village Creek	Morgan River	SFH	Trend Analysis
BMPep - In	Auto	N/A	N/A	N/A	N/A	BMP Efficiency
BMPep - Out	Auto	N/A	N/A	N/A	N/A	BMP Efficiency
Southside	Auto	-	-	-	-	Existing Water Quality

**Table 3**  
**Year 2 Data Summary - Ammonia-Nitrogen\* (NH3)**

Station	Jun-08 6/29/2008	Aug-08 8/8/2008	Aug-08 8/13/2008	Aug-08 8/21/2008	Sep-08 9/12/2008	Oct-08 10/9/2008	Dec-08 12/1/2008	Dec-08 12/12/2008	Jan-09 1/13/2009	Jan-09 1/19/2009	Feb-09 2/19/2009	Mar-09 3/2/2009	Mar-09 3/17/2009	Apr-09 4/1/2009	Apr-09 4/6/2009	Apr-09 4/14/2009	May-09 5/6/2009	May-09 5/18/2009	# of Samples
BECY-1a Comp	0.208	.	.	0.36	.	0.094	.	.	0.03	.	0.233	.	0.109	0.144	.	0.125	0.141	0.115	10
BECY-1a Grab	0.127	.	.	0.24	.	0.121	.	.	0.144	.	0.089	.	0.128	0.201	.	0.115	0.134	0.136	10
BECY-4a Comp	.	.	0.11	0.10	0.224	.	.	0.03	0.0842	.	0.105	.	.	.	.	.	.	.	6
BECY-4a Grab	.	.	0.12	0.08	0.694	.	.	0.03	0.0699	.	0.116	.	.	.	.	.	.	.	6
BECY-7ra Comp	0.838	.	.	0.07	.	0.145	.	0.075	0.211	.	0.114	0.058	0.069	0.14	0.11	0.164	0.645	.	12
BECY-7ra Grab	0.72	.	.	0.12	.	0.098	.	0.06	0.188	.	0.119	0.112	0.227	0.175	0.128	0.093	0.526	.	12
BECY-9ra Comp	4	.	.	0.04	0.207	0.569	.	0.03	0.177	.	0.069	.	.	0.08	.	0.056	1.04	0.111	11
BECY-9ra Grab	0.19	.	.	0.04	0.109	1.71	.	0.047	0.117	.	0.086	.	.	0.121	.	0.109	1.03	0.016	11
BMPep - IN COMP	.	0.13	.	0.16	.	0.091	0.129	.	.	.	.	.	.	0.345	.	0.685	1.43	.	7
BMPep - IN GRAB	.	0.08	.	0.12	.	0.088	0.034	.	.	.	.	.	.	0.072	.	0.638	1.36	.	7
BMPep - OUT COMP	.	0.56	.	0.11	.	0.182	0.15	0.064	.	.	0.151	0.18	.	.	0.016	0.13	0.644	.	10
BMPep - OUT GRAB	.	0.59	.	0.14	.	0.192	0.095	0.231	.	.	0.232	0.2	.	.	0.12	0.2	0.349	.	10
SOUTHSIDE Comp	.	.	.	.	.	.	.	.	.	.	0.137	.	.	0.234	.	0.81	0.384	0.016	5
SOUTHSIDE Grab	.	.	.	.	.	.	.	.	.	.	0.067	.	0.132	0.161	.	1.35	0.427	0.344	6
BECY-1	.	0.45	0.34	.	0.11	0.27	0.106	.	0.062	0.122	0.102	0.049	0.042	0.133	0.016	.	.	.	12
BECY-2	.	0.12	0.28	.	0.111	0.186	0.078	.	0.0347	0.117	0.081	0.366	0.030	0.117	0.073	.	.	.	12
BECY-3	.	0.23	0.19	.	0.227	0.213	0.094	.	0.0857	0.101	.	0.051	0.108	0.167	0.1	.	.	0.169	12
BECY-4	.	0.10	0.11	.	.	0.114	0.105	.	.	0.083	.	0.037	0.030	0.073	0.133	.	.	0.174	10
BECY-5	.	0.10	0.11	.	0.099	0.396	0.1	.	0.0803	0.101	.	0.03	0.046	0.086	0.076	.	.	0.136	12
BECY-6r	.	0.08	0.12	.	3.27	0.541	0.168	.	0.112	0.042	.	0.03	0.030	0.308	0.244	.	.	0.411	12
BECY-8r	.	0.08	0.10	.	0.119	0.107	0.94	.	0.0827	0.093	.	0.041	0.09	0.16	0.118	.	.	0.116	12
BECY-10	.	0.06	0.16	.	0.144	0.345	0.056	.	0.127	0.117	.	0.095	0.114	0.115	0.083	.	.	0.12	12
BECY-11	.	0.07	.	.	0.189	0.124	0.324	.	0.0932	0.183	.	0.034	0.091	0.171	0.113	.	.	0.192	11
BECY-12	.	0.48	0.79	.	0.31	0.599	0.096	.	0.0471	0.138	.	0.12	0.108	0.169	0.234	.	.	0.016	12
BECY-13	.	.	0.07	.	0.115	0.16	0.164	.	0.16	0.224	0.141	0.047	0.105	0.138	0.075	.	.	0.117	12
BECY-14	.	0.16	0.11	.	0.071	0.228	0.179	.	0.0719	0.223	.	0.03	0.154	0.079	0.166	.	.	0.016	12

\* Ammonia-Nitrogen is internally tracked for Critical Exceedance Concentration information



**Table 4**  
**Year 2 Data Summary - Biochemical Oxygen Demand\* (BOD5)**

Station	Jun-08 6/29/2008	Aug-08 8/8/2008	Aug-08 8/13/2008	Aug-08 8/21/2008	Sep-08 9/12/2008	Oct-08 10/9/2008	Dec-08 12/1/2008	Dec-08 12/12/2008	Jan-09 1/13/2009	Jan-09 1/19/2009	Feb-09 2/19/2009	Mar-09 3/2/2009	Mar-09 3/17/2009	Apr-09 4/1/2009	Apr-09 4/6/2009	Apr-09 4/14/2009	May-09 5/6/2009	May-09 5/18/2009	# of Samples
BECY-1a Comp	5.05	.	.	5.5	.	8.42	.	.	11.2	.	9.38	.	11.5	15.1	.	1.39	6.26	5.85	10
BECY-1a Grab	5.67	.	.	4.2	.	9.38	.	.	6.15	.	8.78	.	10.4	23.6	.	4.59	4.15	8.25	10
BECY-4a Comp	.	.	4	1.5	1.02	.	.	1	2.16	.	2.09	.	.	.	.	.	.	.	6
BECY-4a Grab	.	.	2	2.6	1.55	.	.	1.83	2.27	.	2.21	.	.	.	.	.	.	.	6
BECY-7ra Comp	3.64	.	.	2.8	.	4.27	.	2.94	2.58	.	2.93	2.3	2.17	7.52	7.46	4.54	4.96	.	12
BECY-7ra Grab	4.34	.	.	2.4	.	3.21	.	2.38	4.98	.	4.01	2.93	1.87	9.34	4.84	2.86	4.69	.	12
BECY-9ra Comp	1.48	.	.	4.8	1.19	9.08	.	8.29	25.7	.	3.63	.	.	8.85	.	4.88	12.8	4.25	11
BECY-9ra Grab	1.8	.	.	4.9	1.27	9.83	.	7.78	28.6	.	4.89	.	.	9.06	.	7.88	8.23	5.43	11
BMPep - IN COMP	.	3	.	1.0	.	4.3	3.36	.	.	.	.	.	.	8.57	.	3.77	4.88	.	7
BMPep - IN GRAB	.	3	.	1.2	.	3.68	3	.	.	.	.	.	.	10	.	3.74	6.79	.	7
BMPep - OUT COMP	.	3	.	2.3	.	7.89	4.21	4.2	.	.	4.31	5.31	.	.	5.53	4.64	7.06	.	10
BMPep - OUT GRAB	.	3	.	2.2	.	4.51	3.48	4.42	.	.	4	5.92	.	.	5.57	5.18	6.39	.	10
SOUTHSIDE Comp	.	.	.	.	.	.	.	.	.	.	3.93	.	.	14.6	.	3.35	1.9	5.34	5
SOUTHSIDE Grab	.	.	.	.	.	.	.	.	.	.	4.89	.	5.96	14.3	.	2.75	7.69	6.2	6
BECY-1	.	5	5	.	1.43	4.88	4.97	.	2.67	2.89	2.98	2.84	3.72	10.2	5.52	.	.	.	12
BECY-2	.	3	2	.	1.71	3.97	1.94	.	2.66	2.06	3.31	1.56	2.04	8.82	6.1	.	.	.	12
BECY-3	.	2	6	.	1.63	2.68	3.69	.	3.65	2.3	.	2.15	2.15	8.95	5.91	.	.	4.18	12
BECY-4	.	3	1	.	.	3.26	3.95	.	.	2.79	.	1.18	2.94	8.88	5.23	.	.	3.32	10
BECY-5	.	2	1	.	1	1.94	1	.	2.05	1.92	.	1	1.1	7.91	6.11	.	.	3.35	12
BECY-6r	.	3	2	.	1.23	4.22	2.41	.	1	4.25	.	2.19	1.73	10.1	9.76	.	.	4.38	12
BECY-8r	.	5	10	.	1.75	2.3	3.52	.	5.93	2.21	.	1.7	5.94	13.5	7.42	.	.	4.28	12
BECY-10	.	5	4	.	1.2	2.24	2.57	.	1.52	1.56	.	2.67	2.4	9.38	5.25	.	.	4.73	12
BECY-11	.	3	.	.	1	2.94	2.46	.	1.43	1.81	.	1.27	2.15	9.22	4.53	.	.	4.17	11
BECY-12	.	5	4	.	2.79	4.78	2.37	.	2.52	1.6	.	2.18	1	8.31	3.48	.	.	3.88	12
BECY-13	.	.	1	.	2.52	1.99	1.69	.	1.76	1.25	1	1.44	1.19	7.65	6.05	.	.	3.13	12
BECY-14	.	2	2	.	4.9	3.91	1.97	.	1.8	1.57	.	2.74	2.06	8.2	5.53	.	.	3.55	12

\* Biochemical Oxygen Demand is internally tracked for Critical Exceedance Concentration information

**Table 5**  
**Year 2 Data Summary - Cadmium (Total)**

Station	Jun-08 6/29/2008	Aug-08 8/8/2008	Aug-08 8/13/2008	Aug-08 8/21/2008	Sep-08 9/12/2008	Oct-08 10/9/2008	Dec-08 12/1/2008	Dec-08 12/12/2008	Jan-09 1/13/2009	Jan-09 1/19/2009	Feb-09 2/19/2009	Mar-09 3/2/2009	Mar-09 3/17/2009	Apr-09 4/1/2009	Apr-09 4/6/2009	Apr-09 4/14/2009	May-09 5/6/2009	May-09 5/18/2009	# of Samples
BECY-1a Comp	10	.	.	.	.	1	.	.	1	.	.	.	1	.	.	.	.	.	4
BECY-1a Grab	3.57	.	.	.	.	1	.	.	1	.	.	.	1.15	.	.	.	.	.	4
BECY-4a Comp	.	.	1	.	1.00	.	.	1.00	.	.	.	.	.	.	.	.	.	.	3
BECY-4a Grab	.	.	1	.	1.00	.	.	1.00	.	.	.	.	.	.	.	.	.	.	3
BECY-7ra Comp	1.29	.	.	.	.	1.09	.	1	.	.	.	1	.	.	.	.	.	.	4
BECY-7ra Grab	1.89	.	.	.	.	1	.	1	.	.	.	1	.	.	.	.	.	.	4
BECY-9ra Comp	1	.	.	.	1	.	.	1.11	.	.	.	.	1	.	.	.	.	.	4
BECY-9ra Grab	1	.	.	.	1	.	.	1.03	.	.	.	.	1	.	.	.	.	.	4
BM Pep - IN COMP	.	1	.	.	.	1	1	.	.	.	.	.	1	.	.	.	.	.	4
BM Pep - IN GRAB	.	1	.	.	.	1	1	.	.	.	.	.	1	.	.	.	.	.	4
BM Pep - OUT COMP	.	1	.	.	.	1	1	1	.	.	.	1	.	.	.	.	.	.	5
BM Pep - OUT GRAB	.	1	.	.	.	1	1	1	.	.	.	1	.	.	.	.	.	.	5
SOUTHSIDE Comp	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	1
SOUTHSIDE Grab	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	1
BECY-1	.	5	.	.	1	.	1	.	.	.	.	1	.	.	.	.	.	.	4
BECY-2	.	5	.	.	1	.	1	.	.	.	.	1	.	.	.	.	.	.	4
BECY-3	.	5	.	.	1	.	1	.	.	.	.	1	.	.	.	.	.	.	4
BECY-4	.	5	.	.	.	1	10	.	.	.	.	1	.	.	.	.	.	.	4
BECY-5	.	5	.	.	1	.	10	.	.	.	.	1	.	.	.	.	.	.	4
BECY-6r	.	1	.	.	1	.	1	.	.	.	.	1	.	.	.	.	.	.	4
BECY-8r	.	1	.	.	1	.	1	.	.	.	.	1	.	.	.	.	.	.	4
BECY-10	.	1	.	.	1	.	1	.	.	.	.	1	.	.	.	.	.	.	4
BECY-11	.	1	.	.	1	.	1	.	.	.	.	1	.	.	.	.	.	.	4
BECY-12	.	1	.	.	1	.	1	.	.	.	.	1	.	.	.	.	.	.	4
BECY-13	.	.	1	.	1	.	1	.	.	.	.	1	.	.	.	.	.	.	4
BECY-14	.	5	.	.	1	.	10	.	.	.	.	1	.	.	.	.	.	.	4

**Table 6**  
**Year 2 Data Summary - Chlorophyll-a**

Station	Jun-08 6/29/2008	Aug-08 8/8/2008	Aug-08 8/13/2008	Aug-08 8/21/2008	Sep-08 9/12/2008	Oct-08 10/9/2008	Dec-08 12/1/2008	Dec-08 12/12/2008	Jan-09 1/13/2009	Jan-09 1/19/2009	Feb-09 2/19/2009	Mar-09 3/2/2009	Mar-09 3/17/2009	Apr-09 4/1/2009	Apr-09 4/6/2009	Apr-09 4/14/2009	May-09 5/6/2009	May-09 5/18/2009	# of Samples
BECY-1a Comp	3.60	.	.	26.6	.	13.5	.	.	16.4	.	103.1	.	125.3	97.9	.	28.3	62.4	15.8	10
BECY-1a Grab	3.00	.	.	24.7	.	38.3	.	.	11.3	.	132.2	.	56.6	115.8	.	30.9	5.8	21.6	10
BECY-4a Comp	.	.	0.50	0.2	0.2	.	.	<0.2	2.4	.	1.5	.	.	.	.	.	.	.	6
BECY-4a Grab	.	.	0.30	0.2	0.2	.	.	0.6	1.2	.	1.7	.	.	.	.	.	.	.	6
BECY-7ra Comp	2.00	.	.	10.4	.	7.6	.	1.0	1.4	.	13.2	3.5	4.7	1.3	<.2	2.2	4.5	.	12
BECY-7ra Grab	1.30	.	.	4.3	.	6.0	.	0.2	3.8	.	13.0	11.6	3.2	1.1	<.2	2.7	0.4	.	12
BECY-9ra Comp	0.20	.	.	2.2	6.1	0.5	.	<0.2	1.4	.	8.9	.	.	2.1	.	0.3	205.4	25.7	11
BECY-9ra Grab	0.30	.	.	2.5	0.3	0.3	.	<0.2	1.2	.	51.9	.	.	10.2	.	22.9	89.0	21.9	11
BMPep - IN COMP	.	16.60	.	0.2	.	1.7	<0.2	.	.	.	.	.	.	0.7	.	3.7	0.2	.	7
BMPep - IN GRAB	.	36.20	.	0.2	.	1.4	0.3	.	.	.	.	.	.	0.9	.	1.9	0.3	.	7
BMPep - OUT COMP	.	37.40	.	8.6	.	7.5	<0.2	2.2	.	.	71.0	78.4	.	.	0.3	41.9	16.3	.	10
BMPep - OUT GRAB	.	31.90	.	7.6	.	6.1	2.0	0.2	.	.	55.2	57.2	.	.	0.2	18.9	27.7	.	10
SOUTHSIDE Comp	.	.	.	.	.	.	.	.	.	.	77.9	.	.	72.7	.	36.4	19.8	7.7	5
SOUTHSIDE Grab	.	.	.	.	.	.	.	.	.	.	89.2	.	31.1*	121.8	.	21.1	15.4	9.3	6
BECY-1	.	5.5	17.4	.	1.3	4.3	0.2	.	2.3	0.6	16.7	6.0	5.7	12.3	2.7	.	.	.	12
BECY-2	.	5.3	17.8	.	.	13.0	<0.2	.	1.9	1.3	19.7	8.1	12.9	19.4	0.5	.	.	.	11
BECY-3	.	1.3	66.1	.	3.8	5.3	<0.2	.	2.6	1.2	.	15.2	20.5	16.1	0.3	.	.	22.0	12
BECY-4	.	66.6	9.8	.	.	0.6	0.2	.	.	2.0	.	9.0	12.1	23.6	0.5	.	.	11.1	10
BECY-5	.	8.5	6.3	.	.	0.4	<0.2	.	0.5	1.1	.	2.5	4.7	5.6	0.3	.	.	17.5	11
BECY-6r	.	3.8	21.8	.	.	6.9	<0.2	.	0.2	0.3	.	8.4	3.5	7.1	<.2	.	.	13.4	11
BECY-8r	.	11.9	1	.	2.0	3.1	<0.2	.	0.9	0.9	.	6.1	7.9	8.7	0.2	.	.	2.8	12
BECY-10	.	5.9	34.4	.	1.2	.	<0.2	.	1.8	1.2	.	7.7	3.3	4.2	<.2	.	.	4.5	11
BECY-11	.	22	.	.	.	1.8	0.4	.	0.8	0.4	.	11.0	17.7	6.5	<.2	.	.	2.7	10
BECY-12	.	8.1	20.8	.	1.4	7.0	0.3	.	16.2	2.6	.	20.5	5.2	1.9	0.2	.	.	5.4	12
BECY-13	.	.	20.8	.	0.2	0.4	<0.2	.	0.1	<0.2	0.7	1.5	0.6	0.4	0.2	.	.	15.4	12
BECY-14	.	15.5	16.3	.	.	0.8	0.3	.	0.2	2.0	.	19.0	13.1	26.6	0.2	.	.	17.8	11

**Table 7**  
**Year 2 Data Summary - Chromium (Total)**

Station	Jun-08	Aug-08	Aug-08	Aug-08	Sep-08	Oct-08	Dec-08	Dec-08	Jan-09	Jan-09	Feb-09	Mar-09	Mar-09	Apr-09	Apr-09	Apr-09	May-09	May-09	# of
	6/29/2008	8/8/2008	8/13/2008	8/21/2008	9/12/2008	10/9/2008	12/1/2008	12/12/2008	1/13/2009	1/19/2009	2/19/2009	3/2/2009	3/17/2009	4/1/2009	4/6/2009	4/14/2009	5/6/2009	5/18/2009	Samples
BECY-1a Comp	20	.	.	.	.	2	.	.	2	.	.	.	2.91	.	.	.	.	.	4
BECY-1a Grab	2	.	.	.	.	2	.	.	2	.	.	.	2.47	.	.	.	.	.	4
BECY-4a Comp	.	.	2.73	.	2	.	.	2	.	.	.	.	.	.	.	.	.	.	3
BECY-4a Grab	.	.	2.75	.	2	.	.	2	.	.	.	.	.	.	.	.	.	.	3
BECY-7ra Comp	6.11	.	.	.	.	4.36	.	2	.	.	.	2	.	.	.	.	.	.	4
BECY-7ra Grab	2	.	.	.	.	6.65	.	3.38	.	.	.	2	.	.	.	.	.	.	4
BECY-9ra Comp	3.36	.	.	.	2	.	.	2	.	.	.	.	.	2.18	.	.	.	.	4
BECY-9ra Grab	2	.	.	.	2	.	.	2.5	.	.	.	.	.	2.93	.	.	.	.	4
BM Pep - IN COMP	.	2	.	.	.	2	2	.	.	.	.	.	.	2	.	.	.	.	4
BM Pep - IN GRAB	.	2	.	.	.	2	2	.	.	.	.	.	.	2	.	.	.	.	4
BM Pep - OUT COMP	.	2	.	.	.	2	2	2	.	.	.	2	.	.	.	.	.	.	5
BM Pep - OUT GRAB	.	2	.	.	.	2	2	2	.	.	.	2	.	.	.	.	.	.	5
SOUTHSIDE Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	3.47	.	.	.	.	1
SOUTHSIDE Grab	.	.	.	.	.	.	.	.	.	.	.	.	.	3.33	.	.	.	.	1
BECY-1	.	2	.	.	2	.	2	.	.	.	.	2	.	.	.	.	.	.	4
BECY-2	.	2	.	.	2	.	2	.	.	.	.	2	.	.	.	.	.	.	4
BECY-3	.	10	.	.	2	.	2	.	.	.	.	2	.	.	.	.	.	.	4
BECY-4	.	10	.	.	.	2	20	.	.	.	.	2	.	.	.	.	.	.	4
BECY-5	.	10	.	.	2	.	20	.	.	.	.	2	.	.	.	.	.	.	4
BECY-6r	.	2	.	.	2.28	.	2	.	.	.	.	2.79	.	.	.	.	.	.	4
BECY-8r	.	2	.	.	2.14	.	2	.	.	.	.	2	.	.	.	.	.	.	4
BECY-10	.	2	.	.	2.92	.	2	.	.	.	.	2	.	.	.	.	.	.	4
BECY-11	.	2	.	.	3.16	.	2	.	.	.	.	2	.	.	.	.	.	.	4
BECY-12	.	4	.	.	5.69	.	2	.	.	.	.	2	.	.	.	.	.	.	4
BECY-13	.	.	10.3	.	2	.	2	.	.	.	.	2	.	.	.	.	.	.	4
BECY-14	.	10	.	.	2	.	20	.	.	.	.	2	.	.	.	.	.	.	4

**Table 8**  
**Year 2 Data Summary - Conductivity**

Station	Jun-08 6/29/2008	Aug-08 8/8/2008	Aug-08 8/13/2008	Aug-08 8/21/2008	Sep-08 9/12/2008	Oct-08 10/9/2008	Dec-08 12/1/2008	Dec-08 12/12/2008	Jan-09 1/13/2009	Jan-09 1/19/2009	Feb-09 2/19/2009	Mar-09 3/2/2009	Mar-09 3/17/2009	Apr-09 4/1/2009	Apr-09 4/6/2009	Apr-09 4/14/2009	May-09 5/6/2009	May-09 5/18/2009	# of Samples
BECY-1a Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BECY-1a Grab	.	.	.	6050	.	.	.	.	3439	.	1054	.	2258	720	.	610	658	855	8
BECY-4a Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BECY-4a Grab	.	.	116	70	16.6	.	.	119	130	.	108	.	.	.	.	.	.	.	6
BECY-7ra Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BECY-7ra Grab	.	.	.	304	.	.	.	2793	18135	.	200	336	1151	751	690	1081	1577	.	10
BECY-9ra Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BECY-9ra Grab	.	.	.	410	60	.	.	475	586.1	.	155	.	.	192	.	135	188	79	9
BMPep - IN COMP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BMPep - IN GRAB	.	679	.	126	.	.	535	.	.	.	.	.	.	533	.	183	273	.	6
BMPep - OUT COMP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BMPep - OUT GRAB	.	325	.	145	.	.	144	157	.	.	166	716	.	.	349	133	138	.	9
SOUTHSIDE Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SOUTHSIDE Grab	.	.	.	.	.	.	.	.	.	.	301	.	8887	10368	.	2983	584	51.1	6
BECY-1	.	31584	13961	.	729	.	207	.	4410	607	830	325	886	423	182	.	.	.	11
BECY-2	.	48330	7830	.	1682	.	464	.	21884	10311	6366	12427	20710	4674	297	.	.	.	11
BECY-3	.	25046	10364	.	25088	.	1026	.	37477	4337	.	1210	18971	4939	595	.	.	659	11
BECY-4	.	52995	15977	.	.	.	40894	.	.	41970	.	40943	44749	44383	18485	.	.	27611	9
BECY-5	.	53173	41196	.	35753	.	44505	.	41119	49308	.	40711	44672	14.44	21961	.	.	31816	11
BECY-6r	.	104	113	.	91.8	.	168	.	388	224	.	245	263	219	279	.	.	174	11
BECY-8r	.	1000	62	.	246.2	.	448	.	582.2	339	.	187	1605	78	408	.	.	31	11
BECY-10	.	135	143	.	94.2	.	148	.	202	257	.	160	223	177	170	.	.	145	11
BECY-11	.	141	.	.	171.9	.	266	.	261.3	246	.	249	243	160	277	.	.	109	10
BECY-12	.	19597	28909	.	384.3	.	1539	.	939.5	889	.	1215	958	581	243	.	.	547	11
BECY-13	.	.	170	.	124.2	.	145	.	133.5	158	163	150	158	141	135	.	.	127	11
BECY-14	.	52410	46441	.	36162	.	31790	.	36576	20333	.	17570	28150	32388	10272	.	.	19890	11

**Table 9  
Year 2 Data Summary - Copper (Total)**

Station	Jun-08	Aug-08	Aug-08	Aug-08	Sep-08	Oct-08	Dec-08	Dec-08	Jan-09	Jan-09	Feb-09	Mar-09	Mar-09	Apr-09	Apr-09	Apr-09	May-09	May-09	# of
	6/29/2008	8/8/2008	8/13/2008	8/21/2008	9/12/2008	10/9/2008	12/1/2008	12/12/2008	1/13/2009	1/19/2009	2/19/2009	3/2/2009	3/17/2009	4/1/2009	4/6/2009	4/14/2009	5/6/2009	5/18/2009	Samples
BECY-1a Comp	30	.	.	.	.	3	.	.	3	.	.	.	3	.	.	.	.	.	4
BECY-1a Grab	3	.	.	.	.	3	.	.	3	.	.	.	3	.	.	.	.	.	4
BECY-4a Comp	.	.	6.5	.	3.46	.	.	3	.	.	.	.	.	.	.	.	.	.	3
BECY-4a Grab	.	.	6.2	.	3.37	.	.	3	.	.	.	.	.	.	.	.	.	.	3
BECY-7ra Comp	3	.	.	.	.	3	.	3	.	.	.	3	.	.	.	.	.	.	4
BECY-7ra Grab	3	.	.	.	.	3	.	3	.	.	.	3	.	.	.	.	.	.	4
BECY-9ra Comp	5.44	.	.	.	3	.	.	3	.	.	.	.	.	3	.	.	.	.	4
BECY-9ra Grab	3.77	.	.	.	3	.	.	3	.	.	.	.	.	3	.	.	.	.	4
BMPEP - IN COMP	.	8	.	.	.	87	99.8	.	.	.	.	.	.	3.66	.	.	.	.	4
BMPEP - IN GRAB	.	7	.	.	.	158	93.1	.	.	.	.	.	.	3.78	.	.	.	.	4
BMPEP - OUT COMP	.	87	.	.	.	125	97.4	65.6	.	.	.	60.5	.	.	.	.	.	.	5
BMPEP - OUT GRAB	.	87	.	.	.	146	111	73.9	.	.	.	64.3	.	.	.	.	.	.	5
SOUTHSIDE Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	3.47	.	.	.	.	1
SOUTHSIDE Grab	.	.	.	.	.	.	.	.	.	.	.	.	.	3.33	.	.	.	.	1
BECY-1	.	15	.	.	3	.	3	.	.	.	.	3	.	.	.	.	.	.	4
BECY-2	.	15	.	.	4.17	.	4.08	.	.	.	.	7.13	.	.	.	.	.	.	4
BECY-3	.	15	.	.	3	.	3	.	.	.	.	3.67	.	.	.	.	.	.	4
BECY-4	.	15	.	.	.	3	30	.	.	.	.	9.62	.	.	.	.	.	.	4
BECY-5	.	15	.	.	3	.	30	.	.	.	.	8.8	.	.	.	.	.	.	4
BECY-6r	.	3	.	.	3	.	3	.	.	.	.	3	.	.	.	.	.	.	4
BECY-8r	.	3	.	.	3	.	3	.	.	.	.	11.2	.	.	.	.	.	.	4
BECY-10	.	3	.	.	3	.	3	.	.	.	.	3	.	.	.	.	.	.	4
BECY-11	.	3	.	.	3	.	3	.	.	.	.	3	.	.	.	.	.	.	4
BECY-12	.	3	.	.	4.23	.	3	.	.	.	.	3	.	.	.	.	.	.	4
BECY-13	.	.	7.5	.	3	.	3	.	.	.	.	3	.	.	.	.	.	.	4
BECY-14	.	15	.	.	3	.	30	.	.	.	.	6.44	.	.	.	.	.	.	4

\* Copper is internally tracked for Critical Exceedance Concentration information

**Table 10**  
**Year 2 Data Summary - Dissolved Oxygen\* (DO)**

Station	Jun-08 6/29/2008	Aug-08 8/8/2008	Aug-08 8/13/2008	Aug-08 8/21/2008	Sep-08 9/12/2008	Oct-08 10/9/2008	Dec-08 12/1/2008	Dec-08 12/12/2008	Jan-09 1/13/2009	Jan-09 1/19/2009	Feb-09 2/19/2009	Mar-09 3/2/2009	Mar-09 3/17/2009	Apr-09 4/1/2009	Apr-09 4/6/2009	Apr-09 4/14/2009	May-09 5/6/2009	May-09 5/18/2009	# of Samples
BECY-1a Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BECY-1a Grab	.	.	.	4.99	.	.	.	.	12.25	.	10.4	.	0.27	2.86	.	3.45	1.14	5.88	8
BECY-4a Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BECY-4a Grab	.	.	8.64	10.13	5.09	.	.	6.4	7.33	.	5.6	.	.	.	.	.	.	.	6
BECY-7ra Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BECY-7ra Grab	.	.	.	6.81	.	.	.	10.43	6.54	.	6.5	7.6	3.49	5.93	4.51	4.33	4.02	.	10
BECY-9ra Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BECY-9ra Grab	.	.	.	7.7	6.45	.	.	3.35	8.99	.	7.5	.	.	5.92	.	3.9	2.5	7.6	9
BMPep - IN COMP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BMPep - IN GRAB	.	3.08	.	7.3	.	.	.	9.5	.	.	.	.	.	4.73	.	3.04	2.28	.	6
BMPep - OUT COMP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BMPep - OUT GRAB	.	3.54	.	7.28	.	.	.	8.22	7.4	.	5.3	8.86	.	.	7.6	4.74	1.93	.	9
SOUTHSIDE Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SOUTHSIDE Grab	.	.	.	.	.	.	.	.	.	.	5.3	.	2.13	1.1	.	1.97	1.5	4.23	6
BECY-1	.	5.4	7.69	.	5.5	.	8	.	9.96	9.97	7.7	8.73	7.04	7.01	6.4	.	.	.	11
BECY-2	.	4.34	8.18	.	5.9	.	9.64	.	5.91	9.3	8.4	12.4	12	7.06	7.44	.	.	.	11
BECY-3	.	4.8	5.25	.	3.35	.	7.5	.	5.64	10.04	.	9.4	6.53	6.67	6.2	.	.	8.09	11
BECY-4	.	4.1	4.34	.	.	.	8.4	.	.	10.8	.	7.63	6.79	6.81	6.32	.	.	5.4	9
BECY-5	.	4.3	3.19	.	3.8	.	8.08	.	6.18	9.55	.	7.3	6.03	5.78	5.35	.	.	7.13	11
BECY-6r	.	0.86	3.88	.	4.43	.	6.01	.	6.53	9.5	.	9.57	6.27	6.24	5.4	.	.	7.09	11
BECY-8r	.	0.56	7.14	.	4.69	.	4.27	.	7.35	9.42	.	6.4	6.01	7.17	3.82	.	.	9.2	11
BECY-10	.	3.56	2.96	.	4.7	.	6.61	.	5.95	9.3	.	7.27	5.64	5.07	4.25	.	.	4.4	11
BECY-11	.	2.3	.	.	4.05	.	8.73	.	7.51	8.6	.	6.75	2.2	5.1	6.52	.	.	8.2	10
BECY-12	.	3.6	1.16	.	4.19	.	8.27	.	7.98	11.37	.	7.2	7.17	7.3	6.56	.	.	7.4	11
BECY-13	.	.	4.17	.	6.14	.	7.51	.	6.88	7.5	8	8.12	7.95	7.35	5.46	.	.	8.9	11
BECY-14	.	2.26	2.88	.	3.63	.	5.78	.	7.28	10.5	.	7.38	5.95	5.58	5.02	.	.	5.52	11

\* Dissolved Oxygen is internally tracked for Critical Exceedance Concentration information

**Table 11  
Year 2 Data Summary - Fecal Coliform\***

Station	Jun-08 6/29/2008	Aug-08 8/8/2008	Aug-08 8/13/2008	Aug-08 8/21/2008	Sep-08 9/12/2008	Oct-08 10/9/2008	Dec-08 12/1/2008	Dec-08 12/12/2008	Jan-09 1/13/2009	Jan-09 1/19/2009	Feb-09 2/19/2009	Mar-09 3/2/2009	Mar-09 3/17/2009	Apr-09 4/1/2009	Apr-09 4/6/2009	Apr-09 4/14/2009	May-09 5/6/2009	May-09 5/18/2009	# of Samples
BECY-1a Comp	2	.	.	<200	.	300	.	.	80	.	9000	.	20	11	.	20	110	1700	10
BECY-1a Grab	2	.	.	<200	.	1300	.	.	40	.	3000	.	<20	40	.	40	40	130	10
BECY-4a Comp	.	.	1300	800	2300	.	.	500	1600	.	230	.	.	.	.	.	.	.	6
BECY-4a Grab	.	.	1400	50000	8000	.	.	500	900	.	170	.	.	.	.	.	.	.	6
BECY-7ra Comp	2	.	.	<200	.	300	.	1300	300	.	5000	170	2800	130	270	9000	5000	.	12
BECY-7ra Grab	2	.	.	200	.	40	.	5000	500	.	3000	230	500	110	800	16000	300	.	12
BECY-9ra Comp	17	.	.	800	5000	>16000	.	1100	3000	.	1300	.	.	500	.	3000	>16000	>16000	11
BECY-9ra Grab	2	.	.	5000	700	5000	.	1300	3000	.	700	.	.	230	.	5000	>16000	16000	11
BMPep - IN COMP	.	170	.	<200	.	500	60	.	.	.	.	.	.	220	.	13	30	.	7
BMPep - IN GRAB	.	50	.	<200	.	<2	300	.	.	.	.	.	.	170	.	60	11	.	7
BMPep - OUT COMP	.	13	.	<200	.	500	8	50	.	.	<2	33	.	.	8	9	30	.	10
BMPep - OUT GRAB	.	23	.	<200	.	500	14	2	.	.	2	30	.	.	11	2	2	.	10
SOUTHSIDE Comp	.	.	.	.	.	.	.	.	.	.	>1600	.	.	.	.	600	>16000	5000	5
SOUTHSIDE Grab	.	.	.	.	.	.	.	.	.	.	>1600	.	.	.	500	2200	>16000	5000	5
BECY-1	.	>1600	11000	.	8000	2400	300	.	2400	300	1700	2200	500	90	170	.	.	.	12
BECY-1.5	.	.	.	.	.	.	.	.	.	.	.	.	1150	.	.	.	.	500	2
BECY-2	.	500	2200	.	2300	16000	500	.	800	500	3000	800	1300	16000	1100	.	.	.	12
BECY-3	.	500	8000	.	400	1600	230	.	170	500	.	1100	230	1300	170	.	.	300	11
BECY-4	.	11	<200	.	.	170	30	.	.	11	.	60	8	8	130	.	.	170	10
BECY-5	.	17	17000	.	700	5000	40	.	40	20	.	80	<20	40	700	.	.	500	12
BECY-6r	.	>1600	400	.	3000	>16000	220	.	<20	80	.	500	1300	1300	17	.	.	1300	12
BECY-8r	.	>1600	50000	.	5000	8000	1300	.	3000	400	.	600	3000	2300	800	.	.	4000	12
BECY-10	.	>1600	<200	.	5000	1100	1300	.	500	500	.	800	230	500	110	.	.	1700	12
BECY-11	.	>1600	.	.	1100	<20	70	.	110	500	.	40	<20	500	230	.	.	9000	11
BECY-12	.	>1600	2300	.	11000	300	2400	.	1700	3000	.	1300	170	1700	140	.	.	5000	12
BECY-13	.	.	1700	.	200	3000	800	.	20	20	80	20	<20	<20	<20	.	.	260	12
BECY-14	.	70	<200	.	200	>1600	900	.	50	110	.	240	900	80	14	.	.	500	12

\* Fecal Coliform is internally tracked for Critical Exceedance Concentration information



**Table 12**  
**Year 2 Data Summary - Iron (Total)**

Station	Jun-08	Aug-08	Aug-08	Aug-08	Sep-08	Oct-08	Dec-08	Dec-08	Jan-09	Jan-09	Feb-09	Mar-09	Mar-09	Apr-09	Apr-09	Apr-09	May-09	May-09	# of
	6/29/2008	8/8/2008	8/13/2008	8/21/2008	9/12/2008	10/9/2008	12/1/2008	12/12/2008	1/13/2009	1/19/2009	2/19/2009	3/2/2009	3/17/2009	4/1/2009	4/6/2009	4/14/2009	5/6/2009	5/18/2009	Samples
BECY-1a Comp	357	.	.	.	.	25	.	.	180	.	.	.	557	.	.	.	.	.	4
BECY-1a Grab	44.2	.	.	.	.	25	.	.	232	.	.	.	442	.	.	.	.	.	4
BECY-4a Comp	.	.	431	.	345	.	.	1560	.	.	.	.	.	.	.	.	.	.	3
BECY-4a Grab	.	.	428	.	198	.	.	1040	.	.	.	.	.	.	.	.	.	.	3
BECY-7ra Comp	3070	.	.	.	.	1740	.	2030	.	.	.	1340	.	.	.	.	.	.	4
BECY-7ra Grab	25	.	.	.	.	3480	.	3860	.	.	.	1290	.	.	.	.	.	.	4
BECY-9ra Comp	4810	.	.	.	259	.	.	1920	.	.	.	.	1260	.	.	.	.	.	4
BECY-9ra Grab	884	.	.	.	224	.	.	2670	.	.	.	.	1360	.	.	.	.	.	4
BMPEP - IN COMP	.	1680	.	.	.	1240	820	.	.	.	.	.	1780	.	.	.	.	.	4
BMPEP - IN GRAB	.	1290	.	.	.	726	826	.	.	.	.	.	1690	.	.	.	.	.	4
BMPEP - OUT COMP	.	665	.	.	.	604	815	911	.	.	.	711	.	.	.	.	.	.	5
BMPEP - OUT GRAB	.	565	.	.	.	607	956	995	.	.	.	738	.	.	.	.	.	.	5
SOUTHSIDE Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	1190	.	.	.	.	1
SOUTHSIDE Grab	.	.	.	.	.	.	.	.	.	.	.	.	.	1180	.	.	.	.	1
BECY-1	.	1170	.	.	2820	.	1420	.	.	.	.	1430	.	.	.	.	.	.	4
BECY-2	.	844	.	.	1790	.	958	.	.	.	.	770	.	.	.	.	.	.	4
BECY-3	.	1080	.	.	393	.	965	.	.	.	.	1100	.	.	.	.	.	.	4
BECY-4	.	155	.	.	.	25	250	.	.	.	.	295	.	.	.	.	.	.	4
BECY-5	.	329	.	.	125	.	262	.	.	.	.	157	.	.	.	.	.	.	4
BECY-6r	.	345	.	.	1310	.	980	.	.	.	.	2730	.	.	.	.	.	.	4
BECY-8r	.	539	.	.	529	.	495	.	.	.	.	657	.	.	.	.	.	.	4
BECY-10	.	1490	.	.	1140	.	1210	.	.	.	.	1500	.	.	.	.	.	.	4
BECY-11	.	526	.	.	4600	.	5840	.	.	.	.	6570	.	.	.	.	.	.	4
BECY-12	.	1720	.	.	2100	.	1180	.	.	.	.	1310	.	.	.	.	.	.	4
BECY-13	.	.	13100	.	572	.	1210	.	.	.	.	464	.	.	.	.	.	.	4
BECY-14	.	822	.	.	101	.	579	.	.	.	.	522	.	.	.	.	.	.	4

**Table 13**  
**Year 2 Data Summary - Lead (Total)**

Station	Jun-08	Aug-08	Aug-08	Aug-08	Sep-08	Oct-08	Dec-08	Dec-08	Jan-09	Jan-09	Feb-09	Mar-09	Mar-09	Apr-09	Apr-09	Apr-09	May-09	May-09	# of
	6/29/2008	8/8/2008	8/13/2008	8/21/2008	9/12/2008	10/9/2008	12/1/2008	12/12/2008	1/13/2009	1/19/2009	2/19/2009	3/2/2009	3/17/2009	4/1/2009	4/6/2009	4/14/2009	5/6/2009	5/18/2009	Samples
BECY-1a Comp	25	.	.	.	.	2.5	.	.	2.5	.	.	.	4.79	.	.	.	.	.	4
BECY-1a Grab	2.5	.	.	.	.	2.5	.	.	2.5	.	.	.	2.5	.	.	.	.	.	4
BECY-4a Comp	.	.	5.8	.	2.5	.	.	2.5	.	.	.	.	.	.	.	.	.	.	3
BECY-4a Grab	.	.	6.7	.	2.5	.	.	2.5	.	.	.	.	.	.	.	.	.	.	3
BECY-7ra Comp	2.5	.	.	.	.	2.89	.	2.5	.	.	.	2.5	.	.	.	.	.	.	4
BECY-7ra Grab	2.5	.	.	.	.	6.49	.	3.59	.	.	.	2.5	.	.	.	.	.	.	4
BECY-9ra Comp	2.5	.	.	.	2.5	.	.	2.5	.	.	.	.	.	2.5	.	.	.	.	4
BECY-9ra Grab	2.5	.	.	.	2.5	.	.	2.5	.	.	.	.	.	2.5	.	.	.	.	4
BM Pep - IN COMP	.	2.5	.	.	.	2.5	2.5	.	.	.	.	.	.	2.5	.	.	.	.	4
BM Pep - IN GRAB	.	2.5	.	.	.	2.5	2.5	.	.	.	.	.	.	2.5	.	.	.	.	4
BM Pep - OUT COMP	.	2.5	.	.	.	2.5	2.5	2.5	.	.	.	2.5	.	.	.	.	.	.	5
BM Pep - OUT GRAB	.	2.5	.	.	.	2.91	2.5	2.5	.	.	.	2.5	.	.	.	.	.	.	5
SOUTHSIDE Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	2.5	.	.	.	.	1
SOUTHSIDE Grab	.	.	.	.	.	.	.	.	.	.	.	.	.	2.5	.	.	.	.	1
BECY-1	.	12.5	.	.	2.5	.	2.5	.	.	.	.	2.5	.	.	.	.	.	.	4
BECY-2	.	12.5	.	.	2.5	.	2.5	.	.	.	.	2.5	.	.	.	.	.	.	4
BECY-3	.	12.5	.	.	2.5	.	2.5	.	.	.	.	2.5	.	.	.	.	.	.	4
BECY-4	.	12.5	.	.	.	2.5	25	.	.	.	.	12.5	.	.	.	.	.	.	4
BECY-5	.	12.5	.	.	2.5	.	25	.	.	.	.	12.5	.	.	.	.	.	.	4
BECY-6r	.	2.5	.	.	2.5	.	2.5	.	.	.	.	2.5	.	.	.	.	.	.	4
BECY-8r	.	2.5	.	.	2.5	.	2.5	.	.	.	.	2.5	.	.	.	.	.	.	4
BECY-10	.	2.5	.	.	2.5	.	2.5	.	.	.	.	2.5	.	.	.	.	.	.	4
BECY-11	.	2.5	.	.	2.5	.	2.5	.	.	.	.	2.5	.	.	.	.	.	.	4
BECY-12	.	2.5	.	.	7.74	.	2.5	.	.	.	.	2.5	.	.	.	.	.	.	4
BECY-13	.	.	7.8	.	2.5	.	2.5	.	.	.	.	2.5	.	.	.	.	.	.	4
BECY-14	.	12.5	.	.	2.5	.	25	.	.	.	.	2.5	.	.	.	.	.	.	4

**Table 14**  
**Year 2 Data Summary - Manganese (Total)**

Station	Jun-08	Aug-08	Aug-08	Aug-08	Sep-08	Oct-08	Dec-08	Dec-08	Jan-09	Jan-09	Feb-09	Mar-09	Mar-09	Apr-09	Apr-09	Apr-09	May-09	May-09	# of Samples
	6/29/2008	8/8/2008	8/13/2008	8/21/2008	9/12/2008	10/9/2008	12/1/2008	12/12/2008	1/13/2009	1/19/2009	2/19/2009	3/2/2009	3/17/2009	4/1/2009	4/6/2009	4/14/2009	5/6/2009	5/18/2009	
BECY-1a Comp	20	.	.	.	.	28.9	.	.	50.8	.	.	.	53.7	.	.	.	.	.	4
BECY-1a Grab	13.1	.	.	.	.	37	.	.	20.3	.	.	.	56	.	.	.	.	.	4
BECY-4a Comp	.	.	9	.	7.4	.	.	40.9	.	.	.	.	.	.	.	.	.	.	3
BECY-4a Grab	.	.	7	.	6.37	.	.	38.5	.	.	.	.	.	.	.	.	.	.	3
BECY-7ra Comp	216	.	.	.	.	58.3	.	36	.	.	.	5.47	.	.	.	.	.	.	4
BECY-7ra Grab	124	.	.	.	.	95	.	59.2	.	.	.	6.04	.	.	.	.	.	.	4
BECY-9ra Comp	263	.	.	.	7.02	.	.	100	.	.	.	.	35.7	.	.	.	.	.	4
BECY-9ra Grab	8.99	.	.	.	5.93	.	.	90.4	.	.	.	.	28.5	.	.	.	.	.	4
BM Pep - IN COMP	.	18	.	.	.	20.5	15	.	.	.	.	.	19	.	.	.	.	.	4
BM Pep - IN GRAB	.	16	.	.	.	15.8	15	.	.	.	.	.	18.3	.	.	.	.	.	4
BM Pep - OUT COMP	.	22	.	.	.	22.1	14	15.4	.	.	.	23.5	.	.	.	.	.	.	5
BM Pep - OUT GRAB	.	22	.	.	.	24.3	15	21.3	.	.	.	24	.	.	.	.	.	.	5
SOUTHSIDE Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	60.7	.	.	.	.	1
SOUTHSIDE Grab	.	.	.	.	.	.	.	.	.	.	.	.	.	61.1	.	.	.	.	1
BECY-1	.	454	.	.	164	.	88.3	.	.	.	.	88.5	.	.	.	.	.	.	4
BECY-2	.	136	.	.	84.4	.	25.8	.	.	.	.	80.1	.	.	.	.	.	.	4
BECY-3	.	251	.	.	234	.	34.9	.	.	.	.	74.6	.	.	.	.	.	.	4
BECY-4	.	49	.	.	.	48.3	23.2	.	.	.	.	13.2	.	.	.	.	.	.	4
BECY-5	.	40	.	.	58.2	.	20	.	.	.	.	11.5	.	.	.	.	.	.	4
BECY-6r	.	80	.	.	17.9	.	8.87	.	.	.	.	57.8	.	.	.	.	.	.	4
BECY-8r	.	132	.	.	32.1	.	19.2	.	.	.	.	16.7	.	.	.	.	.	.	4
BECY-10	.	84	.	.	42.1	.	43.4	.	.	.	.	88.5	.	.	.	.	.	.	4
BECY-11	.	138	.	.	159	.	328	.	.	.	.	88.5	.	.	.	.	.	.	4
BECY-12	.	337	.	.	109	.	35.4	.	.	.	.	88.5	.	.	.	.	.	.	4
BECY-13	.	.	232	.	18.4	.	24.7	.	.	.	.	88.5	.	.	.	.	.	.	4
BECY-14	.	346	.	.	302	.	142	.	.	.	.	88.5	.	.	.	.	.	.	4

**Table 15**  
**Year 2 Data Summary - Mercury (Total)**

Station	Jun-08	Aug-08	Aug-08	Aug-08	Sep-08	Oct-08	Dec-08	Dec-08	Jan-09	Jan-09	Feb-09	Mar-09	Mar-09	Apr-09	Apr-09	Apr-09	May-09	May-09	# of Samples
	6/29/2008	8/8/2008	8/13/2008	8/21/2008	9/12/2008	10/9/2008	12/1/2008	12/12/2008	1/13/2009	1/19/2009	2/19/2009	3/2/2009	3/17/2009	4/1/2009	4/6/2009	4/14/2009	5/6/2009	5/18/2009	
BECY-1a Comp	0.03	.	.	.	.	0.067	.	.	0.067	.	.	.	0.067	.	.	.	.	.	4
BECY-1a Grab	0.03	.	.	.	.	0.067	.	.	0.067	.	.	.	0.067	.	.	.	.	.	4
BECY-4a Comp	.	.	0.03	.	0.03	.	.	0.067	.	.	.	.	.	.	.	.	.	.	3
BECY-4a Grab	.	.	0.03	.	0.03	.	.	0.067	.	.	.	.	.	.	.	.	.	.	3
BECY-7ra Comp	0.03	.	.	.	.	0.067	.	0.067	.	.	.	0.067	.	.	.	.	.	.	4
BECY-7ra Grab	0.03	.	.	.	.	0.067	.	0.067	.	.	.	0.067	.	.	.	.	.	.	4
BECY-9ra Comp	0.03	.	.	.	0.03	.	.	0.067	.	.	.	.	.	0.067	.	.	.	.	4
BECY-9ra Grab	0.03	.	.	.	0.03	.	.	0.067	.	.	.	.	.	0.067	.	.	.	.	4
BMPEP - IN COMP	.	0.03	.	.	.	0.067	0.067	.	.	.	.	.	.	0.067	.	.	.	.	4
BMPEP - IN GRAB	.	0.03	.	.	.	0.067	0.067	.	.	.	.	.	.	0.067	.	.	.	.	4
BMPEP - OUT COMP	.	0.03	.	.	.	0.067	0.067	0.067	.	.	.	0.067	.	.	.	.	.	.	5
BMPEP - OUT GRAB	.	0.03	.	.	.	0.067	0.067	0.067	.	.	.	0.067	.	.	.	.	.	.	5
SOUTHSIDE Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	0.067	.	.	.	.	1
SOUTHSIDE Grab	.	.	.	.	.	.	.	.	.	.	.	.	.	0.067	.	.	.	.	1
BECY-1	.	0.03	.	.	0.03	.	0.067	.	.	.	.	0.067	.	.	.	.	.	.	4
BECY-2	.	0.03	.	.	0.03	.	0.067	.	.	.	.	0.067	.	.	.	.	.	.	4
BECY-3	.	0.03	.	.	0.03	.	0.067	.	.	.	.	0.067	.	.	.	.	.	.	4
BECY-4	.	0.03	.	.	.	0.067	0.067	.	.	.	.	0.067	.	.	.	.	.	.	4
BECY-5	.	0.03	.	.	0.03	.	0.067	.	.	.	.	0.067	.	.	.	.	.	.	4
BECY-6r	.	0.03	.	.	0.03	.	0.067	.	.	.	.	0.067	.	.	.	.	.	.	4
BECY-8r	.	0.03	.	.	0.03	.	0.067	.	.	.	.	0.067	.	.	.	.	.	.	4
BECY-10	.	0.03	.	.	0.03	.	0.067	.	.	.	.	0.067	.	.	.	.	.	.	4
BECY-11	.	0.03	.	.	0.03	.	0.067	.	.	.	.	0.067	.	.	.	.	.	.	4
BECY-12	.	0.03	.	.	0.03	.	0.067	.	.	.	.	0.067	.	.	.	.	.	.	4
BECY-13	.	.	0.03	.	0.03	.	0.067	.	.	.	.	0.067	.	.	.	.	.	.	4
BECY-14	.	0.03	.	.	0.03	.	0.067	.	.	.	.	0.067	.	.	.	.	.	.	4

**Table 16**  
**Year 2 Data Summary - Nickel (Total)**

Station	Jun-08	Aug-08	Aug-08	Aug-08	Sep-08	Oct-08	Dec-08	Dec-08	Jan-09	Jan-09	Feb-09	Mar-09	Mar-09	Apr-09	Apr-09	Apr-09	May-09	May-09	# of
	6/29/2008	8/8/2008	8/13/2008	8/21/2008	9/12/2008	10/9/2008	12/1/2008	12/12/2008	1/13/2009	1/19/2009	2/19/2009	3/2/2009	3/17/2009	4/1/2009	4/6/2009	4/14/2009	5/6/2009	5/18/2009	Samples
BECY-1a Comp	10	.	.	.	.	1.00	.	.	1.39	.	.	.	1.00	.	.	.	.	.	4
BECY-1a Grab	1	.	.	.	.	1.00	.	.	1.21	.	.	.	1.00	.	.	.	.	.	4
BECY-4a Comp	.	.	1.00	.	1.00	.	.	1.00	.	.	.	.	.	.	.	.	.	.	3
BECY-4a Grab	.	.	1.02	.	1.00	.	.	1.00	.	.	.	.	.	.	.	.	.	.	3
BECY-7ra Comp	1	.	.	.	.	1.00	.	1.19	.	.	.	1.05	.	.	.	.	.	.	4
BECY-7ra Grab	1	.	.	.	.	1.00	.	1.20	.	.	.	1	.	.	.	.	.	.	4
BECY-9ra Comp	1.66	.	.	.	1.00	.	.	1.00	.	.	.	.	.	5.37	.	.	.	.	4
BECY-9ra Grab	1.07	.	.	.	1.00	.	.	2.23	.	.	.	.	.	4.32	.	.	.	.	4
BMPEP - IN COMP	.	1.00	.	.	.	1.00	1	.	.	.	.	.	.	3.80	.	.	.	.	4
BMPEP - IN GRAB	.	1.00	.	.	.	1.00	1	.	.	.	.	.	.	4.09	.	.	.	.	4
BMPEP - OUT COMP	.	1.00	.	.	.	1.00	7.33	1.00	.	.	.	1	.	.	.	.	.	.	5
BMPEP - OUT GRAB	.	1.00	.	.	.	1.00	1.04	1.00	.	.	.	1	.	.	.	.	.	.	5
SOUTHSIDE Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	4.14	.	.	.	.	1
SOUTHSIDE Grab	.	.	.	.	.	.	.	.	.	.	.	.	.	5.09	.	.	.	.	1
BECY-1	.	5.00	.	.	1.00	.	1	.	.	.	.	1	.	.	.	.	.	.	4
BECY-2	.	5.00	.	.	1.00	.	1	.	.	.	.	1	.	.	.	.	.	.	4
BECY-3	.	5.00	.	.	1.00	.	1.73	.	.	.	.	1	.	.	.	.	.	.	4
BECY-4	.	5.00	.	.	.	1.00	12.8	.	.	.	.	2.13	.	.	.	.	.	.	4
BECY-5	.	5.00	.	.	1.00	.	10	.	.	.	.	2.05	.	.	.	.	.	.	4
BECY-6r	.	1.00	.	.	1.00	.	1	.	.	.	.	1.16	.	.	.	.	.	.	4
BECY-8r	.	1.00	.	.	1.00	.	1.00	.	.	.	.	1	.	.	.	.	.	.	4
BECY-10	.	1.41	.	.	1.00	.	1.00	.	.	.	.	1	.	.	.	.	.	.	4
BECY-11	.	1.00	.	.	1.00	.	2.08	.	.	.	.	2.29	.	.	.	.	.	.	4
BECY-12	.	1.00	.	.	1.56	.	1.06	.	.	.	.	1.14	.	.	.	.	.	.	4
BECY-13	.	.	2.75	.	1.00	.	1.00	.	.	.	.	1.04	.	.	.	.	.	.	4
BECY-14	.	5.00	.	.	1.00	.	10.00	.	.	.	.	2.08	.	.	.	.	.	.	4

**Table 17**  
**Year 2 Data Summary - Nitrate-Nitrite (NOX)**

Station	Jun-08	Aug-08	Aug-08	Aug-08	Sep-08	Oct-08	Dec-08	Dec-08	Jan-09	Jan-09	Feb-09	Mar-09	Mar-09	Apr-09	Apr-09	Apr-09	May-09	May-09	# of
	6/29/2008	8/8/2008	8/13/2008	8/21/2008	9/12/2008	10/9/2008	12/1/2008	12/12/2008	1/13/2009	1/19/2009	2/19/2009	3/2/2009	3/17/2009	4/1/2009	4/6/2009	4/14/2009	5/6/2009	5/18/2009	Samples
BECY-1a Comp	0.434	.	.	0.12	.	0.31	.	.	0.05	.	0.114	.	0.01	0.01	.	0.01	0.155	0.012	10
BECY-1a Grab	0.631	.	.	0.19	.	0.193	.	.	0.05	.	0.137	.	0.01	0.01	.	0.01	0.106	0.01	10
BECY-4a Comp	.	.	0.01	0.22	0.0839	.	.	0.05	0.317	.	0.06	.	.	.	.	.	.	.	6
BECY-4a Grab	.	.	0.01	0.24	0.0353	.	.	0.05	0.314	.	0.201	.	.	.	.	.	.	.	6
BECY-7ra Comp	0.05	.	.	0.05	.	0.0675	.	0.05	0.05	.	0.12	0.151	0.0835	0.0176	0.213	0.0281	0.166	.	12
BECY-7ra Grab	0.102	.	.	0.05	.	0.059	.	0.05	0.05	.	0.132	0.178	0.056	0.01	0.209	0.063	0.205	.	12
BECY-9ra Comp	0.103	.	.	0.05	0.0283	0.259	.	0.05	0.0705	.	0.05	.	.	0.82	.	0.0602	0.555	0.0179	11
BECY-9ra Grab	0.0504	.	.	0.05	0.01	0.665	.	0.05	0.071	.	0.05	.	.	0.85	.	0.0573	0.735	0.026	11
BM Pep - IN COMP	.	0.07	.	0.24	.	0.101	0.05	.	.	.	.	.	.	0.025	.	0.207	0.01	.	7
BM Pep - IN GRAB	.	0.07	.	0.25	.	0.071	0.05	.	.	.	.	.	.	0.0285	.	0.157	0.01	.	7
BM Pep - OUT COMP	.	0.33	.	0.18	.	0.16	0.05	0.05	.	.	0.05	0.26	.	.	0.01	0.01	0.199	.	10
BM Pep - OUT GRAB	.	0.33	.	0.38	.	0.165	0.052	0.05	.	.	0.071	0.293	.	.	0.01	0.01	0.205	.	10
SOUTHSIDE Comp	.	.	.	.	.	.	.	.	.	.	0.187	.	.	0.01	.	0.01	0.157	0.0224	5
SOUTHSIDE Grab	.	.	.	.	.	.	.	.	.	.	0.212	.	0.01	0.01	.	0.01	0.157	0.0204	6
BECY-1	.	0.06	0.01	.	0.01	0.0875	0.05	.	0.05	0.05	0.05	0.05	0.01	0.01	0.01	.	.	.	12
BECY-2	.	0.02	0.01	.	0.01	0.115	0.05	.	0.05	0.05	0.05	0.05	0.01	0.01	0.01	.	.	.	12
BECY-3	.	0.06	0.01	.	0.01	0.05	0.05	.	0.05	0.05	.	0.05	0.01	0.0116	0.01	.	.	0.01	12
BECY-4	.	0.02	0.01	.	.	0.076	0.05	.	.	0.05	.	0.05	0.01	0.01	0.01	.	.	0.01	10
BECY-5	.	0.02	0.01	.	0.01	0.0805	0.05	.	0.05	0.05	.	0.05	0.01	0.01	0.01	.	.	0.01	12
BECY-6r	.	0.18	0.01	.	0.0448	0.073	0.168	.	0.05	0.05	.	0.439	0.0336	0.0469	0.283	.	.	0.158	12
BECY-8r	.	0.03	0.01	.	0.01	0.05	0.05	.	0.305	0.05	.	0.0535	0.0346	0.0216	0.01	.	.	0.0107	12
BECY-10	.	0.03	0.05	.	0.01	0.259	0.05	.	0.068	0.0925	.	0.05	0.0125	0.01	0.01	.	.	0.01	12
BECY-11	.	0.02	.	.	0.01	0.05	0.225	.	0.073	0.0875	.	0.05	0.01	0.05	0.05	.	.	0.0105	11
BECY-12	.	0.06	0.05	.	0.0223	0.05	0.05	.	0.05	0.0515	.	0.05	0.01	0.05	0.1	.	.	0.0208	12
BECY-13	.	.	1.6	.	0.995	1.16	0.865	.	1.29	1.4	1.17	0.975	1.27	1.26	0.65	.	.	0.264	12
BECY-14	.	0.02	0.01	.	0.01	0.05	0.05	.	0.05	0.05	.	0.05	0.01	0.01	0.01	.	.	0.01	12

**Table 18**  
**Year 2 Data Summary - pH\***

Station	Jun-08 6/29/2008	Aug-08 8/8/2008	Aug-08 8/13/2008	Aug-08 8/21/2008	Sep-08 9/12/2008	Oct-08 10/9/2008	Dec-08 12/1/2008	Dec-08 12/12/2008	Jan-09 1/13/2009	Jan-09 1/19/2009	Feb-09 2/19/2009	Mar-09 3/2/2009	Mar-09 3/17/2009	Apr-09 4/1/2009	Apr-09 4/6/2009	Apr-09 4/14/2009	May-09 5/6/2009	May-09 5/18/2009	# of Samples
BECY-1a Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BECY-1a Grab	.	.	.	6.80	.	.	.	.	7.74	.	8.40	.	7.03	6.89	.	6.90	6.66	7.10	8
BECY-4a Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BECY-4a Grab	.	.	22.20	7.60	7.00	.	.	6.50	9.37	.	6.90	.	.	.	.	.	.	.	6
BECY-7ra Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BECY-7ra Grab	.	.	.	7.40	.	.	.	7.60	6.44	.	7.00	6.78	6.95	6.93	7.45	6.78	7.70	.	10
BECY-9ra Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BECY-9ra Grab	.	.	.	7.40	7.00	.	.	6.75	7.00	.	6.90	.	.	6.99	.	6.83	7.04	6.80	9
BM Pep - IN COMP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BM Pep - IN GRAB	.	9.68	.	7.50	.	.	8.49	.	.	.	.	.	.	8.17	.	6.59	6.04	.	6
BM Pep - OUT COMP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BM Pep - OUT GRAB	.	9.18	.	7.70	.	.	8.06	6.93	.	.	6.70	8.64	.	.	8.58	6.90	7.01	.	9
SOUTHSIDE Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SOUTHSIDE Grab	.	.	.	.	.	.	.	.	.	.	7.50	.	6.80	7.12	.	6.00	6.68	7.30	6
BECY-1	.	7.6	10.21	.	7.6	.	7.53	.	7.91	8.9	7.5	8.63	8.45	8.02	8.02	.	.	.	11
BECY-2	.	7.9	12.7	.	7.7	.	7.81	.	7.76	8.1	7.1	7.57	7.97	7.48	8	.	.	.	11
BECY-3	.	8.35	10.7	.	7.4	.	8.44	.	7.78	8.2	.	8.4	7.59	8.15	7.91	.	.	8.17	11
BECY-4	.	7.94	10.34	.	.	.	7.59	.	.	7.7	.	7.36	7.47	7.87	7.69	.	.	6.8	9
BECY-5	.	7.84	8.61	.	7.2	.	7.52	.	7.68	7.2	.	7.2	7.07	7.74	6.75	.	.	6.13	11
BECY-6r	.	7.83	7.52	.	6.7	.	6.54	.	6.15	6.9	.	6.76	7.29	6.98	7.54	.	.	7.76	11
BECY-8r	.	7.75	8.04	.	6.7	.	6.62	.	7.16	6.2	.	6.82	6.61	7.04	7.01	.	.	6.9	11
BECY-10	.	8.37	8.86	.	6.8	.	6.69	.	9.43	6.3	.	6.82	6.94	6.88	7.63	.	.	6.8	11
BECY-11	.	9.15	.	.	7	.	7.1	.	8.93	6.5	.	6.71	6.93	7.01	6.47	.	.	6.95	10
BECY-12	.	7.82	6.63	.	6.9	.	6.91	.	9.07	6.9	.	7.2	6.95	6.7	6.84	.	.	7.5	11
BECY-13	.	.	7.18	.	6.3	.	5.74	.	7.46	6.9	6.8	6.43	7.52	7.2	6.53	.	.	6.9	11
BECY-14	.	7.35	6.96	.	6.4	.	6.78	.	6.04	6.7	.	6.59	7.05	6.62	6.55	.	.	6.1	11

\* pH is internally tracked for Critical Exceedance Concentration information

**Table 19**  
**Year 2 Data Summary - Phosphorus\* (Total)**

Station	Jun-08 6/29/2008	Aug-08 8/8/2008	Aug-08 8/13/2008	Aug-08 8/21/2008	Sep-08 9/12/2008	Oct-08 10/9/2008	Dec-08 12/1/2008	Dec-08 12/12/2008	Jan-09 1/13/2009	Jan-09 1/19/2009	Feb-09 2/19/2009	Mar-09 3/2/2009	Mar-09 3/17/2009	Apr-09 4/1/2009	Apr-09 4/6/2009	Apr-09 4/14/2009	May-09 5/6/2009	May-09 5/18/2009	# of Samples
BECY-1a Comp	0.261	.	.	0.15	.	0.359	.	.	0.224	.	0.418	.	0.393	0.258	.	0.174	0.128	0.163	10
BECY-1a Grab	0.297	.	.	0.20	.	0.245	.	.	0.286	.	0.3	.	0.385	0.19	.	0.142	0.158	0.2	10
BECY-4a Comp	.	.	0.09	0.15	0.194	.	.	0.072	0.238	.	0.046	.	.	.	.	.	.	.	6
BECY-4a Grab	.	.	0.12	0.09	0.188	.	.	0.365	0.073	.	0.05	.	.	.	.	.	.	.	6
BECY-7ra Comp	0.216	.	.	0.14	.	0.311	.	0.379	0.104	.	0.223	0.123	0.201	0.116	0.107	0.166	0.37	.	12
BECY-7ra Grab	0.235	.	.	0.25	.	0.343	.	0.245	0.109	.	0.214	0.238	0.106	0.116	0.11	0.135	0.447	.	12
BECY-9ra Comp	0.512	.	.	0.33	0.226	0.378	.	0.812	0.901	.	0.104	.	.	0.235	.	0.389	0.358	0.159	11
BECY-9ra Grab	0.125	.	.	0.34	0.155	0.517	.	1.53	0.522	.	0.2	.	.	0.636	.	0.293	0.342	0.153	11
BMPep - IN COMP	.	0.08	.	0.21	.	0.15	0.193	.	.	.	.	.	.	0.223	.	0.656	0.301	.	7
BMPep - IN GRAB	.	0.09	.	0.22	.	0.19	0.186	.	.	.	.	.	.	0.2	.	0.187	0.296	.	7
BMPep - OUT COMP	.	0.23	.	0.18	.	0.155	0.198	0.218	.	.	0.183	0.195	.	.	0.205	0.191	0.343	.	10
BMPep - OUT GRAB	.	0.37	.	0.23	.	0.182	0.226	0.189	.	.	0.223	0.23	.	.	0.203	5.35	0.151	.	10
SOUTHSIDE Comp	.	.	.	.	.	.	.	.	.	.	0.773	.	.	0.603	.	1.21	1.17	0.362	5
SOUTHSIDE Grab	.	.	.	.	.	.	.	.	.	.	0.105	.	1.48	1.52	.	0.928	1.09	1.1	6
BECY-1	.	0.34	0.37	.	0.2	0.494	0.145	.	0.207	0.132	0.243	0.073	0.149	0.171	0.11	.	.	.	12
BECY-2	.	0.18	0.57	.	0.345	0.206	0.208	.	0.165	0.21	0.333	0.155	0.135	0.19	0.194	.	.	.	12
BECY-3	.	0.15	0.29	.	0.192	0.311	0.151	.	0.094	0.118	.	0.132	0.12	0.13	0.148	.	.	0.122	12
BECY-4	.	0.13	0.11	.	.	0.157	0.122	.	.	0.0848	.	0.078	0.118	0.09	0.142	.	.	0.146	10
BECY-5	.	0.14	0.13	.	0.168	0.263	0.106	.	0.089	0.101	.	0.068	0.116	0.083	0.139	.	.	0.256	12
BECY-6r	.	0.63	0.17	.	0.206	0.234	0.156	.	0.105	0.0857	.	0.081	0.11	0.24	0.106	.	.	0.17	12
BECY-8r	.	0.34	0.25	.	0.273	0.195	0.244	.	0.152	0.2	.	0.117	0.201	0.14	0.364	.	.	0.086	12
BECY-10	.	0.36	0.31	.	0.173	0.196	0.324	.	0.106	0.227	.	0.18	0.143	0.163	0.169	.	.	0.161	12
BECY-11	.	0.15	.	.	0.188	0.197	0.214	.	0.103	0.024	.	0.133	0.083	0.093	0.099	.	.	0.142	11
BECY-12	.	0.30	0.21	.	0.223	0.336	0.024	.	0.208	0.115	.	0.178	0.199	0.254	0.162	.	.	0.127	12
BECY-13	.	.	2.37	.	0.168	0.218	0.101	.	0.051	0.024	0.043	0.042	0.067	0.035	0.051	.	.	0.135	12
BECY-14	.	0.19	0.14	.	0.2	0.198	0.185	.	0.089	0.13	.	0.144	0.123	0.1	0.128	.	.	0.131	12

\* Total Phosphorus is internally tracked for Critical Exceedance Concentration information



**Table 20**  
**Year 2 Data Summary - Salinity**

Station	Jun-08	Aug-08	Aug-08	Aug-08	Sep-08	Oct-08	Dec-08	Dec-08	Jan-09	Jan-09	Feb-09	Mar-09	Mar-09	Apr-09	Apr-09	Apr-09	May-09	May-09	# of Samples
	6/29/2008	8/8/2008	8/13/2008	8/21/2008	9/12/2008	10/9/2008	12/1/2008	12/12/2008	1/13/2009	1/19/2009	2/19/2009	3/2/2009	3/17/2009	4/1/2009	4/6/2009	4/14/2009	5/6/2009	5/18/2009	
BECY-1a Comp	1	.	.	3.6	.	11.8	.	.	3.1	.	1	.	1.7	1.2	.	1	1	1	10
BECY-1a Grab	1	.	.	3.5	.	11.9	.	.	2.2	.	1	.	1.6	1.2	.	1	1	1	10
BECY-4a Comp	.	.	1	1.0	1	.	.	1	1	.	1	.	.	.	.	.	.	.	6
BECY-4a Grab	.	.	1	1.0	1	.	.	1	1	.	1	.	.	.	.	.	.	.	6
BECY-7ra Comp	1	.	.	29.8	.	6.2	.	1.3	28.3	.	1	1	1	0.3	1	1	1	.	12
BECY-7ra Grab	1	.	.	29.8	.	6.5	.	1.5	12.1	.	1	1	1	1	1	1	1	.	12
BECY-9ra Comp	1	.	.	1.0	1	1	.	1	1	.	1	.	.	1	.	1	1	1	11
BECY-9ra Grab	1	.	.	1.0	1	1	.	1	1	.	1	.	.	1	.	1	1	1	11
BMPEP - IN COMP	.	1	.	1.0	.	1	1	.	.	.	.	.	.	1	.	1	1	.	7
BMPEP - IN GRAB	.	1	.	1.0	.	1	1	.	.	.	.	.	.	1	.	1	1	.	7
BMPEP - OUT COMP	.	1	.	1.0	.	1	1	1	.	.	1	1	.	.	1	1	1	.	10
BMPEP - OUT GRAB	.	1	.	1.0	.	1	1	1	.	.	1	1	.	.	1	1	1	.	10
SOUTHSIDE Comp	.	.	.	.	.	.	.	.	.	.	1	.	.	6.8	.	3.4	1	1	5
SOUTHSIDE Grab	.	.	.	.	.	.	.	.	.	.	1	.	2.6	6.9	.	2.3	1	1	6
BECY-1	.	21.5	8.7	.	1	8.3	1	.	2.5	1	1	1	1	1	1	.	.	.	12
BECY-2	.	29.9	4.7	.	1	7.1	1	.	15.6	5.4	3.9	2.9	11.6	2.6	1	.	.	.	12
BECY-3	.	14.5	7.8	.	18.5	1.9	1	.	29	2.3	.	1	10.8	2.3	1	.	.	1	12
BECY-4	.	33.6	32.7	.	.	31.3	27.7	.	.	30.3	.	27.7	30.8	19.6	12.9	.	.	19.9	10
BECY-5	.	33.2	28.5	.	27.2	22	29.9	.	32.2	30.8	.	30.7	31.2	31.4	15.8	.	.	24.3	12
BECY-6r	.	1.0	1	.	1	1	1	.	1	1	.	1	1	1	1	.	.	1	12
BECY-8r	.	1.0	1.0	.	1	1	1	.	1	1	.	1	1	1	1	.	.	1	12
BECY-10	.	1	1	.	1	1	1	.	1	1	.	1	1	1	1	.	.	1	12
BECY-11	.	1	.	.	1	1	1	.	1	1	.	1	1	1	1	.	.	1	11
BECY-12	.	11.5	19.8	.	2.5	17.5	1	.	1	1	.	1	1	1	1	.	.	1	12
BECY-13	.	.	1	.	1	1	1	.	1	1	.	1	1	1	1	.	.	1	12
BECY-14	.	33.2	33.5	.	27.7	21.4	18.8	.	28.2	21.5	.	11.6	19.1	22.3	7.4	.	.	15.5	12

**Table 21**  
**Year 2 Data Summary - Temperature**

Station	Jun-08 6/29/2008	Aug-08 8/8/2008	Aug-08 8/13/2008	Aug-08 8/21/2008	Sep-08 9/12/2008	Oct-08 10/9/2008	Dec-08 12/1/2008	Dec-08 12/12/2008	Jan-09 1/13/2009	Jan-09 1/19/2009	Feb-09 2/19/2009	Mar-09 3/2/2009	Mar-09 3/17/2009	Apr-09 4/1/2009	Apr-09 4/6/2009	Apr-09 4/14/2009	May-09 5/6/2009	May-09 5/18/2009	# of Samples
BECY-1a Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BECY-1a Grab	.	.	25.8	.	.	.	.	.	10.4	.	16.5	.	18.5	18.1	.	20.4	23.4	15.9	8
BECY-4a Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BECY-4a Grab	.	.	25.4	.	25.4	.	.	12.9	11.4	.	14.6	.	.	.	.	.	.	.	5
BECY-7ra Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BECY-7ra Grab	.	.	25.4	.	.	.	.	11.4	9.4	.	16.2	8.4	15.9	16.7	18.1	17.5	20.5	.	10
BECY-9ra Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BECY-9ra Grab	.	.	26.0	.	24.7	.	.	10.3	10.1	.	15.7	.	.	16.8	.	17.7	20.6	16.8	9
BMPep - IN COMP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BMPep - IN GRAB	.	26.1	26.2	.	.	.	12.1	.	.	.	.	.	.	18.9	.	18.6	20.9	.	6
BMPep - OUT COMP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BMPep - OUT GRAB	.	29.6	26.2	.	.	.	12.0	14.4	.	.	15.2	7.2	.	.	20.7	18.8	24.3	.	9
SOUTHSIDE Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SOUTHSIDE Grab	.	.	.	.	.	.	.	.	.	.	16.2	.	17.0	17.4	.	18.2	21.2	15.7	6
BECY-1	.	29.0	23.9	.	27.5	.	12.3	.	10.1	10.01	15.37	9.06	18.42	17.52	19.3	.	.	.	11
BECY-2	.	30.2	24.1	.	30.0	.	13.1	.	11.2	12.07	16.92	11.3	18.65	20.11	20.2	.	.	.	11
BECY-3	.	27.5	24.9	.	27.9	.	13.0	.	11.2	11.28	.	8.94	17.3	18.44	19.07	.	.	17.96	11
BECY-4	.	30.0	27.5	.	.	.	13.3	.	.	9	.	12.49	18.75	19.33	20.6	.	.	22.5	9
BECY-5	.	30.2	26.3	.	28.4	.	13.0	.	11.9	11.24	.	11.12	18.04	19.15	20.57	.	.	22.5	11
BECY-6r	.	25.2	24.3	.	25.0	.	12.9	.	11.2	9.53	.	8.73	15.97	16.85	18.06	.	.	16.91	11
BECY-8r	.	26.9	27.0	.	26.0	.	12.7	.	11.7	9.78	.	10.53	17.37	18.72	19.15	.	.	17.4	11
BECY-10	.	25.3	24.1	.	25.3	.	12.8	.	9.4	7.99	.	9.26	15.59	16.26	18.11	.	.	19.4	11
BECY-11	.	24.7	.	.	24.2	.	9.2	.	8.9	8.74	.	7.47	15.36	16.81	17.69	.	.	16.6	10
BECY-12	.	25.1	24.9	.	24.2	.	12.3	.	9.1	8.33	.	8.88	16.02	16.2	17.69	.	.	17.14	11
BECY-13	.	.	24.3	.	24.1	.	16.0	.	15.2	15.89	15.92	14.4	16.76	17.35	18.4	.	.	18.9	11
BECY-14	.	28.4	27.0	.	28.0	.	13.1	.	11.3	9.37	.	10.27	16.43	18.5	19.42	.	.	18.6	11

**Table 22**  
**Year 2 Data Summary - Total Kjeldahl Nitrogen (TKN)**

Station	Jun-08	Aug-08	Aug-08	Aug-08	Sep-08	Oct-08	Dec-08	Dec-08	Jan-09	Jan-09	Feb-09	Mar-09	Mar-09	Apr-09	Apr-09	Apr-09	May-09	May-09	# of
	6/29/2008	8/8/2008	8/13/2008	8/21/2008	9/12/2008	10/9/2008	12/1/2008	12/12/2008	1/13/2009	1/19/2009	2/19/2009	3/2/2009	3/17/2009	4/1/2009	4/6/2009	4/14/2009	5/6/2009	5/18/2009	Samples
BECY-1a Comp	0.299	.	.	0.84	.	1.36	.	.	2.34	.	1.42	.	1.45	1.41	.	0.892	0.979	0.447	10
BECY-1a Grab	0.391	.	.	1.46	.	0.603	.	.	1.7	.	0.52	.	1.51	0.258	.	0.932	0.808	0.21	10
BECY-4a Comp	.	.	0.33	0.57	0.358	.	.	0.122	0.472	.	0.264	.	.	.	.	.	.	.	6
BECY-4a Grab	.	.	0.46	0.55	0.879	.	.	1.05	0.408	.	0.25	.	.	.	.	.	.	.	6
BECY-7ra Comp	0.201	.	.	0.06	.	0.22	.	0.896	0.283	.	0.662	0.032	0.805	0.512	0.656	0.916	1.49	.	12
BECY-7ra Grab	0.78	.	.	0.20	.	0.265	.	0.454	0.053	.	0.392	0.441	0.28	0.512	0.774	0.37	1.56	.	12
BECY-9ra Comp	4.77	.	.	0.86	0.487	0.645	.	1.03	1.17	.	0.283	.	.	0.367	.	1.36	2.57	0.609	11
BECY-9ra Grab	0.473	.	.	0.75	0.223	3.12	.	2.68	0.952	.	0.636	.	.	1.13	.	1.05	2.83	0.034	11
BMPep - IN COMP	.	0.34	.	1.21	.	0.095	1.04	.	.	.	.	.	.	1.42	.	1.08	1.99	.	7
BMPep - IN GRAB	.	0.38	.	1.13	.	0.579	1.03	.	.	.	.	.	.	1.09	.	1.29	2.23	.	7
BMPep - OUT COMP	.	1.71	.	1.03	.	0.768	0.838	0.9	.	.	1.02	1.19	.	.	0.902	0.201	2.12	.	10
BMPep - OUT GRAB	.	1.69	.	1.17	.	0.319	0.524	1.51	.	.	1.33	1.15	.	.	0.838	24.9	1.55	.	10
SOUTHSIDE Comp	.	.	.	.	.	.	.	.	.	.	1.48	.	.	0.215	.	2.21	1.33	0.099	5
SOUTHSIDE Grab	.	.	.	.	.	.	.	.	.	.	2.39	.	0.622	1.21	.	2.5	1.34	1.75	6
BECY-1	.	0.35	0.35	.	0.248	0.358	0.63	.	0.934	0.28	0.293	0.058	0.077	0.959	1.09	.	.	.	12
BECY-2	.	0.03	0.77	.	0.665	0.211	0.58	.	0.41	0.48	0.095	0.499	0.029	0.268	0.659	.	.	.	12
BECY-3	.	0.31	0.55	.	0.28	0.524	0.481	.	0.234	0.51	.	0.638	0.099	0.238	0.817	.	.	0.875	12
BECY-4	.	0.15	0.22	.	.	0.291	0.346	.	.	0.91	.	0.117	0.181	0.121	0.128	.	.	0.435	10
BECY-5	.	0.15	0.03	.	0.336	0.358	0.186	.	0.181	0.55	.	0.145	0.165	0.123	0.11	.	.	0.626	12
BECY-6r	.	1.30	0.80	.	3.2	1.98	0.775	.	0.864	0.322	.	0.165	0.681	2.09	1.25	.	.	1.02	12
BECY-8r	.	0.86	0.42	.	0.799	0.935	0.567	.	0.747	0.509	.	0.355	1.3	0.689	1.73	.	.	0.312	12
BECY-10	.	0.60	0.57	.	0.277	0.787	0.385	.	0.305	0.548	.	0.421	0.444	0.668	0.783	.	.	0.639	12
BECY-11	.	0.56	.	.	0.341	0.469	0.145	.	0.434	0.409	.	0.029	0.194	0.457	0.839	.	.	0.675	11
BECY-12	.	1.70	0.39	.	0.497	0.688	0.453	.	0.417	0.442	.	0.619	0.627	0.907	0.61	.	.	0.033	12
BECY-13	.	.	3.56	.	0.285	1.18	0.347	.	0.348	0.235	0.341	0.305	0.22	0.433	0.397	.	.	0.7	12
BECY-14	.	0.34	0.21	.	0.145	0.397	0.309	.	0.182	2.53	.	0.145	0.116	0.155	0.174	.	.	0.033	12

\* Total Kjeldahl Nitrogen is internally tracked for Critical Exceedance Concentration information

**Table 23**  
**Year 2 Data Summary - Total Organic Carbon (TOC)**

Station	Jun-08	Aug-08	Aug-08	Aug-08	Sep-08	Oct-08	Dec-08	Dec-08	Jan-09	Jan-09	Feb-09	Mar-09	Mar-09	Apr-09	Apr-09	Apr-09	May-09	May-09	# of Samples
	6/29/2008	8/8/2008	8/13/2008	8/21/2008	9/12/2008	10/9/2008	12/1/2008	12/12/2008	1/13/2009	1/19/2009	2/19/2009	3/2/2009	3/17/2009	4/1/2009	4/6/2009	4/14/2009	5/6/2009	5/18/2009	
BECY-1a Comp	5.11	.	.	.	.	6.28	.	.	19.3	.	.	.	29.5	.	.	.	.	.	4
BECY-1a Grab	5.07	.	.	.	.	5.81	.	.	19.5	.	.	.	28.2	.	.	.	.	.	4
BECY-4a Comp	.	.	9.92	.	7.44	.	.	8.58	.	.	.	.	.	.	.	.	.	.	3
BECY-4a Grab	.	.	7.42	.	9.11	.	.	7.77	.	.	.	.	.	.	.	.	.	.	3
BECY-7ra Comp	4.33	.	.	.	.	14.3	.	16.6	.	.	.	11.6	.	.	.	.	.	.	4
BECY-7ra Grab	6.4	.	.	.	.	14.3	.	16.7	.	.	.	10.3	.	.	.	.	.	.	4
BECY-9ra Comp	13.7	.	.	.	5.34	.	.	8.81	.	.	.	.	7.71	.	.	.	.	.	4
BECY-9ra Grab	5.03	.	.	.	5.08	.	.	18.3	.	.	.	.	7.36	.	.	.	.	.	4
BM Pep - IN COMP	.	5.52	.	.	.	.	14.2	.	.	.	.	.	29.1	.	.	.	.	.	4
BM Pep - IN GRAB	.	5.82	.	.	.	.	15.2	.	.	.	.	.	32.5	.	.	.	.	.	4
BM Pep - OUT COMP	.	11.4	.	.	.	14	14	12.9	.	.	.	12.8	.	.	.	.	.	.	5
BM Pep - OUT GRAB	.	11.6	.	.	.	12.7	13	14.2	.	.	.	13	.	.	.	.	.	.	5
SOUTHSIDE Comp	.	.	.	.	.	.	.	.	.	.	.	.	4.67	.	.	.	.	.	1
SOUTHSIDE Grab	.	.	.	.	.	.	.	.	.	.	.	.	4.61	.	.	.	.	.	1
BECY-1	.	3.59	.	.	22.3	.	31.4	.	.	.	.	23	.	.	.	.	.	.	4
BECY-2	.	2.23	.	.	13.4	.	18.7	.	.	.	.	6.8	.	.	.	.	.	.	4
BECY-3	.	3.56	.	.	3.46	.	22.5	.	.	.	.	15.2	.	.	.	.	.	.	4
BECY-4	.	1.77	.	.	.	1.98	1.89	.	.	.	.	0.667	.	.	.	.	.	.	4
BECY-5	.	1.59	.	.	1.7	.	1.62	.	.	.	.	0.683	.	.	.	.	.	.	4
BECY-6r	.	24	.	.	22.7	.	23.3	.	.	.	.	13.2	.	.	.	.	.	.	4
BECY-8r	.	12.6	.	.	7.82	.	10.5	.	.	.	.	11.4	.	.	.	.	.	.	4
BECY-10	.	12.4	.	.	11.9	.	12.8	.	.	.	.	11.5	.	.	.	.	.	11.5	4
BECY-11	.	14.8	.	.	11.8	.	9.4	.	.	.	.	6.47	.	.	.	.	.	.	4
BECY-12	.	14.3	.	.	24.5	.	27.6	.	.	.	.	19.6	.	.	.	.	.	.	4
BECY-13	.	.	25.3	.	6.2	.	14.7	.	.	.	.	6.12	.	.	.	.	.	.	4
BECY-14	.	2.81	.	.	3.23	.	5.06	.	.	.	.	9	.	.	.	.	.	.	4

**Table 24**  
**Year 2 Data Summary - Total Suspended Solids (TSS)**

Station	Jun-08	Aug-08	Aug-08	Aug-08	Sep-08	Oct-08	Dec-08	Dec-08	Jan-09	Jan-09	Feb-09	Mar-09	Mar-09	Apr-09	Apr-09	Apr-09	May-09	May-09	# of
	6/29/2008	8/8/2008	8/13/2008	8/21/2008	9/12/2008	10/9/2008	12/1/2008	12/12/2008	1/13/2009	1/19/2009	2/19/2009	3/2/2009	3/17/2009	4/1/2009	4/6/2009	4/14/2009	5/6/2009	5/18/2009	Samples
BECY-1a Comp	19.2	.	.	21.9	.	24.6	.	.	51.2	.	23.6	.	26.4	23.2	.	10.7	6.01	14.5	10
BECY-1a Grab	7.6	.	.	24	.	41.5	.	.	17.3	.	61.8	.	33.8	23	.	9.02	7.41	11.6	10
BECY-4a Comp	.	.	11.5	8.4	7.3	.	.	80.9	141	.	9.17	.	.	.	.	.	.	.	6
BECY-4a Grab	.	.	23.6	7	11.6	.	.	51.2	52.5	.	45	.	.	.	.	.	.	.	6
BECY-7ra Comp	14	.	.	40	.	46.8	.	37.2	106	.	18.2	17.4	20	4.4	6.92	28.4	32.7	.	12
BECY-7ra Grab	11.5	.	.	31.4	.	33	.	49.3	26	.	24	15.2	10	6.8	6.83	21.2	30.5	.	12
BECY-9ra Comp	18.6	.	.	13	25.8	23.8	.	30.5	246	.	22.7	.	.	18	.	45.2	36.3	99.3	11
BECY-9ra Grab	3.3	.	.	12.6	18	32.1	.	26	8.8	.	30.6	.	.	55.5	.	46.1	35.3	44.2	11
BMPep - IN COMP	.	4.8	.	3.03	.	5.84	10	.	.	.	.	.	.	6.4	.	32	29.8	.	7
BMPep - IN GRAB	.	3.1	.	2.5	.	4.6	9.84	.	.	.	.	.	.	6.6	.	11.6	23.4	.	7
BMPep - OUT COMP	.	9	.	6.6	.	8.4	32.2	22.8	.	.	17	12.7	.	.	4.8	32	25.6	.	10
BMPep - OUT GRAB	.	9.4	.	6	.	9.4	13.3	13.6	.	.	18.9	15.7	.	.	3.15	25	8	.	10
SOUTHSIDE Comp	.	.	.	.	.	.	.	.	.	.	75	.	.	19.5	.	13	10.8	43.1	5
SOUTHSIDE Grab	.	.	.	.	.	.	.	.	.	.	38.3	.	15	50.5	.	12.8	20.5	20.6	6
BECY-1	.	45.8	205	.	34	73.3	14.2	.	15.2	8.88	34	15.2	13.8	16.8	13.5	.	.	.	12
BECY-2	.	51.6	415	.	59.6	67.9	13.2	.	18.6	16.6	37.6	15.1	17.4	21.9	23.2	.	.	.	12
BECY-3	.	41.9	388	.	47.4	460	14.6	.	24.4	30.6	.	45.6	33.6	43.4	25.7	.	.	36	12
BECY-4	.	31.6	74	.	.	50.3	17.6	.	.	12.3	.	28	19.8	19.4	35.9	.	.	39.6	10
BECY-5	.	34.6	101	.	33.2	83.6	25.7	.	12.9	31.2	.	20.9	36.5	22.7	43	.	.	118	12
BECY-6r	.	10.4	7.4	.	22.7	112	6.33	.	18.8	10.8	.	24.8	19.7	23.3	11.7	.	.	154	12
BECY-8r	.	8.4	30.4	.	22.4	20.2	14.2	.	19.4	13.6	.	13.8	23.2	12.1	3.8	.	.	33.8	12
BECY-10	.	15.7	6.4	.	34	6.97	16	.	3.6	7.13	.	14.4	12.7	8	6	.	.	8.6	12
BECY-11	.	6	.	.	34	8	26.7	.	34	5.8	.	25.1	17	24.5	5	.	.	52.5	11
BECY-12	.	80.9	73.2	.	34	128	16.4	.	48.9	13.6	.	15.8	8.1	18.8	8.21	.	.	35.7	12
BECY-13	.	.	155	.	34	32.3	14.4	.	2.7	7.13	4.46	12.8	2.8	15.8	1.9	.	.	130	12
BECY-14	.	50	70	.	34	187	27.4	.	26.4	20.2	.	29.6	34.9	44	31.9	.	.	123	12

**Table 25**  
**Year 2 Data Summary - Turbidity**

Station	Jun-08 6/29/2008	Aug-08 8/8/2008	Aug-08 8/13/2008	Aug-08 8/21/2008	Sep-08 9/12/2008	Oct-08 10/9/2008	Dec-08 12/1/2008	Dec-08 12/12/2008	Jan-09 1/13/2009	Jan-09 1/19/2009	Feb-09 2/19/2009	Mar-09 3/2/2009	Mar-09 3/17/2009	Apr-09 4/1/2009	Apr-09 4/6/2009	Apr-09 4/14/2009	May-09 5/6/2009	May-09 5/18/2009	# of Samples
BECY-1a Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BECY-1a Grab	.	.	.	14.6	.	20.5	.	.	4.8	.	14.7	.	13.2	10.5	.	18.2	16.2	14.3	9
BECY-4a Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BECY-4a Grab	.	.	37.3	10.1	8.0	.	8.4	14.8	.	11.0	.	.	.	.	.	.	.	.	6
BECY-7ra Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BECY-7ra Grab	.	.	.	18.2	.	33.2	.	21.4	14.2	.	19.2	9.7	11.9	11.6	14.1	13.1	29.7	.	11
BECY-9ra Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BECY-9ra Grab	.	.	.	14.5	13.4	35.7	.	17.0	21.4	.	14.5	.	.	14.5	.	33.5	24.6	24.2	10
BMPep - IN COMP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BMPep - IN GRAB	.	5.8	.	5.5	.	16.3	20.8	.	.	.	.	.	.	14.3	.	15.4	21.7	.	7
BMPep - OUT COMP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BMPep - OUT GRAB	.	6.0	.	3.8	.	10.5	16.2	18.9	.	.	11.2	11.9	.	.	12.1	18.2	11.2	.	10
SOUTHSIDE Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SOUTHSIDE Grab	.	.	.	.	.	.	.	.	.	.	13.2	.	19.8	19.7	.	8.9	19.2	21.3	6
BECY-1	.	18.4	102.6	.	23.3	50.1	17.3	.	14.4	19.45	25.91	14.56	19.65	18.83	13.07	.	.	.	12
BECY-2	.	16.5	133.5	.	28.2	30.7	18.7	.	1.8	13.91	19.8	4.82	14.84	11.64	14.71	.	.	.	12
BECY-3	.	24.3	116.5	.	18.0	125.4	22.0	.	11.7	11.14	.	24.09	11.04	24.26	14.44	.	.	24.74	12
BECY-4	.	12.1	15.4	.	.	25.4	17.4	.	.	4.81	.	4.85	8.54	11.92	15.25	.	.	18.4	10
BECY-5	.	12.3	30.6	.	9.8	59.5	18.3	.	4.6	11.24	.	4.27	1.23	14.44	21.71	.	.	29.4	12
BECY-6r	.	8.7	113.0	.	23.6	90.4	16.8	.	31.0	19.81	.	21.04	19.41	24.83	19.83	.	.	31.3	12
BECY-8r	.	7.5	62.0	.	9.3	7.7	24.0	.	14.4	15.64	.	9.53	13.91	14.53	9.04	.	.	21.11	12
BECY-10	.	28.3	143.0	.	17.7	9.9	18.2	.	14.1	4.14	.	13.14	14.77	11.24	11.41	.	.	14.14	12
BECY-11	.	10.9	.	.	18.6	12.0	31.3	.	11.0	4.41	.	19.97	21.91	24.22	8.01	.	.	21.9	11
BECY-12	.	55.0	30.4	.	34.5	44.2	24.4	.	21.1	19.71	.	14.67	11.74	11.28	9.59	.	.	16.7	12
BECY-13	.	.	56.3	.	9.9	19.4	17.1	.	4.0	1.81	9.72	11.2	4.77	13.82	8.94	.	.	11.41	12
BECY-14	.	16.9	21.8	.	18.9	64.4	22.1	.	14.9	9.74	.	19.11	13.45	11.29	24.24	.	.	31.71	12

**Table 26**  
**Year 2 Data Summary - Zinc (Total)**

Station	Jun-08	Aug-08	Aug-08	Aug-08	Sep-08	Oct-08	Dec-08	Dec-08	Jan-09	Jan-09	Feb-09	Mar-09	Mar-09	Apr-09	Apr-09	Apr-09	May-09	May-09	# of
	6/29/2008	8/8/2008	8/13/2008	8/21/2008	9/12/2008	10/9/2008	12/1/2008	12/12/2008	1/13/2009	1/19/2009	2/19/2009	3/2/2009	3/17/2009	4/1/2009	4/6/2009	4/14/2009	5/6/2009	5/18/2009	Samples
BECY-1a Comp	20.3	.	.	.	.	2	.	.	3.74	.	.	.	15.8	.	.	.	.	.	4
BECY-1a Grab	2.04	.	.	.	.	2	.	.	4.52	.	.	.	14.8	.	.	.	.	.	4
BECY-4a Comp	.	.	21.3	.	19.5	.	.	16.2	.	.	.	.	.	.	.	.	.	.	3
BECY-4a Grab	.	.	20.1	.	19.5	.	.	11.2	.	.	.	.	.	.	.	.	.	.	3
BECY-7ra Comp	20	.	.	.	.	10.1	.	7.38	.	.	.	8.73	.	.	.	.	.	.	4
BECY-7ra Grab	20	.	.	.	.	13.8	.	10.8	.	.	.	8.37	.	.	.	.	.	.	4
BECY-9ra Comp	86.4	.	.	.	39.9	.	.	14.7	.	.	.	.	.	40.1	.	.	.	.	4
BECY-9ra Grab	24.1	.	.	.	18.8	.	.	10.3	.	.	.	.	.	19.7	.	.	.	.	4
BMPep - IN COMP	.	7.75	.	.	.	6.65	6.3	.	.	.	.	.	.	16.8	.	.	.	.	4
BMPep - IN GRAB	.	8.26	.	.	.	4.83	4.91	.	.	.	.	.	.	16.4	.	.	.	.	4
BMPep - OUT COMP	.	7.93	.	.	.	14.9	6.05	3.37	.	.	.	4	.	.	.	.	.	.	5
BMPep - OUT GRAB	.	6.02	.	.	.	5.51	5.63	8.87	.	.	.	4.04	.	.	.	.	.	.	5
SOUTHSIDE Comp	.	.	.	.	.	.	.	.	.	.	.	.	.	75.5	.	.	.	.	1
SOUTHSIDE Grab	.	.	.	.	.	.	.	.	.	.	.	.	.	75.7	.	.	.	.	1
BECY-1	.	10	.	.	12.2	.	6.32	.	.	.	.	4.13	.	.	.	.	.	.	4
BECY-2	.	10	.	.	71.6	.	4.31	.	.	.	.	2	.	.	.	.	.	.	4
BECY-3	.	10	.	.	2	.	5.04	.	.	.	.	4.63	.	.	.	.	.	.	4
BECY-4	.	10	.	.	.	10	20	.	.	.	.	10	.	.	.	.	.	.	4
BECY-5	.	10	.	.	2	.	20	.	.	.	.	10	.	.	.	.	.	.	4
BECY-6r	.	8.62	.	.	19.9	.	10.6	.	.	.	.	15.9	.	.	.	.	.	.	4
BECY-8r	.	27.3	.	.	35.5	.	21.3	.	.	.	.	21.6	.	.	.	.	.	.	4
BECY-10	.	8.57	.	.	17.4	.	13.7	.	.	.	.	10.5	.	.	.	.	.	.	4
BECY-11	.	23.4	.	.	17	.	12.5	.	.	.	.	20	.	.	.	.	.	.	4
BECY-12	.	2	.	.	42.5	.	15.5	.	.	.	.	10.5	.	.	.	.	.	.	4
BECY-13	.	.	59.2	.	12.6	.	6.27	.	.	.	.	5.36	.	.	.	.	.	.	4
BECY-14	.	10	.	.	2	.	20	.	.	.	.	2	.	.	.	.	.	.	4

## **APPENDICES**



**Table A-1  
Bacterial Source Tracking Data Summary**

Station	Sample Date	Human - Bacteroidetes	Human - Enterococcus	Dog - Bacteroidetes	Deer - Enterococcus	Horse - Bacteroidetes	Hog - Bacteroidetes	Hog - Enterococcus	Bird - Bacteroidetes	Bird - Enterococcus
BECY-1	2/19/2009	Negative	Negative	Negative	Negative	Negative	.	.	.	.
BECY-2	2/19/2009	Negative	<b>Detected</b>	Negative	Negative	Negative	.	.	.	.
BECY-1	3/2/2009	Negative	Negative	Negative	Negative	Negative	.	.	.	.
BECY-2	3/2/2009	Negative	<b>Detected</b>	Negative	Negative	Negative	.	.	.	.
BECY-1	3/19/2009	.	.	.	.	.	Negative	Negative	Negative	Negative
BECY-1.5	3/19/2009	Negative	Negative	Negative	Negative	Negative	Negative	Negative	<b>Detected</b>	<b>Detected</b>
BECY-2	3/19/2009	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Negative	<b>Detected</b>
ROSE DHU	3/19/2009	Negative	Negative	.	.	.	.	.	.	.